SUZUKI TWO STROKE ENTHUSIASTS

WITH A FOCUS ON T500/GT500/TR500/GT750/TR750

The Suzuki T500 Compendium

A Guide to the T500/GT500 & TR500

Murray Barnard

ozebook.com

The Suzuki Fanatics website has been on the internet from about 1996. The website garnered a world-wide following and I have met some great people over time, from all over the world as a result.

I am not getting any younger, in fact I am getting elderly, and it occurs to me that if I fall off the perch no-one will continue to maintain the website and all the collected data and material will be lost.

OK, the facebook page will continue probably; but it is not a compendium of Suzuki T500 material.

So, as tedious as it is, I have collected as much material as I can off of the Suzuki T500 website at ozebook.com/wpsuzi and captured it in PDF electronic book form. I will load it to Internet Archice in the hope that it can be preserved.

Now it is not a lovely book to look at, as a lot of it was html coded in the 1990s and I don't have time to re-format 2000 pages of material.

It is not indexed or in a logical order, it is how it came off the website. The book can be searched to a degree and I will make it downloadable. Maybe someone will index the compendium one day.

It has been a massive job over more than 3 decades. I hope it is a resource that can continue to be enjoyed.

all the best

Murray Barnard (Muzza)

Roleystone
Western Australia

Feb 2025

In Memoriam

Frank Whiteway, Eddie Crooks, Ron Grant, Jack Findlay, Charlie Sanby, Don Leeson, Peter Inchley. Tom Loughbridge, Geoff Perry, Clive Strugnell, Rob Greenhill, Alan Greening & Ian Sandy

The SUZUKI COBRA THE BIKE WHICH COULDN'T BE BUILT!

The bike which couldn't be built - the Suzuki 500cc Dual Stroke". So went the proud boast of the Suzuki advertisements of the late 60's. For a buying public conditioned to two-stroke BSA Bantams and Villiers engined motorcycles, the 500cc Cobra twin was simply too large to run without seizing. Only Scott had been able to make large capacity two-strokes successfully and then only by using water-cooling, but there had been others who had tried hard to succeed. For example, in the 20's, Dunelt made 500cc single cylinder two-strokes for over seven years. Putting out a mild 5hp the Dunelt had tested the large two-stroke market but had not exactly tested the limits of metallurgy.

The Cobra from a sales pamphlet

Two-stroke manufacturers however, were anything if not innovative and in 1921 the English Stanger factory built a 538cc two-stroke V-twin which utilised a spring frame. The engine however, not surprisingly, tended to overheat and foul its plugs and the company went under in 1923. The Germans have always been innovative in the field of two-strokes (witness Maico, Zundapp and DKW) and from the early days they tried to build large two-stroke motorcycles. For example the Vis Fabrik built the interesting Vis-Duplex in 1924. This machine was a horizontally opposed two-stroke twin of 496cc built "in line" with the duplex frame.
The Vis-Duplex, much like similarly bikes suffered from overheating of the rear cylinder and was only built in very limited numbers. DKW had more success with a series of 500cc and 600cc air and WATER-COOLED twins in the late 20's and 30's although they also experienced overheating, fouled plugs and abysmal fuel consumption, particularly under racing conditions. Their racing 250cc and 350cc supercharged two-strokes gained much greater success. Such innovation continued with the German Schliha Company building some strange 498cc and 596cc two-stroke singles in the early 30's. The interesting thing about these short-lived two-stroke bikes was that they utilised overhead valves (I'd like to know more about these machines!).
Puch, tried with its split singles to give the 500cc two-stroke an advantage pre-war and Zundapp experimented with a twin in the 50's but no-one succeeded in putting a civilised large capacity two stroke on the road in any large numbers until Suzuki launched the T500 in 1967. Not only did they make a big two-stroke that worked but they built one which was more reliable than many four-strokes of the time, required less maintenance and featured oil-injection direct into the crankcases along with massive and durable main roller bearings. The Cobra was also disgustingly fast for its capacity and put many contemporary 500cc and 650cc four-stroke twins to shame

In Australia the T500 was also exceptionally good value and proved to be what a large number of motorcyclists were looking for - a simple, robust and comfortable machine able to cruise effortlessly, across our vast distances, admittedly with some vibration and a prodigious thirst. Its value was clear, as for example in May 1970 the T500 sold for $775 as compared to a Kawasaki Mach III which sold for $965, a Honda CB450 for $905 and the Triumph Daytona 500 which sold for $895. 1967 first saw the introduction of the Suzuki 500 twin. Initially known as the 500/FIVE (to celebrate its five speed gearbox) the model was possibly the first large capacity Japanese bike to demonstrate some sporting potential. Japanese technology was just waiting to be unleashed on the unsuspecting British motorcycle industry and the Cobra was to herald the arrival of the Superbike era. Sadly for the Suzuki 500 its generous performance and sound engineering was soon to be eclipsed by the release of the Honda 750 and the Kawasaki 500 triple a year later The 500/FIVE itself was a short-lived model, seemingly only seen in any number in the United States, and was quickly replaced by the Cobra. The most significant change to the original model was given little publicity at the time despite its dramatic effect. The swingarm of the 500 Suzuki was actually changed from 52.7 inches on the 500/FIVE to 57.3 inches on the Cobra. This is a very radical change on any bike but on the Suzuki 500 the longer wheelbase contributed to the bikes reputation for sure-footed and stable handling. For Australian riders it was also very useful as the extra length of the machine made for a comfortable tourer with plenty of room for mounting carriers, saddlebags or panniers.

The first Cobra from a sales pamphlet - note the short wheelbase.

The Suzuki Cobra was a relatively simple two-stroke which utilised the same 70mm bore and 64mm stroke as its 250 trail-bike cousins were to use (and in turn as the 750cc water-cooled triple would also use). The Cobra had a true capacity of 492cc and a mild compression ratio of 6.6:1 but still managed to produce 46hp at 7000rpm. The Cobra produced this power through a whopping great pair of 34mm Mikuni carburetors - the biggest the company had ever used and only to be seen again on the company's 400cc trail and motocross singles! Despite the large carbies the engine is very tractable and does not require great amounts of throttle to move away from a standstill. This tractability could be attributed to what the Suzuki factory at the t ime described, wait for it, as the "Homo-pressure" type carburetor (I'd like to know what the Japanese PR man's real intention was when he came up with that one)? The Mikuni's actually have probes in their intakes (this is getting worse!) which compensate for changes in altitude and pressure. In fact one of the pleasant discoveries of riding a 500cc Suzuki twin is to find that theories of buzzing two-strokes do not apply to this engine. The Cobra produces readily usable power from low revs and does not need, nor necessarily like high revs, in order to obtain a good rate of knots. The Cobra puts out 37.5 lb ft of torque at 6000rpm, compare that to the contemporary BSA

650cc Lightning which produced 39 lb ft of torque - at 5750rpm and you'll see what I mean. The big carbies carry two penalties with them, the first and easiest to live with is the intake noise. Despite the large airbox and air filter the engine intake noise is very loud and cannot be avoided. Give the throttle a twist and the resultant howl from the carbies drowns out the rather uneven plip-ploppy exhaust note. If you were pulled up for speeding on a Cobra it was hard to say you didn't know how fast you were going, you certainly didn't need a speedo to tell you, the superb intake howl told you clearly enough.

The less useful attribute of the big carbies was fuel consumption. Thirty-five mpg wasn't all that good at high speed although fourty-five mpg was more common around town. At country cruising speeds fifty mpg was not impossible. The low rev power available from the engine permitted the factory to build a fairly high geared gearbox for a 500cc motorcycle. The Suzuki copes well with touring pulling 3000rpm at 50mph and 4000rpm at 65mph. The Suzuki indicates 80mph at 5000rpm and the engine feels comfortable at these speeds and not at all fussed. The bike will top at least 110mph (theoretical top speed being 117mph). I have seen 116mph on the speedo in 4th gear; but allowing for speedo error this could not have been more than 102mph.

The Suzuki 500 was taken to the Daytona 200 mile race in 1968 and in a very mildly modified form it proved fast and reliable finishing 5th and 9th out of a field of 80 machines. This ability to run fast and strongly without any adverse effects on the motor contributed to the bike's instant popularity with the production racers. In England for example the Suzuki ran basically unchanged and without special cylinders or exhausts and won the Isle of Man Production TT Races twice.

Barry Sheene rode a road racer version with the help of frame maker Colin Seeley and won several significant races on it. Jack Findlay went on to win a world championship race (the 1971 Ulster GP) on a 500 Suzuki that was so similar to the production engine that it is still said to be the closest thing to a championship victory on a road bike. The Cobra evolved into the T500 Titan in 1970 and eventually into the GT500 in 1976.

The more common Cobra. One with a longer wheelbase

The model finally faded into obscurity at the end of 1977. A production span of 11 years is nothing to be sniffed at and indicates that the Suzuki was well put together and was able to enjoy a loyal following. the low purchase price maintained throughout its life probably contributed to its popularity. The Cobra was produced for 3 years before the Titan was introduced. The Cobra didn't run for this long without changes and except for the swingarm mentioned previously, the most significant changes took place in the motor. The pistons and cylinders were changed in 1969 and naturally enough early pistons should only be used with early cylinders.

The Cobra pistons can be easily recognised by the transfer port windows in the piston skirt. These windowed pistons not only cost more to manufacture but were reputed to be stronger than notched pistons due their full circumference skirts. In practice if the engine was mightily abused and revved beyond 7 grand for too long, as for example on the race track, there was an off chance that the piston skirt would fracture and fall off with disastrous results.
The windowed pistons were also claimed to run quieter than notched pistons. This is unlikely in practice and significantly the piston to cylinder clearance of a Cobra piston was 0.0071-0.0075 inches. The later pistons ran with a much closer tolerance of 0.0026-0.003 inches. The early Cobra barrels can be recognised by the fact that they have only 10 fins while the later ones have 11 fins and slightly altered ports. Whilst few of the early barrels survive there are heaps of the early windowed pistons around.

The engine has a certain presence

One shop in Perth has boxes of the early pistons sitting around gathering dust. Suzuki 500's are noted for piston longevity and the bike is likely to wear out before the motor requires a rebore, barring bad maintenance or extreme rider abuse, of course. Another change occurred after engine number T500-10659. From then on crankshafts were supplied with larger diameter con-rods (the outer diameter of the big end end of the rod was increased from 41.5mm to 46.5mm. If a rebuilt crank is to be used in an early engine then the crankcase stuffing ribs must be ground down, on both upper and lower cases, by 0.040 inches.

A solid looking motorcycle

Most importantly, Cobra gearboxes took a recommended 1200cc of oil whilst later models (from the T500L on) took 1400cc. Prolonged high speed running could starve fourth and fifth gear of oil and overfilling was ineffective as the extra oil merely flowed into the clutch chamber. The engine

needs to be split and a rubber partition installed on the primary oil transfer chamber of the lower crankcase half. Suzuki supplies a part for this purpose (part no. 99104-08800).
Riding the Cobra exposes the Cobra's weak points. The suspension, particularly the front, is too soft and under-damped. At speed the front end pogoes up and down although never enough to get the steering out of shape. One way to stiffen the forks up is to add some heavier oil and to place a spacer inside the forks to give the springs some pre-load. A harder nut to crack is the front brake. The front brake should be pretty good and it was by the standards of the day. The front brake was a full width 8" twin leading shoe drum and its fitment received rave reviews from the press at the time. One American magazine said as much, "the brakes are superb with predictable action and high fade resistance. The front unit can be encouraged to completely stop the front wheel at any speed". As I found the front brake absolutely useless, during the test ride, I can only assume the other bikes that particular magazine tester had ridden were not fitted with brakes from new! The Cobra's front drum is not a good brake for a machine of this weight and power, requiring far too much lever pressure to be effective.. It is interesting to note that praise for the Suzuki's front drum diminished markedly after Honda released the disc brake on its new 750 Four. For some reason the Suzuki factory did not release a 500 Suzuki with a disc brake until 1976. Well overdue and too late to save a worthy motorcycle from extinction.

SPECIFICATIONS - SUZUKI COBRA - YEAR: 1968

ENGINE: Air cooled two stroke twin, bore 70mm x stroke 64mm
CAPACITY: 492cc
GEARBOX: 5 speed
BRAKES: Front: 8" twin leading shoe drum Rear: 7" drum
DRY WEIGHT: 412 lbs
TOP SPEED: 11O MPH
ACCELERATION: Standing 1/4 mile - 13.8 sec
POWER: 46 HP at 7000 rpm
TORQUE : 37.5 lb ft at 6000rpm
ENGINE No.s: 12518 - 34218

SUGGESTED READING

SUZUKI TWO STROKES__ROY BACON: OSPREY 1984
SUZUKI 500 TWIN__OWNERS WORKSHOP MANUAL: HAYNES
JAPANESE MOTORCYCLES_C.J. AYTON: MULLER 1981
CHILTON'S REPAIR MANUAL_CHILTON BOOK COMPANY 1981
CYCLE WORLD ANNUAL__CYCLE WORLD 1968

The road machines - the T500 and the GT500

THE MIGHTY SUZUKI TITAN

THE BRUTE WITHOUT BULK!

The Suzuki Titan was a shot in the arm for lovers of fast and loud motorcycles who could overcome the blanket dislike of two-strokes that was common at the time. As discussed in the article on the Suzuki Cobra (see Australian Classic Motorcycling Issue No. 20), the predecessor to the Titan, this was one 500cc twin which had solved the un-reliability, peakiness and generally messy nature of two-stroke riding. The Suzuki 500 was a relatively smooth, ultra-reliable, economical, light machine which provided an impressive high speed, good acceleration and stable handling at a very reasonable purchase cost.

The off-set to all of this was noticeable vibration through the pillion pegs at over 60 mph (nothing compared to a certain 650cc British twin, though), a cloud of blue smoke from the ample exhausts when cold, significant piston/ring rattle at low revs (sometimes sounds like a can of nuts and bolts has been dropped in the inlet port) and of course a nauseating "bop, bop, burble, pop, bop, bop, burble, pop" from the pipes at low speed which could never replace the sound of a Norton Commando or a Triumph Trident on song.

1970 Titan riders were tough Marlboro men, presumably!

Of course this was all irrelevant to the average young motorcyclist of the time who was being asked to choose between aging (even then) British twins, Honda 450's and Yamaha and Kawasaki 350's. The Titan was a full 500cc, a most popular size at the time, when 650cc was considered big. Many young riders entering the rapidly growing bike market did not have pre-conceptions of what a bike should be. They were looking for fast and flashy bikes and performance was the name of the game. The big two- strokes were delivering the performance and beginning to dominate the Grand Prix, though that was really of little interest here before the age of live television coverage or video.

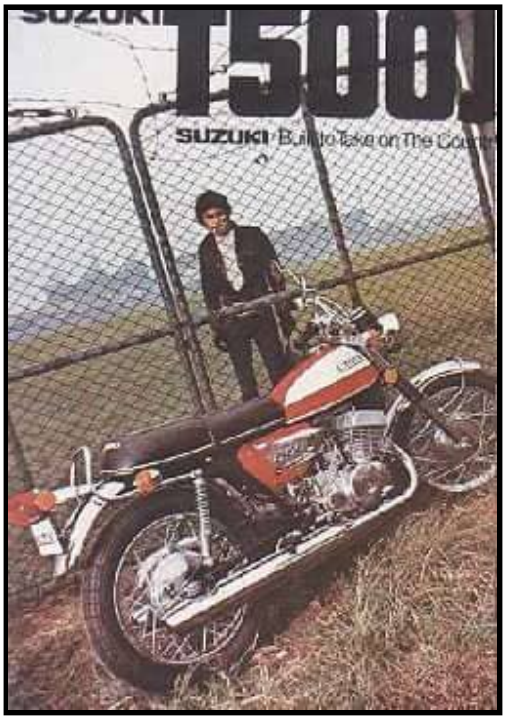
Helping to sell machines like the Suzuki 500 was their superior performance over comparable machines and their ultra-reliability and low maintenance. Hard as it is to admit now, the British competition was its own worst enemy, as perusal of contemporary journals will reveal. Quality control was at an all time low, model changes were often made for the worst, cost cutting led to dreadful bastardised machines and reliability on the road was truly dismal. Simple things such

as constantly breaking cables, vibration, and more serious mysterious seizures, short-lived bearings and burnt valves all helped to persuade the young buyer to go Japanese. No wonder rattly two-strokes became machines of some standing and attracted a loyal following that is still strong today.

A little disclaimer at this point perhaps. British bikes were, and are, capable of giving good service when ridden and maintained in the manner their designers intended. There were also serious faults with the British industry in the 60's and while the performance of British bikes slowly improved it was often at the expense of reliability and smoothness. But British bikes have a charisma and an appeal that is at the heart of the Classic motorcycling movement and that is why enthusiasts collect bikes as varied in performance and value as Vincents, Panthers, James and Bantams. No matter what make it is or how bad it performed at the time an old bike has a nostalgic value to someone that can never have a price put on it. This no doubt will even be the lot of early Japanese machines as the late 60's/early 70's rider grows older and nostalgic for the good old days that they experienced!

The Titan at it's flashiest - the T500J of 1972

Anyway, the last time we were talking about the Suzuki 500 twin we discussed the questionable advertising hyperbole that accompanied the release of the Cobra i.e. "the bike that couldn't be built" etc. Well by the time the Titan was released in 1970, this was clearly arrant nonsense and the factory was proclaiming the machine's seemingly effortless power instead. The bite of the "Cobra" was exchanged for the strength of a "Titan". Understandable, for by now Kawasaki had released the 500 Kawasaki which had eclipsed nearly every bike for sheer power, acceleration and speed, albeit at the expense of handling and reliability! Thus the Suzuki advertisements of the time highlighted the steroidal, masculine features of the Titan instead.



Is the on-looker tougher than the bike - the long and lean T500J model of 1972

"THE BRUTE WITHOUT BULK", the pamphlet leads, "this is the giant of the motorcycle clan - yet it looks clean as a whistle with the grace of a gazelle. Does this make the point? Well, demand has caused this to be the first mass-produced 2-stroke, twin-carburetor 500cc model in the world. A cool 6,500rpm puts the full 47hp at your command with a top speed of 192kph. When you want to stop, a dual safety system of oversized brakes and super-grip high speed tires quiets down the brute right now....smoothly. The non-glare, speedometer and tachometer is a vote for safety. Big features and small - such as Suzuki's famous Posi- Force Lubrication and the newly-designed fuel tank luggage rack - all set out in a yummy Candy Colors with red-lined tires make this the fair- haired brute you've been looking for."

"The fair haired brute you've been looking for"! Somehow I think the Suzuki ad-men got that bit of market research all screwed up. They also had a nice turn of phrase when they described the auto lubrication system..."Posi-Force lubrication is the world's most advanced lubing system...it spews pure oil, never polluted by fuel gas, directly over the ....big end" etc! A touch of class?

A 1972 T500J model with wrong mudguards and tail-lights, but hey who's being picky?

For those who didn't read the article on the Cobra, I'll just recap a bit. The Cobra, being the bike that couldn't be built, was a sensation in 1968. A big two-stroke that ran faultlessly, didn't foul plugs, performed like a 650 four stroke; but was light and cheap to buy. It had strange handling, the thirst of a cane-cutter and by today's standards woeful brakes. It looked kinda dumpy too, in typical 60's Japanese style, with a velour seat, a short wheelbase and a watermelon shaped petrol tank. To many of the buying public though it was a hit, everything worked together fine. The engine and gearbox are well balanced for the road, the engine comes on strong over four thousand revs, (up to a claimed 47 bhp at 6,500), and there is no need to constantly screw open the throttle around town as there is ample low down pulling power. Not what the un-initiated would expect from a two- stroke!

So what changes had been made to the Cobra to convert it into the more appealing Titan. Well some obvious changes were made to the appearance. The petrol tank was now a more pleasing shape, reminiscent of a familiar British design, as was the more conventional seat. Additionally, the front mudguard was much lighter and less valanced, the sidecover and oil tank were redesigned, the rear shocks were no longer shrouded and had exposed springs, American style cow-horn bars were introduced, new instruments and a passenger grab rail. Whilst the Cobra had the headlight cowl, instruments and rear shocks all colour co-ordinated, the Titan was very shiny with abundant chrome wherever possible.

The Titan was designed to bring the Suzuki 500 into the 70's, its styling was much flashier, leaner and more colourful. The Cobra had more in common with Suzuki's earlier mid 60's styling efforts with its bulbous, tall tank, complete with chrome side panels and knee rubbers, large sidecovers and studded seat.

Enginewise, the Titan was little changed externally; but gone for good were the Cobra's 10 finned barrels to be replaced by 11 finned barrels with altered porting and new stronger pistons with larger piston porting. Quieter running was possibly one benefit of the new pistons as the piston to cylinder liner tolerance was much closer in the new motors. One outcome of the new pistons was a spate of piston skirt failures when the standard pistons were used in a sporting mode, i.e. over-revving the motor for extended periods. This was easily solved by using the heavier, stronger GT 750 pistons whose engines had precisely the same bore and stroke dimensions as the 500.

The only other significant change to the motor was the dropping of the 34mm carburettors for 32mm Mikunis. There is no evident loss of power as a result and the intake howl is much the same; but, fuel consumption dropped markedly from 35mpg on the Cobra to around 50mpg on the Titan. Cruising at 65mph in the country it was possible to return 63mpg, which is not to bad on a loaded two stroke now is it?

Whilst the changes between the Cobra and the Titan were quite marked there was little change to the character and performance of the machine. Feel and handling had been improved by the use of a longer swingarm much earlier and the test riders of the time while unable to get overly excited about the handling commented favourably on the bikes open road stability.
This stability was enhanced by the standard fitting of a friction steering damper.

A beautiful bike in its day the T500R of 1971..

Model changes were pretty limited for the Titan for a number of years. Changes were basically limited to paintjobs and minor ancillaries for four years. The T500-II of 1969/70 came in Candy Gold with a Suzuki "S" badge on the tank, the T500-III of late 1970 was similar except for the tank luggage rack fitted as standard. 1971 saw the T500R arrive in memorable Candy Lavender (purple to you and me) and White and with a new metal "Suzuki" tank badge which would remain standard fitment until 1975. In 1972 the T500J was gaudier than ever with large chrome plastic sidecover ornaments. This model was probably the most attractive of all with Candy Vedoro Green or Pearl Orange petrol tanks. A noticeable change for this year was the adoption of a larger tail-light lens which would remain standard on the GT range as well.

1973 and 1974 saw the death knell for T500's as we know them. Presumably in a bid to make their GT range of triples more attractive the Suzuki factory de-tuned the T500. Significantly they also modified the lower crankcase half of the motor to resolve a long-standing design weakness. The new models T500L & M were designed to accommodate 1400cc of gearbox oil, some 200cc more than the earlier models. This modification ensured that high speed running would not lead to oil starvation of the 5th, 4th and 3rd speed gear clusters. The bane of T500's until now, the inadequate gearbox oil supply could, over time, lead to pitting of the gears and their eventual destruction as the case hardening deteriorated. It is easy to tell if the gearbox on an early model is on the way out, when riding the bike the gearbox will make as much noise as a steam driven freight train pulling up hill. Perusal of any T500 enthusiast's garage will unearth a comprehensive supply of stuffed 4th and 5th gear clusters!

The cynical marketing exercise of de-tuning the Suzuki T500 to make the GT range more attractive did not work. The GT380 and 550 triples were overweight, peaky and unattractive. The T500 had a loyal following and still sold steadily if unremarkably. The subtle changes to the inlet port and the carburettors had robbed the T500 of approx. 3hp and returned the fuel economy to near Cobra standards. The Suzuki factory has a lot to answer for!

The following chart illustrates the factory marketing ploy;

MODEL WEIGHT BHP TORQUE PRICE

1972 T500J 400lbs 47 @ 7000rpm 5.3 kg/m @ 6000rpm $895

1973 GT380 392lbs 38 @ 7500rpm 3.9 kg/m @ 6000rpm $939

1973 GT550 412lbs 50 @ 6500rpm 6.1 kg/m @ 6000rpm $1215

1973 T500K 400lbs 44 @ 6000rpm 5.4 kg/m @ 5500rpm $925

Other than the gearbox, there was no real change for the better in 1973 through to 76. In 1976 we saw the Suzuki factory finally make some significant changes for the better, well overdue and as usual with Suzuki, some bad always accompanies the good.

The 1975 GT500 was a great advance on the Titan featuring a bigger tank, electronic ignition and a front disk brake...and about time too!

The year 1976 saw the unveiling of the GT500, same motor, same strangled power; but, the brakes were finally sufficient to cope with the bike's weight and power. Despite statements to the contrary by enraptured road testers the Suzuki T500's twin leading shoe drum brake had always been woefully inadequate. The GT500 wore a single front hydraulic disk brake, identical to that which had been fitted to the GT380 and Gt550 since 1973! The forks were similar as well having 35mm stanchions and identical triple clamps to the GT range. The instruments were also identical to those found on the GT range.

The 1975 GT500 engine was a significant advance

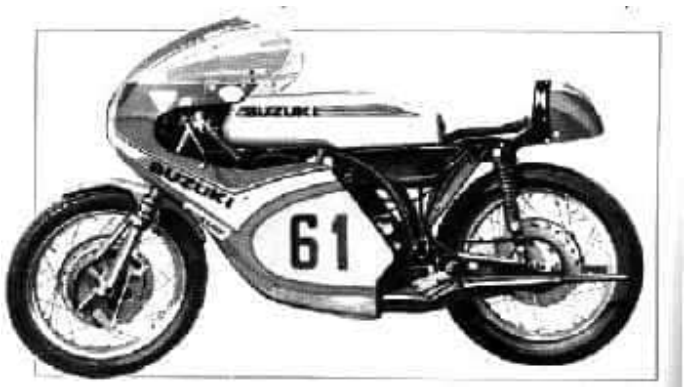
A non-GT item of inestimable value was the fitment of the Pointless Electronic Ignition (terrible name that!) or PEI system which disposed of the twin points/alternator used on the T500. The PEI system consisted of a rotor, CDI unit and single coil which fired on every stroke (i.e it has a wasted spark). A simpler system, which does not need adjustment and provides a more powerful spark and yet Suzuki had been using this system on their 250 trailbikes since 1970! Why the wait, Suzuki?

The last of the line in 1976, the GT500

Another example of parts rationalisation was the use of the GT750 fuel tank on the GT500. A cheap plastic insert replaces the unnecessary radiator access flap on the front of the tank. The tank gave welcome extra range to the 500; but didn't really suit the machines lines. A new seat accompanied the change of tank. Thus modified the Suzuki 500 twin saw out its days and in 1977 the GT500B was the end of the line and hardly any of this model were ever delivered by the factory. The last few GT500s on the showroom floor were heavily discounted and moved away to make way for the new four cylinder four stroke range. The King was dead! Significantly the GT triple range, which had stifled development on the Titan, died with it. There was not much sorrow ar the demise of the triples; but the 500 had earned a loyal following.

T500 fans had watched frustrated while watercooled versions of the motor had produced formidable power on the track and gained triple disk brakes and suitably sporty styling. None of this development was realised on the road, however. The Suzuki factory was distracted by its RE5 Rotary engined fiasco and blinded by its range of triples. What would a lightened, better framed, watercooled twin with triple disks in 1973 have performed like? The race bike was able to give 85bhp by 1975. If Suzuki had put a cheap, lightweight, sporting replica on the road in 1973 it would have become a Classic and beaten the RZ500 Yamaha and the RG500 Suzuki race replicas by 10 years. If only?

The factory racers - the TR500 - Air-cooled and water-cooled



1971 Daytona TR500

The TR500 found its origins in... Boulogne, France. Pierre Bonnet was the French Suzuki distributor and the works team indeed was based there for their first serious onslaught on the Grand Prix world in 1962. By 1967 Jacques Roca, a talented Spanish-French racer and technician had joined forces with Pierre Bonnet after being the distributor for Derbi. Shortly after the new T500 roadster was issued by the Japanese manufacturer, Roca built and raced a racing version that was so impressive that Suzuki, which had officially retired from world championship racing, built a full-race version of the new machine, as well as a 250cc version from the smaller parallel twin.

The author's '72 Daytona TR500

Suzuki realised in the late sixties that racing victories made for great advertising. Suzuki had a good 500cc bike so why not make good use of it. the company developed a racing model from the production version, utilising a new Norton Featherbed inspired frame, called the XR05.

The author's Daytona TR500 showing the featherbed inspired frame

America was where the big sales potential was, so where else to start racing a big 500 but at Daytona. In 1968 the first machine appeared and caused a sensation. it looked mean and went like stink. Shame about the handling though.

Brian Ferguson with the author's Daytona TR500 at a remote road-testing site

The XR05 in 1968 could pull 135mph and produced 63.5hp at 8000rpm. The bike weighed 135kg. The 1969 model managed 64.5hp at 8000rpm and with new gearing was good for 147mph. Ron Grant ran to 5th at the 68 Daytona 500 on the TR500 and Itoh managed 9th.

The author's Daytona TR500 at Wanneroo raceway

In 1970 the TR500 produced 70.5hp at 8000rpm with a speed of 152 mph. The bike still ran a Ceriani 9" twin leading shoe front drum brake and Ceriani forks.
For 1971-2 the TR500 ran 71.5 hp and 154 mph from a dry weight of 130.6 kgs.

The author's Daytona TR500 in the pits at Wanneroo

The big change for 1973 was water-cooling for the motor. The TR500III made 73 hp at 8000rpm and pushed 140kg. A new frame was introduced for this model which ran twin disks up front and a single disk at the rear. Jack Findlay came first at the Isle of Man on this model.
The 1974 TR500 produced 78 hp at 8700 rpm and could pull 160 mph!

Ken Rick's water-cooled TR500 - this bike was ridden to success at the 1974 Marlboro Series in New Zealand

The end of the road came in 1975 when new barrels were introduced and the bike was producing 80 bhp reliably at 8900 rpm.

The Bimota water-cooled TR500 of 1976

The ultimate Suzuki 500 was produced in 1976 when Bimota entered the scene. The Bimota-Suzuki 500 used the TR500 MkIII water-cooled motor with a dry clutch and a six speed gearbox. The Bimota used a tubular space frame with a monoshock rear suspension with a Koni F1 shock absorber. The Bimota-Suzuki was an Italian Suzuki initiative and if anyone knows where one is, I want one (for free)!!!

A NZ Steve Roberts built Suzuki TR500 with a non-standard tank, restored by John Woodley

A factory Suzuki TR500 with Ceriani forks and brakes.
(pic supplied by Michael Pettifer)

An excellent reference on Suzuki racing machines is "Team Suzuki" by Ray Battersby.

Suzuki Daytona TR500 with a John Woodley built frame

T 500 Cobra 1968
Overall Length: 2195mm (86.4in)
Overall Width: 865mm (34.1in)
Overall Height: 1105mm (43.5in)
Weight: 190kg (418 lbs)
Engine type: Air-cooled 492cc twin, 2-stroke.
46 hp/ 7000rpm, 5.5 kg-m/ 6,000rpm.

The Cobra or T500/5 .

Kawasaki
500

WORLD'S FIRST*

* POSI-FORCE

500 CC DUAL-STROKE

SUZUKI 500/FIVE

SUZUKI 500/FIVE
500 CC
MODEL T500

Suzuki 500/FIVE, world's first 500cc dual-stroke production sportcycle. Fastest big bore lightweight. Standing quarter in 13.2 seconds. Max. speed range... 110 to 120 mph! The "500/FIVE"... makes engineering history.

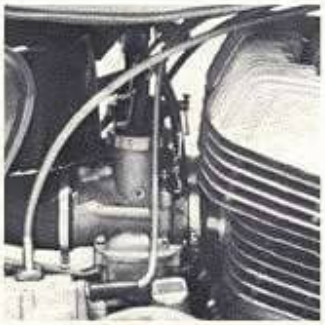
A brutish twin... with two-stroke dependability. (Some said "it couldn't be done.") 46 hustling horses... at a mere 7,000 rpm, plus all the two-stroke advantages: higher power, less wear, reduced weight and the many other Suzuki engineering extras. The "500/Five" has 'em all. More than a mere new model, Suzuki "500/Five" re-shapes the traditional two wheel world.

Features? Harnessing the 46 ready horses of the "500/Five" engine, ("the engine that couldn't be built")... a **five-speed** gear box for better, safer operation... for real performance. The first five-speed in its class.

Posi-Force. It means positive lubrication when and where needed... automatically. Posi-Force (a Suzuki first), ended manual oil and gas mixing. And it paved the way for two-stroke champs. The X-6 Hustler... record-smashing excellence—holder of the 250cc production world speed record; and now, the Hustler's big brother, the "500/Five."

And for beauty?... A dream you must see yourself. The finishing touch! Metallic jewelled finishes. Your choice. Glittering gold, ruby red, sapphire blue... all enhanced with sparkling chrome.

Yet another "500/Five" extra—**altitude compensating** venturi-vented carburetion. It provides the correct gas and air mixture for all operating conditions... automatically. Whether low rpm saunter, or a turned-on pace... whether city street, or mountain peak.



The Suzuki 500/Five Performance Panel... factory installed, standard equipment. Separate tach and speedometer... quality, just as you've dreamed of it.

And safety? A first with Suzuki. Suzuki spec'd out for American size and safety... for power and handling. True safety engineering.

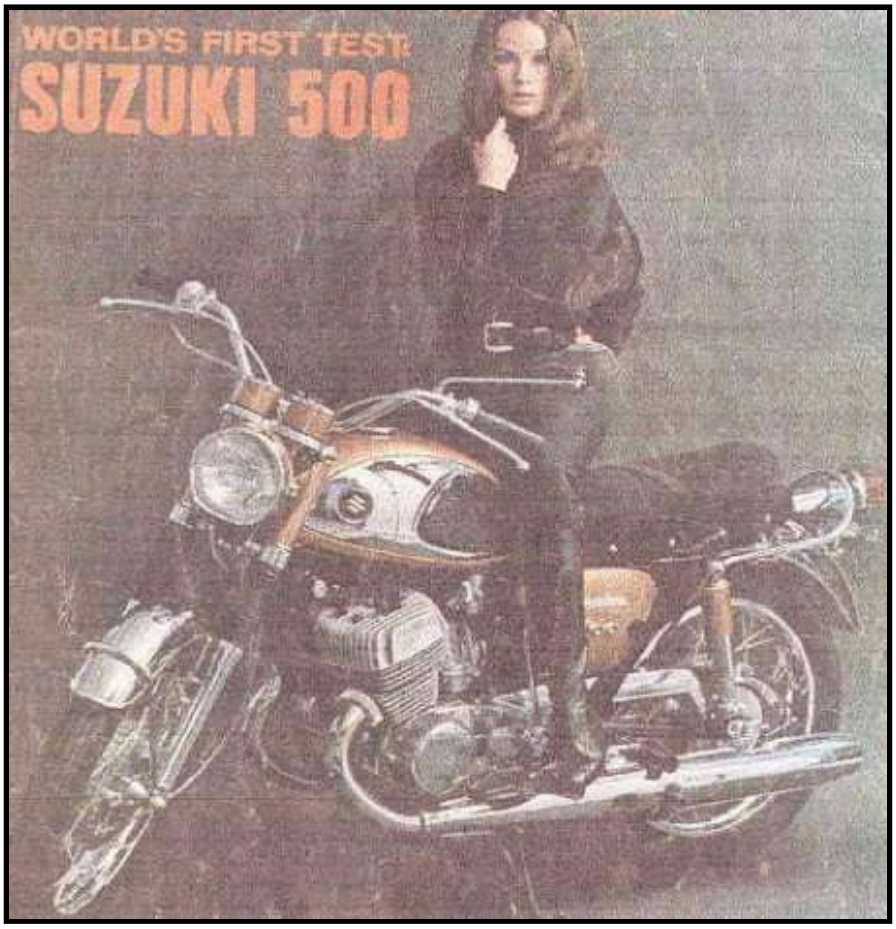
Power? The "500/Five" engine... 46 hp @ 7,000 rpm.

Handling? Tires—Matched to maximum performance potential... racing types, standard equipment. For your safety. Brakes—Paired to power. New, enlarged race-bred front. Rear brake control available for either left or right foot operation. Your choice, for your safety. (Yet another Suzuki first!) Suspension—Deep flexing oil-dampened front forks, with adjustable rear shocks. Matched to performance—matchable to road conditions.

500/Five. Safety engineered, unmistakable quality... and, like all Suzuki sportcycles, the "500/Five" is backed by another Suzuki first, the famous Suzuki Warranty ..."12,000 miles or 12 months."

SUZUKI

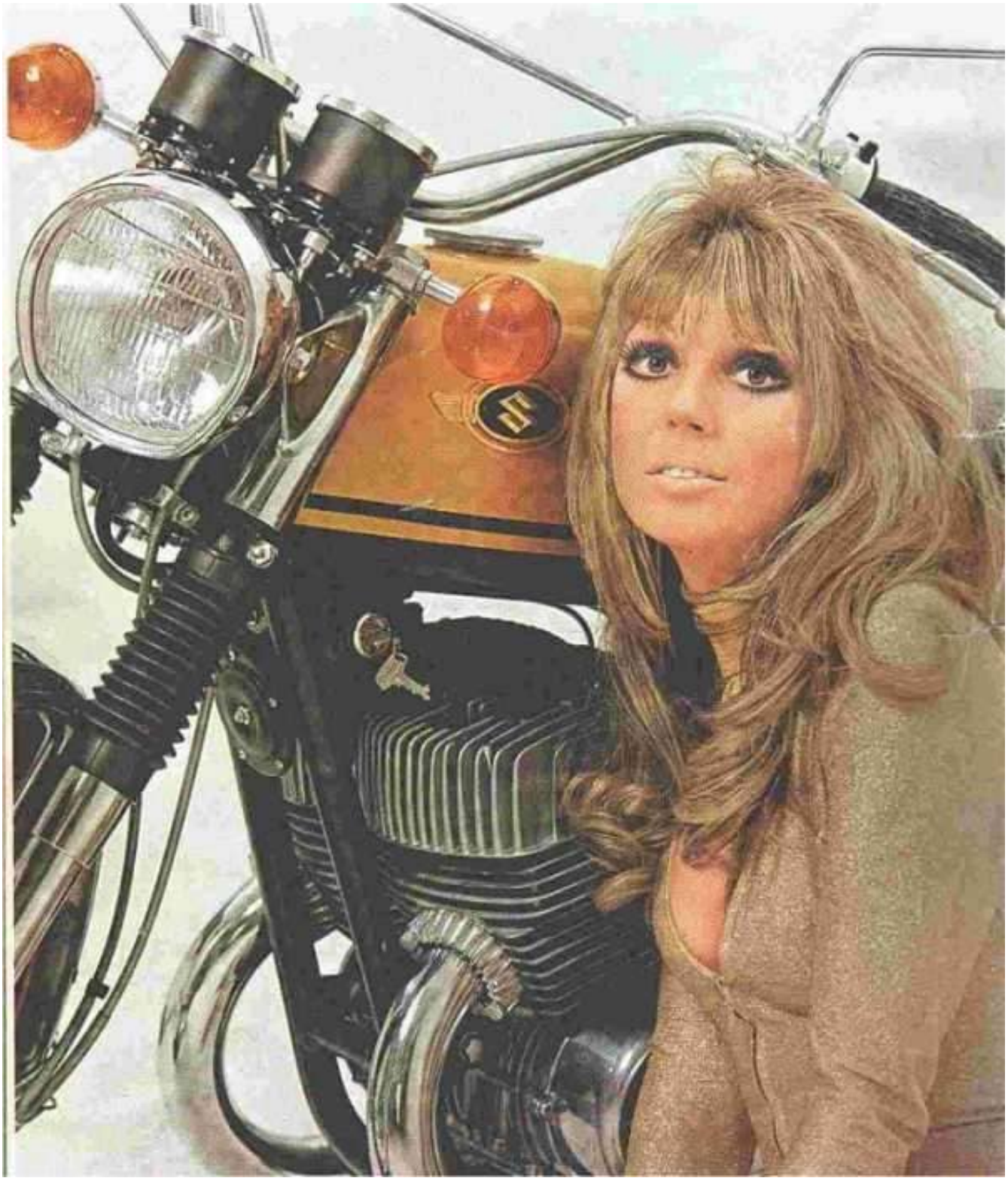
Suzuki's "500/Five"... engineering history in your time. Get in tune! Solo the "500/Five" at your nearest Suzuki dealer.


WORLD'S FIRST TEST:
SUZUKI 500

The Cobra racing against modern machinery at Wanneroo Western Australia.

THE 500 SUZUKI PICTURE GALLERY - T500II -1969

T 500II Titan 1969
Overall Length: 2172mm (85.5in)
Overall Width: 835mm (32.9in)
Overall Height: 1125mm (44.3in)
Weight: 187kg (412 lbs)
Engine type: Air-cooled 492cc twin 2-stroke.
47bhp/7000 rpm, 5.5 kg-m/6,000rpm.



SUZUKI T-500II TITAN

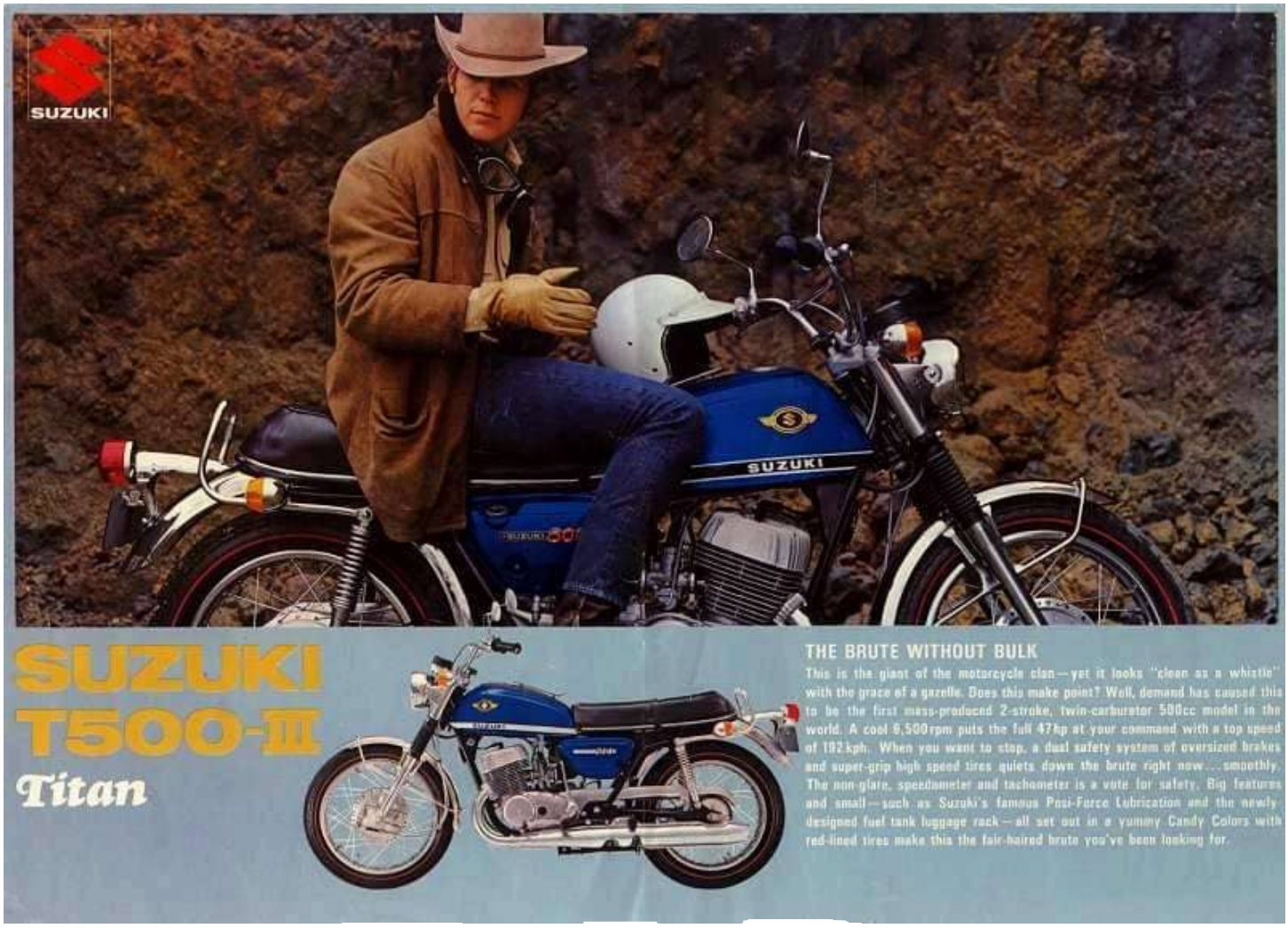
WORLD'S CHAMPION TWO-STROKE 500CC ENGINE

The thundering TITAN. Giant of the motorcycle with a magnitude easily comparable to the conventional 650s on the road. The heavy duty machine navigates with light ease on 47 horses packed under the 500cc engine scuttling at a cool 6,500 rpm. Soars to the maximum cruising speed of 192 kph in seconds with a kick at the five-speed constant mesh transmission. Oversized brakes—8" shoe front and 7" internal expanding rear—, with the help of road-gripping high speed tires, bring this impressive dreadnought on the road to a standing halt without a stutter. Easy-to-read separate speedometer and tachometer. Posi-Force Lubrication system. And all other features add up to the Titan's swinging new racing performance with safety-plus. Gold and orange candy colors, groovy racing stripe on the gas tank, red-lined tires and plenty of glistening chromes award this machine a king's throne.

THE 500 SUZUKI PICTURE GALLERY - T500III -1970

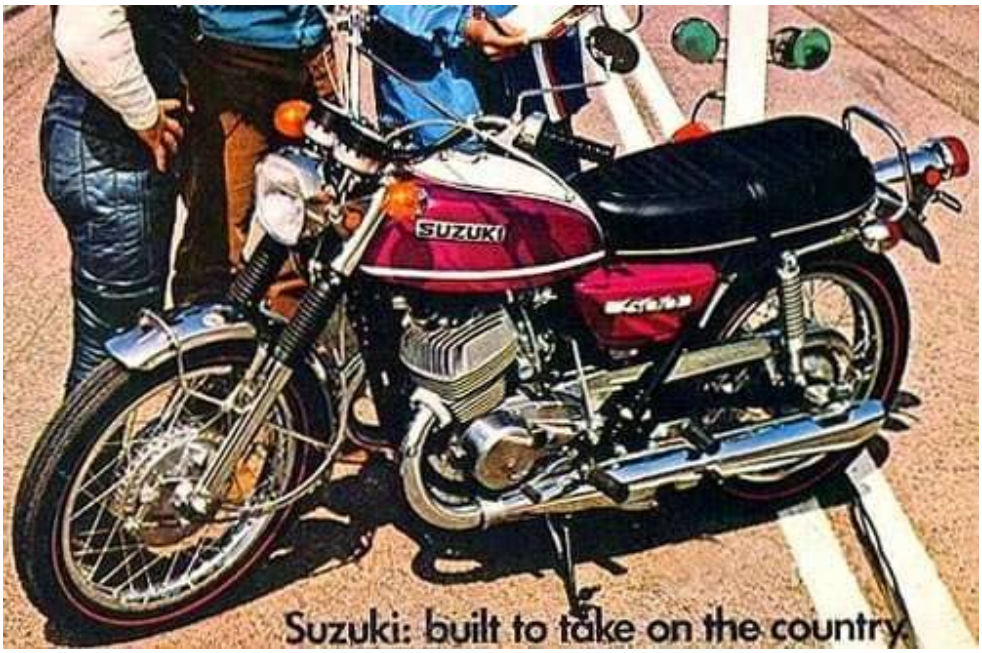
T 500III Titan 1970
Overall Length: 2195mm (86.4in)
Overall Width: 865mm (34.1in)
Overall Height: 1105mm (43.5in)
Weight: 187kg (412 lbs)
Engine type: Air-cooled 492cc twin 2-stroke.
47bhp/7000 rpm, 5.5 kg-m/6,000rpm.

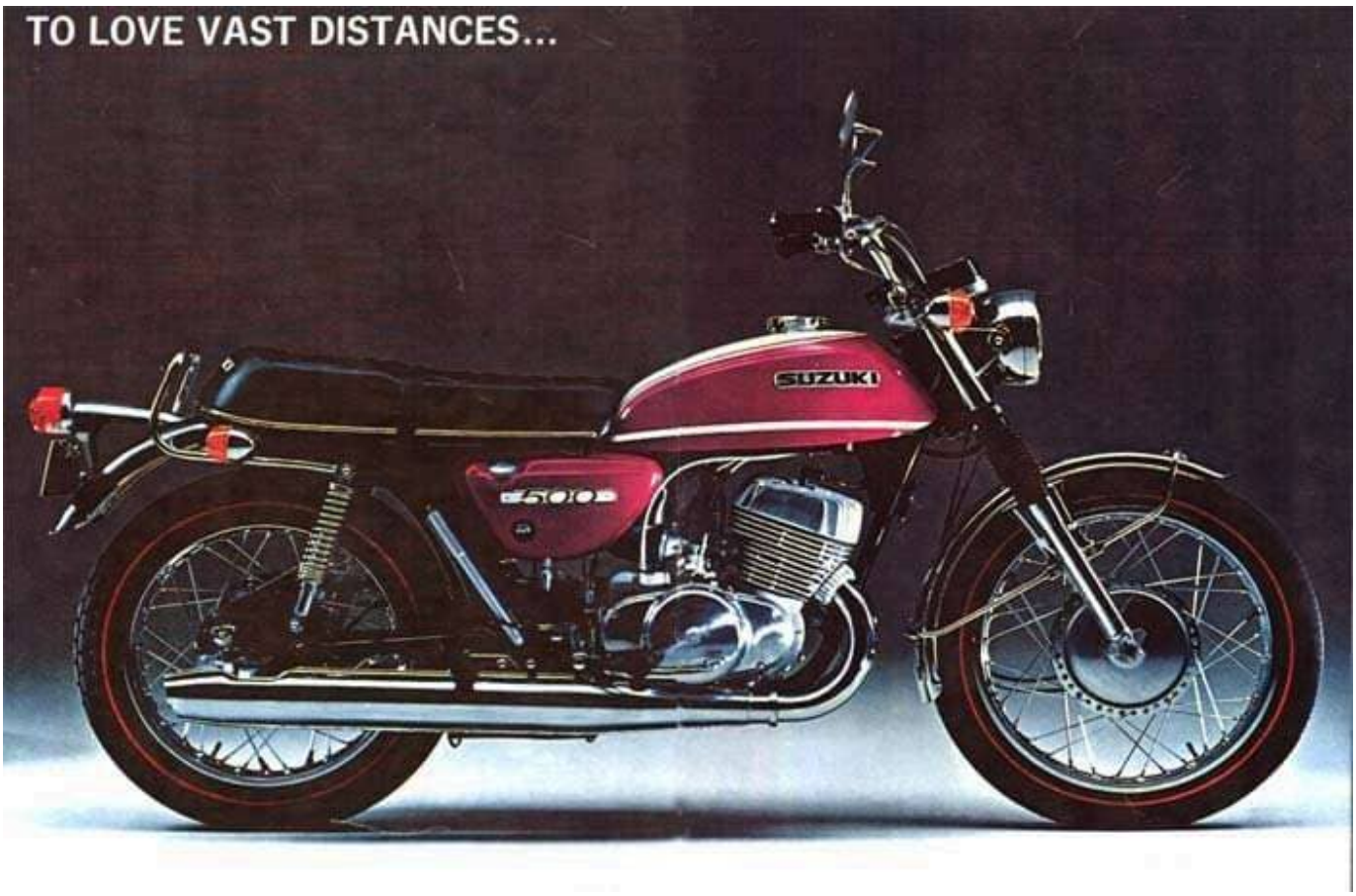
Suzuki 500 two stroke twin page Cobra picture Gallery T500/5



THE 500 SUZUKI PICTURE GALLERY - T500R -1971

T 500R Titan 1971
Overall Length: 2195mm (86.4in)
Overall Width: 865mm (34.1in)
Overall Height: 1105mm (43.5in)
Weight: 187kg (412 lbs)
Engine type: Air-cooled 492cc twin 2-stroke.
47bhp/7000 rpm, 5.5 kg-m/6,000rpm.




TO LOVE VAST DISTANCES...
SUZUKI

SUZUKI T500R Titan
SUZUKI

Suzuki 500 two stroke twin page Cobra picture Gallery T500/5

SUZUKI
50

THE 500 SUZUKI PICTURE GALLERY - T500J -1972

T 500J Titan 1972
Overall Length: 2195mm (86.4in)
Overall Width: 865mm (34.1in)
Overall Height: 1105mm (43.5in)
Weight: 187kg (412 lbs)
Engine type: Air-cooled 492cc twin 2-stroke.
47bhp/7000 rpm, 5.5 kg-m/6,000rpm.

Flat bars suit the T500J

Suzuki 500 two stroke twin page Cobra picture Gallery T500/5

THE 500 SUZUKI PICTURE GALLERY - T500K -1973

T 500K Titan 1973
Maximum Speed: 168-176km/h (105-110mph)
Maximum Horsepower: 44hp at 6,000rpm
Maximum Torque: 5.40kg-m (39.0 lb-ft) at 5500 rpm
Engine Type: 2-stroke, aluminum twin cylinder
Piston Displacement: 492cc (30.0cu-in)
Transmission: 5-speed, constant mesh
Fuel Tank Capacity: 14l (3.7/3.1gal US/Imp)
Lubrication: Suzuki CCI
Overall Length: 2195 mm (86.4 in)
Overall Width: 880 mm (34.6 in)
Overall Height: 1105 mm (43.5 in)
Tires, Front: 3.25-19, 4PR
Tires, Rear: 4.00-18 4PR
Dry Weight: 187kg (412 LB)

SUZUKI
077200

SUZUK

THE 500 SUZUKI PICTURE GALLERY - T500L -1974

T 500L Titan 1974
Maximum Speed: 168-176km/h (105-110mph)
Maximum Horsepower: 44hp at 6,000rpm
Maximum Torque: 5.40kg-m (39.0 lb-ft) at 5500 rpm
Engine Type: 2-stroke, aluminum twin cylinder
Piston Displacement: 492cc (30.0cu-in)
Transmission: 5-speed, constant mesh
Fuel Tank Capacity: 14l (3.7/3.1gal US/Imp)
Lubrication: Suzuki CCI
Overall Length: 2195 mm (86.4 in)
Overall Width: 880 mm (34.6 in)
Overall Height: 1105 mm (43.5 in)
Tires, Front: 3.25-19, 4PR
Tires, Rear: 4.00-18 4PR
Dry Weight: 187kg (412 LB)

SUZUKI T500

SPECIFICATIONS

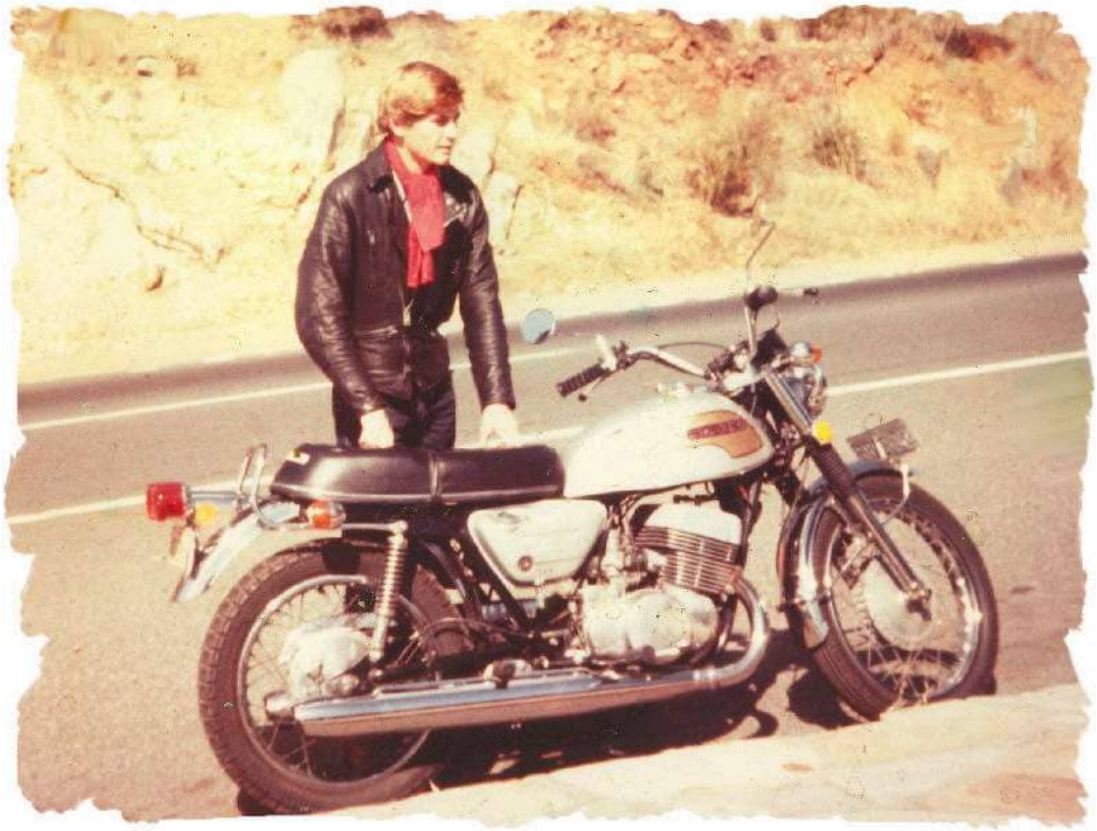
Maximum Speed	168~176 kph (105~110 mph)
Maximum Horsepower	44.0 hp/6,000 rpm S.A.E. NET
Engine Type	2-stroke, aluminum twin cylinder
Piston Displacement	492 cc (30.0 cu-in)
Transmission	5-speed, constant-mesh
Fuel Tank Capacity	14 ltr (3.7/3.1 gal, US/Imp)
Lubrication	Suzuki CCI
Overall Length	2,195 mm (86.4 in)
Overall Width	880 mm (34.6 in)
Overall Height	1,105 mm (43.5 in)
Ground Clearance	160 mm (6.3 in)
Tires, Front	3.25-19, 4PR
Rear	4.00-18, 4PR
Dry Weight	187 kg (412 lb)
Starter	Kick
Color	Candy Gypsy Red Star dust Silver Metallic

*Specifications subject to change without notice.

SUZUKI CCI

SUZUKI MOTOR CO., LTD.
300 Takatsuka, Hamamatsu, Japan

Printed in Japan



THE 500 SUZUKI PICTURE GALLERY - T500M -1975

T 500M Titan 1975
Maximum Speed: 168-176km/h (105-110mph)
Maximum Horsepower: 44hp at 6,000rpm
Maximum Torque: 5.40kg-m (39.0 lb-ft) at 5500 rpm
Engine Type: 2-stroke, aluminum twin cylinder
Piston Displacement: 492cc (30.0cu-in)
Transmission: 5-speed, constant mesh
Fuel Tank Capacity: 14l (3.7/3.1gal US/Imp)
Lubrication: Suzuki CCI
Overall Length: 2195 mm (86.4 in)
Overall Width: 880 mm (34.6 in)
Overall Height: 1105 mm (43.5 in)
Tires, Front: 3.25-19, 4PR
Tires, Rear: 4.00-18 4PR
Dry Weight: 187kg (412 LB)

Alec Stewart's T500M

THE 500 SUZUKI PICTURE GALLERY - GT500A -1976

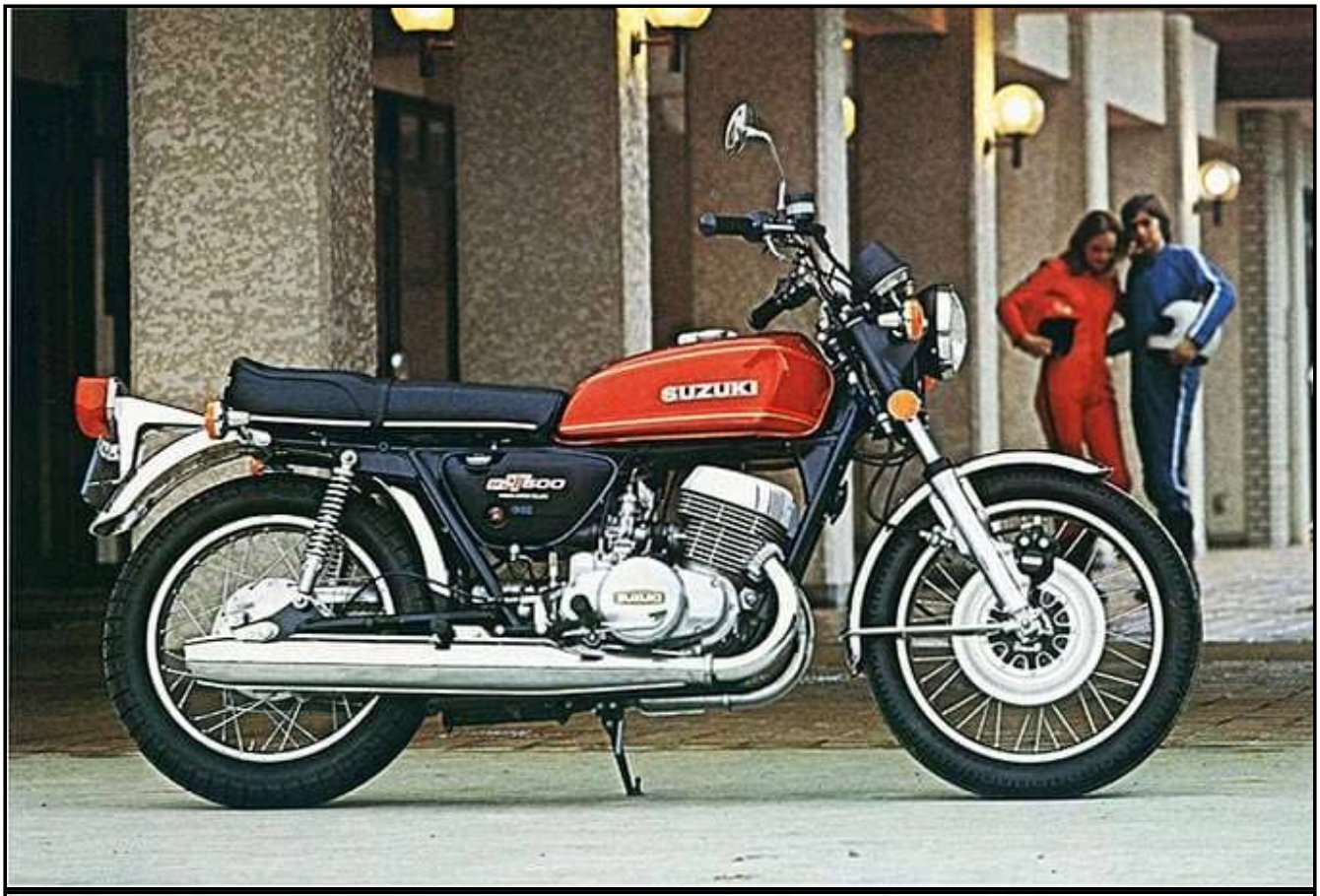
GT 500A 1976
Maximum Speed: 168-176km/h (105-110mph)
Maximum Horsepower: 44hp at 6,000rpm
Maximum Torque: 5.40kg-m (39.0 lb-ft) at 5500 rpm
Engine Type: 2-stroke, aluminum twin cylinder
Piston Displacement: 492cc (30.0cu-in)
Transmission: 5-speed, constant mesh
Fuel Tank Capacity: 17l/4.5gal US
Lubrication: Suzuki CCI
Overall Length: 2195 mm (86.4 in)
Overall Width: 880 mm (34.6 in)
Overall Height: 1105 mm (43.5 in)
Tires, Front: 3.25-19, 4PR
Tires, Rear: 4.00-18 4PR
Dry Weight: 395lbs

Suzuki 500 two stroke twin page Cobra picture Gallery T500/5

Suzuki 500 two stroke twin page Cobra picture Gallery T500/5

THE 500 SUZUKI PICTURE GALLERY - GT500B -1977

GT 500B 1977
Maximum Speed: 168-176km/h (105-110mph)
Maximum Horsepower: 44hp at 6,000rpm
Maximum Torque: 5.40kg-m (39.0 lb-ft) at 5500 rpm
Engine Type: 2-stroke, aluminum twin cylinder
Piston Displacement: 492cc (30.0cu-in)
Transmission: 5-speed, constant mesh
Fuel Tank Capacity: 17l/4.5gal US
Lubrication: Suzuki CCI
Overall Length: 2195 mm (86.4 in)
Overall Width: 880 mm (34.6 in)
Overall Height: 1105 mm (43.5 in)
Tires, Front: 3.25-19, 4PR
Tires, Rear: 4.00-18 4PR
Dry Weight: 395lbs



SUZUKI GT500

Travel long and far.

On the affordable tourer built and outfitted for speed, comfort and durability.

GT500 is the spirit of speed. A big, fast touring bike with long-touring features. Powerful 2-stroke, twin-cylinder engine matched with 5-speed gearbox. This engine gets plenty of fresh oil, too — CCI lubrication to all rotating parts and cylinder walls. GT500 has a big 17 liter tank. It consumes gas sparingly. Brakes crisply. Runs long, smoothly and quietly, dependably for long years, stably at high speed.

Engine

This 2-stroke, twin-cylinder engine with efficient 5-speed transmission is famous for delivering high performance. CCI lubrication protects its reputation for smooth-running dependability completely.

Front disc brake

High-performance touring motorcycles require a braking system that matches their capability. This powerful front disc brake is designed to assure positive stops.

Front fork

The front fork is designed to work efficiently with the front disc brake for safety, comfort and stability during an abrupt stop. It's telescopic and oil-dampened.

Instruments

This rider-oriented design angles instruments toward you and a hood helps prevent glare. The cluster includes speedometer, tachometer and tripmeter. And a turn signal indicator above the ignition switch.

Rear suspension

The oil-dampened, 5-way adjustable rear suspension system is designed to absorb road shocks before they're transmitted to the rider. You ride comfortably and always in control.

Specifications

Maximum Speed:	168–176kph (105–110mph)	Lubrication:	Suzuki CCI
Maximum Horsepower:	44.0hp/6,000rpm S.A.E. NET	Overall Length:	2,205mm (86.8in)
Maximum Torque:	5.40kg-m (39.0 ft-lb)/ 5,500rpm	Overall Width:	880mm (34.6in)
Engine Type:	2-stroke, 2-cylinder	Overall Height:	1,135mm (44.7in)
Piston Displacement:	492cc (30.0cu-in)	Ground Clearance:	160mm (6.3in)
Transmission:	5-speed, constant mesh	Suspension, Front:	Telescopic, oil-dampened
Fuel Tank Capacity:	17.0 ltr (4.5/3.7 US/Imp gal)	Rear:	Oil-dampened, 5-way adjustable
		Tires, Front:	3.25S19-4PR
		Rear:	4.00S18-4PR
		Dry Weight:	170kg (395 lbs)
		Starter:	Kick
		Color:	Maui Blue Metallic Candy Calypso Red

* Specifications subject to change without notice.
* Note that there may be slight product color variations from colors printed in this leaflet.
* Standard and special specifications vary according to local requirements.

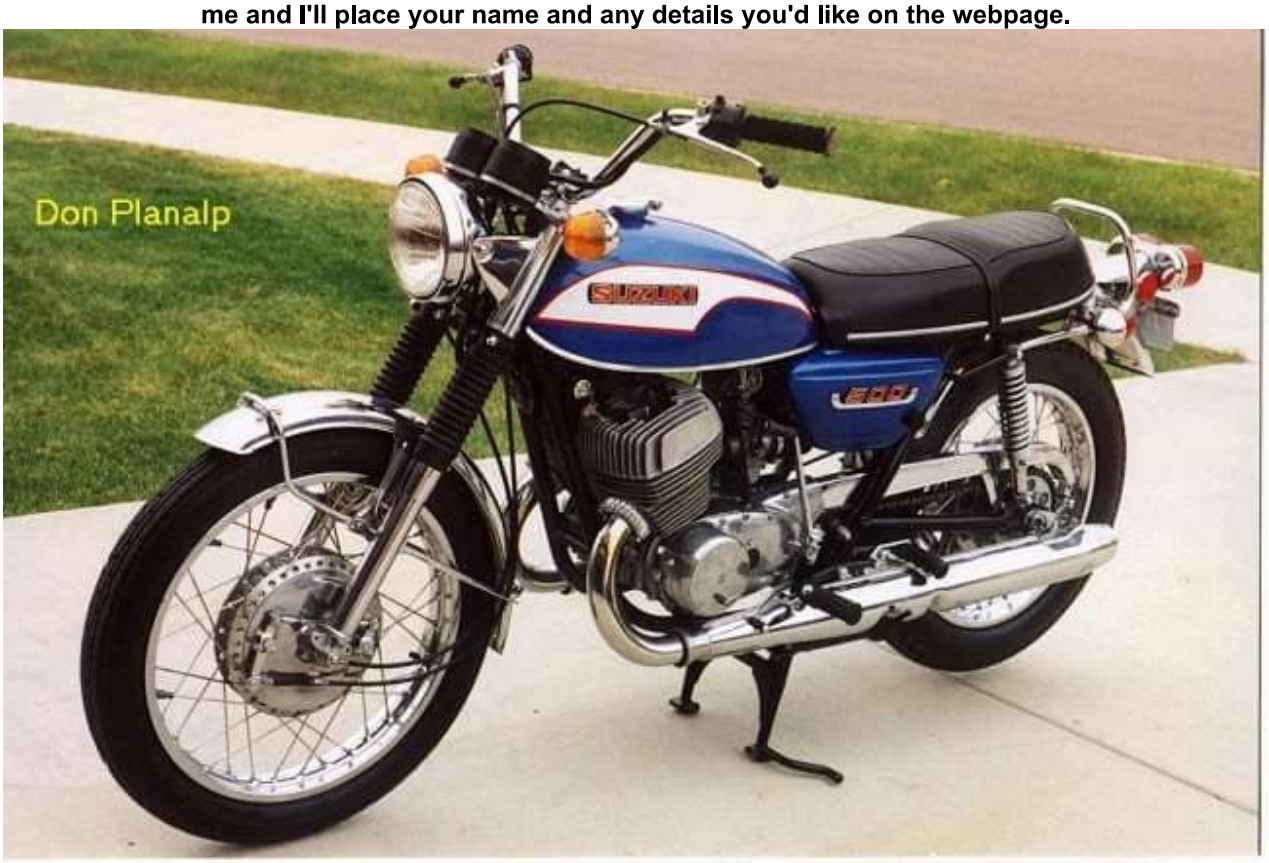
Maui Blue Metallic

Candy Calypso Red

SUZUKI MOTOR CO.,LTD.
300 Takatsuka, Hamamatsu, Japan

Printed in Japan

Like minded 500 Suzuki fans share pictures of their bikes. Where the owner is not named could you please contact me and I'll place your name and any details you'd like on the webpage.



Don Planalp's immaculate 1973 T500K - (USA)

A beautiful custom 500 which sadly was stolen soon after completion. See more like this on Eric's site at http://home.i-plus.net/sundial/

A nice looking T500III

Giampiero Vassalli is from Atina in Italy and he is just starting to restore his Titan

Like minded 500 Suzuki fans share pictures of their bikes.

Hello Murray,
Firstly, great 500 site, between your site and Erics, you really do our chosen bike proud, loads of useful information and contacts, just goes to show how popular the 500 still is around the world.
I 've sent you a couple of photo's of my bikes for you to maybe post on the readers wivesxx.... er I mean readers writes, (wrong site !!) section.
First one is my 1977 GT500 A. Restored by me from scrap, I know its history from new, so I've sort of got a soft spot for this one, just completed rebuild with reconned crank, already had rebore and new 4th and fifth gears, so hopefully it will stay in one piece for a good few years to come.
Second is my 'rat' bike, used for going to work on in the winter and when it rains (frequently !), its made up mainly of bits left over from donor bikes , used in the restoration of the other 500. GT380 tank, GS shox, unknown seat, 2 into 1 and ram jet filters, sounds evil !!
Cheers
Trevor Marsh
England

Here is my bike. I am racing it in Colorado in the brand new Vintage Class of MRA. Still working on it to make it faster and better in handling.

Andi Seiler - May 2000

Maurizio from Switzerland

1971 T500R - Maurizio (Switzerland)

Maurizio's favourite stretch of road, where the T500 really shines! - Swiss Alps Grimsel Pass 2,450m

Like minded 500 Suzuki fans share pictures of their bikes.

Clive Wadsworth's 1975 T500M

I thought you might like a picture of my newly restored 1975 T500M. I acquired the bike last year as a basket case which it had been for 19 years! It was taken off the road in 1980 for frame refurbishment. It survived 4 house moves and a brief swap for a basket case T10 almost 100% complete although many parts proved to be unusable or unserviceable. The bike was rebuilt using as many of the original parts as possible except for the engine which was rebuilt using mainly new parts. Best regards, Clive Wadsworth, Marston, York, United Kingdom.

More pics of a T500M.....

Phil Cantwell sent the following pics of his project bike and his mate's bike:

The red bike belongs to me and the unpainted one belongs to my mate, Adam. The bodywork for both comes from Moto Tumbi, aka Classic Motorcycle Fibreglass. The red tank is a Norton replica I think and the white one is a Ducati replica. It was a simpler fit onto the frame as it has anti vibration mounts fitted on the underside of the tank. Both seats are the same and are TR replicas.
The exhausts come from Andersen Engineering in Ringwood, Melbourne. He does a lot of work on T500's including a complete new frame and swingarm. The footpesgs on both bikes are Honda items where the levers pivot on the footpeg mount. I like this system as I think its easy to mount and the position of the lever relative to your foot doesn't change as it rotates. Neither bike has run for many years and both required a full rebuild. It remains to be seen how they perform.
Phil Cantwell.

Like minded 500 Suzuki fans share pictures of their bikes or other Suzis.

Paul Crowhurst from Brisbane, Queensland, Australia is restoring his 1971 T500R, using some GT500 components

Maurizio shared this strange picture with us of Dracula mis-using a Suzuki T500R

Dale Fancey from Whitby in Canada sent us this pic of his 1973 T500K special

Like minded 500 Suzuki fans share pictures of their bikes or other Suzis.

Tristan Newsome

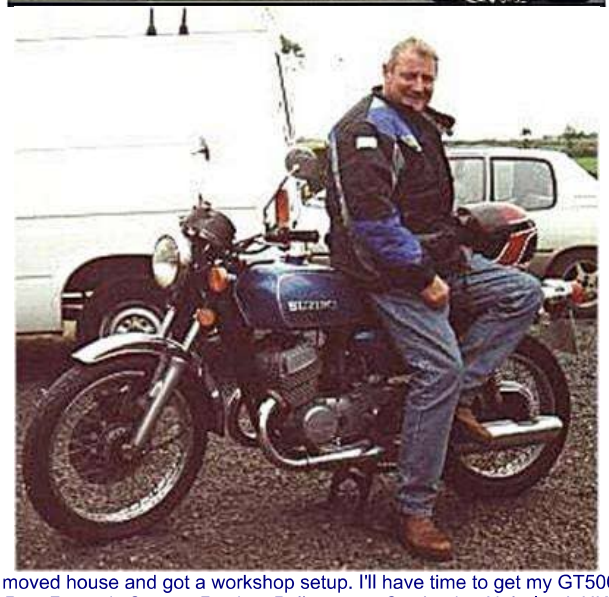
Chris Newsome

I have been keeping tabs on your website and am very impressed, you have done a top job! Please add myself Chris Newsome and my son Tristan to your list. attachedare a couple of photo's, one of me no 33 which was taken at Mac Park in South Australia and the other of my son Tristan on 501 also taken at Mac Park, as you can see Tristan's riding style is slightly more flamboyant than mine! We hail out of Adelaide and try to get in as many races as we can, at this stage that is not many as racing in SA is going through a flat spot. As well as the two racing Titans I have a road going Titan and a number of dismantled machines. The garage also has a Suzuki Katana, Kawasaki GTR1000, AJS 16MS and various other bits and pieces stuffed in it. We recently went over to Philip Island, for the Island Classic, not racing unfortunatly (supporting a mate of mine with an AJS 7R) and was pleased to see a good field of Titans out on the track. Next year I am definitely heading over there with the bike as the track is awesome! As you can see on the pics both of the bikes are unfaired, what I would like to do is make them look a little more like the TR. All the best,
Chris Newsome
Feb 2001

Tristan at MacPhillamy Park, Mount Gambier, South Australia

B. Marshall's T500

This is a picture off my original K model , I also have a J in restoration. Greetings Jack from Holland .



I've just moved house and got a workshop setup. I'll have time to get my GT500 sorted.
Best Regards Sammy Purdon, Ballymoney, Co. Antrim. N. Ireland. UK

JGV
912N

There are 3 piccies the 2 of the Lowrider T500 - details as follow GT550 f/end, XS750 p/tank, combined batt box/oil tank, short shocks on cut down frame, ruddy hard seat! Fun to ride but not very far. Other T500 standard except colour. These pics are 8 yrs old, the std T unfortunately was stored in mates garage which the roof collapsed, 3 yrs later when I went to get it Mr Rust and his corrosive pals had had a field day eating the poor old thing, it now sits in corner of w/shop in bits. The Lo T500 is now in project mode as Street Scrambler/Flat Tracker sort of stylie after being in its former guise for the last 8 years. Hope they are of some interest. Thanx also for webbie tips, talk to you soon. Gareth.

Pics by Jos Pot: Netherlands - 1977 - Harmelen near Utrecht

Suzuki 500 bike

Vic Dreessen's Stable

My name is Vic Dreessen and I'm living in the Netherlands. I own a lot of Suzuki 2 strokes (GT750J (2x) GT750 A(2x) – GT750 Patroller -T500 Cobra (2x) -Rg500-T200-T20-T350-II -RE5M -etc.)

--o--

Troll's T500 with drop bars - neat

TS 250... this is what i owned before graduatin to the GT500. It is a 74 TS250 which is exactly 1/2 a 500
Matthew Morling, Perth Western Australia

Aldo Martinenghi is in Switzerland and shares his machines with us.

1968 T500 Cobra

1971 T500R

1972 T500J

1967 T20

Suzuki Snapshots

Riding Styles

Zooke pic and knees-out

Posted by Muzzawood on March 7, 2003, 8:23 pm

Hi
more than thirty years between the 2 pics!
I of course was taught the Hailwood riding style, ie knees in, elbows in, bum shut and mouth open.
As to getting the bike over, even in those days, with crummy tyres we would scrape the pegs down.
yes the Muzzapic is mirrored to get the direction to match Zookes pic and the number plate had come loose as it was well into a 3 Hour production race. The engine was filthy as the bike went straight into the race after getting back from a trans-continental ride over the Nullarbor (which was unsealed in those days). I have pics of the bike leaning over the other way with Nullarbor red dust and mud under the motor. Don't suppose it would get through scrutineering these days, but in those days we rode to the track, took off the centre stand and indicators and raced and then rode home again. Talk about youthful confidence!

Posted by Zook-e on March 7, 2003, 9:08 pm

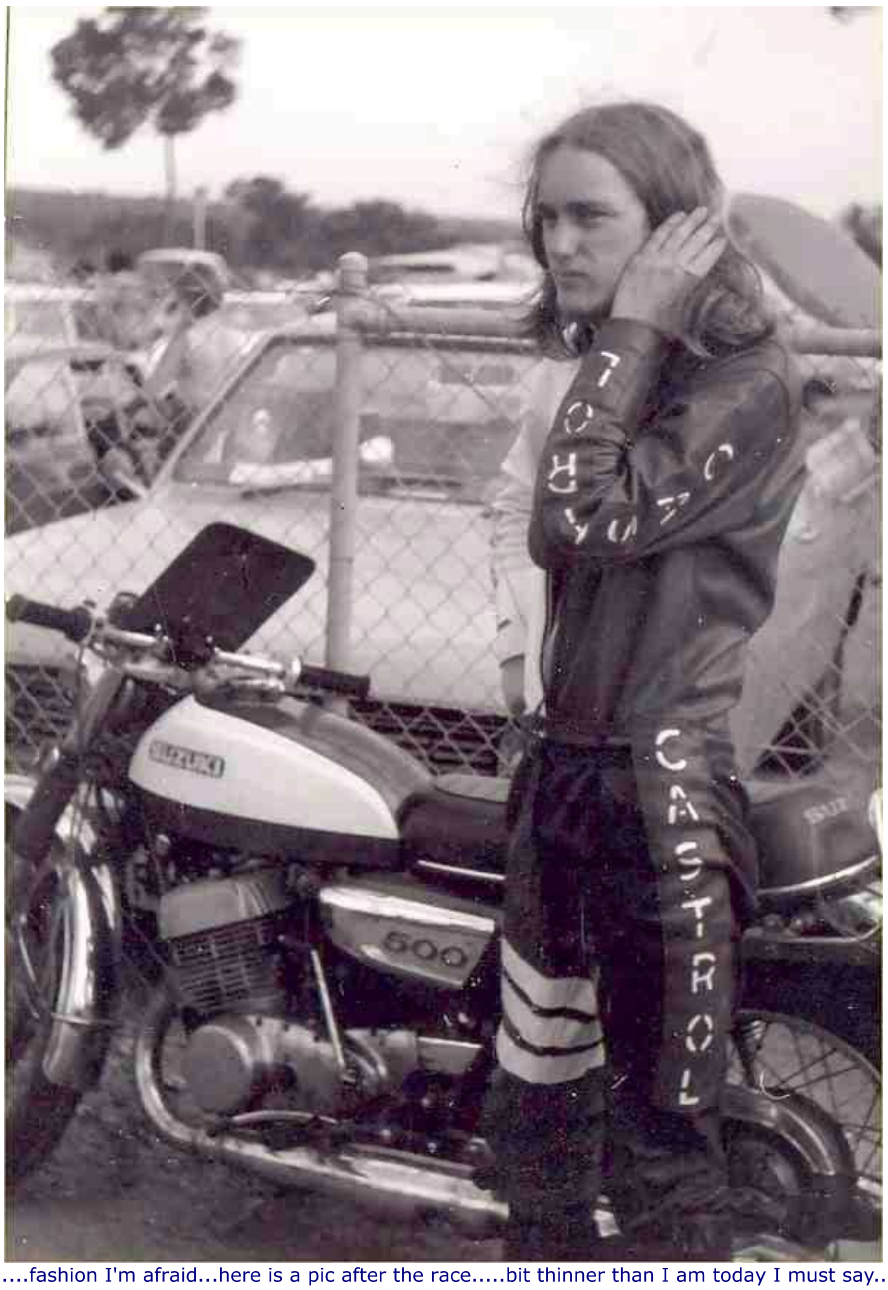
When Frank Melling came over and rode for Sundial Suzuki I coined that Old World riding style "Velcro". It's like your knees are velcroed to the tank. I myself do not feel confident riding like that and need my knee on the tarmack as well as my toe slider and knee combination to let me know how close my pipe is to the tarmac.

Windsock and other digressions!

Posted by Muzza on March 7, 2003, 9:38 pm

Yep, the more modern style looks like a "windsock" to me but then you sure look like you are going gangbusters there on the old "67! Course you are a lot more lanky than this UFOB!
I remember when it became fashionable to hang the knees out but then we didn't have knee scrapers, padding of any kind on arms, elbows or knees and no back protectors. The old helmets were like egg shells as well. I think it was Jarno Saarinen that got us all hanging the knee out.
Of course the theory for us old "Hailwoods" is that you stick the leg out whilst braking to help slow down but pull it in before the apex. So leaning left, stick the left leg out, turning right, stick the right leg out. Sort of like an air brake. On long straights with a 90 degree bend coming up of curse you sit up and act as a windsock to help slow down. Using brakes helps as well but in those days the old T500 brake was next to useless after a few laps.
After watching On Any Sunday I remember it became fashionable on long straights to lay on the tank, hold on with one hand on the throttle and hang on to the fork leg with the other hand....the officials banned that after a while, but it felt like we were going faster!

Suzuki 500 bike



the hair was a bit long then.....fashion I'm afraid...here is a pic after the race.....bit thinner than I am today I must say.....and the number plate has decided to come right off...bit of muck on the engine after 3 hours...I think I am stuffed as well!!!

Suzuki 500 bike

Peg down, knees in and what speed is that on the clock! Over 80mph!

Back to Suzi 500 index page

Muzza’s Retro Gallery

Muzza's T500 Retro Archive

Some old shots of Muzza's T500 moments

Don't know what was going on here, I know it looks like a genuine Suzi ad from the 70s but it is purely coincidental, really we were just ordinary really cool guys trying to stay out of the Army. Me mate Carl on his red T500J and me and me flame on my green T500J.

Suzuki 500 bike

Out bush, near Lancelin, North of perth, 2 brand new T500sJ. The jerk on the right will remain nameless. Me mate Carl is in the open-face. Must be summer 73, ie Jan-Feb in Oz time. I just loved those flat bars.

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

Cool dude with his flame painted Mach III Kawasaki - boy did I feel inadequate on my Suzi T500, and his chick was cute too! Chopper seat, raised bars, freaky lights and dropped tail-light, so cool.

Suzuki 500 bike

Brand new T500J - hey I can be cool too, even if my leather jacket is from an opportunity shop and the zip is broken.

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

Fill her up, mate!

Suzuki 500 bike

Well, 2 T500s makes 4 pots vs your puny 3, mate! Carl, wishes I'd stop trying to big note meself.

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

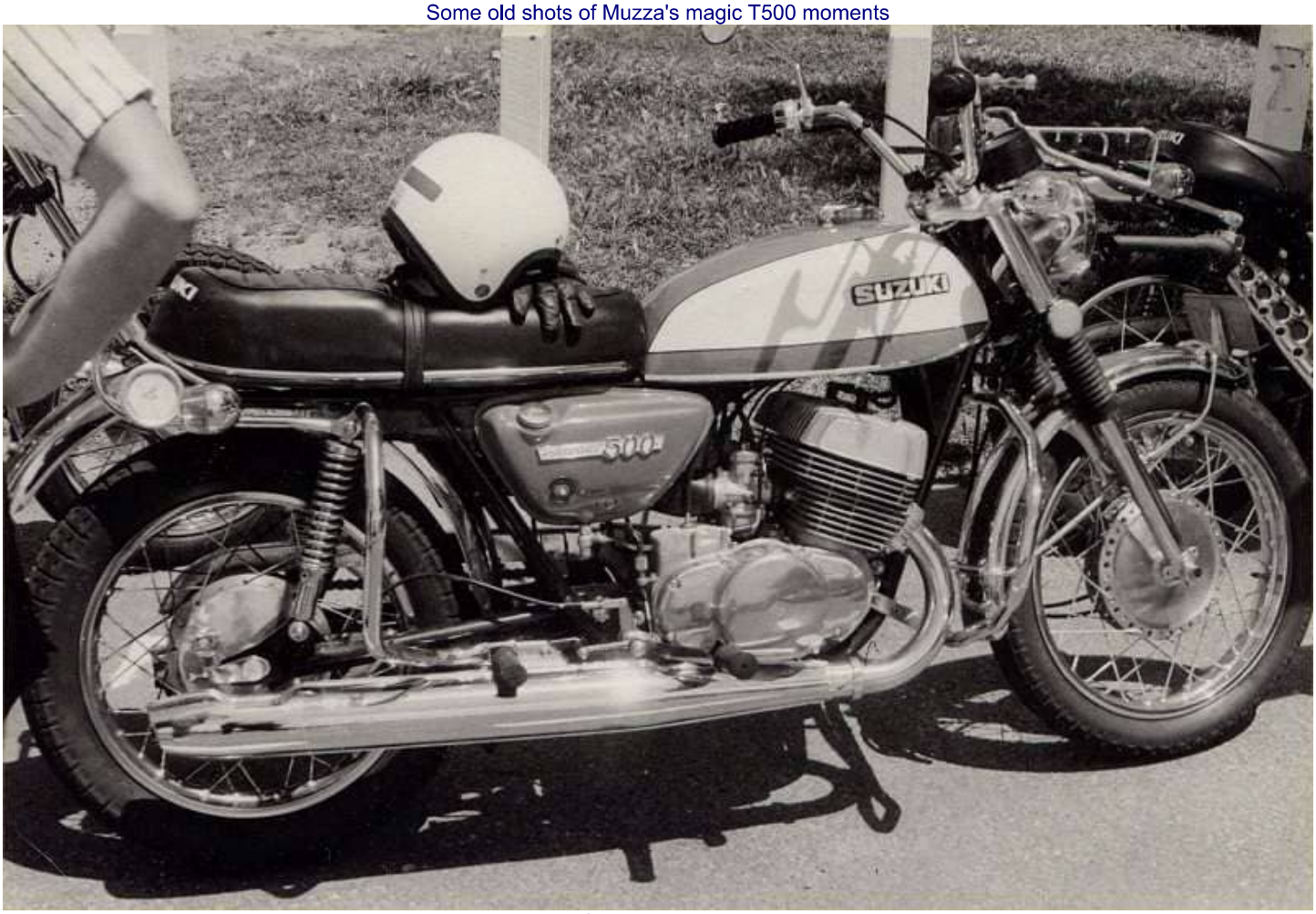
Long hair, flares and long legs, no not the bikes, the chicks!

Carl didn't like the chrome side-panels so he replaced them with the T500R side plate. Still kept those bloody cow-horns though!

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments



Carl's red T500J

Suzuki 500 bike

Ready to roll - Honda 500 Four, Kawasaki 500 Mach III, T500Js and a TS400.

More - page 6

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

Peace man! Hey, was that the first full-face helmet in Perth? I noticed that the lining was red and didn't show the blood when the egg-shell thin helmet broke open on impact.

Suzuki 500 bike

No-one would believe it now but this road seen in 1973 is now the main drag to Mandurah, a bustling seaside city, a wide-open divided 4 lane highway.

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

So you got 4 pots, a cool exhaust note, can grow a beard and a chick on the back, think you are good or something?

Suzuki 500 bike

Bikie terror on the loose, Hey Charger! Mandurah Road, early 1973

XB-511

Suzuki 500 bike

A policeman mate gave me an old cop wind-shield. Cool for touring except the old 500 found it a lot to push and the wind blast at speed was a bit much, and on cold nights the screen fogged up!

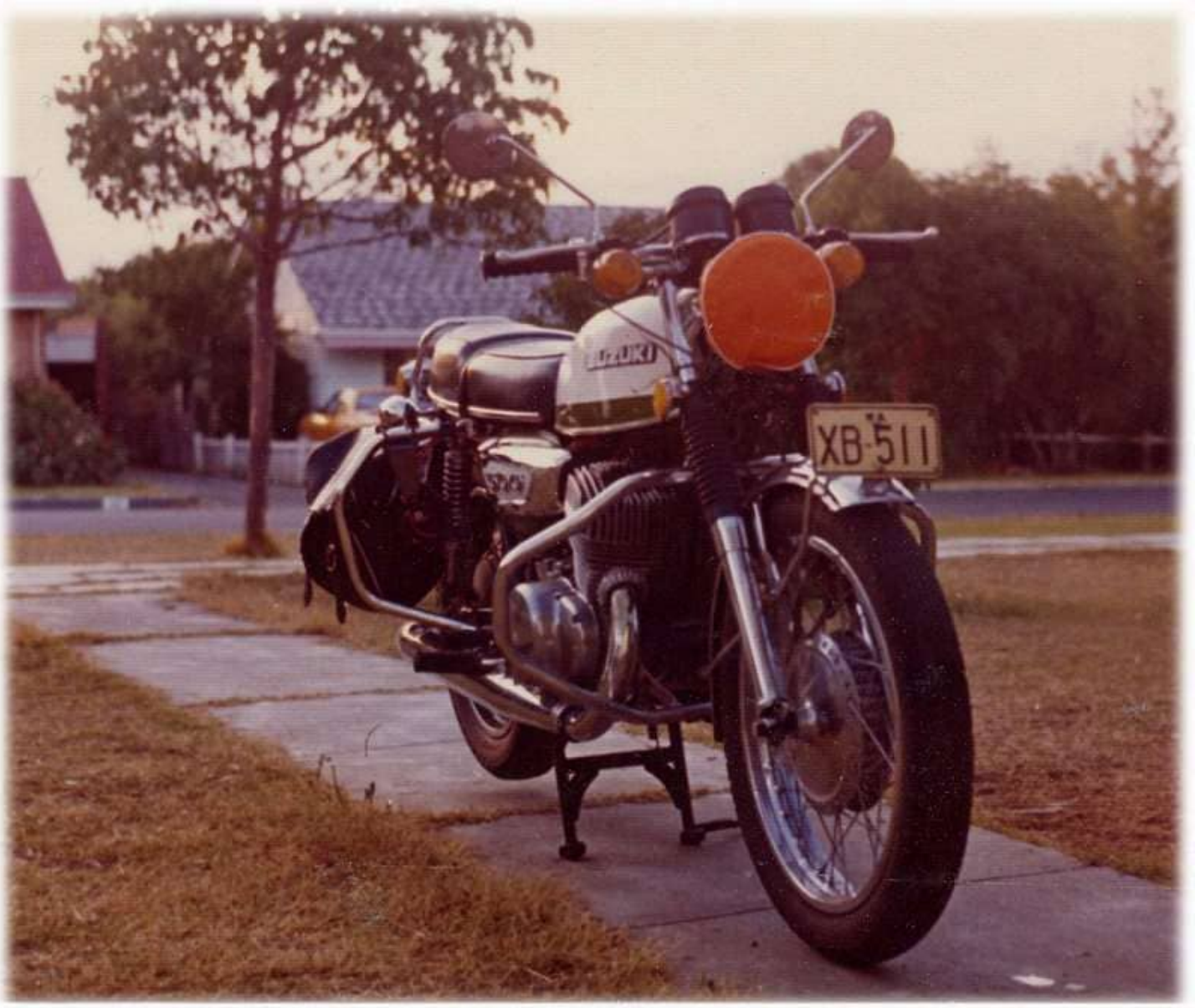
Suzuki 500 bike

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

Suzuki 500 bike



The old girl.....

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

Hmmm, sandshoes, t-shirt and no gloves.....risky Muzza!

Suzuki 500 bike

Me mate, Carl

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments

All kitted out for touring, it rained for 250 miles and we near froze to death, mid-winter 73.

Suzuki 500 bike

Suzuki Snapshots

Muzza's T500 Retro Archive

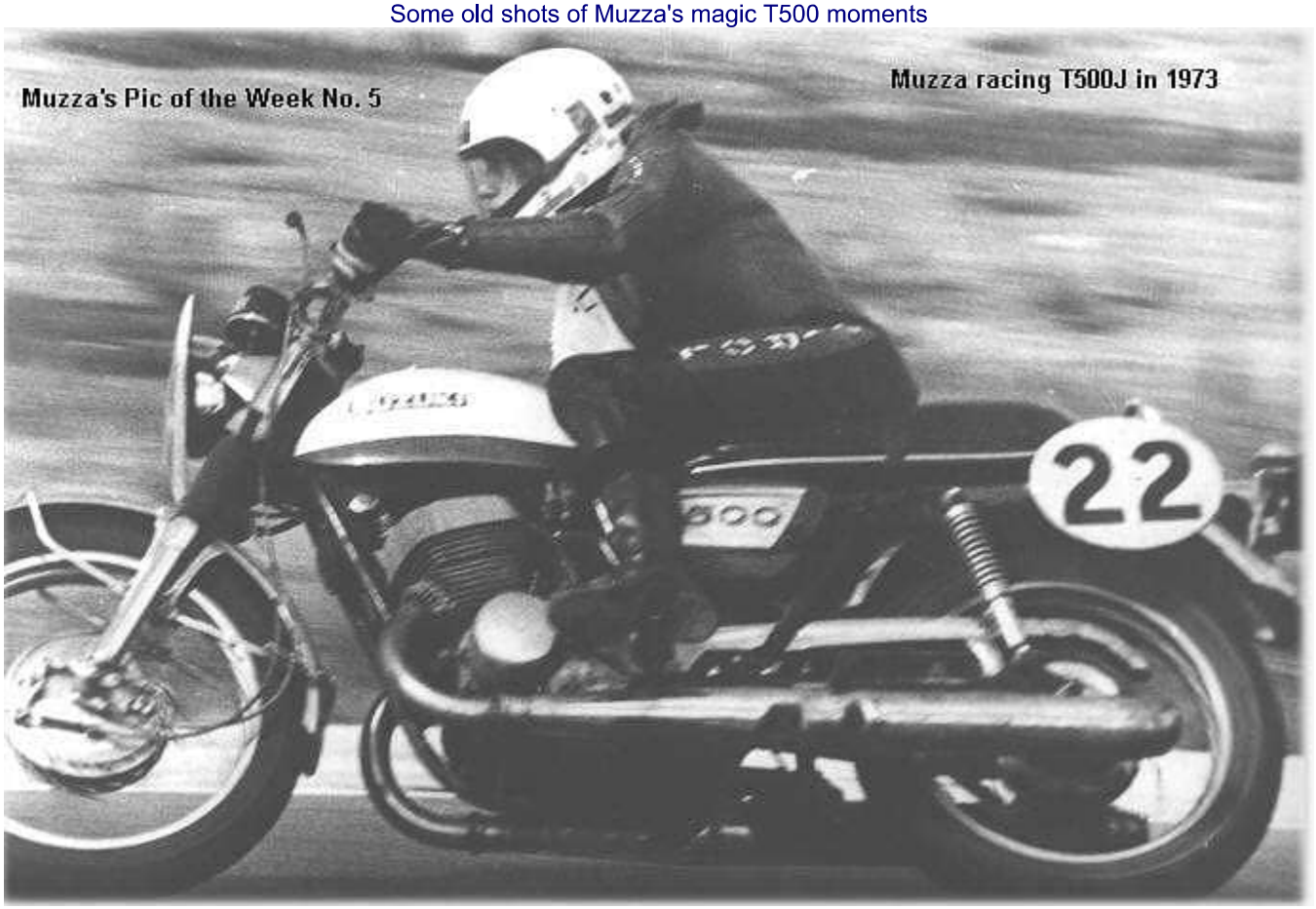
Some old shots of Muzza's magic T500 moments

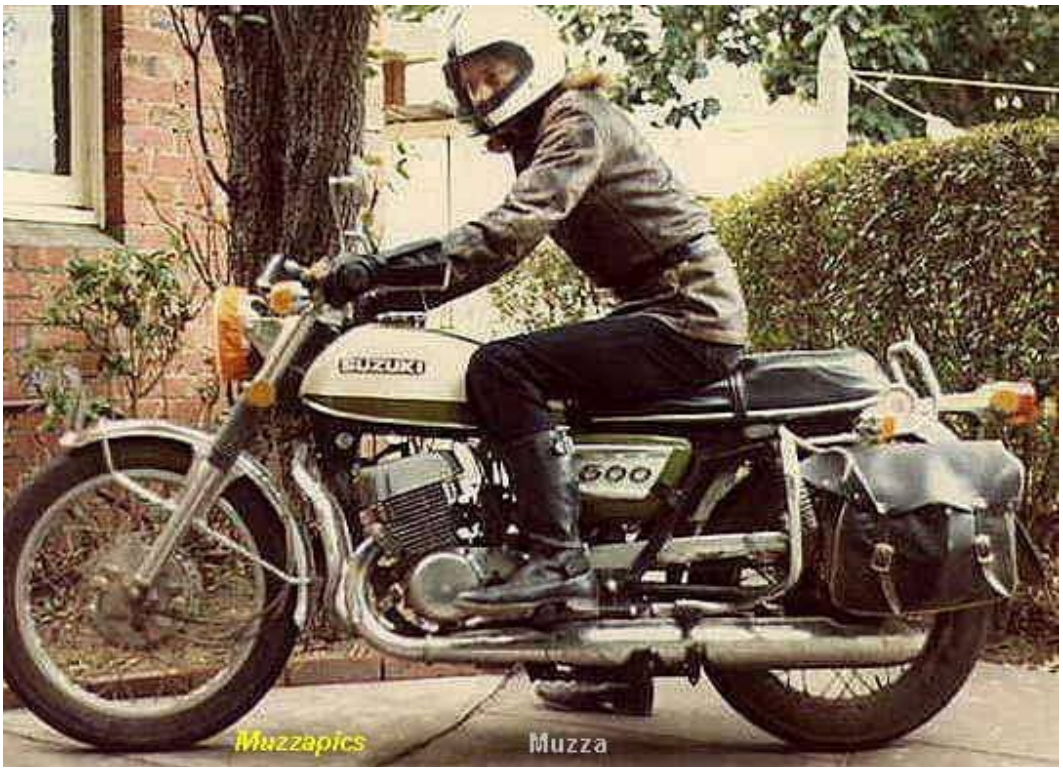
Hmmm, those egg-shell full-faces helmets sure looked cool!

Suzuki Snapshots

Muzza's T500 Retro Archive

Some old shots of Muzza's magic T500 moments





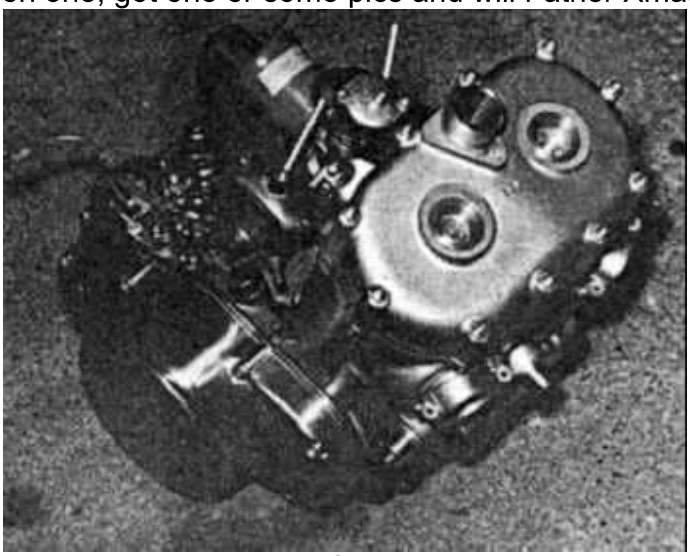
SUZUKI

Suzuki Snapshots
Carl's T500 Sidecar combination
Australian made Goanna sidecar

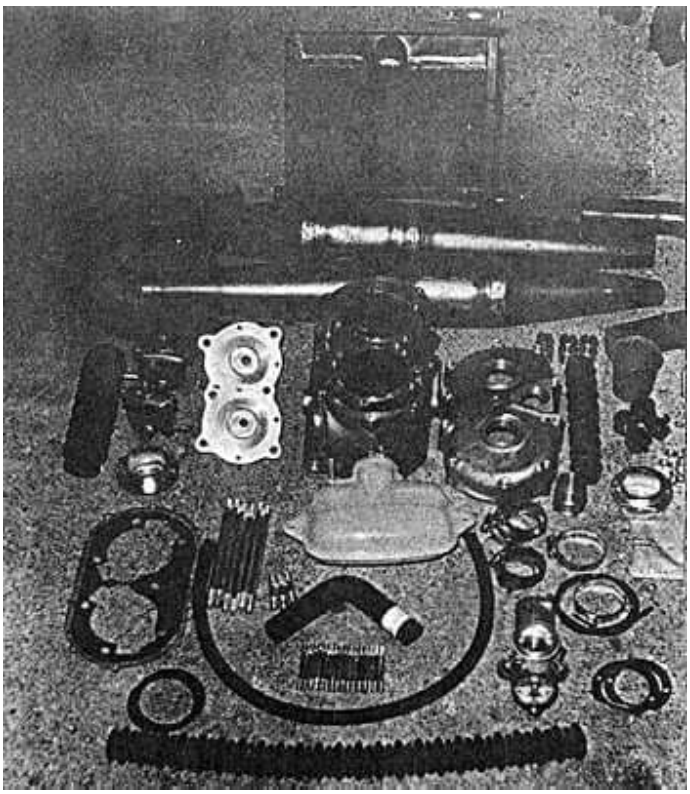
UB 2345

Hi-Tac's Suzuki 500

In 1972 Peter Inchley, ex-Norvil chief, went his own way with the Hi-Tac organisation. Hi-Tac produced kits for several two-stroke machines including the T500. Peter Inchley saw the need to stabilise two-stroke engine performance by water-cooling the engines. He made no porting modifications to increase performance but sought to control the temperature of the cylinders. Having control of the of the cylinder temperature allowed for much more scope in the engine specifications. For example the Suzuki could now run at reduced piston clearances of 0.002in giving better compression and reducing blow-by of the rings. Because of the increased control of thermal loading a much higher compression ratio could be used. The water-cooled cylinder block had spun cast iron cylinders which can be removed for porting and re-lining. The Suzuki used a single 38mm Amal Concentric carburettor which gave considerable flexibility to the motor with no noticeable loss in top end performance. the kit also included expansion chambers. Hi-Tac also worked on close ratio gears for the T500, CDI ignition systems, nickel cadmium battery packs and a contact breaker trigger ignition system to replace the points setup. Used with the CDI this system gave consistent timing up to 14,000 rpm. The water-cooled conversion retailed at 318 UK pounds. Has anyone seen one, got one or some pics and will Father Xmas please send me a kit?



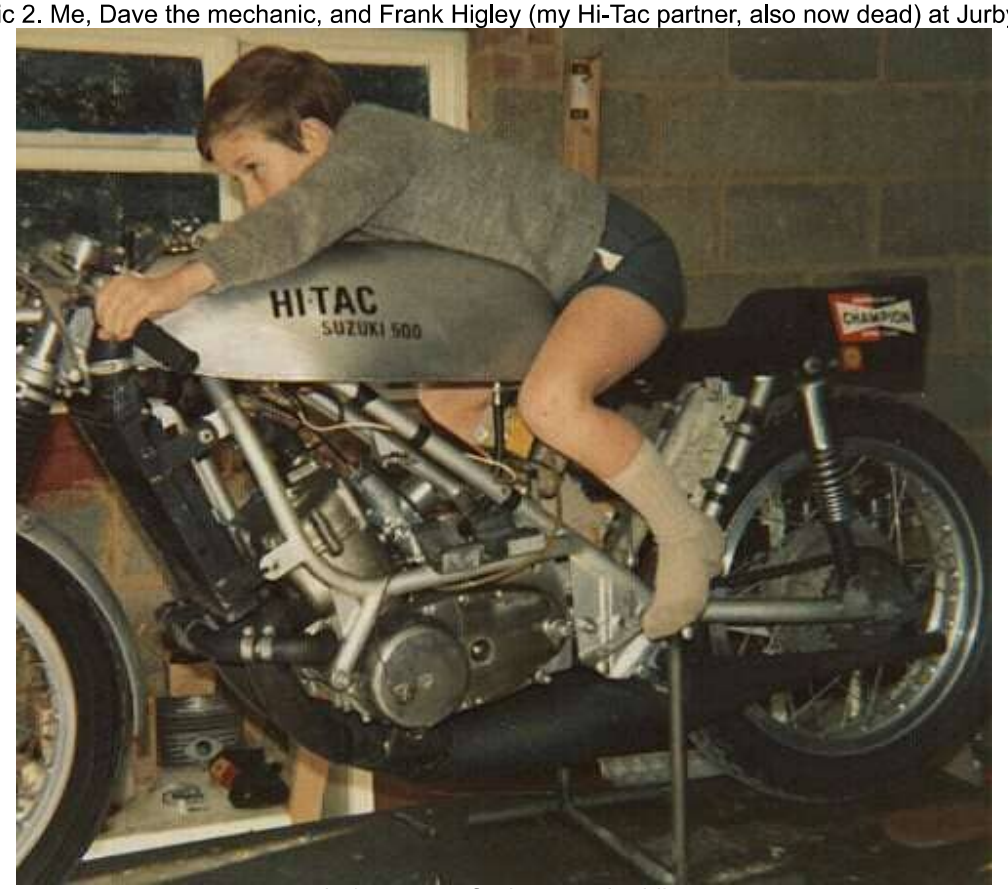
The full kit!



From: Peter Inchley 1 Apr 99

pic 1. Charlie Sanby, our rider, astride the bike at Jurby airfield in the Isle of Man. Poor Charlie is now dead I'm afraid. Died at quite an early age.

pic 2. Me, Dave the mechanic, and Frank Higley (my Hi-Tac partner, also now dead) at Jurby.



pic 3. my son Graham on the bike.

pic 4. Me at work on one of the motors.

pic 5. Charlie getting ready for testing at Jurby.

Let me tell you a little about the development programme. the air cooled 500 Suzuki in racing trim was producing about 60 bhp, and I was confident this could be easily improved upon with watercooling and extensive port mods. Indeed the first run on the dyno with the prototype showed 72 bhp which was a good start.

Our biggest problem was getting a reliable ignition system, and we ended up with a Krober electronic ignition. The first one was perfect, but that is always the case!! We kitted out 14 motors with stock Krober systems, and every one gave us major problems!!!!!! We were getting extra intermittent sparks at about 50 degrees before TDC, and this resulted in the pistons disintegrating into millions of pieces. During this period we lost a lot of good customers of course. Krober denied any problems, but declined an all expenses paid trip to see the problem for themselves on our dyno.

However we persevered, and corrected the problem by ourselves. Next we went to twin 1.5" Amal GP carbs, and with further port and exhaust work we got 84 bhp. We were estatic and took the bike to the

Isle of Man for the TT and Charlie got a very creditable third place, and we were at long last faster than the quick 350 Yamahas!! Bearing in mind the excess weight we were carrying we were well satisfied with that.

Copyright reserved: M Barnard and Peter Inchley 1996-99

Sad to say, since this article was prepared, Peter Inchley has passed away, I am honoured to provide this page in his memory. Vale Peter. Murray 2004

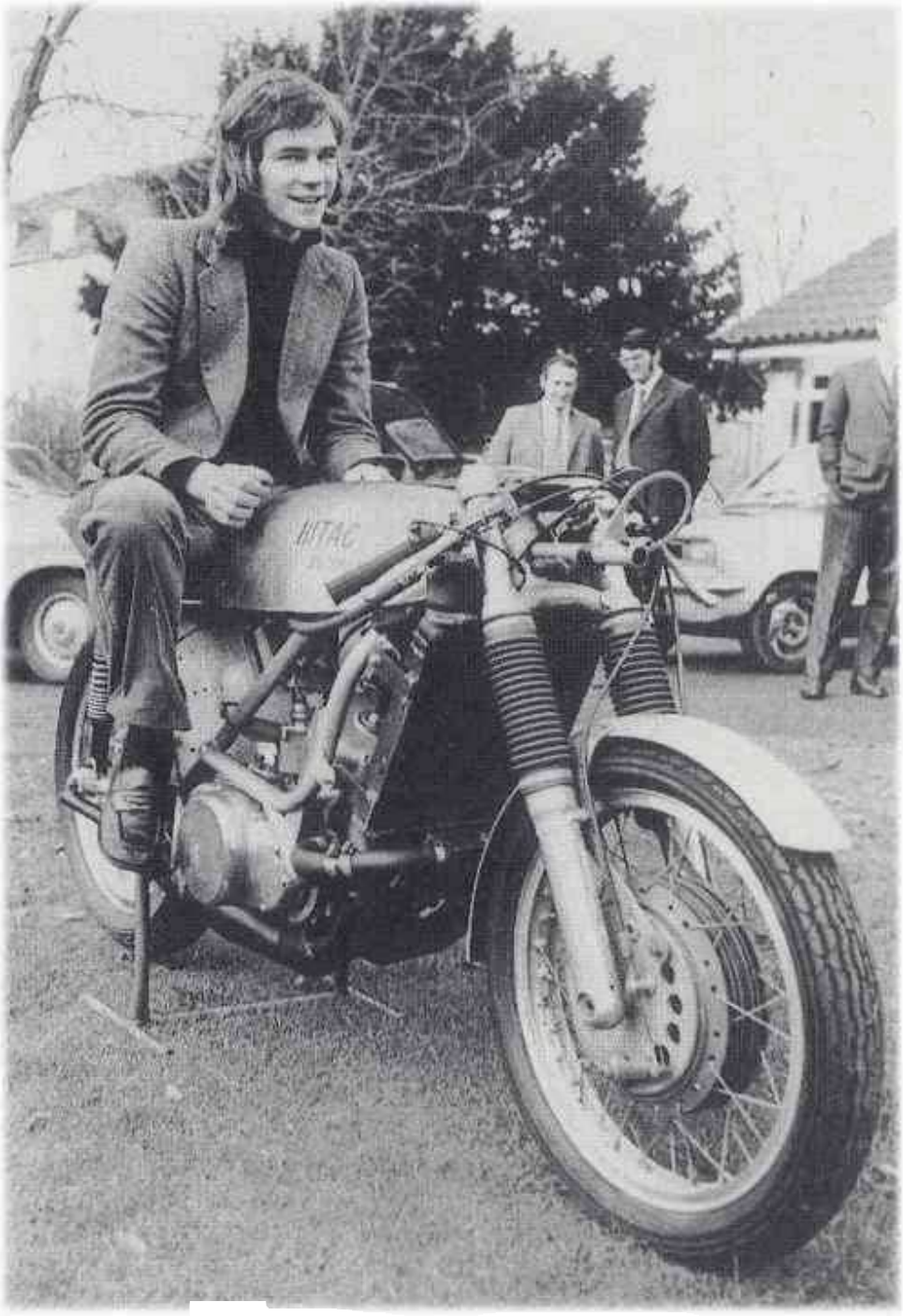
Hi-Tac's Suzuki 500

Tam Byrne has sent us pics of his interesting Hi-Tac 500

THE FRAME IS A SPONDON,OF AROUND 1973/4, THE TANK IS VERY NARROW BUT DEEP, HOLDS AROUND 41/2 UK GALLONS,,WITH THE WELL IN THE TANK IT OFFERS A HEAD OF FUEL TO THE CARBS, GRAVITY FEED, NO PUMP

Hi-Tac's Suzuki 500

Barry Sheene with the new water-cooled T500 based Hi-Tac Suzuki in 1971



Hi-Tac Watercooled 500cc Twin

Based on the Suzuki T500 bottom end, the UK built Hi -Tac water-cooled 500cc twin was an interesting attempt to build a sports road going 500 and a successful road racing engine.

Thanks to Bas Völlink for the pics.....seen at the Bikersclassics in Francorchamps this year (2005) a beautiful job and I would love a set of those pipes!

Getting into racing a Suzuki 500

The start of something big

TITAN RACING - POST CLASSIC ON A BUDGET

The Suzuki 500 twin in its various guises as a Cobra, Titan or GT500 serves as a useful basis for the construction of a very competitive post classic road racing machine.

The classic and post-classic racing scene has developed a degree of popularity that is becoming the envy of mainstream motorcycle road racing. The number and variety of machines racing, the sounds and sights on and off the track, the friendly nature of the sport, the good turnout of spectators and the growing interest of the trade are all evidence of the health of this form of racing.

One of the many machines racing is the Suzuki 500 two- stroke twin, either in its production racing motorcycle variant, the TR500, or as is more often the case, in the form of a modified T500 Titan road bike. The Suzuki has demonstrated its competitiveness in post-classic racing and this series of articles sets out not only to explain the pitfalls and hazards of building a T500 post-classic racer; but also to provide details of the basic modifications required to make the machine perform reasonably well on the track and at little cost.

The author production racing in 1973

The advantages of the Suzuki for this purpose are numerous: but first the objective reasons,

a. the Suzuki 500 is still fairly readily available on the second-hand market. A word of warning though, there are many signs that this fortuitous situation is about to change and as we know many "common" machines have dis- appeared from the market-place without anyone noticing at the time. BEEZAs, Trumpys, Benellis, Bultacos, quite a few Duke singles and the pre-Commando Nortons were once, to a varying degree, very common; but honestly, did you really notice them becoming scarce and how quickly it occurred? If you did notice, like most of us you probably thought there were still a lot around in back sheds and that the wreckers would be full of them. Well not so, least not out my way! The 60's and 70's British bikes are only re-appearing now because of the burgeoning second-hand classic bike import market and then they are available only at a premium price.

A great way to start classic racing

While the loss of the European bikes was gradually taking place the less noticable disappearance of early Japanese machines was already beginning to occur. A consumer-oriented market nurtured on new model releases each year and a horse-power war on the roads was quickly adapting to the disposable motorcycle life-style. A healthy dose of late 60's and 70's affluence helped as well while we should not forget the influx of baby-boomers looking for thrills and "hip" transport. Now we look, largely in vain, for late 60's Bridgestone twins, Kawasaki Samurai and Avenger twins, Suzuki T20, Hustler and Rebel twins. All had the advantage of being light, were of simple construction, had quite adequate brakes and were just screaming for the application of a bit of porting work and chambers. Even in their street legal form they set new standards for performance and reliability.

These and many other early models were written off as being out of fashion as newer, more complex and faster machines were churned out by the Japanese big four. The factories ensured their obselesence by often stopping production of spare parts and exacerbating the problem with short model runs and lack of inter-changability of parts. Four strokes are not safe either, eligible CB750's in good condition are becoming harder to find as are CB450's, CB77's, CB72's etc. There are still some bargains around though if you are willing to look.

Secondhand Suzuki 500's are available in very, very good low milage condition for around A$2,000, although some enterprising people are asking up to A$2,500. Good condition higher mileage T500's can be found for A$1,000 to A$1,200, untidy road licensed ones can be had for A$500 to A$600, dogs for A$400 and basket-cases from A$150 to A$300. One of the advantages of the Suzuki 500 being around for so long is that in my experience nearly everyone selling a T500 has a spare bike or engine to throw in as well.

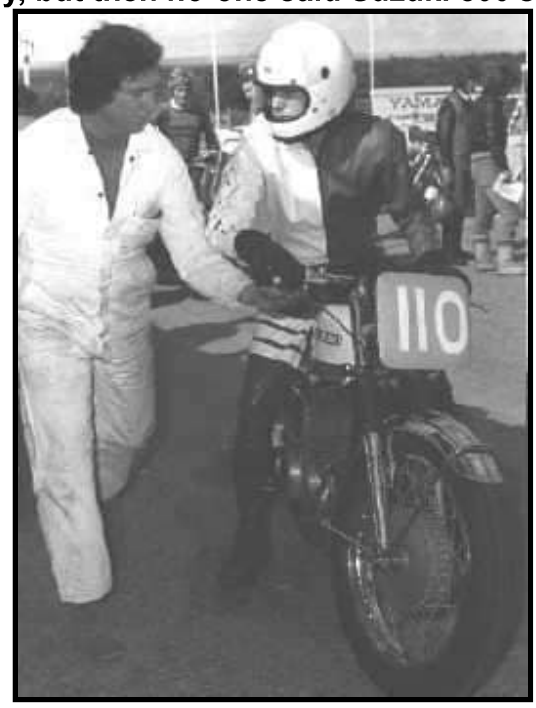
b. the Suzuki 500 had a long, by Japanese standards, model run. The Suzuki was first produced in 1968 as the Cobra twin, in 1969 it had a carburettor change and a longer swingarm fitted, in 1970 it became the Titan with a change of tank, side-covers, instuments and some minor re-modelling, in 1974 it underwent some de-tuning with some changes to the porting and carburation and finally it came to rest in 1977 as the GT500 having gained in 1975, electronic

ignition (PEI), the GT750 triple's tank and front forks, new instruments and seat and a single disk up front.

The advantage of this long model run and the fact that only minor changes were ever made to the motor is that all models can provide eligible engines for post-classic racing. The interchangability of parts across the model range is also a great bonus.

c. the Suzuki 500 is blessed with a fairly straight- forward engine design which responds very well to the gentle application of a port file and a set of expansion chambers. The motor is also very robust, with an almost un-burstable crank and a strong gearbox (more on the gearbox later). As a result of this built-in strength the motor is rather heavy (56 kgs) and consequently can give my back curry when-ever I have to lift it onto the bench or into the car boot. Consumable parts are still readily available through Suzuki dealers. On rare occasions however a wait is necessary if the item needs to be sourced from Japan.

d. the Suzuki 500 is a stable road bike. It has a long, long, long wheelbase and tracks very well at most sane speeds. With the standard frame the T500 is a predictable and reasonably competitive road racer, particularly on fast sweepers and in straight lines. It doesn't like quick changes of direction; a good witness to that being how the dis-respectful among the historic racing crowd catch me through s-bends on the track! Nevertheless a few basic changes can be cheaply made to redress some of the drawbacks of the long open frame. Simply put, the frame is solid and readily usable. It responds well to mild doses of frame bracing and the odd bit of cutting and shutting. It is heavy, but then no-one said Suzuki 500's were lightweights!



Jim Howe from Pal and Panther Cycles and the author at the 1974 3 Hour Production Race at Wanneroo. It rained for the last 2 hours!

e. the Suzuki 500 is a time-proven motor which has a genuine race history and consequently there is a fund of tuning and race oriented information available to the enthusiast. In addition to the factory race bulletins and after-market service manuals there are several records of Suzuki "hop-up" hints from U.S. periodicals of the time and similar "hot-up" reports from British magazines where the Suzuki 500 was somewhat of a favourite. Due to the long model run of the Suzuki 500 and its popularity on the road-race track (not to forget its bastardisation on the speedway circuit in 500 speedcars) there is also no shortage of tuning and hotting up experience available to the budding post-classic road racer. Some of the old players are still in business and for example, John Woodley, in Geelong, has a particularly soft spot for the 500 Suzuki and a wealth of expertise and racing equipment. Pal and Panther Cycles in Perth have been Titan

fansfor the past 20 years and are both keen supporters of post-classic racing and capable of servicing and race-tuning the big twins.

As genuine production TR500 road-race machines were based on the original Suzuki 500 road bike the factory racing engine parts and frames are readily adaptable to the needs of the post-classic racing enthusiast. The only catch is finding original racing parts after the speedway boys have finished with them. The useful bits are factory heads, air-cooled barrels, magenetos, six speed gear- boxes, straight cut primary gears and light-weight cranks. Never fear though, for with some ingenuity and tuning nous the road motors can be made to do much the same as the race engines, after all that's all the factory did; take one T500 motor, add a pinch of horsepower, mix in some snazzy looks and goforit! Voila, one race bike!

This could be you!

There are some other more subjective reasons for racing a Suzuki 500. These include the fact that the Suzuki 500, despite being a two-stroke, was a firm favourite among many motorcyclists due to its traditional appearance, its low revving torquey power delivery, stable road-holding and its proven touring ability. As a big twin (for the time) it didn't make the screaming howl typical of two- strokes of the time; but had a less offensive rumbling exhaust accompanied by a deep induction note. Admittedly when the motor was worn and hot one could be forgiven for thinking that a few nuts and bolts had found their way into the combustion chamber, particulary on the overrun.

Getting into racing. Once you have bought your bike, before modifying it for racing, you should approach your local Historic Competition Motorcycle Club or Post-classic Racing Club and get to know a few people who share your interest. If you ride a Suzuki it may be hard to find anyone to talk to at first; but undoubtably, the scruffy looking chap up the back whose job it is to clean the Club toilet block will be a Japanese bike rider. Whilst at first he will cringe in fear from you (due to his expecting you to hit and spit upon him) once he knows that you want to talk to him about Japanese bikes and in particular, racing one, he will be your friend for life. Other handy allies can be the lonely souls who ride two-strokes be they Ariel Leader, CZ, Bantamn, Yamaha, Ossa or even Bultaco owners. Always pretend that you know nothing about racing and anything mechanical (something that comes naturally to me) and be prepared to discard most of the advice you receive as being deliberately mis-leading or an attempt to "psych you" out of contention. Gain their trust with generous profferings of port (any brand will do), praise their choice of machinery and compliment profusely their on-track riding skills. Even if you have never heard of them, tell them how you still remember how they made that brilliant passing move, on the Lambretta, on Geoff Duke back in 1956 at the Mooliabeenie Airstrip Grand Prix or there-abouts; drop a few names and mention how inspired you were when you saw their picture in this magazine only last month. Even if they know you're lying, most bike- racers will be too conceited to tell you.

Barry Sheene on his ex-works 125 - he soon moved up to a 500 twin

Having gained a modicum of respect through this means and having proved that you can exaggerate with the best of them you will probably be asked to prove your committment to the sport by putting your money where your mouth is! If you are like me and carry your wallet in your back pocket comfortably nestling against your right cheek, then this is a far better proposition than putting your mouth where your money is!

If, so far, you have escaped having to buy a lottery ticket for $500 of woman's underwear sourced from the Club President's Lingerie Shop or a raffle ticket for a Club T-shirt two sizes too small, then do not despair for the Club Treasurer has the happy knack of never forgetting a face and will pin you down for ever more.

First expense for most is the Club fees, these are generally modest (as the best is yet to come) and may include a joining fee to cover the cost of writing your name in the address book. Club fees normally are no more than A$40 for the year and this entitles you to call yourself a Clubman in public and to a Club newsletter every month. As a Clubman you are entitled to apply for a competition license. A concessional license allows you to enter Club events and tuning days. The license fee includes compulsory accident insurance. If you wish to ride at Open events with other Clubs then you will need a full Competition license. Your application must be accompanied by a significant donation, a pair of passport photos and have the imprimateur of the Club Secretary. Normally a concessional or a full license will not be approved by the Club Secretary until you have proven on at least two tuning days that you have a degree of riding skill, understand the flags and have a modicum of on- track courtesy.

If you haven't already done so you will need to buy an ACCA approved helmet ($450 should do, gloves and boots and a set of approved racing leathers. Leathers can be either one piece or two-piece; but if they are two piece they must zip together and zip close at the wrist and ankle plus have a velcro fastener at the neck. Fancy leathers with suitable padding and elbow and knee protection can be bought new for between $800 to $1000+; however secondhand leathers with the odd battle scar can be found in the classifieds for $200 to $600 depending on condition and the amount of flashy leatherwork on them.

I think I've run out of time and I still haven't told you what to do with that old Titan you've got rusting in the shed! Well get out the General Competition Rules and and study them and next time I'll tell you what chopping and changing you need to do. Until the next time, get the bike out, pull the engine out of the frame and give it all a good clean. The frame could do with a bit of painting as well while your at it.

Race preparation for a Suzuki 500

"HOW TO FRIGHTEN YOURSELF ON A TITAN"

Firstly, some background. Suzuki realised the strengths of its Cobra motor way back in 1968. They called their racing 500 the XR-05. Sounds like something built to break the sound barrier and it nearly did. When they brought the XR-05 over to Daytona it was good for 152 mph, the sort of performance that made the American and British manufacturers sit up and take notice. Despite their performance the XR-05's were little more than souped-up T500 motors and that bodes well for interested Post-Classic racers of today. The T500 Suzuki is built solid, is reliable and as a result of its popularity as an economical and long-lasting commuter come tourer is still in plentiful supply second hand.

The best way to go is to find someone with a race-prepared bike and be prepared to pay their price, believe me, if they've done the work, then it is the cheapest way to go. Failing that and their aren't that many people who want to part with their hot T500s, look for a couple of old dungers and start the long path to a fabulous race bike. Once you've found a bike, strip it down, check the motor and have a close look at the wheels, brakes and frame.

The Exo-skeleton.

Check to see that the frame is neither bent nor damaged, clean off the rust and get rid of everything extraneous except the engine mounts. You don't need the standard seat mounts, side cover mounts, centre stand or side stand mounts or the battery/oil tank mounts, get rid of them

all. Grind or cut them off, soon you will have a lovely pristine frame which will look custom-made when finished. Don't forget to cut the lifting grab-handle off as well. No macho self-respecting racing motorcyclist would have such a practical device on their machine.

Serious attention to the handling can now commence. The suggestions I make are for backyard mechanics only so I don't go to the extent of bending tubes and re-aligning steering-head angles.

Firstly, the Titan frame is open and spacious, wide-open in fact! Some consideration to triangulation can be given by welding one inch (or so) pipe from just above the swing-arm plate on each side to meet the top frame rails about the point where the single steering head support bar meets the top rails. If you are going to mount a shorter swingarm then you will need to relocate the rear mudguard mounting point which is on a cross bar between the two rear frame tubes. A super little touch, that looks so right that people will think the factory did it, is to cut the rear mudguard mounting cross bar off the rear frame tubes and reweld them to your new triangulating frame tubes, both to brace them and to more effectively mount the rear mudguard. The mudguard mounting has to move otherwise the shorter swingarm will bring the rear tyre into contact with the mudguard.

Yes indeed, a shorter swingarm. The Titan has a monstrous wheel-base of 57.2 inches so the loss of 3 or 4 inches at the swingarm can only serve to quicken steering and reduce flex. You can make your own or modify the existing one, there is plenty to play with. I toyed with fitting a 350 Suzuki swingarm, it is the right length and takes the same wheel. I never got around to it. Once you take a few inches out of the arm weld some angle iron on to it to strengthen it. It weighs a ton but then so does the whole frame. It must be made of stovepipe. The T500 frame is heaps heavier than the Honda 750 frame I'm fiddling with at present.

Once you've moved the back wheel forward then you will have to re-locate the rear shock mounts as they will be too far back. Cut the rear frame extensions, take out an inch or two and reweld them back on to regain the appropriate angle for the shocks to work properly.

Rolling along.....

Unless you are keen to run a front drum brake then I suggest that you go for discs. Disc brakes are so must easier to maintain, are lighter, work better in all conditions and are plentiful. That is of course unless you follow the adage, "what do need brakes for, they only slow you down"?

The Titan comes with a handsome twin leading shoe front drum. If anyone wants one I've got a shed full of them. Try and find a traditionalist who wants a good looking front drum brake and sell it to him. I set my fastest laps on a drum braked Titan many years ago. Of course then I didn't know the meaning of "slow down" and didn't really notice that I didn't have any brakes after the first corner. Really serious work with the Titan drum brake led to cracks in the hub apparently, though it never happened to me. Of course the true aficionado can go for the GT750 Suzuki 4 leading shoe drum brake; but has anyone noticed how much they weigh, how long they take to set up and how quickly the shoes wear?

Or you can go the Grimeca 4 leading shoe drum brake way if you have lots of money. None of them look anything remotely like the TR500 Ceriani racing drum brake anyway (which is

unobtainably expensive) while the Suzuki front disc brake setup looks just like the 1972 Suzuki factory Daytona setup and is heaps more practical.

The first disc-braked GT750 Suzuki had a twin disc brake front end which works very well on the Titan racer, even if two discs make for a lot of weight. They look good! The first disc-braked model GT750 had big, heavy disks with smaller cutouts in the centre. They look authentic; but they are hard to find and are heavy! From then on all the GT model Suzukis had slightly lighter disks which only pedants could distinguish from the first batch.

If you don't want twin disks then the GT500 Suzuki and the GT550 Suzuki shared single disk setups and similar forks. All the GT750's, GT500's and GT550's ran 35mm diameter fork legs on their disk- braked models and the triple clamps are interchangeable. The disc-braked model front triple clamps slot straight into the T500's headstock. Take the opportunity to replace the steering head ball- bearings with tapered roller bearings while you are at it.

The author gets his Titan based racer over

The 750 forks are a bit long and so they need to be run though the top triple clamp a way. They are also a little stiff for the 500 so change the oil and look for softer springs. Either way they will work for you with little effort. Silkolene RSF fork oil comes in a range from 2.5W to 15W. I go for 10W. AtA $18 a litre don't spill any. The best all round ride comes from the GT500 forks, they are softer running than the 750's. The advantage of the GT550's forks is that even though they normally come with only a single disc they often have the twin disk fork sliders allowing you to upgrade if so desired.

The standard Titan forks are 34mm jobs that are somewhat soft and spindly. They look quaint though with their external spring, though I recommend that you keep the dustcover on. Later forks, discs and callipers from the GS Suzuki range are not eligible for the Post-Classic class.

Feel, with the disc brake front end is vastly improved by the addition of braided steel hydraulic lines and joints. I've one set with braided lines and another with standard rubber hydraulic lines. Each time I ride with the standard lines I come in off the track complaining of sponginess. There is nothing wrong with them, the braided lines are just so much better. I get mine setup through Pal and Panther Cycles in North Perth, I'm sure there will be a place near you in other cities to do the job, it is worth it. Pal and Panther supply the brake pads and hydraulic fluid as well. Ferodo pads are the go at A$30+ a pair and Silkolene hydraulic fluid is the recommended oil.

A steering damper is a useful aid to help dampen out those bumps, especially on country round the houses circuits. I've used both the hydraulic type, which start working when the front end starts slapping around, and the friction type, fully adjustable, which works all the time, and presumably stops the front end from slapping around from the beginning. I haven't noticed a great deal of difference; but I do like the friction damper, made by Sebac, and sold to me by the late Ted Stolarski from Moto Guzzi Australia in Victoria Park, W.A. for around ninety bucks. Cheaper than the hydraulic units and if it good enough for the 4 valve Magni Guzzi at Daytona then it is good enough for me.

Fit a front mudguard, it makes a world of difference. Not only does it stop mud and sand from getting all over the motor but it also braces the spindly fork legs just a smidgen.

Rear shocks always need replacing and the standard Post-Classic racing replacement part seems to be Konis. These Koni shocks are normally very stiff, come with some damping adjustment, take a long time to bed in and they come in a bewildering range of spring strengths

and lengths. The recommended rear shock varies on the weight of bike and rider. The stripped down Titan is around 165kg and I am pushing 80kg and my Konis are too stiff. I am using 7610 - 1307 with a 214 spring which is the standard GT500 setup. Other suggestions are the Koni 7610 - 1282 with a 240 spring for a much softer ride or the 7610 - 1514 with 70/100 springs. I have ridden the Titan with good condition standard Suzuki shocks and springs, they work okay as long as you don't expect miracles.

Rims, well if you want to look flash then alloy rims are mandatory; but for my money steel rims are cheap and durable. I use two different types of rim, DID and Akront WM2. Both weigh a bit less and look more pukka, Akront more so. The Titan has a 19" front wheel so re-spoking to 18" is the way to go for quicker steering, good looks and a better range of tyres. Craig Howe from Pal and Panther is the man to see locally for both rims and tyres for Suzuki 500's. If you haven't got a wheel, he can build one up from the new twin disk front hubs he has in stock. DID alloy rims cost around A$130+ each and the flash Akronts about $180. Add in wheel building and spokes when you do your costing.

Tyres are a toss up as most brands these days are pretty good. Dunlop K591's provide good grip in the dry; but maybe not so good in the wet. Dunlop K124's and K164's are pretty well the best you can get if you can get them and can afford them. No-one seems to bring them in anymore. I found them excellent to start with; but they wore real quick and went off real quick. Good for a few sprint races then they should be discarded. I think it is too hot in Australia for Pommy sprint tyres. Too expensive anyway.

Avon AM22 front and AM23 rear are a good pair. These Avons have a very good profile, they grip well and they are long-lasting. I have been very impressed with these tyres which have given me my best times at Wanneroo. I still have them on after two seasons and they are the tyre I recommend to other riders.

Despite this Craig Howe is fitting some Bridgestone BT37 Battleaxe's, from his famed Wall of Tyres, to the bike at the moment; the Avons will stay on the spare bike, so I will let you know how the Bridgies go in due course.

Darryl Beattie started small as well

Clothes maketh the man....

Clipons are de rigueur, though even after the above mods the T500 will wallow in bends and flex in the esses. Long ones give more leverage, forget the Jarno Saarinen replicas you'll will need all the help you can get to go fast and hold the beast on line. Alloy clipons are very smart and expensive. Don't buy second hand if they have been down the road. Steel clipons are readily available, repairable and heavy. They are also getting quite expensive. Expect to pay $80 for a set from a shop and not everybody carries them these days as modern bikes usually come with their own unique setups. Early Ducati Pantahs wore 35mm forks and clipons and they seem to be frequent sellers at swapmeets or wreckers.

Rearsets are the mark of the real racing machine. The Suzuki T500 is readily adaptable to a rearset gear linkage and the recent trend to sporty roadbikes has made the job easier. Any wrecker will carry a range of old Suzuki rearset gear levers and linkages from Katanas or even boring old farts such as the GSX250. These linkages sell for A$10-20 and are ideal. The gearshaft size and fitting is the same on these newer Suzukis as it is on the T500. Thank goodness for some standardisation over time. The rose-joints work wonderfully and often the only change needed is to extend the connecting rod. The brake is more difficult to fit as you will need to handcraft a foot-brake to suit. It isn't important as the back brake works so poorly anyway despite skimming and fitting new linings.

The T500 tank is quite handsome and will do if you can't find anything else. It is a bit short though if you go in for rearsets. A racing seat is essential to look the part and anyway you will need it to stop sliding off the back. If you can weld or know someone who can aluminium then a standard trick is to knock up an alloy box for a petrol tank and put a fibreglass dummy tank over it. Ok if you like that sort of thing. I don't like fibreglass tanks so I always look around for suitable metal ones. Old racing Yamaha ones look good; but my favourite is the early Ducati 750SS or 900SS tank. It is light, metallic, racy looking and fits straight onto the T500 frame. It is also the right length to suit a rearwards seating position. To fit it all that is needed is to weld a strap in place to locate the Ducati mounting bolts. You can still get to the plugs and head-bolts with the tank in place.

Of course if you put a Ducati tank on then a Ducati sports single seat really sets off the tank and the recess under the seat makes for a handy place to locate the oil tank for the oil injection system. I use old lawn mower petrol tanks. They are metal, hold just the right amount of oil, can take the vibration and of course they fit under the seat.

Race preparation for a Suzuki 500 - Part 2

TITANING UP

By now keen readers of this esteemed page would be well aware of the potential of the trusty old Titan Suzuki 500 to make a cheap and viable Post-Classic racer. The heart of a Titan is solid gold, it is built to last and will take a heap of abuse. The combination of heaps of torque and big heavy flywheels makes it one of the fastest bikes off the line in its class. Do nothing to the motor except add chambers and the Titan will rocket away into the first corner like no other. So my advice is unless you really need heaps of power leave it stock until you crave more. So you do want heaps of power? Oh well, lets start with the porting charts.

Porting.....

This is a tricky bit and slow as you go here will pay off. Don't jump in hacking heaps of metal off with porting tools. The real techo can probably almost double the standard 47 bhp but I bet the motor will lose rideability, reliability and enjoyment. Be warned go one step at a time, cutting away little by little, each time being sure what you are aiming at with every modification.

The August 1969 Daytona Suzuki factory specs say take 5mm from the top of the exhaust port and take 5mm from the bottom of the inlet port, taking care not to break through between the 3rd and 4th fin above the exhaust port. Similar amounts are taken off each side of the ports. The result, reportedly, is a peaky motor which is not very useable on tight tracks.

Cycle World in April 1970 suggested that the way to go was widen the exhaust port from 44mm to 57mm, raise the port from 40mm to 34mm, raise the transfer port 2.5mm and lower the inlet from 105mm to 110mm while increasing the width by 4.4mm. A good deal more radical than the quoted factory specs and probably peakier as a result.

I've had a lot of success by widening the exhaust port by 10mm, from 44mm to 54mm, raising the exhaust port 3mm, from 40mm to 37mm, leaving the transfer port alone, lowering the inlet from

105mm to 108.5mm while increasing the width by 15mm. The motor is tractable, fast and eminently reliable as a result.

One of the problem areas is access to the transfer ports. If you are really clever you can cut through the cylinder casting, open up the transfer ports and reweld the cylinder again. If you are like me, you can't get to them and have to leave well enough alone. The factory recommends raising the transfers by up to 2.5mm. Clearly if you can't increase the volumetric efficiency of the transfer ports then there is little point fiddling with the inlet ports greatly. The safest part of the transfer port to modify is the bottom of the port where it joins the crankcase. Cut the base gasket to match the cut-outs and then match the transfers to the base gasket. Then carefully smooth the transfers and dress up the piston cut-out to make sure everything is a good match. Clean up and match the rear edge of the transfer inlet windows in the cylinder lining. Some tuners choose to cut out the lower edge of the inlet window to assist transfer flow, I'm not so sure that is such a good idea. Any tuners out there got an opinion?

When opening up the exhaust port aim to keep it as oval as possible. This port shape is fairly gentle on the rings provided it doesn't get excessively wide. Increasing the width of the exhaust port will normally result in a power increase from the upper mid-range to peak rpm with no noticeable loss of power elsewhere. Raising the port will always knock off some bottom end power. Below is a chart of different recommendations for port sizes. Suffice to say that the mild exhaust port height I use, combined with a wide exhaust port has proven to be a tractable beast. The latter Suzuki TR500 specs have a higher exhaust port and the motors are renowned for their peakiness.

When lowering the floor of the inlet port it is important to rework the inlet all the way back to the carburettor. Otherwise the port will not flow any better than the original port. To encourage air flow the port must be smooth and free of any obstructions. Polish the port as much as possible by hand or use a flap stick mounted on an electric drill piece.

You too could be a Barry Sheene on the race track with this porting!

Comparison chart :

the following list of recommended porting arrangements will give an idea of the different approaches tried by various sources. You will note that the porting I use is not all that radical which indicates that when I want to I can still extract some more power from my machine.

H = height, measured from top lip of exhaust port to top of the cylinder lining, in mm. W = width of port, in mm. D= depth of inlet port, measured from bottom lip of exhaust port to top of the cylinder lining, in mm.

Ports	Standard barrels	1969 factory specs	Cycle World 1970	Clymer 1973	Factory specs
Exhaust :H	40	36	34	35	35
W	44	51.5	57	46	51.5
Inlet: D	105	110	110	109	108.5
W	44	48	48.4	44	48

Ports	Ron Grant	Pal & Panther	My race motor	old reliable
exhaust: H	35	34	37	37
W	55	48	55	54
inlet : D	105	107	108.5	108.5
W	47.5	57	60	59

Kevin Schwantz was a nobody until he followed the advice on this page!

An Exhausting Topic

The exhausts are probably the most critical element when it comes to power tuning a two-stroke. Many shortfalls of porting can be compensated by tuning the pipes to suit. There are a number of sources of expansion chamber for the T500. Swarbrick Racing in London does a nice set (for you) at a very nice price (for them). Kiwi John Woodley is happy to supply you with a set of impressive looking chambers for a TR500 for $800. They look good and go well so if you are interested you can order them through Powerflow in Geelong. If you are desperate you can use ex-road chambers, such as J&R, but expect only minor improvements in performance with a race-ported motor.

The basic TR500 design looks archaic and is archaic; but it works well, sounds good and accommodates a vast range of tuning stuff-ups. As I am not after absolute power; but seek reliability, tractability and improved performance all in the one package, I am happy with a set of pipes which not only look appropriate to the time but do the job well. The only drawback is the length of the pipes which makes the fitting of an after market silencer difficult.

69 factory specs		My spare pipes		70 factory specs		Ron Grant 69		My race pipes	
length	diameter	length	diameter	length	diameter	length	diameter	length	diameter
150	45	170	45	100	47.5	286	43.5	190	45
275	49	200	50	250	47.5	220	43.5	230	50

320	65	260	62	70	58	280	58	400	60
32	100	90	95	320	65.5	40	100	30	100
150	100	120	110	30	100	110	100	150	100
237	86	270	110	147	100	220	86	260	90
220	23	310	30	253	87	320	34	240	25
				230	23				

Note: all measurements in mm. Diameters shown are as at the beginning of each taper. The final length of each pipe is for a straight pipe, or stinger.

Whee, Eric's got a Suzi 500 racer! (*pic courtesy US T500 web page*)

My race bikes are ported for a theoretical 8500 rpm; however one of the main factors which restrict my machines to a much lower rev limit are the expansion chambers. My current race bike has chambers fitted with dimensions which imply a tuned rev limit of 6750 rpm. This chamber design has a very long header and a long shallow taper diffuser. A long header has the effect of increasing mid- range power at the expense of a drop in maximum rpm. My spare bike fares little better, the pipe is designed for an implied limit of 7270 rpm. The header is a little bit shorter and the diffuser is also slightly steeper. This allows some more revs without taking away too much from the mid-range. Clearly the potential of the motor is not being reached with these chambers. Despite this the motor delivers an impressive turn of speed, rapid acceleration and excellent tractability. When ready I will be able to extract additional power should I feel the need. Taking the spare bike's chamber dimensions and merely shortening the parallel mid-section dimensions from 120 mm to 60 mm will give the motor an implied rev limit of 7700 rpm. Taking it down to 30 mm will lift it to 8000 rpm (based on an exhaust duration of 182 degrees). Compare this to the standard motor which was generally good for 7500 rpm and that was with standard mufflers!

Fiddle with two strokes at your own risk.

Of course there are a multitude of factors involved in speed tuning a two stroke motor and I cannot cover any of them in any depth in a short article. Nor am I qualified to do so. Those wanting to calculate the optimum for their machine should consult a reference of the calibre of "Performance Tuning in Theory and Practice - Two Strokes" by A. Graham Bell, a Foulis book published by Haynes (ISBN 0 85429 329 9). This is a wonderful book by an Australian engineer and is a must for any two-stroke tuner.

Head-aches

The Suzuki 500 heads are fairly ordinary in design and the factory brought out some Daytona heads which incorporated a squish chamber and central spark plug to try and improve on combustion. There are some of these heads around; but, they seem to be jealously guarded. Some adventurous souls weld up the standard heads and cut a squish chamber out of them, at great expense I imagine. Certainly a decent squish chamber and fine tolerances will result in a power increase; however, the trade-off is in maintenance and careful assembly of engine components. The most accessible head modification to most Titan racers is to follow the factory advice and take up to 1.5mm off the head in order to increase compression. The heads I use have

1mm skimmed off them. I have another set with 1.5mm taken off; but I haven't used them yet. A higher compression ratio can increase mid-range power and widen the power-band marginally; but, there is little advantage in out-right power terms. I run octane boost to promote a cleaner burn. Pal and Panther supply me with two types which work well, Silkolene's Pro-boost (A$28/litre) or PJ-1 (A$12 a can). The Silkolene pro-boost can be used in proportions as small as 1.5% and helps prevent pre-ignition as well as give the motor a crisper feel. Do remember to tension the heads properly. Rub them down on a sheet of glass with some wet & dry to make sure they are flat. Titan heads have a propensity to crack if not progressively tightened so make sure you don't over tension them, they warp easily.

Next page - the factory racers

Sparks

I try to avoid running the old Titan motor. The GT500 model has a modified crankshaft which runs Suzuki's own electronic ignition which is maintenance free and can run without a battery. This "pointless electronic ignition" (PEI) system is quite adequate, uses a single coil and requires no adjustment for racing conditions. The absence of a battery is a godsend. The vibration of the motor at racing speeds combined with the weight of the rotor is claimed to sometimes result in fractured crankshaft noses. I know of only one machine that this happened on. It was not raced and is now in Darwin. In several years racing it has not happened to me (so far). For the average historic racer PEI is the way to go.

Some keen individuals have mounted modified GSX ignitions on Titans; but I am not familiar with this modification. Similarly, Krober ignitions can be fitted if you have the money. I have a Femsa electronic ignition for the T500 which is rather temperamental but provides a healthy spark. Too healthy, the only time I ran the Femsa it put a big hole in a piston. The result of wrong ignition timing I suspect.

If you can't find a suitable electronic ignition then points ignition can be accurately used by ditching the alternator and running total loss with a battery. You just need to keep the battery charged between meetings.

Spark plugs are critical. Never run on anything hotter than a NGK 9HS or its equivalent. Pal and Panther Cycles are good enough to supply NGK B10HV plugs which retail for A$12 each. These plugs are ideal for racing with their recessed electrode and long lasting reliability.

Whilst on ignitions, do yourself a favour and buy an electronic tacho which clips to the spark plug lead. I use a digital tacho favoured by go-cart drivers . It is small, light reliable and accurate unlike the cable operated tacho which lags behind the motor to the point where it is useless. The digital tachos are not cheap though! Plan on spending $150 on a good one.

Cranks

The Titan crank is heavy. Bloody heavy! The trade-off is that for normal use (read: Post-classic racing) they are trouble-free. They had better be, the huge main bearings are expensive and only available from Suzuki warehouses. Suzuki practise is to use injection oil-feed to the main bearings. So don't take the oil-pump off and rely on pre-mix in the petrol tank. If you must take

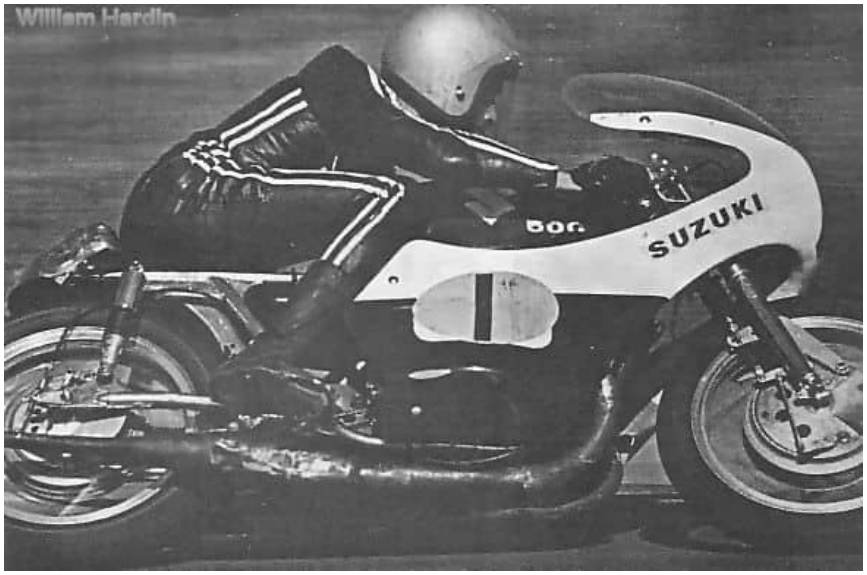
the pump off to a. look like a real racer and b. because you think you need that little tiny fraction of horse-power that will be saved, then don't forget to drill some passages to feed the bearings. One mod that is popular is to machine the flywheels down to lighten the crank. If you do this it is essential to put stuffers in the crankcase to maintain primary compression. It is a big, expensive job to lighten the crank and stuffers don't just sit around on the shelves. One alternative, if you desire a free spinning motor, is to lighten the flywheels by cross-drilling and then stuffing them with cork and epoxy resin to maintain the primary compression. Opinions vary on whether to lighten the crank or not. Some say the light crank helps with acceleration while others maintain that it makes stuff-all difference

Suzuki Snapshots

William Hardin

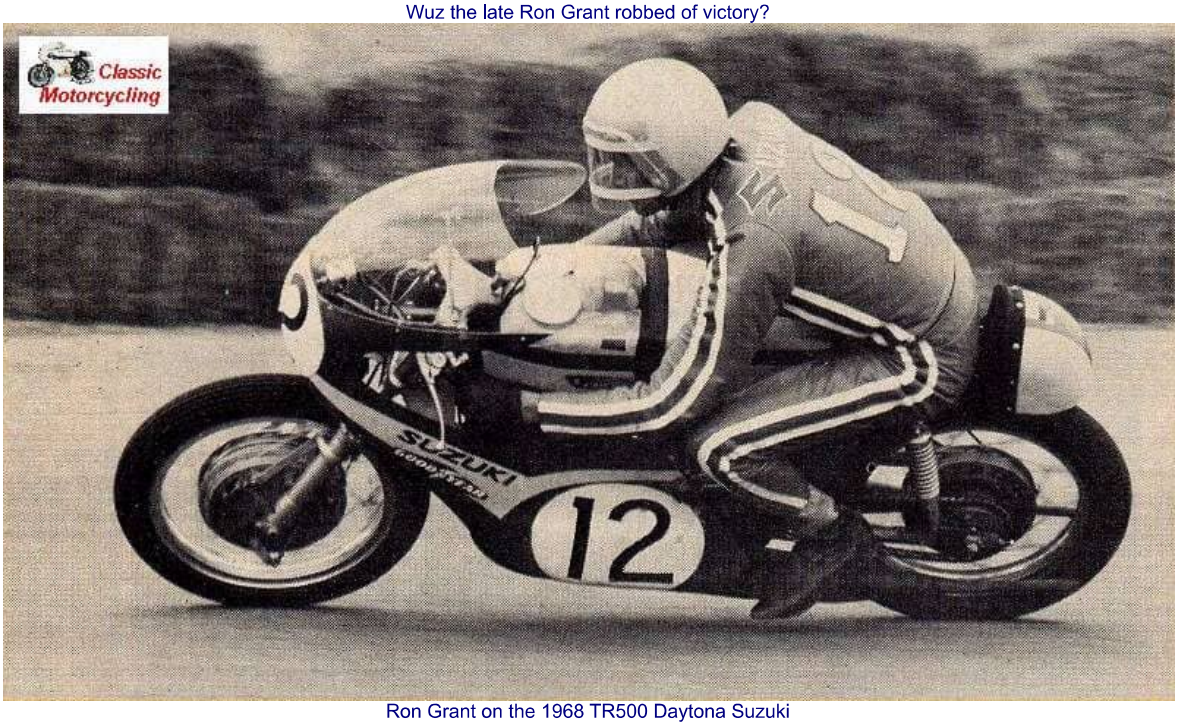
William (Willie) Hardin worked for U.S. Suzuki Motor Corp. from 1969-74 and has shared the following photos withn us.

Ron Grant - on a very early TR500 Suzuki



The 1969 Daytona 200

Wuz the late Ron Grant robbed of victory?



Ron Grant on the 1968 TR500 Daytona Suzuki

200-MILE EXPERT

Harley-Davidson's Cal Rayborn won the national points race again as he did in 1968, but it was far from being the easy victory of last year. The four-speed Harley 750-cc sidevalvers were, indeed, one of the favorites. But the AMA rule change which allows five-speed gearboxes made the Japanese Yamahas, Kawasaki and Suzukis a much greater threat, as they could be tuned for great peak power, yet have an extra gear to cope with the narrower power band.

Harley-Davidson obviously was nervous. In contrast to the we're-going-to-hit-it-in-the-stands-right-there attitude of 1968, the factory conducted engine development in great secrecy this winter, testing new heads, megaphones, high dome pistons and double throat carburetors. The horsepower tests, conducted on a one-cylinder mock-up, showed a significant increase over last year. But actual conditions at Daytona with fully assembled engines were something else again. Speeds of all machines were down and Harley was really in trouble!

Rayborn's machine, at 144.764 mph, was the only four-stroke running in the fastest 14 on the qualifying oval, a disappointment compared to 1968 when Roger Reiman's bike topped 149 and the first dozen on the starting grid seemed dominated by the orange and black Milwaukee racers.

The outlook for Yamaha seemed very bright as, first, Bobby Winters topped 149 mph. Speeds above 145 mph were also posted by the Yamahas of Ralph White, Mike Duff, David Lloyd and Rod Gould, fourth ranked 250-cc rider in the FIM world championship of 1968.

Ron Grant's bike was the fastest of the 500cc Suzukis at 146.412. He was extremely happy with his machine as it had arrived from Japan only a week before. Its speed was up about 10 mph over last year. Best of the Kawasaki 500 triples was Dick Hammer's at 144.694 mph.

Then, late in the afternoon, activity in the pits stopped. Everyone swiveled with a slow, reverent 360 degrees as Canadian Champion Yvon du Hamel, a lonely, sunlit speck on the vast grey banking, became the first man to top 150 mph (150.501) in qualifying. His 350-cc Yamaha, sponsored by Canadian distributor Fred Deeley Ltd., had nothing special going for it in comparison to the others, save for meticulous assembly and blueprinting by tuner Bob Work.

The Harley camp groaned, realizing they would spend the remaining three nights without sleep. The engines were torn down and reassembled again and again, then tested on a lonely road out in the Florida flatlands. None of the measurements seem to match specifications, and these were more critical than the tuners had dreamed. Carburetion was a shambles. False plug readings abounded. Changing megaphones to straight pipes and to reverse cones seemed to make no difference.

On Sunday it was raining, but it seemed that the race would run anyway. But, after practice, a large contingent of riders convinced AMA officials that racing in the rain would be too dangerous because of the gigantic rooster-tails thrown by the 150-mph bikes, and the constantly changing surfaces in the in-field turns. So the race was delayed for
one week. Much has been made of how the week-long delay benefited Harley, but the facts were claimed at the time to
not bear out such a statement. The claim was made that two-strokes are quite skittish on wet surfaces, and lose traction without warning. The Harleys, it was claimed, as well as the other four-strokes, have heavier flywheels and may be accelerated in the wet with relative impunity.

Several Yamaha riders, including du Hamel and Gould, admitted that they probably would not have finished in the rain, for their clutches already were slipping from the feathering necessary to exit from turns during wet practice. So Harley had time to recover its lost performance, and the Yamahas had time to replace their
clutches...and they would run on dry pavement. The Suzuki 500 probably did not suffer from these concerns to the same degree.

The first laps of the 200-miler had all the close-in excitement of a scratchers race at Brands. The lead changed an incredible 17 times in 19 laps. Du Hamel picked up early lap money, followed a few feet back by Rayborn, Gould, and 19-year-old Ron Pierce, on another fast running Yamaha. Both Gould and Rayborn drove to the front and switched places with du Hamel until the 10th lap, when Pierce drove around the whole bunch of them. While attempting to stretch his lead, Pierce went down on an oil slick from Dave Scott's crashed Yamaha and broke his fairing. Du Hamel led again, but was passed by Rayborn. The tiny Canadian's machine began showing signs of ignition failure in the 20th lap, and he pitted. His
machine would not restart so he was out for keeps. Back in the pack, several favorites dropped by the wayside with assorted mechanical woes.

Hammer's Kawasaki got no farther than one lap, then seized a piston. Takeshi Araoka's Kawasaki also retired somewhat later. Dick Mann rode with his usual great style after a poor start, then lost a gas cap from his Yamaha and
could not get under way again after a pit stop. Ralph White's Yamaha also died during a gas stop. Don Vesco suffered similar heartbreak after an exciting ride into 4th place. It was theorized that some of these failures may have been due to gasoline spilling onto the cylinders during refill, causing sudden contraction of the barrels and resul-
tant partial seizure, ring damage and loss of compression.

In the Harley camp, Roger Reiman, who had dropped his bike in practice and damaged his clutch casing, retired with a foul smell after his clutch fried. Fred Nix's bike/running too lean in the rear cylinder, melted a piston. Walt Fulton, one of the best road racers Harley has, yet on the slowest H-D, was running steadily at least, in contest with teammate Dan Haaby.

The trio of Suzuki 500s fared half bad, half good. Jimmy Odom ran well until a slack chain mangled the rear wheel sprocket. Art Baumann and Ron Grant linked up and "freight-trained" into the top four, then. Art had to pit with broken expansion chambers. Grant then picked up 2nd spot as Gould, farther and farther behind Rayborn, pitted. Grant placed 2nd at the finish, but only after he met with near-disaster in his scheduled gas stop. His pit atten-
dant failed to tighten the gas cap and, when gasoline sprayed from the tank as he left the pit apron, he fell. Fortunately, he was far enough ahead of 3rd place Mike Duff to push the Suzuki back for more gas, restart, and recapture 2nd place.

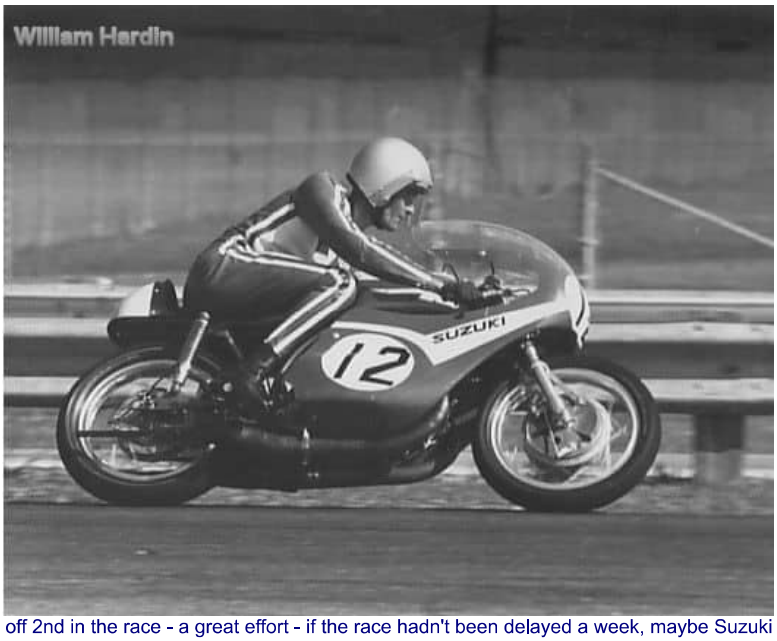
Rayborn finished at an average speed of 100.882 mph, slower than last year's winning record. Mert Lawwill, running
on the same lap as Yamaha rider Duff, had inherited 4th. Another lap back, Englishman. Gould finished 5th after three pit stops. Bart Markel-oblivious to the fact that his rear brake disc had broken off completely-vindicated his unusually
conservative tactics by coming in 6th, the first time he has even finished. Most of the Triumphs and BSAs were noncompetitive, as these companies have been well out of the hunt since 1967 when Gary Nixon won Daytona.

Thus it was somewhat amazing that AMA No. 1 Nixon motored to a 9th place finish, his engine sounding very ratty. Best of the BSAs was Eddie Wirth's, and while Eddie is not a road racing specialist by any means, he rode smoothly to finish 20th. Best of the Kawasakis was the 500-cc Three of Dave Simmonds, finishing in
17th. Also on the same lap and placing 19th was Bill Manley's 500. It was not a bad performance, considering that the
Three has only been in production a few ' short months.

In terms of national points, Rayborn's 1 st place gives him a great start on the AMA season. Markel's prudence paid off well, giving him a nice bonus as he enters the summer season of half-mile nationals-his strongest card. Both
Nixon and Lawwill also will be very much in the fray.

200-MILE EXPERT
l. Cal Rayborn, Spring Valley, Calif... H-D
2. Ron Grant, Brisbane, Calif. ..... Suz.

3. Mike Duff, Toronto, Canada ..... Yam.
4. Mert Lawwill. San Francisco, Calif...H-D
5. Rod Gould, Oxfordshire, England ... Yam.
6. Bart Markel, Flint, Mich. ..... H-D
7. Tom Rockwood, Gardena, Calif. . . Yam.
8. Peter Kellond, Vancouver, Canada . Yam.
9. Gary Nixon, Baltimore, Md. ..... Tri.
110. Dan Haaby, Orangevale, Calif. ..... H-D
Time: 1:59:19.18
Average speed: 100.882 mph



Ron Grant pulled off 2nd in the race - a great effort - if the race hadn't been delayed a week, maybe Suzuki would have won.

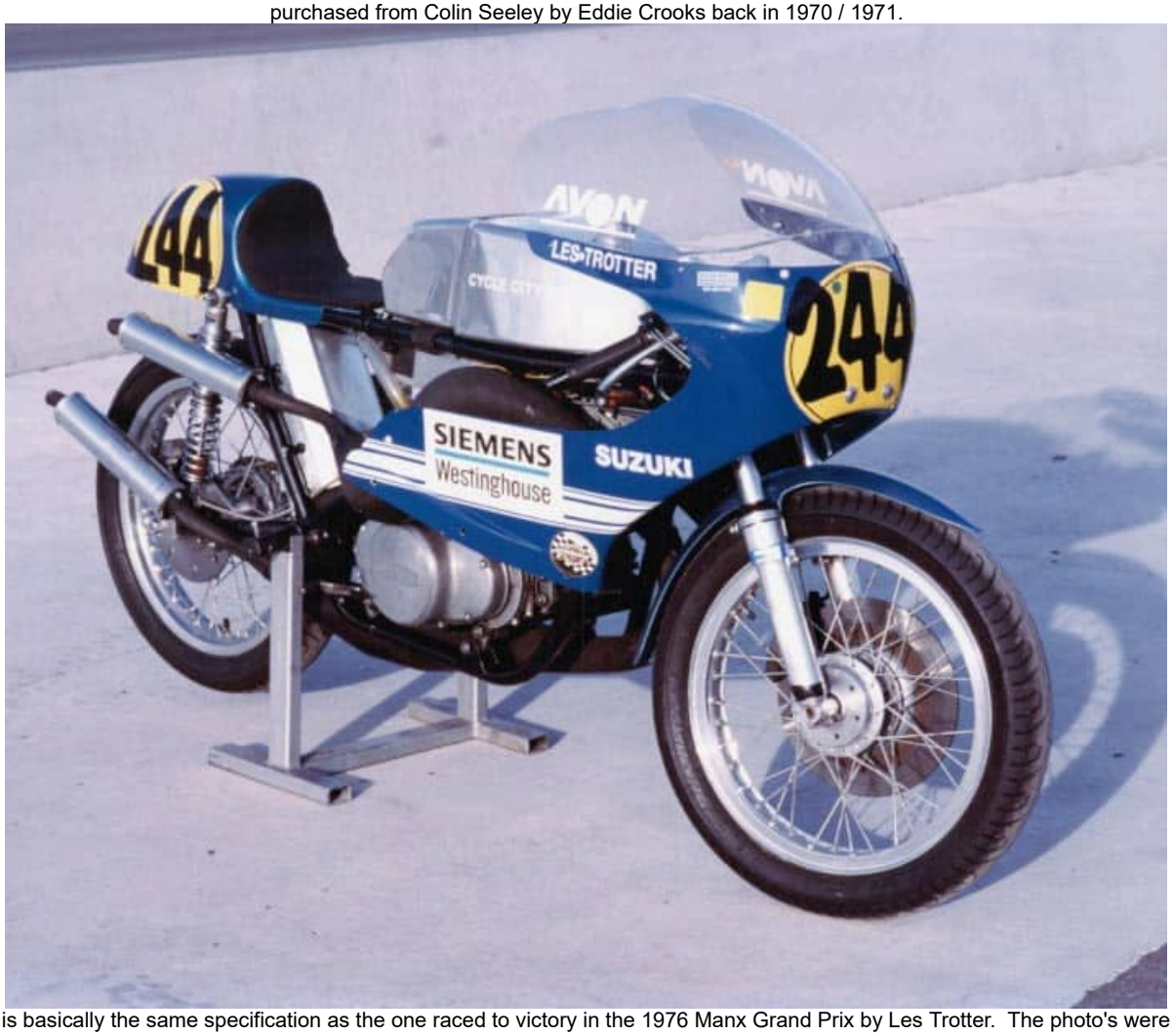
Back to Suzi index page

Classicbikes Australia
Muzza - 2002

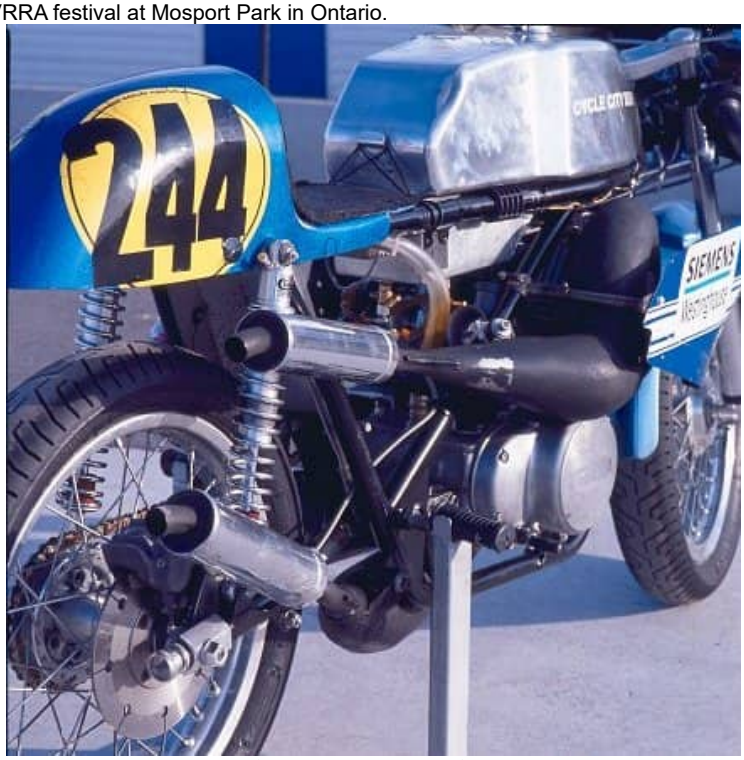
1220XR0507

Seeley TR500 and XR05 - Courtesy Kevin Fletcher

The bike in question is a I have relic of the 1971 / 1972 era. The frame is an original mark one Seeley and was originally purchased from Colin Seeley by Eddie Crooks back in 1970 / 1971.



The engine is basically the same specification as the one raced to victory in the 1976 Manx Grand Prix by Les Trotter. The photo's were shot in Canada last August at the Annual VRRA festival at Mosport Park in Ontario.

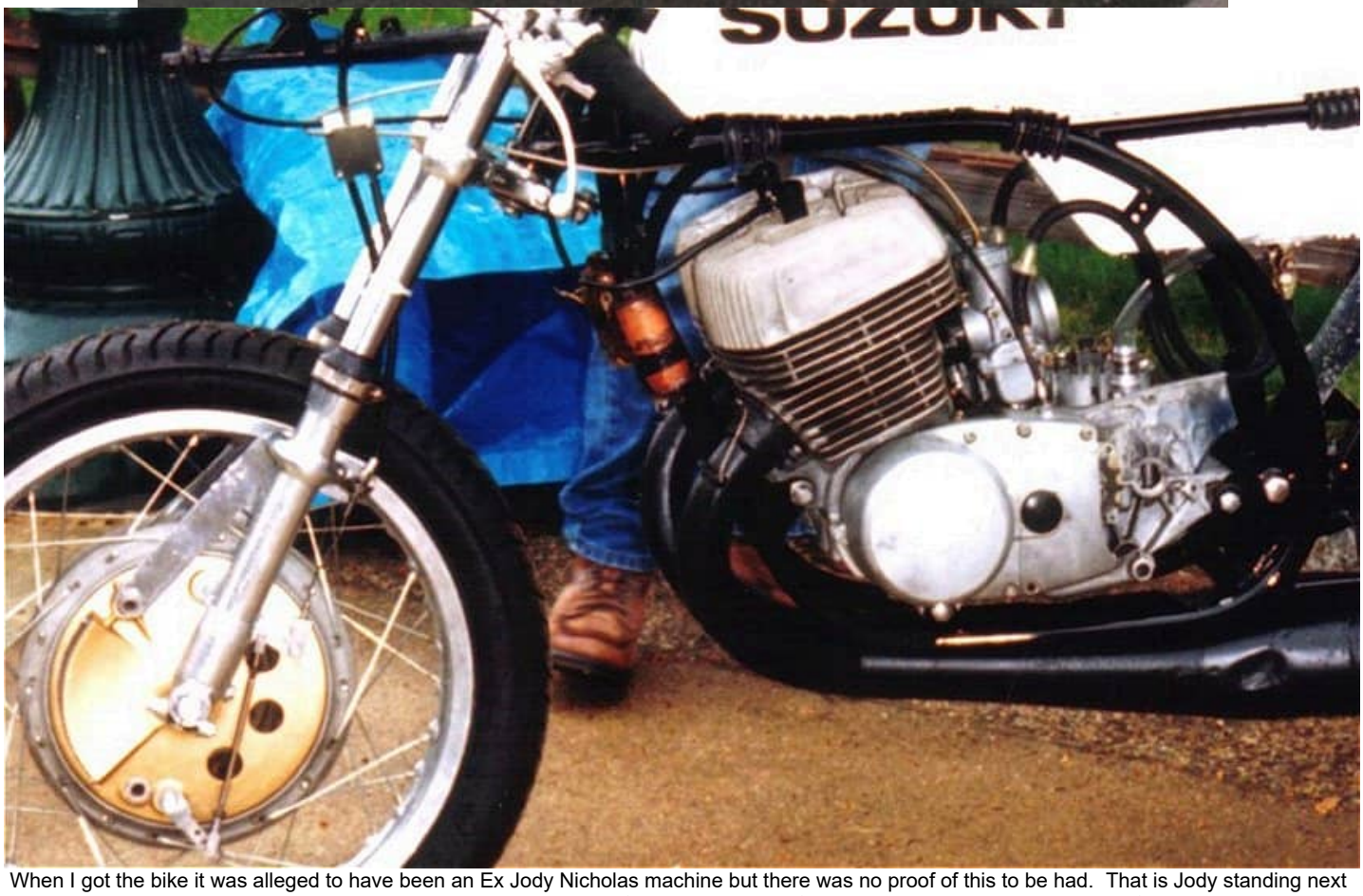


That's Les trotter with his girlfriend D'reen staring out at you. Still riding TR 500's after all these years!!! This was the second outing for les on this bike in 2001, he finished 3rd at Daytona on it in the Formula 500 event in early March.

I have a real XR 05 in the garage.

I also have a real TR 250 that Les rode for me for 12 years. We won the Kenning Classic series on the TR 250 2 years in a row, runner up the following year and got a second place in the classic MGP on it in 1995. If you look at the crooks site these statistics are listed on their success stories page but I owned the bike... not Martin or Eddie! I have had an association with crooks Suzuki going back to the time of Frank Whiteway in 1967 / 68, in fact I see Frank about twice a year and his daughter lives in Canada not too far from me.

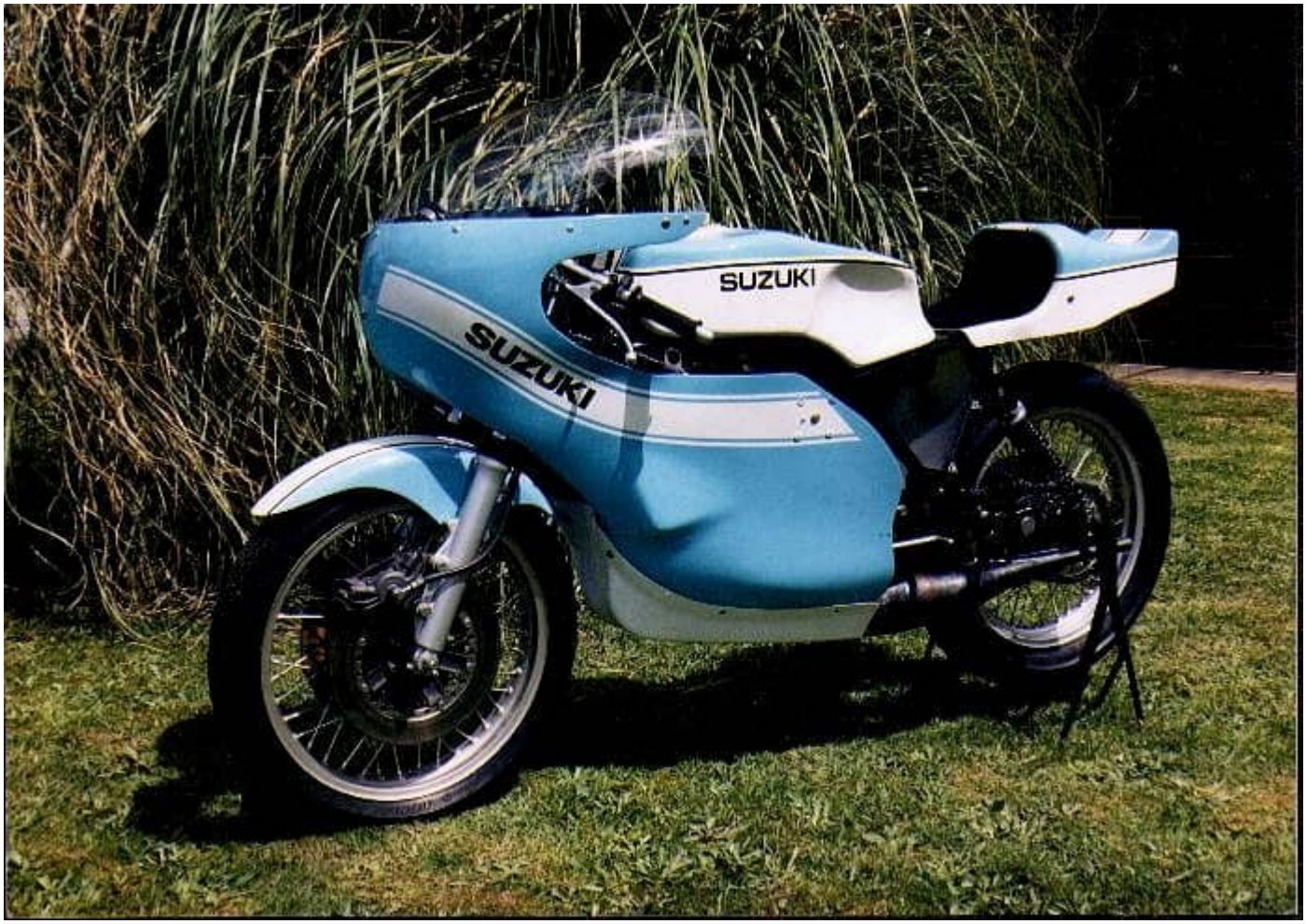
I have attached some shots of the XR05 for you to take a look at.



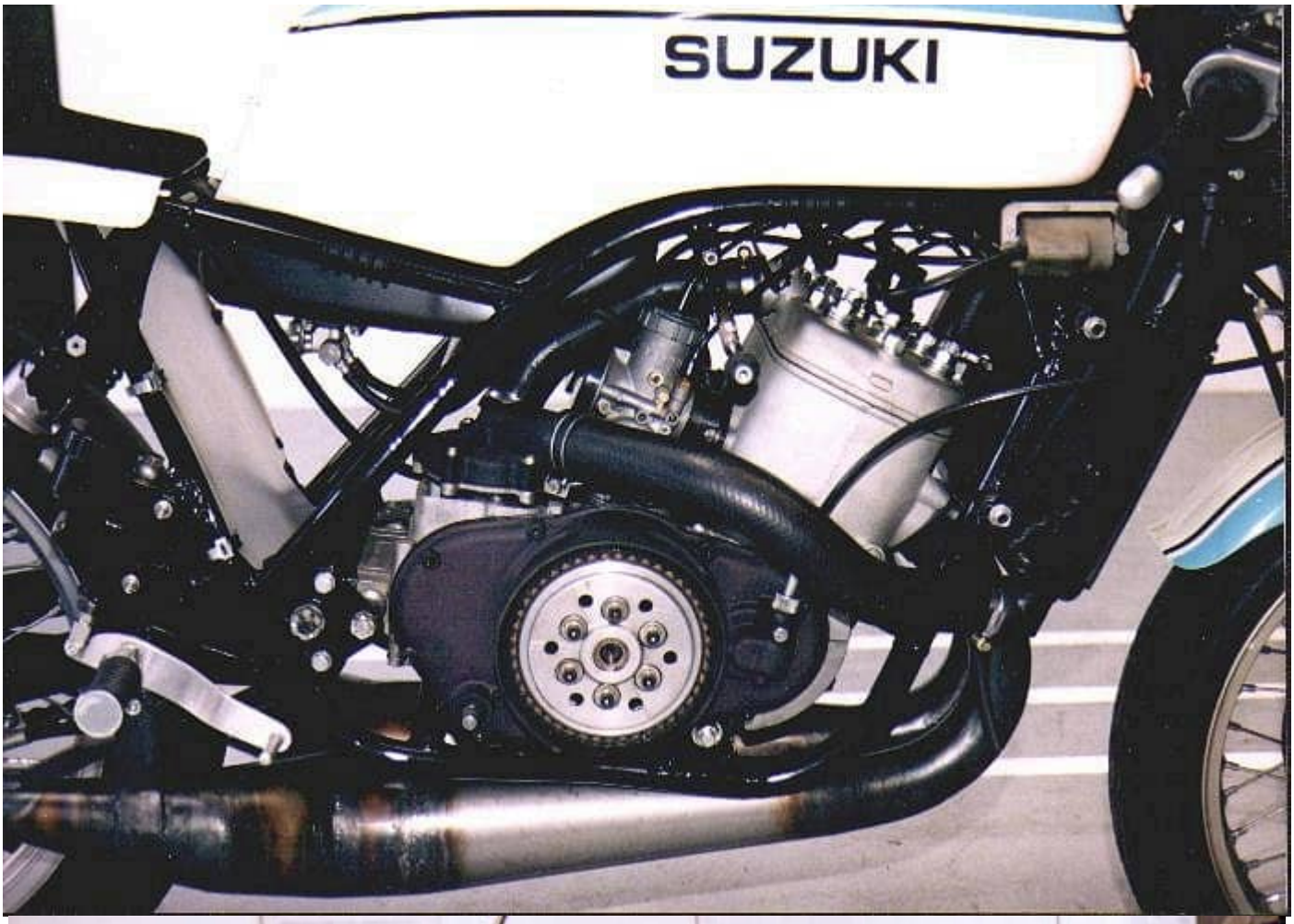
When I got the bike it was alleged to have been an Ex Jody Nicholas machine but there was no proof of this to be had. That is Jody standing next to the bike. The picture was taken at New Hampshire International Speedway in the US around 1996 or so. Jody came up from his home in California for a weekends racing and autograph signing.

Thanks to Kevin Fletcher for the pics and info.

TR500 Watercooled MkIII - 1975



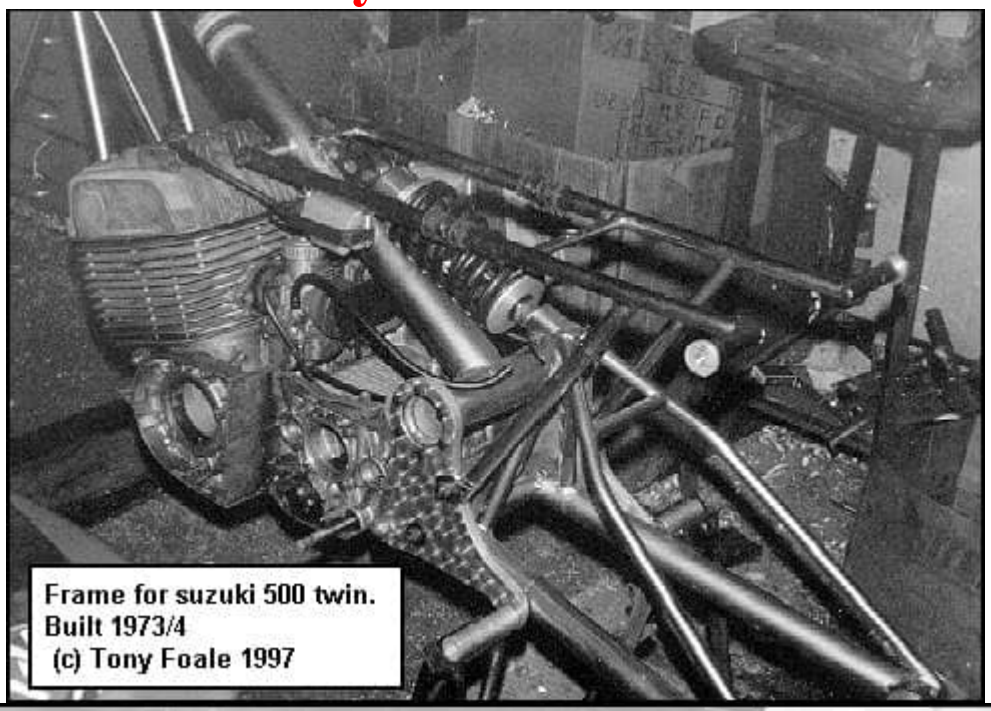
Bore and Stroke: 70 x 64
Carbs: 2 x 38mm Mikuni VM38SS
Compression: 7.4:1
Max HP: 80 @ 8900rpm
Max speed: 160 mph
Dry weight: 140kg

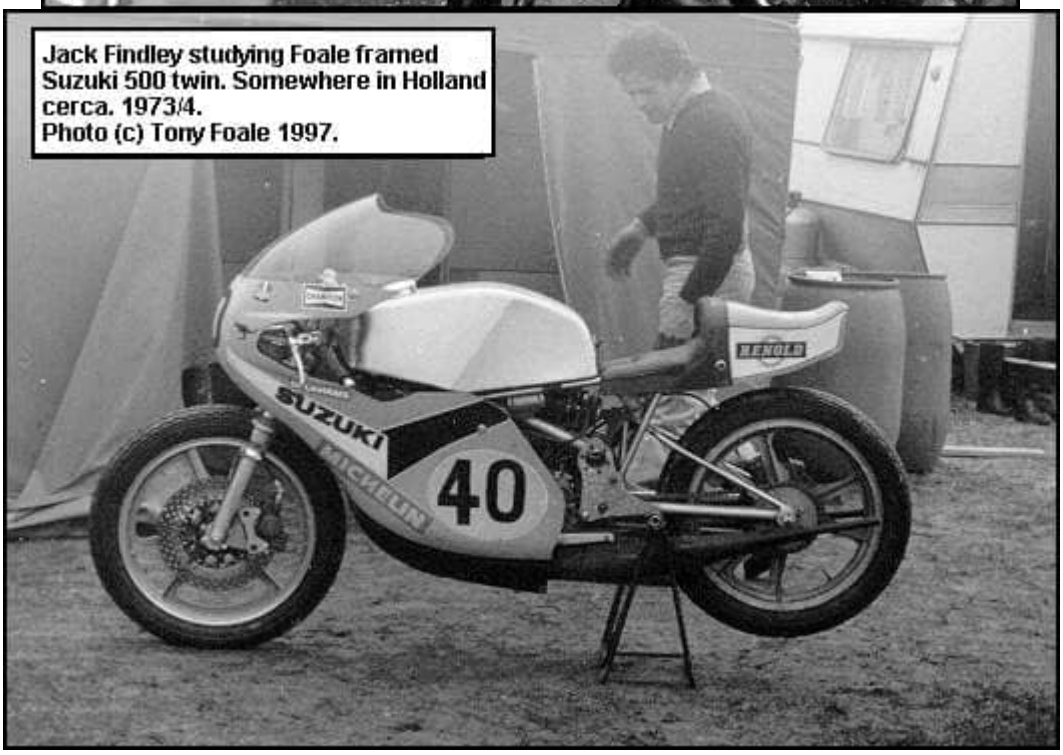


Go back

Copyright reserved: M Barnard 2002

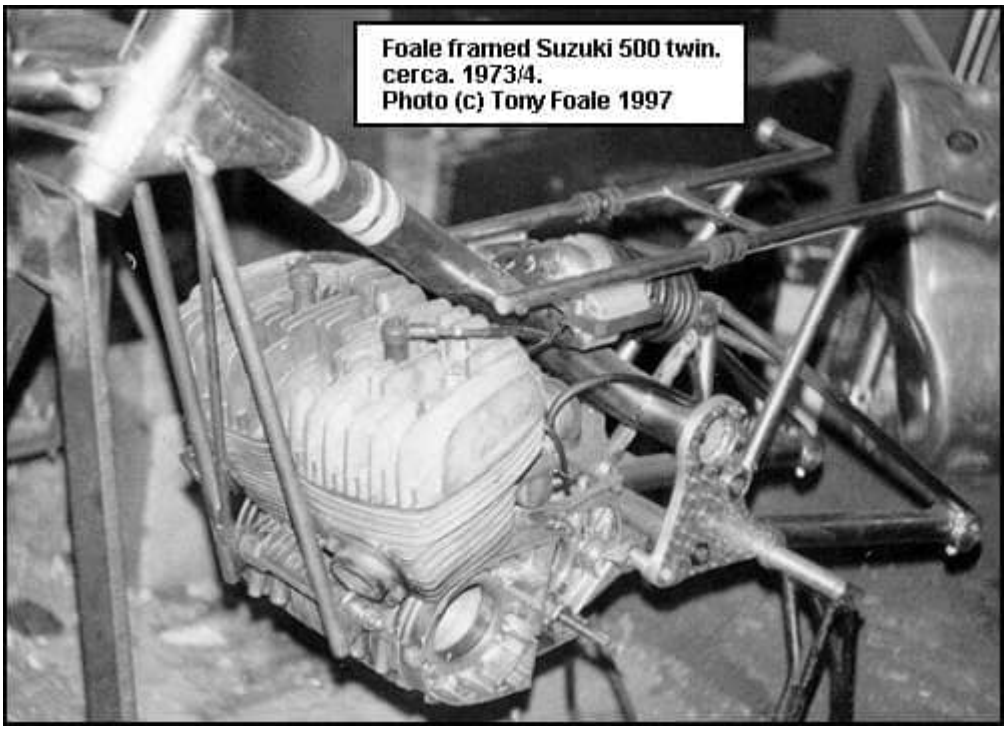
The Tony Foale Suzuki 500





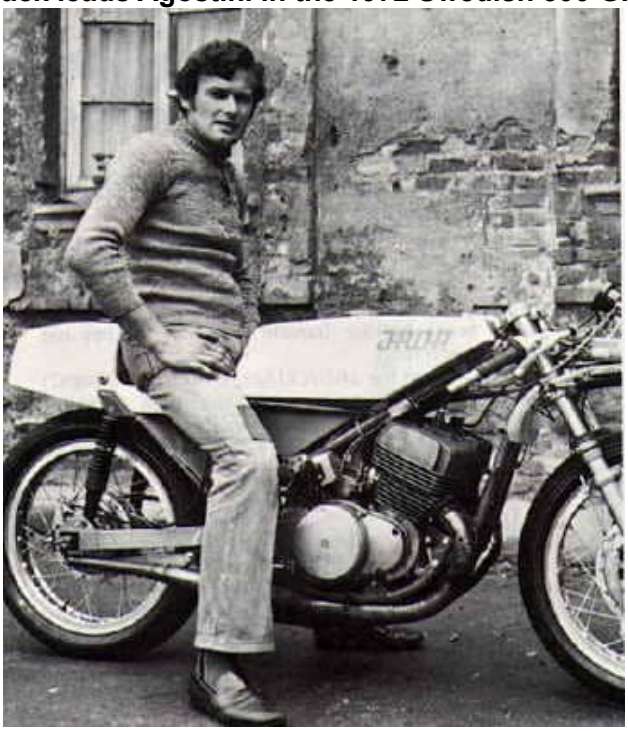
Jack and the Foale Suzuki

In 1973 Tony Foale built a Suzuki 500 racing bike with his trade mark single backbone frame design and cantilever rear end. Jack Findlay was interested in buying one but was given a sponsored works ride instead. Tony Foale went on to build the Steve Parrish championship winning TZ750 Yamaha and the innovative QL and Q2. tony was born in the UK, spent his child-hood in Australia, worked in the UK on his innovative designs and is now based in Spain.


Foale framed Suzuki 500 twin.
cerca. 1973/4.
Photo (c) Tony Foale 1997

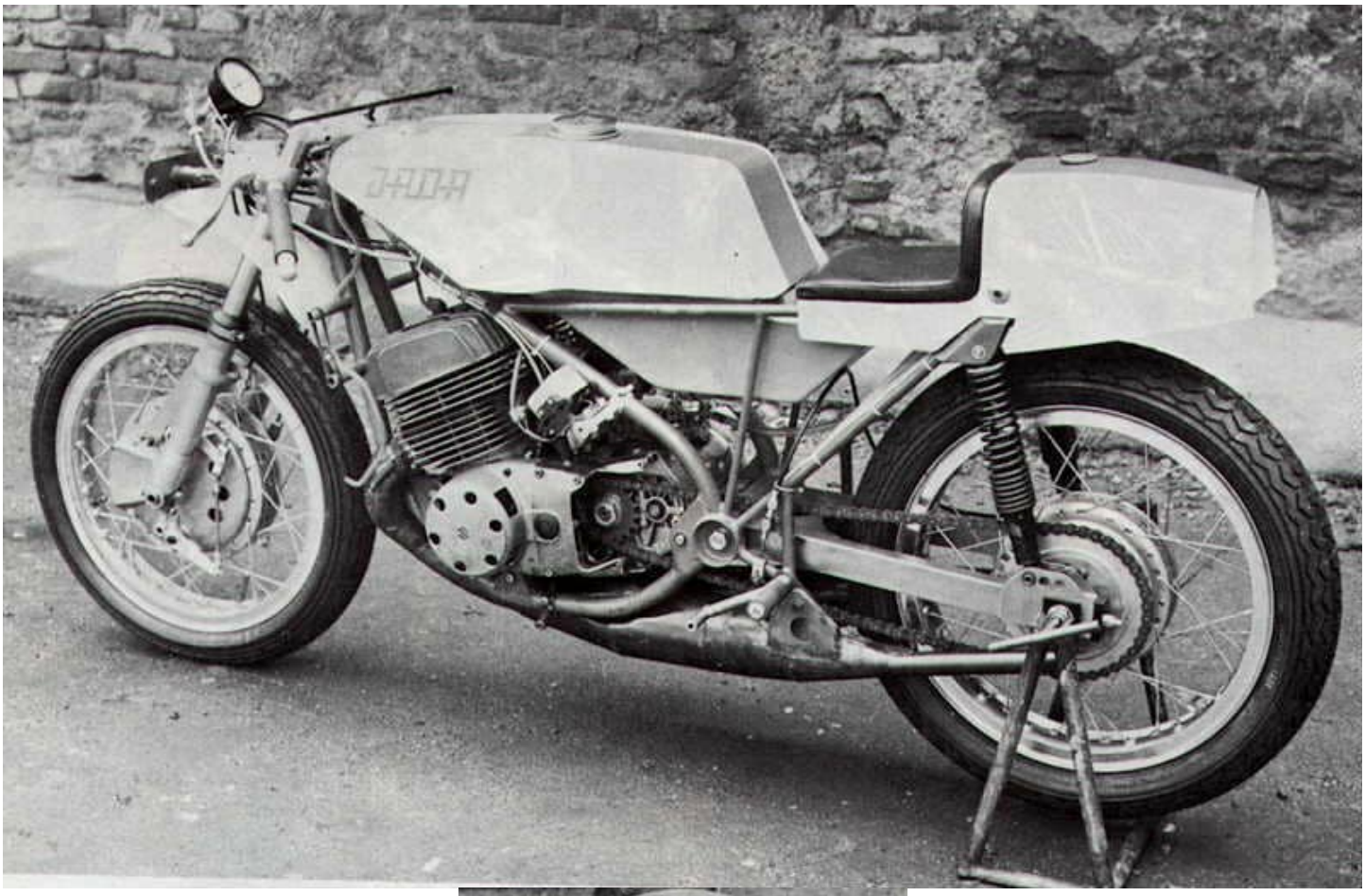
Jack Findlay and the Jada

Jack leads Agostini in the 1972 Swedish 500 GP

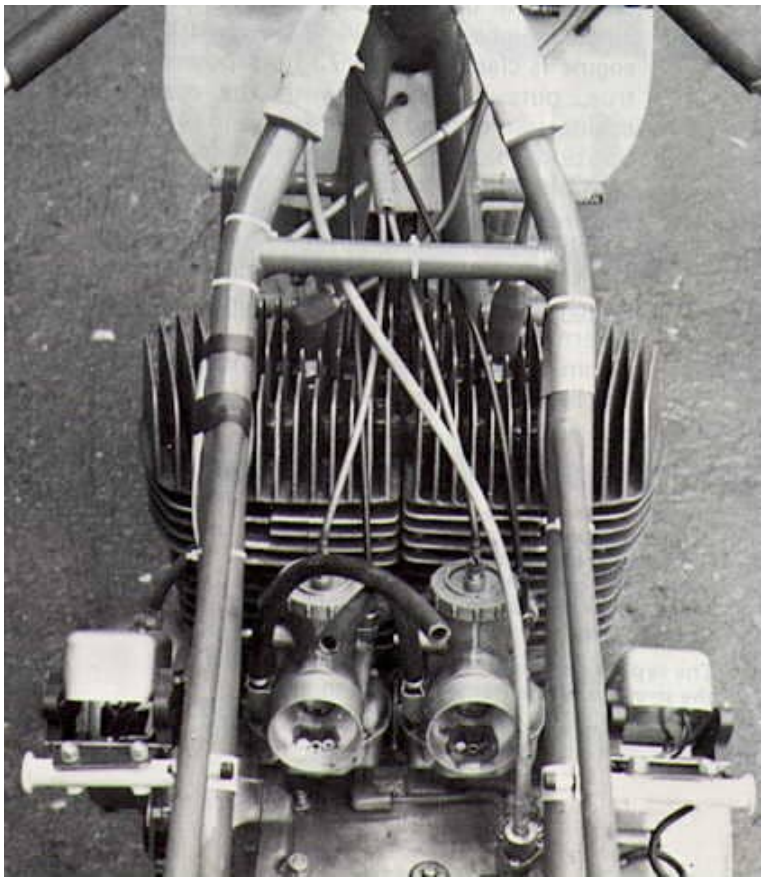


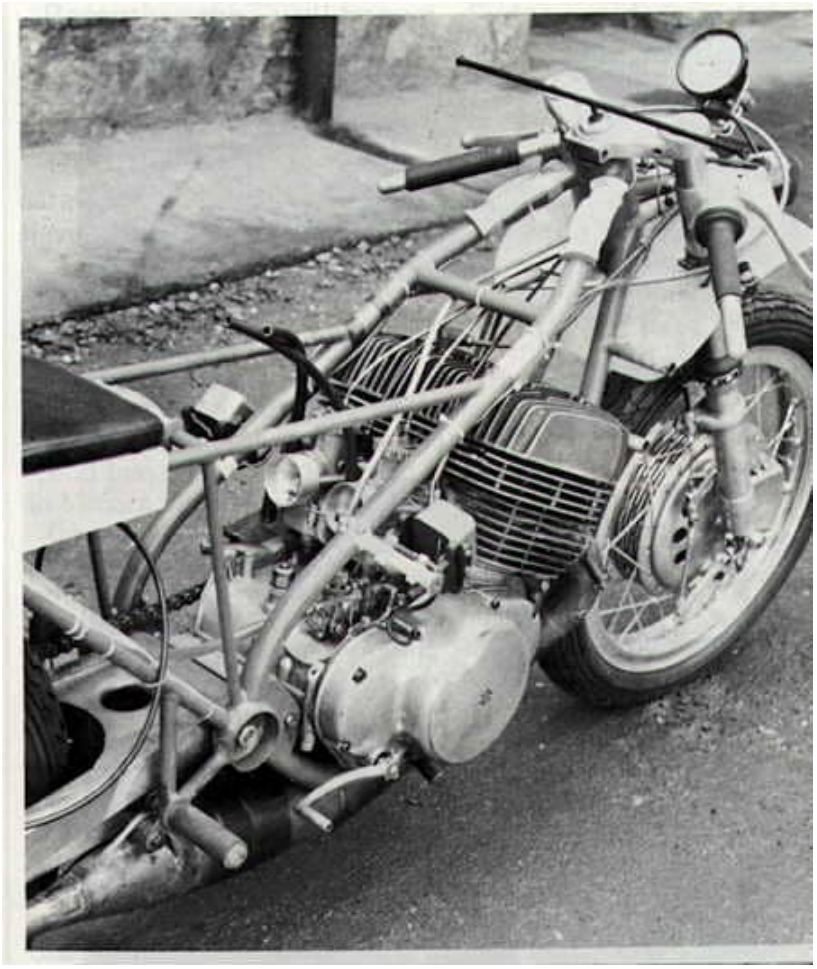
Jack on the Jada Suzuki

In 1972 Jack Findlay and Daniele Fontana built a new chassis for Jack's 500 Suzuki motor. It was lighter and stronger than the factory frame and more purpose built than his Seeley. They called the bike the Jada. The engine was well forward in the frame and the bike weighed only 100 kg, despite the heavy engine. Everything was done to save weight even down to titanium bolts and the use of circlips rather than nuts. This approach led to its downfall when the thin walled frame tubes broke at the Isle of Man.



The new bike was built with the twin aims of a small frontal area and light weight. In this form it was able to use the lugging power of the 500 Suzuki motor to full effect and the machine was ideal for raod based circuits. The frame was built by Belletti in Milan from chrome-moly tubing and weighed only 6 kilos. The rear swingarm was rectangular and weighed 3.5 kilos. Output of the engine was 73 bhp. The tank held 25 litres and oil was held in the seat (1.5l). The brakes were Fontana items of course. The Jada probably represented the ultimate development of the air-cooled motor for its time. In 1973 the water-cooled 500 appeared on the tracks.

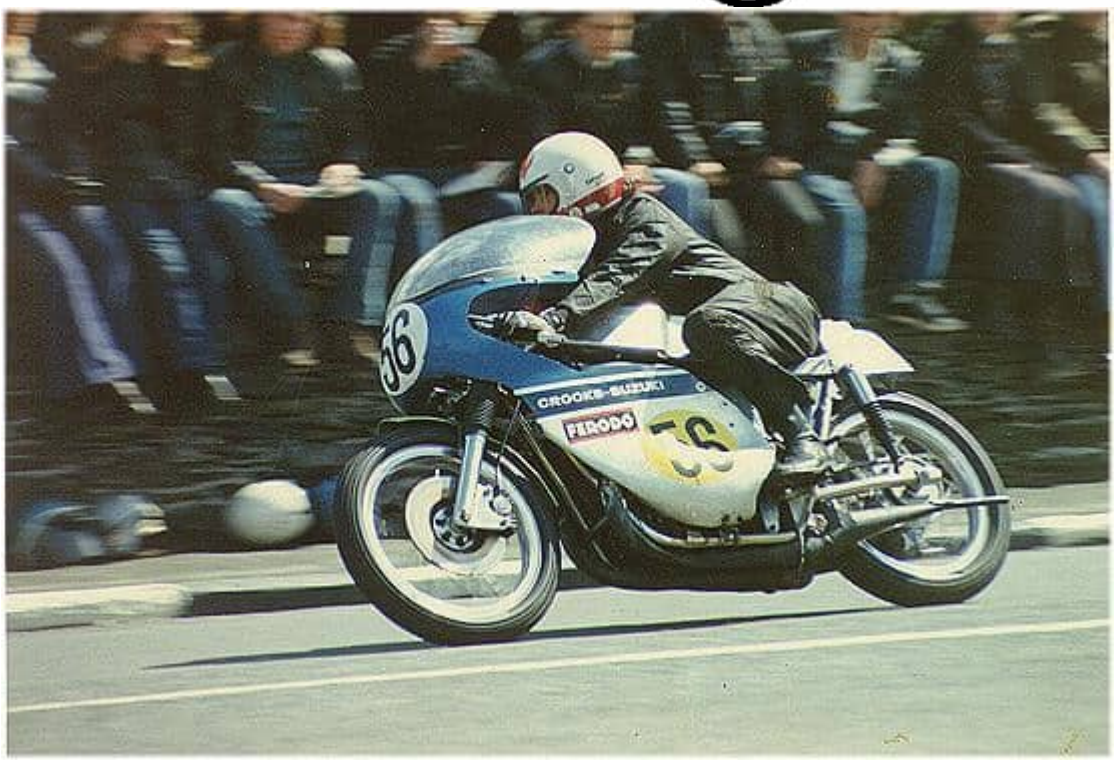




Jack Findlay and his Jada at the 1972 Senior TT (No. 11); Charlie Sanby (No. 12) also 500 Suzuki.

The fabulous Jada today as seen at the Coupe Moto Legend in Montlhery France. Pic courtesy Bas Völlink

CROOKS SUZUKI



Number 56 in the 1974 Senior TT at Governor's Bridge, is Steve Tonkin who retired during the race. Steve went on to become 250cc British Champion and 1981 250 TT winner on an Armstrong.

Martin Crooks' dreaming on the 2000 500GP winning RGV Suzuki

Charlie Williams

"The newspaper cutting of Les Trotter has me on the left of him, I was hiding a plastered leg at the time as I'd fallen off me Suzuki 350 Goose. The crutches are hiding behind the bike somewhere!" Martin Crooks

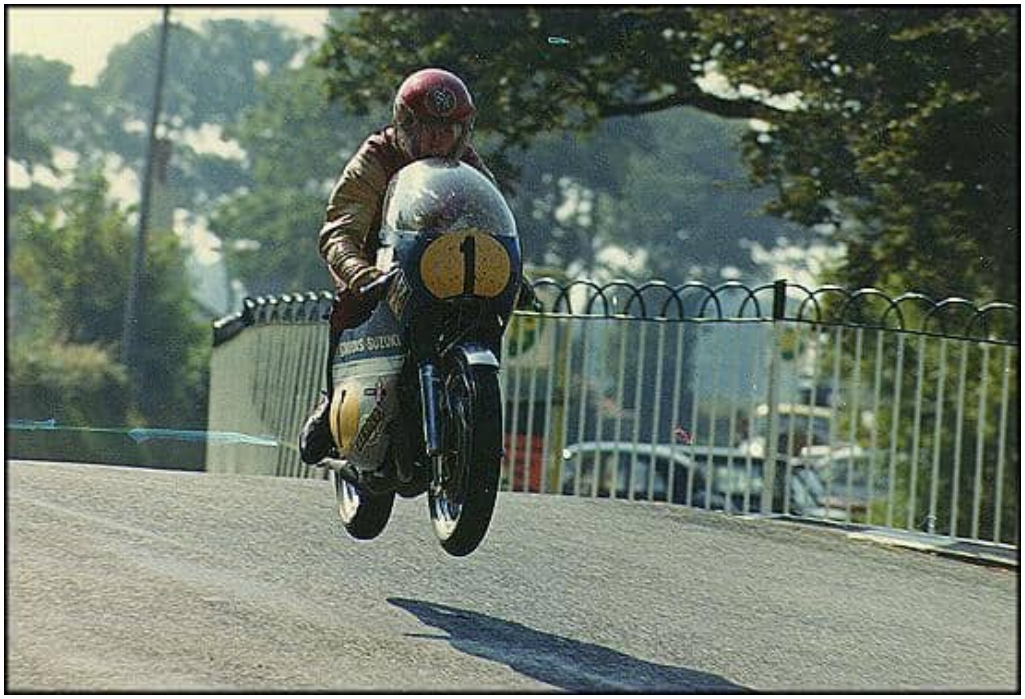
Keith Napier took the following photos of the Crooks Suzukis. Sadly Keith has passed away since this page was built.

Photo by Keith Napier

Photo by Keith Napier

Photo by Keith Napier

Photo by Keith Napier



"This one is of the late Danny Shimmin leaping Ballaugh Bridge. After being the fastest in practice he lead the 1972 Senior Manx Grand Prix on a Crooks-Suzuki (Seeley chassis with air cooled TR500 engine) from the start, only to retire on the 6th and final lap at Sulby when the rear sprocket bolts sheared ! Danny went on to win the 1976 250cc Manx Grand Prix on a 250 Yamaha. He also finished 2nd in the 1976 Senior Manx Grand Prix, only 1.4 seconds down on Les Trotter on a Crooks-Suzuki (Seeley chassis with air cooled TR500 engine). Danny became a top privateer in the TT races during the 1980's, then made a great comeback in the Classic Racing scene in the 90's. Unfortunately Danny lost his life due to injuries after a crash during a practice session for the 1997 Classic Manx Grand Prix." - Martin Crooks

"Here is a shot of Les Trotter during his winning ride in the 1976 Senior Manx Grand Prix. The Les Trotter photo is of an air cooled genuine TR500 engine in a Colin Seeley frame that my dad built originally in 1972. It had had a few modifications over the years before Les won the Manx on it. Les bought the bike back many years ago and has restored it to virtually as the 1976 photo." - Martin Crooks

"another photo showing me in 1972! Left to Right: 1972 500 production TT winner, Stan Woods, Race and shop

mechanic, John Maddison The sponsor, team manager and my dad, Eddie Crooks And me!" - Martin Crooks

"Stan Woods at Quarter Bridge during the 500 production TT race in 1973, he should have won it, but had a problem while leading and ended up finishing 2nd. The bike is a Crooks Suzuki T500K in production trim, with Dunstall forks. " - Martin Crooks

Thanks to Martin Crooks for the photos and text

CROOKS SUZUKI

EDDIE CROOKS MOTORCYCLES carnival float in 1971.
The New T500R is the centre attraction with a couple of girls that the lads from the shop were knocking about with!
I'm the kid on a Kawasaki 100cc wondering where to look next !
I remember all our street making paper flowers to put on the Co-op milk float thet my dad borrowed.

Thursday afternoon of practice week Manx Grand Prix 1972. First in the queue was the Crooks Suzuki Seeley TR500 of Danny Shimmin, second was Doug Lunn who was also on a T500 based racer. It was a big thing to be the first to set off in the practice sessions, especially the Thursday as it was the only afternoon session and was a warm up for the race. As I remember my Father took the bike up very early and left me, John Kneen (a friend from the Isle of man) and another eager schoolboy to look after the bike for a few hours. This meant the riders, mechanics and my Dad could get on with other jobs. Our reward was to sit on the bike and operate the throttle when it had to be warmed up !
Left to Right:
Martin Crooks (eager 11 year old schoolboy).

Danny Shimmin (fastest in practice, should have won the race, but the rear sprocket bolts sheared at Sulby on the last lap while in the lead).
Eddie Crooks (probably just putting the race plugs in).
Doug Lunn (wondering why he had no pit crew !)

"Mayor" - Shows a reception at Barrow-in-Furness Town Hall a few days after Les had won.
Left to right: Eddie Crooks
The Mayor of Barrow-in-Furness
Les Trotter (in trendy jacket!)

From 1976 Manx Grand Prix.
"finish"
Shows the top 3.
Left to right: No. 29 Brian Robinson (3rd)
Vera Morris, My Granny(Eddie's Mum)
No. 1 Les Trotter (1st)
Eddie Crooks
No. 71 Danny Shimmin (2nd)
Shell oils must have provided them all with the silly hats!

CROOKS SUZUKI AT THE 1999 IOM TT - June 99

Martin Crooks on Les Trotter's Seeley TR500 at Union Mills 1999

Martin again in 1999 at Sulby Bridge

TT Riders Association artist, Rod Organ at Windy corner

No61 T500-2 1970 production TT winner
No1 Select Suzuki 1976 senior MGP winner
Thanks to Martin Crooks for the photos and text

Martin Crooks at the Crooks Suzuki display at the 1999 IOM TT (photo by Chris Bradley)

CROOKS SUZUKI

A photo that is taken from the September issue of Northern Biker Magazine, a popular mag in the UK. It was shown on a feature about Cadwell Park race circuit in Lincolnshire. It shows the start of a what I think must be a British Championship race in 1971. On the far side of the 2nd row is Stan Woods on one of my dad's Seeley TR500's.
Other riders are:
24 John Cooper (BSA Rocket 3)
16 Derek Chatterton (Yamaha)
19 Paul Smart ? (Yamaha)
49 Tony Jefferies (Triumph Trident)
78 Tony Rutter (Yamaha)
More importantly at the side of the track is the Crooks Suzuki back up team ! Eddie leaning on armco above the P of Player, To his right our parts manager of the time, Danny Prentice, To Eddie's left, above the A is race mechanic, John Maddison. And the best is above the E, the kid in the Bultaco anorak, IT'S ME ! What a shock I got when I was thumbing through the mag and found this classic shot.
Martin Crooks - March 2001

CROOKS SUZUKI

I went to many meetings with my Dad. I can remember getting carried out to the Ford Thames van in the early hours of the morning and setting of to go to various race circuits in the 60's with Dad, Frank Whiteway and a few other folk. I remember being at Mallory Park when John Cooper beat Agostini and Ago went and sulked in his van.

I was at Brands Hatch when Agostini was there, the officials would not let me into the paddock to meet up with my Dad, so Agostini sorted them and sat me on his MV and took me to the paddock. I was at the transatlantic meetings in the early 70's when Mert Lawill, Cal Rayborn and Dick Mann were racing. I remeber my Dad talking to Dick Mann and I was amazed to see his toes peeping out of his boots as he had worn through the leather and duct tape!

I have many memories of the TT and Manx as I used to be the tea boy and tank polisher.

Attached is a shot of me on a Sidecar beloning to Vic Hudson and Jack Hart from Canada. It's taken outside my Granny's house in the Isle of Man during the 1973 TT. My Dad and his mechanics had been doing some work on it. They raced in the 500 and 1000 sidecar race, but I'm not to sure if this one has a T500 or GT750 engine. It has yellow plates that generally mean for the 500 class.

Crooks Suzuki 500

Eddie Crooks with the Seeley framed Crooks Suzuki 500s

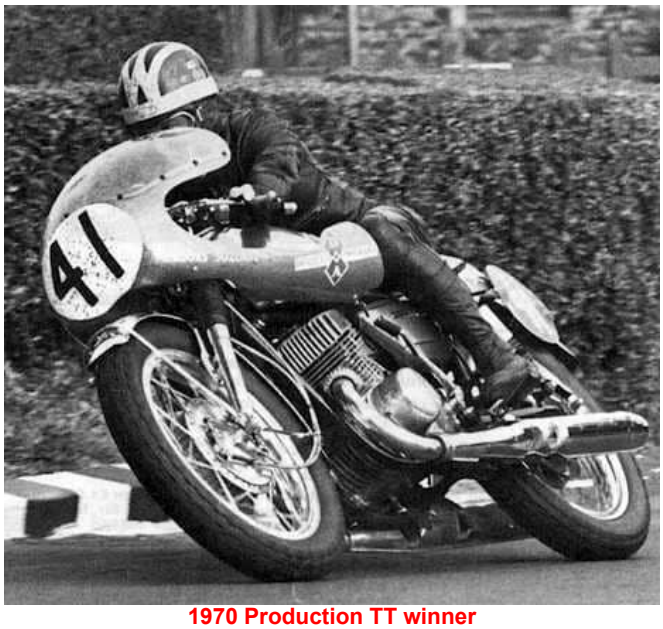
Crooks Suzuki 500

Piet Hogervorst and his Crooks Suzuki T500 in 1973. Piet rode this machine in long distance races such as the Barcelona 24 hours and the Thruxton 500.

CROOKS-SUZUKI

Frank Whiteway and the 1970 Production TT

Frank very kindly shares his experiences on TR250s and the T500 from 1967-70



1970 Production TT winner

Date: Sun, 05 Apr 1998
Subject: Crooks-Suzuki
Frank Whiteway, Barrow-in-Furness.
Dear Murray
Firstly, may I apologise most sincerely for the delay in replying? I can only offer the feeblest of excuses which aren't really worth mentioning.

!967 Manx TR250

I regret to say that my recollection of specific machine details is a bit hairy-fairy these days but if you will forgive me for any mistakes. I will try to fill in some of the past history of the Crooks-Suzuki TR250's and the T500. As far as I can recall, my first TR 250 was 100022 and was one of a batch of three that were entered by Suzuki G.B.for the TT in 1967. I can't remember who actually rode them but I can remember that they left the Island without a great deal of success. I was riding a one of Eddies T20's in the Production Race (4th place) but I do recall Rex White asking me to rebuild one of the TR cranks during practice week that brought round to the garage. After the TT the machines were sold (or lent) to Eddie, Bill Bancroft and another dealer whose name escapes me at the moment. We got #22 back to the workshop andI quickly and excitedly set about trying to sort out the unreliability problem that had plagued these machines over on the Island. The potential was very clear to see but the question was, could it be made to last the distance?

Frank - TR250 1968 Manx

The main trouble appeared to be piston and piston ring failure. The pistons were melting and the rings were breaking in the exhaust port. We were aware of a piston manufacturer in the U.S.A.called Wiseco and the fact that they had just brought out a piston that would be suitable for this engine and we quickly obtained a small batch of both STD and 0.25mm OS so that any wrecked barrel's could be reclaimed as spares were in very short supply -- in fact we had nothing. The piston melting problem was fairly easily brought under control by running the engine at a slightly reduced compression ratio and by very accurate control of mixture and the ignition timing - remember all that backlash in the Denso magneto drive coupling!

Following some testing on our local airfield at Walney I entered the bike in the National Hill Climb at Barbon Manor and managed to take F.T.D. against machines up to 1000cc. setting a 250cc record that stood for almost10 years.....not bad for the first time out!

The next outing was the 250cc M.G.P. and after doing a couple of exploratory laps on the original T20 based racer I took '22 out on the evening session with the intention of doing a couple of laps as steadily and as carefully as possible. However, by the time I reached Ballacraine on my first circuit I had realised that the machine I was riding was unbelievably rapid. I was able to eat 7R's and 350 Manx's and must have had about 20mph.in hand over the run of the mill 250's. All good intentions now abandoned and with the red mist well and truly covering both windows I gave the rocket ship full wellie for two laps and returned to the pits having set the first 90+ lap on a 250 and chopped about a minute off the lap record for the class. I had also made the startling discovery that adrenaline was brown! Talk about exited. Sadly I only managed second place in the race due in no small part to the delayed start caused by foul weather and the fact that the race distance was reduced from four to three due to the rain and gales. I had never done a wet lap but was able to take the lead until I was forced to make a fuel stop because of my standard sized tank. The winner, Brian Ball, went straight through for the 3 laps. I was totally gutted and felt that I had been robbed. The bike, however, had performed flawlessly and that was at least some consolation.

In 1968 Malcolm Uphill rode #29 in the Lightweight TT finishing in 4th (I think!) place winning the Motor Cycle Trophy for the best Non Factory entry and put a lap in at over 92mph. Shortly after the TT, Suzuki G.B imported a small batch of T R's and we obtained 7 or 8-- I can't be certain of the actual number-- and these were promptly sold to eager customers. Eddie kept one of these which was intended to be my race bike for the forthcoming M.G.P. with #22 as our training machine.

During practice I rode both machines and the team was well pleased with the resulting lap times. However, when the race bike was taken out during the final session to run in the replacement tyres, chains and engine bits, I was horrified to discover that it felt down on power and did not pull the usual RPM figures at places such as the run towards Glen Vine and up the Mountain Mile.

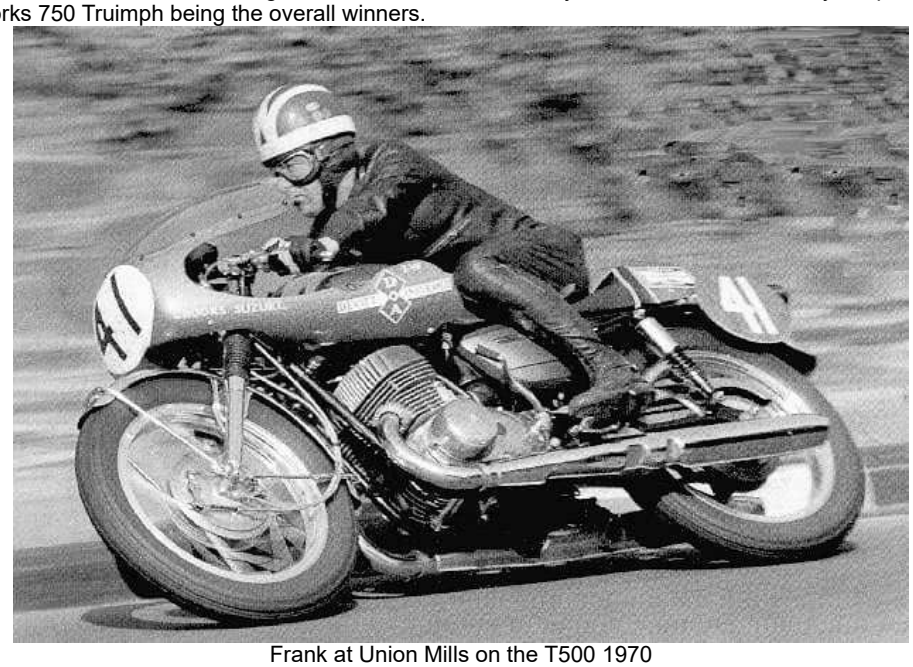
At a heated and very serious team meeting over dinner that evening I was offered the very difficult choice of which machine to weigh-in for the race. The immaculate and well-prepared race bike or the rapid but well used 'T' machine. I opted for the well worn but much quicker old '22 although I have to admit that I was far from confident with my choice.

History proves that this was the correct decision and the Manx was won.

1969 Thruxton TR250

During the winter of 1968 Eddie obtained a third TR and we ran all three in '69 and '70 with various riders including Rex Butcher, Malcolm Uphill and Frank Perris. Rex did some of the British and few Continental meetings and Malcolm also rode in North-West and the Ulster GP. At the TT, Frank finished in second place behind Kel Carruthers on the Benelli 'four taking the Motor Cycle Trophy for the first private entry. I finished 5th behind Santiago Herrero on the Ossa and Mike Chatterton on a Yamaha and was awarded the Ray.B.Westover Trophy for the best newcomer to the '69 TT. Sadly, Malcolm was forced out when the LH wheel adjuster broke

allowing the wheel to move, loosening the chain. Unfortunately I have no accurate data available as to the specific machines ridden by everyone during this period although I would suspect that Eddie would be able to fill in some of this detail if he was suitably primed with a few large Whisky's.
We decided to enter the 500 Production race in 1970 so a standard 1969/70 T500 was taken from stock, stripped, and rebuilt to PR spec. A very large alloy tank was commissioned by Jim Lee due to the race distance that year being 5 laps. All the usual race equipment was fitted and I added an 19" rear rim to given a little extra ground clearance. Very little was done to the motor in the way of tuning for higher speed and in fact it retained the standard air-box and filter element as testing proved this to be the best set-up and the most reliable. Before the TT in June, the firm entered a number of bikes in the annual Thruxton 500 Mile race which we had won the previous year. My co-pilot was Stan Woods. In practice, the Crank broke and I spent all night on a rebuild in the back of the Transit van! Must have been OK 'cos we managed another class win and only missed the overall win by 1 lap - Malcolm Uphill and Percy Tait on the works 750 Truimph being the overall winners.



Frank at Union Mills on the T500 1970

The TT was really quite uneventful. I held back a little during practice rather than let everyone know how quick the T500 really was. In the race I passed Bill Smith on the exit from Quarter Bridge and never saw another bike for the 5 laps, winning the race at a cruise by over a minute. By far my easiest IoM ride and also my last as I then decided to pack in racing although I did do a few other races with the bike to finish off the season with some reasonable start money for a change I hope my rambling reminiscences have not been too boring and that you have found some useful and interesting details in them. As I said earlier, I apologise for any mistakes and errors of memory but after more than twentyfive years, recollections of events get a bit hazy.
As you may or may not know, Martin Crooks has a Web site - http://www.crooks-suzuki.com/crooks.html and there is a fair bit in there about the organisation. I will also do my best to dig out some further details and pic's of this wonderful racing machine and let you have the in due course.

Kepplegate 1970 Production T500

It is not widely known that in 1968 Suzuki GB took two teams to Monza in order to try to establish a number of endurance World Records around the old and notorious banked oval. The 1968 250cc Production T20 was bored out to 252cc in order to move it into the 350cc class and Eddie Crooks, Brian Ball, George Anscheit and I successfully established a 24hr S/S World record which still stands to this day at 145.688 Km/Hr.

1967 T20 Production

In 1969 Suzuki GB let me have the use of one of the very rare and, up till then, relatively unsuccessful TR50 Racers to campaign the British Championship for 50cc machines. During the following two seasons I thrashed this tiny bike unmercifully and either won or finished 2nd in every race except the '69 Ulster Grand Prix were I finished in 3rd place behind Angel Nieto and Van-de-Vries. Sadly I only manage the runner-up prize in the 1969 British Championship behind George Ashton's Garelli. The following year, after a season-long battle with Arthur Lawn on his Honda, I was delighted to add an ACU Gold Star to my Trophy chest by winning the last 50cc British Championship. I might add that during both seasons this wonderful little bike needed only 4 sets of piston rings and 2 small-end needle bearings - making this the most reliable and successful racing machine I have ever ridden.

1970 TR50 Suzuki

With kindest regards and very best wishes,
Frank.

The following excellent recollection of the Crook's Suzuki has been kindly supplied by Tom Loughbridge:
Dear Murray,

I have been reading your T500 Suzuki fanatics/Crooks Suzuki page with extreme interest. I purchased the T500 Production Racer that Frank Whiteway won the 1970 Isle of Man Production TT on belonging to Eddie Crooks and raced it in the I.O.M. between 1971 and 1977 in every I.O.M T.T Production 500 / International Senior 500 / Formula 1 /Formula 750 / Classic 1000 and Jubilee 1000 race. A total of 20 T.T. Races. Including practice consistently winning Silver and Bronze replicas Somewhere in the region of 337 laps over 13, 000 racing miles around the Isle of man, that was apart from the dozens of other races each year including Thruxton 500 mile endurance races.
In 1971 the first year of ownership the machine completed 28 laps of practice. Then finished 5th in the Production Race. 13th in the T.T.s first ever Formula 750cc race and 26th in the Senior 500 race winning Silver Replicas in every race. A TOTAL OF NEARLY 1,800 RACING MILES. All we did between practices laps and races was fill up with oil and petrol, change tyres and chain and clean the flies of the windscreen
The 5th place in the production race was after having a two minute penalty at the massed start for failing to start the machine by mechanical means and having to wait two minutes after everyone had gone before I was allowed a push start, then lying a lonely last on the roads for the first three laps. On the last lap going down to Greg N Ba I caught and passed four riders in one go, Danny Shimmin. Martin Ashwood. P Jones all Suzuki's and Bill Milne on a Kawasaki Mach 3. At the line it was Martin and myself side by side and we were both credited with a time of 85.54 mph I was just a wheel in front and beat him by 4/5ths of a second which went to prove just how quick this machine really was for a road bike.
In the early years the machine was consistently faster than many pukka 500 racing machines G50s and Manx Nortons and a lot of 750 Norton's BSA's Triumphs and even Suzuki GS100s. The machine was always the fastest 500 production machine through the Highlander speed trap at around 145 to 150mph. and set a new lap record in 1975, 95-45mph, Frank had won the 1970 race at 89mph and the fastest lap in 1976, I was credited by the press with a NEW LAP RECORD BUT IN FACT IT WAS IAN RICHARDS WHO ACHIEVED THAT these were in the ten lap/two rider production machine T.T.s when I had Ian Richards as my partner. The only drawback with the machine was it's weight and handling left much to be desired and after six laps of the island it left you with aching limbs, but then the machine was never designed to do 150mph, and a bit quicker than that when Frank Whiteway rode it to his T.T. win. I am convinced that if you could have got it not to consistently shake it's front end all over the place on the flat out high speed sections, lap times of well over 100mph good have been achieved.

In 1972 in the Oulton Park Easter Monday International 500 race the bike was quicker than, and I beat the works Heron Suzuki TR500 which Stan Woods rode. Rex White the team Manager was mortified. I had done a lot of extensive development work on the engine with the help of George Ratcliffe Development engineer at Villiers who had had prepared Peter Inchleys works Starmakers. later the main thing that increased lap times was having a front brake by fitting homologated Dunstall twin discs. before that doing six laps of the T.T was positively dangerous. On several occasions I arrived at Signpost with no front brake whatsoever, having cooked it at Creg and Brandish and flying straight on down the slip road to Onchan.
Having raced and owned everything from 125s to 750s in 73 T.T. races including the very best Maxton Yamaha's, including Maxtons on which I sponsored Charlie Williams who won the 1977 250 T.T for me. The T500 was probably the most reliable machine I ever owned and T.T. retirements were down to unforeseen things such as in the two ten lap races when a loose condensor wire dropped us from 1st on the last lap to 5th in 1975 and again in 1976 when Ian and myself were again in with a shout for a win when after refuelling on the 6th lap the tank split at the bottom of Bray Hill. The only reason I sold the old beast was because with the T.T. dropping 500 production races and super fast RG500s and TZ750s in the open classes and there was no hope of getting much better than a 95 mph lap out of the bike I switched to Maxtons Yamaha's

Tom Loughridge.

Frank Melling's Suzuki 500

Suzuki T500 Crooks-Suzuki - Better Than Viagra

You find funny things in lofts. There's the valentine card which you kept from the girl you nearly married - but didn't. The only school report that didn't describe you as uninterested in academic work and a daydreamer. And a five and a quarter gallon alloy petrol tank from a works Suzuki. In this case, it wasn't my loft I was exploring but the cavernous expanses which range above the Crooks-Suzuki emporium in Barrow-in-Furness. I was up there looking for a quick action alloy throttle drum from a 1976 RM motocrosser which, to give you the winning edge the next time you are playing "Classic Bike Trivial Pursuits", work wonderfully well with Amal carburettors, when I literally fell across the tank.

In the normal run of things, finding an alloy tank in Martin's loft would not have been any big issue because it is simply jam packed with exotica but this tank was different. This tank brought back a flood of memories. This tank, or more accurately its sister, paid for the first holiday I had with a **GIRL** and began a 30 year old relationship with Crooks-Suzuki.

This is the story. Let's go back to 1967 and look at two rising stars. One was the Suzuki factory. Now established as a leading manufacturer of lightweights, the Hammatsu team had dominated 50cc and 125cc World Championships for five years winning dozens of Grands Prix and a string of world championships. Having achieved everything they set out to do, the factory withdrew from racing in 1967 and concentrated on the next major step forward in the company's development - the launch of their all new 492cc T500/5 twin. The reason that the T500 was so important was that big bikes were, and are, far more profitable than tiddlers. The other celestial body in ascendancy was Eddie Crooks - one of the most enthusiastic, not to say talented, riders, ever to walk this planet. Eddie had won the Manx Grand Prix in 1959 and also rode a works MZ in the TT and, having spent part of his youth in the Island, had tremendously strong Manx connections. By 1967, he was one of the country's leading Suzuki dealers and was responsible for running Suzuki GB's race teams. Eddie visited Hammatsu in August 1967 and there is a lovely newspaper cutting of him of sat astride the new T500 - and dreaming of building the bike into a racer. Ed. was actually planning the bike on his way back to England but other demands had to take priority. The first of these was running the semi-works TR250 racers for Frank Perris who came out of retirement to have another crack at the 250 World Championships in 1968. The following year, 1968, Eddie prepared a T500 for sidecar ace Chris Vincent to ride as a solo in the TT but Chris only did one lap before coming to an end - but it got Ed. thinking about the future.

One of Eddie's mechanics at the time was Frank Whiteway and, with Ed's patient tuition and sponsorship, he was beginning to produce good results on both the T20 production racers and TR250 race bikes. For the 1970 TT, Ed. decided to have a serious go at winning the 500 class in the production TT which, by this time, was beginning to attract a lot of attention. Rule bending, or to be more accurate, overt cheating, was rife. The European factories, such as Bultaco, Montesa and Cotton, ran very thinly disguised race bikes in the production class and achieved surprising results in view of the generally mediocre standard of their production road machines. The mainstream marques, like Triumph, adopted the strategy of producing a catalogue of "optional extras" which were allegedly for sale to enhance the performance of your over-the-counter bike. Eddie had complete faith in the T500 as it came from the factory and the mods. to the bike were very limited. The motor's ports were cleaned up, 19" wheels fitted to improve ground clearance, a large 5 1/4 gallon alloy tank was needed to see the thirsty two-stroke through the three laps and the rest of the mods. were largely cosmetic - glitter seat, ace bars, rear sets and that was it. Ferodo AM4 race linings were also added in a vain attempt to get the bike to stop from racing speeds on the tiny drum brakes with which the road bike was equipped.

Enter then Frank Melling, university undergraduate and part-time journalist following the hallowed American tradition of simultaneously studying full-time at college and full-time in other paid employment - in this case writing about bikes for the US based magazines "Cycle Illustrated" and "Motor Cycle World". This was a somewhat surreal life-style in that my American employers didn't know that I had another job and also had no idea of the very finite limits of my journalistic abilities. Based in New York, rather than the fashionable West Coast of America, the two sister magazines survived by a constant stream of "world exclusives" - some of them operating on the very thinnest margins of what constituted the truth. I knew that things were serious when the editor Morris Alpern, 'phoned me, rather than wrote, with specific instructions to: "Get a story on the bike which wins the Isle of Man TT pavement races." Morris had heard on the grapevine, as one did in America at the time, about the "pavement races" in the Isle of Man and had decided that Motor Cycle World should have a world exclusive. Having made the decision, and informed his young British Editor, that it should be done, all that Morris had to do was wait for the pictures and words to arrive.

The brief posed something of a problem for me. For a start, I wasn't a road racer. Like many young men of the day, I rode every form of motorcycle sport from motocross and grasstrack, to trials and even the odd road race. But I was certainly not up to blagging a go on a works MV or the Arter Matchless. Problem number two was even more depressing. I had been working for Motor Cycle World for six months and had now become dependent on the income to keep me alive for the next couple of years at college. Morris had made it clear that a lack of TT exclusive would be a career limiting opportunity - and I would be back on starvation rations again. Still, I wasn't short of self-confidence so the obvious solution seemed to be

scrounging a ride on one of the production racers where my lack of race experience wouldn't show up - or at least so much. My first choice was Triumph who seemed to be certain favourites for the blue riband 750 class but their press department gave me very short shrift. Moving down a class, the hot tip was one of the Geoff Dodkin entered Thruxton Velocettes which had already won in 1967 and finished second and fourth in 1968. Unfortunately, Geoff was singularly unimpressed by my racing c.v., or lack of it, and was not at all interested.

Then I tried Ed. and to my delight he was full of enthusiasm and said that I could have the bike on the Sunday morning, directly after Saturday's production TT. Now, the only thing remaining was for Frank Whiteway to help us all by winning the TT. Not that much of a problem! But bless his heart, Whiteway rode an immaculate race to win at 89.94mph and Ed. blithely gave me the bike on Sunday morning to go and play on for as long as I wished. Later, he confided that: "You had the gift of the gab and the bike was so bomb-proof that you couldn't do any damage to it except crash the thing so I thought I'd take a chance. The chance of some publicity, even it was a bit risky, was always going to be better than no publicity." And what a super bike the Crooks T500 proved to be. Unlike the fiddle bikes fielded by the Europeans, the T500 was as docile as a mo-ped through the streets of Douglas but once out on the TT course it really got on with the job with a lovely loping gait which was ideal for the rough, undulating track. Including stopping for traffic lights, and more or less observance of 30mph limits, I got round the course in just under 40 minutes, which showed both the potential of the bike, and it's user friendly nature; in short, I just loved the bike.

For his part, Ed. was delighted with interest that the article generated and so was Suzuki in America and even, so I found out later, Suzuki Japan. As a result, we stayed in touch and I became good friends with Eddie later riding Suzukis for him in enduros for five gloriously happy years. He was the best sponsor any rider could wish for; if I won it was because I had ridden well and if I didn't - well, the bike wasn't good enough. More importantly, my editor was delighted that we had yet another world exclusive and he paid me a $50 bonus - enough to pay for a good part of my first holiday with a real live girl. In this case, an extremely real and very alive young lady who did her best to keep me race fit during a two week tour of Scotland. Following the TT success, Ed. built more of the production racers and some of the hottest bums in the racing world graced their saddles - Stuart Graham, Barry Sheene and Stan Woods to name but a few. They also went out to customers because Ed. was very much of the frame of mind that if you had the money you could buy anything that the Crooks team raced.

Eventually, Ed. retired and his son Martin took over the business but I still stayed in contact with the Crooks family and that brought me to Martin's loft some five years ago. And there was the same huge alloy tank that had come from one of the original production racers. And there were some "Ace" drop bars, and a glitter seat, and a frame, and a rear wheel with an original Borrani rim. Well, it looked like most of one of the original proddie racers. To cut to the chase, Martin agreed to let me have the bits if I would pay for any missing items and one of Ed.'s original mechanics, Roy Dixon would build the bike up into raceworthy condition. But, there had to be a catch. Yes, I could own an original Crooks-Suzuki production racer - but only if I would compete on it.

What was certain was that if I took it to current classic races it, and I, would get annihilated. Modern replica classic race bikes are so far advanced from their 1960s predecessors that they belong on a different planet and our idea was to race an original bike as it would have been seen at the time- not a rule bending replica. However, I had dabbled at the odd hill climb on a BSA motocrosser and so Martin and I decided we would try the re-born T500 on the hills and in twisty classic sprints. The results were immediately encouraging and wins and second places started to stack up with pleasing regularity. Not only could the T500 absolutely destroy everything in the production class - whenever there was one - but it is well capable of seeing off full blown race bikes in the 500cc open category. Running against any bike in a classic sprint, the T500 is capable of surprising results and on the right day, it will see off many 750s and unlimited bikes. Not bad for a motorcycle with a swept volume of just 492cc.

With wins at Saltburn, Ormesby Hall, Lyme Park, Scarborough and the Thundersprint, the Crooks-Suzuki is always on the pace and yet Roy, who tunes the bike, Martin and myself have been determined to keep to the spirit of the original bike. This means that we run with original barrels, the cylinder barrel ports cleaned up as Eddie and Frank Whiteway used to do to the first bikes, autolube, standard carburettors, standard air-box, original steel mudguards, electric horn, lights and a battery. If we really wanted to bend the rules, we could knock 50kgs from the weight of the bike almost without trying - and the opportunity to lose two bags of spuds when one is chasing hundredths of a second is a very tempting one. Even so, we're resisting it because we want the bike to be a 1960s Crooks-Suzuki in body and spirit.

The only two changes we've made are for safety. The original 8" tls front brake was always marginal when used hard and it just isn't up to dragging 425lbs of bike down from 90mph to the hairpin corners that are often found on hill climbs. Two years ago, I was having a very big go at Scarborough and the front brake just gave up at the Mere hairpin giving the assembled marshals, and me, a near terminal fright. Now, we've fitted a single sided Suzuki disc to the front - again period and completely original.The other big mod. is to fit a pair of road legal expansion chambers. Modern tyres permit such acute angles of lean that the original silencers were digging in on corners and being such big, strong over-engineered items, instead of bending, they lifted the rear wheel - and that was another bowel loosening thrill. The expansion chambers don't do anything for the power but they do make the bike dramatically safer. So what is it like to race a Crooks-Suzuki? To be frank, it is a bundle of mixed blessings. The very long 57" wheelbase makes the bike extremely forgiving and stable but the shallow head angle and huge weight cause endless difficulties with line changing and initiating turns at racing speeds. This is a big, big motorcycle that takes a lot of physical effort on the part of the rider to get round corners on the limit. In every respect, it is far inferior in terms of handling than the Triumph production racers of the day.

Having said that, I've got very limited talents in terms of riding abilities and the docile character of the bike does compensate hugely for a lack of ability. Where the T500 scores is the motor that must be one of the best engines ever to leave a drawing board. Contrary to received wisdom, two-strokes can be made to pull like trains and the T500 is blisteringly quick off the line and, with a racing power-band which stretches from 3,500-7,000rpm, it is incredibly easy to ride - again a big plus when the bike lacks a top level rider. Best of all, our T500 is still very much a road bike. It will pull away from traffic lights at 1200 rpm and burble along in the most innocuous way like some ancient mo-ped out for a Sunday afternoon run. I delight in wandering about country lanes with a quiet smile on my face knowing my old ring-a-ding Jap classic will turn in a genuine 135mph and leave many a modern bike for dead on a track day. Better than any amount of Viagra.

Classic Suzuki "demonstration" at Brands Hatch."...and no-one should race or try to go too fast.." said the nice marshal

My chief mechanic, now seven years old, in France two years ago

the t500 in an open class race at Lurcy Levis in France. With a 1 and quarter mile straight, we got slaughtered!

the bike itself

The famous Mere hairpin at the Scarborough hill climb. We won here and set a new class record. Interestingly, the time would have given us 4th. in the modern 600cc class - not bad for a 33 year old oil burner!

The main straight at Scarborough - about 90 mph on the T500

A botched start at Scarborough - the wheelie cost me a second - but t500s do climb up on their back legs

The Crooks Proddie racer

Our Crooks-Suzuki proddie racer at this year's Thundersprint where we won the 500 class and also the 500cc drag racing section of the event.

Tom Loughbridge Race Days – Part 1

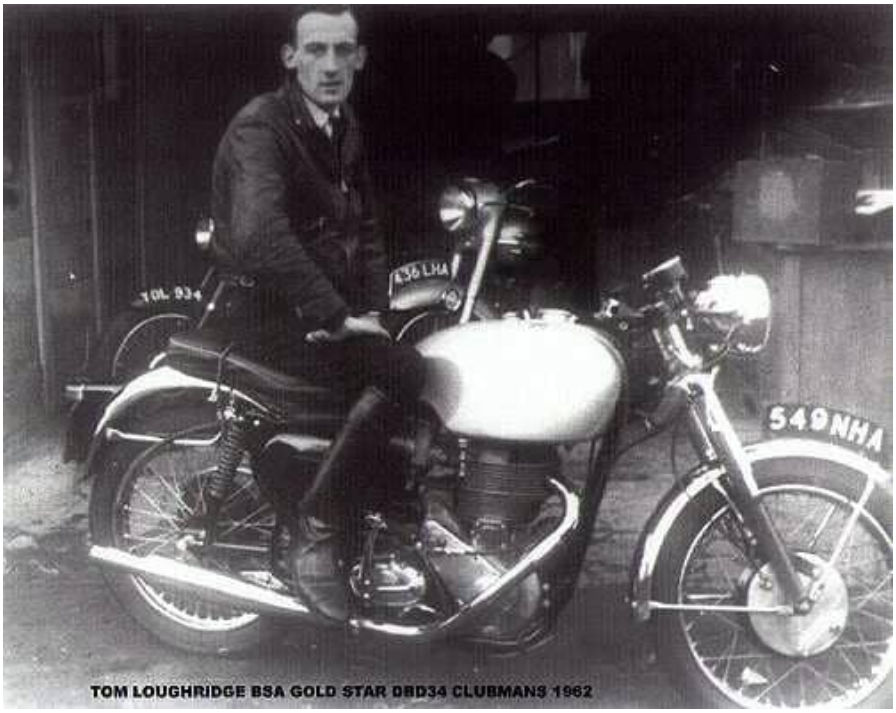
Tom Loughbridge's Race Days

SPACE-AGE HELMET and the basic style show contrast in race-wear when the first men get ready for the "off" on Monday evening to start the T.T. practice session for 1971.

JOHN McNIEL BULTACO 125. TOM LOUGHRIDGE SUZUKI TR250.
THE MAN IN THE MIDDLE? BILL BOAK WHO HAS TAPPED EVERY T.T. AND M.G.P RIDER ON THE SHOULDER TO START IN EVERY PRACTICE AND RACE FOR 40 YRS

R.I.P. Tom Loughbridge
Tom passed away in April 2019

Tom Loughridge's Race Days



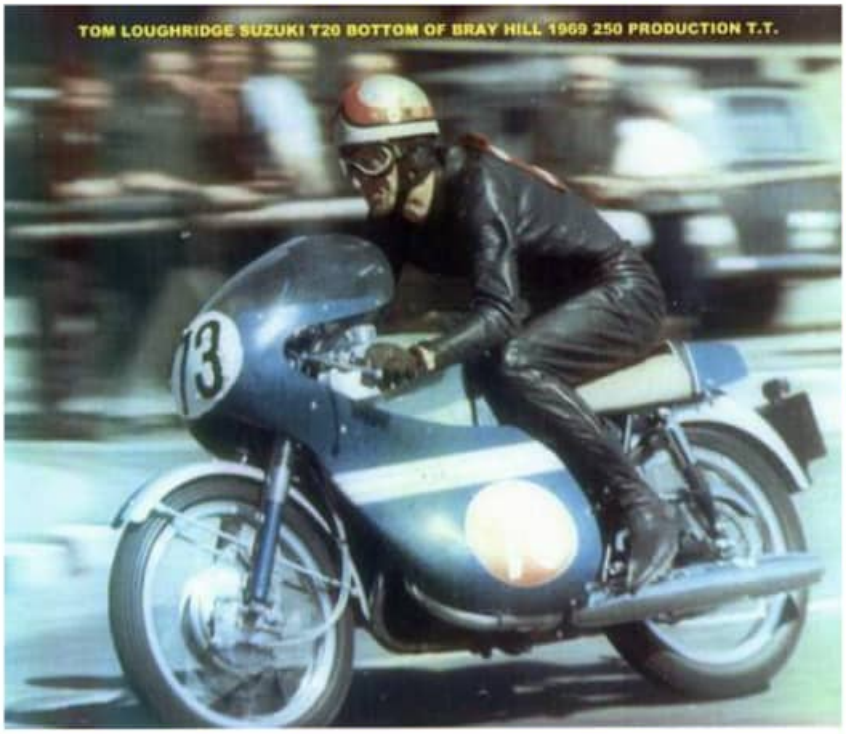
TOM LOUGHRIDGE BSA GOLD STAR DBD34 CLUBMANS 1962

Tom Loughridge racing in the Isle of Man TT

Hi Murray, as promised the story of my experience of a great sporting relationship with Eddie Crooks, Frank Whiteway, Stan Woods, Les Trotter, the late Danny Shimmin and many others who rode Crooks' Suzuki's during the classic 60s and 70s. when we all raced for the love of the sport, particularly in the greatest true public road race in the world. the Isle of Man TT, with particular references to the superb T500 in the TT, Northwest 200 and Thruxton 500 mile endurance races.

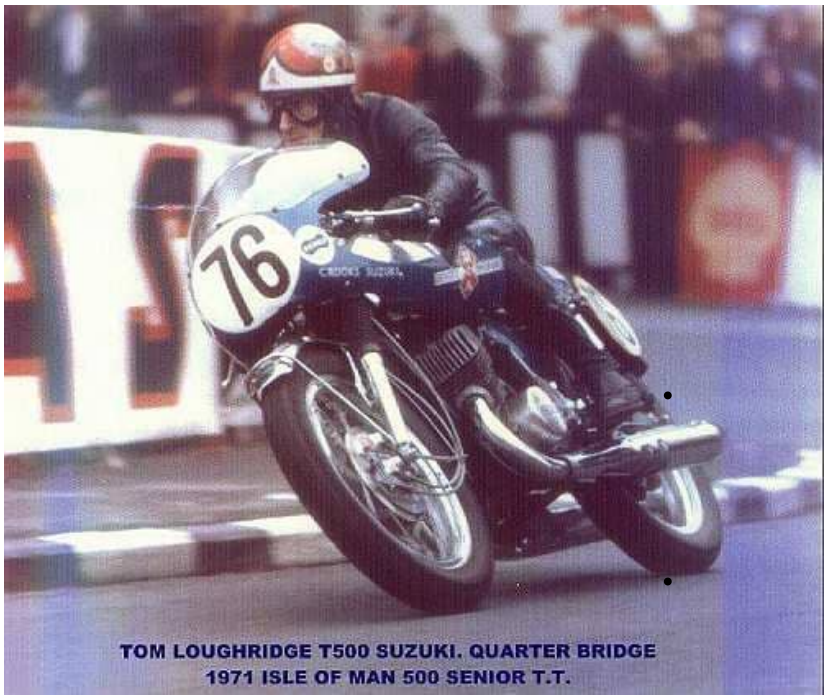
I first rode a Crooks Suzuki T20 production bike prepared for me by Frank Whiteway in 1969 to third place in the 250 class at the Thruxton 500 mile race partnered by Pat Walsh who was 55 years old. I then used the bike in the TT with an 8th place in the production race and a lowly 24th in the international 250. but the bike went like a train and I was glad that I had left the much faster but unreliable 250 Bultaco in the garage.

Tom Loughridge's Race Days



Isle of Man TT - page 2

In 1970 Ken Armstrong and myself again rode the T20 at Thruxton and finished fifth in the 250 class. Frank Whiteway and Stan Woods pulled off their tasty win on Eddie's T500 in the 500 class. Ex Suzuki works rider Stuart Graham had earlier won the 500 production class at the Ulster, Northwest 200 road race on the same bike. The TT produced a 7th place in the 250 production race on the T20. Charles Mortimer won on the Ducati and Stan Woods managed 3rd on Eddies, Crooks Suzuki T250, while Frank pulled of his superb win on the T500. My T20 cruised to another lowly finish in the international 250. As always it ran like a dream but was just not fast enough against pukka racers.



TOM LOUGHRIDGE T500 SUZUKI. QUARTER BRIDGE
1971 ISLE OF MAN 500 SENIOR T.T.

The T20 was just unbreakable; but I was never impressed with its handing and never really got on with it over the TT mountain course. Having witnessed the superior handling of Eddie Crooks' T500 for 500 miles at Thruxton I decided I was having it and swiftly did a deal with Eddie to swop the T20 in part exchange. So started my long and happy seven year very low cost relationship with the Crooks Suzuki T500 production racer.

This was the Crooks Suzuki T500 history in my ownership:

1971 TT

500 Production 5th silver replica.

Formula 750 13th silver.

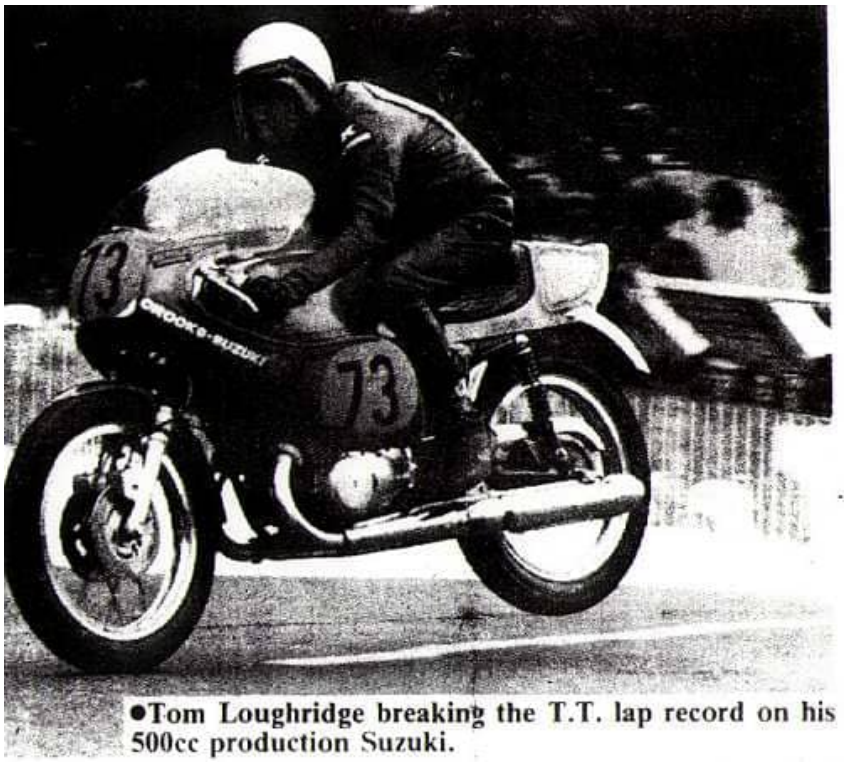
Senior 500 26th silver.

1972 TT

500 production 8th silver rep. Fastest through speed trap 121mph. Stan Woods was first on the Crooks Suzuki T500R.

Formula 750 retired. (loose alternator wire)

500 senior 30th bronze replica.



●Tom Loughridge breaking the T.T. lap record on his 500cc production Suzuki.

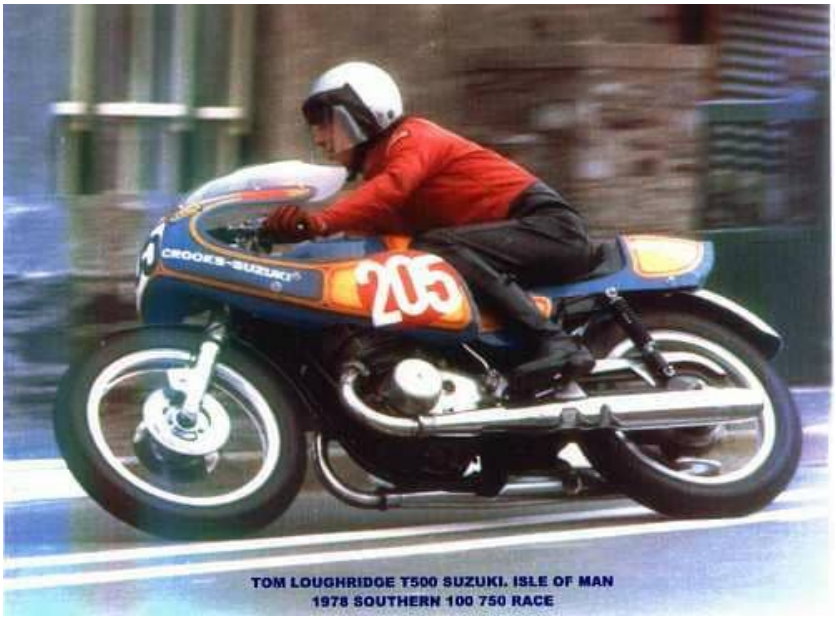
- 1973 TT:
  Production - fastest through speed trap - 127mph. Race described by Fred Hanks in the TT special - "suddenly an exciting and dramatic event was being turned into a rugged hailstone-invaded race which had london Policeman Graham Bailey retiring at the pits shaking his head in disgust". Retired with swamped electrics.
  Formula 750 32nd.
  500 senior 22nd bronze replica.

- 1974 TT:
  Production - fastest through speed trap - 132mph - 6th place. silver replica.

  I had changed machines to a 350 Yamaha for the classic 1000 and 500 senior races. Loaned to me by that great Grand Prix rider John Williams because he was a non starter through injury. Sadly John who later became Barry Sheene's works Suzuki team mate succumbed to heart failure after a minor injury at the 1979 Ulster Grand Prix. John Woodley from New Zealand had travelled over to Northern Ireland with John, Charlie Williams, Stan Woods and myself. John as I recall fell off in the same 500 race as John Williams and went to Belfast hospital at the same time.

The Crooks Suzuki T500 at scrutineering 1974. Finished in 6th place 500 production race.

- 1975 TT:
  10 lap two rider production race fastest through speed trap -138mph. Partnered by Ian Richards 5th with a new lap record of 95.45 mph set up by Ian. A misfire caused by a loose condensor wire dropped us back from leading to 5th placed 500 at the finish.
- 1976 TT:
  Production - another 10 lap two rider race again partnered by Ian Richards who retired at the bottom of Bray Hill with a split petrol tank.
  Senior 500 - retired (repaired petrol tank weeping).
  1000cc classic - non starter (no fuel tank no race).
- 1977 TT:
  The production race was discontinued.
  Formula 1000cc retired.
  500 senior 35th.
  1000cc classic 30th
  1000cc Schweppes Jubilee retired.



TOM LOUGHRIDGE T500 SUZUKI. ISLE OF MAN
1978 SOUTHERN 100 750 RACE

By this time I was wasting my time trying to compete with a near standard 500 production bike against RG500s. TZ350s/750s, 900 Ducatis and the like, with average race speeds of 110mph, even the last of the Bronze Replica winners was averaging over 100 mph down in 19th place. I then sold the bike.

Left: the 1970 T500 Crooks production Suzuki. In its last race at the 1978 Isle of Man Southern 100.

In addition to the TT I raced the T500 at Oulton Park Internationals, the Isle of Man Southern 100 and 100's of other races. The engine, gearbox and clutch never once failed.

Martin Crooks then found the bike in 1992 as a café racer road bike and restored it to the original condition and spec as Stuart Graham, Frank Whiteway, Stan Woods and myself had raced it in 1970/71. It is now in Murray's motor cycle museum in the Isle of Man.

I never won a TT but lived to race there. but having only sight in one eye since birth, I did have a bit of a handicap and my own forged doctors stamp for my international licence medical form. That's my excuse anyway.

Click on the pic for a larger image

1972 TR 500 Suzuki

Does it not really look the business at the bottom of Bray Hill in the 1972 TT Formula 750 race? Don't kid yourself. I retired this bike at the pits in sheer terror. I had built this bike during the winter having aquired a motor with all the best goodies off Eddie Crooks. George Ratcliffe (former development engineer at Villiers) did the motor and made the pipes. It was a very fast bike timed at 147mph Creg n Baa to Brandish. **But!!!** - Glen Helen, Kirk Micheal, Alpine Cottage, you name it, was uncontrollable. The first lap was slower than I could do on the T500. I persevered for a few laps and called it a day at Ramsey and toured it back to the pits to retire in one piece. I prudently raced the T500 production bike in the following 500 senior. This TR500 was so bad to ride I had forgotten I had owned it when I told you that the records showed a speed trap figure of nearly 150mph on the T500. It was this bike that did that not the T500. It was then swiftly disposed of and forgotten about.

TOM LOUGHRIDGE TR 250 SUZUKI/BULTACO 1972 ISLE OF MAN 250 T.T.

Suzuki/Bultaco TR250 special a cracking tool and a dream to ride.

Having seen how quick Eddie Crooks' TR250s were in the winter of 1971 I bought a TR250 motor and remote float carbs off Eddie. I had been racing a Bultaco TSS250. They handled superbly but were a nightmare to ride, unreliable and prone to seizing without warning. Broken primary chains and gearboxes and the gas pipe frames broke to pieces in the Isle of Man. Most Japanese bikes of the time were iffy in the steering department and TR250s were no exception. Rod Gould had put a Yamaha engine in a Bultaco so I had Jack machine build me an exact copy of the Bultaco frame in Reynolds 531 and had a copy of the large fibreglass tank made in aluminium. George Ratcliffe again did the motor and pipes.

TOM LOUGHRIDGE TR250 SUZUKI/BULTACO SPECIAL
1972 ISLE OF MAN 250 T.T.

It was dream, an instant starter, fast in its day, brilliant in the steering department and dead reliable and won me my first 250 International class Silver Replica in the TT and the highest placed non Yamaha machine. The only other Suzuki in the race was Alberto Pagani on Eddie's TR250 who only come within one minute of my lap times. But twice I came within a whisker of getting seriously hurt or worse on it. The first time in early morning practice I waited until Frank Whiteway lined up on Eddie's TR250, and slotted in behind him. I wanted to compare speeds and see if I could keep up with Frank who was a far superior rider to me.

TOM LOUGHRIDGE TR250 SUZUKI/BULTACO 1982 I.O.M S100. THE YOUNG LADY? CANNOT REMEMBER HER NAME BUT SHE WAS A SCOT WHO PLAYED A GOOD GAME OF TENNIS

I tailed and slipstreamed Frank all the way to the bottom of Barregarow. I was on fire, my special was definitely steering better than Frank's bike. The genuine TR250s had a twin brake plate with a single cable leading from the lever two a junction box that bridged the front fender and two cables that went each side of the wheel to the brake plates.

As Frank bottomed the forks the junction box jammed on to the bottom yoke and locked the front wheel on solid. We would probably have been doing around 120mph, I was about 6 feet from his back wheel which came about eighteen inches off the road. I shot past him by inches, how I did not ram into the back of him I don't know.

I sat up slowed and looked back to see Frank hit the kerb and career down the road, feet off the pegs like aeroplane wings he brought the thing to a safe stop. Seeing he was okay I carried on I did not want to stop. Firstly I was having a cracking first practice lap on the 250 and secondly he probably "stunk like hell."

The second miracle was in the 250 race. I had fitted a steel Suzuki mudguard to the Bultaco forks, as is seen in the photo. I was flat out round the veranda on the mountain when the stays broke. The guard went around the front wheel and under the tyre it must have jammed under the tyre for a split second, because the bike slid sideways in a shower of sparks towards the sheep fencing and concrete posts, I heard the guard bang against fairing and saw it fly sideways. The front tyre found grip and the superb handling of this bike righted everything.

I had some cracking rides on this bike and it never failed; but Yamahas were getting faster and more reliable. For 1972 George did some mods to give me more revs. He modified the motor to take it over 250 so that I could use it in the 350 junior TT. It was quicker but the rods were not up to the extra revs. It broke a rod in the 350 race within a few miles of the start at Braddan Bridge. I rebuilt it for the 250 race, it got a few miles further on to Union Mills and it did the same again. At this time I was the only one still running a Suzuki in the 250 TT race other than Roger Sutcliffe on Eddie's TR250.

I succumbed to buying John Williams TD3 350 Yamaha for 1973 and put the TR250 back to standard; however, its days were numbered - Yamahas were putting in 100mph race averages. and records show that the fastest Crooks Suzuki TR250 TT race averages were in 1969 Frank Perris in 3rd at 93mph and Frank Whiteway a brilliant 5th place at 90mph.

Tom Loughbridge & The Crooks T500 Production Racer

Tom Loughridge's Race Days
The Crooks T500 Production Racer

Dear Murray,
This is a record of what happened to Frank Whiteway's 1970 Isle of Man Production T.T. winning T500 Crooks Suzuki after 1970. I came by the machine by knowing Frank and Eddie Crooks having owned and raced a Crooks Suzuki T20 250 prepared by Frank in the 1969 and 70 Production & 250 T.Ts. the 250 finished every race and did achieve 3rd in 69 partnered by 55 year old Pat Walsh and 5th partnered by Ken Armstrong in the Thruxton 500 mile endurance race and a Production T.T. 7th & 8th. Handling was the big problem compared Ducati's & Bultaco's.
It should be said that in the 1970 race Frank's T500 machine was timed at only 116mph at the Highlander speed trap. Yet he finished the race just 6 seconds under 90 mph. After The T.T. I bought the machine from Eddie, apart from having the standard baffles removed and a short tail pipe inserted in the silencers the machine was bog standard. Other than seat, tank, fairing rear sets and ace handlebars.
Between 1971 and 1978 I raced the bike in 20 T.T. races Production, 500 Senior 500, Formula 750, Formula 1. 1000 Classic and the 1000 Jubilee including practice laps I covered over 13,000 racing miles in the Isle of Man on top of that it ran in the Thruxton 500 5 times plus hundreds of other races.

THE LATE KEN ARMSTRONG AND TOM LOUGHRIDGE T500 SUZUKI. THRUXTON 500 MILE RACE 1971. SPANNERMAN. MALCOM COX. A MANX G.P. RIDER.

The 1971 T.T. was remarkable the T 500 did 28 laps of practice and I rode it in the 1st ever 750 T.T. finishing 13th. The Production 5th and the 500 Senior 13th it won three silver replicas. A total of 1,800 racing miles, all that was done to it between practise sessions and races was fill it with oil and petrol, change tyres, chain and race numbers and clean the flies off the screen.

The best ride of the week was the production, after having a two minute penalty at the massed Le Mans start for failing to start by mechanical means I had to wait two minutes after everyone had gone before I was allowed a pusher. I was convinced I was going to finish last. After refuelling I started to catch up, on the last lap I got a signal board from someone saying I was 9th. At the 33rd milestone there were five 500s in a line, Martin Ashwood, the late Danny Shimmin. P, Jones all on Suzuki's, and Bill Milne on a Kawasaki Mach 3 and myself. P. Jones was remarkably on are rare T350
Going down to Creg ny Baa I somehow outbraked all four in one go. At the finish it was Martin and myself side by side and we were both credited with a race time of 85.54, I was 4/5ths of a second in front by a wheel. See Martins account, "MCM at the 71 T.T". on this website. To cap the week off I won another silver replica in the 250 on a Crooks Suzuki TR 250 and retired with a broken crank while 3rd on the last lap of the 125, but that was on my old Honda CR93.

On a number of occasions I experienced total front brake failure and went straight down the slip road at signpost after cooking the front brake at Creg ny Baa and Brandish. The front drum brake had been described in various road tests, as between poor and adequate for use on the standard road bike with a top speed of 105 mph. The truth was it was lethal and useless, particularly in a 226-mile high-speed road race like the Isle of Man at speeds of over 120mph
The big breakthrough in 1972 was when in the interests of safety the ACU allowed the homologation of Dunstall twin discs to be fitted to T500 Suzuki's for production racing. Prior to that the T500 was positively dangerous to race in a 6-lap 226-mile race on a public road circuit, particularly considering the speeds obtained descending the mountain in the Isle of Man.
George Ratcliffe, previously a development engineer at Norton-Villiers who had prepared Peter Inchleys works Starmaker did a lot of work on the cylinders. I also fitted works sand-cast central plug TR heads and straight cut primary gears provided by Eddie Crooks. This increased the Isle of Man Highlander speed trap time to 130 mph.
For 1972 I also built a TR500. with all of the proper works bits supplied by Eddie Crooks. George Ratcliffe again prepared the motor, and also designed and made the expansion chambers. Jack Machin of Lincoln built the frame seat and petrol 6-gallon tank. We took it to the T.T. untried. Fast it was. But with 5 different machines to get qualified I did not do more than the minimum three laps to get it qualified. The Formula 750 saw the TR 500 flying on the straights, but putting me in big trouble at places like Glen Helen and Alpine cottage to name a few places, being more attracted to the walls and pavements than the road.
I persevered into the second lap hoping the reduction in fuel weight would help the terrifying handling, it only went quicker and handled worse. At Ramsey with an urgent need to visit the little boys room and

another five races to go I called it a day toured back over the mountain to the Grandstand and dumped it in the finishers enclosure.
The TR 500 stayed in the garage for the 500 Senior and I wheeled out Old Faithful the T500 production bike, again it churned out a nice steady 86mph-race average picking up another bronze replica. I took it to the Southern 100 in the Isle of Man, but with a philosophy of racing for pleasure not pain again I raced the T500 proddie bike
Stan Woods, the Works Heron-Suzuki rider churned out another cracking production T.T. win for a T500R Crooks-Suzuki at 92-20mph and a new record lap of 93-61. increased my own race speed by exactly the same margin that Stan did over Franks. Me, I had my thumb up my bum and only managed 8th but the T500 ran like a train and won me another Silver Replica.
1972 also put the writing on the wall for my TR250 Suzuki. This had also been a cracking reliable bike to ride. It was in fact a TR250 motor supplied by Eddie Crooks in a TS 250 Bultaco. Having followed Frank Whiteway in early morning practice on his TR 250 and seen how fast it was and how badly it handled in comparison with my own Bultaco, particularly through the top and bottom of Baggarow I decided to combine the two,
I had a copy of a 250 Bultaco frame made in Reynolds 531 and an Aluminium copy of the 5 gallon Fibre Glass tank I then scrapped the Bultaco and fitted all the cycle parts and Oldani front brake. It was a cracking bike to ride, particularly on true road circuits like the T.T it handled like a dream
Unfortunately by 1972 TR250s were getting a little long in the tooth and could not live with the speed of TD Yamaha's.
George did his best with the motor and we got revving harder and going quicker, but in the 250 T.T. it only got Union Mills a few miles from the Start and broke a conrod. We rebuilt the motor and put over bored 252cc barrels on it for the 350 Junior race, this time it got a little bit further to Glen Vine and did the same again. The only other TR250 raced was by Roger Sutcliffe riding Eddie Crook's bike. It was the only none Yamaha to finish in replica time.
1973 saw what was probably the worst condition's for a T.T. Production race it was bitterly cold on the 3rd lap lashing rain, and sleet, snow and hailstones on the mountain section. Described by Fred Hanks in the T.T. Special as a "rugged hailstone invaded race and the riders must have suffered a dreadful last 50 miles". The road was like a river. Even the 1st and 2nd home stopped with water trouble and Stan w
Over many years the T500 was consistently faster than many pukka racers, G50s, Manx Nortons and 650/750 BSAs, Nortons and Triumphs and even the odd Suzuki GS1000. The T500 had always been the fastest 500 production bike through the highlander speed trap. Its best time being 138 mph, and it set a new lap record in the ten lap 1975 production race, 95-45 mph. I was credited with this record in the press. But in fact it was Ian Richards my co rider who did it.
The only drawback with the bike was it's weight and handling left much to desired the faster we got it going, after six laps and 226 miles of the island it left you with aching limbs, but then the machine was never designed for speeds over 110 mph. I am convinced that if it had handled better with the right jockey it would have done a 100mph lap.
In 1972 at the Oulton Park Easter Monday International 500 race, the bike was faster than, and I beat Stan Woods on the works TR500 Heron Suzuki. Rex White Heron Suzuki G.Bs team manager was mortified. I probably had an advantage because it lashed down with rain and I was running Dunlop TT 100 tyres, which all production bikes used in those days.
Having raced everything from 125s to 750s in the T.T. including some of the best Ron Williams Maxton Yamaha's. In 1977 I had two 250's and two 350's one of each for myself and Charlie Williams who I sponsored and won the 77 250 for me, and 2nd in the 1000 classic, and 2nd in the 250 in 78. The T500 was probably the most reliable T.T. machine I owned. T.T. retirements were down to silly things, such as in the 1975 ten lap production race when a loose condensor wire dropped us from 1st on the last lap to 5th and again in 76 when again after changing riders and re-fuelling on the 6th lap Ian had a split petrol tank at the bottom of Bray Hill.

The only reason I sold the bike in 1978 was because with the T.T. dropping production racing and super fast Yamaha TZ 350s and 750s and RG500s in the open classes and no hope of getting better than a 95mph lap out of the bike I had switched to Maxton Yamaha's.
The T500 was a great bike with a great history.

Tom Loughridge

Tom Loughridge's Race Days
Photo Gallery

Tom Herron's last race - 1979 Northwest 200 - RG500

All pictures and text are copyright and are the property of Tom Loughridge
Source code and page design copyright Murray Barnard Perth Western Australia 2001
No part of this site may be copied and duplicated without express permission of the copyright owners.

The late Tom Herron - one of Ulster's great road racers

Joey Dunlop – 1978

Tom Loughridge's Race Days
Photo Gallery

Joey Dunlop,

Connor McGinn

Tom Loughridge

1978

The late John Williams

Tom Loughridge's Race Days
Photo Gallery

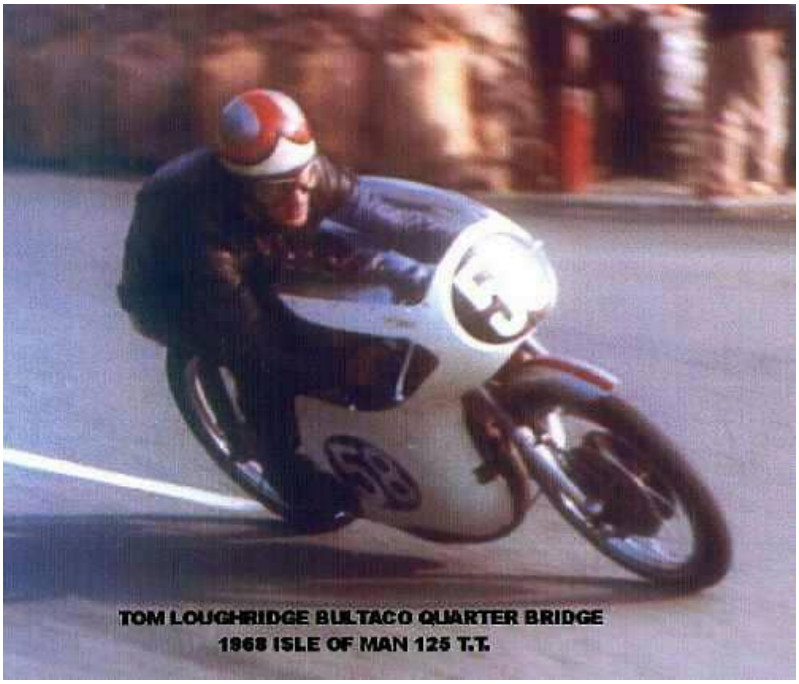
TOM LOUGHRIDGE. BALLABEG. 350 MAXTON YAMAHA. 1979 I.O.M SOUTHERN 100 750 RACE.

Tom Loughridge - 1979 - 350 Maxton Yamaha

Tom Loughridge's Race Days
Photo Gallery

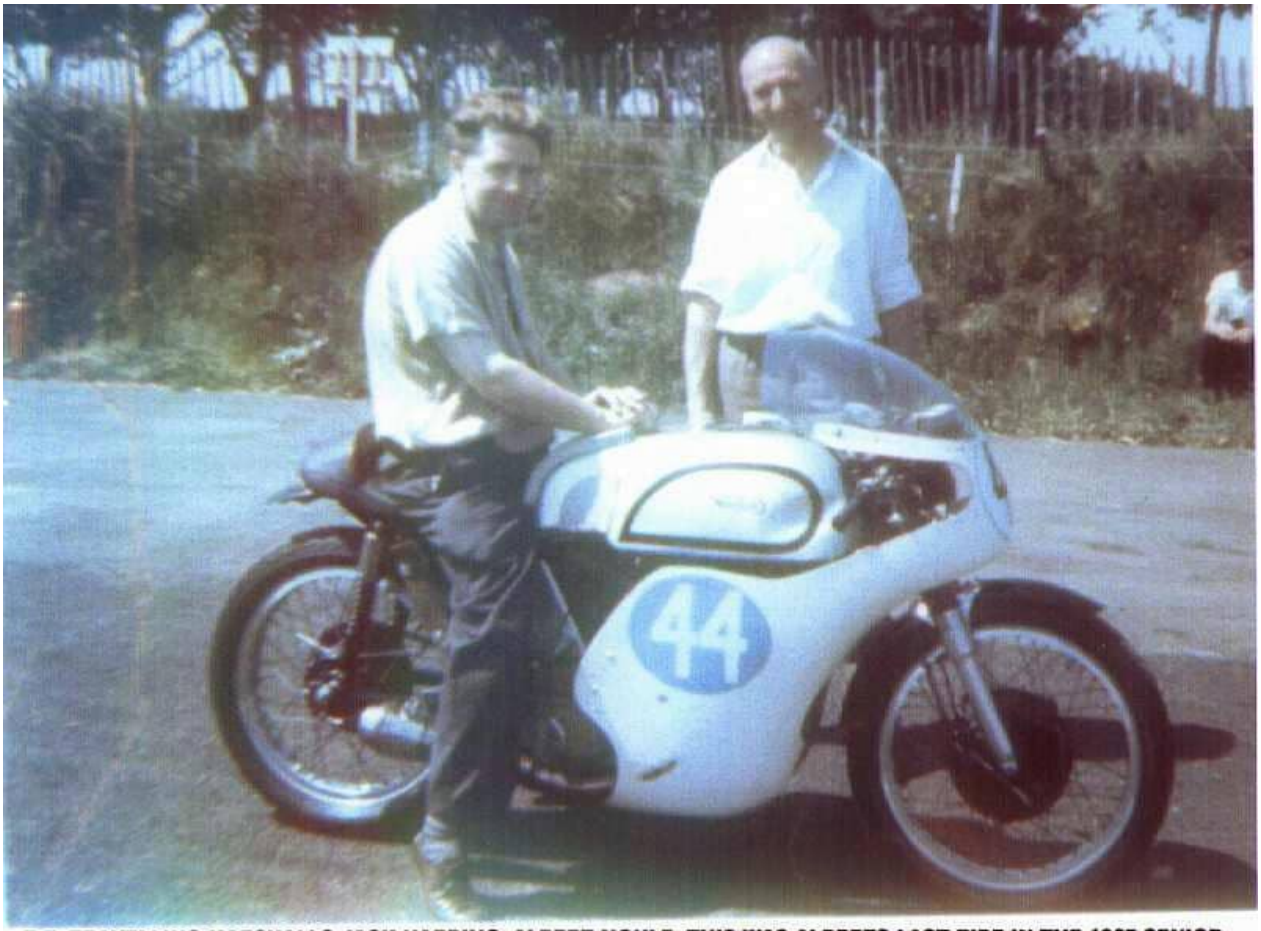
Tom Loughridge Racing- 1977 - Maxton Yamahas - Charlie Williams

Tom Loughridge's Race Days
Photo Gallery



Tom Loughridge - 1968 - TSS125 Bultaco - IOM

Tom Loughridge's Race Days
Photo Gallery



T.T. TRAVELLING MARSHALLS JACK HARDING. ALBERT MOULE. THIS WAS ALBERTS LAST RIDE IN THE 1967 SENIOR AT 55 YEARS OLD. BELIEVE THAT AND YOU WILL BELIEVE ANYTHING> I SAW A PHOTO OF ALBERT AS A BRITISH OFFICER LEADING A TROOP OF INDIAN CAVALRY WITH LANCES ON THE NORTHWEST FRONTIER TAKEN ABOUT 1905? BOTH WERE GREAT FRIENDS WHO WET NURSED ME AT MT FIRST MANX GRAND PRIX. TOM LOUGHRIDGE.

Travelling Marshalls - 1968 - Jack Harding and ALbert Moule - IOM

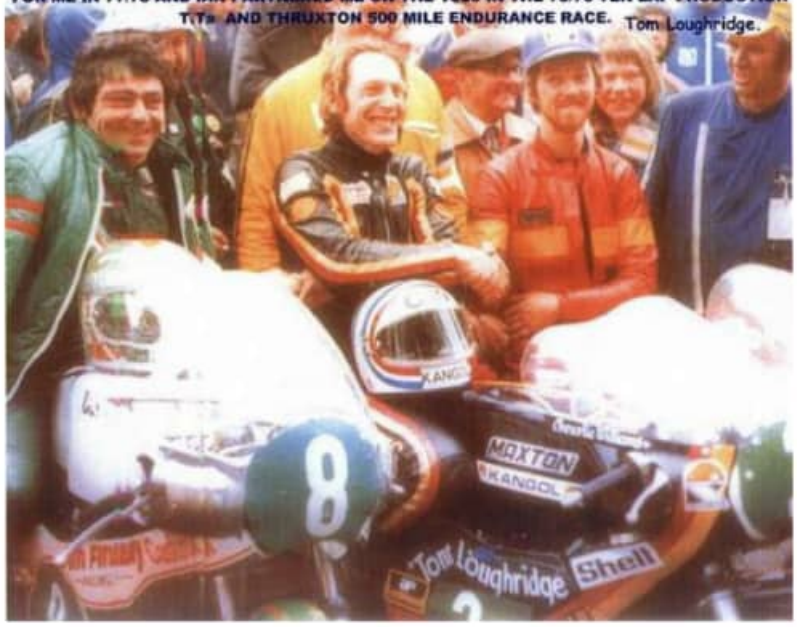
Tom Loughridge's Race Days
Photo Gallery

Tom's first race - Snetterton

Tom Loughridge's Race Days
Photo Gallery

Tom's TSS125 Bultaco - 1968 IOM

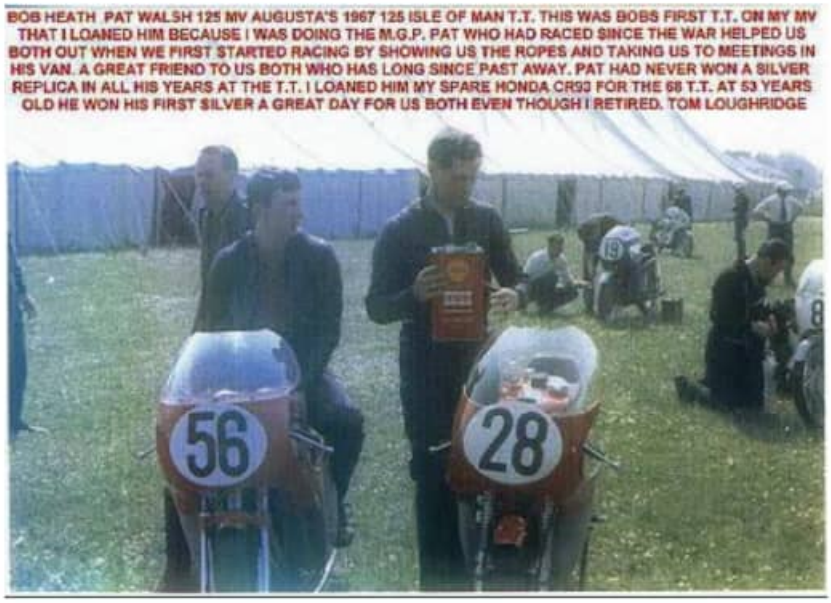
1977 250 T.T. TOM HERRON 3RD. CHARLIE WILLIAMS 1ST. IAN RICHARDS 2NDCHARLIE RODE FOR ME IN 77/78 AND IAN PARTNERED ME ON THE T500 IN THE 75/76 TEN LAP PRODUCTION T.Ts AND THRUXTON 500 MILE ENDURANCE RACE. Tom Loughridge.



Tom Herron, Charlie Wlliams, Ian Richards - 1977 IOM

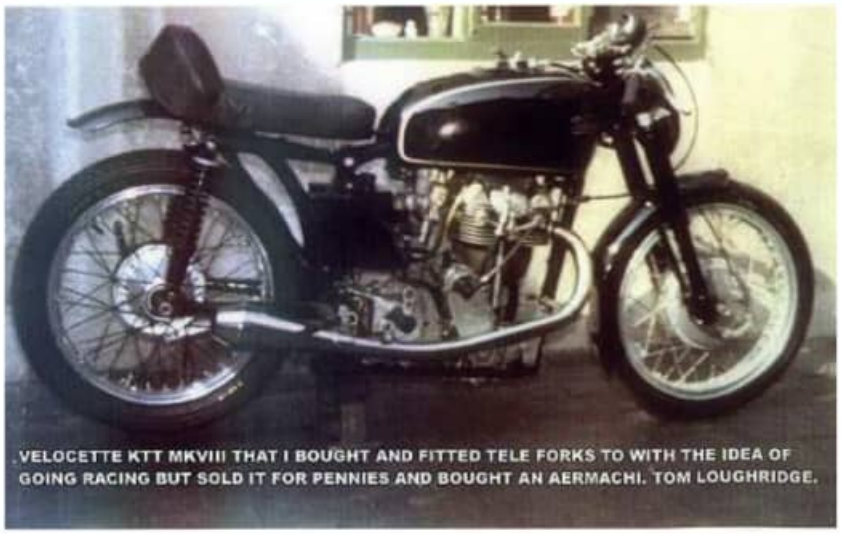
Tom Loughridge's Race Days Photo Gallery

Tom and 125 MV Agusta



Bob Heath, Pat Walsh - 1967 IOM

Tom Loughridge's Race Days Photo Gallery



VELOCETTE KTT MKVIII THAT I BOUGHT AND FITTED TELE FORKS TO WITH THE IDEA OF GOING RACING BUT SOLD IT FOR PENNIES AND BOUGHT AN AERMACHI. TOM LOUGHRIDGE.

Tom's Velocette KTT MkVIII

JOHN WILLIAMS ON GERALD BROWNS 354 YAMAHA. CZECH G.P.BRNO 1975
AGOSTINI TZ500 FOUR IN THE BACKGROUND

John Williams - 1975 - 354 Yamaha - Brno

Tom Loughridge's Race Days
Photo Gallery

Stan Woods - 1975 - Suzuki TR750

Tom Loughridge's Race Days
Photo Gallery

L/R CHARLIE WIILIAMS. JOHN WILLIAMS. TOM LOUGHRIDGE
PROMOTING M/C TRAINING 1977. DID WE REALLY WEAR THOSE FLAIRED PANTS

Charlie Williams, John Williams, Tom Loughridge - 1977

Tom Loughridge's Race Days
Photo Gallery

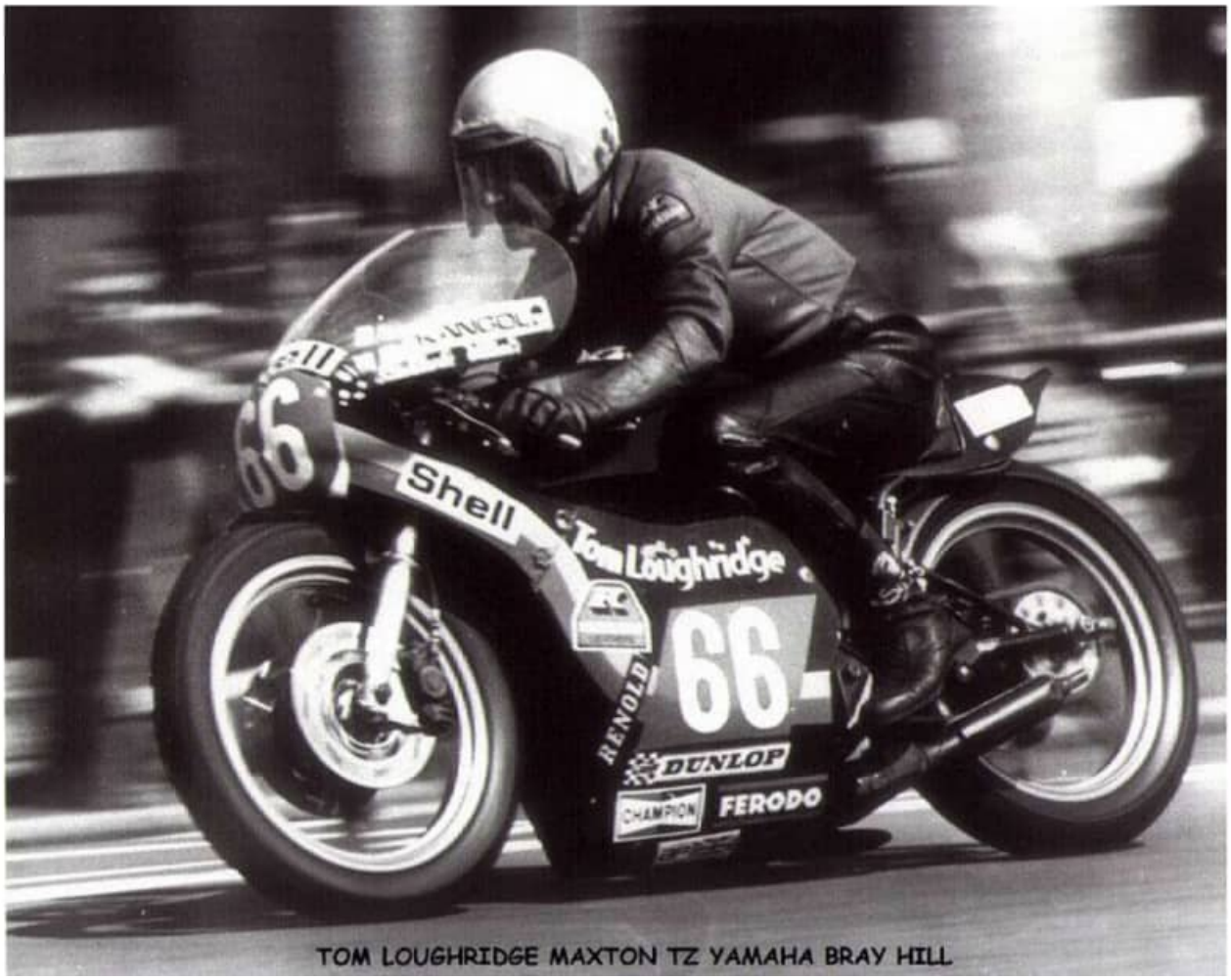
TOM LOUGHRIDGE AERMACCHI,WET AND COLD IN THE 1967 250 MANX GRAND PRIX

Tom Loughridge - 1967 - 250 Aermacchi

TOM LOUGHRIDGE TD2. NO 10 SURROUNDED BY MAD IRISH ROADRACERS SOUTHERN 100
Start of the 1974 250 c.c. Race.

Start of the Southern 100 - 1974 - 250

Tom Loughridge's Race Days
Photo Gallery



TOM LOUGHRIDGE MAXTON TZ YAMAHA BRAY HILL

Tom - 1978 - 250 Maxton Yamaha - IOM

Tom Loughridge's Race Days
Photo Gallery

Tom - 1981 - 250 Maxton Yamaha - IOM

Tom Loughridge's Race Days
Photo Gallery

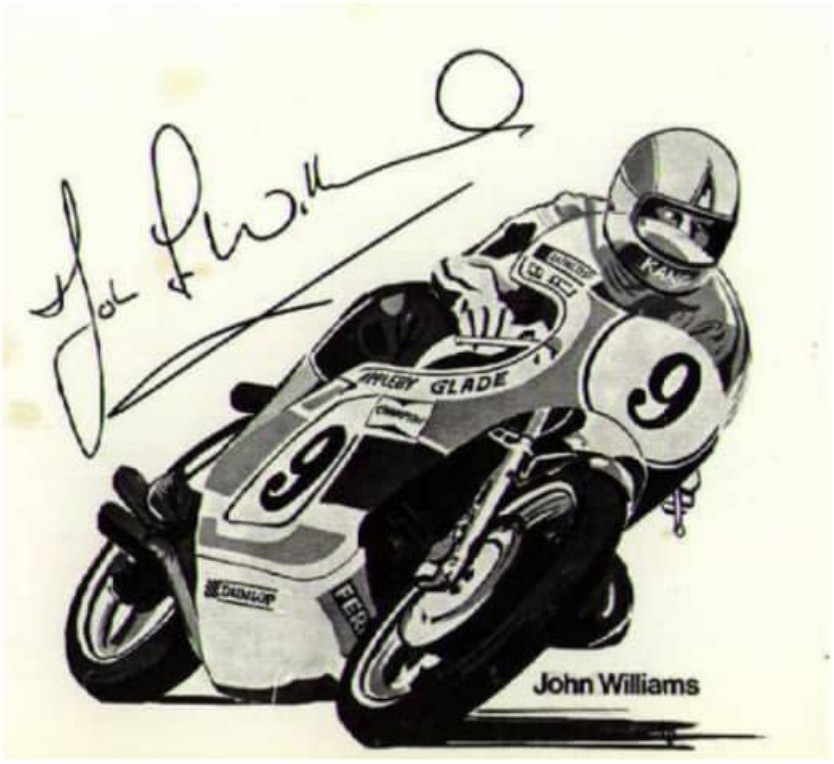
Tom - 1980 - 250 Maxton Yamaha - IOM

Tom Loughridge's Race Days
Photo Gallery

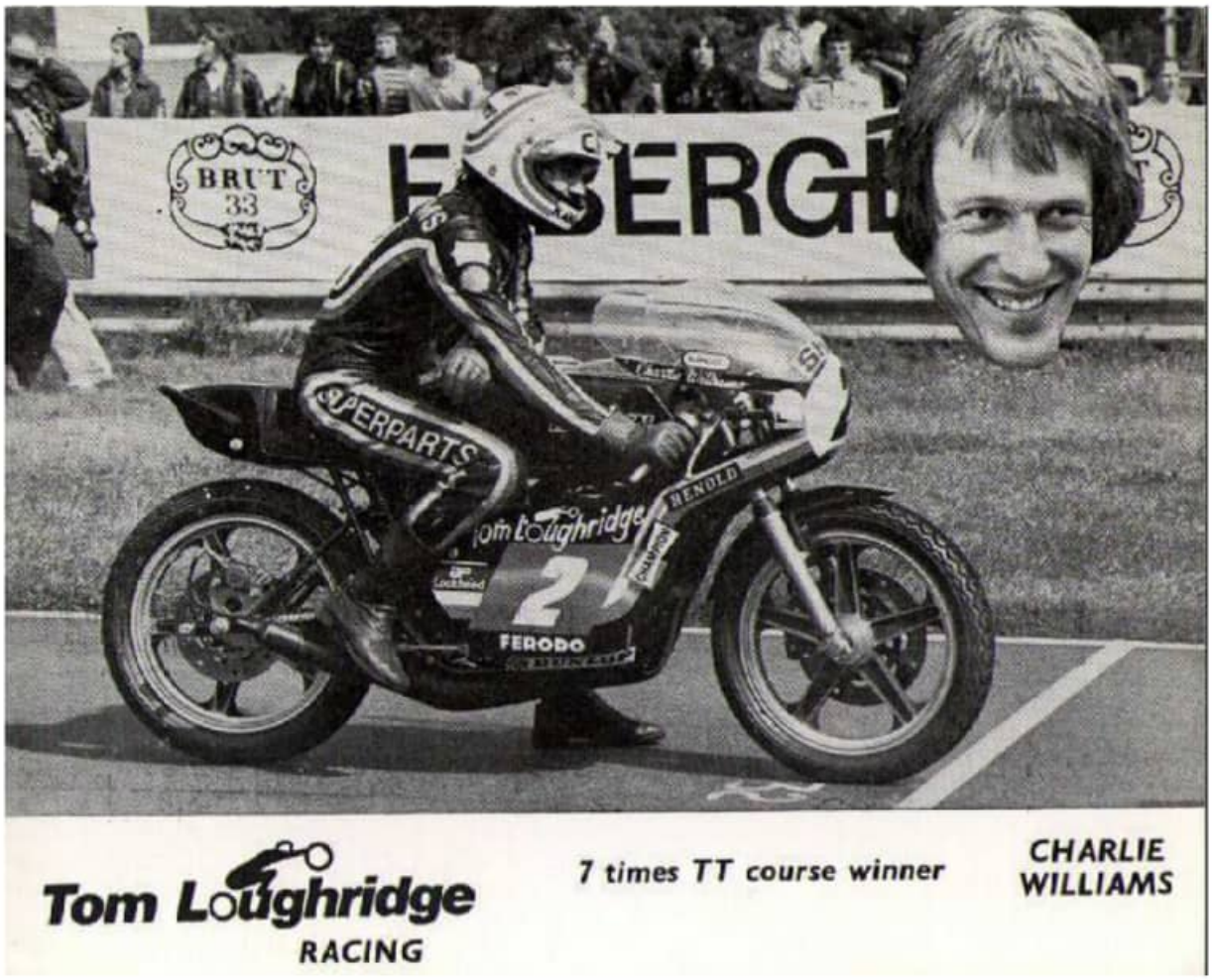
Tom - the gentleman horseman

Tom Loughridge's Race Days
Photo Gallery

Charlie Williams - 7 times IOM TT winner



John Williams



Charlie Williams

Jack Findlay

No rider is more closely associated with the racing Suzuki 500 than Jack Findlay.

Jack Findlay, a European-based Australian won 3 world championship races, two as a privateer and was a keen devotee to the Isle of Man and the Ulster GP. He twice captured the unofficial title of best privateer in the 500 GPs - 1966 and 1968, in an era of Agostini and Hailwood on works machinery. Jack successfully rode a 250 Bultaco, campaigned a 500 Matchless and had a disastrous season on a Linto. He rode works TR500s in 1973 and 74 and helped develop the RG500. He beat Barry Sheene to win the 1975 FIM Formula 750 championship.His most cherished prize is winning the 1973 Isle of Man Senior TT after 15 years and 31 race starts..

Jack at the Ulster GP 1971

In 1970 Jack chose to use the TR500 as his engine of choice, saying it was lighter, more compact, less complicated and produced peak power at lower rpm than the opposition Kawasaki triples. Jack installed a modified road engine in a Seeley frame. In 1971 Jack and Danielle Fontana built their own 500 Suzuki (see next page)

He won the 1971 Ulster 500 on this machine. It was his first world cham[ionship win and arguably the nearest to a road bike engine ever to win a world 500 championship round. Jack said that Suazuki was already selling TR500s, but the only part they would sell him were pistons. Suzuki GB loaned him 2 for Ulster (he had to give them back). He used converted road cylinders.

Isle of Man 1973

Suzuki Italia sponsored Jack on a water-cooled TR500 in 1973. He rode this machine to victory in the 1973 Senior TT. In 1974 he realised his ambition of a works contract riding for Suzuki on the new 500 Four and a TR750. Despite herculean efforts on the prototype Suzuki thought he was too old at 39 and did not renew his contract for 1974. Jack turned to a TZ750 Yamaha winning the 750 title. He pushed on, racing a production RG500 in 1976. He won the 1977 500 GP at Salzburgring which was boycotted by the works teams. After a serious accident in May 77 he finished his last GP in 1978 in Belgium. he entered the Nurburgring GP but DNF. His career had spanned 28 years.

1973

1973 - Raatle in Holland

Jack (no.4) and Barry Sheene (no.11) on prototype RG500s at Salzburgring in 1974

Note: The above 3 pics and more can be seen in detail in Australian Motorcycle Heroes 1949-89 By Don Cox and Wil Hagon. A&R 1989 ISBN 20716207 7

This book has a detailed write-up of Jack Finday's career plus coverage of many other Australian Motorcycle racers. Don Cox has written (7 November 06) to advise that Jack Findlay is unfortunately quite ill.

Part-two - Jack and the Jada Suzuki

Newsflash: April 2006

An artist has been formally engaged to create a life-size bronze statue of Mooroopna Austalia's 1975 world motorcycle champion, Jack Findlay.

It's expected the work should be completed in June this year ready for installation soon after in the median strip in Mooroopna's McLennan St.

Elphinstone artist, Phil Mune, was given the go ahead only a week ago after talks with representatives of the Jack Findlay Recognition Committee, Noel Heenan, Mick Pettifer and Robert McLean .

The work of Mune is well known in the area as he was responsible for the creation of the statue of Shepparton author, Joseph Furphy, and champion Rochester cyclist, Sir Hubert Opperman.

Support from motorcycle enthusiasts have made the statue possible – the FIM, the international controlling body of motorcycle racing and Jack's employers after he retired from racing, contributed more than $6000; Motorcycling Australia have matched that; the GV Motorcycle Club raised $1000 from a ride organized especially for the Jack Findlay appeal; several local businesses have contributed generously; a fellow who raced in Britain and Europe with Jack and shared a house with him for a time in London added $500 to the appeal and a Mooroopna woman eager to see one of her fellows recognized paid in $20.

Phil Mune is planning to use a computer generated image for the major part of the statue – it will produce a polystyrene copy that can then be used for the creation of a mold. The special computer based device will scan a racing bike similar to that used by Jack when he won the Senior TT at the Isle of Man in 1973.

Marong mechanic and motorcycle tuner, Karel Zegers, raced in Europe before immigrating to Australia about 20 years ago and has a restored version of the Suzuki Jack raced to success at the Isle of Man. He is enthusiastic about his bike being the model upon which the statue will be based.

Bob West, now retired in Melbourne , threw fresh light on the Jack Findlay story and has added $500 to the fund created to build a life-sized statue of Jack on his Isle of Man winning Suzuki.

After a busy year and a half of racing throughout Europe and Britain , Bob, along with Jack, who had seen many of his fellows die on the race track, decided to return home.

He loved his racing, but he also loved his life and figured he did not want to join those who had made a disagreeable departure.

Now where else in the world is there a statue of a racing Suzuki??

--o--

Sadly on May 19, 2007 we lost Suzuki's greatest privateer champion of the classic era.

Jack Findlay was one of the last motorcycle racing privateers to compete at the highest levels in the sport. In a 20-year career on bikes that he mostly financed and maintained himself, the expatriate Australian took on Europe's finest, and through sheer determination, mechanical expertise and skill as a high-speed corner specialist, he rode alongside such legends as Giacomo Agostini, Mike Hailwood and Barry Sheene. His most successful year was 1968 when he was runner-up to Agostini in the 500cc World Championship, while also competing in the 350cc and 250cc series. He came third in the 1966 championship, behind Agostini and Hailwood, and was later placed fifth three times. He won the unofficial 750cc series in 1975, having finished third the previous year. He gained most of his points with high places behind the biggest stars but well ahead of his fellow privateers. However, he did win three races – the Ulster Grand Prix in 1971, the Austrian Grand Prix in 1977 and the Senior Isle of Man TT in 1975.

Throughout the 1960s he competed on a Norton or Matchless, or on hybrids that he created using Yamaha, Aermacchi and Linto parts. He later moved mostly to Suzukis, many of which he put together himself, although he did receive some sponsorship and a brief factory ride towards the end of his racing days. Findlay remained an enthusiast at heart and stayed closely involved with the sport until a few years ago. Cyril John Findlay was born in 1935 in Mooroopna, Victoria, about 120 miles north of Melbourne. He began racing at 15, two years below the legal limit, and used his father Jack's ID to get a licence. He nearly stopped racing when he was offered a trial with the Melbourne Demons Australian Rules football team, but had to refuse because his employers at a bank would not give him Saturdays off. He continued racing on a shoestring budget and without much success.

In 1958 he came to Britain to join the "continental circus" of private riders in Europe, later the subject of a French documentary focusing on Findlay's momentous 1968 season, which included his successes but also one of his many near-fatal accidents. In 1959 he competed in his first Isle of Man TT and became a familiar figure at the annual event in various categories over the next 18 years. Free from having to follow team orders, he would be back on a bike very soon after a high-speed crash, often against the advice of doctors and friends. His courage was combined with a keen intelligence and he was always seeking an extra edge and had the practical skill to turn his ideas into reality. At that time no racing parts were available from Suzuki, but their efforts were so successful that, in 1971, Findlay won the 500cc class at the Ulster Grand Prix. It was both his and Suzuki's first 500cc world championship race win. This success won his support from the Italian Suzuki importer, who sponsored Findlay in some 750cc races in 1972. He and his business partner, Danielle Fontana, built their own 500cc bike, which they called the JaDa, using pistons lent by Suzuki, on which Findlay achieved eighth place in the 1972 world championship, having come second in the Czechoslovakian Grand Prix and third in Spain.

The following year he was given a water-cooled TR500 by the importers of Suzuki in Italy, where he was living, on which he scored his TT victory as well as finishing on the podium in the Belgian Grand Prix. In 1974 the Japanese manufacturer gave him a contract with the new 500 Four and a TR750, but despite being competitive on both machines, the company did not renew the contract when it expired. He then bought a pair of Yamahas and achieved moderate success on the 500cc while scoring a satisfying one-point victory over Sheene, his former Suzuki team-mate, in the unofficial 750 championship.

Findlay then went back to riding Suzukis and began building success, finishing eighth in the 1976 championship with a second place at the Swedish Grand Prix, followed by victory in the second grand prix of the following season in Austria. However, two races later in 1977 Findlay suffered a second fractured skull in a

high-speed crash at Imola caused by a collapsed rear wheel. Although he was racing again within weeks, age and the expense of maintaining the new and temperamental two-stroke racers were against him. He finally quit, at the age of 43, after the 1978 German Grand Prix - almost exactly 20 years after making his European debut and 28 years after his first race in Australia. Having split from Nanou, Findlay married Dominique Monneret, widow of the French racer George Monneret. They lived at Vaucresson, near Paris, while he helped Michelin to develop tyres for road machines. He gave this up after a high-speed road crash in 1987 and became technical officer for DORNA, the Spanish-based company which promoted the world championship series that mutated into the present Moto GP set-up. In 1992 the racing authority, the FIM (Fédération Internationale de Motocyclisme), appointed him grand prix technical director, in which his long experience as a rider and bike builder, as well as his fluent French and Italian, earned him the respect of competitors and crew. He was unofficious and friendly in his approach and would give mechanics a chance to change components that broke the regulations before imposing penalties. The job also allowed him to make regular visits back to Australia. He retired from the FIM in 2001.

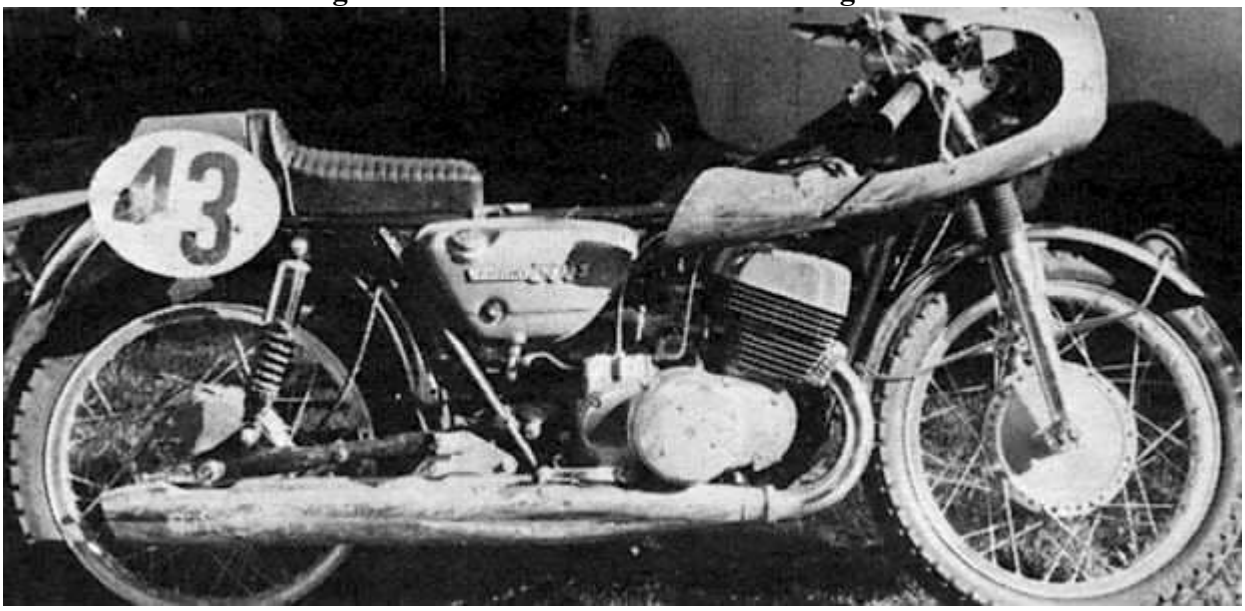
Last July, a bronze statue of Findlay on his Isle of Man TT-winning Suzuki was unveiled at a park, renamed the Jack Findlay Reserve, in his hometown of Mooroopna. The $30,000 statue, the work of Philip Mune, was financed by donations from the FIM, Motorcycling Australia, Michelin and numerous private individuals. He is survived by his wife, Dominique, the widow of his friend and fellow rider George Monneret, and stepson Philippe. Jack Findlay, motorcyle racer, was born on February 5, 1935. He died of advanced emphysema on May 19, 2007, aged 72.

Motorcycle Mechanics on the way to and at the Isle of Man - 1971

Images and text drawn from MCM of August 1971

Motorcycle Mechanics on the way to and at the Isle of Man - 1971 Part 2

Images and text drawn from MCM of August 1971



All our dreams. hopes and aspirations went crashing down the hill at Paddock Bend with Martyn Ishwood when he was scooped off the track at Brands Hatch by an out-of-control bike. Martyn took a tumble and in spite of a few bruises bounced back to race again that fateful afternoon on the Kent circuit, but not so our Suzuki. It lay sad and twisted in the paddock, looking very much in need of first-aid if not a complete facelift operation.

Broken fairing and shattered screen, bent front forks and wheel, ripped back tyre and graunched mudguard. dented fuel tank. silencer and twisted footrest and gearchange ... say it quick and it doesn't sound much. Look at it and you would believe that only a scrap merchant would be interested in the wreck!

Fortunately. our worst fears were unfounded. With the front wheel pushed backwards almost to the motor, it seemed as if the frame of the Suzuki must be bent. Yet, when we removed the fuel tank to check, it was obvious by the size, thickness and strength of the steering head, that it was only the forks which had taken the punishment.

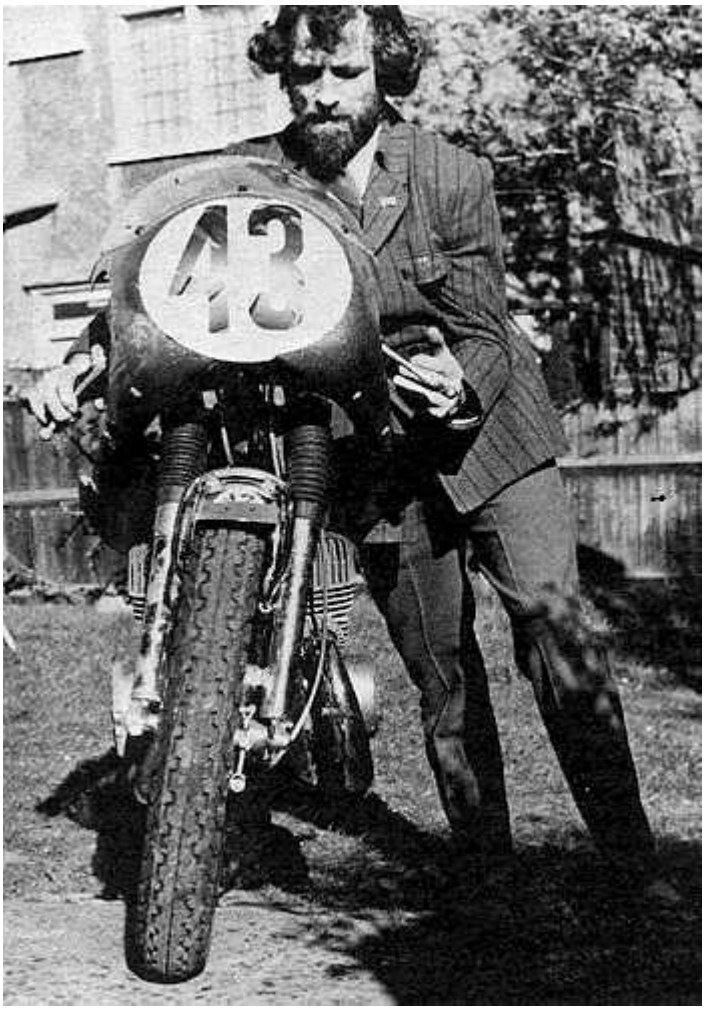
The motor too, apart from scrapes along one side, which had also bent the footrest and gearchange, was intact. Damage was superficial and with the exception of the shattered Perspex screen, bent wheel rim and twisted fork stanchions, could all be repaired. As anybody will discover if they go to buy replacement items such as chromium-plated mudguards, they are not cheap and when Emie Hall told us the twisted front and rear guards could be straightened without too much trouble. it meant we didn't have to dig so deeply into our race budget.

Motorcycle Mechanics on the way to and at the Isle of Man - 1971 Part 3

Images and text drawn from MCM of August 1971

He hoped that he could also cut the silencer open, tap out the very bad groove and then "stitch" the silencer with the welding gear. But this didn't prove necessary as we were able to obtain a second-hand silencer.

Glass-fibre work. One of the problems in converting the Suzuki for racing was the fitting of the fairing. It took hours to align it correctly. drill all the necessary mounting-point holes and then get the screen to fit.



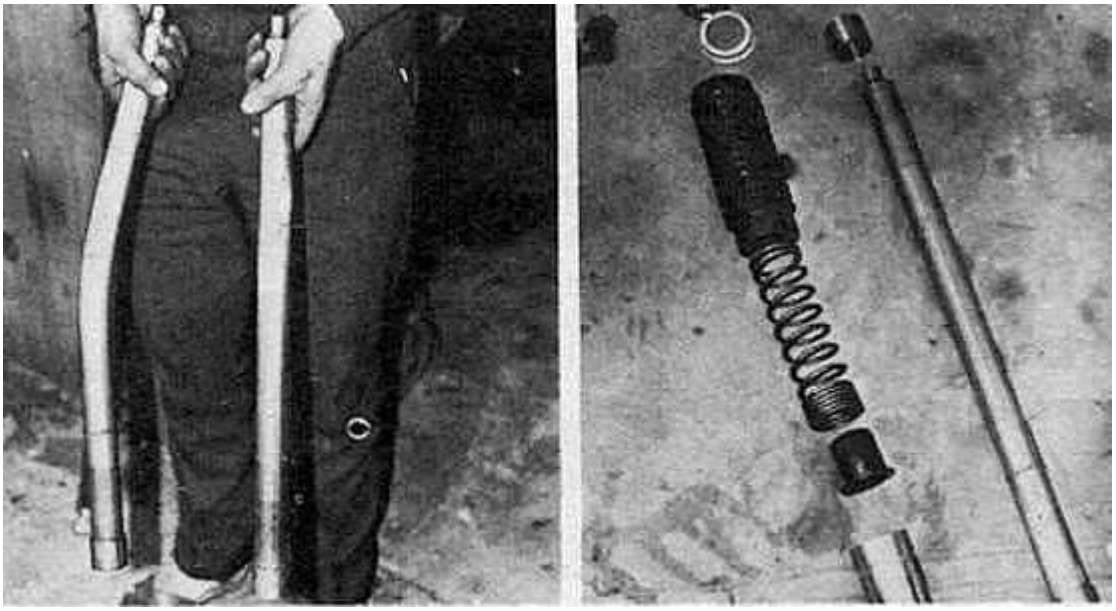
Therefore, Emie wasn't too pleased at the thought of having to do the job again. We bought a new fairing from Eddie Crooks. but Ernie repaired the old one! It saved a great deal of time and money and although we can't use the words "good as new" because the resin-bonded patches still show on the inside.

The fairing is now as strong as before and equally as efficient in protecting and streamlining the rider and bike.
Glass-fibre repairs are a doddle providing you follow the instructions properly. In fact, it is possible to make a repair which is almost undetectable. While the glass-fibre repair was setting, Emie got to work stripping the rest of the damaged components. After removing the front wheel and sending it off to the wheel-builders, it's really the only way for a good repair, the fork legs were dropped out of the steering head crowns.

Motorcycle Mechanics on the way to and at the Isle of Man - 1971 Part 4

Images and text drawn from MCM of August 1971

There is no way of bending fork stanchions straight and the only answer was renewal. However. there are some dealers who offer a fork-straightening service which may be used if the stanchions are not damaged too badly in the accident. With the wheels out, the mudguards front and rear were removed and Ernie"the hammer" Hall went to work gently tapping and shaping on a soft "former" surface (a block of wood) to avoid damaging the chrome. It worked a treat and. apart from a couple of barely visible marks. the mudguards are fully senriceable and almost as smart as new.



There's no doubt that Emie Hall has worked wonders on the MM Racing Show Suruki. and if anybody requires tuning or nice preparation work on their'bike. they can contact Ernie at 18

Blenheim Crescent. South Croydon. Surrey. Phone 01-686 6980.The work Emie did in this crash repair job obviously worked well. as we won our first Silver Replica in the TT Production Machine Race ...The story of Martyn Ashwood's exploits can be seen over the page.

Motorcycle Mechanics at the Isle of Man - 1971 - Part 5

Images and text drawn from MCM of August 1971

When you cross the Fairy Bridge on the way in to Douglas from Castletown, Isle of Man, it is a brave fellah who scorns the fairies! The locals swear that if you have the "little people" on your side then good luck will go with you as you cross the bridge. After our second place in the Thruxton 500-Miler. we were extra polite to the "little people" as we made our way to Douglas for the Production TT of 1971.

Practice went like a dream with Martyn Ashwood putting in an 85 mph lap to qualify, and the hope that after he'd learned the 370-mile circuit a little better, he'd add another two or three mph to his lap speed. Britax accessories, real name Britax (London) Ltd, were impressed with our performance at Thruxton and are now backing the MM Racing Show Team for the rest of the 1971 season. They, of course. manufacture handle- bars, rearset footrests, safety belts and many other useful two-and three-wheeler accessories at their Proctor Works in Byfleet. Surrey. Anyway, we are digressing. After a quick check-over to make sure ignition timing, oil levels, tyre pressures, chain tension, etc., were all OK, the Suzuki had the old spark plugs changed for new NGK8s and we were ready to race!

The fuel tank was topped up with Shell 98 octane and the oil tank filled with Shell 2T twostroke oil at weigh-in or scrutineering and then the bike was passed by the scrutineers without trouble and wheeled into the parque ferme. On Wednesday afternoon, June 9, the bikes were rolled out into the warming-up area and the Suzuki started second kick. Within half an hour, riders and machines were parading up on to the Glencrutchery Road and our hearts began to beat faster.

Four laps of the Mountain Circuit and it would a11 be over and as Martyn dashed across the road at the Le Mans start, we held our breath for a first kick start. His foot slipped on the start lever first time, but with another prod he was away in about eighth place down Bray Hill. There was no refuelling as the six-gallon tank was enough for the 31 mpg average of the T500 to last the four-lap race. All we could do was bite our nails and wait. People around the circuit remarked about the Motorcycle Mechanics Racing and Sporting Show advertisements on Manx Radio, especially the SUZAKI which Martyn was supposed to be riding according to the American commentator. Anyway, thanks to the fairies and Emie "Rebel" Hall the bike went like a train and Martyn's times improved every lap until his fastest lap of 87 + mph took him on to the leader board in sixth place. This earned Martyn his first ever TT Silver Replica and for us on Motorcycle Mechanics a great deal of satisfaction. The Barcelona 24-Hour Race at Montjuich Park is our next production machine event and Mick Chatterton will be co-riding with Martyn once more, with Emie Hall and Chas Deane in the pits. Let's hope we do as well there as we did at Thruxton and meanwhile, to the "little people" on the Isle of Man we say: "Thank you, fairies! We hope to be in the Isle of Man again next year!"

THE 500 SUZUKI PICTURE GALLERY

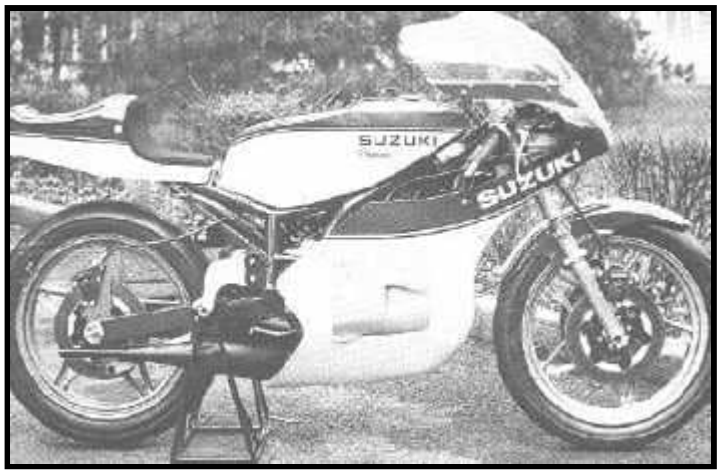
A Suzuki Italy special model. They also did a limited edition called the Vallelunga based on the GT750, ten to full TR750 works spec. and a hundred less potent look-alikes. Suzuki GB did a special based on the GT500, with rearsets, alloy wheels and fairing which they dubbed the Formula 500 (details courtesy Don Leeson - great tank, GT750 drum brake, rear sets etc. Wish they sold these in Australia!

The TR500 line up for the 1971 Daytona 200

The brilliant NZ rider Geoff Perry, tragically killed in a plane crash

The last of the breed, the TR500 MkIII water-cooled motor

The author's 2nd Titan racer



A rare shot of the Bimota framed TR500

The author's 1st Titan racer in the pits being tended by Craig Howe

The author touring on his J model in 1973

The author's 3rd Titan racer

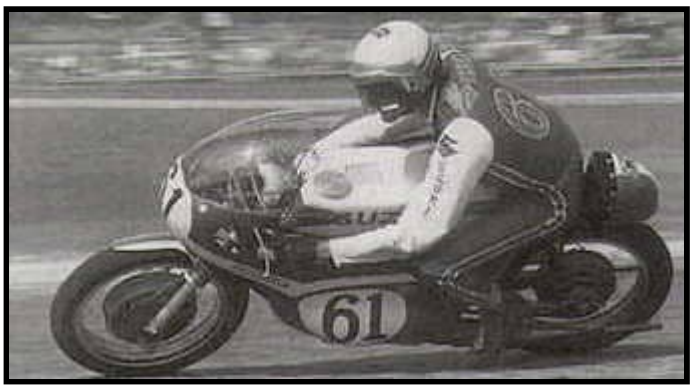
The engine and frame of the author's 2nd Titan based racer

The author's femsa kitted T500 racer

and again

and again

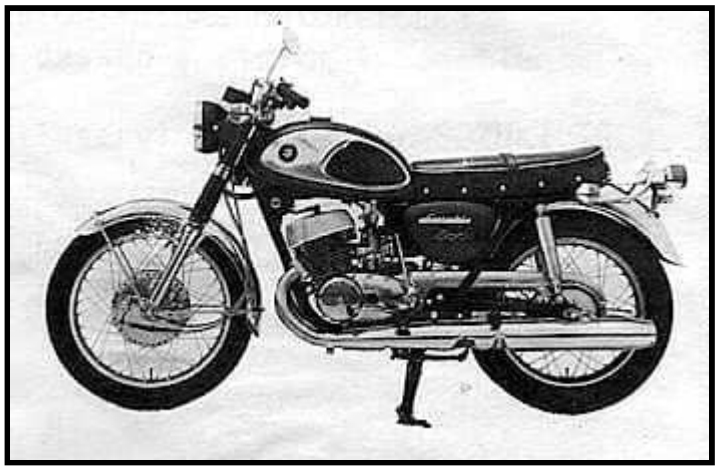
and again!



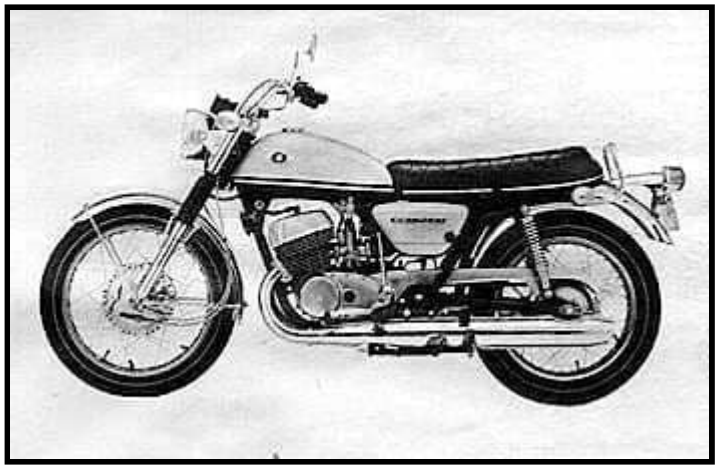
Ron Grant at Daytona

Two Tr500s flank a GT750 engined sidecar

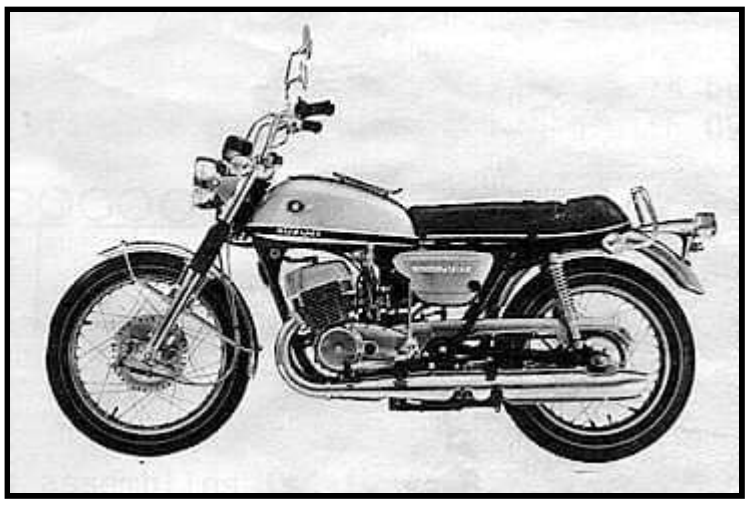
THE 500 SUZUKI PICTURE GALLERY - Part 4



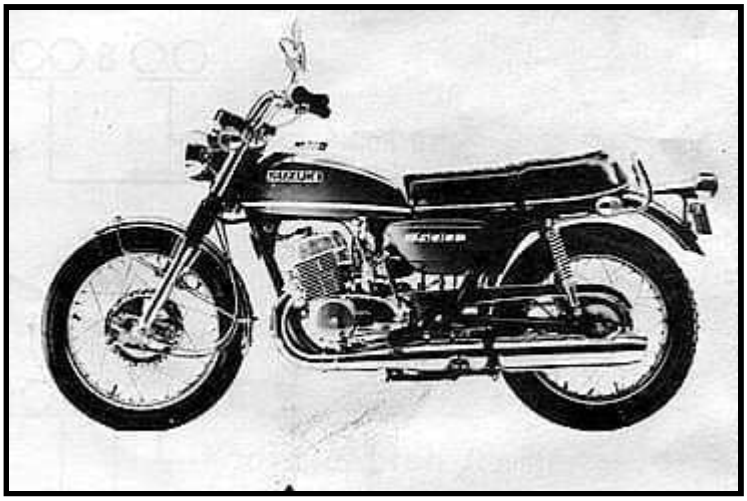
The Cobra or T500/5 - 1967/69



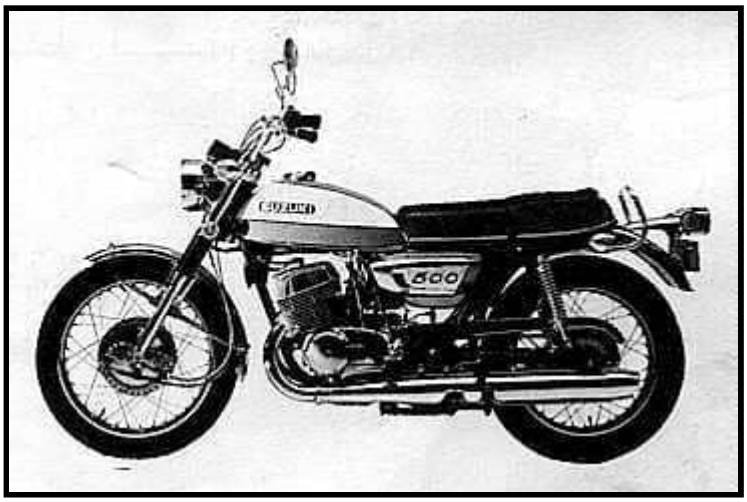
T500II - 1969/70



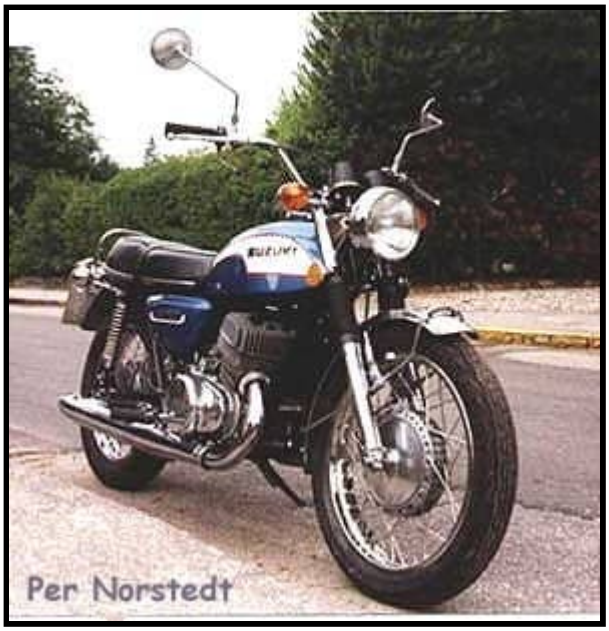
T500III - 1970



T500R - 1971



T500J - 1972



T500K - 1973

T500L - 1974 (pic thanks to Don Leeson

T500M - 1975, correctly identified thanks to Don Leeson

GT500A - 1976

GT500B - 1977

THE 500 SUZUKI PICTURE GALLERY - COBRA or T500/5

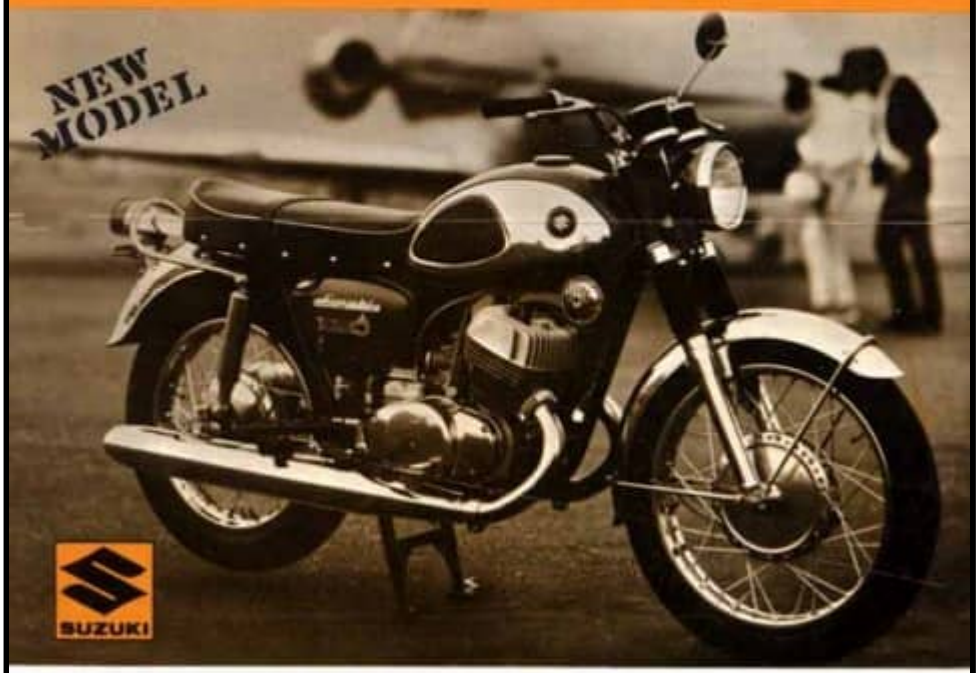
T 500 Cobra 1968
Overall Length: 2195mm (86.4in)
Overall Width: 865mm (34.1in)
Overall Height: 1105mm (43.5in)
Weight: 190kg (418 lbs)
Engine type: Air-cooled 492cc twin, 2-stroke.
46 hp/ 7000rpm, 5.5 kg-m/ 6,000rpm.

The Cobra or T500/5 .

WORLD'S FIRST*

* POSI-FORCE

500 CC DUAL-STROKE



SUZUKI 500/FIVE

SUZUKI 500/FIVE
500 CC
MODEL T500

Suzuki 500/FIVE, world's first 500cc dual-stroke production sportcycle. Fastest big bore lightweight. Standing quarter in 13.2 seconds. Max. speed range... 110 to 120 mph! The "500/FIVE"... makes engineering history.

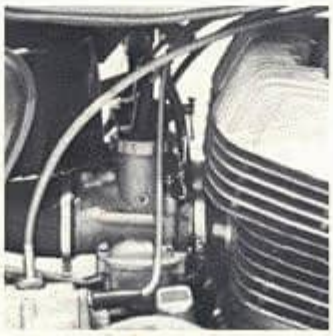
A brutish twin... with two-stroke dependability. (Some said "it couldn't be done.") 46 hustling horses... at a mere 7,000 rpm, plus all the two-stroke advantages: higher power, less wear, reduced weight and the many other Suzuki engineering extras. The "500/Five" has 'em all. More than a mere new model, Suzuki "500/Five" re-shapes the tradit·onal two wheel world.

Features? Harnessing the 46 ready horses of the "500/Five" engine, ("the engine that couldn't be built")... a **five-speed** gear box for better, safer operation... for real pro perfo·mance. The first five-speed in its class.

Posi-Force. It means positive lubrication when and where needed... automatically. Posi-Force (a Suzuki first), ended manual oil and gas mixing. And it paved the way for two-stroke champs. The X-6 Hustler... record-smashing excellence—holder of the 250cc production world speed record; and now, the Hustler's big brother, the "500/Five."

And for beauty?... A dream you must see yourself. The finishing touch! Metallic jewelled finishes. Your choice. Glittering gold, ruby red, sapphire blue... all enhanced with sparkling chrome.

Yet another "500/Five" extra—**altitude compensating** venturi-vented carburetion. It provides the correct gas and air mixture for all operating conditions... automatically. Whether low rpm saunter, or a turned-on pace... whether city street, or mountain peak.



The Suzuki 500/Five Performance Panel ...factory installed, standard equipment. Separate tach and speedometer... quality, just as you've dreamed of it.

And safety? A first with Suzuki. Suzuki spec'd out for American size and safety ... for power and handling. True safety engineering.

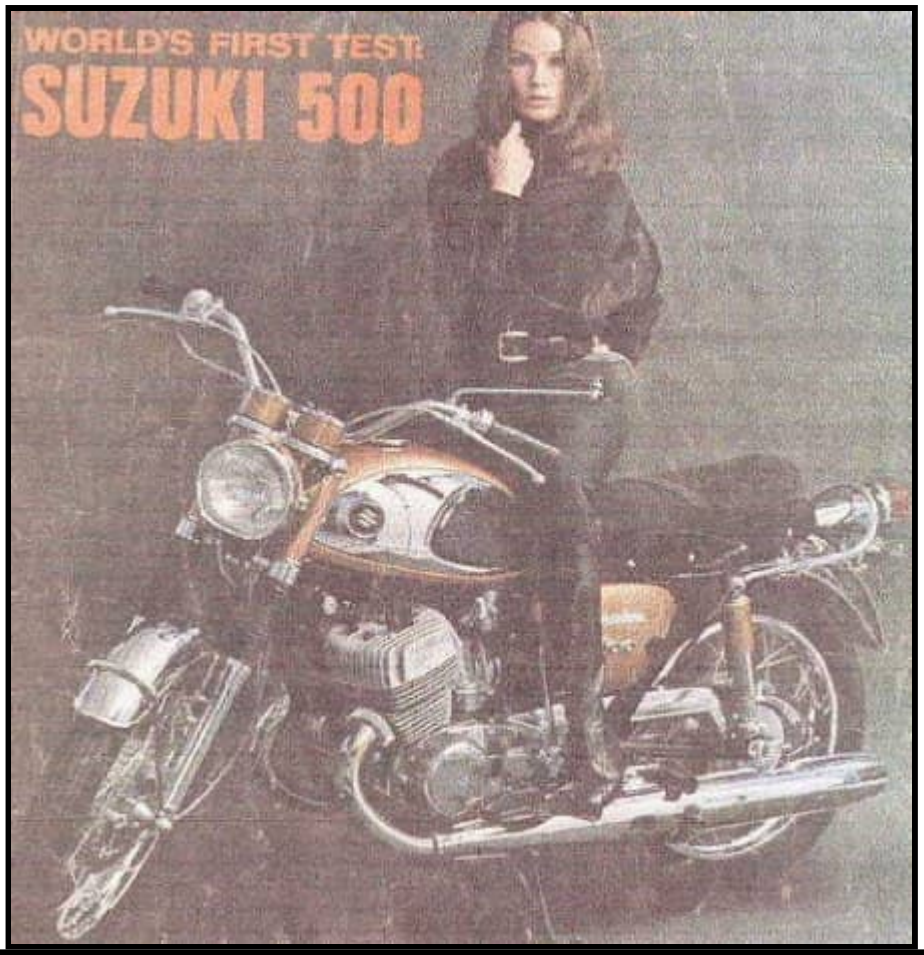
Power? The "500/Five" engine... 46 hp @ 7,000 rpm.

Handling? Tires—Matched to maximum performance potential... racing types, standard equipment. For your safety. Brakes—Paired to power. New, enlarged race-bred front. Rear brake control available for either left or right foot operation. Your choice, for your safety. (Yet another Suzuki first!) Suspension—Deep flexing oil-dampened front forks, with adjustable rear shocks. Matched to performance—matchable to road conditions.

500/Five. Safety engineered, unmistakable quality... and, like all Suzuki sportcycles, the "500/Five" is backed by another Suzuki first, the famous Suzuki Warranty ..."12,000 miles or 12 months."

SUZUKI

Suzuki's "500/Five"... engineering history in your time. Get in tune! Solo the "500/Five" at your nearest Suzuki dealer.


WORLD'S FIRST TEST:
SUZUKI 500

The Cobra racing against modern machinery at Wanneroo Western Australia

Photo Gallery No. 5

TR500s at Daytona 1971...I just love this picture and the next!

TR500s at Daytona 1971

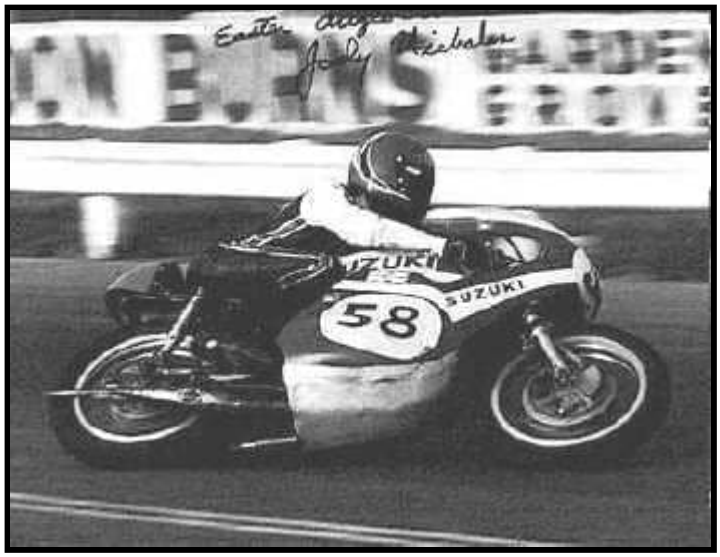
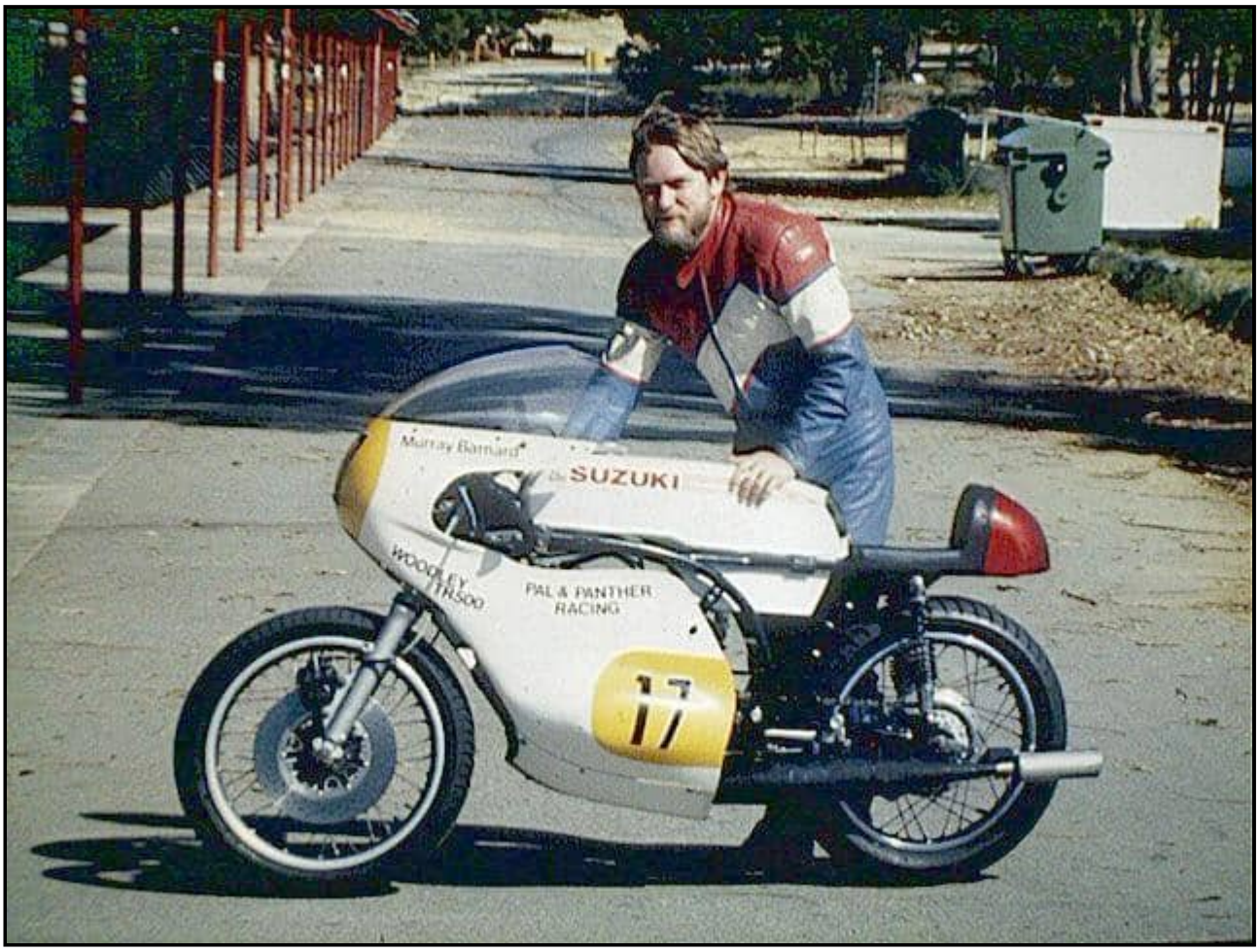


Photo Gallery No.3 – Woodley TR500

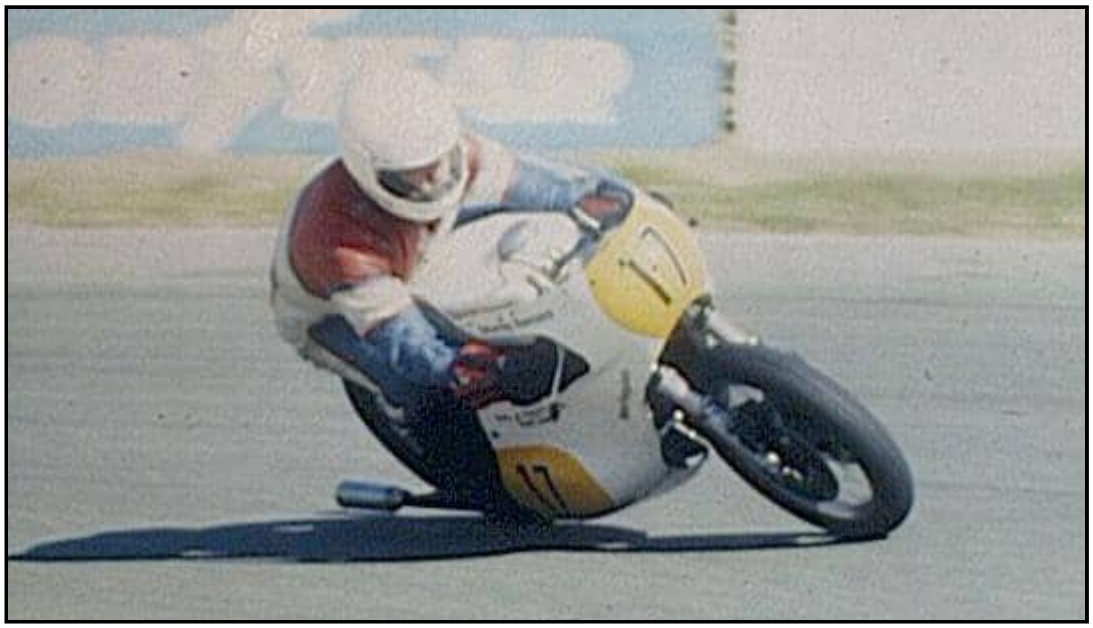
Long Lost Woodley TR500 Photo Archive

I had forgotten I even had these pictures of me riding the Woodley framed TR500 replica at Wanneroo Raceway in Western Australia.



Shell
Shell
162
17

17



17

Muzza on Woodley framed TR500 replica at Wanneroo Raceway in Western Australia.

EAGLE
GOOD

17

Suzuki Catalogues

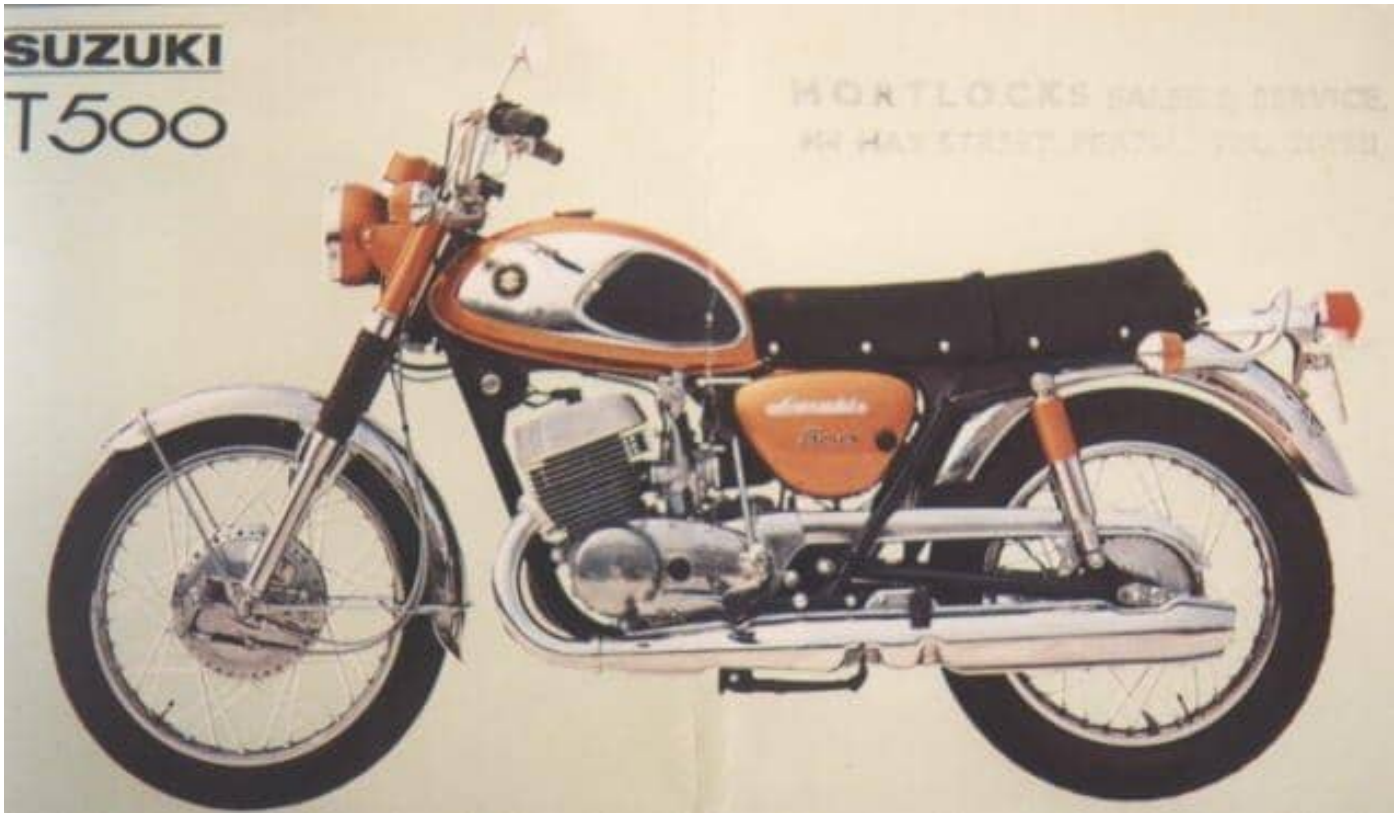
1967/68

WORLD'S FIRST*

* POSI-FORCE

500 CC DUAL-STROKE

SUZUKI 500/FIVE



500 SUZUKI

*** DE SNELSTE TWEETAKT MOTOR ***

1969 - T500II

709'393
SUZUKI
T-500 TITAN
SUZUKI
Die gelungene Synthese von Eleganz, Kraft, Zuverlässigkeit
La synthèse heureusement réussie d'élégance, de puissance, de confiance

THE 2-STROKE TITAN ON THE ROAD
SUZUKI T500-II
SUZUKI MOTOR CO.,LTD

1970 - T500III

Suzuki T-500 III Titan: Built to take on the country
SUZUKI

1971 - T500R

SUZUKI T500R

New Model
SUZUKI
GT500

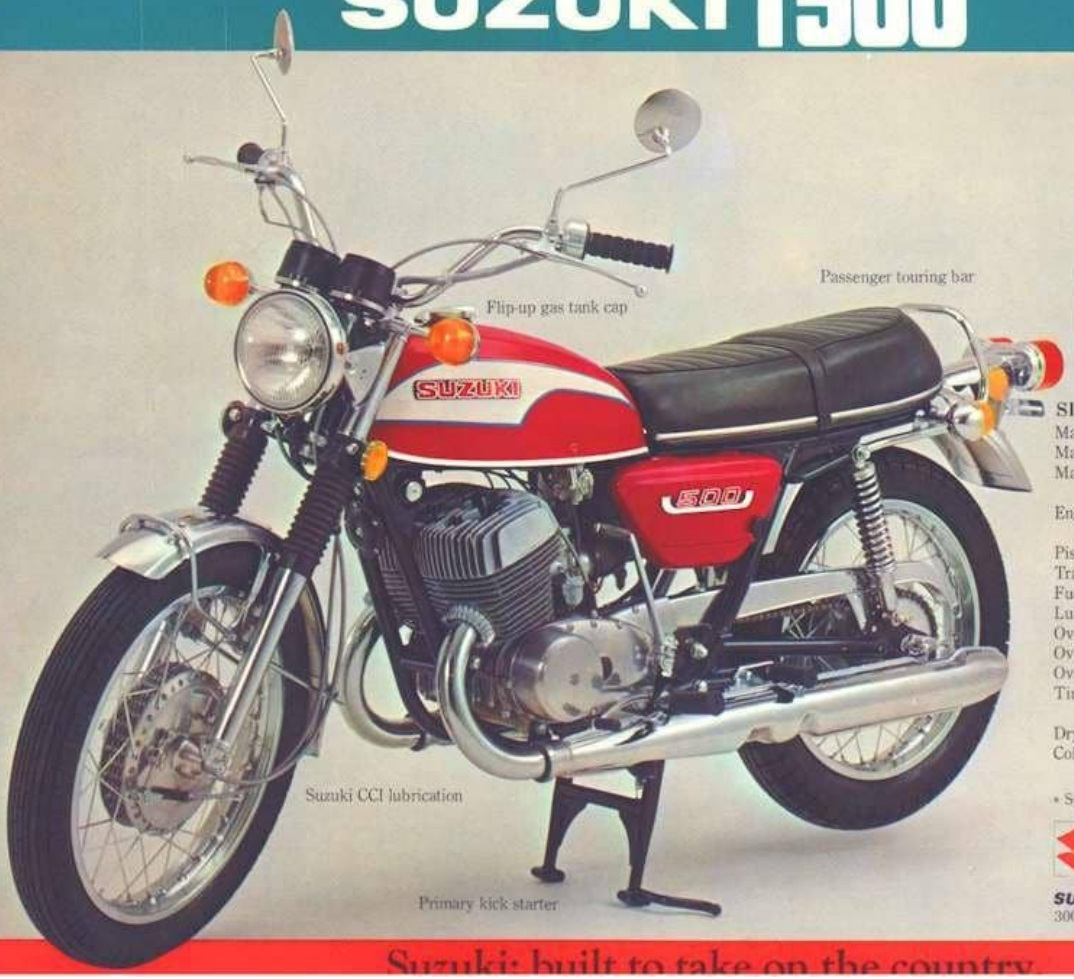
1972 - T500J

Suzuki T-500J Titan
Suzuki: built to take on the country.

1973 - T500K

SUZUKI T500

—K—



Tach/speedometer with tripmeter

SPECIFICATIONS

Maximum Speed	168—176 kph (105—110 mph)
Maximum Horsepower	45 hp/6,000 rpm
Maximum Torque	5.40 kg-m (39.0 lb-ft)/5,500 rpm
Engine Type	2-stroke, aluminum twin cylinder
Piston Displacement	492 cc (30.0 cu-in)
Transmission	5-speed, constant-mesh
Fuel Tank Capacity	14 ltr (3.7/3.1 gal, US/Imp)
Lubrication	Suzuki CCI
Overall Length	2,195 mm (86.4 in)
Overall Width	880 mm (34.6 in)
Overall Height	1,105 mm (43.5 in)
Tires, Front	3.25-19, 4PR
Rear	4.00-18, 4PR
Dry Weight	187 kg (412 lb)
Color	Candy Wine Red Bright Blue Metallic

* Specifications subject to change without notice.

SUZUKI CCI

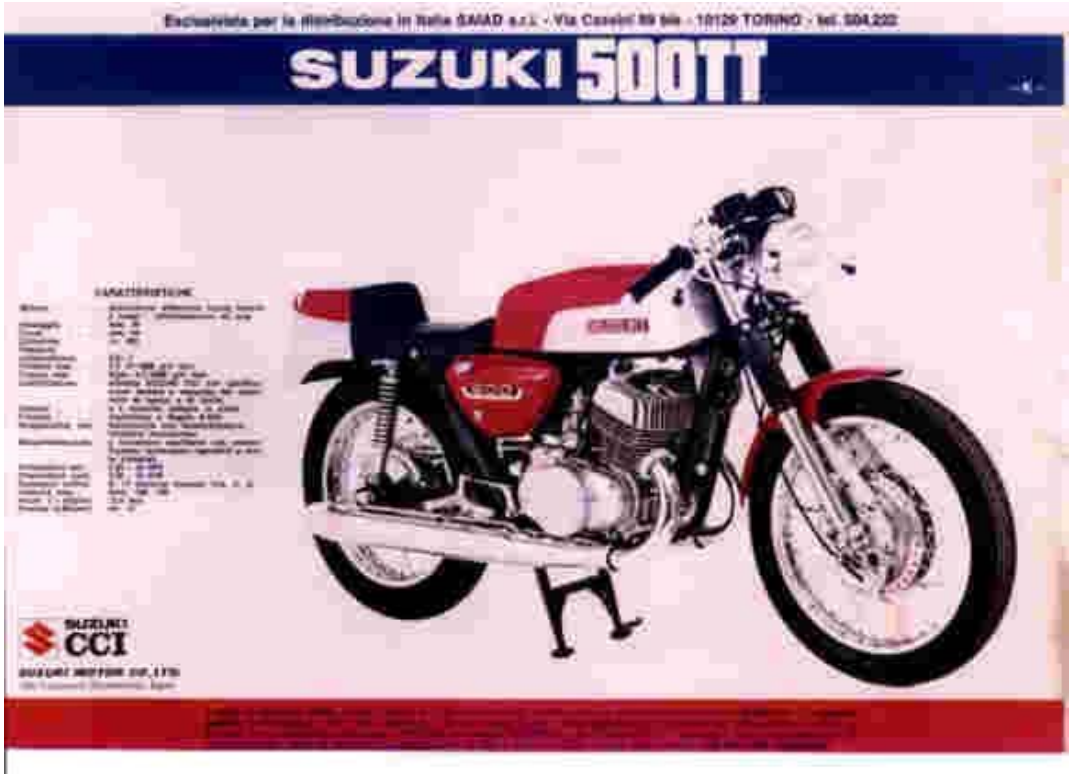
SUZUKI MOTOR CO.,LTD.
300 Takatsuka, Hamamatsu, Japan

Suzuki: built to take on the country.

Suzuki T-500K Titan

Suzuki: built to take on the country.

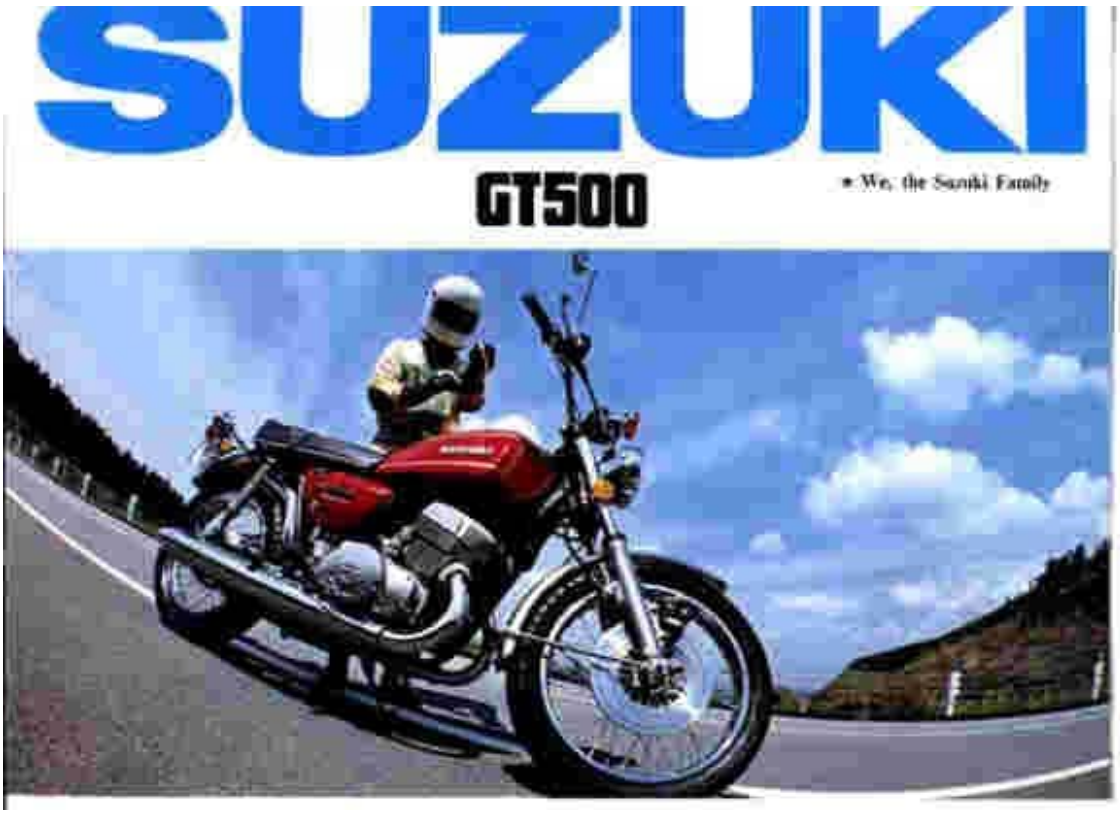
1974 - T500TT



1974 - T500L

1975 - T500M

1976 - GT500A



1977 - GT500B

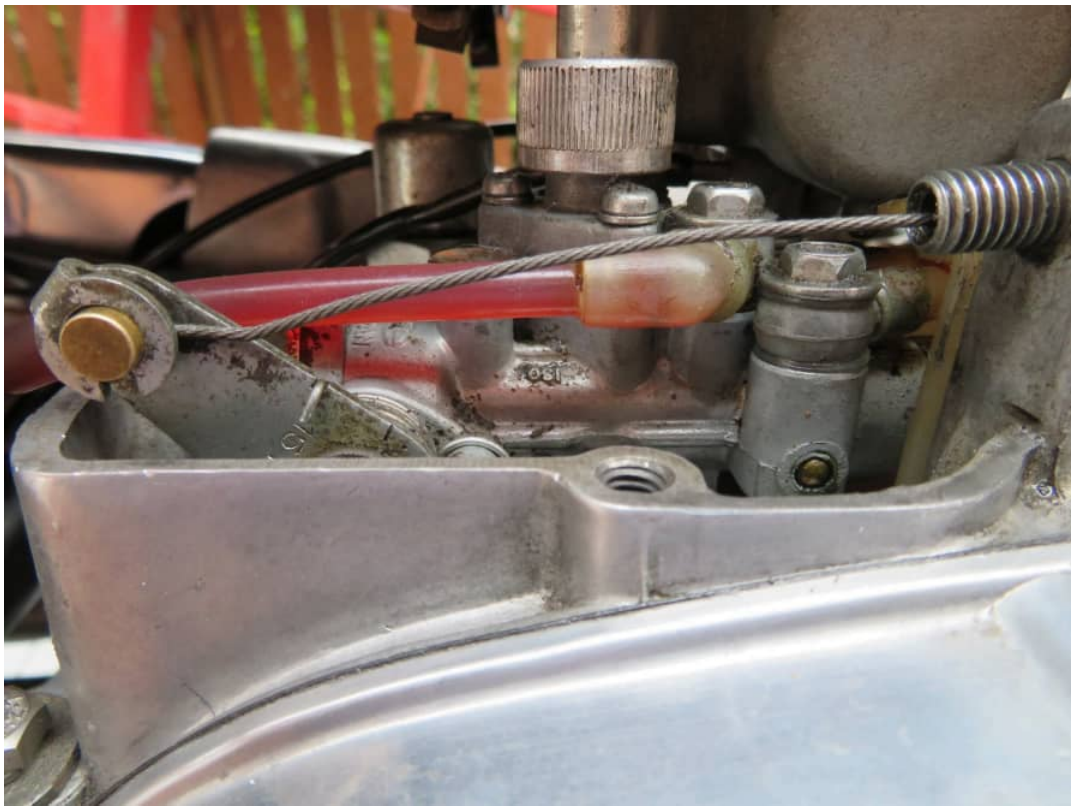
SuzukiTR500MkIIIWater-cooled

TR500 MkIII Suzuki 1974 water-cooled. Seen at Suzuka 25 May 1997

"My name is Clive Strugnell, from South Africa. From 1973 to 1986 I used run the Suzuki racing team in South Africa. I was also the marketing and PR manager for Suzuki South Africa. At that time we were allocated Suzuki factory racing bikes for use in our national championship races, both on and off road. The bike you show at Suzuka looks like a special made to run concurrently with the RG500's for certian circuits. I am sure the bike shown in your pic was ridden by Hideo Kanaya, who ran a Suzuki dealership in Tokyo at the time. He was also a Suzuki factory rider and a team mate of Sheene in about 1975. I have photogaphs of an identical bike in his showroom taken in May 1977. At that time he told me they had built the bike using an early RG500 frame, with the lay down back shocks like the RM off road bikes of the time. They tried to use a similiar set up on the last TR750's but it was no match for the new Yamaha OW 700 and 750 of that time.. A call to Mr Itoh, once World 50cc champ and now a director at Suzuki can confirm this. I still have a completely original factory TR500 water-cooled twin with a dry clutch and PEI electronic ignition as used by Sheene in 1970, just before the introduction of the RG 500. It used the same frame as the last of the upright shock TR750's and had a waterpump in the place of the oil pump. The same model was raced very successfully by Stan Woods and Percy Tait. On the longer GP circuits it was more than a match for the overbored TR350 Yamahas which were often raced in the 500 class. However it's development was neglected because of the new RG500."

Photos from Suzuka Race Circuit courtesy Toshihiko Suzuki of Lump Proof Japan Classic Racing Motorcycles

Oil Injection or pre-mix



A personal opinion

Basically, on the Suzuki oil injection system the outside lines lube the outer mains, the Middle oil lines oil the piston skirt & oil from both of them mixes with the gas. The inner mains are oiled by the transmission oil.

To go pre-mix the “Slingers” or as the parts book says – “PLATE, oil guide” have to be removed from the outer bearings. The slingers direct the collected oil through the crank pin for additional big end lubrication.

To prepare for pre-mix the bearings have to be removed and the slingers replaced with the same sized thrust washer. Make sure the spacers (washers) are the same thickness and that their diameter is not too large, as to cover the bearing cage.

But, why do it? The wealth of opinion, for anything less than Grand Prix racing, is to keep the pump and standard oil lines. For the road, keeping the pump is a no-brainer. For most people’s racing, keeping the pump is a safe option. The pump etc does no weigh much nor rob significant performance.

Even racing the bighters we keep the pump, especially for long distance endurance races. The only time we ran without was with a modified crank when we ran full on race watercooled motors.

The oil injection system is safe reliable and makes these motors strong and durable, even when ported and raced hard!

In summary: it is simple, modify the crank if you remove pump, or keep the pump and still have reliable and confidence in your motor.

Our TR500 Mk11 doesn’t have an oil pump but it comes from the factory ready to run pre-mix.

I raced T500 modified to TR specs for years with oil pump set to one third on at all times and some 1:50 pre mix combined, totally reliable.

This debate arises every few monrths. Suzuki advised retain oil pump when they 1st raced the 500. Do what you like but don't remove oil pump without modifying crank as described previouly.

Muzza

Bernie Kerr in NZ is very expereinced with racing 250 and 500 Suzuki twins, this his view on pre-mix…

Ok this is a perpetual discussion. There is no doubt at all when Suzuki introduced the Posi Force oil injection it was the best by far. Now 50 odd years later the fun starts. Broken oil lines dripping non return valves, blah, blah. So as a frustrated T500 owner; why not pre-mix? Well for one you just cannot stick a pre-mix in the tank and hope it will work. It will for a while but then kaboom. So, here is what you should do. For a road bike gather up all the info on aftermarket fix-its to retain the oil pump. Otherwise after you have spent time and money doing crank modifications you will phaff about with messy oil/mix setups at the gas station asking yourself; was that 25:1 or 40:1 and what oil? The very reason Suzuki introduced oil mixing for dummies. In other words they made a system that took away the guess work! Well as for me? I run premix in my race bikes but only because I have almost run out of suitable oil lines and good pumps. The good ones are stacked away for a road bike{s}. If you insist on pre-mix; remove the oil slingers to the outside bearings and replace with a washer of the same thickness ensuring the bearing is fully exposed. Make sure the oil pump inlets are fully sealed so no air can get sucked into the crankcase. Carry a container of oil with you and a measuring jug to ensure the mix is right. 30:1 should be about right but that may not be depending on the weather and altitude so as you are enjoying your ride you may need to recalculate the mix. Something Suzuki did over 50 years ago.

Bernie Kerr races the Suzuki twins, below is a sad example of what can go wrong if assembled incorrectly with pre-mix…..

Aldosuzuki adds to the discussion:

The mixing pump and associated oil lines can be safely removed. The crankcase must be machined to allow lubrication of the side bearings as per photo below. Without separate lubrication, a 3% mixture must be used. I use this system on a Suzuki TR250 and TR500 with no problems.

Nic Montagu adds his solution:

An oil feed hole needs to be drilled from the transfer port to meet/align with bearing oil hole. Crank does not need to be machined but oil slingers to be removed and replaced with same width washer of smaller diameter so that bearings are exposed to oil mist.

Oil level for the T500/GT500

An old one but a good one…..

All models T500 from 1968 to 1972 (i.e. Cobra to T500J inclusive) carried 1200cc of transmission oil.

This amount of oil was inadequate to prevent wear on 4th and 5th gear (the case hardening failed).

To overcome this it was necessary to build up the dam wall on the lower crankcase to increase the amount of oil in the transmission. Purely adding oil was of no use as it just overflowed into the clutch case.

Suzuki finally issued a service bulletin advising of the need for extra oil in the transmission case and supplied a rubber part to build up the dam wall. It is best bonded into place. Before this advice, most of us just modified the dam wall ourselves, often out of metal, bonded into place or welded.

The required increase in transmission was 200cc, an increase from 1200cc to 1400cc. The lower transmission cases were modified from 1973 on for the T500K model, but they didn't change the casting on the top crankcase cover from 1200cc to 1400cc. They relied on a 1400cc sticker over the cast in advice of 1200cc! Of course the sticker soon fell off and many owners only put 1200cc which did no good for the transmission nor the clutch!

For the T500L on (i.e.1974) onward the top cases were changed to read 1400cc.

So in summary if your machine was built from 1968 to 1972 (i.e. Cobra to T500J inclusive) , the engine needs to be split to modify the dam wall to help protect your transmission.

If your machine was built from 1973-77 (i.e. T500K to GT500B) it should have the required modification factory fitted.

Through all of this. the oil sighting screw on the clutch case. was never changed, for the simple reason it still worked as intended. In a 1200cc box, 200cc overflowed the dam into the clutch. In a 1400cc box, 200cc still overflowed in to the clutch housing. The oil levle screw is an easy way to check if your motor has the raised dam or not.

Pic is of a modified oil dam…

ON THE LEVEL…..

One of the difficulties we face is that of the same old problems coming up time and again, and how often one can justify airing them without boring the old hands! One of the favourite questions on the Suzuki side concerns the T500 gearbox, and how much oil it should contain.

In the past I have mentioned that the recommended amount was increased from 1200cc to 1400cc, with stickers on the crankcase covering the old value. Since the level screw in the clutch cover was not adjusted accordingly – and obviously for older models there was no sticker anyway – owners were advised to measure 1400cc of a quality oil in to avoid trouble. I always use EP90.

Some sources reckoned 1600cc was the way to go, without coming up with anything in writing to back it up. However, I've just got hold of Service Bulletin M-062 from October '73 which gives more information on the problem and may help to explain why some people go for 1600cc.

"Transmission oil amount has been increased to 1400ce from the initial production of the '74 models (T500L), engine number 68083. A rubber flashboard and a sticker printed "1400cc" have been employed as temporary parts until new style crankcases are completed. The flashboard works to raise the oil level of the transmission chamber by 10mm more than the previous level. On new style crankcases, the partition wall height between the transmission chamber and clutch chamber will be increased by 10mm. The new style crankcases will be installed in the T500L assembled from December production." Crankcase part numbers were identical!

Further – "On the earlier models, for repairs having need of crankcase disassembly, it is highly recommended that the oil level of the transmission chamber is increased by l0mm….as the flashboard is no longer available, it is advisable to build the casing up with weld if the crankcases are split."

So, as I read it If you have a T500L or later you want 1400cc. If you have an earlier model with a 1400cc sticker, it has been "modded" while the flashboard kit was available, and again you want 1400cc. If it is any early model without a sticker it certainly wants at least 1400cc, but if nobody has been at it with the Lumiweld the level will still be a bit low where it counts.

Putting in 1600cc might give you the correct level in the transmission chamber, but will overfill the clutch chamber! You pays your money and takes your choice…..
DON LEESON

Suzuki T500/GT500 Engine & Frame Numbers

Suzuki GT/T500 engine & frame numbers

Model	Year	Engine number	Frame number
T500 Mk 1 - 3	1967 - 71	12518 - 34218	same as engine number
T500R	1971	36414 - 45788	supposed to be same as engine number but unlikely
T500J	1972	47584 - 57972	supposed to be same as engine number but unlikely
T500K	1973	59791 - 68590	supposed to be same as engine number but unlikely
T500L	1974	70224 - 72763	70223 - 72766
T500M	1975	70718 - 70887	70716 - 70885
T500A	1976	74169 - 84414	74162 - 84408
GT500A	1976	91240 - 99008	? - 99011
GT500B	1977	105167 - 105214	105162 - 105213

There is some confusion about engine numbers - this table is from a barely legible photocopy I have. I find the numbers for 1975 a bit odd, and has anyone heard before of a T500A?
Other odd numbers have come up...this list is from Suzuki Australia, it may not show the complete world wide situation. Use it as a guide only.

Suzuki 500 across the Nullarbor in 1973

From Perth to Canberra - over 2,500 miles, including unsealed roads across the vast, dry and empty Nullarbor Plain (from latin "null arbor" ie no trees)

Titan Suzukis on the vast and empty Nullarbor Plain (before the road was sealed)

Near Southern Cross

Near Southern Cross

Bullabulling

Lake Lefroy

Fraser Range

Nullarbor

Nullarbor camp

Water tanks

Madura Pass

Mundrabilla

Ivy tanks

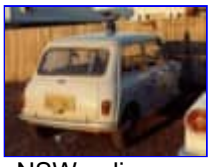
Ivy Tanks

Near Port Augusta

Mount Lofty's ahead

Melbourne

Melbourne


NSW police car

NSW cop

Bega NSW

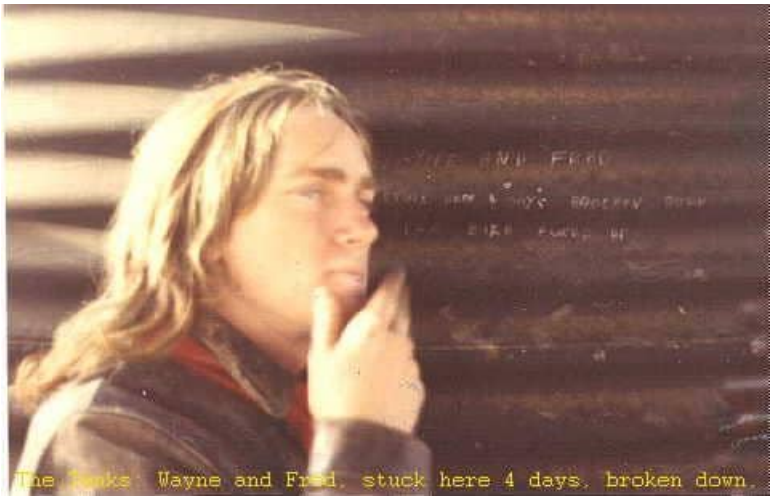
Canberra

Canberra

Canberra

Murray & T500J

Riders: Carl on red '72 T500J, Murray Barnard on green '72 T500J.
The mighty T500s survived 265 miles of unsealed road on the remote Nullarbor Plain but the trip to the Easter Bathurst races was doomed..
Murray fell off in Melbournes and suffered severe gravel rash to the back, shoulder, arm, head and hands, requiring stitches in an elbow wound.
Worse was to come at the Snowy River, Carl crashed his bike at high speed, his passenger suffering head injuries and Carl a serious compound fracture to his leg. Sadly, Carl was to spend 18 months in and out of hospital.



The Banks. Wayne and Fred, stuck here 4 days, broken down.

AG1-741

SUZUKI
GS 400

T500 Suzuki racing tips courtesy Rob Greenhill

(in response to Chris Bradley sending Rob the race prep tips from this web site)

Dear Chris
Many thanks for the paperwork, it's very interesting, especially the info, on the factory racers, which extends our knowledge a bit.
Mr.Barnard's ideas on race preparation generally agree with what we know, although he does seem a bit conservative in what he regards as a narrow power band.
My idea of 'fun to ride' is having explosive power to blow the opposition into the weeds, and the fact that it doesn't start to happen until atout 6000rpm is no great problem, even with a road ratio gearbox, a few laps in practice and you know where to change gear to keep on song.
We are fortunate enough to have a close-ralio box, but we've only recently fitted it. mainly because, useful though the road bottom gear is for getting off the line ard out of hairpins, I found I was changing gear when the TZs were still feeding the clutch in. with the figures you have I don't think you need worry about the power band.
He doesn't mention ignition timing. The standard engine fires at 3,4mm BTDC. The official figure given me for the TR500 is 3,lmm, and it's not unusual to push it back to 2,5mm or so. This is one place to start conservatively. I have just fitted close squish heads. Theory says that maybe 20% less advance should now be required, and I am currently running at 2.6mm and going very well, If you have more advance than you need, your pistons will probably melt.
I think we talked about ignition systems, and we will ignore his suggested use of the GT PEI system. As I probably said, it takes about 3bhp to run the generator, His porting figures are a good starting point, leaving the transfer port as is, except for a mod which apparently the factory used, which is to use two cylinder base gaskets, which raises the barrel, and hence the transfer port, by 0.5mm.
His words on frame preparation accord with my views as applied to my first bike, a converted T500, Heavy? It weighs a ton! My Spondon is 30pounds lighter. It is made of stovepipe, as I found when I cut the seat extensions off. Find a frame that's rusted away for a decade or two, it might be lighter ! Yes, the swingarm is too Long. Shorten it if convenient, but don't worry too much, it won't spoil your fun as is. I have seen a frame with the top tubes cut away completely, replaced with lighter tubes straight from headstock to the region of the swingarm pivot, like a Seeley frame. Don't know how successful it was,
We've gone· some way beyond this basic engine development. Crank diameter has been reduced from 120 to 108mm, I have machined the crankcases internally to allow cylindrical stuffers' to be closely fitted, resulting in a crank four pounds lighter than standard. Like the man says, this is a biggish engineering job, needing many night shifts. A manky place to work, but the factory does have it's uses, I machined my squish heads from standard heads filled with weld, and yes, they cost me a mint! It was worth it though, that engine sings.
There's a tuning shop I've found in Newport, not too far away, called Taffyspeed Racing, who specialise in two-stroke tuning. They have a dyno and a pile of information on computer. I took the Spondon down the other day, which produced some useful information although it was a bit inconclusive as apparently the clutch was slipping on the dyno. Didn't while racing the week before, but dynos give the bike a hard time.
The idea was to finalise the ignition timing for maximum power with the squish heads, but the slipping prevented us obtaining a steady figure, It does seem to be turning out about 65 bhp at 7800, which surprised me as I thought it was peaking at quite a bit higher rpm. Anyway, the computer suggested extending the port timing to a figure which now seems a bit excessive in the light of your information, but

we've done it now, and fitted new clutch plates, so we will shortly repeat the dyno exercise and see what we've got. I won't quote you any definite figures yet till I know· if it works or not.
Next race meeting is Tonfanau on 6th July, so we'll let you know how it goes. Here we are allowed to race in the 500cc Classics and in the Forgotten Era. It's a busy day as the FE event is straight after the Classic, so its ten laps Classic, cross the finish line, and spin it round back on to the grid for the FE. And that happens four times in the programme. We don't usually do all eight races, but we get in the results in Motorcycle News which is always good for the ego! Tonfanau is on the site of an ex-army camp just above Towyn on the Welsh coast. I've put a couple of pics in, the blue thing is the Spondon and the incomplete red one is the first one, the converted road bike.

I am trying to get it together again, but each time I get an engine together there's a change of plan and she loses it again, hence its present state of disrepair. It did have a fairing but we wrecked it in a race bump.
So you know all this rubbish 'cos we just talked on the phone, Never mind, Crooks sounds worth a ring. This idea of the stuffers being uneccessary is an interesting possibility. Our technical director races Karts with very highly developed motors and we often discuss developments, I'1l see if the kart boys can add anything useful. Re. drum brakes, just as a matter of interest I've checked, and the first GT550, the J in 1972, did have the same brake as the GT750, changing to a disk the following year. A mine of useless information. Right, we'll leave it there for now. I'm hoping to dyno-test the Spondon early next week before racing again the following Sunday, I'11 let you know the results of both exercises.
Regards,
Rob Greenhill
Pennygraig
Mid-Glam
UK

RACING PREPARATION FOR THE 500 SUZUKI

Rob Greenhill's tuning tips and service

Cobra Racing

Rob Greenhill's "Cobra Racing" is a small and friendly engineering and race development shop specializing in classic racers particularly the Suzuki T 500. They also deal with classic car parts that are no longer available or need reconditioning. They machine parts from billet alloy, brass, bronze, and stainless steel etc all of various grades.

Rob's Spondon framed Suzuki racer

Please note: Rob Greenhill has sadly passed away since this page was prepared

T500 Suzuki racing tips courtesy Allan Greening

1. Dont grind transfer ports. Just work out how much you want to raise the port and machine that amount off the top of: the barrel and add a spacer under the barrel the same amount. You now find that the exhaust port does not need so much taken out as we have increased its height by the amount you have raised the transfer port in our case 2mm so e.g. only need to take 3mm up on the exhaust port but we do need to grind that extra 2rnm from the inlet but here we grind 2mm from the piston skirt on the inlet side only in fact this means grinding the inlet port to just around the oil hole!!

Chris Bradley's bench

2. Use conrods from GT750. We also use smaller flywheels. We need to weld one end of crankshaft so we can fit original ignition. system and now we need to take off from top and bottom of the barrel to get our timing. We also need to place in fillers to increase crankcase compression. We weld them in place with Tig.

3. We fit straight cut primary gears, same as TR500 and use c/r gear box ratios but still use wet clutch; but make sure you fit clutch with new rivets

4. We weld the heads to machine in squish band

5. We use T350 rear swinging arm 6. Short tracks we use 34 mm carbies and long tracks 36/38mm carbies

7. Running petrol avgas not dope. Our motor is almost a water cooled TR500 less the water cooling!!

8. Frame is home made space frame made in about 1970 and was running at that time with good results

9. We use XR05 magneto as works bikes did at that time

These details kindly provided tfrom:

Allan Greening

(Sad to report Allan passed away in 2013)

Flexi Flyer: T-500 Vintage Roadracer Project - text by Kris Bernstein

Applying state of the art technology to new equipment results in varying degrees of improvement. Applying similar technology to old equipment gives it a new'lease on life. Such is the case in preparing a vintage roadracer, as in this example the Suzuki T-500 Titan.

Whether your tastes are British, Italian, American or Japanese, vintage roadracing offers the chance to return to those thrilling days of yesteryear for far less than the cost of say a Superbike effort. Plus you will probably see some old friends from your high-school or college days who are vintage racing also.

So given your kids and mortgage are covered, and that your wife and boss will never forgive you - let's go vintage roadracing...!

The factory T-500 racers of 1968, or XR-OS's as they were referred to by Suzuki, were little more than hyper-steroid versions of the street bike. Given the reliable-as-a-stone nature of its design, the T-500 leads itself quite readily to knee dragging motorsport. Its advantage in vintage roadracing is an abundance of old parts being available and an abundance of horsepower should you desire to get serious.

Getting Started Step number one is to find out who your local vintage roadracing is governed by WERA, AHRMA, FIM or whomever. Get their rule book and memorize it. Pay particular attention to rules that will affect your bike, the group it will race in, and its degree of "legal" preparation. Flat-slide carbs, turbocharging ana fat, slick tires are not particularly in keeping with vintage motorsport.

So before you waste a lot of money on illegal parts, do some homework. If possible, start with a fresh, race prepared bike. If you can find one, it will save you a good bit of money. If you must torture yourself and start from scratch, so be it. Moderately priced bikes are available in any metropolitan newspaper or wrecking yard. But be aware it may take two or three junkers to make one pristine racebike.

Chris Bradley's garage

After you have acquired a good used T-500, strip it to the bare frame keeping the motor whole. Seeley, Harris or Suzuki "Works" frames may be available but be forewarned, if you bend them up they are nearly irreplaceable. So unless you are going to build a museum display piece, don't race with irreplaceable parts unless you don't mind the possibility of breaking them.

Check to be sure your race frame is neither bent nor rusty. If it is in good shape, flame cut or grind off all unnecessary brackets being careful not to get into structural metal. Sandblast the entire frame and crack test.all welds and suspect areas.

Locate a stock '72 GT-750 front end. The four shoe front brake is nearly as good as the irreplaceable Fontana or Ceriani items. When you consider it was made to slow down a 600 Ib road bike, your two hundred and seventy-five pound racer will be no problem. If you have lots of money the 230mm magnesium Ceriani four shoe replica brakes and forks are available. These are the same type as used on the factory bikes, but for the purchase price, a second mortgage will be in order. Not to mention your first born male child will be needed for a deposit...

AHRMA allows disc brakes and they do not stop better. Locate a late ('74-'77) GT-750 front end if you prefer. Whatever front end you use, rebuild it as necessary so you can trust it at 150 mph.

If you use late model triple clamps, which are narrower than the 72-'73 items, the Telefix fork brace will bolt up in two minutes and stiffen the rather spindly 35mm tubes. A ~5mm steering damper bracket needs to go on the right side tube. I prefer the rightside as your left hand should always be on the clutch lever anyway.

J.C. Whitney (yes, they are still in business) has GT-750 tapered roller bearing steering head.replacement sets, While you're at it, get a couple of T-500 gasket sets Tap out the old ball bearing races and replace them with the tapered races (Don't mix the bearings and races as they are matched sets!).

Use the stock rear brake and drill the side cover full of holes to make it look more racy. (You never use it anyway). Bead blast the front and rear hubs, side covers and replace all bearings and parts as needed. Send the hubs to Bucannans' Frame Shop, in Los Angeles, for new aluminum rims, stainless steel spokes and nipples. You may be able to get the work done and similar parts locally but be forewarned: Nobody does it better than Bucannans'

A WM-3 and WM-5 are fine for the front and rear respectively. DID and Sun rims are fine but Akronts look neat with their valanced edges. You can go wider in the front but it will slow steering response.

p>

Modern sport tires would be killed for twenty years ago. Whether you use Avons, Dunlop, Metzelers, Michelin or Yokohama is up to you, they are all great tires. A tall sidewall will give much needed ground clearance. I use 100:90 X18 front and 120:90 X18 rear Metzelers, which work well and just clear the chain with a couple of sprocket washers stuck behind the drive sprocket. While on the subject Of drive chains, don't use an "O" ring chain, as they are for road bikes, not racers.

Weld one inch cromoly tubes from the swing arm plate to the upper frame rail cross tube. Weld a threaded bracket on the right side steering head gusset for your damper. The old Kawasaki type dampers work fine and cost a bunch less than the trick hyper alloy type.

The swing arm can be replaced with a three to four-inch shorter than stock JMC aluminum box section arm from England. If they are too expensive, the stock arm can be shortened by milling the adjustment slots forward to the arm tubing, cutting off the adjustment plates, and re-welding them in the more forward position. The stock arm can then be braced using 1/2" chrome-moly tubing. Either way works fine, but you pay a weight penalty if you use the stock arm.

A brief note on welding. Never use arc welding on a real race vehicle. Stick welding is for farm equipment and stock cars. If you don't have a tig welder or access to one, farm out the work! Again, you must trust it at 150 mph, so do the job right.

After your rolling chassis is complete, fit whatever seat, tank ann fairing you intend to use. Be forewarned, the carbon fibre TZ parts look neat but may not be legal. Stick to period pieces. ,The stock tank works just fine but try to locate a race-seat to lean against as the bikes acceleration tries to push you off the back.

I use the CR-750 Honda Roadrace fairing available from National Fiberglass in Ohio. It is an easy fit and its full bubble keeps the wind off you at high speeds.

After the rolling chassis is complete, disassemble everything and run it to the paint shop. Powder coated frames and Imron accessories are nice, but plain vanilla enamel is very sturdy and easy to fix later.

The Motor The heart of the T-500 is its outstanding motor. Easy to work on and competitive in stock trim, it is a real jewel. Other than carbs, expansion boxes and ignition, make no other modifications to the motor for your first few races. No other bike, none whatsoever in your class, should be able to get you

from a standing start: the stock T-500 has so much torque just rev it up, dump the clutch and shift as needed. It is a guaranteed launch everytime, so run it stock for awhile before you go for more power.

Ignition The GT-500 "pointless" magneto is maintenance free and requires no battery but T-500 cranks won't fit it. Also its heavy magnet is hard on the crank. I have known at least one which broke off the crank nose due to high speed vibration. The alternator and points ignition can be run "total loss" by throwing away the alternator and changing batteries between races and practice sessions. The stock points can be replaced with "Dayna S' pick ups and coils, or the Boyer Bransdon unit which is is an easy bolt up. All the above will provide spark but are basically junk which depend on a heavy battery for life.

p>

Chris Bradley's bench

I would highly recommend the Femsa or Motoplat transistorized magneto. No batteries to play with, no points to wear out, just push and go. The German Krober unit is very good but hard to get parts for. Also worthy of note, if you use the Motoplat get their tachometer while you're at it. The stock cable driven tach is slow and inaccurate. Besides it needs the oil pump to drive it, which is also a part of the motor which should be discarded.

Crankshaft The stock T-500 crankshaft is as heavy as a house but trouble free. After pressing it apart, do a complete race prep including new outer main bearings, rods, rod pins, big and small end bearings, etc. Weld the center crank pin and rod pins to curtail crank twist and fill up the balance holes in the wheels with cork and epoxy to raise primary compression.

When you are ready to start building additional horsepower into your motor, throw away the oil slinger plates on the outer crank main bearings. Drill 5/32" holes in the outer transfer channels to the oil feed holes in the outer crank bearings. Be sure to chamfer the holes in the transfer channels to help feed them oil/gas mix.

As the center main bearing is fed oil from the transmission you can now weld up, or plug with alien set screws, the four oil pump feed holes and pumpshaft hole in the trans case. If you are not an expert, world class crank builder, you would do well to call Bratton Sports Racing in Placerville, California. No one does crankwork better than Jeff Bratton.

Now simply throw away all the oil pump hardware that is causing frictional losses in your motor and run a 20:1 premix of Castrol R30 and Cam II 109. Synthetic oils are fine but they don't smell nearly as good as R-30. Anyw~y, it's up to you, but use Golden Spectre two stroke trans oil, your gears will thank you.

Cylinder Porting It is quite easy to double the 47BHP the stock motor makes. But the price you pay is shortened service life of motor parts and ridability. You can use a "peaky" motor at Brainard or Road America, but short tracks such as Loudon, St. Lewis or Daytona (Vintage Circuit), will get you better lap times if you build your motors far away from the outer edge of reason. The alarming horsepower two stroke motors make comes mostly from the right primary and secondary compression, port timing and expansion boxes. Be forewarned: build up to the maximum performance edge a step-at-a-time, because you may not like what you have to ride in the end, or you may overbuild and lose power. Both are distinct possibilities.

Most of the old "go fast" books will tell you to shave .060 inch from the stock heads, raise the exhaust port 5.0 mm and lower the intake 5.0 mm.

The result is a peakier motor with much more power, when combined with good carboration and expansion boxes. Where you go from there should be dictated by rider ability and usable horsepower at your home track. We'll get back to more horsepower later...

The Transmission The transmission of the T-500 is unique to itself and therefore does not make alternate ratios an easy possibility. I've been told the T-350 six speed clusters can be adopted and some factory six speeds or Barton close ratio five speeds may be out there. But don't get your hopes up. Thankfully, the motor can be over-reved to compensate for inadequate ratios, so the best thing to do is build up the stock box.

The first step in a T-500 tranny prep is to purchase a new input shaft and fifth output gear. The fifth output is a sloppy fit from its inherent design. It tends to cock on the output shaft and wear its gear faces. Consequently it wears the fifth input gear faces. As all the input gears are fixed to the input shaft, the entire piece must be replaced.

When you receive your new tranny parts have the side of the fifth output gear welded and faced to allow minimum lateral movement. With that work complete check all other parts on the clusters for wear and replace as necessary. Undercut engagement dogs, so it will not tend to hop out of gear when you are leaned Over at 90 mph. That's a guaranteed bad day. With all machine work completed Kal Guard Moly Coat the input shaft and output gears. As the stock gears tend to get cancer on their faces, chromemoly tends to bed into these surfaces and prolong service.

A second detent washer on the plug for the shift drum will ease shifting immeasurably. Also use RM-250 '76-'77 aluminum clutch-spacer plates, to save reciprocating weight and GT-750 or Barnett HD clutch s prings. Turn a GT-750 or similar shift lever 180 degrees to get the business end of gear selection back to your rear set foot pegs.

Don't forget to safety wire the pinch bolt as it is difficult to shift when the lever falls off during a race. For that matter it never hurts to mention to safety wire everything you do not want to fall off the bike. Not only for your safety but consider the guy behind YOU Who gets a 10mm bolt in the face shield at 150 mph.

Something to think about...

Carburation The round slide Mikuni is the greatest invention since the dawn of time. It is simple, easy to tune and infinitely adjustable over a wide range for all metering systems. Yes you must adjust jetting fore given moment during a race weekend but even a little rich is o.K. as the carb and motor are rather for~iving. This is not so for a mixture that is a little lean, as the piston will stick and if you're not ultra quick to grab the clutch, it will spit you off in an instant. I have tested this theory personally and trust me it hurts!

The 32 to 38mm Mikuni or Lectron work fine, however, the Lectron may be illegal in some classes. Stock to rather mildly tuned motors like small carbs as throttle response is improved. The male ego cries out for large slide openings. The 36-38mm carbs will help peak horsepower a little. Mostly they help in being able to over-rev the motor to compensate for inadequate gearing.

Carb Adjustments
32-38mm Mikuni
Main Jet 250-330 Lg.Hex
Pilot Jet 45
Needle Jet 42
Needle 5F 16-3 (sm. body carb.)

Cutaway 2.0
Air Jet None
Air Screw 1 1/4 - 1 1/2 Turns
Lectron
4-1 Needle-set @ 44mm

The pipes are the single most important element to fine tuning any two-stroke project, be it a chain saw or antique roadracer. The best TR-500 and TR-750 Kits come from Swarbrick Racing in England. Their hand formed tapered header pipes and thin-wall cones are exactly as the werks pipes were twenty-two years ago.

Avoid Allspeed, Bassoni and other over-the-counter street pipes, as they are compromise built and can ruin an otherwise race prepped motor.

For longer tracks, a steeper converging cone(s) and shorter header pipe will help top end. However, the basic TR-500 design is rather forgiving. AHRMA will require silencers of any idiotic type. WERA does not require them, so run the stingers only. Don't forget to read A. Graham Bells book on two-stroke tuning. His chapter on expansion boxes is very informative.

Gearing You are pretty much stuck with the wide internal ratios, but not so for overall gearing. A glorified go-cart track such as Loudon will require 13/33. If you come onto the front straight hard, you may get fifth gear.

For long tracks such as Brainerd try 16/33, Each track will be different, but keep in mind small changes in overall gearing, make for big differences in how you will set up for the most important turns on a given track.

Godzilla Race Prep.

Unusable horsepower can be wrenched from the T-500 motor by shaving the crank wheels down, installing crank case stuffers and using the factory "T" port barrels. The ultra-high primary compression pushes more change through the transfers. This is what Ron Grant did as a factory rider back in '68-'73. The result is a 900 rpm powerband and a bike that was demonstrative to the point of being almost unridable, according to Ron, even with a close ratio gearbox.

Light-weight crank and stuffers

A method that provides very good power, with a wider powerband, is to lighten the crankwheels by cross drilling and pressing up the shorter (6.0 mm) GT-750 rod. Over five pounds can be taken out of the wheels, and the holes can be stuffed with cork and epoxy to raise primary compression. The engine case is shaved 4.0 mm and the top of the Cylinder 2.0 mm. This puts everything, as far as stroke, back in line. By using the late model GT-750 rod, the thrust washers are relocated to the piston pin so the big end bearings get a good oii/~as bath, as they are free to move about. By bringing the porting to TR-750 specs and fabricating squish band heads with centrally located spark plug, the secondary compression is good for 7.3 to 7.5:1.

Mill the intake side of the cylinder parallel to the bore and install 38 mm carb rubbers (Mikuni P/N 002-054). This will incline the intake angle for a straighter shot to the crank case.

This latter method provides a motor that revs about as quick as a TZ and provides a power band far more forgiving than the stuffer method.

Good luck and keep it on the tires! If you find yourself getting bored with 90 horsepower and 150 mph, move up to a GT-750 based racer good for 145+ horsepower and 175 mph. And they are vintage legal too!

HELPFUL SOURCES

Western Eastern Roadracers' Association, A-5 150 Spanish Wells,
P.O. Box 12960, Hilton Head Island, SC. 29926
American Historic Motorcycle Association, P.O. Box 246,
Gifford, Il. 61847
Performance hn~ing in Theory and Practice: Two
Strokes, by A. Graham Bell, Haynes Publications, Inc., 861 Lawrence Drive, Newbury Park, CA. 91320
Swarbrick Racing, The Forge, Garstang Road, Brock Nr. Preston,
Lanes. PR3-ORD
Boyer Bransdan Electronics, Ltd., Dept. (MCS) Frindsbury
House, Cox Lane, Detling, Maidstone, Rent ME14-3HE, U.K.
Bratton Sports Racing, 6560 Skyview Lane, Placerville, CA.
95667 National Fiberglass, 517 Benson Street, Akron, OH. 44311
(ATITJ: "The Dude")
JMC Engineering, 1 Lodge Works, Birchill Road, Kirkby,
Mersyside, L33 7TD

Suzuki T500 Exhaust Systems

By Glen Morgan

In the process of working on my own T500 project I've met a few others with similar intentions. The exhaust system seems to have presented a problem for a few people. The wide spacing of the frame cradle tubes under the motor make it quite hard to simply attach chambers to the existing header pipes and go racing.

Long slim chambers will work and some people have gone down this road. The orginal exhausts are a kind of long slim chamber with silencers built in. They work quite well, as the performance of the standard road bikes testify.

Standard, welded up and hydraulically formed T500 pipes

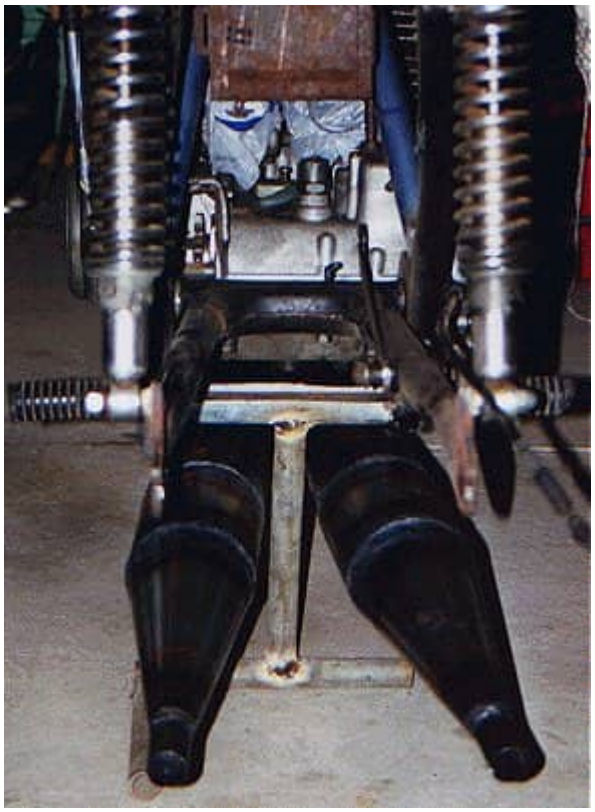
The main advantage to making your own chambers similar to the stock "mufflers" will probably be the weight saving. One of the problems, however, will be that your chambers will scrape on the ground just as the stock items do. Take heart though, they will not be any worse than standard pipes and probably better if you tuck them up well.

Having said that, if you are after more mumbo you are going to need chambers with a bit of volume to offset the peakiness that power improving changes to the exhaust ports can bring.

In most cases, a volume increase either means longer pipes or fatter pipes. Longer pipes give peak power at lower revs and they may stick out behind the bike to an unacceptable degree (even on a bike as long as a T500). There are structural problems associated with this, and if you shorten the bike in search of quicker handling it all gets a bit awkward.

Properly designed, shorter, fatter pipes are better if you are searching for more get up and go. However, it has been said that you will know when an expansion chamber design is right because it will drag on the ground or burn your leg! The truth of this was never more evident than it is in the case of the T500. Mount a chamber of reasonable diameter conventionally on a T500 and you will almost be able to park it in the pits by leaning it over on one of its chambers! This is not conducive to cutting a swathe through the swervery, leaving lesser mortals falling off their bikes in admiration.

Nope! You're going to have to convince the bloody things to nestle up under the engine, between the cradle tubes. This takes a bit of bending of header pipes, but it can be done without too many tears. However, you then have to induce the chambers to diverge again so that there is room for the back wheel between them. This is particularly so if you have shortened the swing arm or fitted one from a T250/350 (see email from me to Murray somewhere on this site, about this subject). **SEE HERE ON READER'S WRITE**



Ooops! The back wheel don't fit

Bending chambers every which way takes some technical savvy and a lot of recourse to the old saying: "Think twice - cut once!" - only I find that I have to think several times. Creating your first chamber all by yourself is quite an achievement and stuffing the thing up is not what you want to do.

If it doesn't worry you aesthetically, you can extend long header pipes forward, then back under the bike. This will move the chambers sufficiently far forward that the divergence of the baffle cones may give you enough clearance at the rear wheel, or at least minimise the amount of bending required. If you haven't radically shortened the swing arm, this could be the way to go.

Keep in mind that long header pipes change the power characteristics produced and that the chambers will need to be correspondingly shorter if your chosen tuned length is to be preserved. A long header pipe is not necessarily a bad thing. It can help spread the power delivery of your bike, though it may dampen peak power unacceptably if you over do it.

There are also some problems with conflicting resonances if components of a tuned two stroke exhaust system fall outside certain limits. This article is more concerned with practice than theory, and if you want to know how to go about designing your chambers, get a book like Gordon Jennings' Two Stroke Tuner's Handbook or the later Two Stroke Performance Tuning, by Graham Bell.

Bell's book is a sort of practical up-date of Jennings' book, without as much theory. Both are excellent and I would recommend Bell to those who just want to do it, not understand it in great depth.

Read Jennings for interest, in fact get your hands on anything written by Jennings if you want to really expand your knowledge.

The other alternative is to use the chamber dimensions that Murray has made available on his T500 Fanatics web site.

You should be trying to achieve performance which is within your technical and riding expertise or your pocket. You will want your expansion chambers to give you power that you can use.

Theoretically you should be able to get over to 45 degrees with the suspension fully bottomed out, without dragging bits of the bike on the ground. 50 degrees may be possible (transiently). In practice, on the tyres we are allowed to use in post classic racing, scraping the pipe could be a timely reminder that we are about to get bits of our anatomy bounced up the road in loose formation.

The picture shows my T500 with the fork springs removed, the stanchions pushed through the triple clamps, the rear shocks replaced by wooden struts and the tyres flattened. This was done to see whether the chambers were giving enough clearance to achieve 45 degrees. They do - just; but I have room to raise the chambers another half inch and I probably will.

Right! Before we get into a bush mechanic's guide to cobbling up some pipes, a comment about stuff on the net, and I don't mean the ladies and gentlemen in exotic positions.
There is a lot of excellent stuff written by people who are sharing their knowledge in the spirit which makes motorcycling a fun thing. There is also some stuff on chambers that has me scratching my head. Still, there is more than one way to skin a cat, and there are doubtless other, better ways to do things than those I have suggested.
I am going to assume that you have minimal expertise, cash and equipment. You will need things like tinsnips, pliers, hammer, hacksaw, a firmly mounted bench vice, some scrap water pipe, a bit of patience and access to a gas, TIG or MIG welder.

Suzuki T500 Exhaust Systems

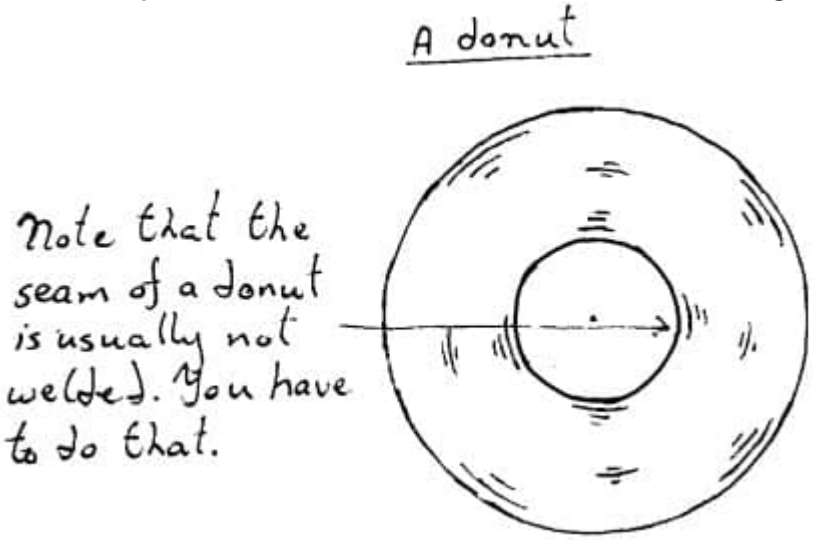
By Glen Morgan

THE HEADERS (also called the "lead-in" pipes)

In my experience, you can waste good money getting muffler shops to bend up header pipes for you. Unless they have a mandrel bender, the pipes will vary in section. Pressure waves don't like variations in section, and pressure waves are mainly what tuned exhaust systems are about!

There are still some real tradesmen around who can produce sand bends that look like a pretzel without mucking up the cross section of the pipe. These people are often in retirement and just tickled pink to help a young fella out, if you can find them.

I suggest that you use "donuts" and pieces of strait pipe of the same section to create your T500 header pipes. A donut is a continuous circle of pipe which comes in various diametres and bend radii. They are available from muffler shops and they solve a lot of problems that beset me when I first started tinkering with exhaust systems.



The muffler shop person may not know the internal diameter of a pipe or donut. They generally work in external measurements.

Original header pipes are 1.75 inches internal diameter.

****If you don't have calipers for measuring, take a header pipe into the muffler shop with you and match it up to the ends of their pipe stock until you get a close external match (better slightly bigger than slightly smaller).**

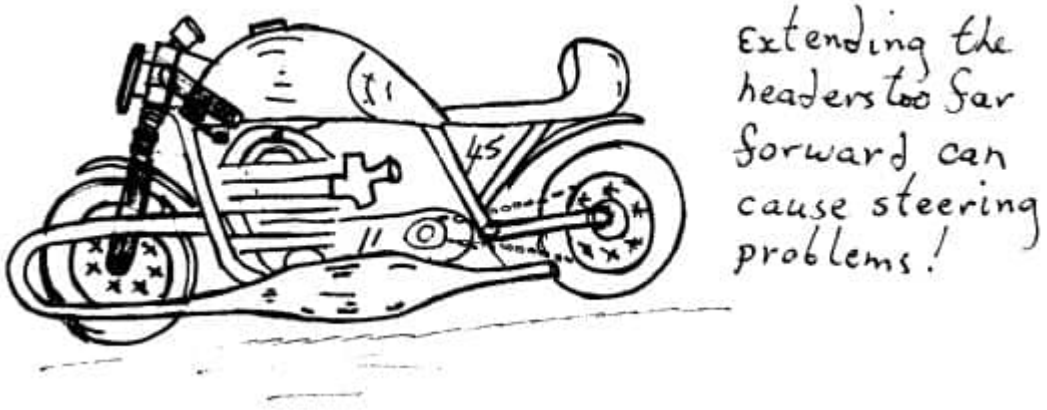
****Next compare the wall thickness. If you don't have anything to measure it with, just eyeball it. If your "eyeometer" can't detect much difference, it won't be significant for what you are doing.**

****Now order a donut with the same external diameter. (donuts can be quite expensive in this country - about $45, unless people are kind and give you a trade discount) You should only need one donut to make two T500 pipes. ["TTCO" - think twice, cut once]**

Choosing the radius can boggle the mind a bit, but I wouldn't get too worried about this. Muffler shops that carry a range of donuts in stock will usually exchange them for a different size (if you have'nt started hacking into them).

**** Take the donut home and hold it up by the exhaust port. You will be able to see whether the radius is going to work out pretty easily. Basically you need to be able to clear the down tubes of the frame as you cross over them toward the centreline.**

When planning your headers, you also need to make sure that you don't take them so far forward that you are in danger of touching the front wheel or mudguard (fender if you speak American).



Remember that the wheel moves back toward the frame when the front suspension is in compression and that braking forces can further deflect the wheel toward the frame.

This is particularly important if you have gone the whole hog, and steepened the steering head angle to induce quicker steering.

I am assuming that you are going to stick with the original finned clamps to attach you headers, but if you decide to go the slipper joint way, have a look around for larger capacity PE or RM Suzuki exhaust flanges with slipper joints. I have an assortment of these motors in my storage shed and some of the slipper joints are just the right size to adapt.

Now comes a slight moral dilemma (for me anyhow). I make my own flange where the header enters the exhaust port because I don't like cutting up original headers that some restorer of T500s may need. I suggest that you be not so fastidious. You can hacksaw this bit off and use it. (But not yet! "TTCO!")

So, you are going to need this bit with the flange on it, possibly a bit of straight pipe, then a donut bend, then probably a bit of straight pipe, then a donut bend and possibly another bit of straight pipe.

You will need two donut bends and two or three straight sections for each header pipe.

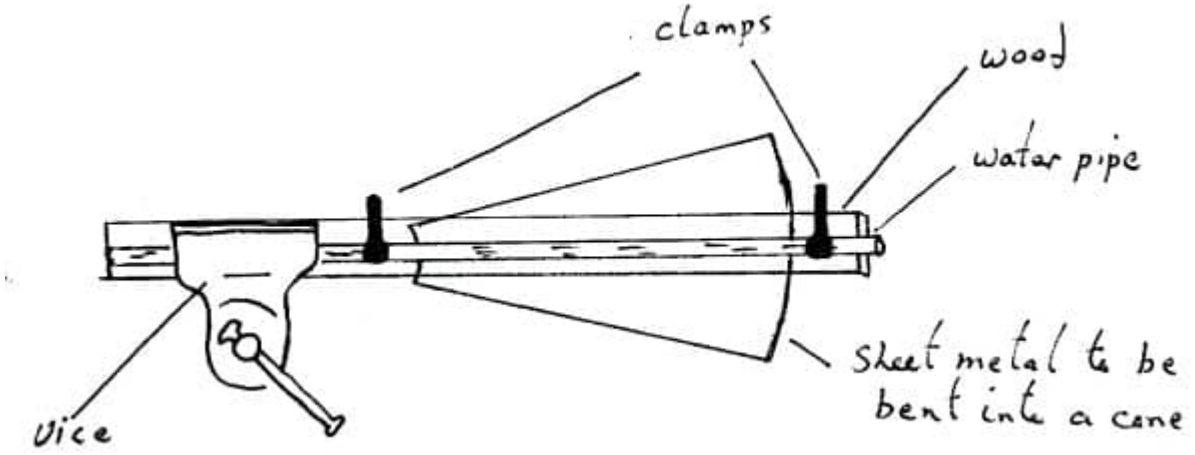
BUT AT THIS STAGE DON'T CUT ANYTHING ("TTCO!"). Leave the headers for now!

Suzuki T500 Exhaust Systems

By Glen Morgan
THE CHAMBERS

(resonators or whatever you prefer)

To make chambers, you need cones. You can make your own cones, or you can get them made. If you get them made, remember that all tin benders are not created equal. Most are good, but some may not understand your requirement for accuracy. To work well the cones must be round in section and must diverge at the specified angle. As this is a twin cylinder machine, they must also both meet the specification pretty closely. If they are more than a little bit different, the chambers will perform differently and one cylinder may be using up power to pull the other one along with it at some or all stages of the power delivery profile of the engine.
You can check the accuracy of the work by making a triangle of the specified divergence angle out of something like plywood and shoving it firmly inside the finished cone. This will show both ovality and conformity to your specifications quite clearly. But do make your test piece accurately.
Now to the business of making your cones without a cone roller, or other cone forming device. As I said earlier, I'm assuming that you know how to project the cone on a flat sheet of metal and mark it out because you've read a book about it. However, even the best tuning books that I've read make a heavy meal of explaining how to do it. Seek help if you're stuck. Metal workers and fitters know how to do it and there are sure to be some of these in your motorcycle club.
I have found that 20 gauge panel steel is about the upper limit for bending cones up by hand. I have used much thinner steel to make chambers for lightweight bikes without problems, but I have brazed them together, not welded them. If you are not a confident welder and not physically strong, I suggest you take this route for your T500. The difficulty with thin sheet though, is that sectioning it to achieve bends gets tricky. If thin sheet is the road you have to go down, you might consider the forward extending headers previously mentioned.
When I first tried my hand at making chambers, I used a vice with six inch jaws, 3 feet of inch water pipe, 3 feet of 4 x 2 inch timber, two F clamps (G clamps will do) and a lot of sweat and time.



I clamped the wood and the pipe horizontally in the vice, then I slid the piece of metal to be formed between the wood and the pipe, with the smaller end of the cone-to-be at the vice end. The next step was to clamp the pipe and the wood together so that the pipe bisected the metal from end to end.
It is important to bend from the middle outward more or less equally in both directions or the edges will creep longitudinally and you wind up with a step where your seam ends should be flush. Too much of this will change the angle of your cone away from you design specifications.

Now, little by little, work the sheet metal around the pipe clamping and unclamping and moving the metal through a wider arc at the larger end. Then reverse the metal so that the small end faces away from the vice, and work the other half round bit by bit.
Finally, when the cone is pretty well formed, you may find that you need to hold a piece of wood flat against the metal and tap it around with a hammer. This is particulary so for the smaller end of the cone. You also have to be careful to work the middle of the edges around properly or you get a belly-out which makes aligning the edges for welding difficult.

Work the middle of the edges round properly to avoid bellying-out of the seam edges.

I never said it was easy! Now you know why the books suggest you get a sheet metal shop to make your cones. However, with thinner metal, cones can be bent up round just a pipe with one's hands and a soft faced hammer. So there it is: if you are a masochist, or just get a kick out of working with metal, what I have described is one way of doing it by hand.

Alright, so you want to weld them yourself too! You can pull the edges together using large pipe clips, or wire loops twisted up tight with a nail, I've even done this with string! Of course, you can buy vice grips and welders clamps, but that's too easy!

****Tack weld the edges. Start in the middle, then do a tack a couple of inches to the right, then a couple of inches to the left and so on out from the middle. There are other sequences. Do what works for you, then weld between the tacks working in a sequence if you must, but I just weld from one end to the other once the tacks are done.**

It's a good idea not to take the welds right out to the ends of the seams. If you have to trim a bit off the ends with snips, it is easier if you don't have to munch through the weld as well.You can button this seam up completely when you weld the headers and the belly section in.

It pays to make your cones a bit longer than you need at both ends. There is nothing worse than finding that your cone openings are too small at the belly section end and too large at the header pipe end!

THE BELLY SECTION

Make this longer than you think you will need it to be. You can trim a bit off if you need. Again, you can make trimming easier by not carrying the seam welds right to the end for now. Roll and weld it as for the cones (only it's a hell of a lot easier).

THE STINGER (bleed pipe)

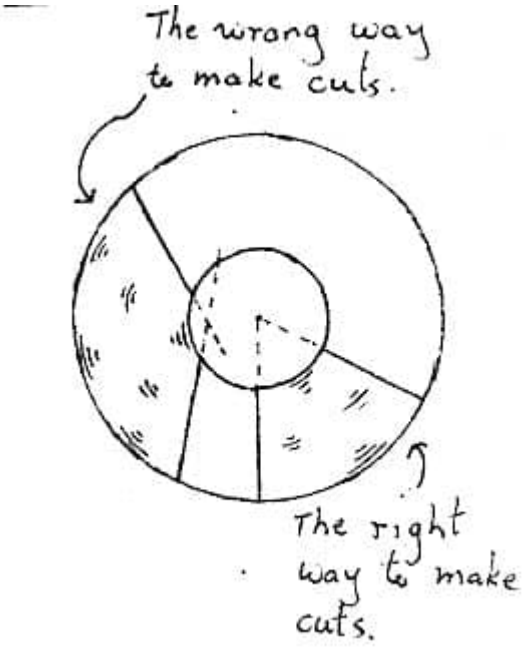
I hunt around for a bit of pipe of the right external diameter and "dong" the sheet metal around it in the vice with a hammer. A small lap in the joint is fine. Just weld it up (but not with the pipe inside it. You will have the devil's own job getting the pipe out of the middle!)

Why don't I just use a piece of exhaust tube of the correct internal diameter? Well, exhaust pipe tubing is relativly thick walled compared to the sheet metal I have suggested. If there is a big difference in wall thickness it seems to concentrate the stress around where the stinger comes out of the chamber and it cracks at this point.

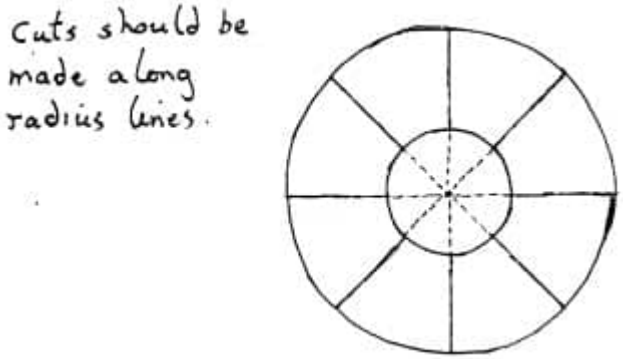
This may just be because of the extra weight bouncing up and down. Certainly, you have less problems if you have part of your stinger down inside the diffuser cone, where the weight is balanced more evenly across the weld that attaches the stinger. The stinger pipe vibrates at a higher frequency with less amplitude on either side of the weld. [Not the sonic frequency, of course, but lets not get complicated. It doesn't matter as long as the damn thing doesn't break!]

Suzuki T500 Exhaust Systems

By Glen Morgan
BACK TO THE HEADER PIPE
I have seen people get in all sorts of a muddle cuting up a donut. If the cut does not go right across the centre of the circle formed by the donut, you get an oval shaped opening that does not match up well, and you get a variation in section where you don't want one.



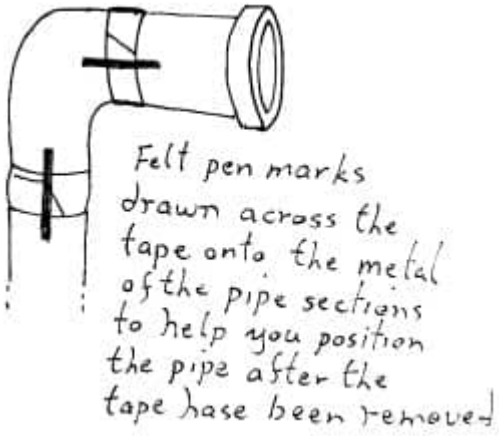
On the subject of inaccuracy; I have drawn up pipe designs for people. Two things made an impression on me. One was how rough the translation of the design into metal often was, but the second was how surprisingly well some of these pipes seemed to perform despite the indifferent execution of the design. The point being that, while you will gain a useful few percent in performance by being meticulous, you seem to have to make a total botch of a pipe for it to work really badly. So get the pipes made and get racing. You will inevitably want to make a better set further down the track!
But back to cutting donuts: you need to find the centre of the donut with reasonable accuracy. I set a compass to the radius of the inside of the donut's bend, scribe the circle on a suitable piece of wood and cut it out on my bandsaw. I then put the circle of wood into the hole in the donut and scribe my cutting lines through the centre which is now nice and obvious.



However, I have also found that the circular lids of plastic jars sometimes come in sizes that fit pretty nicely in the hole, and there is often a little mark in their centres. This of course saves time and suggests that God and people who make jam are favourably disposed toward people who build motorcycles.
I suggest that you use a protractor to scribe lines at 10 or 20 degree intervals around your donut. This will help you keep on track if you have to trim a bit off after you have cut the donut into pieces.
At this stage my advice is going to get a bit nebulous because I don't know whether you are going to bend your pipes all over the place, or go with a less demanding option.
Anyhow, here goes:
**** tape the three sections of your chambers together with masking tape or some other sticky tape.**
**** hold the chambers up underneath the motor both with the back wheel in and with it out.**
I am assuming that you have trimmed all the brackets and other vestiges of road bike off already. There are the heads of bungs and other things protruding down under the gearbox on the right hand side as well. You may also need to take this into account.
****once you have decided where you are going to place your chambers (this depends to some extent on what amount of sectioning and rewelding you are prepared to undertake) I suggest that you tape or wire them in place temporarily.**
If you can visualise where they will go accurately, ignore this previous advice, but be warned that things can get awfully out of shape if you haven't done this sort of thing before.

****now you can start to work out where the the headers wil run, what bends you need and what straight pieces you need. "TTCO" and leave a bit to spare if you are not sure about anything.**
****as you cut things, you can tape them together. Eventually, you will be able to bolt the taped up headers onto the barrels and see what you have got.**
It's a good idea to tape parts of your pipe together at every stage to see how they fit on the bike.

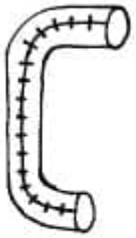
**** When you are satisfied that it will all fit, you should roughly measure the length of the headers along there centrelines to check that your header length is not too far outside the limits for the pipe design you are using. We will have a look at doing this a bit more accurately soon.**
****once you know the header length you will begin to have some idea of whether the belly section needs to be shorter or longer to achieve the tuned length required.**
Keep in mind that the tuned length is from the piston face to the mean wave reflection point, along the centre of the pipe. When you drew up the design you will have marked this in (I hope!) but locating this point inside the baffle cone can be a bit of a chore. More about this later.
****draw two felt pen lines from metal to metal across the tape that is holding your header pipe together, this will help you find the relationships again when you tack weld the pieces of donut and pipe together. If you use two colours, you won't get them 180 degrees out by accident!**



****as you peel each piece of tape off, extend the felt pen lines so that they join up, and number each piece so you don't get lost (it is probably 2 am by now and the once sharp intellect can get fuzzy after 10 cups of coffee and not much sleep). I also suggest that you un-tape and weld one header at a time so the pieces don't migrate from left header to right header. You might not be that dumb, but I have been!**
****tack weld the pieces together then bolt them to see how things are going. If it the headers look good and they both check out as being the same length, weld them up now, but if you are not sure about anything stick with the tack welds for now. Then with a few hacksaw cuts through the tacks you can make adjustments.**
**** now do a final trim of the header pipe ends of the diffuser cones so that the inside diameters match up with the header pipe inside diameters. Check that it all fits again and make your felt pen marks to help you line things up for welding.**
You will have noticed that I use a lot of things like string wire and tape to position things. This is because I generally work alone. If you have the luxury of an assistant to hold things in place, you can probably shortcut a lot of this. For example, you could get someone to hold the diffuser in place under the bike while you tack it to the header.
**** trim the outlets of the diffusers to fit the diameter of the belly sections, then stand them on end and measure their length by plumbing the centre line with tape or ruler. Don't worry if they are not exactly the same length, just write the length on them in felt pen. There is a way to compensate for small differences.**
****tack weld the belly sections on.**
Incidentally, your chamber sections will often come out a bit pear shaped around the seam welds. Ideally you should put the cones and the belly section on the beak of an anvil and strike them flat with a hammer. You probably don't have an anvil, so put a solid lump of pipe in the vice, slip the sections over it and strike the welds flat on the pipe. This will usually go a fair way to solving the pear shaped probem. You will also often find that the sections go together better if the seam welds are lined up with each other. This also means that all the seams can be positioned where they don't show (unless you can do welds that you want people to admire, of course).

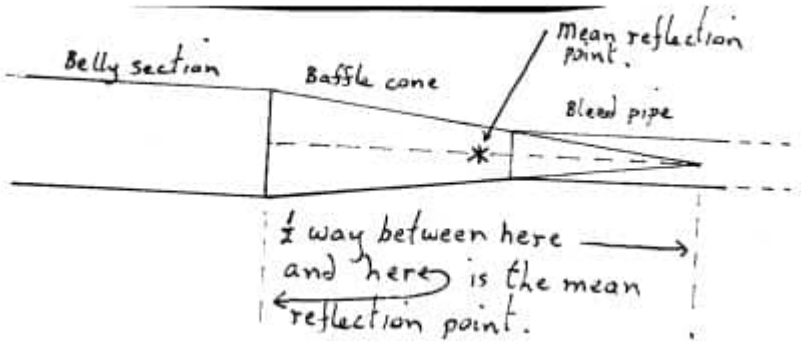
Strike the welded seam flat if the cone is "pear-shaped". You may also need to "massage" it a bit by leaning on it on a flat surface.

**** now to the thorny question of getting the tuned length somewhere about right - *and don't forget that the depth of the exhaust port needs to be added to the length of the header pipe*. (That tuning book that you read will have explained about this.)**
****draw a felt pen line along the centre of the outside of the header pipe. Yes, I know this gets a bit"guess and by God", especially if the header is in more than one plane, but its near enough and believe me you won't want to know about the other ways of doing it!**



Measuring the length along the outside is ok if you stick to the "middle" of the outside. This gets a bit tricky if the header pipe is in more than one plane. (ie "twisted")

****Now use dividers set at a small distance (1cm or ½ an inch will do and you can just use a ruler if you don't have dividers) to step out the length of the header along the line you have drawn. Both headers should come out as near as dammit the same if you have worked carefully and matched everything up as you went along.**
But this is your first effort at this sort of thing, right? So don't panic if they are a little bit out. If it's wildly out of whack, you will probably need to go back and adjust one of the pipes anyhow, because they probably won't fit properly. On the positive side, this is a good thing to know before you get in deeper!
You have already plumbed the lengths of the diffuser cones, so you know what length they are and that they are pretty much the same length. The lengths of the belly sections are easy to measure because the walls are parallel. I usually write the lengths on the headers and other sections with felt pen because Dr Alzheimer seems to have visited me early, and I forget easily! But seriously, a lot of us have to get our bike work done in time that is stolen from Morpheus, because the rest of our lives belong to work, wives and kids. Stuff-ups because you haven't kept track of what you are doing burn up valuable workshop time. You do need to be a bit careful.
****on the drawing (full size or scale) that you did when you planned your pipe, you will have a triangle that represents your diffuser cone. (If you haven't extended this out to a point, you should do this). The mean reflection point, which represents the end of your exhaust system for tuning purposes, is generally taken to be half way along a line that bisects this triangle. (that is, half way up the centre line of the cone) You can measure the length to this half way point on your drawing (don't forget to scale it up if necessary).**



If the diameter of the belly section pretty well matches your drawing, and you trim the diffuser cone to fit, then the length taken from your drawing will be the will be pretty well right.

So now you can add the lengths to see if your system matches your desired tuned length: port depth + header length + diffuser length +belly section length + depth of baffle cone to the mean reflection point.

REMEMBER THAT IT SHOULD BE TOO LONG because you made your belly section longer than you needed just in case you stuffed up somewhere! So now you can trim the belly section back till you get the right length.
now a sneaky little trick! Somewhere along the line it is highly possible that your pipes may have gained or lost a bit of length relative to each other, and because the T500 is a twin, we don't want this to happen. Sneak back into the

house and pinch the dressmaker's measuring tape out of the sewing box. Wriggle it down through the pipe from the beginning of the header to the end of the belly section. Pull it tight and mark with your trusty felt pen where it enters and exits. Note this length. Now mark the same exit and entry points on the other pipe and do the same measuring trick.
This is NOT the length of the pipe along its centre line but it will tell how much variation in length between your two pipes there is.
**** trim the belly sections so that both pipes are the right length to weld up to the baffle cones and, even though there may be some accumulative variations in the pipes, they will be acceptably close to the same specified length.**
**** if you're happy with everything, weld it all up and if you've decided on the bend-it-all-over-the-place route, go and get some sleep. You'll need to be wide awake for that part of the exercise.**

Suzuki T500 Exhaust Systems

By Glen Morgan

TUCKING THE CHAMBERS AROUND THE BACK WHEEL

If you have looked at the photos with this article and some of the photos in the galleries on Murray's site, you will have an idea of the problem. I don't know how long your wheelbase is or how you want to route your pipes, so I've taken quite an extreme approach in the hope that it will cover most needs.

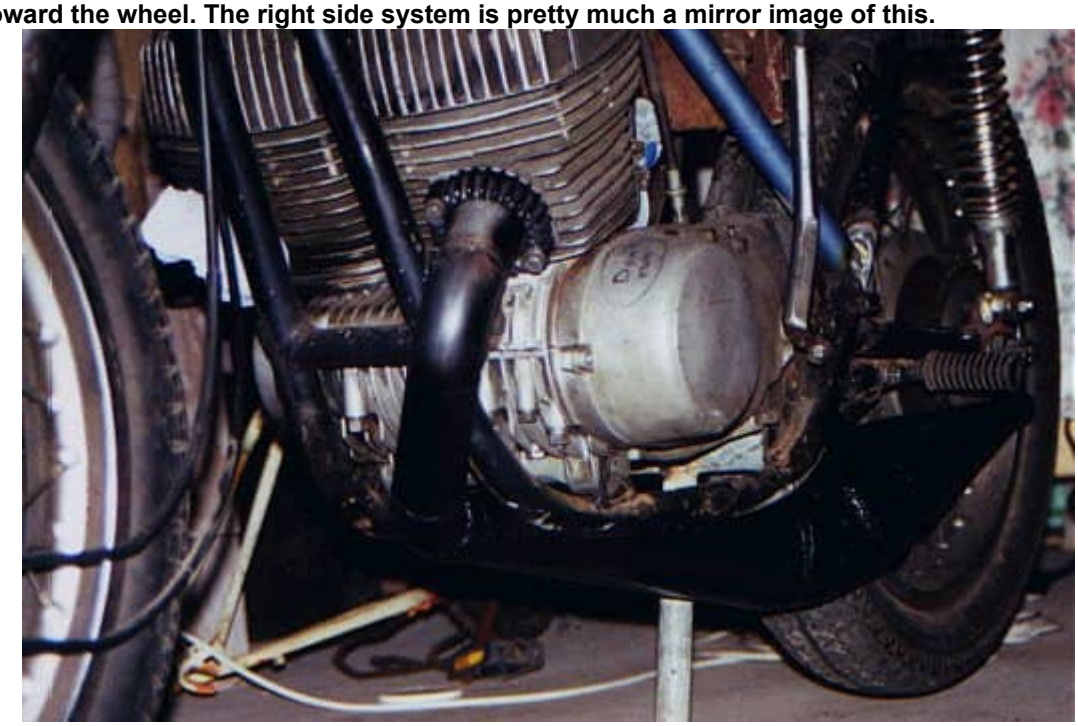
You will see from the photos that I've kept the header pipes in close. This means (see photos) that the chambers extend well back into the area occupied by the rear wheel. I have also installed a 4 inch shorter swinging arm which brings the chambers and the pipes further into competition for space. Added to this, the chambers themselves are over 4 inches in diameter, so it's starting to get reasonably crowded.

I've assumed that you are not going to chop out, raise and reweld the cross tube behind the gearbox ,and that you are going to stick with the standard rear footpeg mounts for your rearset pegs. I've made this assumption on the grounds that you're keen to stop welding and go racing.

This also means that if you decide that you haven't got the time or the gear to tackle making chambers, you can order a pair with a reasonable expectation that they will bolt straight on. The further away from the standard frame you move, the harder it is to fit pipes from a distance. A lot of people who make pipes prefer to have the bike and do all of the fitting themselves. After all, there is some pride and reputation at stake!

I've taken a pattern off the T500 pipes I've made so that I can form them hydraulically. Hydraulic forming has the advantage that you can do "production runs". Once you have the basic form worked out, you can produce variations to cater for different performance requirements. If you are interested in giving it a go, look at Michael Moore's Eurospares site on the net. He does a good job of explaining the basics, but keep in mind that making a convoluted two-stroke header and chamber can have a few wrinkles in it, both of the technical and physical kind.

**** I've taken photos for this article so that they you can see which way the bends go. Take the left side: the header crosses over the left hand front downtube, then goes down under the engine where it joins the diffuser cone. Just before it joins the belly section, the cone has a bend which takes it upward and outward at about 45 degrees from under the cross tube behind the gearbox. The next bend is in the belly section and continues in the same direction, making room for the wheel. The final bend is downward and inward, to tuck the chamber under the footrest bracket and back in toward the wheel. The right side system is pretty much a mirror image of this.**



I can think of at least one other way to do this, But however you do it, if you get the pipe nicely positioned under the footrest and well tucked in toward the wheel, the mounting bracket can go straight up to the footrest bracket. You need to think about this mounting business when you plan you pipe.

Suzuki T500 Exhaust Systems

By Glen Morgan

ATTACHING THE SYSTEM TO THE BIKE

Bell's book will tell you what you need to know about attaching exhaust systems to bikes, so there is no point in me writing about that here. Have a look at some of the pipes around the pits. That will give you a few ideas too.

Well, that's just about it from me on T500 (and other) chambers.

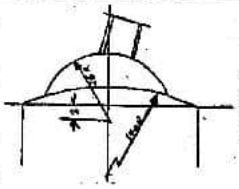
I'm sure there are better ways of doing many of these things. I hope what I have written will encourage people to contribute. I'd also be happy to have people email me at - atmorgan@wave.co.nz atmorgan@wave.co.nz. A bit of feedback about anything that doesn't make sense or is hard to follow would be useful.

There is a copyright on this material, as I hope to publish it along with some stuff on porting and combustion chamber modification (when I get it together). But by all means copy what's here for personal use.

1970 Suzuki TR500 factory specs

SPECIFICATION OF TR500 1970 MODEL

1. Engine

Item	Specifications
Bore x Stroke	70 x 64 mm (492 cc)
Cylinder A) Type B) Porting C) Base gasket	 Cast-in type sleeved aluminium cylinder (stock cylinder is modified as follows). Ex. : 35 mm from the top surface (51.5 width) In : 110 mm from the top surface Sc.: 50 mm from the top surface 3 pieces (total thickness is 1.9mm)
Cylinder head A) Shape and volume of combustion chamber B)	 volume 24cc when fitting NGK B-10.5 EP Thickness : 0.8 mm
Piston rings A) Type B) Width x thickness	 Flat 1.5 x 2.7 mm
Piston Diameter at top land	 70ϕ - 0.365 (±0.05) mm (cylinder size 70ϕ + $^{0}_{0.005}$ mm)
Ignition system A) Type B) Ignition Timing C) Contact point gap D) Spark plug	 Racing magneto 3.1 mm (25° BTDC) 0.35 - 0.45 mm NGK B-10.5 EP

Carburettor

A) Type — VM34 SC

B) Setting — Main jet: 280 - 310 Needle jet: Q-0 (primary choke height 8mm)
Jet Needle : 6FJ6 -3rd
Pilot jet : 35
Cut-away: 2.0

Clutch

A) Type — Wet multiple (8 pieces) fitted with V type expansion rings

B) Springs — Tension when being fitted: 25.5 x 6 kg

Transmission

A) Speeds — 5 speeds

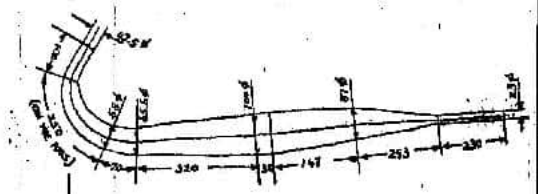
B) Ratios — Primary: 68/31 = 2.193
Secondary: 30/15 or 31/15

		Total ratios 30/15	31/15
1st	28/15 = 1.87	8.20	8.48
2nd	25/18 = 1.39	6.10	6.30
3rd	22/20 = 1.10	4.82	4.99
4th	21/22 = 0.96	4.21	4.35
5th	20/23 = 0.87	3.81	3.94

Lubrication — Gas-oil mixture with ratio of 30 : 1 plus Posi-force lubrication

Oil pump control lever is set stationary at the half opening position.

Expansion chamber — Dimension : MM



Tyres

Front : 3.00 - 18

Rear : 3.50 - 18

Dunlop or Goodyear racing

Wheels

Front : Ceriani (CFW-225)

Drum diameter	9" (228 mm)
Shoes length	8" (203 mm)
Shoes width	1" (25.4 mm)

Rear : Ceriani (CFW-170)

Drum diameter	8" (203 mm)
Shoes length	8" (203 mm)
Shoes width	1" 1/8 (28.6mm)

Suspensions

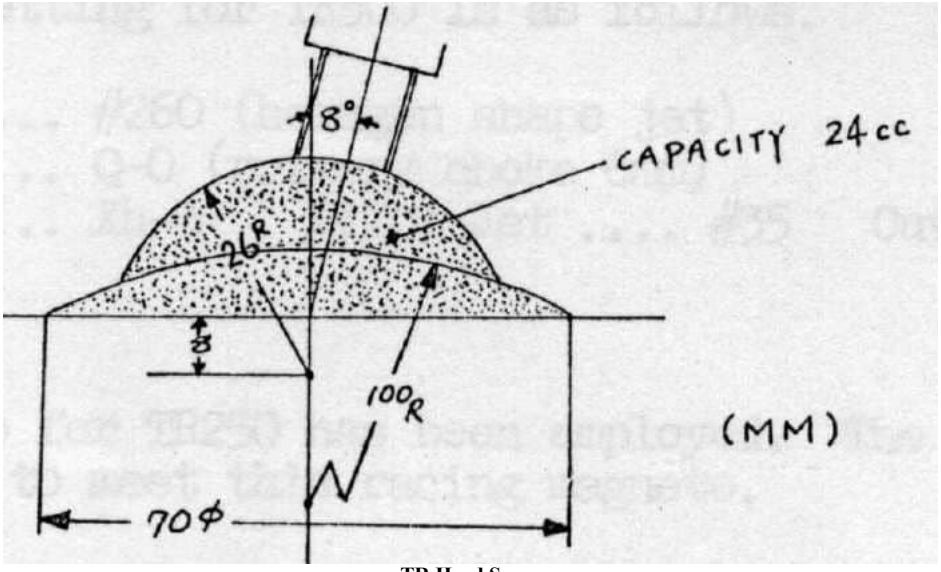
Front forks : Ceriani (CS1207-30 type)

Rear shocks : Ceriani (2404-325)

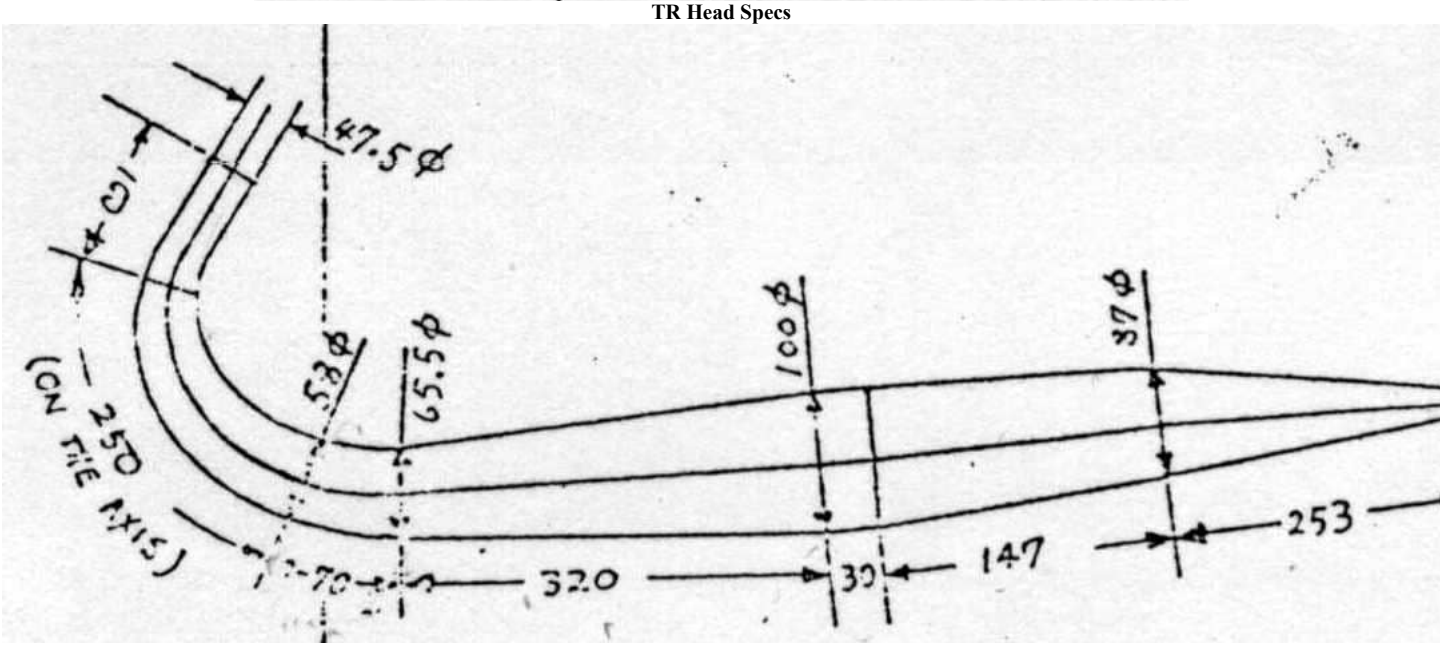
Weight

Front	Rear	Total	
67.8 kg	67.5 kg	135.3 kg	
88.2	115.0	203.2	... when Mitsuo Ito gets on

The above weight does not include the petrol and Posi-force oil.



TR Head Specs



Andrew Holley's Suzuki 500

Early History:
The bike was bought new by my brother in 1971 as a T500J, after loosing his drivers licence for the usual teenage stupidity, he sold it and then I bought it back in Jan 1975.
Straight away it gained expansion chambers and clip ons plus home made rearsets.

In May 1975 both T500 and I headed for England, me by plane, it by boat. We stayed there for 2 years touring around England and Europe. During this time I grafted a sidecar onto it and took my new wife around Europe. You would not believe how hard it is to steer and outfit with clipons and rearsets.
After regaining my sanity, I ditched the chair and aquired a 20 litre tank, Dunstall fairing, Borrani flanged alloy rims and proper rearsets. We then returned to Australia in May 1978 where it
was used on the road till 1981 when i bought a new UJM.

When Post Classic class racing started back in about 1984, I decided to dust the old girl off and turn it into a full blown race bike, since then it has been a slow evolution to what you see today. I dont know how much of the original bike is left, maybe the back hub!!! Its a bit like grandad's axe, its had 2 new heads and 3 new handles, but its still the same old axe.

CURRENT CONFIGURATION
Frame:
Of unknown year, but heavily modified. Inspiration for which came from Collin Seeleys efforts. Basically I removed everything above the swing arm pivot and behind the steering head and replaced with lighter gauge straight tubes. A weight saving of 6kg (13lb) over the standard frame. With a direct connection from steering head to swing arm pivot, the handling is much more stable.

Front End:
This was lifted from a 1972 GT750, it bolts straight on with no probs and gives you a good twin disc brake that is more than a match for the all up weight of 136kg (300lb)

Rear End:
Swing arm is T500 shortened by 3 inches, done by removing the section between the pivot tube and the cross brace in front of the wheel. Koni 7610 shocks are fitted.

cross brace in front of the wheel. Rear YSS shocks are fitted.

Motor:
Crank is standard. And seems to tolerate 8500 rpm quite well, I rebuild my own and usually get them to about 2 thou runout.

Exhaust ports are raised to 35mm and about 50mm wide.
Inlet ports are dropped to 108mm.

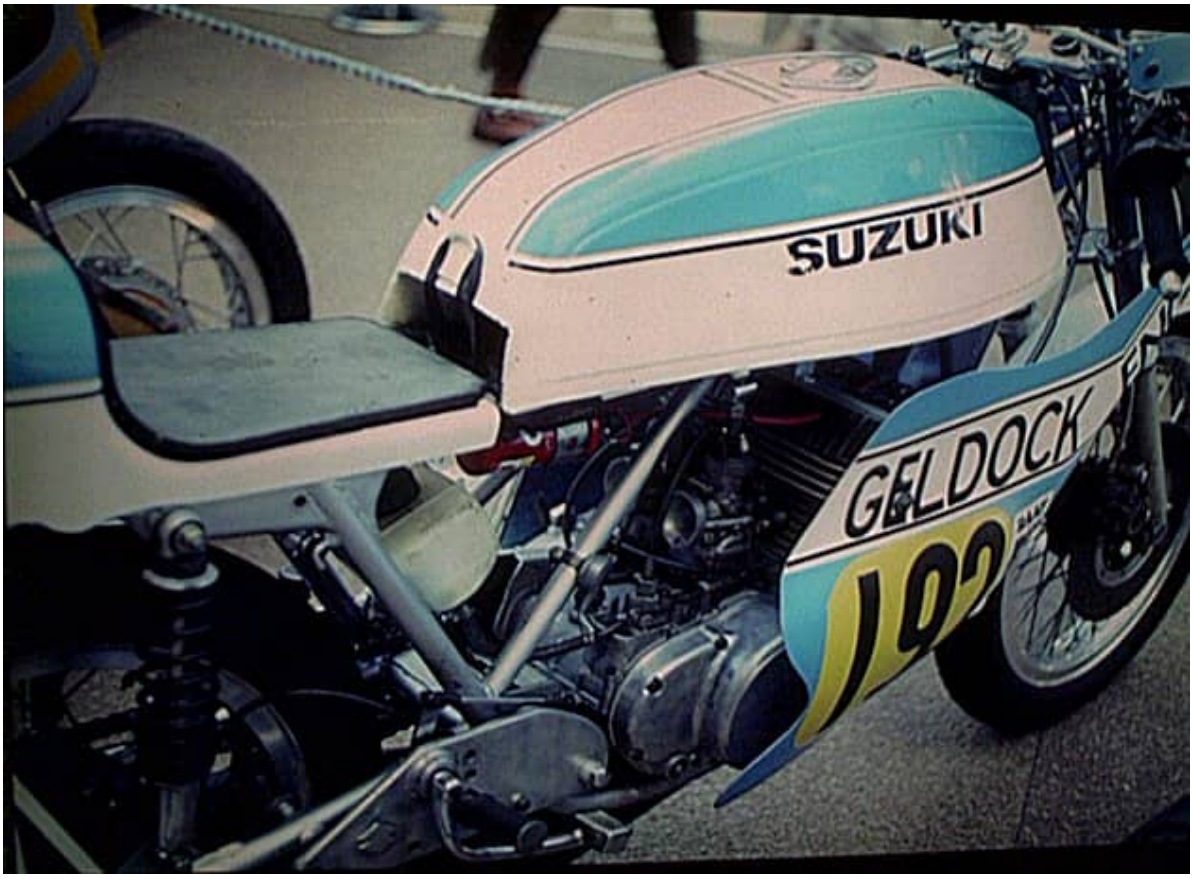
I leave the top end of the transfers alone except for cleaning the dags out. The bottom end of them gets cleaned up and matched to the crankcase.
Cylinder heads are TR500 reps, made by Dave Andersen.

I have fitted straight cut primary gears as these relieve a lot of side loading on the crank, letting it spin up much quicker. Thes are also by Dave Andersen. Only draw back being the turbine like whine.
Clutch is fitted with heavy duty race springs meant for a GSXR Suzuki.

These normally make the clutch action very stiff but this was fixed by ditching the screw operated clutch throw out and using a pivoted lever.

Carbs are Mikuni VM34SC's

Ignition is currently back to points with Bosch GT40 coils. Simple and reliable, backed up by 2 coils from the alternator feeding through a full wave rectifier to a regulator and a big electrolytic capacitor. No battery to worry about charging up. And you get voltage as soon as you swing the kick starter.



I have been through several ignition systems, including Pirahna, modified GSX and GT500. I might get the soldering iron out and do some more tinkering. Timing is set to 2.60 mm BTDC.

Exhaust System:
Custom made by RIck Roberts here in Sydney. He does beautiful work, his welding is a work of art. Its even quiet enough to be used on the street. In fact for a while I had it registered for the road while having a break from racing. Just bolted lights on it.I have even kept the kick starter, I hate bump starting, and the weight saving would be 3/5 ths of f... all anyway.

Body Work:
The tank is a 20 litre alloy one, made by Read Titan in London.
Seat is late TR500/early RG500, I like the style of it so there!! I do have an early TR500 one as well in case any scrutineers get picky. Fairing is a TR500 replica made by Racers Edge and
suits the bike perfectly.

I hate to think what this bike has cost me over the years, at least a deposit on a house.But these damn machines get into your blood.

Andrew Holley
1970??? T500

Chris Bradley builds a T500 racer

Chris Bradley built a race 500 from a heap of T500 parts. His experience was published in Classic Motorcycle Mechanics in their February 1999 issue. Chris is still living off the proceeds from writing that article and plans a trip into the heart of Washington Farm some time this year to celebrate his new-found fame.

Not registered
Frame no. tba
Engine no. tba
Estimate £3,000 - 3,500

447 SUZUKI 'TR500'

Suzuki withdrew from Grand Prix racing in 1967 but immediately looked for ways of promoting their new 500cc road bike - the T500 Cobra - and the following year launched the TR500 racing version. The air-cooled twin-cylinder engine proved highly tunable, Jack Findlay winning two World Championship rounds on a TR500,. Today, genuine works TR500s are rare. We are informed that this machine is a faithful replica of a works TR500 built largely from new parts with a fastidious attention to detail and with no expense spared. The double-sided twin-leading-shoe front brake is brand-new and has titanium torque arms (the same material is used for the rev-counter bracket) and the fuel tank and seat base are handcrafted in aluminium. The machine has done only a few test miles since completion, and will require careful running in before being ready for use in parades, or historic racing.

Chris Bradley's T500 based racing special - Part 1

"Chris is from Newcastle on Tyne and he has been so kind as to keep me informed on his long and arduous path to an immaculate TR500 styled T500 based racing machine. Some of the voluminous correspondence that has graced the ether follows....a bit disorderly, but you know how it is..."

At 05:57 PM 16-11-97 +0000, you wrote:
Hi Murray,
Its good to see the T500 pages increase and I am flattered to see my pics being used. I will keep taking photos as the project progresses. I am expecting my TR lookalike tank and seat unit to arrive any day now which will be a major step forward and when I get my crankcases back things should speed up a bit.
Since begining this project I have been told by yourself and others to modify or completely junk the oil feed pump on my motor, but I am not really sure why. You explain that it takes very little to drive the pump and it is extremely reliable, so why not leave a good thing alone ? I would be very grateful if you can offer an explanation, Rob Greenhill is unable to answer this question also.
It seems we are strengthening our ranks over here in blighty and there is talk of a Racing T500 club.
We may even get a special display of racing 500s at next years Jap Classic Show at Stafford. (If we build it will you come ?)
Its bloody misserable over here just now, were just waiting for christmas to come and go then we can look forward to next season and som good fun.
Best regards.....Chris

Hello there in Blighty, Chris.
I am jealous of your project and look forward to the pics.
I am mighty keen to re-assure you that I am a fan of the standard oil system. I do not modify the oil feed at all. I do set the pump to one third open and wire it there though. Full throttle gives too much oil for racing. I also mix about 1:60 pre-mix in the tank. I'm sure I mentioned that in my pages. It is others who go on about modifying the oil feed to the bearings. I do not subscribe to that school. It have found it absolutely bullet-proof with that setup.
Love to come to England. You'll have to get all of the T500 Racing Club members to contribute 10% of their membership fee to our fares, I'm broke now!!!!
cheers Murray

Wed, 11 Jun 1997
The project is coming along steady with a rear wheel now built, today I received a replacement drum for my GT750 front brake (first one sent was chipped) GT.500 forks and yolks (tripple clamps) now ready with trimmed down and polished sliders so I can now get the front wheel built. Avon AM22 & AM23 now purchased and front fitted

Date: 19 Jul 1997 23:46:20
From: Chris To: Murray Barnard
Subject: Re: The postie's been
Yo Muzza,
just reporting in to say that the Femsa arrived safely yesterday. I would be grateful for any information you have for setting the thing up. I cannot tell where the rotor needs to go in relation to the crank as there is no keyway !
Although its a bit on the heavy side it certainly is sturdy, I hope it never falls of during a race ! it would adopt the stance of a bouncing bomb....
Bob greenhill has got a milling cutter jigged up to run inside the crankcase of T500s using the mains as a rotating point for the tool. He then machines the crankcases perfectly round - around the crank webs and is then able to make stuffers cut from alu pipe to fit within a few thou of the crank. (how about that)
Progress on the bike has been slow lately, now I have the ignition and as soon as the bloody ponds finished I can get cracking again. Hope your well and things are drying out a bit over there,
Your bestest fan ever,
Chris.....
Yo Muzza,
The Femsa's great, although heavier than I had imagined (have you got one made in Titanium, Unobtanium,Dis-appearium, or Re-appearium ?) Cos there much lighter.
I should have some good pics of my frame soon, as modified by outfit racer Tony Baker. A great welder and very clever engineer. I will let you have a one in due course. It may serve as an example for your apostles.
Chris....

Date: Wed, 30 Jul 1997 21:09:10
From: Chris
Subject: Racing Suzuki T500's
Yo Muzza
Things have gone mighty quiet around here,
Thought I had better give you a shout.....
The Femsa is going to be O.K. I have been making a new mounting plate from Dural, and the motor is stripped again for more mods.
Rob Greenhill says thanks for putting his name up in technicolour and is enjoying the info I pass on to him.
Rob has offered to make me some stuffers, so I have to send him my crank-cases down to be machined to take them. (as were the factory racers) we thinks.
I have also introduced bob to Martin Crooks who is also interested in some stuffers. When we start the T500 Racing Association we may be looking for a president...Sir. Another development is that there may be a Post Classic event to be held with the Manx on the Isle of Man next year. This would mean you may see T500's racing once again around the Island.

In accordance with the tuning data sent in by A.G.C. I have got my brother-in-law on making some 2mm base gaskets out of sheet alloy using E.D.I. (Spark Erosion) and we hope to flog a few if we can.
Best Regards.....Chris.

Stuffers for the crankcase

Stuffers fitted in the machined crankcase

From: chris bradley
To: pindan@hotmail.com
Subject: T500 expansions
Yo Muzza,
I have also got some interesting formula from Rob Greenhill which was written by an Australian chap named Alexander Graham Bell.
My pipes look good but the formula suggests that my motor will peak at 5898 RPM.
I know you say that the pipes need to be long on a T500, but Mr.Greenhill reckons they should be about 1 metre from piston face to point of convergance of the baffle.
The T500 racing circle widened the other day when a journalist from Classic Motorcycle & Mechanics contacted Rob Greenhill. A guy called Don Leeson. He too has just built a T500 Racer. If he's on the net I will URL your website. We are trying to get a stand at the classic show next year for T500 racers, wouldnt that be something, you must get if we do it. Anyway theres a bit of interest brewing over here me thinks !

Lightweight crank and stuffers

Chris Bradley's T500 based racing special - Part 2

"The continuing saga of Chris Bradley's successful attempt to build a T500 racer...with some fabulous shots of the finished product."

Date: Fri, 02 Jan 1998 13:07:31
From: chris bradley
Subject: latest project pics & Greetings
Happy New Year from the Motherland.
I have sent some more pictures which I hope will keep you tickled. Things aren't progressing too quickly, but even with a plastic bag on the fairing looks trick.
"Looking good! Chris
I always found it difficult to put a real TR500 fairing on a standard frame. The dimensions are all wrong and the engine, forks and bars get in the way. Is your fairing a TR fairing or is it designed to fit on the T500?"
Date: Fri, 09 Jan 1998 17:38:24
From: chris bradley

Yo Murray,
The fairing came from TGA racing and cost just under a £100 with the screen. Your right it is a bit of a neat fit but I think it will be ok. It's well made and I can recomend it. I will let you know if I have any problems.
Please don't tease me about the weather!
Freezin me bollocks off.....Chris.
Had a guy come over last night after a main gearbox shaft, the one which wears out if the oil is too low. He said he had tried all over the world and can't get them anywhere. Anyway, I said he could have the one from a daggy old gearbox I had. Just had to get it out himself. Blow me down if it wasn't absolutely pristine. The gears and bearings looked new. Oh well, wonder what it was worth?

cheers
Murray
Yo Muzz,
Know what you mean about the gears. Mine was gone on 5th also.
What I did was to press the gear off, machine the boss of the other side in a lathe and press it back on the other way. As the teeth are symetrical. Then for good measure as the surface interference is a lot less I had it tig welded back on on the inside. Me mates got the lathe and the press, and the welder charged me £5. Not bad for a recon gearshaft.
You know we have not seen any snow yet over where we live, its definately getting warmer. I expect it will be much hotter in W.A. next year.... Have a beer on me mate ! and stay cooooool
Chris.

Les Trotter's old pipes
At 09:49 AM 29-11-97 +0000, you wrote:
Yo Muzza,
Now that I have some more pics of the project I thought you might like to see them. Altogether the tank & seat with oil tank fitted seperately underneath came to £239 or A$480. The tank looks like a TR. but has cutaways to locate onto the standard tank mounts. This is just to prevent any forward movement. The whole thing sits down onto the frame with C.N.C. accuracy. I am pleased !

Last week I gave my heads to an ALU Welder to fill. Rob Greenhill has the techo to machine a squish head so the motor is still being worked on too. (can't wait to start building in earnest)
Regards.....Chris
Date: Sun, 15 Mar 1998 00:56:50 +0000
From: chris bradley
Subject: In need of some bits !

Yo Muzza,
just thought I would keep you up to date on the o'l project. I just spent today stripping the frame properly and polishing the tubing ready for a coat of paint. I just had some 'top hats' welded in to take the coils just below the headstock. They match the ones I am using to mount my rearsets.

Swing arm is shortened but only by an inch as I can only get the back wheel so far forward due to the way the pipes fit neatly around me back tyre.
Tomorrow the frame gets painted and the first coat of white basecoat goes on the fairing. Still a bit of work left on the motor, gotta smooth the tops of me pistons and then measure the squish clearance, then get the barrels turned down to fit. After that Its down to assembly and make some rear set mounting brackets and I think I will make my own gear and brake levers. I think I will take a week from work when all the painting is done and get stuck into finishing the thing. It's gone on long enough has this. I wanna see the thing go.
I seem to be having a real job trying to track down some dust covers for me fork sliders Muz. You can't help me out here by any chance ? Suzuki don't make them any longer for GT500 forks and I am struggling to get some second hand.
Best Regards.....Chris
From: chris bradley
Reply-To: c.bradley@virgin.net
To: pindan@hotmail.com
Subject: The End is Nigh

Yo Muzza,
Well Its starting to look like a racing bike. The construction work is completed now, just nuts and bolts missing. Every thing is Stainless including the wheel spindles and engine sump plugs and crankcase bolts, so it should stay pretty for a while.
The bike feels really light but I hav not had a chance to weigh it yet. Perhaps I can get it on two pairs of bathroom scales for a rough idea. As yet the bike is still totally dry.

I still need some carb jets and needles, and I am not happy with the throttle cable I have on, there are elbows on the cables just before the carbs, these would have been OK on a standard machine but as my carbs are much closer to the barrels it is putting some strain on the cables.

"Femsa ignition fitted, sourced back from Australia where it had graced one of my machines. Chris had to do a lot of work to tidy it up, make a lighter backing plate and repair the wiring. Looks good!"

I had to buggar about with the Femsa to get a spark on both plugs, anyone walking past my workshop that could understand swahili would have blushed. The wires are corroded right back to the resin so I had to break big lumps off it to get to good wire. Its OK though. Sort of thing you have to expect from something that old.

Anyway here are some snaps to look at, I will scan the proper shots in good time and let you know when it goes.

Hope you are all well down there, It must be cooling down now as its warming up here. Best Regards.....Chris

5 April 1998

Thanks Chris,

To weigh your bike just put the bike on a stand and put the scales under the front wheel, and then do the same under the back wheel. Add them up..that way you can also work out the

front/rear bias. It works, try it. One set of scales is all you need.
My modified road bike was about 148 kgs....lot less than the 182 kg road machine. the race bike I think was 135 kg...but we didn't run a light-weight crank at all. At that weight they chuck beaut wheelstands.
Your bike looks just great...I am so jealous, wish my looked half as good. I guess after a few seasons campaigning the shine goes of them.
Sorry to hear that the Femsa was a bugger, it is getting long in the tooth though. Make sure the timing is advanced enough.
cheers
Murray

Chris Bradley's T500 based racing special - photos of the finished machine

"Chris has built a beautiful T500 based replica...wish I could see the real bike..but these pics have to do for now..!"

SUZUKI
SUZUKI
CHAMPION
BP
RACING

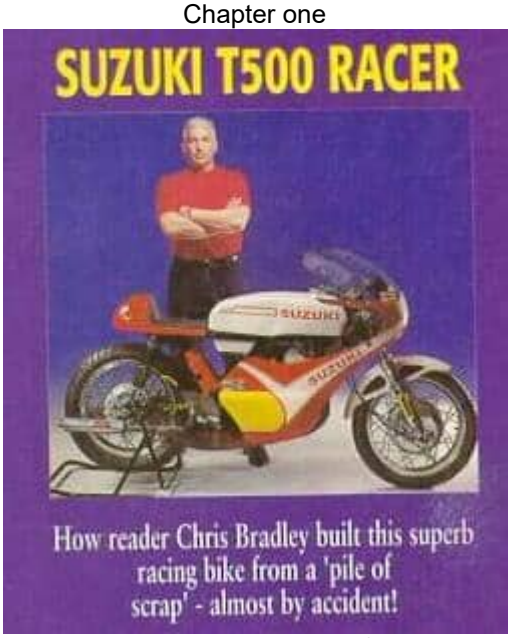
SUZUKI
SUZUKI
CHAMPION
REGINA
BP
RACING

SUZUKI
CHAMPION
SUZUKI
CHAMPION
EP RACING

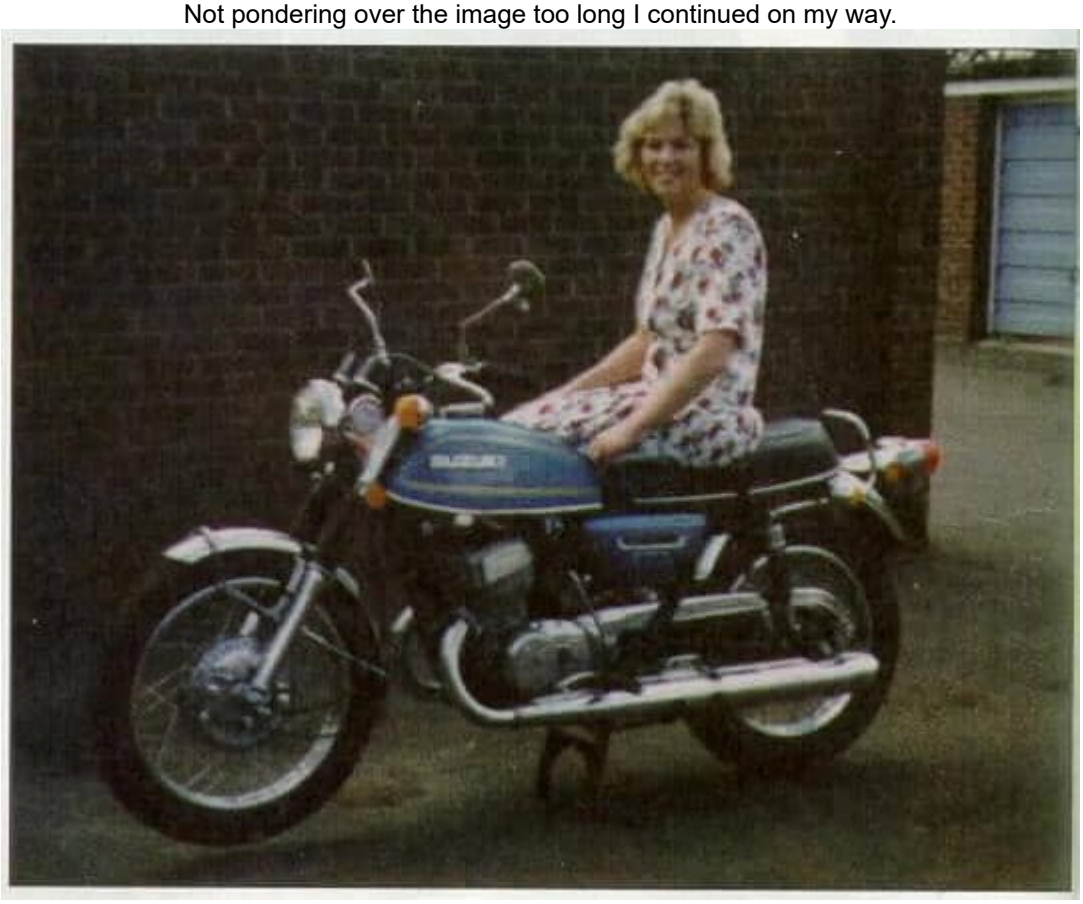
SUZUKI
SUZUKI
CHAMPION
REGINA
EP RACING

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 1

T500 SUZUKI. PROJECT- SERENDIPITY.
Chapter one



It was about August time 1976, I happened to notice a feature on the front cover of Classic Motorcycle Mechanics while scanning the magazine rack in my local supermarket.
The photo showed a rather mint Suzuki T500. I used to own one of these monster two strokes and always regretted selling it. Looking at the cover photo brought back a few memories, and I even considered the idea that it may even had been the very bike I had owned some nine years before.
Not pondering over the image too long I continued on my way.



Chris's T500 and wife

I travel with my job and get to visit West Yorkshire about once a month. It is there I meet up with my

friend Roger, usually for a meal at the Huddersfield Hotel where I stay over. Roger is a great engineer and can produce just about anything on his lathe, but also specialises in BMW's. Everything from Spline drives to exhaust threads and much more in the specialist (one off stuff). One night while enjoying a meal together I happened to mention the magazine I saw on the news stand featuring the Suzuki. How I wished I had kept the one I had owned. I once rode it to the Isle of Man on a trip to visit relatives. It's not such a long trip for me really. Just over two hours from where I live in Tyne & Wear. But a great journey anyway.

I remembered also that at the time I had pondered the idea of putting the bike(albeit in superb condition) into a racing livery of the period. I knew that Crooks Suzuki used to race at the Island TT .

And a T500 had won a production class one year. Being very ignorant about the racing world I had no idea about how to go about it, and very quickly gave up the thought. All of my enquiries fell on stony ground and in one call to Bran Bardsley I even managed to get myself branded a sexist. I asked a young lady who answered the phone if I could speak to one of the chaps who knew about Suzuki T500's. I will never forget the final words of the chap I spoke to- who said (before putting the phone down on me) " She knows more about Suzuki T500's than you will ever know" "Goodbye" Obviously referring to the lady who answered the phone. There's a lot to be said about a man who sticks up for woman's liberty.

When I had finished rambling, Roger told me he knew of someone who was selling a Suzuki T500. I really wasn't interested because at the time I could not afford to buy the magazine never mind a bike. Anyway I had just gone completely overboard restoring a Yamaha TY250 trials bike. If the new owner reads this he will know what I mean !

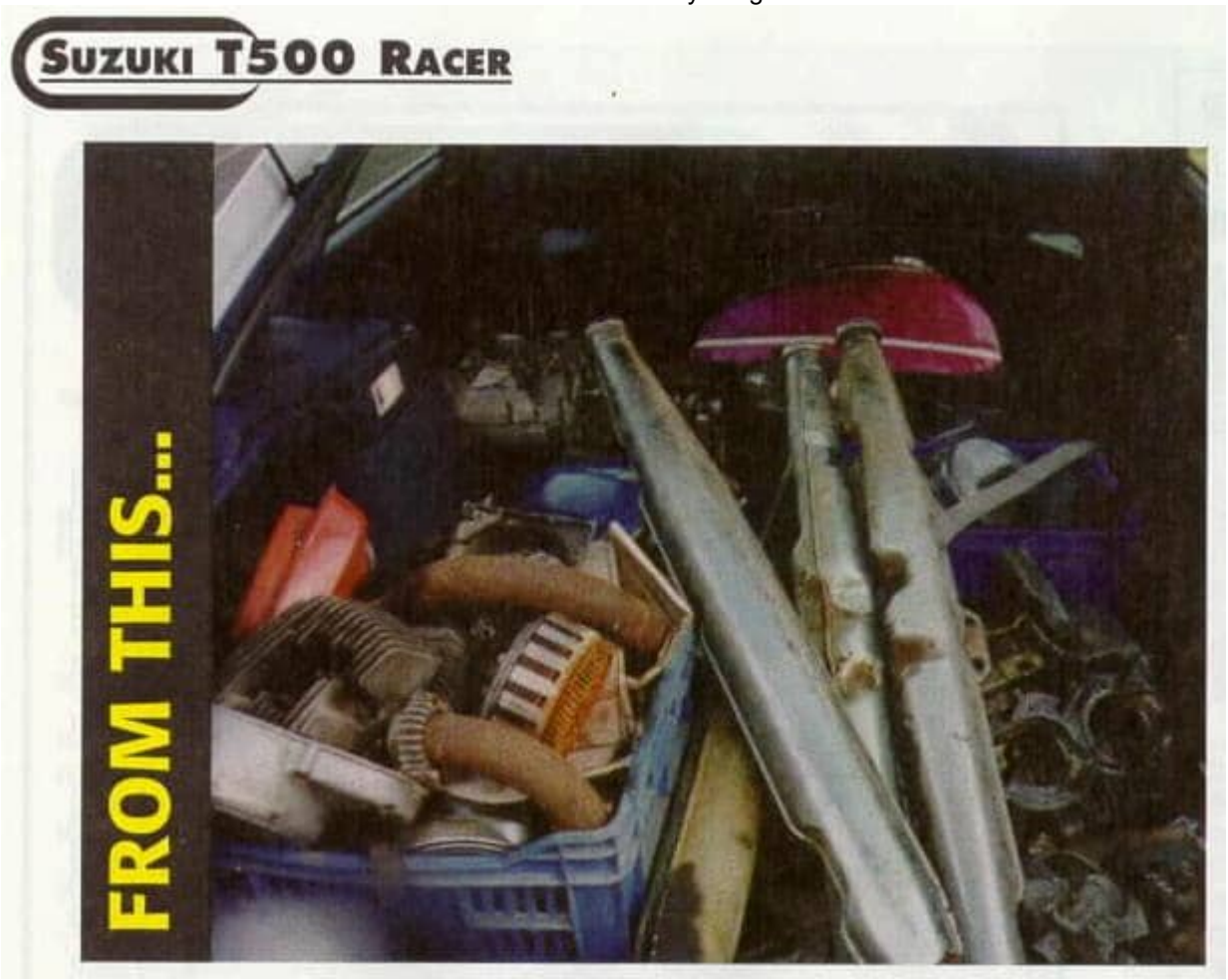
Next day saw me working in the Halifax area where Roger has his workshop. I decided to call in for a brew and say hello to some friends at J.M.S Motorcycles.

While we talked, a motorcycle appeared and came to rest just outside the workshop doors. (Funny how motorcycles just appear!) Roger looks at me and says "T500" nodding towards the rider, now dismounted and heading this way.

Was this fate taking a hand in things ? I wondered.... We soon got onto the topic of T500's and it was confirmed that the said item was for sale. Well it must have been fate because I ended up the proud and surprised owner of a Suzuki T500. Actually what I ended up being the proud owner of was a pile of scrap. Or so I thought.

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 2

On arriving home I could see that the beast had been used as some kind of a race bike before. Hence half the bits I needed to build a whole bike were missing. In the interests of saving weight I guess. But there were plenty surplus bits. I tried to make some kind of order out of the boxes and tins of rusty gearbox parts and was disheartened to see how badly things had deteriorated.



Years of corrosion and rusty oil came from the crankcases and in the end I realised that a crank would have to be re-built. There were three pistons all of different sizes, five cylinder heads, two sets of barrels that needed a rebore, two and half crankcases, two pairs of expansions, it went on. Too many of some parts, and some missing. I decided to shelve the idea for a rainy day, a very rainy day!

A couple of weeks later and I find myself looking at more stuff in the same magazine about T500's. Is this some kind of a revival or something ? I wonder. I read an article about a comparison between a T500 and a pair of RD400 Yamaha's, all of which had been re-builds. The guy with the T500 was Alex Clapson, who turned out to be wheeling and dealing in T500 bits. What caught my eye in the photo's of Alex's bike were his expansion chambers. I had never noticed a pair of these on a bike before, they were Allspeeds.

I started to get idea's for building a special, and these would be just the ticket. So I rang the number given in the article and spoke to Alex. He later sent me a list of stuff he had, and we discussed a rough deal on the phone for the bits I needed.

I was able to do some swap's with Alex for all the stuff that I had surplus, and came away with a brand new pair of pistons and the Allspeed expansion boxes I had so admired on Alex's bike. That was to be the first of two trips I made to Swansea to see Alex, but there were to be many phone calls and letters to follow.

Given this new inspiration and enough bits to build a motor, the battle commenced. The crankshaft was re-built using new pins, seals and bearings. I was able to assemble a gearbox with all the bits I now had, and with the help of a Haynes manual I went to work. Roger built the crankshaft for me. The guys a genius.

The gearbox on the early T500's had a problem due to oil starvation to the fifth gear, causing pitting and severe wear. You won't believe this but mine was pitted with severe wear. You can't buy new gears, so I got round it by pressing the gear off the shaft, turning the shoulder down off the other side and then pressing it back on again the opposite way. I then had the gear Tig Welded on the inner side for good measure. Time will tell if it works or not. Roger did the turning down.

Engine built, I then started on the frame. I got a Dresda box section swinging arm off Alex but this turned out to be a bad move as it just would not fit the wheel and hub assembly. I tried to locate some side panels that I could use off other bikes, and a BMW seat cowl was adapted to take an oil tank. I have even got photographs of this but your not going to see them. Boy was this turning out to be some freak of a bike.

..... I went to see Crooks Suzuki in Barrow in Furness.

Now here I am, looking at proper racing Suzuki's, and liking what I see. I told one of the guys there (Mike) what I was trying to do and expected to get laughed onto the street, but that was not the case at all. Everyone was so helpful and understanding, it was great.

They all seemed to have a great enthusiasm for Suzuki's especially the old ones, and this I found very refreshing. I asked question after question and was never made to feel a nuisance. And in doing so developed a desire to make my bike look like one of the racing Suzuki's that adorn the showroom on Crellin Street.

I was able to get all the new bits I needed from Crooks Suzuki and even some second hand spares I needed too. Not to mention the advice which I was to find invaluable.

In addition I was given two contacts. The first one was Peter Keyte, Custom Tank & Designs. And the second one was Tony Baker.....Frame builder.

First I went to see Tony to ask if he would do the modifications to my frame. I explained that I wanted a bike that would look like a racing machine of the seventies but be used on the road. Talking to Tony (who by the way is a very successful outfit racer) made me realise that I was just buggaring about, and with his help and advice began to think about more serious issues. Tony had some great ideas and it turned out that he was very familiar with the geometry of the T500. I left my frame with Tony and continued in my thirst for more knowledge of racing machinery.

We heard on the grape vine that Lee Brothers, a motorcycle dealer in Hebdon Bridge was having a clear out, and was filling a skip outside the shop. Roger and I had to investigate. Boy was this a find. Among the boxes of levers, indicators, and a fair bit of rubbish too, I rescued Two Brand New rear brake cables for a Suzuki T500. A lovely pair of Tommaselli levers (New in a packet). And spare's I was able to do more swaps with, including a fist full of various cables.

Roger donated a pair of Dunstall Clip On's which he had lying around. Things were definitely on the move.

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 3

Over the next few weeks I started buying any magazines that had pictures of racing machines. I was studying how the rear set mounting brackets were fitted onto the frame. How does the fairing attach, what kind of wheels do I need. It was no good, I needed to go and look at some bikes.
By this time there were two questions in my mind that were already answered. 1) that the front brake was going to be a double twin leading shoe drum. Only one reason for this I am afraid to admit, and that is that I just love the look of the things. And 2) I was determined to use the original T500 2/stroke oil tank filler cap which has OIL stamped in the middle of it. We all have our little fetishes, and there's two of mine.
I heard that there was some motorcycle racing on at Croft Circuit which is about 30 minutes drive away. More importantly for me there was to be a classic event. Needless to say I went. Not just to watch the racing but to get round some of the machines in the paddock and see how they were put together. It was a dry day so I decided to go on my bike, a Yamaha GTS 1000. I thought I might blend in a bit better dressed in my bike gear. (who cares really) As I got just beyond the toll booth I scanned the area for something to look at. The first machine I could see looked like the sort of thing I was interested in so I made a bee line for it. As I got closer It seemed to appear a bit familiar. " No it couldn't be". I don't believe it. It bloody was ! What I later learned to be, a Spondon frame Suzuki T500. I tell you the hairs on the back of my neck just stood up. Is someone up there pulling strings for me or what ! It seemed the hand of fate had been played once more, but boy was this getting a bit spooky.
The rider of the Suzuki told me he was winning his class although he believed the engine was not in a high state of tune. He also told me that he had a couple of seasons racing without looking inside the motor once. This gave me great confidence in my own project and tempted me further towards the racing scene. One of the other riders a fella called Mark was very helpful and recommended that I use a Femsa ignition system on my motor if I can get one. He also told me of a chap in Australia who has a web site with loads of info about T500's. This I had to explore, and although I was not on the internet then, I am now.
What followed was to be a long and lasting relationship of exchanges between myself and a brilliant guy called Murray Barnard. TR500 motorcycle racer, and a hell of a writer.

After several letters to and fro I was given even more help in filling in the blank spaces in my still ignorant brain. I even persuaded Murray to sell me the Femsa ignition he had once used on his TR500. Things were getting even more interesting.

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 4

Another trip to see Alex got me a pair of GT500 forks which would prove better than the older T500 ones. Then I went in search for some wheels.

Stafford bike show was coming up and I was told I would surely get fixed up with something there. I had never been to Stafford but I can honestly say It was the best day out ever. My pal had to drag me away at 4.30 just so we could get home at a reasonable time. And guess what ? ...I got a superb pair of flanged alloy rims for £19 each. They were brand new shop soiled Yamaha rims already drilled but I gambled on the drillings being about right.. (they were perfect).

Talking to Graham Boothby from TGA Racing one day got me the front brake I had wanted. Graham told me he had just brought five new GT750 front brakes in from France, which had been forgotten about. £250 got me the brake and twin lever, and the whole lot polished up real nice. I later got my fairing from TGA for £100. Its good quality and I can recommend it to anyone.

One of the first jobs was to junk the old cup & cone steering bearings and replace them with taper rollers. I came by a set of yokes with a good strong feel to them and about the right offset and width. (They could well be Suzuki) A little engineering saw them accept a pair of bearings and later I spent some time removing the excess weight from the bottom yoke which also improved the looks.

One evening totally out of the blue I received a call from a fellow called Mike Thomas. Mike was racing Honda K4's and was thinking of using a Suzuki T500 front brake on his Honda. It turned out he had been speaking to Alex Clapson who had told him I had one for sale. Mike was also working on restoring a Robinson 4ls front brake but it needed some real work to get it back to original. While we spoke Mike told me about a friend in Mid-Glamorgan who was also interested in T500 Suzuki's. Chap named Rob Greenhill. I never gave it another thought and then a couple of weeks later I received another phone call. (Thank goodness) from Rob Greenhill. Motorcycle Racer and Engineer, also Expert on many things including T500 Suzuki's .

After several exchanges of kindness and urine taking Rob introduced me into the world of the Two Stroke Tuner. Everything from Graham Alexander Bells theory on expansion pipe lengths to machining the squish on cylinder heads. Rob is a real perfectionist and when he offered to make me some crankcase stuffers and machine my crankcases I wasn't going to say no. Later we got onto cylinder heads and how we needed to locate a welder who could fill up our combustion chambers with aluminium at a reasonable cost. My old mate Roger new just the man to do the work and so we commissioned him to weld my heads first, and then when Rob saw the work he sent me a pair of his heads to have the same done. Fitting crankcase stuffers is of course to replace the volume of any material removed when lightening a crankshaft. Embarrassed as I was, I had to ask Roger if he would do the job (again). He's a real mate and he agreed to lighten and rebuild my crank once more.

Squish heads increase the compression and combustion therefore making for more power. Extra weld on the topside of the head is required to retain the wall thickness and I hope will also add strength. I remember cracking a cylinder head when I owned my standard T500. It seems to be a common fault on this engine.

There has been some recent theories on the subject of crank stuffers. Some would say that they are not needed, and the signal from the engine and the expansion pipe dimensions control the power. Others say that only partial stuffing is required if you can get the volume in the crankcase exact. Wherever exact is. Me, I decided to go with the tried and tested, Rob made the stuffers and machined my crank cases to accept them.

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 5

On my next visit to Crooks Suzuki in Barrow another problem became apparent. As I chose to use 18" wheel rims the Allspeed expansion pipes would probably ground out. This had me really worried, I felt like every move I made had some kind of adverse action. Being a novice I was learning by my mistakes.

Crooks to the rescue. Les Trotter who was made famous last year when he entered aT500 in the Manx Classic held on the Isle of Man. Famous because the race which is for machines dated up to 1968 and is dominated by Manx Nortons and B.S.A's etc. and is not for the likes of a Japanese oil burner such as Les Trotters. However, Les, in association with Crooks Suzuki had proof that T500's were racing in 1967 and placed an entry for the race. It shook the Classic racing scene and created an uproar of protests from people involved in the Manx Norton industry. You see the T500 is just too bloody fast for a Manx Norton, (in the right hands) and there would have been a flood of T500's being built and entered for the race. So they banned it, but nice try anyway Les.

Where was I ? Oh yes. Les had decided to try a shorter swinging arm on his machine to improve handling. This would mean using different pipes to accommodate the back wheel. So I bought Les's old pipes and he got some new ones.

Alex Clapson took my - his-? Allspeeds back and every one was happy.

It was about this time I started thinking about a fuel and oil tank. Crooks were also putting something together by way of a Café Racer seat unit. Something that would fit onto a standard frame without modification for those not wishing to take out the hacksaw. I t was a consideration at the time until I spoke to Peter Keyte.

The T500 motor can be run on pre - mix only, by making some modifications to the crankcases. Allowing fuel mix to access the outer main bearings. Because the lubrication system on the T500 is so good already, I decided to keep the oil pump and have a supply tank in the seat.

The oil system pumps oil to the barrels and outer main bearings. Oil from the bearings is then forced by a centrifugal thrower along a hole in the crank pins to feed the big ends. What could be better than that. Yes I decided to keep the oil pump and then I could also use the T500 standard oil tank filler cap too. (sad isn't it).

I rang Peter Keyte and discussed with him my requirements, I also sent along some photo's of TR.500's I had down loaded off the internet. Courtesy of Murray Barnard.

Pete was well aware of what I needed, and able to offer me some good advice. In addition he had a frame for a T500, left him by Don Leeson, who was also building a T500 racer.... That's bloody handy I thought. Another Coincidence ? Pete also showed me a photo of a genuine TR500 that he had done some work on owned by a chap called Dave Evans which looked great. Pete could build me a seat and also include an oil tank, inside but separate. I got Roger to make me a threaded neck for the oil filler cap and that was that. I waited a couple of months for the bits from Peter and when they arrived. Well I was delighted.

Although the genuine TR500 racers had a huge screw on type filler cap I felt that a standard Monza cap would be more practical and safer. Peter agreed and I think it looks OK.

Once I had some body work the thing started to look like a motorbike.

I set to work on some sheet aluminium and crafted myself a rear mudguard. Because the T500 frame is made from fairly thick pipe I was able to attach the mudguard with M5 round head socket screws, by drilling and tapping the frame.

I also managed to save some more weight off the top frame tubing when I was able to see where the seat would go. It really is a heavy lump, and needs to be trimmed wherever possible. More and more I could see a racing bike in the making.

The real tuning part of building a two stroke racer is what you do to the barrels, and the exhausts. Good advice would be to make changes to port timing in stages until you arrive at something you can manage.

As Murray Barnard had already done a hell of a lot of work studying this subject and has made the information available for us free, I decided to base my motor on something he had tried and tested, plus a little bit. I only hope I can ride the thing.

Spares for T500's are still relatively cheap so it doesn't do any harm to have a few pairs of barrels and experiment a bit with different dimensions.

SUZUKI 500 FANATICS
Chris Bradley builds a T500 racer - Chapter 6

If you can afford it a close ratio gearbox and straight cut primary gears are also an advantage. Murray's Web site has loads more info on this subject, and loads of great photographs.

Once I had all the components together I could begin assembly. It was important to bolt everything together before painting just in case something needed to be changed to fit.

I ordered my fairing from TGA racing and the front mudguard was ordered from MPS. TZ. Tank mounting rubbers and twistgrips came from Padgett's at Batley West York's, as did the final drive chain. Time came to plan a colour scheme.

I did like the colours of the original team Suzuki's and using Murray's Web Site I scanned the images until I came up with a scheme of red and white. (very imaginative) but effective.

Although I am a fair old hand with a spray gun I asked my pal Roy if we could paint in his garage as my wife is not keen on the smell of thinners. Nor is she keen on the over spray which once found its way upstairs and settled on the skirting boards.

We painted the frame first and graphics were ordered for the tank & fairing. I then matched the red paint to the graphics to make it look that bit more professional.

I made some rear set footrest brackets from Dural. A tip for anyone trying to cut this stuff is :- Use a jigsaw and the coarsest blade you can find. I use a Bosch and choose the yellow painted blades, together with some light oil for lubricant. This will turn an almost impossible task into a breeze.

Roger made me a stainless steel outer cable arrester for the rear brake, and I shortened the cable to fit. The brackets attach to the frame by two m8 bolts that screw into top hats which are tig welded into the frame tubing. The coils attach in a similar way near the headstock.

Footrests were also turned by Roger from aluminium and display some fine knurling. The rear brake and gear levers came from a set designed to fit a K series BMW I got second hand. I think they are available from M&P.

Crooks Suzuki supplied the front brake cables (already shortened to accommodate the different handlebar height.

I decided to take advice from Murray on shocks and fitted Koni's. Tyres are Avon AM22 race compound. Again recommended by Murray.

A visit once again to the Stafford bike show in September 97 was a bit of a get together. Mike Thomas, Rob Greenhill, Alex Clapson, Martin Crooks and yours truly. Rob picked up a pair of barrels for £15 and also a pair of standard pistons for £35. and I got some 34mm racing Carb's which turned out to be a mistake. Some more advice. Never buy second hand carbs unless you know where they came from, and what they will cost to re-jet. I paid £80 and then spent another £70 for bits. A new pair already set up would have been £180.

Rob gave me the settings for his carb's which were confirmed as OK by Allens. If your interested.... Pilot jet 60 Main jet 250 Slides No.2 Needles 6D16 Needle jet - Q-O. The Factory Racers ran much leaner than this, but then they could afford to.

Perhaps next year we could increase the gatherings with other devotees of the T500. Les Trotter, Don Leeson, Dave Evans, and there must be more out there.

Just to finish the job off with a real touch of professionalism, my best friend of some thirty odd years Clive Dickinson, who is a top advertising photographer in Newcastle Upon Tyne, offered to do some studio shots of my bike.(Image Photographic) .....WOW. A real nice way to compliment 18 months graft.

It has been a strange set of circumstances which have brought me to the present day. I have always believed that if you really want something to happen and apply all of your energies to it, then it will happen. Henry Ford once said " Whether you think you can, or whether you think you can't ...Your Right" But somehow I feel as if I have had some kind of guiding hand. Rob Greenhill suggested that I call the bike Serendipity. And you know I think I just might, when I find out what it means.

It has been a tremendous learning curve for me, and I have met some great people during this adventure, to whom I am eternally grateful.

All I have to do now is to learn to ride the thing and find some dosh to go racing. This will be the start of another learning curve for me, and perhaps the financial ruination of me too. However I am looking forward to the future and having some good fun.

Murray has just told me that Ray Battersby writer of " Team Suzuki" has recently been in touch with him. Also Frank Whiteway who won the production race at the Isle of Man in 1970 on a T500.

I think we may see a new era dawning for the T500 Suzuki, I built my TR Look alike for about £2,000 although I dad a lot of help from friends. You can still build a budget racer for around that and get good performance at low maintenance costs. You never know! This could be the dawning

of a T500 revival and with enough of them around perhaps a class race could be developed, and Les Trotter might get to ride a T500 around the TT circuit after all. Remember Henry Ford !

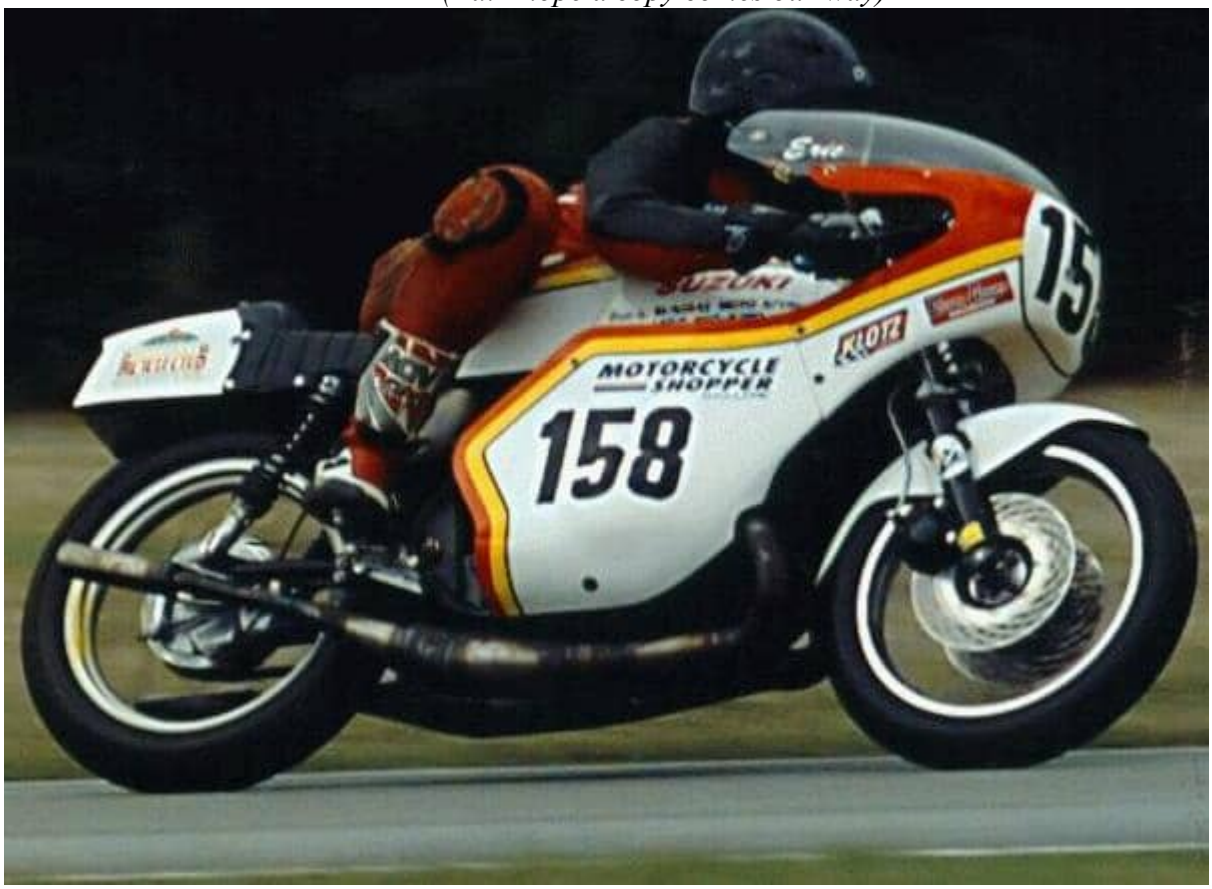
My thanks go to the following useful contacts.
Roger Bennett ... Engineer....Crank Rebuilds....Special Parts 01422 341862
Rob Greenhill... Engineer...Stuffers..Heads.....Special Parts 01443 431198
Tony Baker Engineer...Frame Builder....Special Parts 01768 881653
Peter Keyte Fuel Tanks Seats (aluminium) 01386 554136
Crooks Suzuki New & Used Suzuki Parts.....Advice 01229 822342
Alex Clapson Suzuki parts T500....X7..... 01554 758145
IMAGE Photographic (Clive Dickinson) 0191 2688000

Eric Kalamaja's Suzuki 500

Date: Sat, 17 May 1997
From: "Eric F. Kalamaja"
Reply-To: sundialm@iag.net
Organization: Sundial Moto Sports
Subject: Another T500 Photo
Hello Murray,
Here is one from Daytona 96 3 days after I crashed it at Roebling Road, Savannah, Georgia at 110 miles an hour in practice after one of the british bikes blew up and the rider went all the way around the track to pit out. Depositing oil in all the corners on his way. He never heard the end of it at that race and Daytona as he was used for an example. Several bikes went down that practice, no major injuries but alot of made people and messed up bikes. the Norton that was passing me on the outside also was taken down by me and for some reason held a grudge against me the whole day long. And he raced the next day. I couldn't even move my throttle hand or left ankle. My bike was a mess; no seat, no windscreen, no brake lever, right exhaust tailsection smashed, dents all over the tank. My helmet was destroyed as were my gloves and my new AGV prexport boot were very well broken in.
With the help of my friends, some beer and lots of aspirin I was ready for Daytona 3 days later.

Date: Wed, 21 Jan 1998
From: Eric Kalamaja
Organization: Sundial Moto Sports
To: pindan@hotmail.com
Subject: Hello
Hi Murray,
Long time it's been since I have written you. My T500 Vintage Racer in a modified RD400 frame is coming along just fine. Hope to send you some pics of how it looks soon. Because Daytona is not far off and all I have at the moment is pieces. But I work well under pressure.
Couple of things to note: The letter from the guy in Texas on the cost of pipes from John at Jemco Pipes is $350.00 US not $250.00 and theses pipes are well made. I ordered a set and got them in a week. Built from

scratch. From experience they work well. Gregg Bonelli won with a set on his street based T500 in Formula 500 at Daytona last year with a real TR500 just behind him in second. They are also on the one in my picture. I'm going no nonsense on mine for the wins this year. Wish me luck.
Date: Mon, 20 Apr 1998
From: Eric Kalamaja
Organization: Sundial Moto Sports
To: pindan@hotmail.com
Subject: my new bike
Murray,
I just finished my new project and have raced it at Daytona placing 13th of 35 bikes out there. My best finish so far at Daytona and this without having sorted the bike out before I raced due to lack of time. It was done at 2am in the morning of my first race at Roebling Road in Georgia the friday before Daytona. We had departed Orlando Florida at 4am and arrived at the track by 11:30am with half a practice day left. The bike ran well though a little rich and the gearing was not correct. After having set things up fairly well considering the time and specs available all was going well when going down the straight to turn one the bike quit and the rear wheel slightly locked, I managed to pull the clutch in and coast to a stop figuring the bike was toast. Upon returning to the pits and further checking it turned out to be a ground on my new Motoplat, whew! Couldn't afford to lose that! the race the next day on the starts were great as I got about six wheelies on the start and at least fifth of 20 bikes going into turn one. But was soon passed up as the brakes and carbeuration was not very linear and the bike would shut down under 6,000rpm. Gotta work on those carbs. Brake master cyl was not compatible with the calipers and had to pull it halfway before brakes would catch. Lots of chatter too so some suspension tunning is in order. But it was much faster than my old bike and turns in quicker and no hinge in the middle feeling either. In the RD400 frame the bike now has a wheelbase of 54 to 55 inches depending on gear selection.
In the Daytona race I cracked a head severely during the race with no noticeable loss of power and no sign of seizure. I replaced those with less severely milled heads for the next days race. With lower compression the bike was faster and pulling Ducati 750s. But alas due to the bad carberuation and brakes and having to rely on the engine for braking going into turns at 7,000rpm to be able to pull out well I broke something in the motor. the bike still will idle and rev but is quite noisy. Maybe a bearing. I run the pump on the second notch and use 32:1 in the tank. Will let you know what went wrong when I take the motor apart.
Here is a picture of me at Roebling Road, Georgia on the new bike. I am doing a "How to" book on it for MOTORCYCLE SHOPPER MAGAZINE.*(Ed. I hope a copy comes our way)*

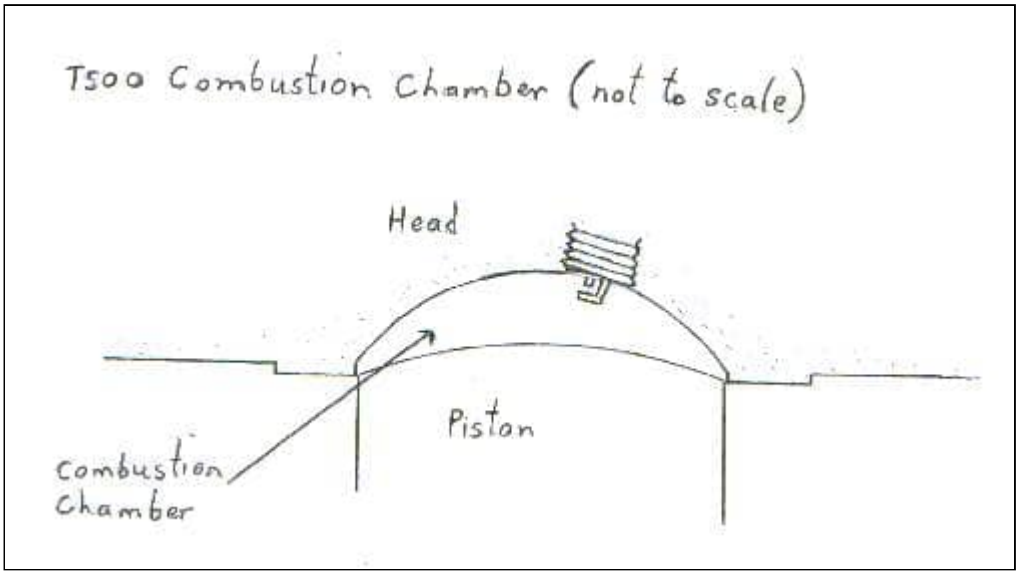


Regards,

Getting a head (or two)

by Glen Morgan from New Zealand

The stock T500 head is actually a good design for its purpose, but it is a compromise between production costs and performance. The stock head is a shallow section of a hemisphere on top of a low perpendicular wall.



Its advantages are that it has a relatively low surface area for heat absorbtion and it has little in the way of areas where unburnt mixture can lurk, because the previously mentioned walls raise the roof of the combustion chamber well clear of the piston. The low surface area means that there is less area to absorb heat from combustion and this helps to keep the head temperature down. This in turn helps to control detonation. Accordingly, a reasonably high compression ratio can be run to the benefit of performance. (But not the kind of compression ratio that most people associate with a racing motor, because this design has definite limitations at higher compression ratios.)

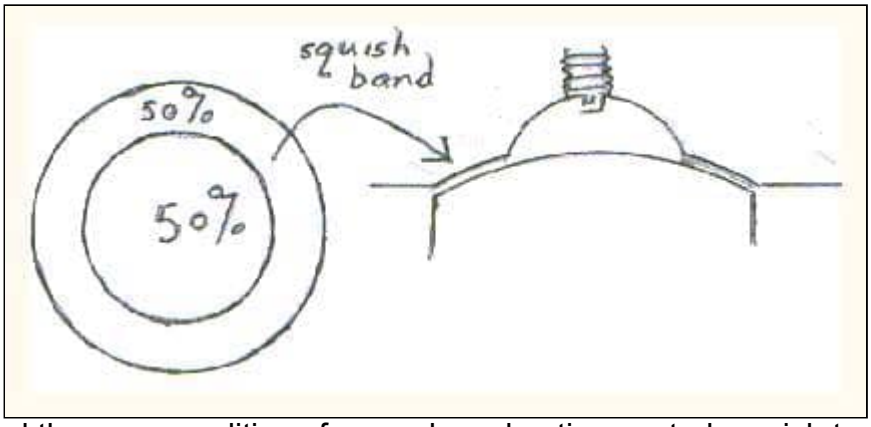
The elimination of dead spots of unburnt mixture means that fuel economy is better because more of the charge is doing work.

[Emission control is also better because unburnt fuel is not being ejected into the environment with the exhaust gases, and this may have been one of the prime motivations for using this design. Even in those days, there were rumblings in the important Californian market.] If you consider that an ineffective squish head can be worse in all respects than the stock T500 combustion chamber, this simple design begins to make sense. Of course, for racing most people want more power than the stock head can deliver reliably. It follows that most of us would like to have a more appropriate head design, so we need to look at the possibilities that a squish combustion chamber offers. [I'm assuming that the reader is new to this sort of thing. If I have over simplified things, I apologise in advance to those who are familiar with the topic.]

First up, the ignition of the fuel/air mixture does not cause a sudden explosion which drives the piston downward. Indeed that condition is called "detonation" and it is exactly what we don't want. Normally, a rapid but controlled burning of the mixture heats the air (mostly nitrogen) in the cylinder. This expands the air and drives the piston downward. There is a physical law (Boyle's Law) which says that compressing gas raises its temperature. If you compress the air/fuel mixture in the cylinder enough it will reach a temperature where it will ignite. There is a sudden engine-stressing rise in pressure and heat is absorbed into the piston and cylinder head faster than it can be got rid of through the cooling system. This detonation can be initiated at lower pressures by things like hot spots, hot end gases and active radicals. Instead of the flame front travelling out rapidly (but progressively) from the spark plug, ignition can occur in other places. This causes all sorts of complex thermal and chemical goings on.

I'm deliberately avoiding discussion of the role active radicals, mixture stratification, shock waves, colliding flame fronts and pre-ignition.
[Apparently, chaos theory has gone a long way toward providing a model for what's going on, but fractals are a bit beyond me, so I don't have anything really meaty to offer the keen engine freak].
For our purposes, discussion of hot end gases will get us to where we want to go. (Even though there is a hell of a lot more to it!). As you probably already know, out on the edge of a combustion chamber there may be unscavenged areas where hot gases can initiate detonation. A long time ago, a British researcher, called Riccardo, discovered that inferior fuels could be used at higher compression ratios if the deck of the head in side valve, four stroke engines was brought down close to the piston and the mixture was squeezed into a compact combustion chamber over the valves.

There are two positive effects to this. Firstly, the mixture where the head and the piston are in close proximity loses its heat so rapidly that it cannot ignite, so hot end gases can't cause detonation. The down side of this is that, unless the thin layer of mixture is very thin, most of this unburnt mixture goes out the exhaust without doing any work, as previously mentioned. The second effect of "squishing" the mixture like this is that it shoots out of the "squish area" at quite a high velocity into the compact combustion space and the resultant turbulence mixes the mixture up quite thoroughly. This helps to give even and controllable combustion. Two stroke designers adapted these findings and put a concentric squish band around a (usually) hemispherical combustion chamber with the spark plug in the middle.



At this point, they had three preconditions for good combustion control: squish to control peripheral temperatures and squeeze end gases out into the main combustion area - turbulence for a homogeneous mixture - and a combustion chamber shape and spark plug location which allowed the flame front to travel almost evenly in all directions.

[Once again I'm skirting around complex topics. Briefly, in answer to the question, "why not have a spherical chamber then?" a sphere with the ignition point in the centre looks perfect but having half the combustion chamber in the piston crown increases the surface area for absorbtion of heat into the piston and causes all sorts of problems. Sometimes, shapes other than variations on a hemisphere are used because they can reduce the mechanical stresses on components. I have a Kawasaki engine with a truncated, conical combustion chamber, apparently in the interests of bearing life]

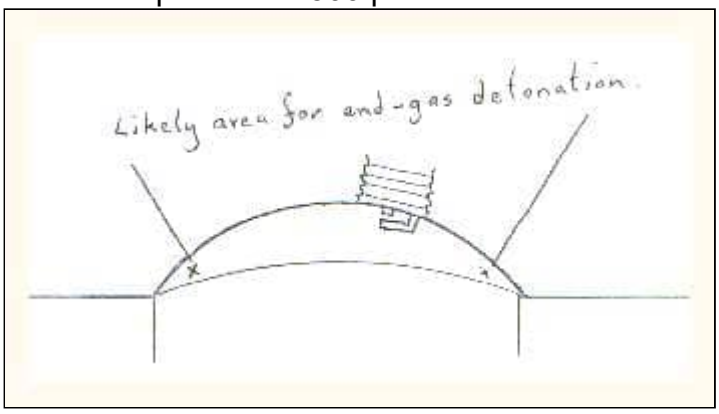
A further advantage of a squish area is that while the mixture under a squish band of appropriate clearance cannot ignite, the droplets of fuel in the mixture can evaporate when they contact the relatively warm surfaces of the head and piston in the squish area. This change of state causes heat to be absorbed (latent heat if evaporation) and this cools the head and the piston. In general, quite a significant part of a two stroke's cooling can come from having a slightly over-rich mixture to aid cooling. This is particularly so in air cooled engines.

The problem from a manufacturers point of view is that, to be effective, the squish band needs to be quite accurately machined, with respect to piston to head clearance. Variations in manufacturing tolerances or wear in service could lead to the piston hitting the head. The result is that manufactures err on the side of safety to the point where the occasional engine has a squish band which is of little use. An over large squish clearance can lead to 10-15% of the mixture doing no useful work as it disappears, unburnt, out the exhaust port. Worse still, an excessive squish

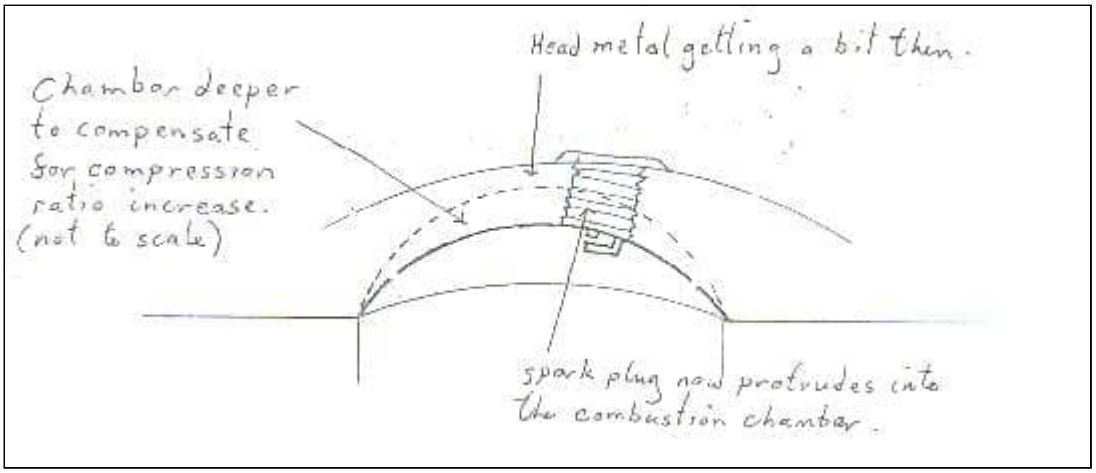
clearance can harbour hot end gasses which can cause detonation.

The Shape of Things to Come

Now we are in a position to look at how we might modify the T500's heads to get the best we can out of what we have. It has been suggested to me that a squish band can be created in a T500 head by machining the face of the head down until the piston and the outer rim of the combustion chamber are close enough to form a squish band.
This suggestion does have some fish hooks in it. If the T500 combustion chamber were a simple dome shape, this approach would probably provide a reasonably effective and simple solution. But the T500 has, as previously mentioned, a wall which continues into the head at about bore diameter before the shallow dome starts.
If you machine the head to barrel mating surface down as far as you can without destroying the head's structural integrity, you will just get to the edge of the domed section. At this point, the proximity of the combustion chamber surface and the piston may give you the worst possible scenario: clearance which is too large to squish effectively and masking of the area by the domed contour which characterises the shape of the T500 piston.



This masking effect could cause hot end gases to be unscavenged, and initiate detonation. Added to this, the compression ratio will be way too high because so much volume has been taken out of the combustion chamber. A further complication is that removing so much metal will reduce the beam strength of the head and make head warping and gasket sealing problems a real possibility. To get back to a reasonable compression ratio, the combustion chamber would have to be re-worked to a deeper hemisphere inside the area which is being regarded as a squish band. To do this, the thickness of the head would have to be reduced. This in turn would mean that the spark plug threads would protrude into the combustion chamber.



There are a few reasons why this situation is not optimal: exposed plug threads become corroded and carboned up. When plugs are changed, the thread in the head will probably be damaged as the corroded, carboned up plugs are wound back through them. Direct exposure to combustion will cause the plug to heat up and this will be made worse by less threaded surface being in the head to

conduct heat away. Further, the less "meat" there is in the head, the more prone the head itself will be to heat up. All in all, this means of creating a squish head in this way is fraught with problems.

(I guess that one could have the plug boss built up with weld, or use a thick copper washer to raise the plug out of the chamber, but I couldn't recommend the last solution as good engineering.)
Okay, I'm not going to say that machining the head down to create a squish band won't work. After all, I haven't tried it! But I'm more than a little uneasy about it as a way to go about getting performance with reliability.

If I started with a clean slate and was designing a squish head for my own T500, I'd design a combustion chamber to fit my needs. I don't have a close ratio box and one of the circuits I race on regularly is very tight, rather like a big kart track. I want low maintenance and a decent amount of power with reliability, but I do need a bit of mumbo too, because the other circuit I ride at is a long one by any standards and I don't want to be going so slow that I fall asleep in the main straight. If you can lay your hands on a typical enduro single of the same period as the T500, have a look at the combustion chamber. That's the way I'd go - wide squish band and a deepish hemispherical combustion chamber. This would suit mid range power and a peak at about 7500 revs. I'd be looking for a compression ratio at around 12.5 to one, even a little less.

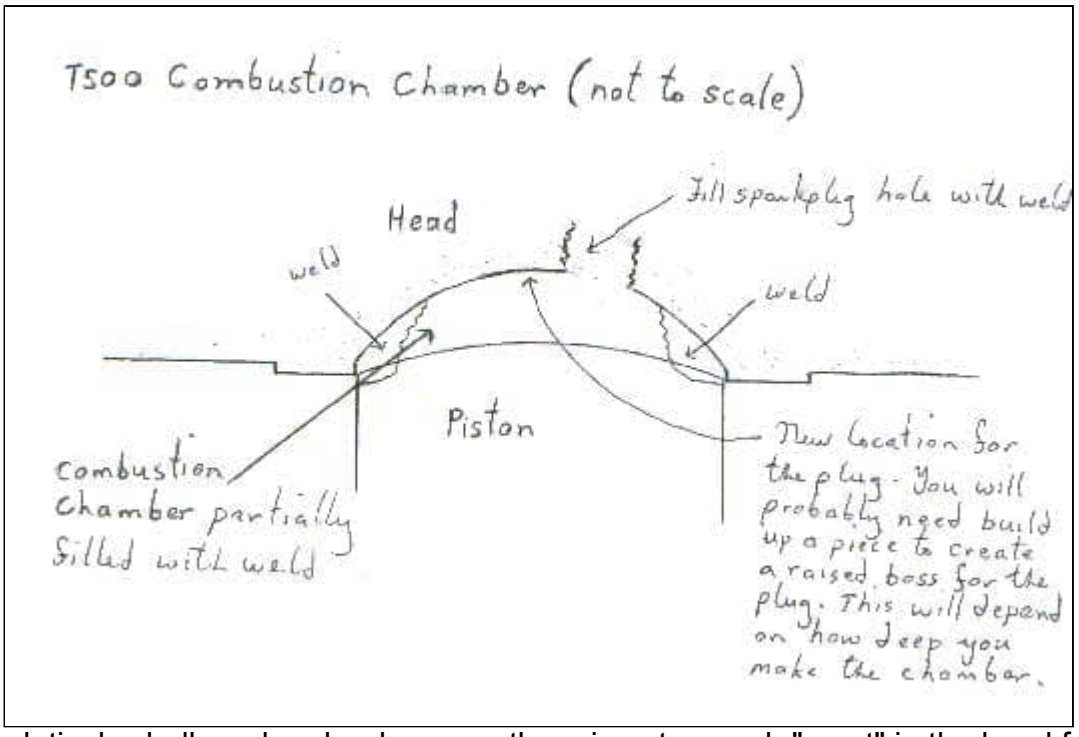
Right, so why don't I just fill a T500 head in with weld and machine out the kind of deepish chamber I'm looking for? The answer is that I'd run into a problem we've seen before. The T500 head isn't thick enough to easily get a deep chamber into it. True, I could get the face of the head built up with weld to give the extra depth, but that much welding and machining could really cost. I could make some patterns and get a pair of heads sand cast. It would also be possible to make patterns out of existing heads by building them up with panel filler to increase the thickness where the head meets the barrel.

[Making two stroke heads is actually not such a tall order but I have a back ground (ancient history now) in foundry work, so it's easy for me to say that. There are a few complicating factors in pattern making, like taper and shrinkage, that need to be taken into account too.]

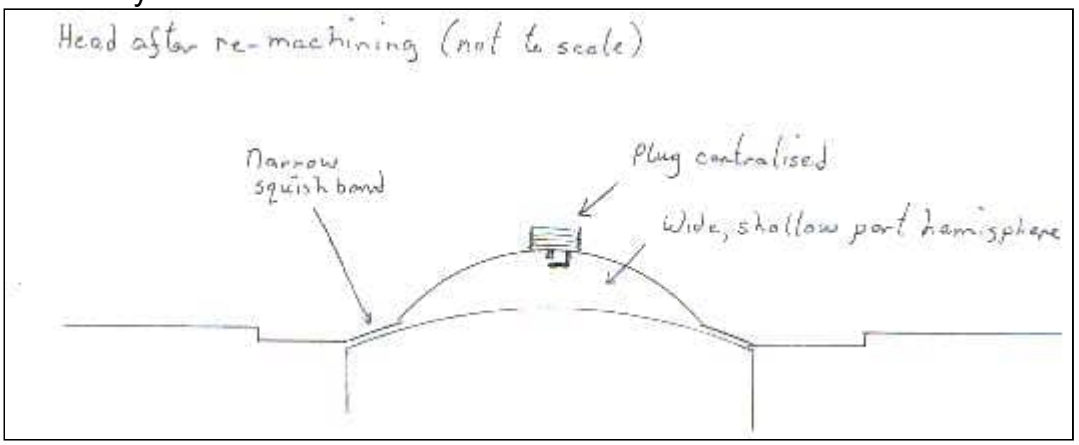
But the reality is that getting heads cast is not a real option for most people, so weld filling and re-machining is probably the main option. We've already seen that the thickness of the standard head limits our combustion chamber design a bit, so what can we do? First of all we need to look at what variation in chamber shape and squish band width might do. Things have moved on a bit since I first got interested in two stroke tuning. Once 50% bore area was regarded as about right for a squish band. (see diagram 2.) Squish was just squish - the more the better. But it turns out that combustion chamber shape and squish characteristics can be optimised for different engine and power characteristics. Too much squish can be less than optimal under certain conditions [There are computer programmes which can give information about optimal combustion chamber shapes to produce the appropriate amount of squish for certain performance parameters. Dr Gordon Blair has published a book (very expensive) about the finer points of two stroke design and it comes with programme discs. Also check out the MacDizzy two stroke site (http://www.macdizzy.com/2stroke.htm) for all sorts of Two stroke design programmes.]

Basically, as I understand it, motors which are required to produce grunt at lower RPM use higher squish velosities (like motocross and enduro engines) and road race type engines, which rev higher, need lower squish velosities. This leads to enduro type engines with wider squish bands and deeper hemisheres. At the other end of the scale there are road race engines with narrower squish bands and wider, shallower hemispherical chambers. This seems simple enough, but some MX engines for experts are getting toward the road race end of the tuning spectrum, particularly the small capacity ones. Also, things like the angle between the piston surface and the squish surface have an influence on squish velocity, and even the radius where the squish area transitions into the hemispherical chamber has an influence on things.
At this stage, you are probably thinking, "This guy is not making it easy." Well, it's not as bad as it seems because, although the old bangers we ride are a bit like a couple of 1970s enduro motors side by side, we also tend to use our engines further up the rev range than even a full blown Mxer of that period. From this it follows that a bit less squish (and a bit less compression for that matter)

might actually be beneficial.
This, by the nature of the heads we are dealing with, is what we will wind up with if we fill T500 heads with weld and form new combustion chambers in them.



You need a relatively shallow chamber because there is not enough "meat" in the head for a deep one. To get the volume necessary to avoid an excessively high compression ratio, the combustion chamber needs to be quite wide. Therefore, the squish band tends to wind up on the narrow side and the squish velocity will be lower.



So what have we got? Something that is probably not optimal, but if we set up the squish clearance at a minimum of 40-45 thou and have the two surfaces parallel we should be ok. (Assuming that the engine is in good condition. If those bottom end bearings are stuffed, then you could wind up bouncing the pistons off the heads.)
Note that the squish band will work better if the surfaces diverge slightly - around 2 degrees should do.
[WARNING******* If you rebuild a motor, swap heads from one motor to another or buy some squish heads from someone, you will have no comeback if the pistons collide with the heads or the squish clearance is too great. Variations in manufacture do occur. Rods can vary in lenth and pistons can vary in deck height above the pin. YOU MUST CHECK EVERY TIME YOU DO SOMETHING TO YOUR MOTOR********]
If we open the chamber out enough to give about a 12.5 to 1 compression ratio with an exhaust system that works properly, we will have enough squish band width left to do the job and the whole plot should have more mumbo and less inclination to detonation.

Note that I am using the traditional compression ratio calculation, not the one measured from the top of the exhaust port - see Bell's book on two stroke tuning.

The picture is of a pair of heads of my own: -

But being a glutton for punishment, I have off-set the combustion chambers away from the exhaust port side of the cylinders. This is to shift the heat away from the hottest side and even out the temperature across the piston crown. In theory, this allows a higher compression ratio, because the hot spot adjacent to the exhaust port gets cooled by the wider squish area. It also makes the piston less inclined to seize in this often critical area. It can be kept simple by just keeping the chamber central. The plug should be moved to the centre of the chamber to get even flame front travel. In any case, if the plug is left in the standard position, it can enter the new chamber quite awkwardly. If you keep the chamber central, you can fill-weld the plug and put in a new central one without having to perform much fancy surgery to the fins.
Now for the disclaimer! To work properly, squish heads needs to be set up properly. Get A. Graham Bell's book on tuning two strokes. It's very practical and easy to follow. I can also recommend Eric Gorr's books and writings as a step up from Bell's book (which was written a while ago now).

What I have written here is far from the last word on T500 heads. I am not brave enough to say - "Here are the optimal dimensions. Do it like this." I don't know how your particular engine is set up, and there could be a whole range of possibilities, depending on what you have done.
For example:

stock engine	leave the heads alone.
stock engine with mild chambers	centralise the spark plugs
stock engine with a small compression rise and mild exhaust chambers	centralise plugs and retard ignition slightly
exhaust port mods, exhaust chambers and compression rise	modify the head and retard the ignition

This can go on and on as we get further up the tuning scale and optimal head design becomes more critical. You may also be wondering what the hell retarding the ignition has got to do with it! Buy a good tuning book! It is also possible to have a situation where reducing the compression back to standard may be a good idea. Why? Well, an effective exhaust chamber can stuff the mixture back into the cylinder at a pressure that equates to damn near 7 psi of boost. My point is that everything is affected by something else so buy a good tuning book!
While we are on the subject of things being affected by other things, we should have a brief look at some of the wrinkles in fitting a squish head so that it works.

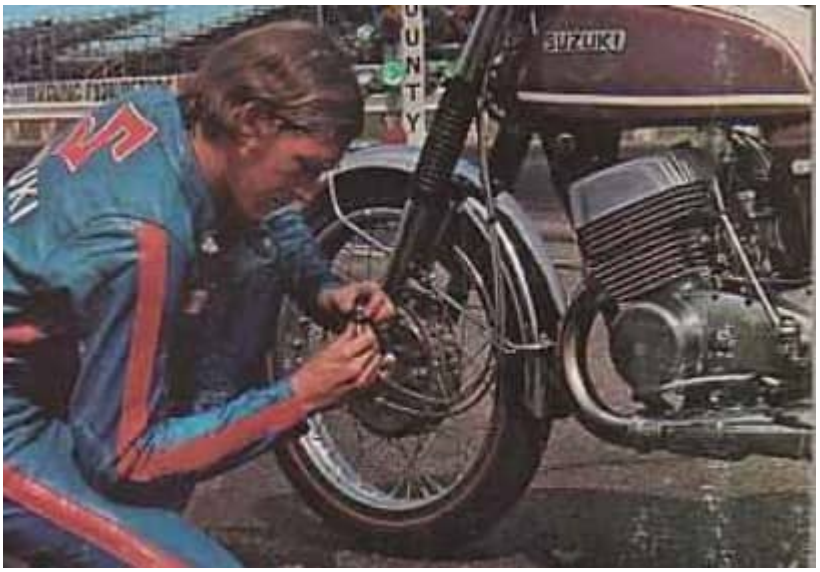
If the piston is nearly kissing the squish band at maximum RPM, there are tuners who would regard this as optimal clearance. I've got a couple of esoteric reservations about that, but the point is that, though too much clearance is not good, too little will wreck your engine. Rods stretch under the stress of high RPM and things expand with heat. A minimum cold static clearance between the squish band and the piston of 40-45 thousandths of an inch (or the metric equivalent) is generally recommended for an engine of the size and type of the T500.
This is for an engine in good condition. If it's got a lot of mileage up, more clearance may be necessary. In the real world, engines wear out, (and in the real world some of us go racing on what we can afford). So give some thought to this!
There are things like plasticine, soft solder and specialised products that can be used to measure this clearance. Again, a good tuning book will tell you about this. It may be necessary to machine a bit off the tops of the barrels on a T500 to get the clearance right. Do this with caution, because if you take too much off you can't simply put an extra gasket or a plate under the barrel. Raising barrels like this changes all the port timings on a T500.

Try to avoid this kind of scenario: you take too much off the top of the barrel, so you but a plate under the barrel to get the right clearance. But this has changed your transfer and exhaust port timing . You decide that an increase in transfer blow-down time will probably be ok, and you can live with the extreme exhaust port timing if you make a new set of exhaust chambers and buy a close gear cluster! However, when you grind out the inlet port to restore the timing there, you run out of metal - aaagh!
Friend of mine many years ago bought a problem T500, which he told me was "hot" but unreliable. It had a compression ratio that would have detonated alcohol and there was evidence of the kind of nightmare outlined above. We replaced the heads and barrels with stock ones and he discovered that "nearly as quick as a popular Triumph of the period" didn't do justice to a good stock T500. The moral is obvious.

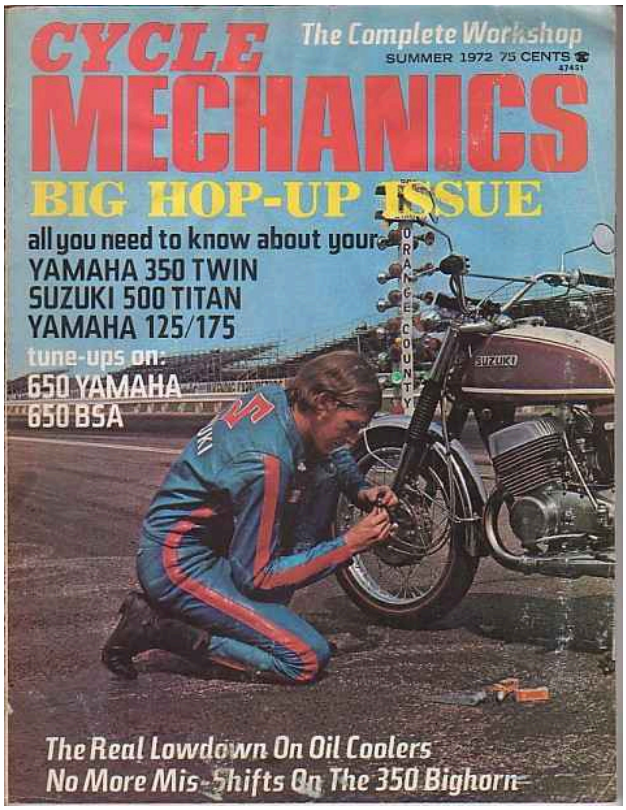
Have fun and email me (atmorgan@wave.co.nz) with anything you'd like to add from your own experience. I'm happy to answer questions that don't extend me beyond my own experience, and I'll try to point you in the direction of wiser heads if I can.

Glen Morgan

Ron Grant T500 Hot-up Tips



Hotting up the T500
with Ron Grant



Ron Grant shares his tuning secrets

Over the past few years a multitude of Suzuki 500s have been sold to a vast cross section of riders, the majority of which were basically interested in primary transportation going to and from work, school or other day to day duties. As might be expected, there were also a number of purchasers of these bulletproof machines who, while they liked the longevity and reliability, also yearned for more performance.

There are very few two strokes for sale today that have less written on the subject of more performance than the Suzuki Titan. Up to now available information on this particular model has been sketchy and in most cases inaccurate and misleading. Now for the first time we can tell you all the tricks needed to transform the average go-to-Sunday-meeting road bike into a stoplight contestant.

In an effort to provide our readers with all of the necessary facts and figures, we contacted Ron Grant, who let his hair down and showed how he goes about putting together, not only his competitive racing machinery, but also a combination that works extremely well for road use.

One interesting sidelight is that, while the performance is startlingly different, the power spread is virtually the same as the stocker. This in itself is unique. In almost all cases (99 out of 100), when more power is dragged out of a given displacement you can count on losing at least a portion of the power band. Not so with the Suzuki 500.

This particular motorcycle responded very nicely to the modifications shown on these pages. We chopped almost a full 1.5 seconds off the ET at the dragstrip as well as increased the top speed by almost a full 10 mph (at the dragstrip), which in itself is certainly nothing to sneeze at. The only consideration between running at the drag and riding on the street is the change in countershaft sprockets. We went from the 15-tooth standard sprocket down to one that only had 13 teeth. This made a vast difference in the ET's. For average running around town and an occasional weekend trip to the drags, a compromise would be a 14-tooth cog providing you don't run the bike on the freeway all day at 80 mph. If this is your primary goal, stick to the stock gearing. Naturally, when the bike gets fine tuned, the rider may find it necessary to drop or raise one or two teeth on the rear once you get the gearing close with the countershaft sprocket.

One nice thing about the 500 Suzuki is that because of the wide power spread the gearing is not a critical factor as it is on many of the other late model two stroke super bikes. The engine pulls like the veritable freight train and hills, surprisingly enough, do not seem to present much of a problem. Top speed with standard gearing (with the rider tucked in) will be between 11 5 and 120 mph, depending on conditions and the size of the rider. The bigger the rider, the more frontal area and a slower top speed you can expect. Let's face it. his kind of performance is more than enough anyway.

Another nice thing Suzuki 500 owners will like is the lack of sensitivity the engine exhibits over the long haul. It isn't necessary to be continually tuning the engine. Set it and forget it. If the engine is put together properly in the first place, once the carburetion and ignition are straightened away, the owner can pretty much forget it just as he did with the stocker. Needless to say, this is a radical departure from the norm on most hopped up motorcycles. The area we feel needs the most help is that of excessive weight. The bike is very heavy, and if it would be possible to shed 50 or 75 pounds through the use of lighter components, this would also vastly improve the overall performance factor of your reworked Titan.

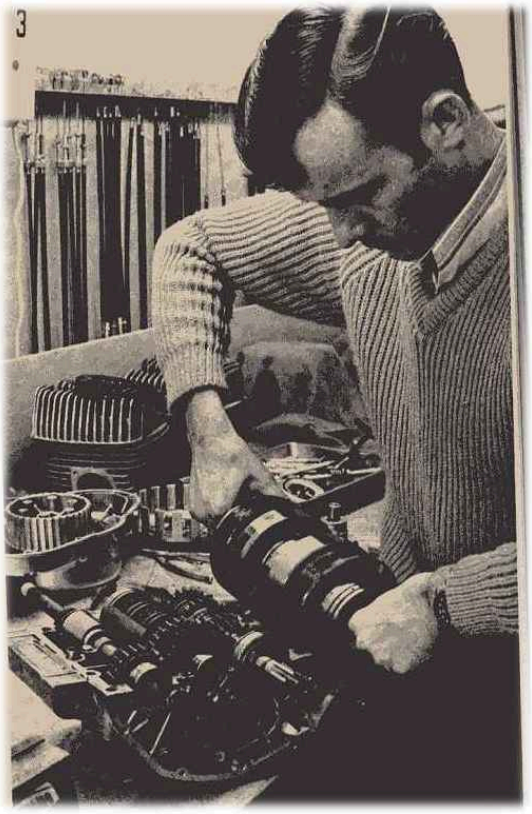
Probably the one thing that took the most time and energy to sort out was the carburetion. Ron spent a full five days doing nothing but coming up with the carburetion combination outlined in this article. Rather than make it necessary to substitute the standard carburetor (which worked delightfully), it was decided to try to utilize the stock items in an effort to keep the cost down. As it worked out, stock carbs proved to be just fine. The changes were as follows. The main jet was raised to No. 260, and standard T5 needle jets and standard needles are retained. The pilot jet was changed to a No. 35, and a 2.5mm cutaway slide is used in place of the 2mm standard slide. Also, ignition timing was changed from 3.4, which is standard, to 3.1mm before top dead center. This particular setup works best with the combination we are proposing in this article. Also, we may mention here that it is imperative you retain the standard mufflers. Do not under any circumstances deviate from the

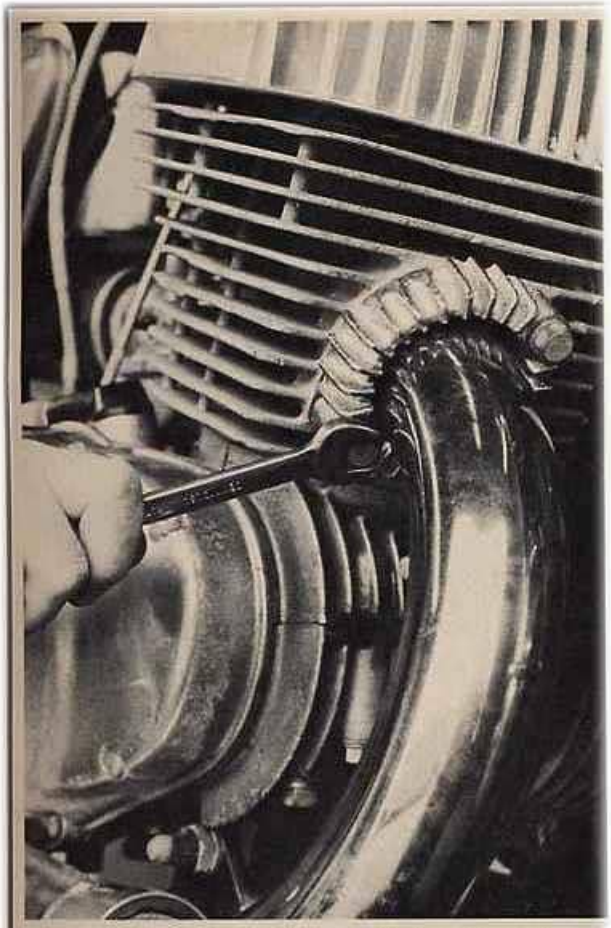
procedure and modifications we have illustrated in this article. To change the combination is sure to cost you performance. Regardless of how much you think you know, restrain yourself and stick with the steps outlined here.

In the area of cylinder modification work, we would strongly recommend sending your standard barrels to Grant and let him do his thing to them. He knows all the trick things and can guarantee the kind of performance you are looking for. On the outside chance you prefer doing your own port work, included here are the specifications needed for the necessary grinding work. The exhaust is raised 1 mm, and the port itself squared up slightly. Also, Grant recommends leaving the intake completely alone except for cleaning it up and smoothing out the path for the incoming charge. The transfer port, like the intake, should not be altered other than cleaning it up and smoothing the port walls to removeany irregularities and surplus metal.

If your taste should run to a combination a little more competitive, we have some additional news that may interest you. If you opt for the expansion chamber version that can only be used on the race track, here are the necessary modifications you will need to know before becoming competitive. To begin with, raise the exhaust port 4mm. Like the street bike, remove the same amount from each side of the exhaust port. Here again, don't touch the transfer port. From the top meeting surface of the cylinder to the top of the exhaust port the dimension should be exactly 36mm.

The intake port likewise should be cleaned up, and you can lower the bottom edge 1 mm. Carburetion requirements dictate something a bit more sophisticated, so we used a pair of TS250 hop-up kit carburetors (32mm) that were equipped with No. 240 main jets, T5 needle jets and a No. 35 pilot jet. The cutaway on the slide was 1.5mm, and we used a 6FJ6 needle in each carburetor. For adapting the spigot-type carburetor mount to the cylinders, Suzuki makes a manifold to take care of this. The part number is 13200-30700. Like the street bike, you will want to set the ignition timing at 3.1mm before top dead center. We mentioned before, you will probably want to use expansion chambers with this combination. The truth of the matter is it will be necessary to use modified pipes over the stock mufflers. This particular combination only works with the expansion chambers Grant sells for this purpose. Do not try to use the racing cylinders with mufflers or use the street version port carburetion setup with expansion chambers. Make up your mind which way you want to go, and then pursue that line of attack since each combination is different and precise.



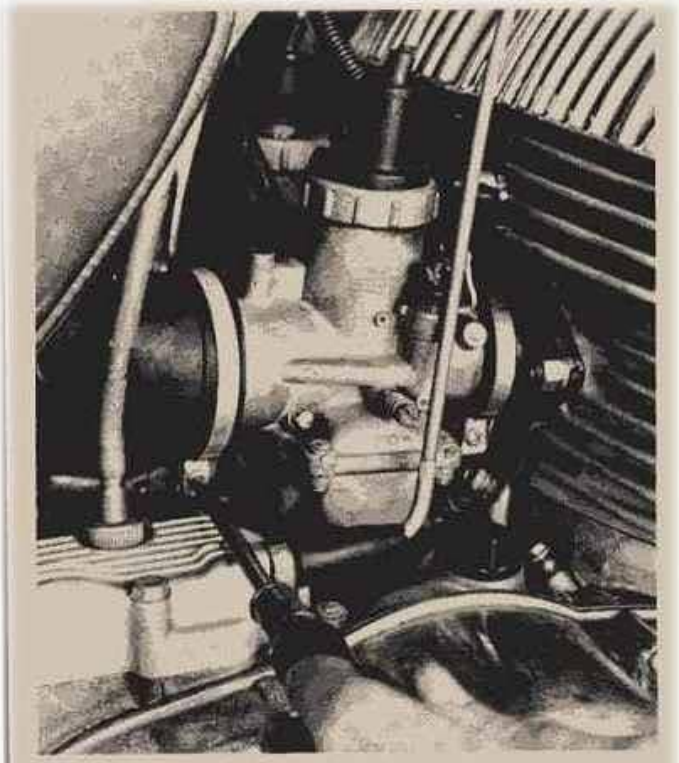


1 *Begin disassembly by removing the cast exhaust header clamp ring nuts on each cylinder.*

2 *Next remove these bolts and the rear passenger foot pegs from each side of the frame.*

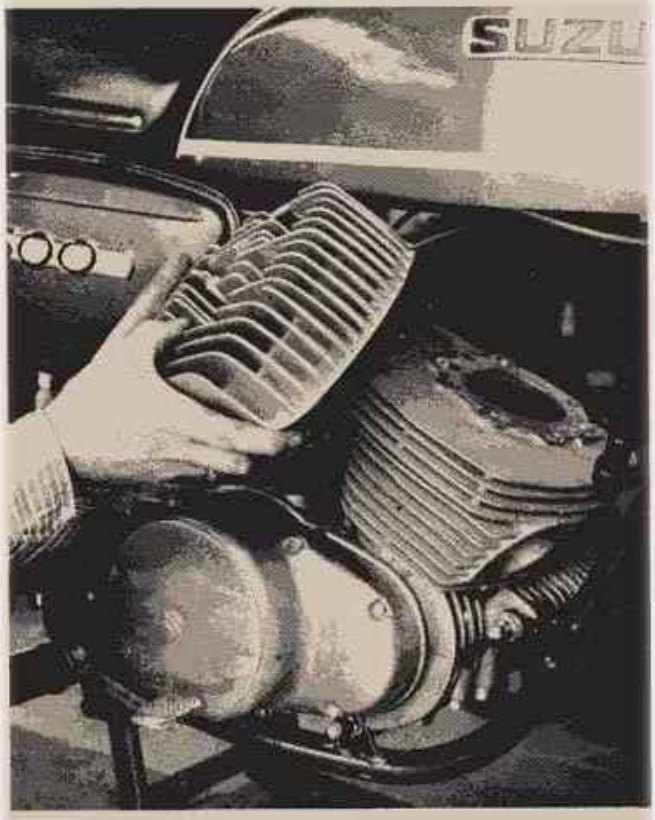
3 *With this phase of the operation out of the way, the entire exhaust system can be removed and put away.*

4 *Now we can get busy on the engine itself. Start by removing all eight cylinder hold-down bolts that clamp the head and cylinder to crankcases.*



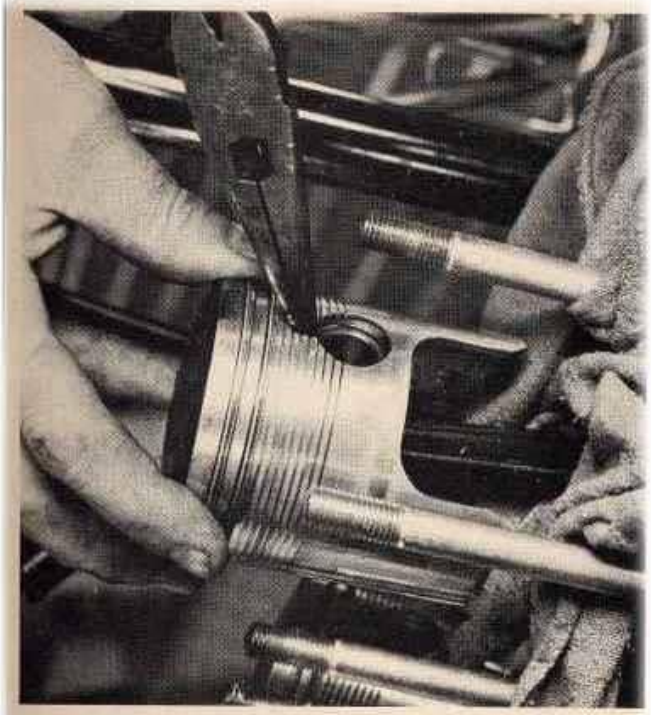
5 *Using a small Phillips screwdriver, loosen the clamp ring around the air hose leading to the intake side of the carburetor. Next loosen the clamp ring holding the manifold to the small end of the carb.*

6 *Slip the rubber air duct off the inlet end of the carburetor. Gently slip the carburetor out of the manifold and pull it aside out of the way.*



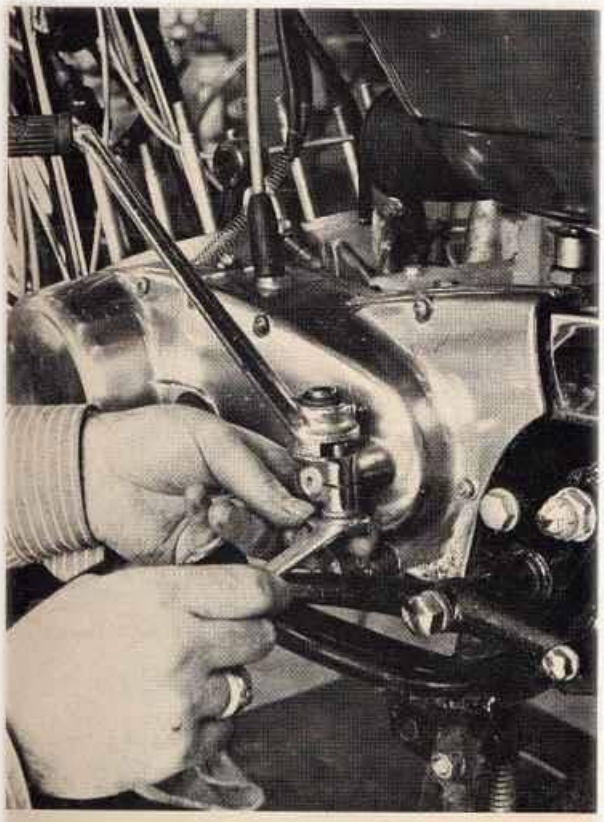
7 *Carefully remove both cylinder heads.*

8 *Gently slide up the cylinders free of the lower end and set them aside.*

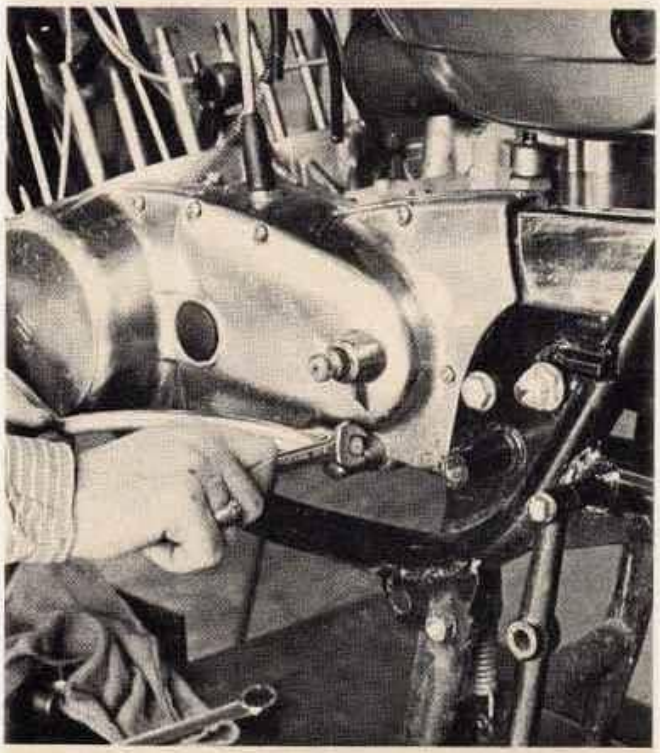


9 *Place a rag underneath each piston. With the aid of a stout pair of long nosed pliers remove the pin clips holding the wrist pin in place.*

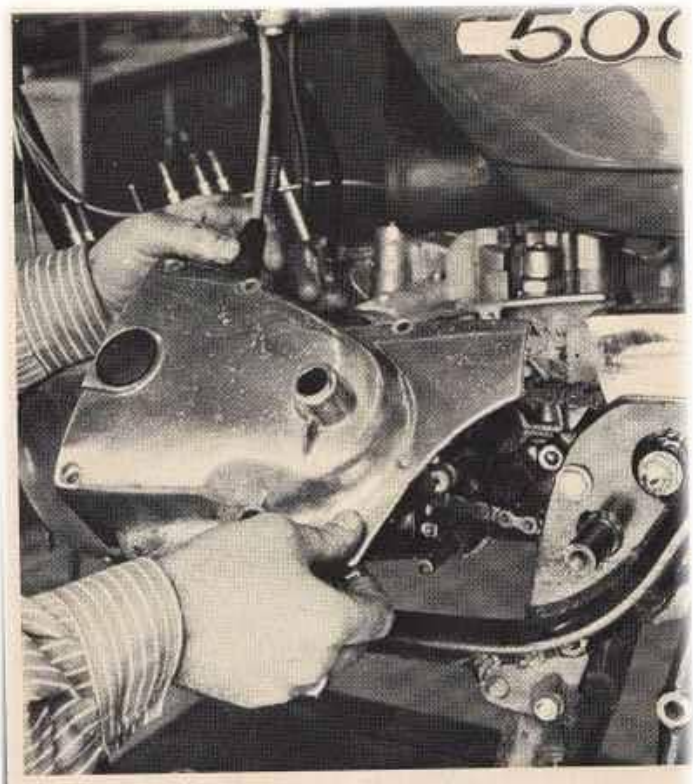
10 *By using an old pair of snap ring pliers, it makes the job considerably easier removing the wrist pins until the piston comes free of the connecting rod.*



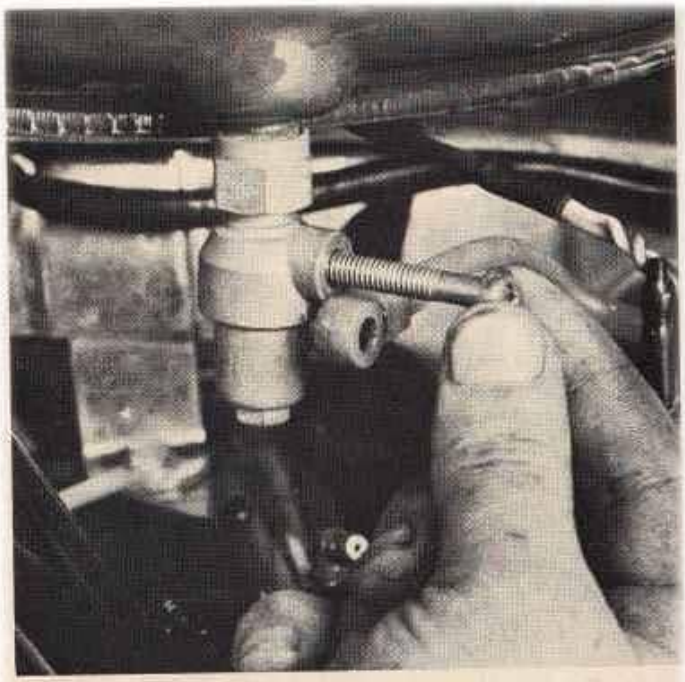
11 *Using a small end wrench, remove the kick starter by taking out the small retaining bolt.*



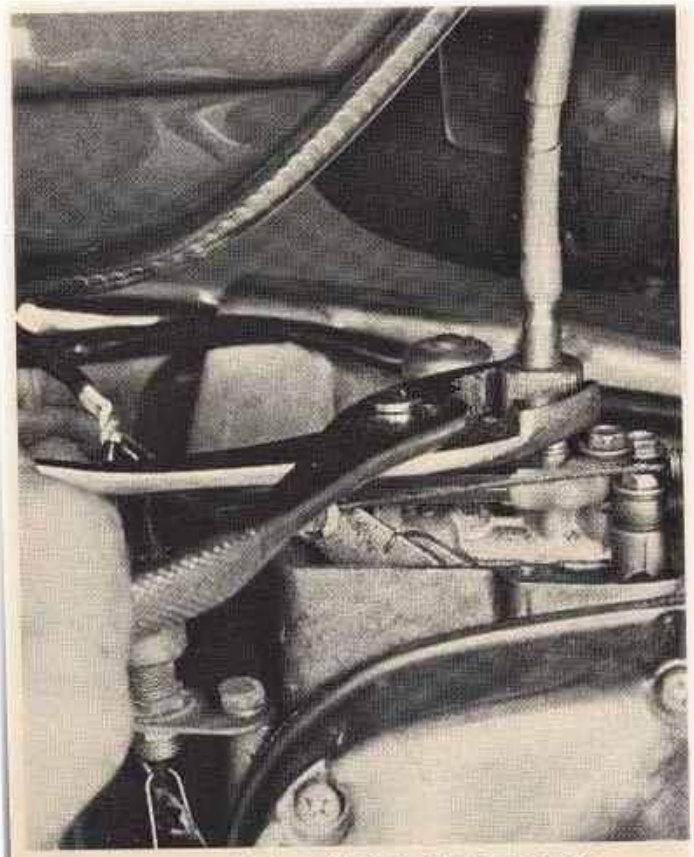
12 *Once the kick starter has been removed, it is now necessary to remove the gearshift lever so that——*



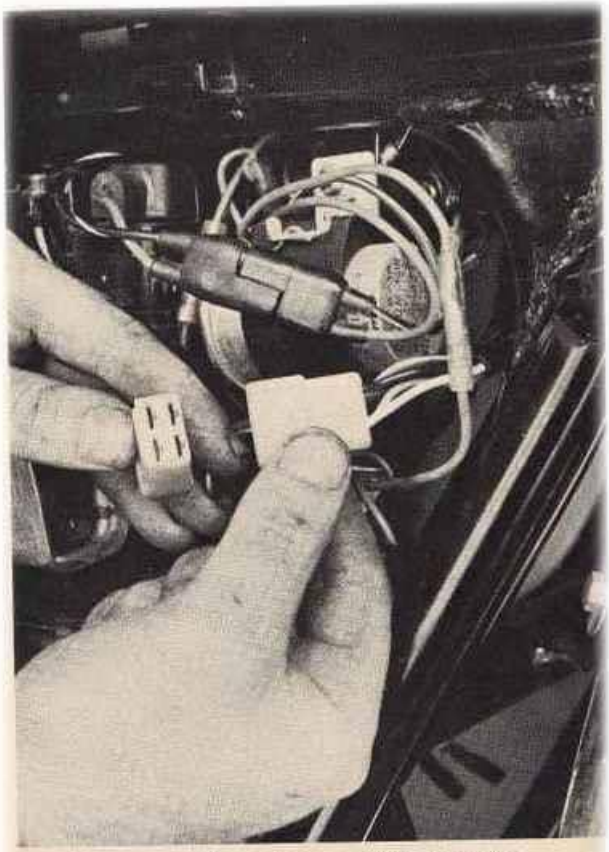
13 we can remove the screws holding the back sprocket cover in place. Remove this cover and slide it out of the way.



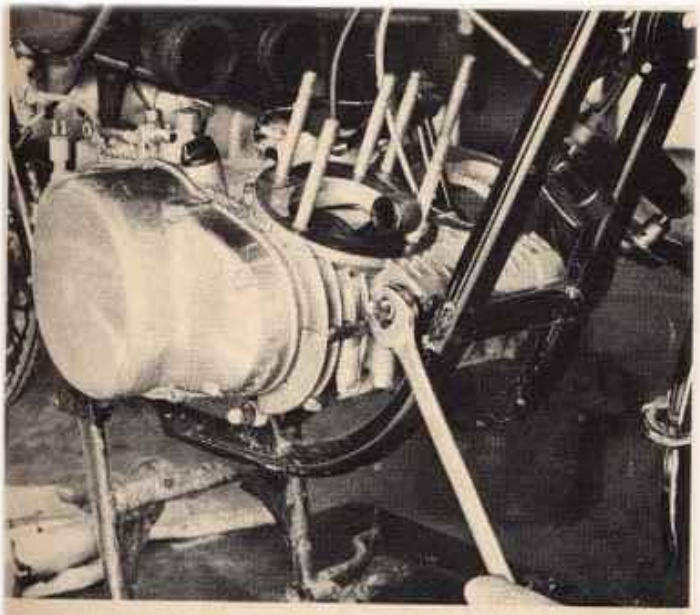
14 Now take out the special screw holding the banjo to the outlet of the oil tank. Move the line out of the way quickly as shown and insert an ordinary screw to prevent the oil from rushing out.



15 Next, with the aid of a pair of pliers, loosen and remove the tachometer cable from under the oral pump cover.



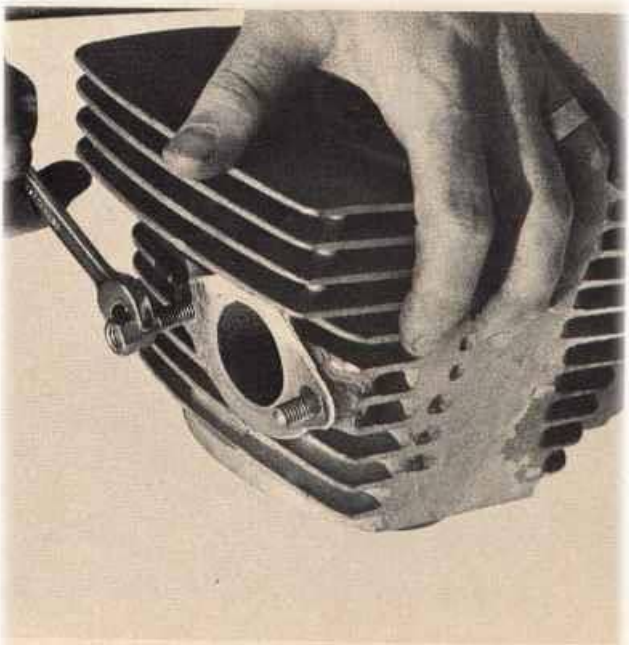
16 Now disconnect all the color coated wires leading from the engine to the rest of the motorcycle. Do this carefully.



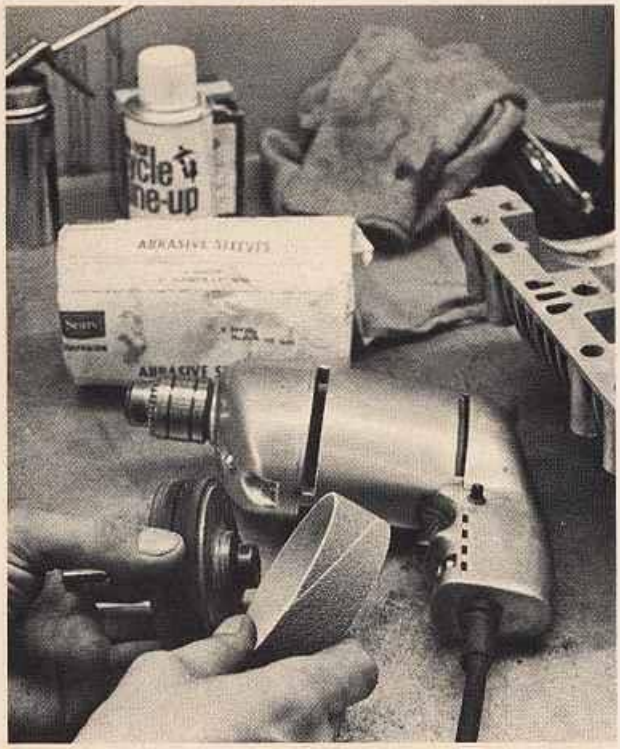
17 *It's now time to take out the engine mounting bolts prior to slipping the engine out of the frame. Before you do this, however, be absolutely sure you have drained the oil out of the transmission.*

18 *You will find it necessary to remove the air cleaner as shown here before it will be possible to swing the engine clear of the frame. Don't take any short cuts.*

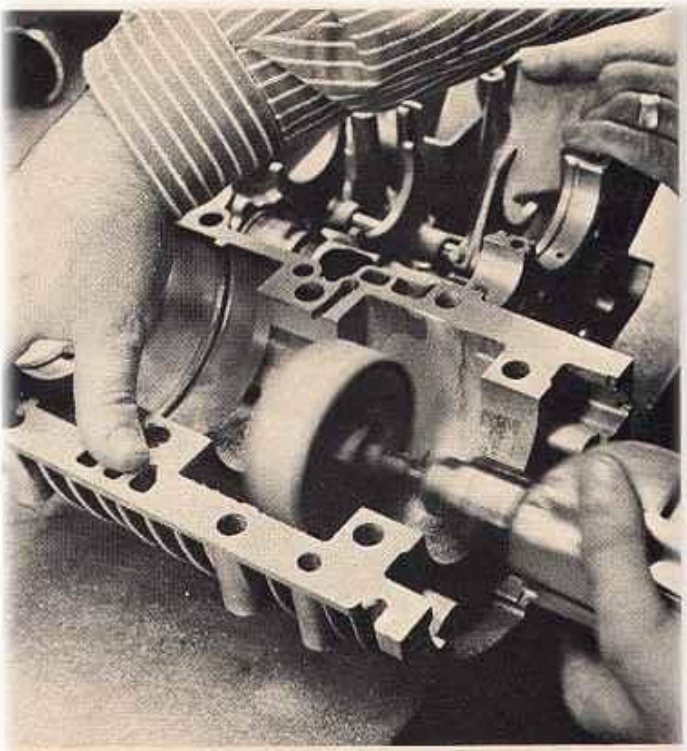
19 *If you have followed our procedure, you should now be in a position to remove the engine from the chassis.*



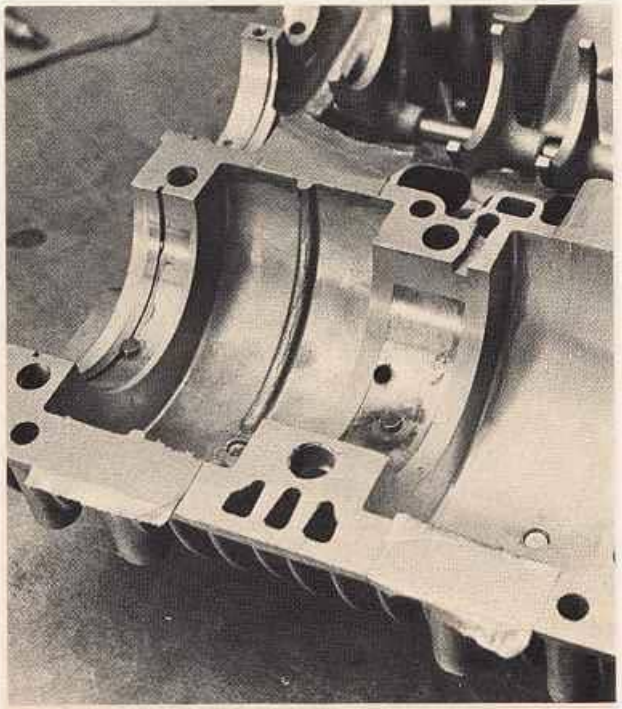
20 *By locking two nuts together you can now remove the four intake port studs as shown here.*



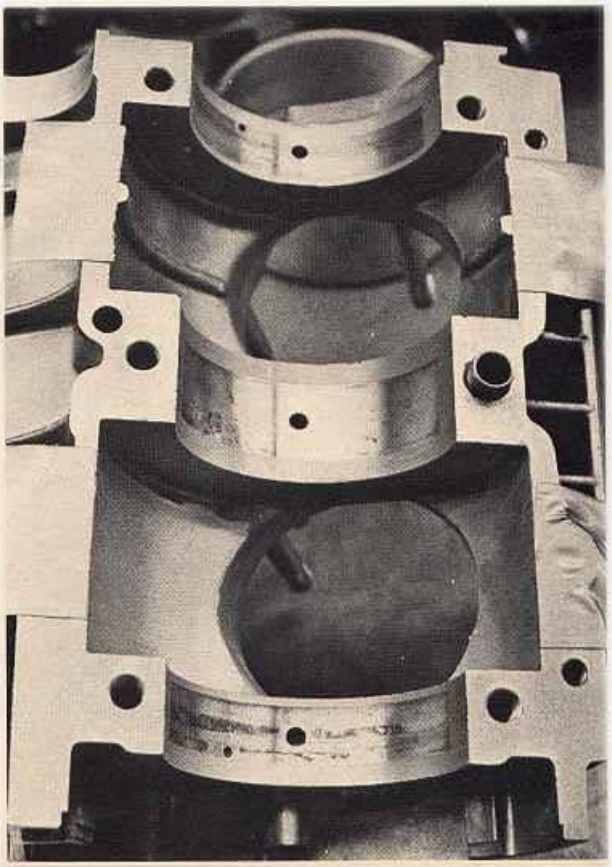
21 *After disassembling the engine, it will be necessary to use a large diameter abrasive drum and then——*



22 *sand out the raised rib in each half of the lower casting.*

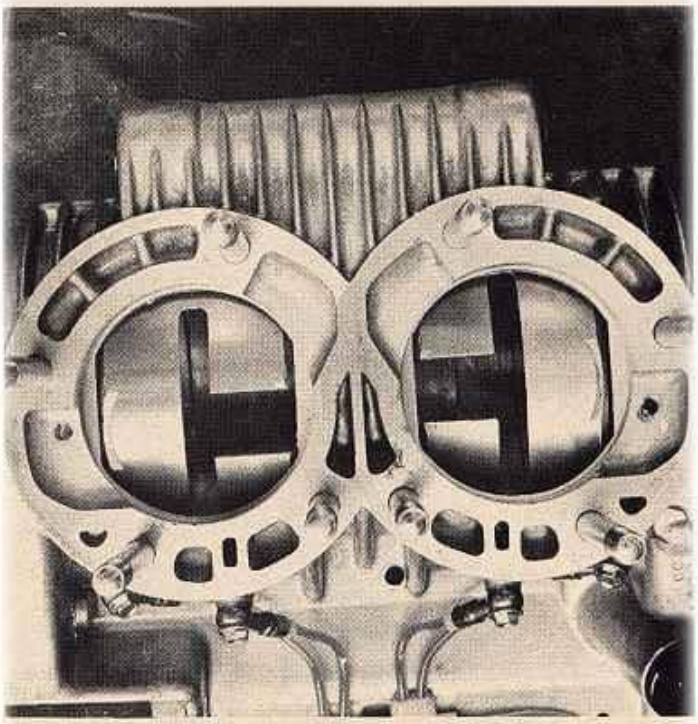


23 *This is what it should look like when you are finished. Note the tape on the mating edge to prevent any slips from damaging these machined surfaces.*

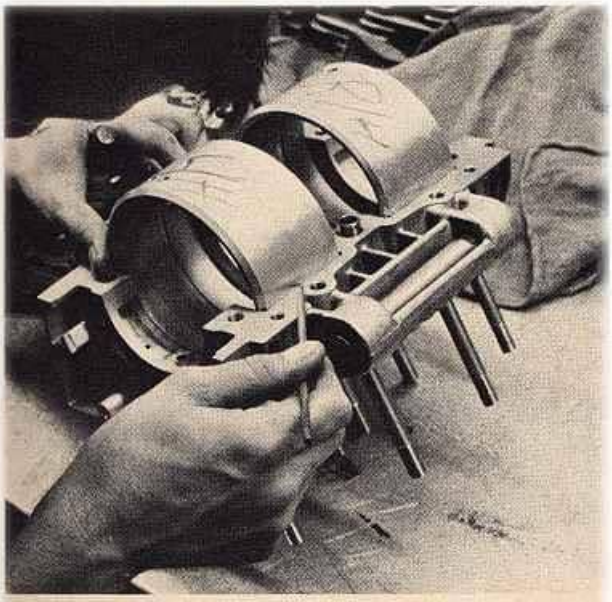


24 *The same procedure is now used on the upper crankcase casting. Here you can see the before and after treatment.*

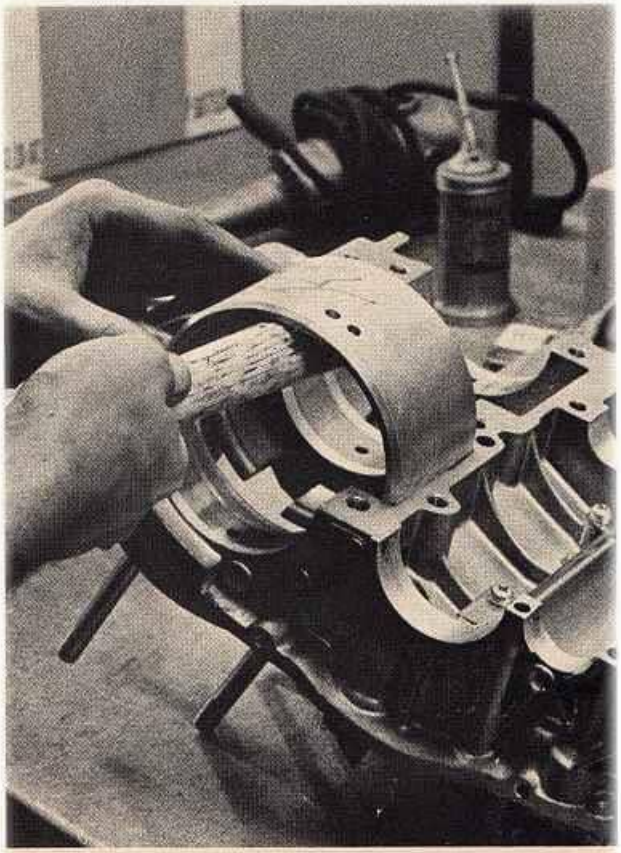
25 *Ron Grant now shows how he fits the machined crankcase stuffers in place in the top half with a plastic mallet.*



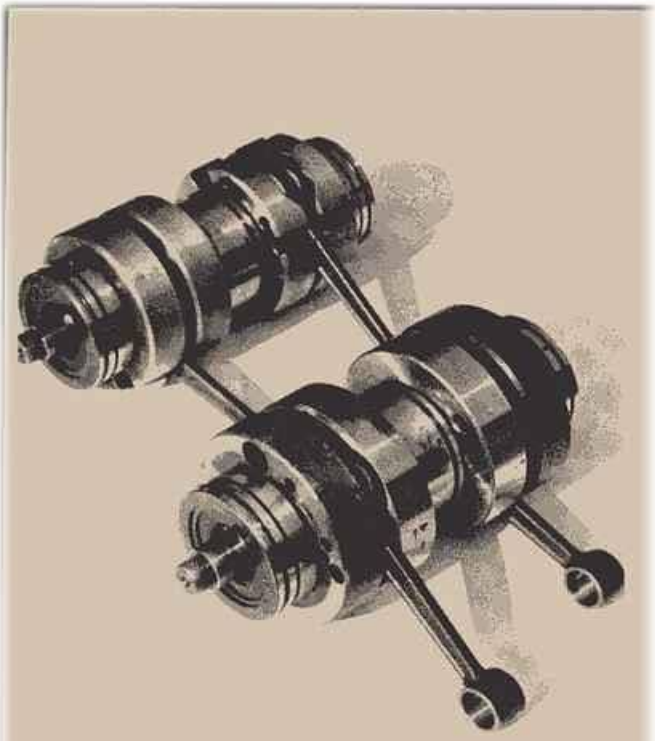
26 *When viewed from the top, the transverse slot should be in the middle of the spigot hole (right) and not off center as that shown on the left.*



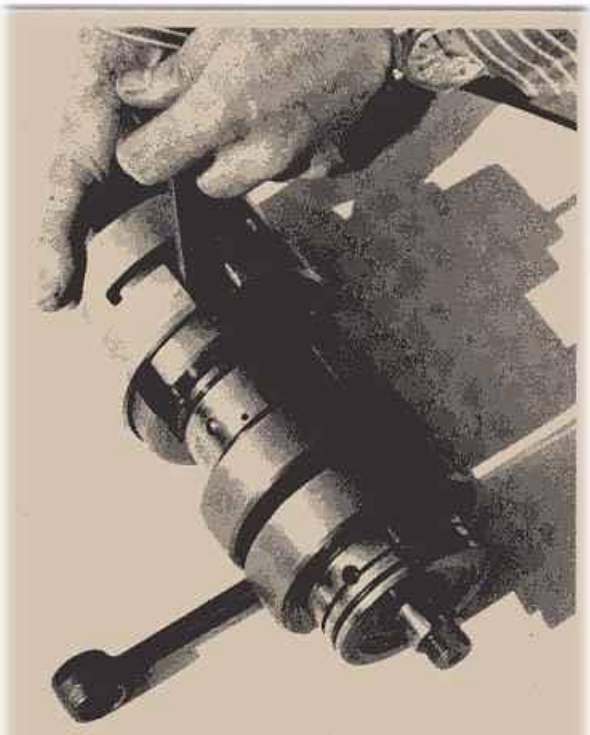
27 *After marking each stuffer ring, carefully mark the center line on each ring with a scribe after being sure both rings are firmly bedded down. This will allow you to put them in the same place every time.*



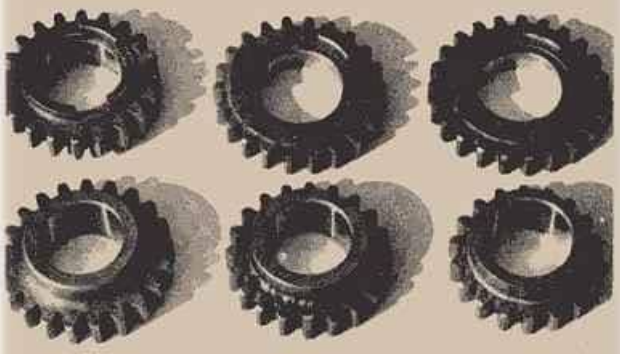
28 *When it comes time to remove the rings use the wooden handle from a hammer and tap the rings smartly to break them loose.*



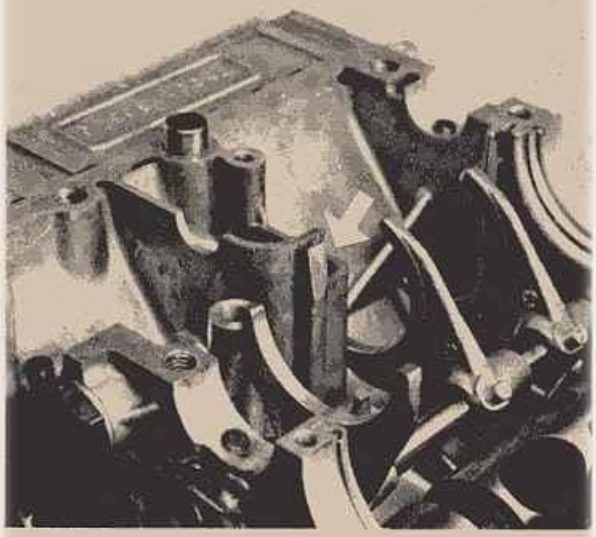
29 *Here you can see the difference between the stock crank bottom and the reworked Grant item at the top. The lighter crankshaft picks up revs much quicker. As a result, acceleration is much improved.*



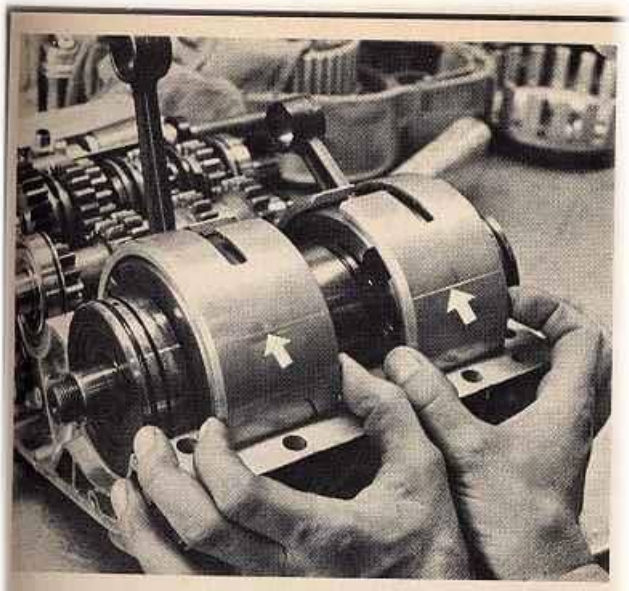
30 *This is how the stuffer rings are installed on each crankshaft half. This must be done before the crank or rings can be permanently installed in either case half.*



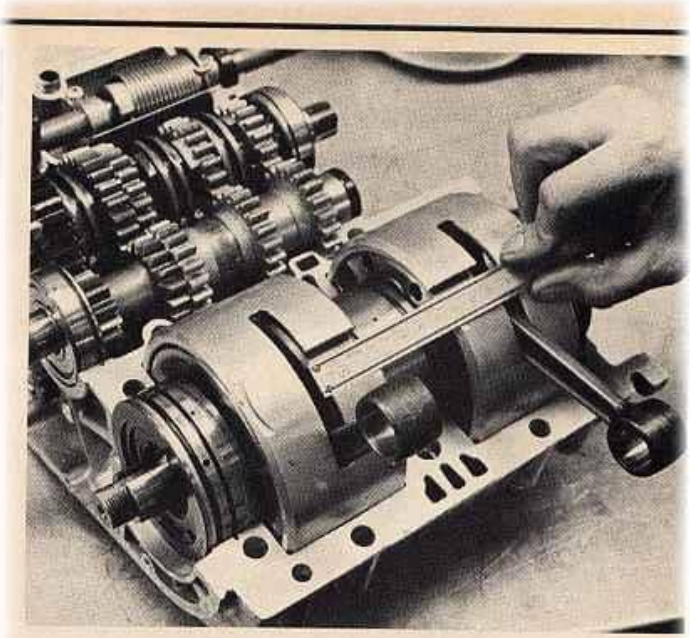
31 *Third, fourth and fifth gear sets can be removed from the transmission, and in their places these close ratio gear sets will work more efficiently, allowing the engine to drop fewer revs between shifts at higher speeds.*



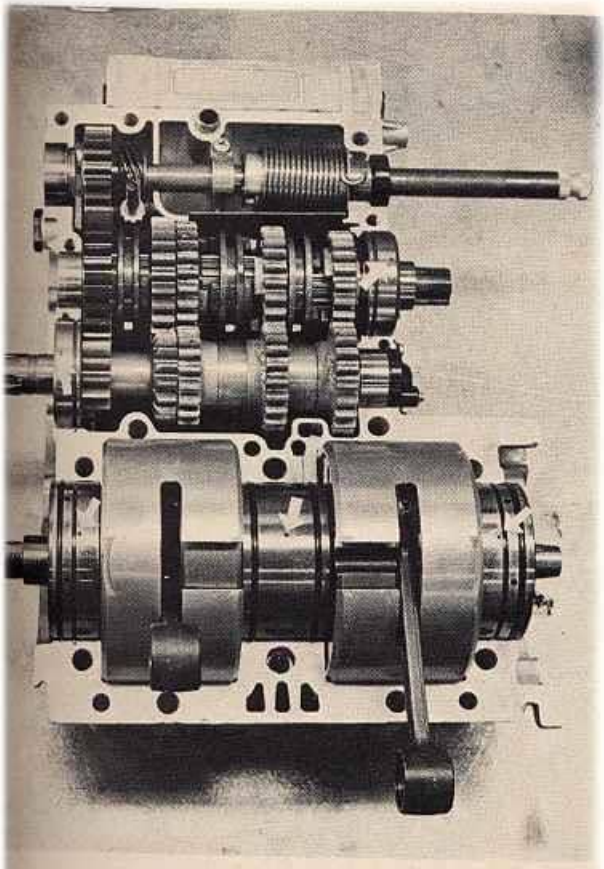
32 *In order to make sure the new close ratio gears do not interfere with either case half, it will be necessary to file a small portion from this rib (arrow), thereby giving the gear sets plenty of clearance.*



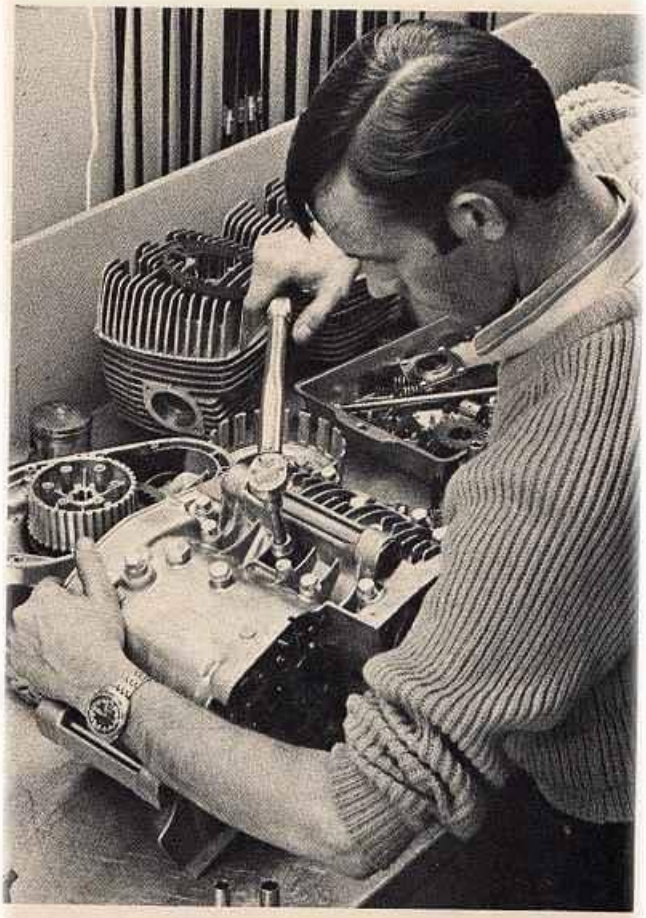
33 *After installing and checking the gearbox assembly, you can go ahead and permanently install the crankshaft assembly. Make sure the center lines (arrows) are lined up on the exact edge where the case halves come together.*



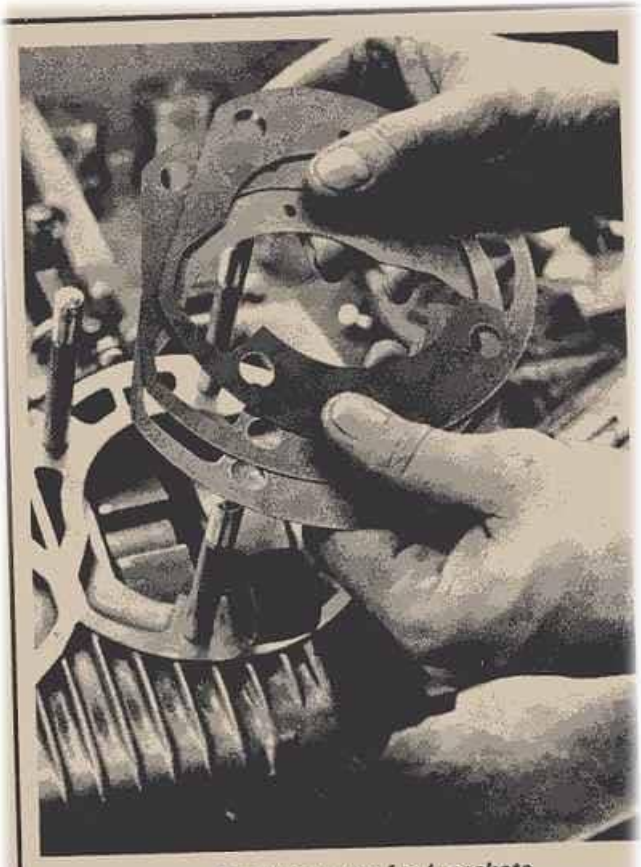
34 *Using a straight edge, be sure the slots line up as closely as possible.*



35 *This is what you should see just prior to dropping the top case half on. The arrows indicate the witness marks on each of the bearings, so be sure you have these installed correctly.*



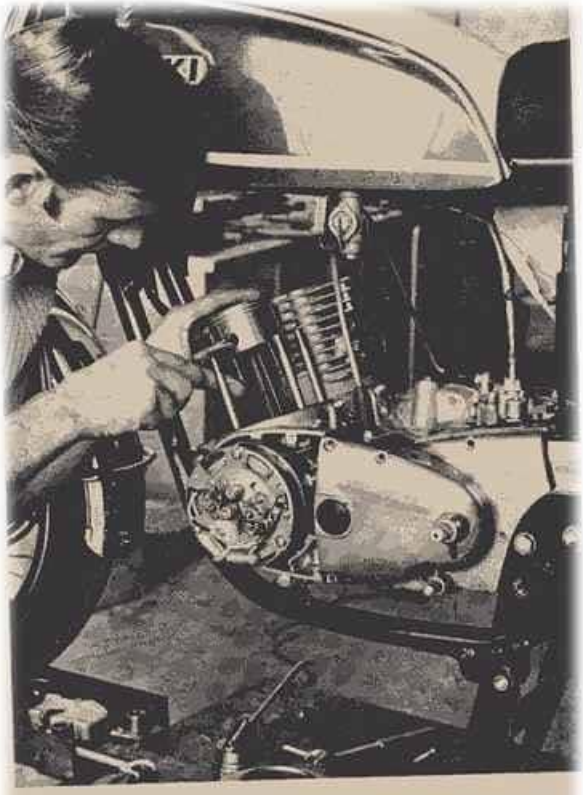
36 *Using the proper sealer and a torque wrench, button up the case halves, being sure you use the right sequence. It would be advisable to get a factory manual to help during the disassembly and assembly process.*



37 *Be sure to use fresh gaskets when reassembling the power plant. It's a lot easier to do it now than to have to go back later and replace a leaky gasket because you were too lazy to do it in the first place.*

38 *The inside of the forged piston (right) shows a considerably stronger wrist pin area as well as——*

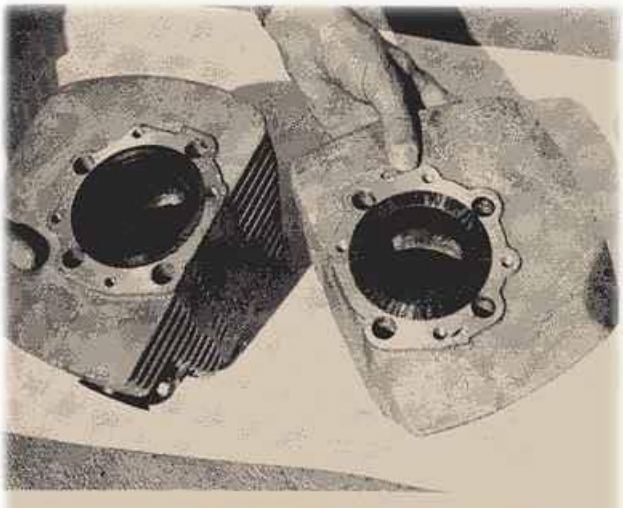
39 *thinner rings. The forged piston is considerably stronger and should outlive the stock pistons many times over.*



40 *Carefully install the new pistons and rings on the connecting rods after putting the engine back in the frame. Now you can go ahead and put on the cylinders.*

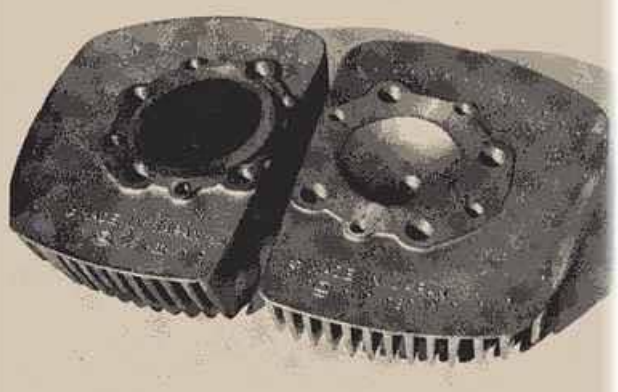
41 *The carburetor on the left is the one used on our all-out dragstrip version. It is the same size as the stocker shown on the right but has better high speed characteristics. For anything except all-out competition-type work, the standard carburetor should work fine.*

42 *By using the information contained in the text, rejet the carburetors as per Grant's instructions. Don't deviate from these specifications.*

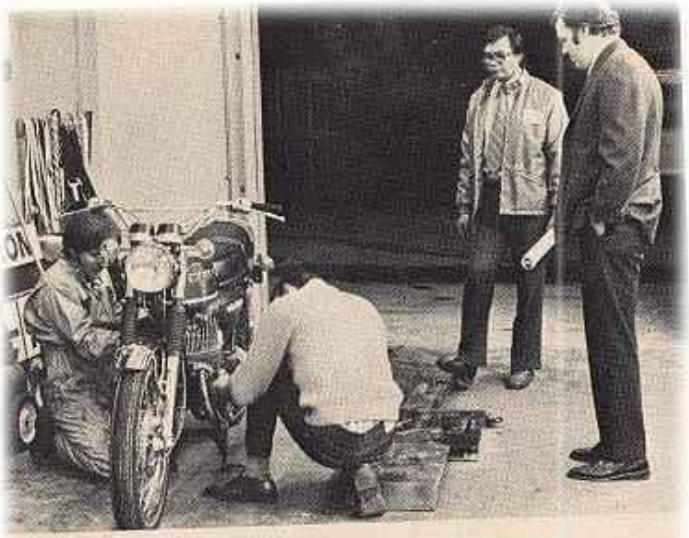


43 *You can use your old standard cylinders. By porting them to our specifications (or sending them to Ron), a good deal more urge can be coaxed out of them with the aid of a hand grinder. Note the difference in exhaust port sizes. The left one is stock.*

these specifications.



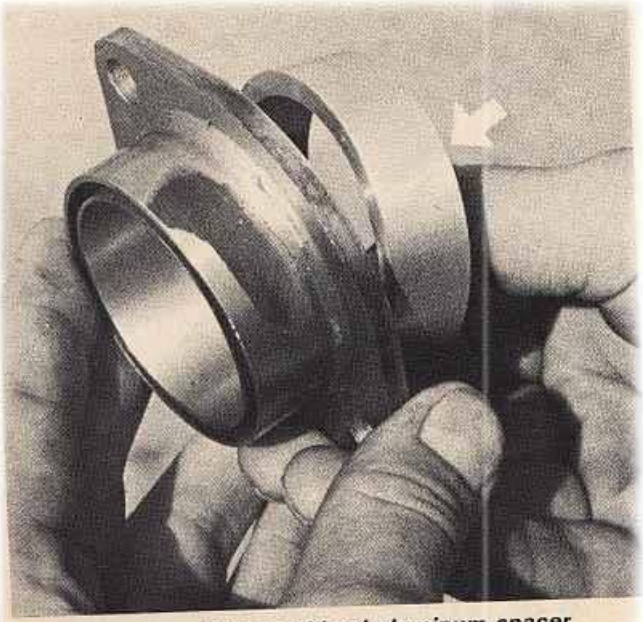
44 *In order to get the necessary compression, Grant can machine the standard heads (right) for $20.00 per pair, so it will not be necessary to buy new ones. Cranking compression should be 120 lbs. per cylinder.*



45 *With the project just about finished, Suzuki's ad manager, John Butcher (right), watches as Grant and the mechanic do some last minute adjusting on the bike he donated for the story.*

46 *If your plan is to use the bike for competition, you might want to change the exhaust system. This new flange can be bolted to the standard cylinder, and the top half of the header pipe slips right in.*

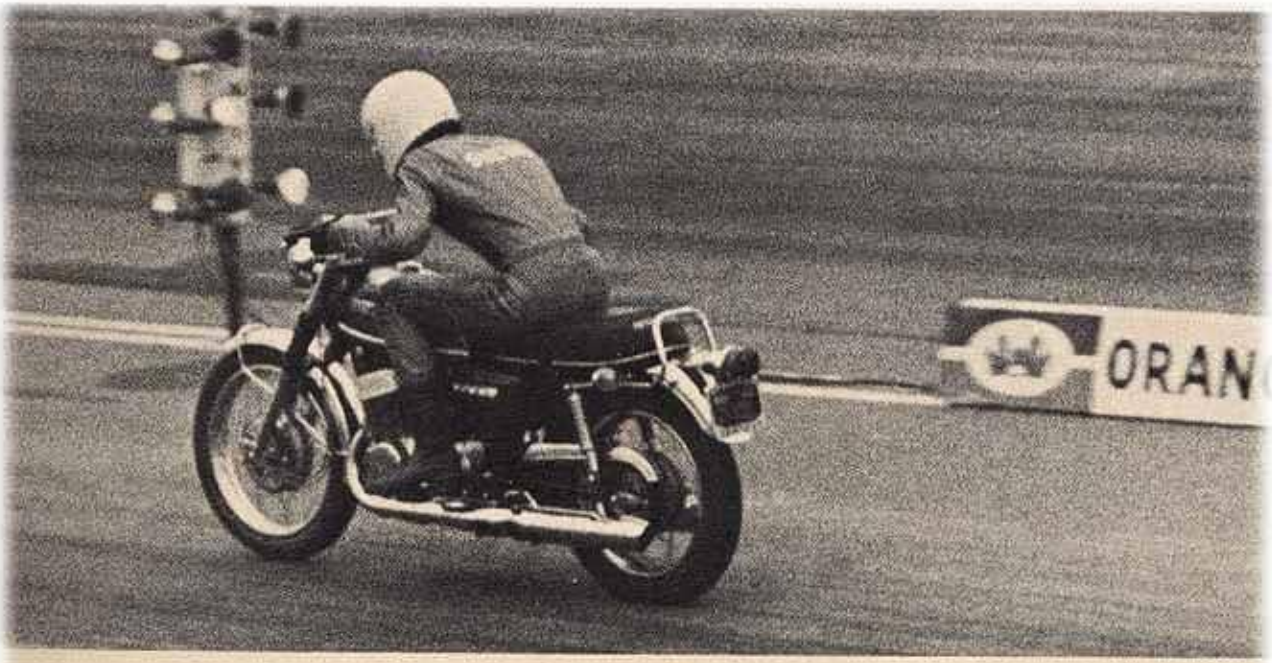
47 *This tapered head pipe is one of the keys to big performance gains with the new expansion chamber exhaust system.*



48 *This machined aluminum spacer ring (arrow) must be inserted in the exhaust port directly behind the new exhaust flange.*

50 *After running the dragstrip tests with the expansion chamber version, the top half of the engine was replaced with the street version, and the mufflers were then bolted on.*

51 *Elapsed times in the 13.40 region now became commonplace. A full 1.5 seconds were knocked off the original ET.*

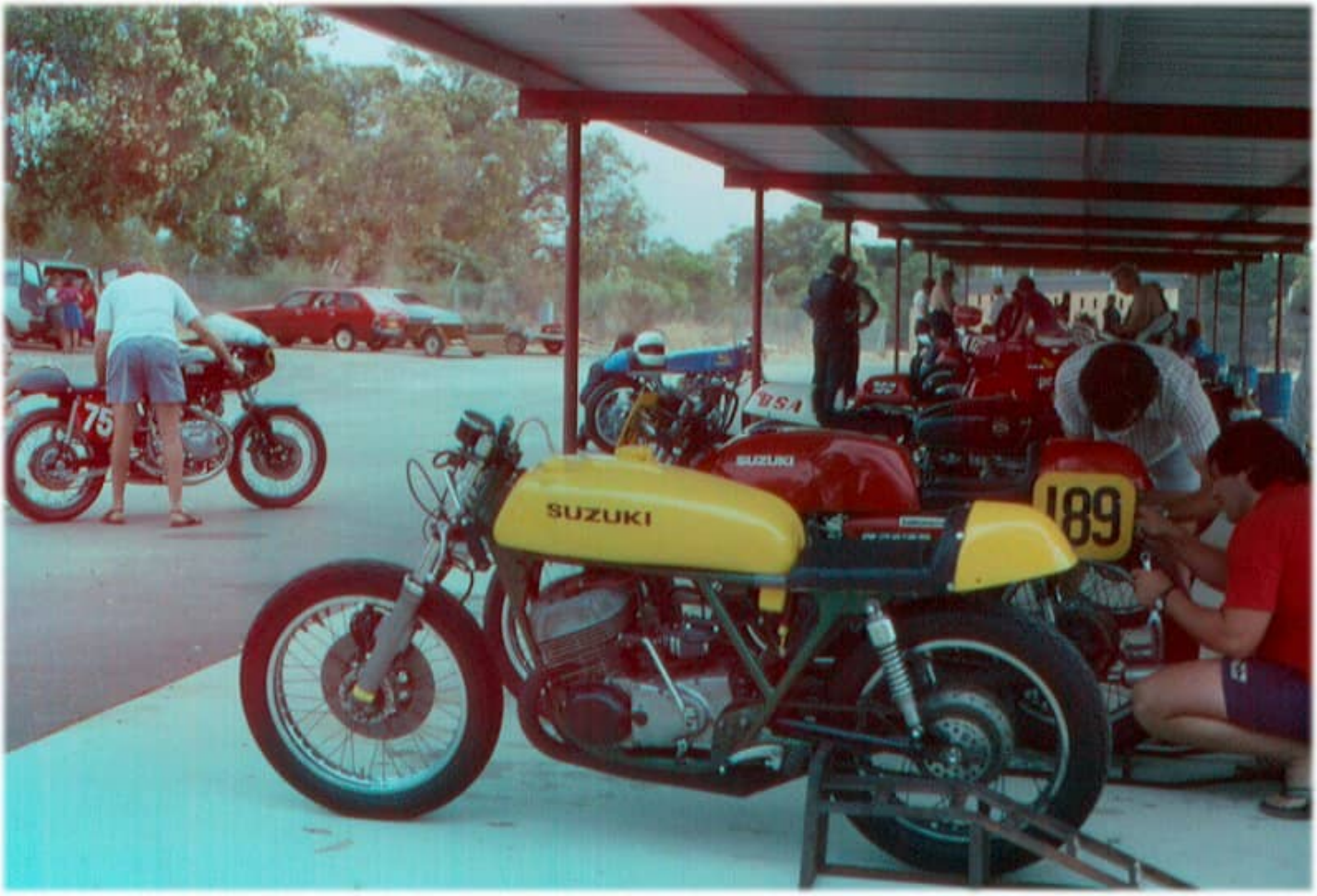


52 *With the full race job (that's still using a stock chassis) we were almost able to crack the 12 second mark. The top speed was just about 100 flat, although little closer gearing would probably raise this figure several miles per hour. CM*

Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers

Muzza Titan 500 No. 189 to the left, away in a cloud of Silkolene

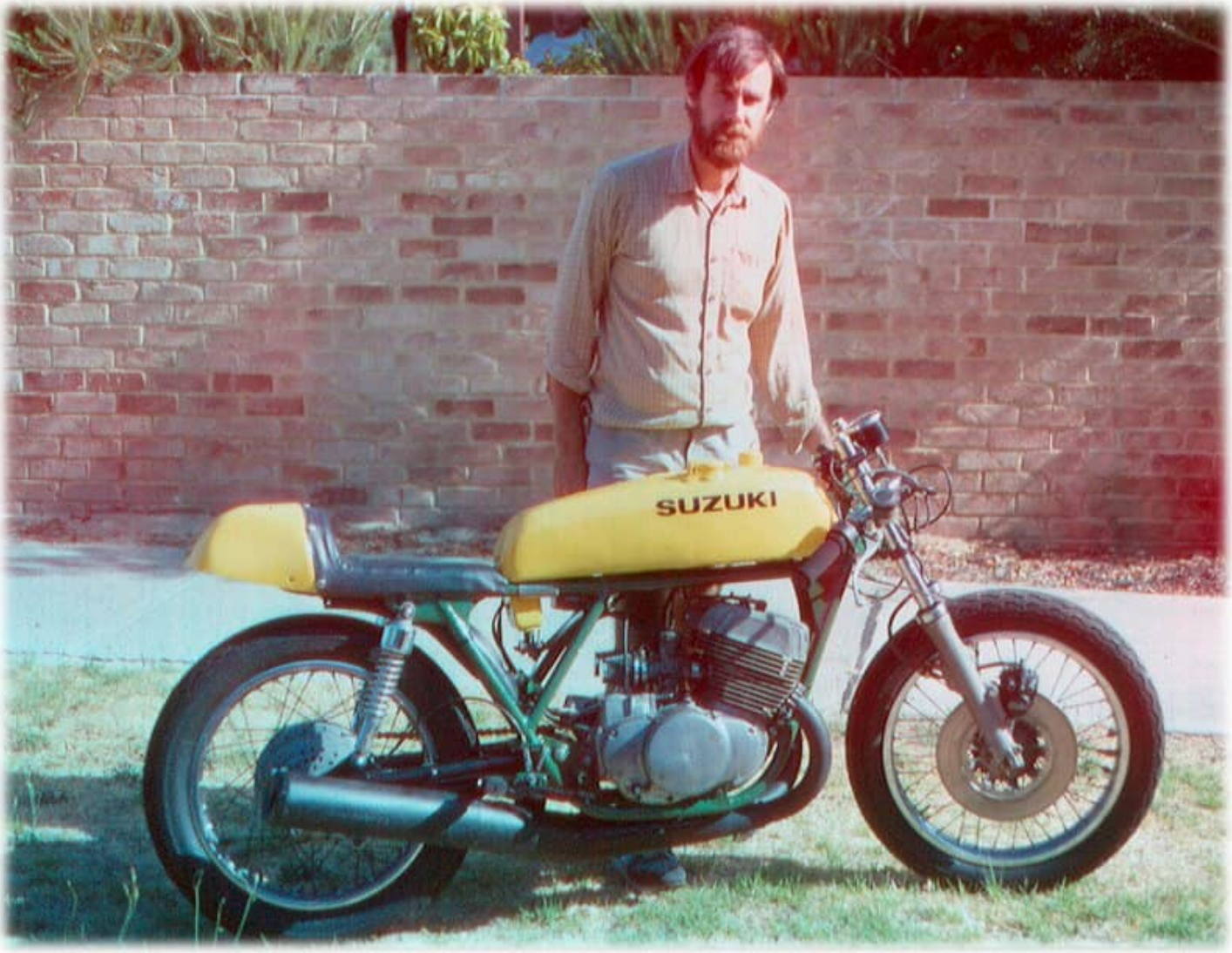


CR750 Honda alloy tank (worth a mint) and a Bromlech 2 into 1 pipe with a Femsa racing ignition, went well and was great to ride. Pulled like a train.

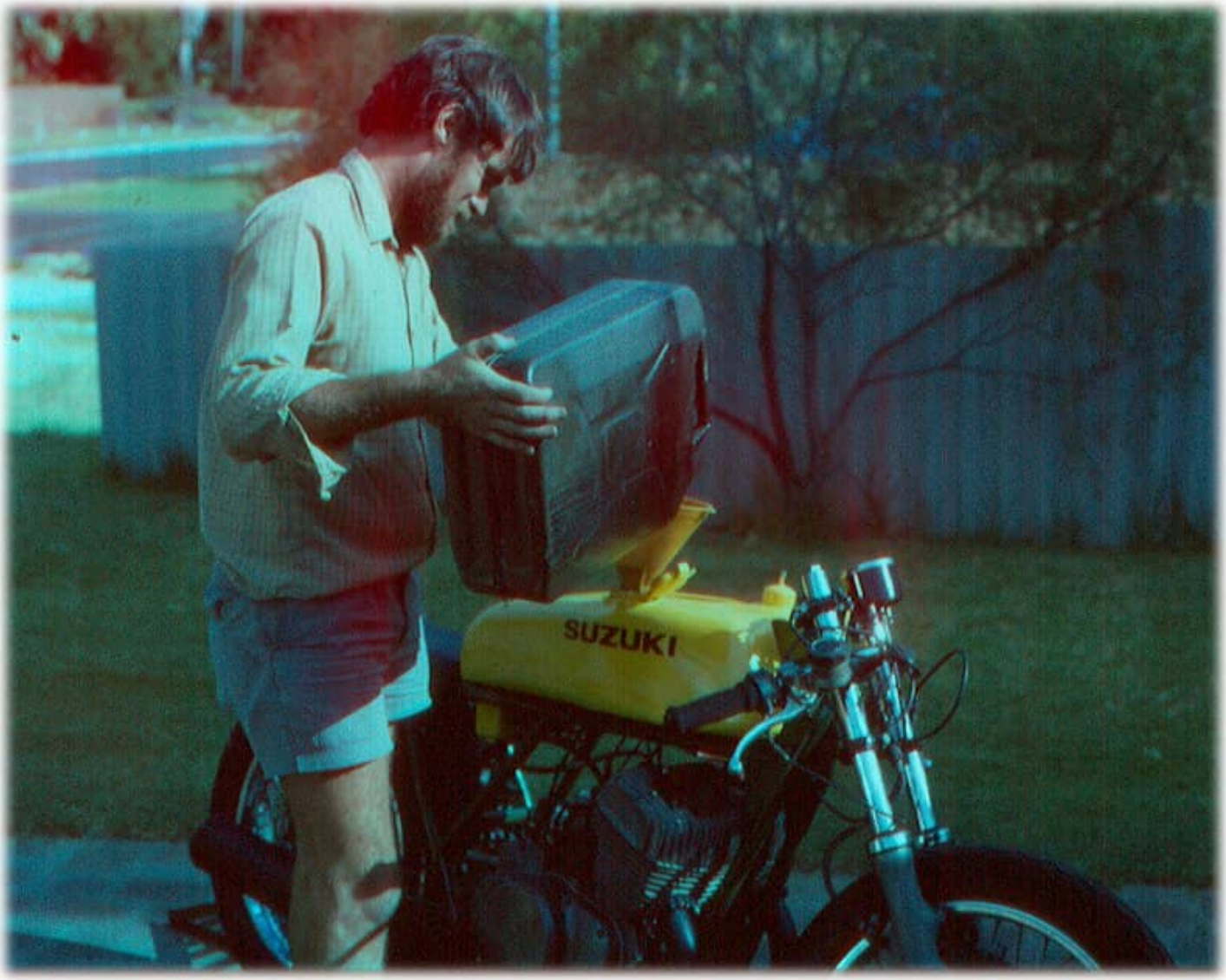
Suzuki Snapshots

Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers



Brain Ferguson - genius tuner and Titan racing builder


SUZUKI

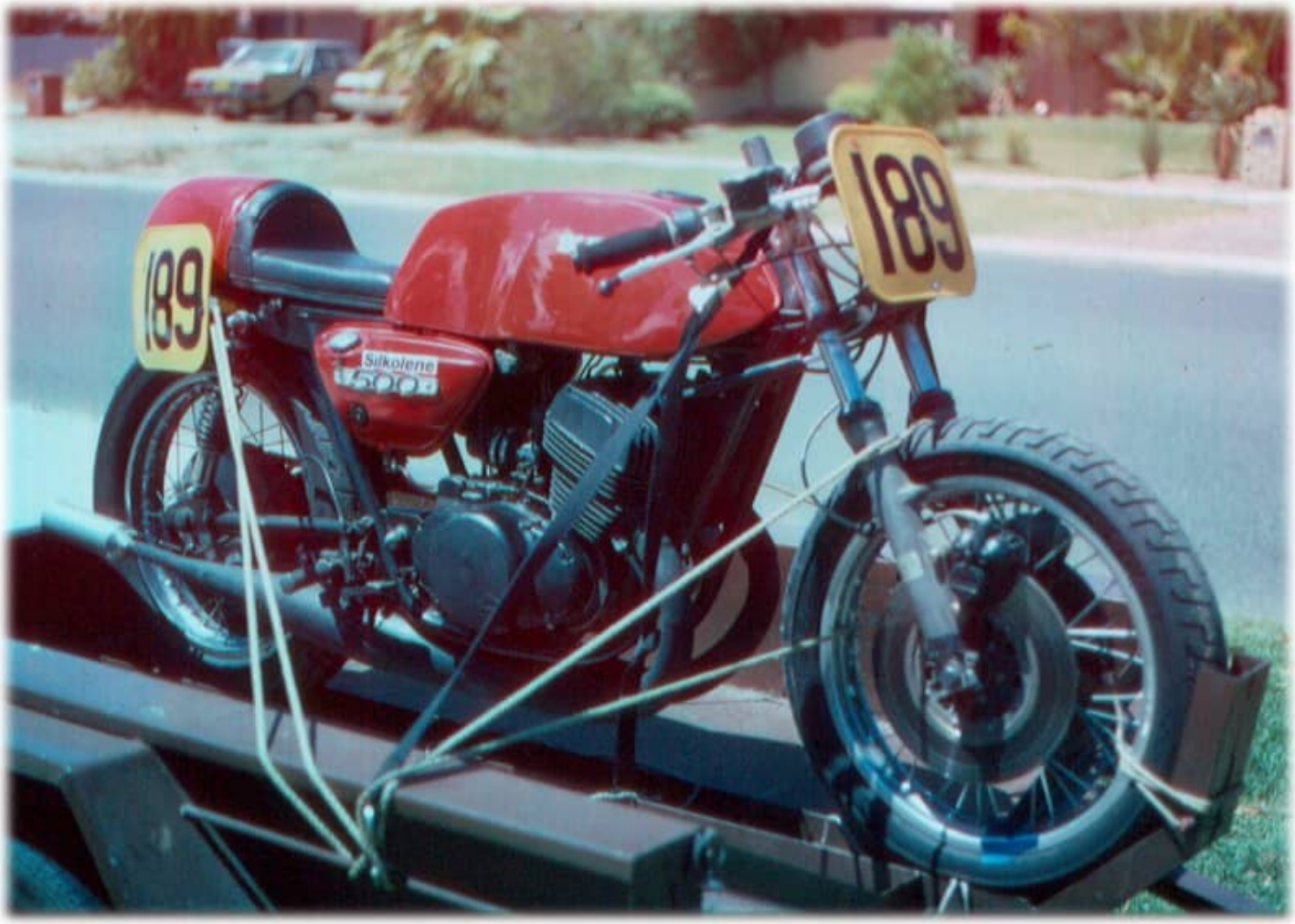
Oiltank under the seat

Suzuki Snapshots

Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers

Honda CR750 alloy tank - worth more than the bike!



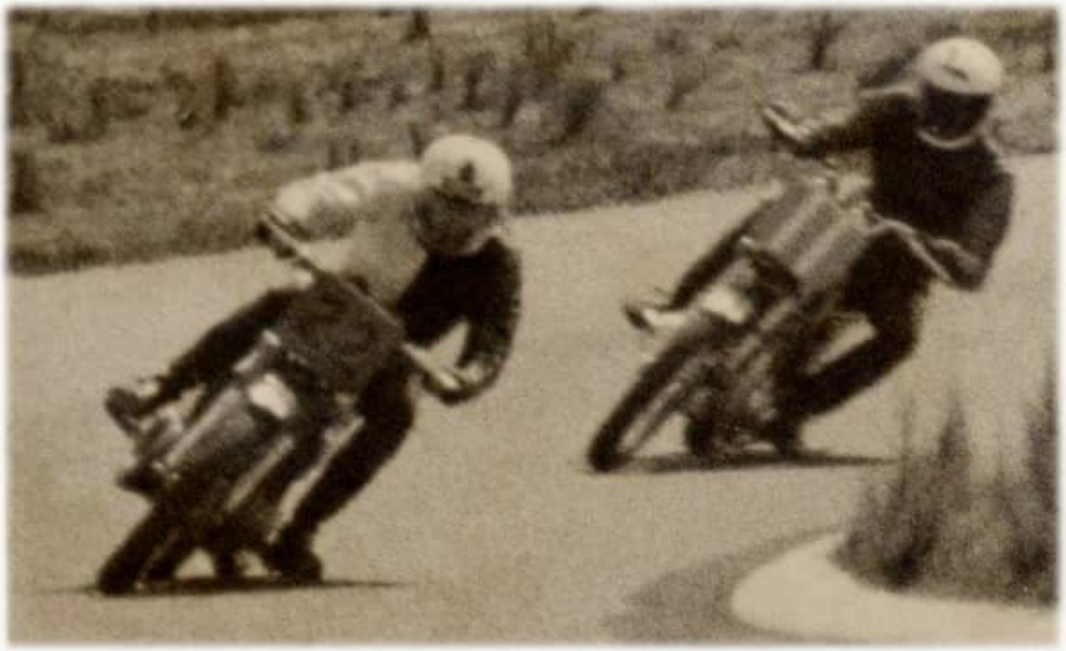
"Old Faithful" - Never let me down

Suzuki Snapshots

Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers

Muzza in the apex chasing a 750 Ducati



Amazing how far over we got with those skinny tyres

Blurry old shots - production racing a Titan in the early 70's

Suzuki Snapshots

Muzza's Titan racing Archive

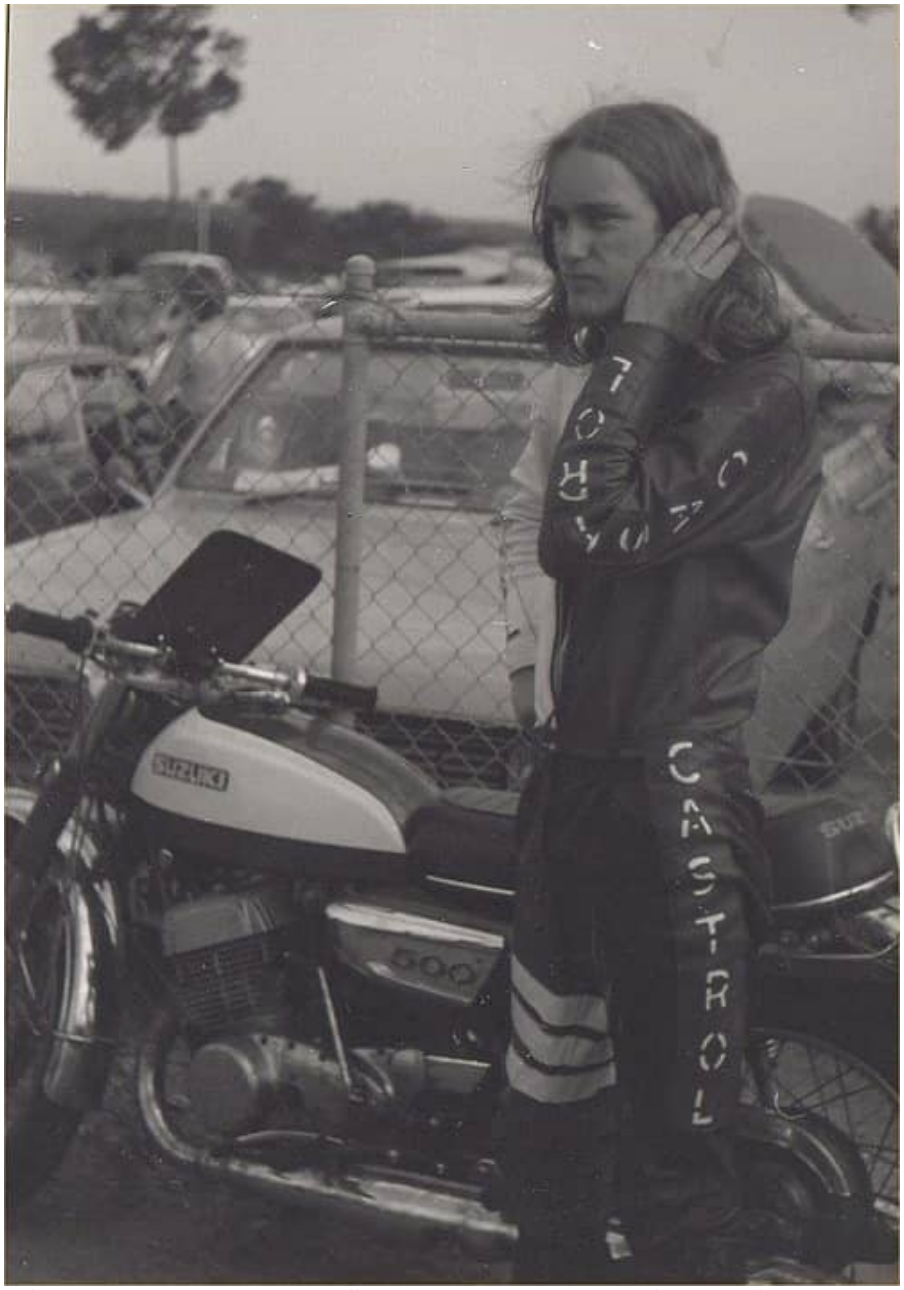
Some old shots of Muzza's Titan racers

Production racing a T500J in 1973
"Getting her over"

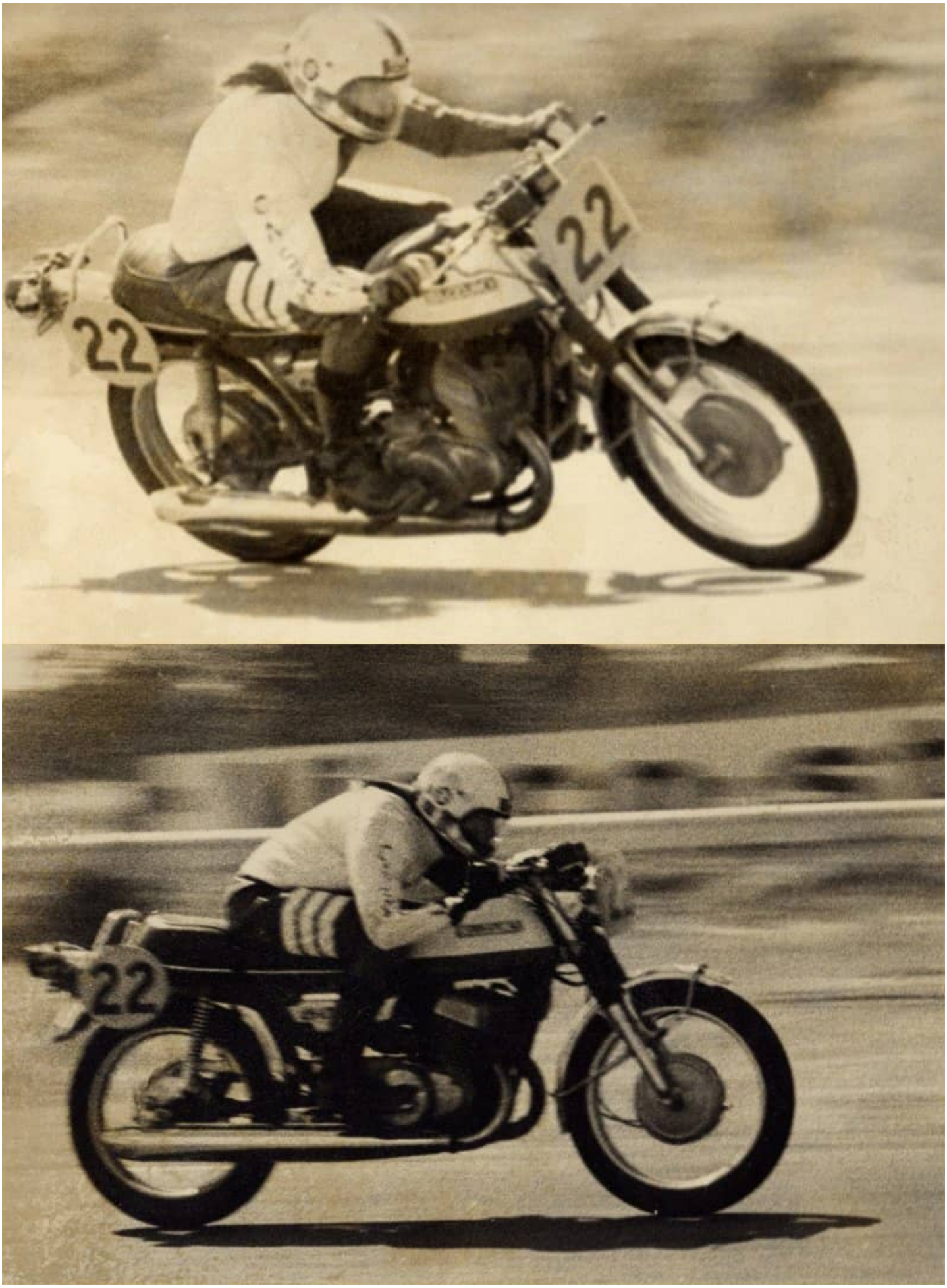
Suzuki Snapshots

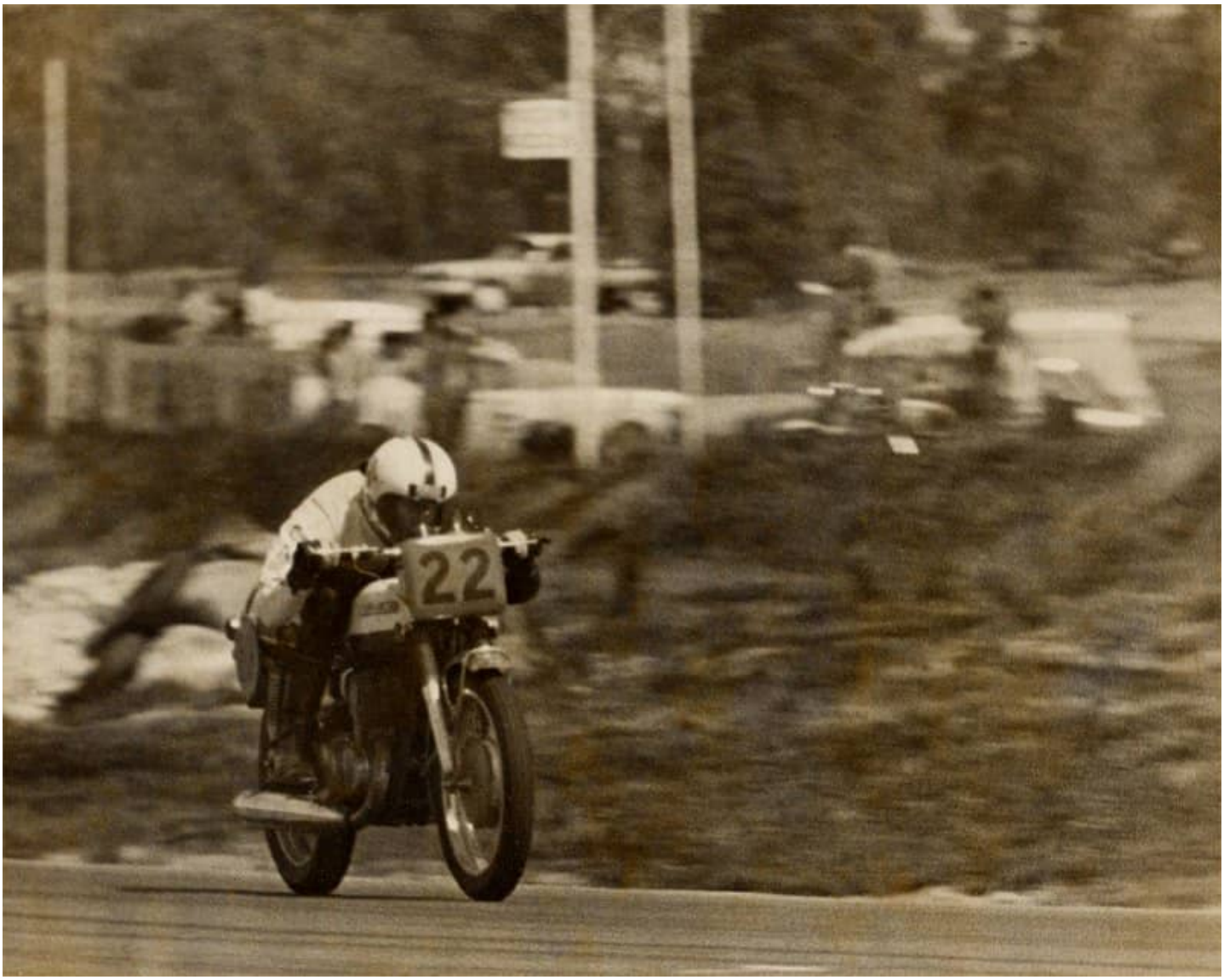
Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers



After the 1974 3 Hour race - "stuffed" to put it mildly - it rained for most of the 3 hours!


22
22
22



Production racing a T500J in 1973

Suzuki Snapshots

Muzza's Titan racing Archive

Some old shots of Muzza's Titan racers

Racetrack practice on a T500J in 1973
Ride to the track, take off the indicator lens and headlight glass and go for it...Don't know about crashbars on a race-track though!

Being chased by a 750 Kawasaki April 1975

T500 Readers Tips

From: "Morris, Dan"
Subject: FYI: T500 expansion chambers maker in Houston TX
Date: Thu, 9 Oct 1997
Hi Murray,
I wrote to you a while back, a fellow Titan owner (and now a '69 guzzi ambo owner!!). A note for anyone interested:
I've done some investigating and found that there is a company here in Houston, Texas (Jemco exhaust systems) that makes T500 expansion chambers for US$250/pair. Sorry, don't know the specs. Includes a built-in silencer. Whatever the case, it beats $800/pair in any country!
I called Jemco today and he claims a 10-15% boost. One of my co-workers, a vintage racer, bought an RD350 set and says it really awakened the bike.
If memory serves me correctly, Doug Fleming responded to my email once, saying he bought a set from Jemco.
Jemco Exhaust Systems
1919-B Blalock Dr
Houston TX 77080-0561
phone number: 713-461-3834
Regards,
Dan Morris

From: "Morris, Dan"
Subject: T500 ignition info
Date: Tue, 4 Nov 1997
Greetings again, Murray!
I have good news for any Titan fans needing ignition.
Check out the Pro-Flow website, It is listed more as an RD400-type site, but the following is a response I received when I asked if they had ignitions for the T500:
"Daniel,
I do have a Newtronic ignition for the T500 it runs $129.95. I also carry Dyna coils that are compatible

with the ignition, $97.95. The coils are an "owners choice" item, as the stock coils will work with the unit. The unit carries a 3 year factory warranty.
Thank you,
John Ritter
PRO-FLO
(760)961-9158
The same gentleman here at Compaq that recommended the Jemco exhaust for his race RD recommended this ignition (BTW, let me give credit where it is due. His web site is here):
"I HIGHLY recommend a relatively cheap addition to ANY old points system bike. Newtronics electronic ignition. The one for the RD runs around $120 (points cost $60-$70 from the dealer). I put one on my race bike 3 years ago. Spot on timing that NEVER changes. They're setup to 'plug and play' into your existing wiring harness. I took my original off the race bike this last weekend (going to an RD400 motor, and it's a little different), and put it on my street bike (which still had points). Unbelievable. Easy starts, smooth idle, crisper acceleration. I had forgotten what it did for the race bike. I bet they make one for the T500. Look at http://www.pro-flo.com. They specialize in RD stuff, but I know they carry Newtronics. It's worth a shot."
All the best, take care,
Daniel Morris
Systems Analyst - Worldwide Transportation
Dan.Morris@compaq.com
Ext. 4-1923

KEEN DUTCH SUZUKI RACERS WRITE

From: "Dobben, Luc van" To: "'pindan@hotmail.com'"
Subject: Suzuki 500 Fanatics
Date:Mon, 5 Jan 1998 12:36:06 +0100
A happy New Year to you too.
Thanks for a nice bunch of articles about converting a Titan to a racing bike.
We are a couple of addicts from Holland who up till now race 5 Aermacchi replica Ala d'Oro bikes including a Rickman framed one and one original '69 Yamaha TR2B (the one with the big 4 leading shoe brake). A friend of ours built a Suzuki last year and did very well even abroad. We looked up an old article from the seventies which shows you by the way of adding a 4mm gasket to soup up the bike.
In the mean time we collected 4 500 Suzukis of which one is a GT. Two frames are being altered with loops like the TR and the front lowered and altered to 62 degrees. As we read in your article every one puts his own ideas into his bike so we have to decide which options are best.
We are in the posession of two original TR 500 cilinders and heads which we will instal with shorter 750 conrods and pistons and have one engine with a machined down crankshaft with fillers. I myself like to crossdrill the crankshaft like you did and wonder if you could supply more info on this like where and how to drill including diameters. For a petrol tank we opt for the Yamaha one in fibreglass which is almost the same as the TR's but if original models are available please forward an adress.
Seats and fairings are still available from Rob Bron a former private Grand Prix rider who still has his TR500 and once led Agostini for several laps during the German Grand Prix until he lost power by overheating with this same bike. He can be seen during the Centennial in Assen in May (see the last Classic Racer on the rear) along with all the Aces from that period.

As I read in your article that original TR cylinder heads are almost unobtainable,we plan to have a series cast and machined very soon. If anyone is interested please let us know. they are the right sand casted ones with more cooling fins, are 8mm thicker than the standard ones, have long shaft plugs in the right place and are properly squished. An estimate for the cilinders, which differ dramaticly from standard ones, will also be made but fear this will be very expensive. I do hope this is of interest to you and hope you can share the info with the other fanatics.
Regards,
Lucas van Dobben
Strandwal 107
2241 MJ Wassenaar
Holland
E.Mail DBN@MH.NL

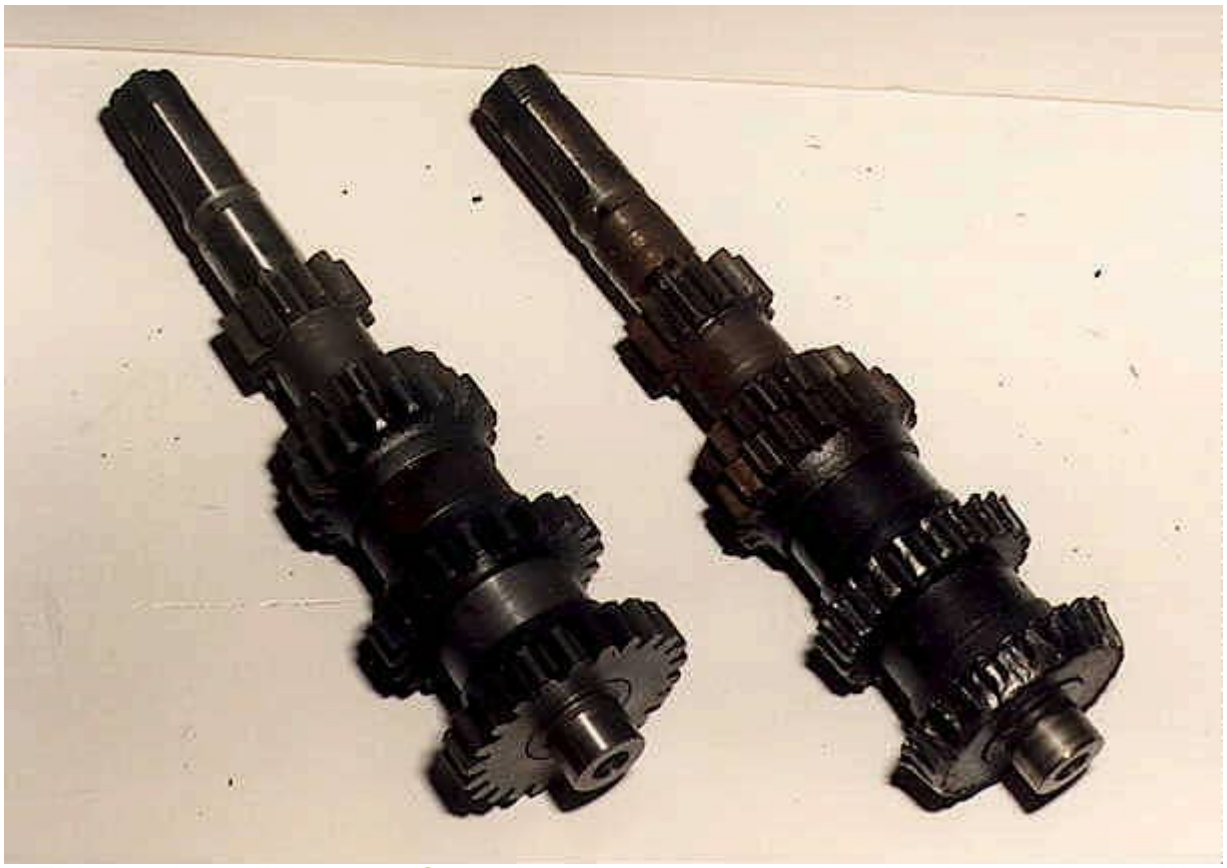
SOME TOP CROOKS SUZUKI SHOTS

From: "Keith Napier"
To:
Subject: Suzuki 500s
Date: Mon, 9 Feb 1998 21:36:57
See http://members.aol.com/Napierk/ for some U.K. photos of Crooks Suzuki with Seeley frame and US racers etc.
Best wishes Keith Napier main e mail classjap@aol.com
From: james.winters@pharma.novartis.com
Date: Thu, 12 Mar 1998
Subject: T500 parts....
Hey,
Just wanted to spread the word about a good parts source I found for the T500. There's a guy in Berlin, CT that has a very good inventory of NOS and clean used parts for the T500 as well as other Suzukis. He managed to track down an NOS side cover for my 1968 Cobra (which is different from all the other years of T500 production) and his prices are very reasonable. He even has a good supply of pistons!! His name is Paul Miller and you can contact him at:
collectr@erols.com
or you can call him at:
860-829-1967
He'll be at Mid-Ohio as a vendor and told me he will have a candy magenta 1971 T500 "tourer" as his ride! He got the bike with 6000 original miles on it!

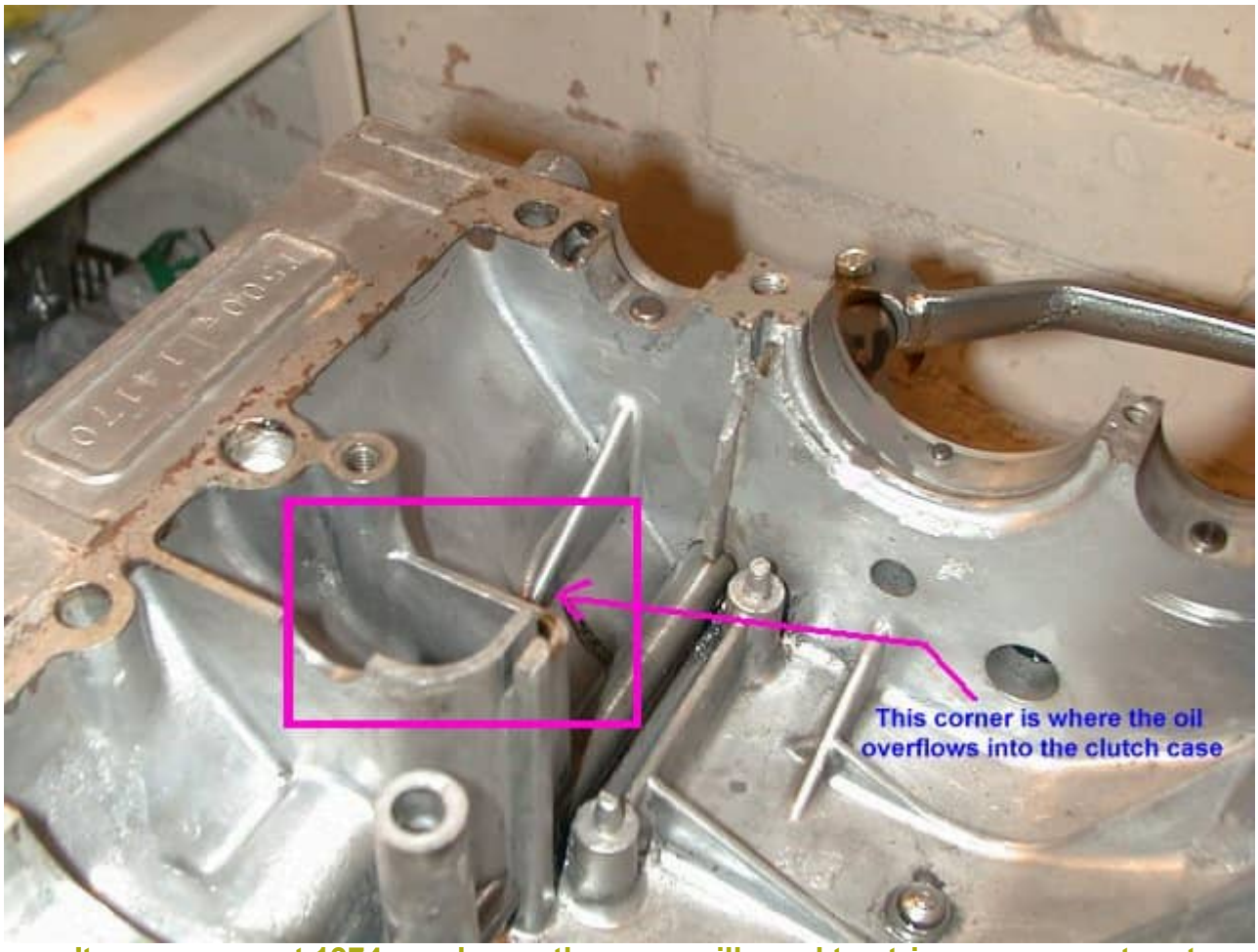
Suzuki T500 gearbox oil level modification

The most requested page in Suzuki 500 history!

The following pics demonstrate how the lower crankcase on a pre-1973 T500 needs to be modified to increase the amount of gearbox oil that actually stays in the gearbox.



This is what will happen if you don't keep your gearbox level up to 1400cc!!!
The gear shaft on the left is a new one, the one on the right is an old one with a totally ratshit 4th and 5th gear.
What happens is that of the standard 1200cc of oil that goes into a pre-73 gearbox a fair proportion of it overfolws into the clutch case.
Starved of oil the 4th and 5th gears lose their case-hardening and at first become pitted and finally once the hardening is fully eroded, the gear teeth begin to cllapse under the heat and pressure. In the meantime the bits of metal don't do much good for the rest of the box either. It is easy to tell when the teeth are going as the box will start to whine and the whole thing eventually sounds like a steam engine clanking away.
It is easy to fix though. Follow these basic home handyman hints.



If you can't source a post 1974 crankcase then you will need to strip your current motor. (The post 1973 crankcases have been modified by the factory to address the problem and they take 1400cc of oil as standard.)

The pic above shows where the problem lies. Back near where the kick starter shaft goes there is a webbing wall which has a indent. this is where the oil overflows to the clutch case.

Close up of the overflow wall

The simple solution. Build up the wall with a piece of tin araldited around the corner , or with whatever clever modification you can think of. Frustrated at losing three sets of gears over a year or two I finally had a snip out of a Coke can araldited in place and it worked like a treat. This modification increases the amount of oil by about 200ccs thus ensuring that the 4th and 5th gears get sufficient oil to stave off disaster.

--o-ooo----------ooo-o--

Some people still don't believe that this modification is necessary and I've had some mail from people who have ridden 45,000 miles without a problem. Lucky them. Well I got pretty snakey after a while and wrote back....

"I'm getting sick of this debate....the factory issued a Bulletin advising that there was insufficient oil in the gearbox, the factory issued a part (no longer available) to fix the problem, from 1973 on the factory produced all T500s with 200cc extra oil capacity in the gearbox....why? Not because of racing, but because stacks and stacks of road riding owners wore out 4th and 5th gears riding sedately on the road. Because someone is lucky does not reverse years of experience and factual factory advice to overcome the problem. Wrecker yards are littered with stuffed gearboxes and gear box parts are hard to find because so many gearboxes shat themselves.

(*Name deleted to protect the innocent*).....your machine is an early one and I suggest that if you intend to ride it much or cruise at highway speeds then next time you are renovating the engine, upgrade the gearbox with the easy fix which is on the website. I replaced three gearboxes in 1972 before hitting on the fix and no I wasn't racing my bike then.

(*Name deleted to protect the innocent*), you have been lucky, blessed even, others don't have half your luck. Keep on riding but lets keep others riding too."

Helpfully, I received this email, which hopefully clears the matter up and quietens the doubters, with photos of the factory fix for the earlier motors. Unfortunately this part is no longer available but Jim's pics give a good idea of what it looked like and how it was fitted.

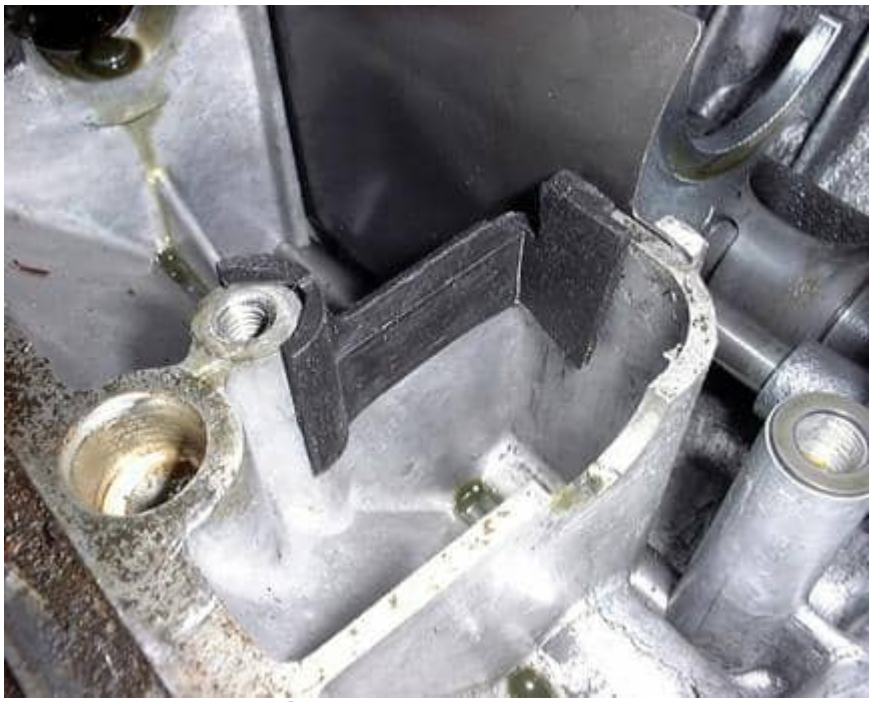
Hey Murray!

I came across this a while back and thought I'd shoot some pictures of it to show people how to modify their T500 gearboxes. I should have known you would have already covered the subject. In case anyone wants to search for the Suzuki part it's: 24833-15990 PLATE, MISSION OIL , at least that's it here in the U.S.

The mission plate itself feels to be made out of the same rubber as any other seal Suzuki made. At it's lowest point it extends the total height of the dead space wall by 3/8" (the mission plate is 1/2" high at that point and includes a 1/8" groove in the bottom to notch onto the dead space wall).It's about a 1/4" thick. I am not sure how well this will seal without some Hondabond (Yama/Suzu/Kawabond) to adhere it to the case so you might still be better off with JB Weld or Araldite & Coke cans instead!

Thanks!

Jim (James Winters)



Thanks Jim for that, and I'm sorry if I get a bit snippy about this; but when people say this mod isn't necessary I don't think they are thinking of the problem they are causing for others . Prevention is the best cure. I know it is a lot of work, but life wasn't meant to be easy. That's all folks, for now.

Hi Murray, I'm surprised that people don't believe you. I bought a brand new GT500A in 1976 from The Suzuki main dealers at the time (Heron Suzuki - remember Barry Sheene's bikes?) Good deal, great bike, excellent dealer service. In 1979 the Suzy suddenly developed a very loud grinding noise in 4th gear. Well, I was 120 miles from home, so I had to ride it back. I lost 4th gear, & 5th was jumping out when I eventually got home. Anyway, I stripped it down saw the damage, the whole gearbox was virtually shot, I think I managed to rescue one of the shafts, and some of the lower gears. Every bearing was on its way out. I replaced the lot with brand new parts, having to go to a number of dealers because not one dealer had everything I needed, I can't remember the cost now, I think it was about £200.00 (about $550Aus). I was clinically clean when I reassembled the box, every moving surface was painted with the grade and make of oil I was going to use in the box. The engine was put back in the bike, the "correct" amount of oil was put in the gear box, 1200cc as cast in the crankcase by the gearbox oil filler, Bel-Ray oil. Great, back on the road at last, change the oil at 100 miles, then at 500, then at 1000 miles. 1500 miles after the rebuild I heard a grinding etc etc. Strip it down, virtually identical damage, I was not a happy person. So on the advice of a colleague at work I complained to Suzuki GB about it. (Even though the vehicle is out of warranty, genuine replacement parts should last the warranted period) They were very sympathetic, but pointed out that I didn't have the work done by a dealer, so I might have assembled it incorrectly, And could I take it to a local dealer so he could assess whether or not it had been assembled right. My local dealer said no problem, examined it, could find no faults with my workmanship, and said the cause must be faulty parts. I got onto Suzuki to ask what they were going to do about it. They tried everything to get out of it, even down to saying it was my fault because a dealer had not changed the oil!! I said not to talk daft, changing the gearbox oil was simple, undo one plug, drain it whilst warm, refit the plug, remove rubber bung and refill with 1200cc of top grade gearbox oil. The telephone went very quiet, then I was informed that it was my fault for not using enough oil (should be 1400cc) I argued with them saying that they were wrong because 1200cc was cast into the cases. They said there had been a service update increasing the oil quantity etc etc. I went to my local dealer telling him the story, he fetched the chief mechanic out, and repeated what I had been told by Suzuki, to which the mechanic said "B.....s, I always put in 1200cc, it is cast into the crankcases" Eventually, with the backing of dealer, Suzuki agreed to refund the cost of whatever replacement parts were required to put it right. I used 1400cc of oil after that! Now, twenty years later, I find someone else who knows about the problem!!! and not only that, but he has a cure.

Regards
Paul Grosvenor, United Kingdom

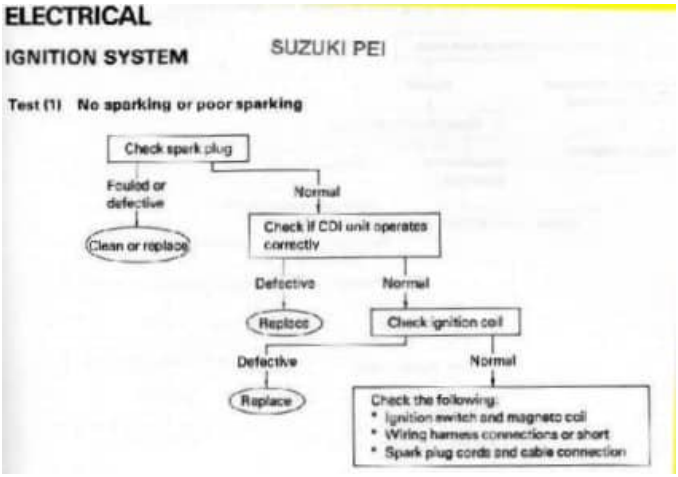
Suzuki GT/T500 torque settings

Item	Quantity	kg cm	lb ft
Front axle nut	1	650	47
Fork lower triple clamp fixing bolt	2	200	14
Steering stem head fitting bolt	3	250	18
Handlebar clamp bolt	4	130	9.5
Spark plug	2	200	14
Cylinder head nuts long	8	350	25
Cylinder head bolts short	8	200	14.4
Kickstarter retaining bolt	1	300	21
Rear shock absorber mounting nut	4	250	18
Rear axle nut	1	650	47
Muffler mounting bolt	4	300	21
Rear swinging arm pivot shaft	1	650	47
Engine mounting bolt	3	600	43
Exhaust header pipe bolt	4	130	9.5
Crankcase bolts 6mm		100	7
Crankcase bolts 8mm		200	14
Oil pump union bolt		50	3.6
Primary pinion		500	36
Engine sprocket nut		400	29

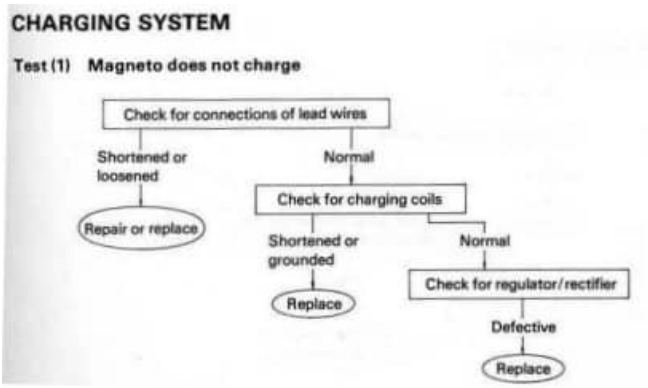
PEI Troubleshooting

I'm no expert on electrics, but I get a lot of questions on GT500 electronic ignitions. I've found it hard to find anything on GT500 PEI systems. These pages are about the GT250N or X7 PEI. I imagine that they are very similar:

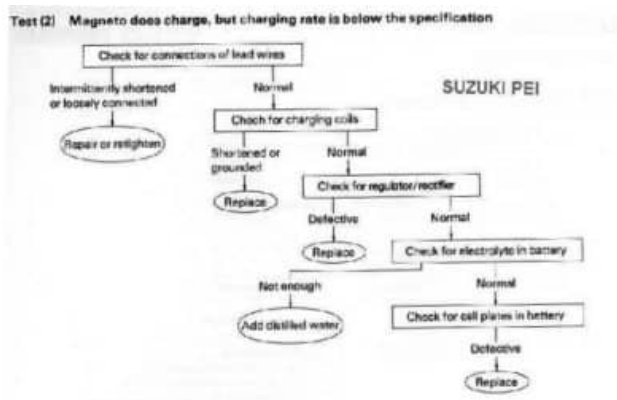
Ignition system - no sparking or poor spark:



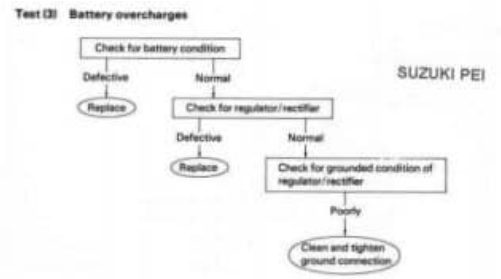
Charging system - magneto does not charge



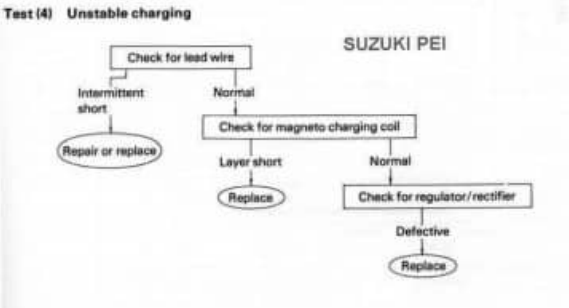
Charging system - magneto does charge - but charge below specs



Charging system - battery over charges



Charging system - unstable charging



Ignition system - description

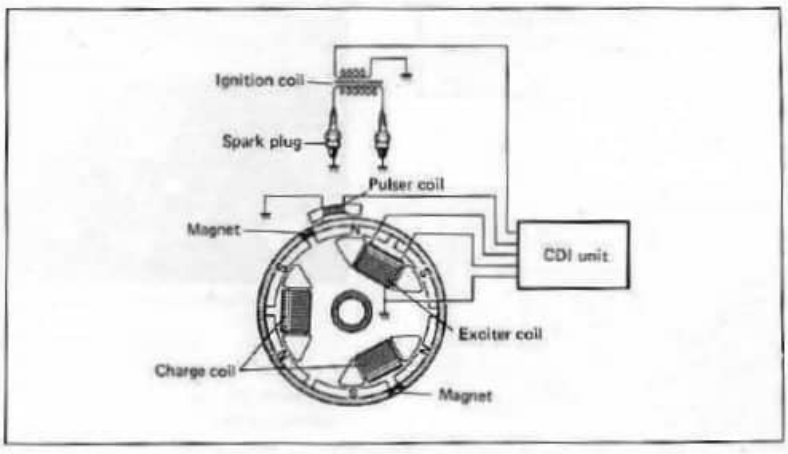
IGNITION SYSTEM

DESCRIPTION

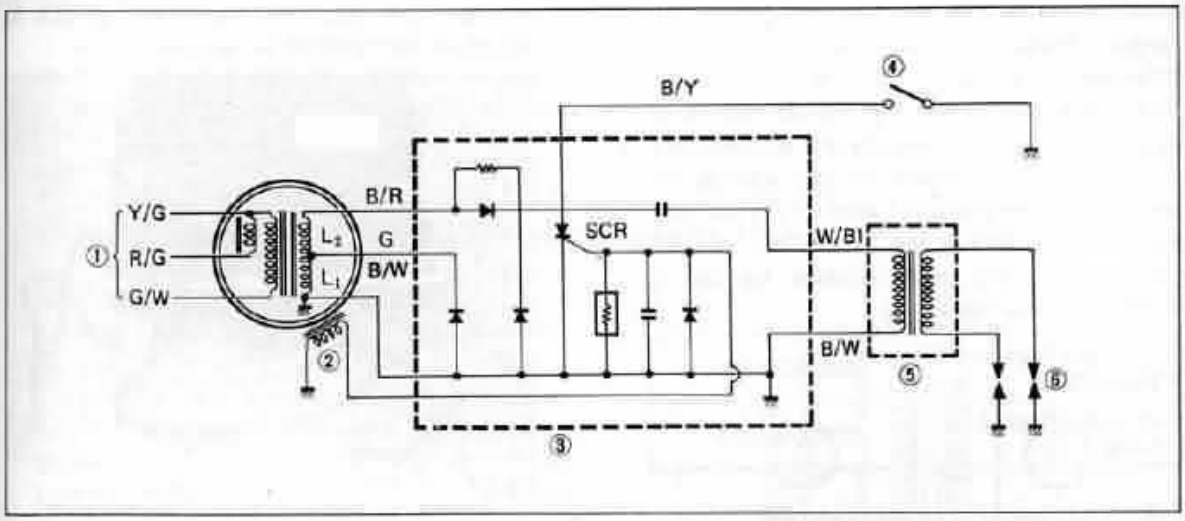
"PEI" system (pointless electronic ignition system) is employed for GT250N. "PEI" of this model is different from that of RM and TS series in that the pulser coil is located outside the outer surface of the flywheel. A small magnet is embedded on the outer surface of the flywheel. The magnet and pulser coil cause the "CDI" unit to operate.

This system is characterized by the fact that stable and reliable ignition timing is secured free from the effect of the load condition of the magneto.

The ignition coil used in the "PEI" system of GT250N is slightly different in that each end of ignition secondary winding is connected through a cord to the spark plug. Thus, the two plugs receive sparking energy at the same time.



IGNITION CIRCUIT



① Charge coil ② Pulser coil ③ CDI unit ④ Ignition switch
⑤ Ignition coil ⑥ Spark plug Exciter coil (Low-speed and high-speed coil) (L_1) (L_2)

B/R:	Black with red tracer	Y/G:	Yellow with green tracer
B/W:	Black with white tracer	G/W:	Green with white tracer
R/W:	Red with white tracer	R/G:	Red with green tracer
R/Y:	Black with yellow tracer	W/Bl:	White with blue tracer

Fig. 9-2

"PEI" operating principles

The speed characteristic of voltage available from exciter coils (both low-speed coil (L_1) and high-speed coil (L_2) is illustrated below. Note that applying to the condenser is the sum of the two voltages and is generally flat for the entire running speed range of the engine.

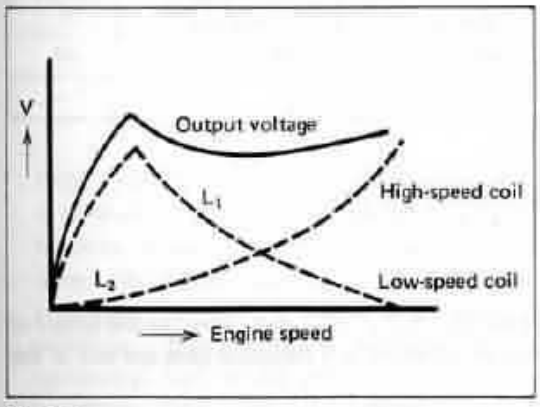


Fig. 9-3

The condensor is charged with the exciter coil as shown in Fig. 9-2. On the other hand, the output voltage from the pulser coil is applied to the gate of SCR to switch the SCR on. At this time, the condensor discharges the electricity in a moment. The discharged current passes through the primary coil of the ignition coil and induces high voltage of current to the ignition secondary coil. The high voltage current causes the plug to spark.

INSPECTION AND MAINTENANCE

Ignition system components

CDI unit

The purpose of inspecting the CDI unit is to determine whether or not the unit is electrically in good condition. There are two ways to inspect: one is simpler and based on the use of a special tool, which is the Type SS-II SUZUKI electro tester; the other involves the use of SUZUKI Pocket Tester.

SUZUKI Electro tester (SSII)	09900-28106
SUZUKI Pocket tester	09900-25001

CHECKING WITH ELECTRO TESTER:

Connect the CDI unit to the electro tester, as shown in Fig. 9-4. Twist the selector knob to "PEI" range, and turn on the power switch. The "PEI" indicator lamp will light up to tell that the CDI unit is in good, sound condition; if the lamp will not light up, it means, that the CDI is defective and needs to be replaced.

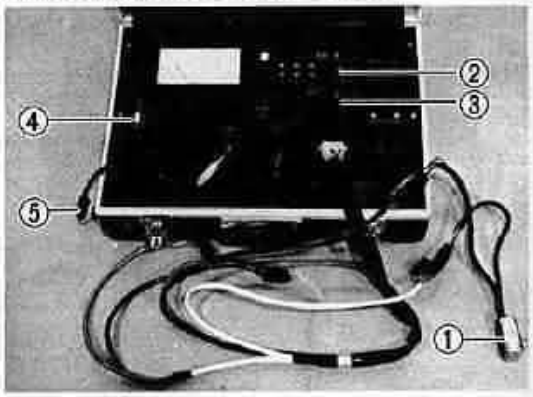


Fig. 9-4 ① CDI unit ② PEI indicator lamp ③ Selector knob on PEI ④ Power switch ⑤ External power supply cord

CHECKING WITH POCKET TESTER

Use a SUZUKI pocket tester (Special Tool No. 09900-2500) in reference to the chart of Fig.9-5 by adhering to these rules:

1) Before starting to check the "CDI" unit, be sure to have all lead-wire couplers unmade.
2) Just before putting your pocket tester to two "CDI" terminals, briefly shortcircuit them with a jumper.
3) Set the tester knob to "RX100" range.

Put negative (–) pin of tester to: \ Put positive (+) pin of tester to:	B/R	G	B/Y	R/W	W/Bl	B/W
B/R		off	on	off	con	off
G	off		off	off	off	off
B/Y	off	off		off	con	off
R/W	off	on	on		con	on
W/Bl	off	off	con	off		off
B/W	off	on	on	on	con	

Fig. 9-5 : "CDI" Checking Chart

B/R : Black with red tracter
B/Y : Black with yellow tracer
R/W : Red with white tracer
B/W : Black with white tracer
G : Green

This chart presupposes that the "CDI" unit is in sound condition; "on", "off" and "con" in the boxes of the chart refer to what your pocket tester will indicate when its positive and negative pins are put to the indicated terminals of a good "CDI" unit.

1) "on"—Tester should indicate *continuity*; it means that you are checking a diode for continuity in its normal (forward) direction.
2) "con"—This stands for a condenser. The indicating hand of your tester will momentarily deflect and settles back to indicate *infinity*, meaning that the condenser being checked is *not* ruptured.
3) "off"—Tester should indicate *infinity*, that is, its indicating hand should remain undeflected to mean that the circuit being checked has an infinitely large resistance or, possibly, off as it should be.

Ignition coil

To check to see if the ignition coil is in sound condition or not, a SUZUKI electro tester (09900-28106) or a SUZUKI pocket tester should be used. The electro tester is more convenient for this purpose.

CHECKING WITH ELECTRO TESTER:

Connect the ignition coil to the tester as shown in Fig. 9-6. Turn the selector knob to "IGNITION COIL" range, and turn on the power switch. The moment the switch is turned on, a sparking will occur in the window on the righthand part of the tester. If the sparking electrodes are apart as much as 8 mm to produce the spark, then the ignition coil is in good condition. If no sparking occurs with this much gap, then it is defective and must be replaced.

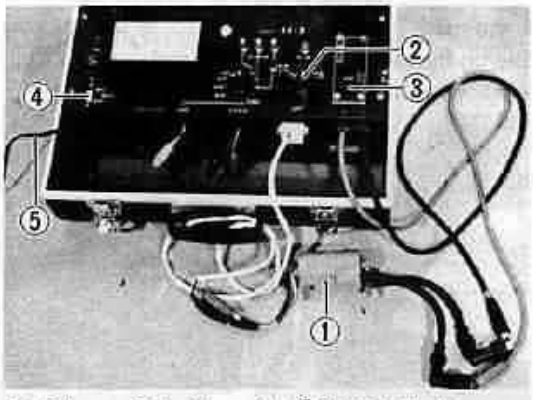


Fig. 9-6 ① Ignition coil on "IG coil" ② Selector knob ③ Spark gap window ④ Power switch ⑤ External power supply cord

CHECKING WITH POCKET TESTER:

A SUZUKI pocket tester or an ohm meter may be used, instead of the electro tester. In either case, the ignition coil is to be checked for continuity in both primary and secondary windings. Exact ohmic readings are not necessary, but, if the windings are in sound condition, their continuity will be noted with these approximate ohmic values.

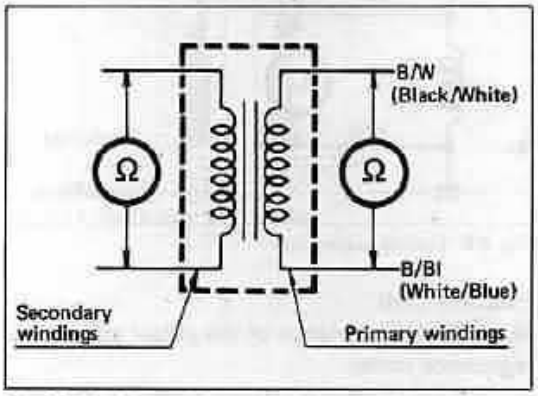


Fig. 9-7 Ignition coil test circuit for continuity

Primary winding	1 ohm
Secondary winding	10 kilohms

Magneto

EXCITER COIL

Using a circuit tester capable of measuring resistance accurate to a few ohms, or an ohmmeter, check the exciter coils (low-speed and high-speed) for ohmic resistance values. A coil noted to show infinity (meaning an open-circuited condition) or too low a resistance value (meaning short-circuit between coil turns through insulation layer) must be replaced. The reference ohmic values for this determination and the terminals to which the testing prods are to be put are indicated below.

High-speed coil	Between BLACK/RED and GREEN terminals	Approx. 30 ohms
Low-speed coil	Between GREEN and BLACK/WHITE terminals	Approx. 200 ohms

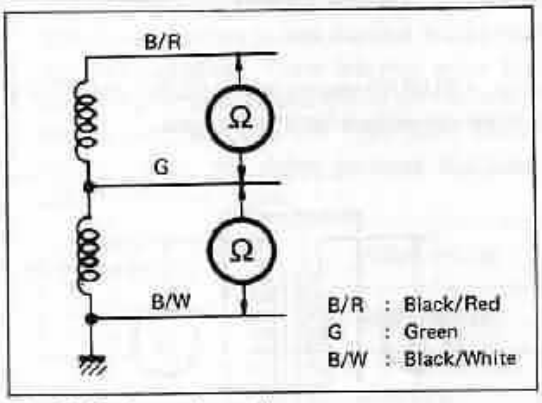


Fig. 9-8 Testing exciter coil

PULSER COIL

Measure the resistance of the pulser coil with a registance meter.

Pulser coil	Between RED/WHITE and BLACK/WHITE	Approx. 70 ohms

CHECKING AND ADJUSTING IGNITION TIMING

As long as the screws securing the stator are tight, the ignition timing initially set remains undisturbed to require no re-adjustment. Since engine disassembly involves the removal and installation of the stator, the methods of adjusting and checking the timing will be described:

Ignition timing adjustment

Secure the stator so that the line Ⓐ is aligned to the center of screw Ⓑ

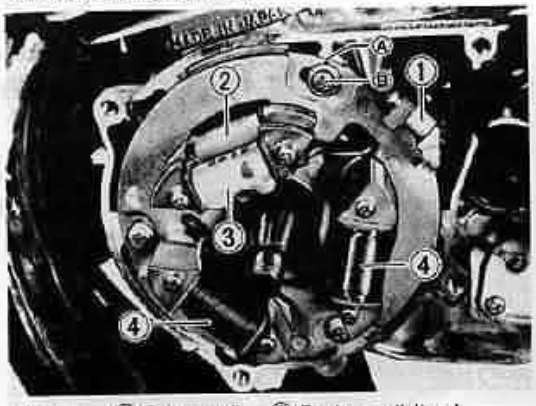


Fig. 9-9 ① Pulser coil ② Exciter coil (low) ③ Exciter coil (high) ④ Charge coil

Checking the timing

All you have to do is this: check to be sure that lines ① is aligned to the center of screw.

You may use a timing lamp to check the timing. In this case, run the engine at about 6,000 rpm: if the mark on crankcase appears aligned to the line on flywheel, then you may rest assured that ignition is timed correctly.

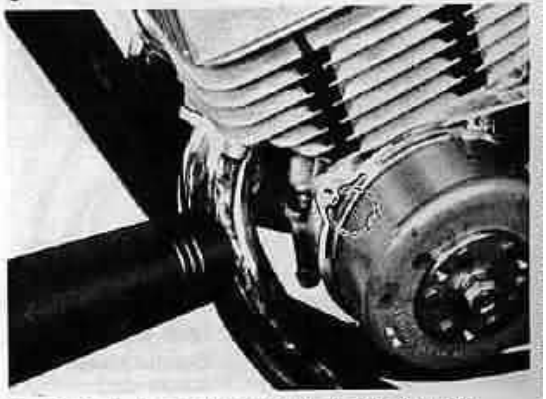


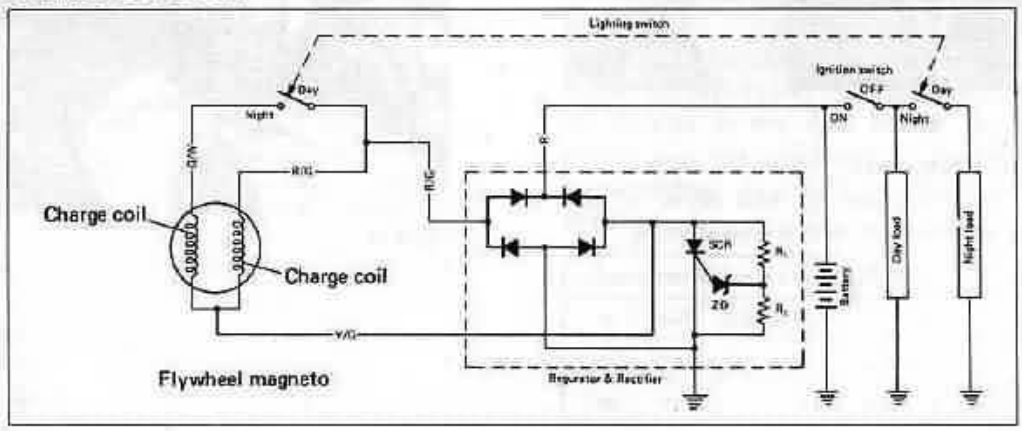
Fig. 9-10 Timing marks on flywheel and crankcase

CHARGING SYSTEM

DESCRIPTION

The charging system is composed of a flywheel magneto, which has 2 charging coils, full-wave rectifier and SCR voltage regulator. One of the 2 charge coils is used exclusively at night. The rectifier and voltage regulator form a monobloc.

CHARGING CIRCUIT



G/W : Green with white tracer
R/G : Red with green tracer
R : Red
Y/G : Yellow with green tracer

SCR : Silicon Controlled Rectifier
ZD : Zenner diode

INSPECTION

To inspect the proper operation of the charging system, check the resistance of the magneto coil and continuity of the regulator and rectifier.
Decide the condition of the charging system quickly, by the battery charging voltage, as shown in the table below.

	Voltage	Condition
Day time	16V or over	Defective regulator/rectifier
	15V to 16V	Normal
	15V or under	Defective lighting switch, charging coil or rectifier
Night time	15V or over	Defective regulator/rectifier
	14V to 15V	Normal
	14V or under	Defective lighting switch, charging coil or rectifier

NOTE:
(1) Above values are based on the load of the standard specifications, which may therefore vary with changes of load of head lamp, etc. in other specifications than the standard ones.
(2) Measurement is to be made at the engine speed of 5,000 rpm.

Fig. 9-13

Regulator/rectifier

Check the continuity of lead wires of the regulator and rectifier, with a pocket tester.

	Put positive (+) pin of tester to:				
		R/G	Y/G	B/W	R
Put negative (−) pin of tester to:	R/G		off	off	on
	Y/G	off		off	on
	B/W	on	on		off
	R	off	off	off	

R/G: Red with green tracer
Y/G: Yellow with green tracer
B/W: Black with white tracer
R: Red

Fig. 9-14

Charging coil

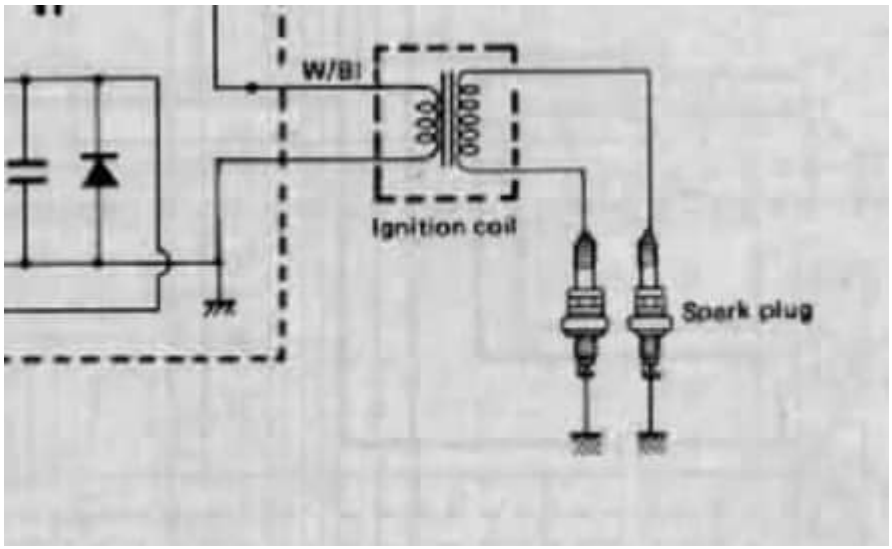
Resistance of the charging coil should be in the range as shown in the table below.

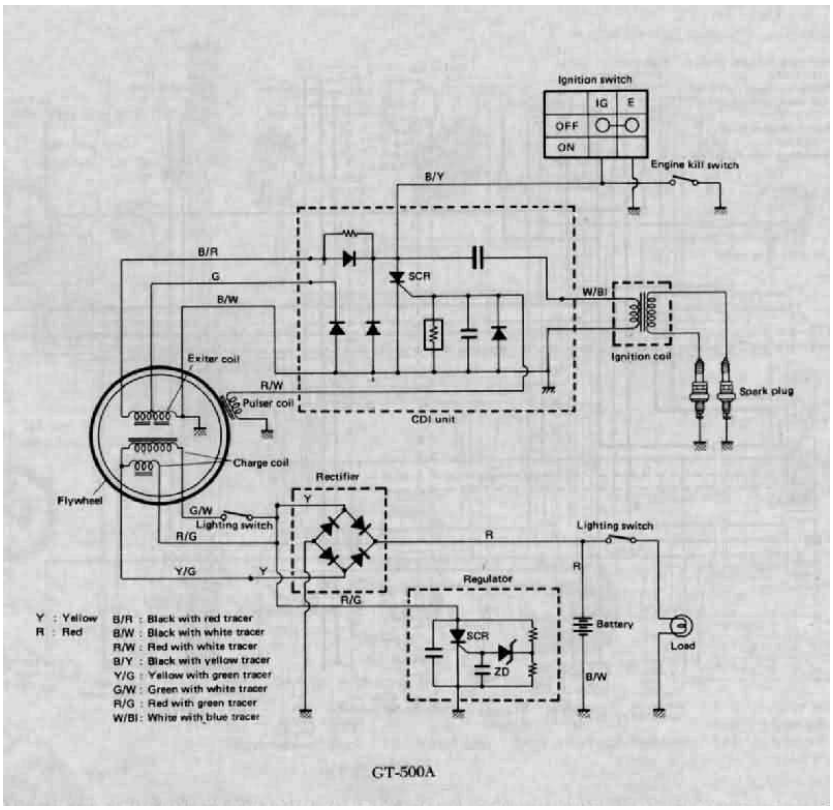
G/W-Y/G	Approx. 1 Ω
R/G-Y/G	Approx. 1 Ω

G/W: Green with white tracer
Y/G: Yellow with green tracer
R/G: Red with green tracer

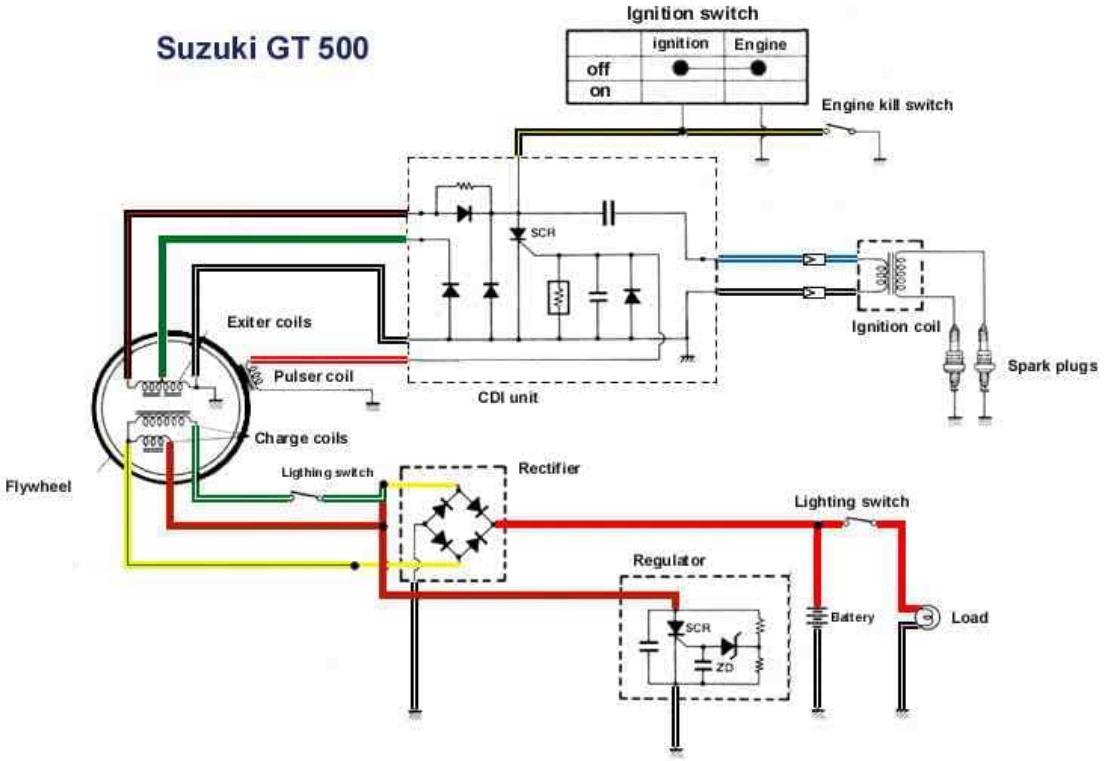
Fig. 9-15

GT500 wiring diagram





Suzuki GT 500



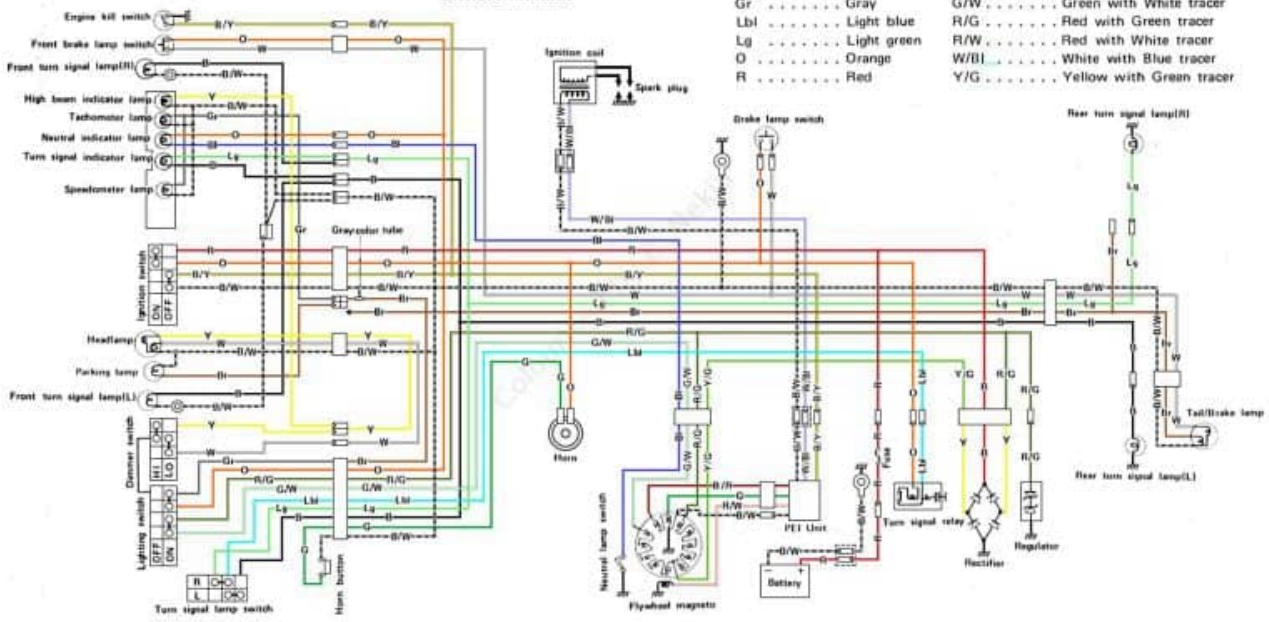
Note:
For USA and Canada specification, the lighting switch knob is locked to the ON position and the headlamp remains lighted as long as the ignition switch is turned on.

SUZUKI GT500 Wiring Diagram

Scanned from genuine Owners manual

WIRE COLOR

B	Black	W	White
Bl	Blue	Y	Yellow
Br	Brown	B/R	Black with Red tracer
G	Green	B/W	Black with White tracer
Gr	Gray	B/Y	Black with Yellow tracer
Lbl	Light blue	G/W	Green with White tracer
Lg	Light green	R/G	Red with Green tracer
O	Orange	R/W	Red with White tracer
R	Red	W/Bl	White with Blue tracer
		Y/G	Yellow with Green tracer



Suzuki GT/T500 engine tune-up and maintenance details

Suzuki GT/T500 engine tune-up and maintenance details

Carburetor

Carburetor specs	T500III, R	T500J	T500K, L, M, GT500A, B
Carburetor	VM32SC	VM32SC	VM32SC
Main jet	150	150	97.5
Needle jet	P-5	P-5 (right) P-4 (left)	P-4
Needle (last no. indicates needle clip position counting from top groove	5FP8-3	5FP8-3	5FP17-3
Pilot jet	30	30	30
Throttle slide	2.5	2.5	2.5

Model	T500, R, J	T500K	T500L	T500M	GT500A, B
Pilot screw turns out	1.25	1.5	1.5	1.5	1.5

Model	T500, R	T500J, K, L, M	GT500A, B
Float height	27mm	27.3mm	25.8mm

Ignition

Model	T500, R, J	T500K	T500L	T500M	GT500A, B
Spark plug (NGK/ND)	B-77HC/W24FS	B-77HC/W24FS	B-77HC/W24FS	B-7HS/W22FS	B-7HS/W22FS
Spark plug gap	0.6-0.7mm	0.6-0.7mm	0.6-0.7mm	0.6-0.7mm	0.6-0.7mm
Point gap	0.3-0.4mm	0.3-0.4mm	0.3-0.4mm	0.3-0.4mm	not applicable
Ignition timing (BTDC)	3.4mm	3.4mm	3.44mm	3.44mm	PEI - 2.93 mm

Piston clearances
(std bore 70mm, 1st OS 70.5mm 2nd OS 71mm)

Piston clearance (measuring from bottom edge of skirt, 90 degrees from the wrist pin	T500III-M, GT500A, B
Piston standard clearance	0.065-0.075mm
Piston servicable limit	0.25
Ring end gap	0.20-0.36mm
Ring servicable limit	1.0mm

Various Capacities

Capacities	T500	T500II, III, R, J,	T500K, L, M	GT500A, B

Gearbox (transmission), including clutchcase	1200cc standard (warning, modify gearbox to hold at least 1400cc)	1200cc standard (warning, modify gearbox to hold at least 1400cc)	1400cc standard	1400cc standard
Front fork (each leg)	220cc	220cc	220cc	220cc
Oil tank	2,500cc	1,800cc	1,800cc	1,800cc
Fuel tank		14 litre	14 litre	17 litre

Suggested lubricants
Engine oil - good quality two-stroke SAE30 oil (synthetic oil is perfectly OK)
Gearbox (transmission) - SAE 20/40W multi-grade oil (but not friction modified if possible)
Front forks - SAE 10/30W multi-rade oil, ATF (auto transmission oil) or a good quality fork oil
Drive chain - SAE30 motor oil or special chain lubricant
Fuel - 85-95 octane

Tyres and electrics

Tyres	3.25 x 19in front / 4.00 x 18 rear
Tyre pressure	22-24 psi front / 26-34psi rear
Battery	12V 5AH
Headlight globe	12V 35/25W
Tail-light/brake-light	12V 4/32cp
Indicators	12V 32cp
Fuse	15amp glass fuse
Instrument globes	12V 3,4W

Clutch and general adjustments

Description	Suzuki T 500/GT 500
Clutch plates fibre	std. = 3,5 mm / change at : 3,2 mm
Clutch plates steel	std. = 3,5 mm / change at : 3,2 mm
Clutch springs	std. = 40,4 mm / change at: 39,0 mm
Clutch lever free play	4 mm
Front brake free play	20 mm
Rear brake pedal free play	20 - 30 mm
Rear chain free play	25 mm measured in middle of chain

Suzuki TR500 Parts Manual

SUZUKI

PARTS CATALOGUE

SUZUKI

TR500

CONTENTS

ENGINE . . . . . 1~3
Cylinder 1
Piston 1
Crankshaft 1
Crankcase 1
Carburetor 1
Muffler 2
Clutch 2
Ignition coil 2
Transmission 3
Magneto 3
PEI Unit 3

CHASSY . . . . . 4~8
Meter 4
Frame 4
Brake 4
Fuel tank 5
Oil tank 5
Seat 5
Steering 5
Front wheel 6
Grip 6
Lever 6
Switch 6
Cable 6
Choke lever 7
Rear wheel 7
Rear fender 8
Cowling 8

ENGINE

Ref.No.	Part No.	Description	Q'ty	Remarks
		CYLINDER		
1	11111-15200	CYLINDER HEAD, RH	1	
2	11121-15200	CYLINDER HEAD, LH	1	
3	11141-15200	GASKET, cylinder head	1	T:0.5
4	11142-15200	GASKET, cylinder head	1	T:0.3
5	09482-00028	SPARK PLUG	2	NGK BI0.5EP
6	11210-15200	CYLINDER, RH	1	
7	11220-15200	CYLINDER, LH	1	
		PISTON		
8	12110-15200	PISTON, RH	1	
9	12120-15200	PISTON, LH	1	
10	12141-15200	RING, piston	4	
		CRANKSHAFT		
11	12200-15200	CRANKSHAFT ASSY	1	
12	12271-15200	RING, crankshaft outer	2	
		CRANKCASE		
13	11300-15200	CRANKCASE ASSY	1	
14	11351-15200	COVER, magneto	1	
15	11611-15200	BOLT, engine mounting front	1	L:190, D:12screw
16	11612-15200	BOLT, engine mounting middle	1	L:232, D:12screw
17	11613-15200	BOLT, engine mounting rear	1	L:228.5, D:12screw
		CARBURETOR		
18	13200-15210	CARBURETOR ASSY	2	
19	13910-15200	HOSE, fuel	2	L:350

Ref.No.	Part No.	Description	Q'ty	Remarks
		MUFFLER		
1	14301-15200	MUFFLER ASSY, RH	1	
2	14302-15200	MUFFLER ASSY, LH	1	
3	14154-15200	FLANGE, exthaust pipe	2	
4	14156-15200	GASKET, exthaust pipe	2	
5	14158-15200	HOOK, exthaut pipe flange	4	
5-1	14770-15200	DAMPER, muffler support	2	
5-2	14183-16100	SPRING, exhaust pipe	4	
		CLUTCH		
6	21111-15200	GEAR, primary drive	1	NT:31
7	21210-15200	GEAR, primary driven	1	NT:68
8	09263-28002	BEARING	1	
9	21411-15200	HUB, clutch sleeve	1	
10	21441-15200	PLATE, clutch drive	9	
11	21451-15200	PLATE, clutch driven (1)	8	
12	21452-15200	PLATE, clutch driven (2)	1	
13	21453-15200	RING, drive plate expan	9	
14	21462-15200	DISK, clutch pressure	1	
15	09440-16002	SPRING	6	
16	22522-15200	SPACER, clutch spring	6	
17	09160-06042	WASHER	6	6.5x17x1.6
18	01112-06458	BOLT	6	
19	09140-22005	NUT, clutch sleeve hub	1	
20	09167-22010	WASHER, clutch sleeve hub	1	
21	23121-15200	ROD, clutch release	1	L:55
21-1	09166-20005	WASHER, primary drive	1	
21-2	27511-15200	SPROCKET, engine	1	
		IGNITION COIL		
22	33410-15200	COIL ASSY, ignition RH	1	
23	33420-15200	COIL ASSY, ignition LH	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		TRANSMISSION		1st Drive 15T. 2nd Drive 18T.
1	24120-15200	SHAFT, counter	1	
2	24231-15200	GEAR, 3rd drive	1	NT:20
3	24241-15200	GEAR, 4th drive	1	NT:22
4	24251-15200	GEAR, 5th drive	1	NT:23
5	24131-15200	SHAFT, drive	1	NT:18
6	24311-15200	GEAR, 1st driven	1	NT:27
7	24321-15200	GEAR, 2nd driven	1	NT:24
8	24331-15200	GEAR, 3rd driven	1	NT:22
9	24341-15200	GEAR, 4th driven	1	NT:21
10	24351-15200	GEAR, 5th driven	1	NT:20
11	24881-15200	PLATE, oil guide	1	
12	25611-15200	LEVER, gear shifting LH	1	
13	25621-15200	LEVER, gear shifting RH	1	
14	26211-15200	SHAFT, tachometer drive gear	1	
15	09243-22001	PLUG	1	
16	26241-15200	GEAR, tachometer drive	1	NT:22
		MAGNETO		
17	31400-15200	PEI MAGNETO ASSY	1	
18	09100-08093	BOLT, PEI magneto	1	
19	09160-08033	WASHER, PEI magneto	1	8.5x20x2.6
20	31511-15200	BOLT, PEI magneto	1	L:58.5
		PEI UNIT		
21	31910-15200	PEI UNIT ASSY, RH	1	
22	31920-15200	PEI UNIT ASSY, LH	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		METER		
1	34200-15200	TACHOMETER ASSY	1	
		FRAME		
2	41100-15200	FRAME		
		BRAKE		
3	43110-15200	PEDAL, brake RH	1	
4	43120-15200	PEDAL, brake LH	1	
5	43151-15200	BOLT, brake pedal	1	L:31.5, D:10screw
6	09200-06025	PIN, brake pedal	4	
7	43211-15200	HOLDER, brake cable end	1	
8	43312-15200	END, front brake cable	3	
9	58110-15200	CABLE ASSY, front brake upper	1	
10	58180-15200	CABLE ASSY, front brake lower RH	1	
11	58190-15200	CABLE ASSY, front brake lower LH	1	
12	58195-15200	PIECE, front brake cable joint	1	
13	58196-15200	BOX, front brake cable joint	1	
14	58197-15200	COVER, front brake cable joint	1	
15	58611-15200	CLIP, front brake cable	2	
16	58510-15200	CABLE ASSY, rear brake RH	1	
17	58520-15200	CABLE ASSY, rear brake LH	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		FUEL TANK		
1	44110-15200	TANK, fuel	1	
2	44121-15200	INLET, fuel tank	1	
3	44123-15200	GASKET, fuel tank inlet	1	
4	02141-04127	SCREW	8	
5	44141-15200	CAP, fuel tank filler	1	
6	44142-15200	SPRING, fuel tank filler cap	1	
7	09462-00061	BAND, fuel tank front	1	
8	09462-00060	BAND, fuel tank rear	1	
9	44551-15200	HOOK, fuel tank front band	1	
10	44211-15200	CAP, fuel tank breather	1	
11	44213-15200	BREATHER, fuel tank	1	
12	44215-15200	HOSE, fuel tank breather	1	L:350, ID:4
13	44300-15200	COCK ASSY, fuel	1	
		OIL TANK		
14	44611-15200	TANK, oil	1	
		SEAT		
15	45100-15200	SEAT	1	
		STEERING		
16	51411-15200	SHAFT, steering	1	
17	51631-15200	NUT, steering stem	1	
18	51172-15200	SPACER, front fork spring	2	22x29.5x20
19	51700-15200	DAMPER ASSY, steering	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		FRONT WHEEL		
1	54711-15200	AXLE, front	1	L:242
2	09141-14003	NUT, front axle	1	
3	09160-15024	WASHER, front hub LH	1	
4	09160-15025	WASHER, front hub RH	1	
5	54811-15200	BAR, front torque link	2	
6	56151-15200	SPRING, cable adjuster	2	
		GRIP		
7	57100-15111	THROTTLE GRIP	1	
8	57111-15200	RUBBER, throttle grip	1	
9	57211-15200	RUBBER, left grip	1	
		LEVER		
10	57300-15200	LEVER ASSY, brake	1	
11	57500-15200	LEVER ASSY, clutch	1	
		SWITCH		
12	57700-15200	SWITCH ASSY, engine stop	1	
		CABLE		
13	58200-15200	CABLE ASSY, clutch	1	
14	58300-15200	CABLE ASSY, throttle	1	
15	58400-15200	CABLE ASSY, starter	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		CHOKE LEVER		
1	58711-15200	HOLDER, choke lever	1	
2	58721-15200	LEVER, choke	1	
3	58722-15200	PIECE, choke lever spring push	1	
4	58723-15200	SPRING, choke lever	1	
5	58724-15200	WASHER, choke lever	1	10x22x2
6	58725-15200	SHAFT, choke lever	1	L:45.5
7	58731-15200	STOPPER, choke cable	1	
8	58740-15200	CAP, choke lever	1	
		REAR WHEEL		
9	61100-15200	SWINGING ARM, rear	1	
10	61411-15200	COLLAR, chain adjuster	1	L:29.5, ID:15.3
11	09140-22006	NUT		
12	61431-15200	SPACER, rear hub, LH	1	15.3x32x5.8
13	61441-15200	SPACER, rear hub, RH	1	15.3x32x16.2
14	61450-15200	ADJUSTER, chain, LH	1	
15	61460-15200	ADJUSTER, chain, RH	1	
16	64311-15200	BAR, rear torque link	1	
17	64321-15200	BOLT, rear torque link	1	L:22, D:10screw
18	64513-15200	SPROCKET, rear	1	NT:30
19	64514-15200	SPROCKET, rear	1	NT:31
20	64515-15200	SPROCKET, rear	1	NT:32
21	64711-15200	AXLE, rear	1	L:269
22	09141-14003	NUT	1	

Ref.No.	Part No.	Description	Q'ty	Remarks
		REAR FENDER		
1	63111-15200	FENDER, rear	1	
		COWLING		
2	99410-15200	COWLING ASSY	1	
3	94421-15200	WINDOW, cowling	1	
4	94510-15200	BRACE, cowling, front	1	
5	94530-15200	BRACE, cowling, rear	2	
6	94570-15200	CUSHION, cowling	5	
7	94591-15200	SCREW, cowling fitting	5	L:14, D:6screw
8	94581-15200	PLATE, sign fastner	9	

PARTS NUMBER INDEX

Part No.	Page-Ref.No.
10000	
11111 15200	1-01
11121-15200	1-02
11141 15200	1-03
11142-15200	1-04
11210 15200	1-06
11220-15200	1-07
11300-15200	1-13
11351 15200	1-14
11611-15200	1-15
11612 15200	1-16
11613-15200	1-17
12110-15200	1-08
12120 15200	1-09
12141-15200	1-10
12200-15200	1-11
12271-15200	1-12
13200-15210	1-18
13910 15200	1-19
14154-15200	2-03
14156 15200	2-04
14158 15200	2-05
14301-15200	2-01
14302 15200	2-02
20000	
21111-15200	2-06
21210-15200	2-07
21411-15200	2-09
21441-15200	2-10
21451-15200	2-11
21452-15200	2-12
21453-15200	2-13
21462-15200	2-14
22522-15200	2-16
23121-15200	2-21
24120-15200	3-01
24131-15200	3-05
24231-15200	3-02
24241-15200	3-03
24251-15200	3-04
24311-15200	3-06
24321-15200	3-07
24331-15200	3-08
24341-15200	3-09
24351-15200	3-10
24881-15200	3-11
25611-15200	3-12
25621-15200	3-13
26211-15200	3-14
26241-15200	3-16
30000	
31400-15200	3-17
31511-15200	3-20
31910-15200	3-21
31920-15200	3-22
33410-15200	2-22
33420-15200	2-23
34200-15200	4-01
40000	
41100-15200	4-02
43110 15200	4-03
43120-15200	4-04
43151 15200	4-05
43211-15200	4-07
43312-15200	4-08
44110 15200	5-01
44121-15200	5-02
44123 15200	5-03
44141-15200	5-05
44142-15200	5-06
44211-15200	5-10
44213-15200	5-11
44215 15200	5-12
44300-15200	5-13
44551-15200	5-09
44611 15200	5-14
45100 15200	5-15
50000	
51172-15200	5-18
51411-15200	5-16
51631-15200	5-17
51700-15200	5-19
54711-15200	6-01
54811-15200	6-05
56151-15200	6-06
57100-15111	6-07
57111-15200	6-08
57211-15200	6-09
57300-15200	6-10
57500-15200	6-11
57700-15200	6-12
58110-15200	4-09
58180-15200	4-10
58190-15200	4-11
58195-15200	4-12
58196-15200	4-13
58197-15200	4-14
58200-15200	6-13
58300-15200	6-14
58400-15200	6-15
58510-15200	4-16
58520-15200	4-17
58611-15200	4-15
58711-15200	7-01
58721-15200	7-02
58722-15200	7-03
58723-15200	7-04
58724-15200	7-05
58725-15200	7-06
58731-15200	7-07
58740-15200	7-08
60000	
61100-15200	7-09
61411-15200	7-10
61431-15200	7-12
61441-15200	7-13
61450-15200	7-14
61460-15200	7-15
63111-15200	8-01
64311-15200	7-16
64321-15200	7-17
64513-15200	7-18
64514-15200	7-19
64515-15200	7-20
64711-15200	7-21
90000	
94421 15200	8-03
94510 15200	8-04
94530-15200	8-05
94570 15200	8-06
94581-15200	8-08
94591-15200	8-07
99410 15200	8-02

Part No.	Page-Ref.No.	Part No.	Page-Ref.No.	Part No.	Page-Ref.No.
00000					
01112-06458	2-18				
02141-04127	5-04				
09100-08093	3-18				
09140-22005	2-19				
09140-22006	7-11				
09141-14003	6-02				
	7-22				
09160-06042	2-17				
09160-08033	3-19				
09160-15024	6-03				
09160-15025	6-04				
09167-22010	2-20				
09200-06025	4-06				
09243-22001	3-15				
09263-28002	2-08				
09440-16002	2-15				
09462-00060	5-08				
09462-00061	5-07				
09482-0002E	1-05				

SUZUKI MOTOR CO.,LTD.

Head Office P.O.Box 116. Hamamatsu Japan

SUZUKI TR500 PARTS CATALOGUE

Printed in Apr.,1972.
Published in Apr.,1972.
Editor : SUZUKI MOTOR Co., LTD.
Export parts section

Reprint Prohibited

Suzuki T500 Parts Manual

SUZUKI
PARTS CATALOGUE

SUZUKI
T500

SUZUKI
PARTS CATALOGUE

SUZUKI
T500

2. DIMENSIONS

Dimensions of the parts in this catalogue are indicated in unit millimeters.

3. ABBREVIATIONS

Abbreviations used in this catalogue are as follows:

AR	: As required	L	: Length
ASSY	: Assembly	NT	: Number of teeth
F.No.	: Frame Number	OPT	: Optional
d.	: Diameter of material	OS	: Over size
ID	: Inside diameter	STD	: Standard
OD	: Outside diameter	T	: Thickness
LH	: Left hand side	W	: Width
RH	: Right hand side		

∿F.No.12345 : Up to F.No.T500-12345

F.No.12345∿ : From F.No.T500-12345

Figures in the remarks column show the dimensions of parts as follows:

$$\underset{\text{ID}}{12} \times \underset{\text{OD}}{34} \times \underset{\text{T(or W, L)}}{5.6}$$

4. INNER PARTS OF ASSEMBLY

Parts number whitch has a period mark (·) before its parts name shall be indicated its proper inner part of the relative assembly one.

5. MODIFICATION NOTICE

The parts bulletin will be sent to you as all occasions when changes in parts occur on machines except interchangeable modifications between new parts and old ones.

b. COLOR CHART

COLOR NO.	COLOR NAME	COLOR	MODEL				
			T500	T500-2	T500-3	T500R	T500J
019	BLACK		O	O	O	O	O
064	PURE WHITE						O
078	CANDY RED		O				
079	CANDY BLUE		O				
138	CANDY ORANGE			O			
141	CANDY GOLD-2		O				
156	CANDY CORPORATE BLUE				O		
158	CANDY GOLD-3			O	O		
162	FROSTED BLACK			O			
187	FROSTED GRAY				O		
189	EGRET WHITE					O	
195	CANDY JACKAL BLUE					O	
216	CANDY LAVENDER					O	
263	CANDY VERDORO GREEN						O
264	PEARL ORANGE						O
403	BLACK				O	O	O

COMBINATION COLOR

COLOR NO.	COMBINATION			APPLICABLE TO	MODEL				
	A	B	C		T500	T500-2	T500-3	T500R	T500J
523	263	064	019						O
524	264	064	019						O
577	195	189						O	
578	216	189						O	
649	138	392	019			O			
651	158	392	019			O			

Note. *There may be a slight difference between the actual body color and the above printed color due to the printing ink,etc.

*The figure "999" given on end of the parts number means electrical equipment which is not include its bulb.

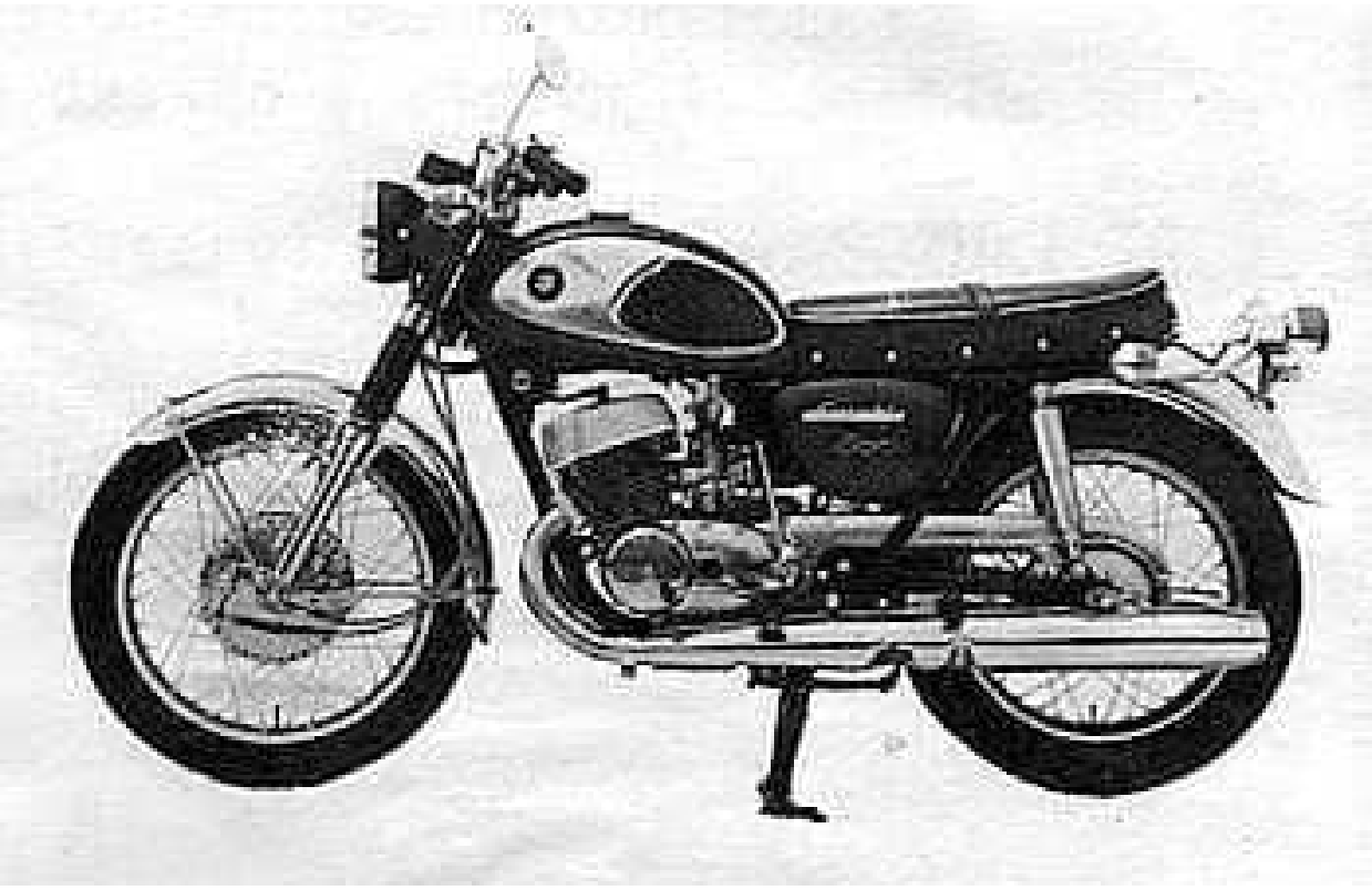
MILLIMETER → INCH CONVERSION CHART

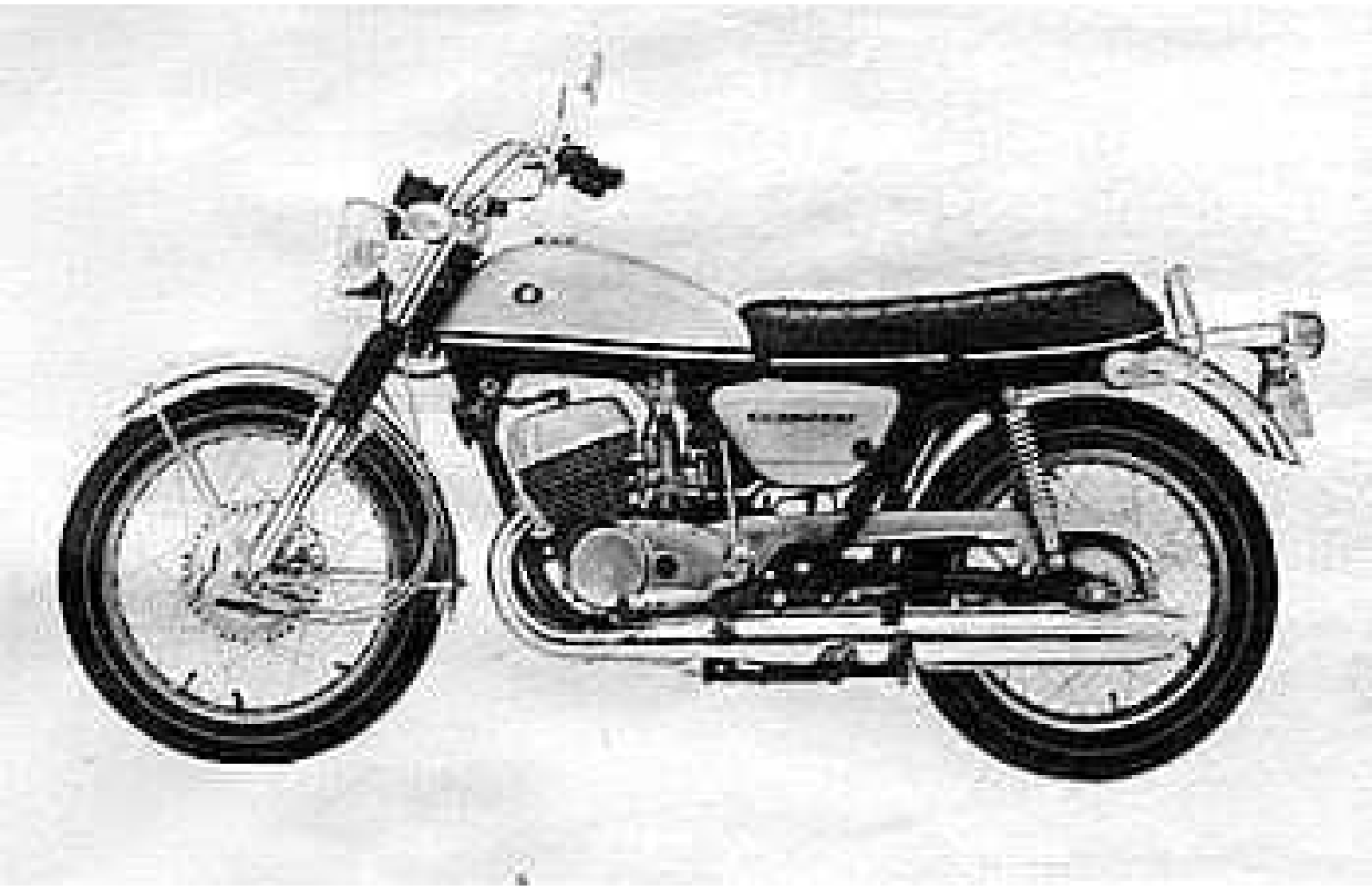
	0	1	2	3	4	5	6	7	8	9
00	.000	.039	.079	.118	.157	.197	.236	.276	.315	.354
10	.394	.433	.472	.512	.551	.591	.630	.669	.709	.748
20	.787	.827	.866	.906	.945	.984	1.024	1.063	1.102	1.142
30	1.181	1.220	1.260	1.299	1.339	1.378	1.417	1.457	1.496	1.535
40	1.575	1.614	1.654	1.693	1.732	1.772	1.811	1.850	1.890	1.929
50	1.969	2.008	2.047	2.087	2.126	2.165	2.205	2.244	2.283	2.323
60	2.362	2.402	2.441	2.480	2.520	2.559	2.598	2.638	2.677	2.717
70	2.756	2.795	2.835	2.874	2.913	2.953	2.992	3.031	3.071	3.110
80	3.150	3.189	3.228	3.268	3.307	3.346	3.386	3.425	3.465	3.504
90	3.543	3.583	3.622	3.661	3.701	3.740	3.780	3.819	3.858	3.898

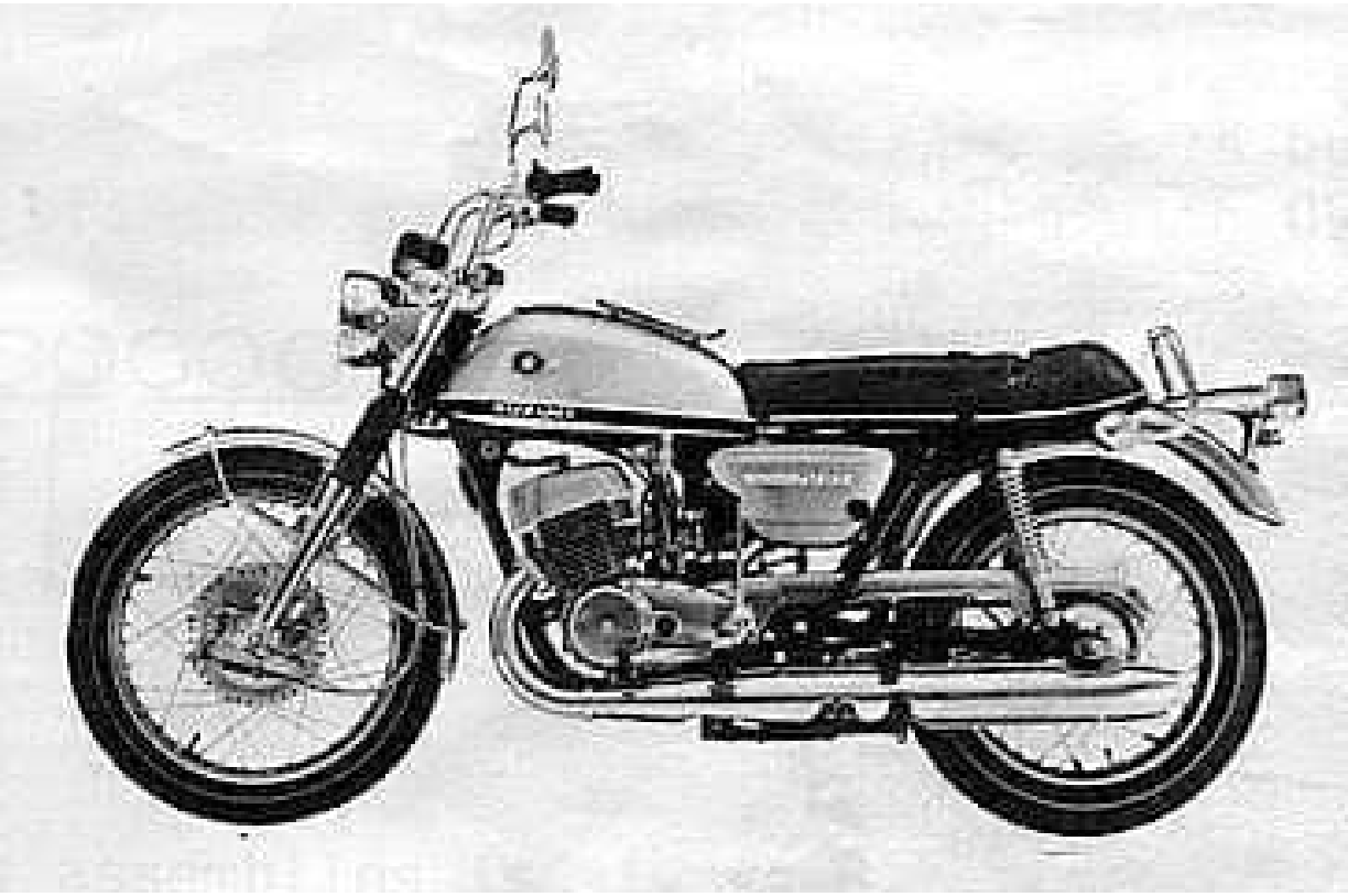
How to Read

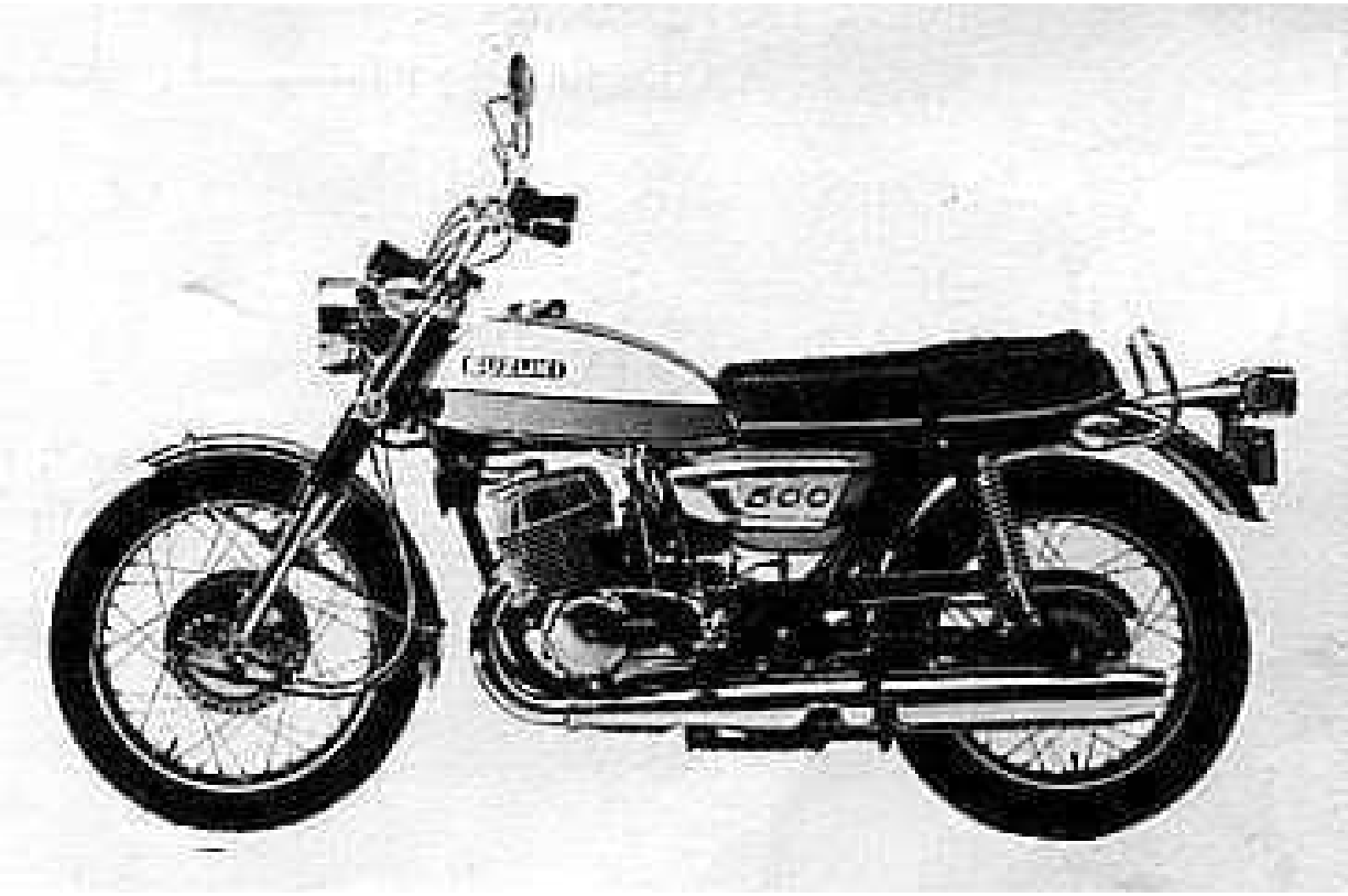
	0	1	2	3	4
00	---	---	---	---	---
10	---	---	---	---	---
20	---	---	---	0.906	---
30	---	---	---	---	---

23 millimeters equal 0.906 inch

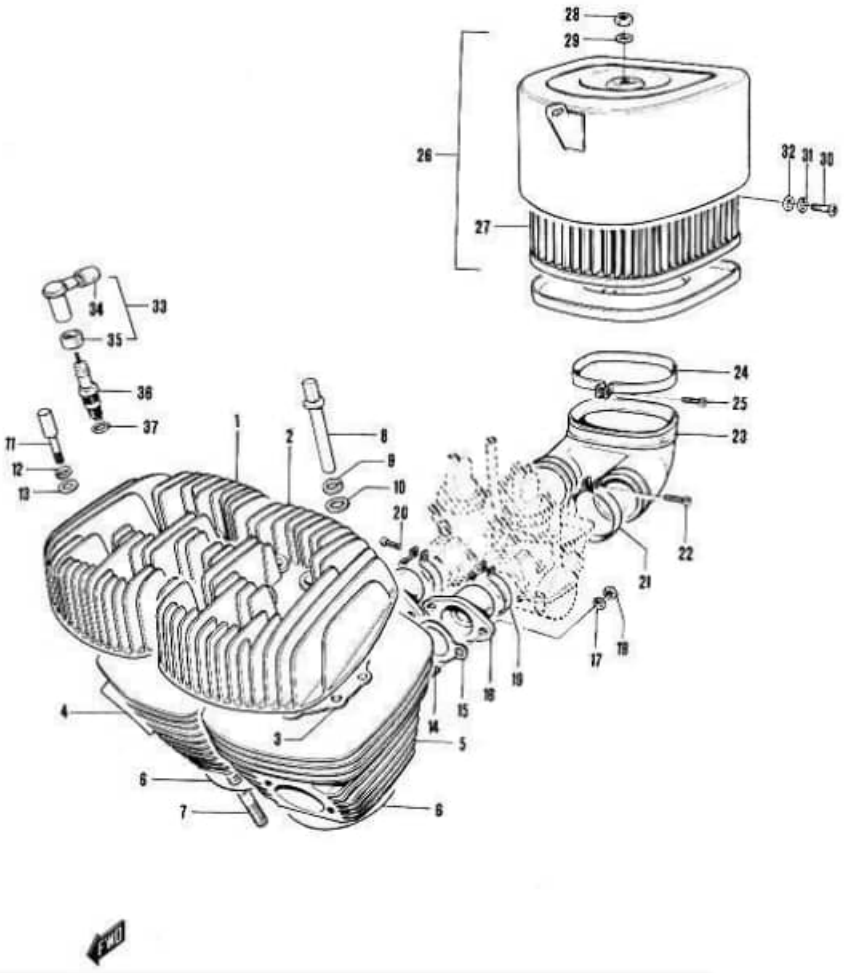








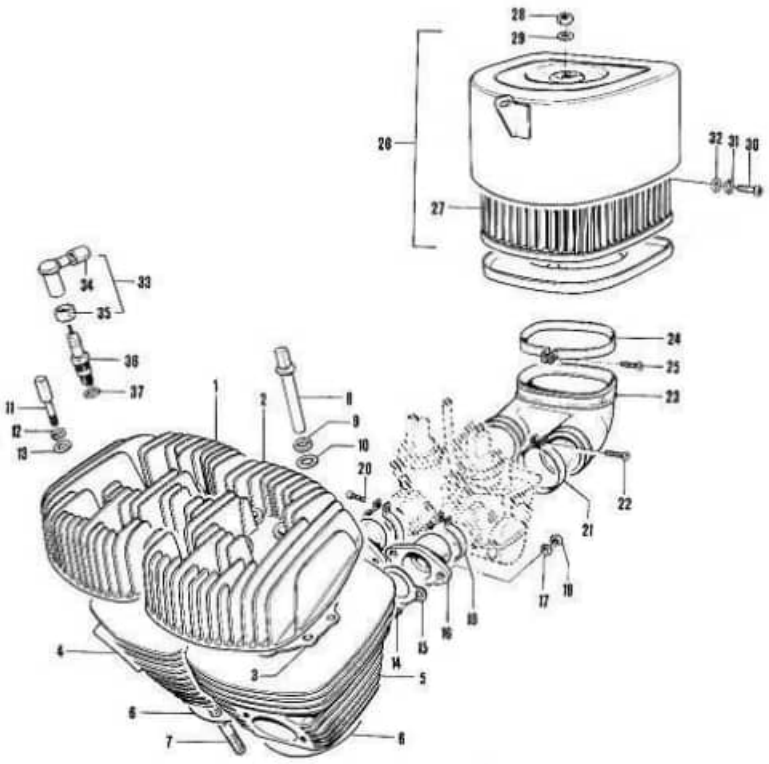
CYLINDER - AIR CLEANER



CYLINDER - AIR CLEANER

Ref.No.	Part No.	Description	Q'ty				
1	11111-15601	CYLINDER HEAD, RH	1	1	1	1	1
2	11121-15601	CYLINDER HEAD, LH	1	1	1	1	1
3	11141-15000	GASKET, cylinder head	2	2	2	2	2
4-1	11210-15001	CYLINDER, RH	1				
4-2	11210-15100	CYLINDER, RH		1	1	1	1
5-1	11220-15001	CYLINDER, LH	1				
5-2	11220-15100	CYLINDER, LH		1	1	1	1
6	11241-15000	GASKET, cylinder	2	2	2	2	2
7	01421-10858	STUD BOLT	8	8	8	8	8
8	09159-10005	NUT	8	8	8	8	8
9	08321-21148	LOCK WASHER	8	8	8	8	8
10	08322-11148	WASHER	8	8	8	8	8
11	09119-08001	BOLT	8	8	8	8	8
12	08321-21088	LOCK WASHER	8	8	8	8	8
13	08322-11088	WASHER	8	8	8	8	8
14	01421-08168	STUD BOLT	4	4	4	4	4
15	13125-15000	GASKET, carburetor	2	2	2	2	2
16	13110-31000	PIPE, intake	2	2	2	2	2
17	08321-21088	LOCK WASHER	4	4	4	4	4
18	08312-11088	NUT	4	4	4	4	4
19	09402-00229	CLAMP	2	2	2	2	2
20	02111-04207	SCREW	2	2	2	2	2
21	09402-00235	CLAMP	2	2	2	2	2
22	02111-04168	SCREW	2	2	2	2	2

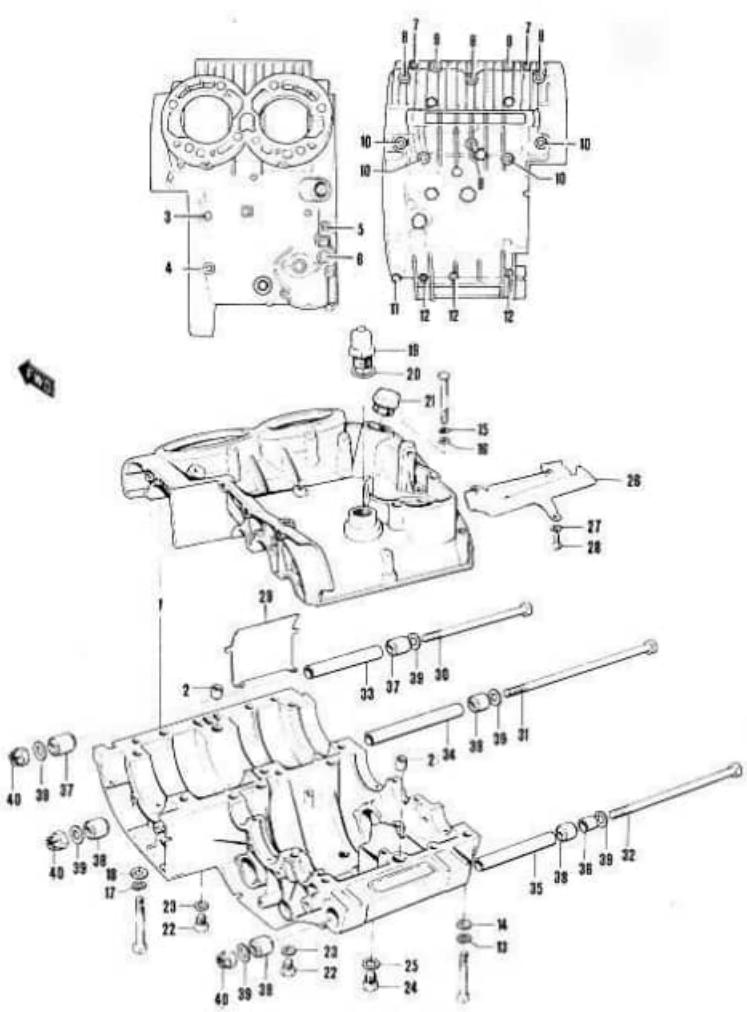
CYLINDER - AIR CLEANER



CYLINDER - AIR CLEANER

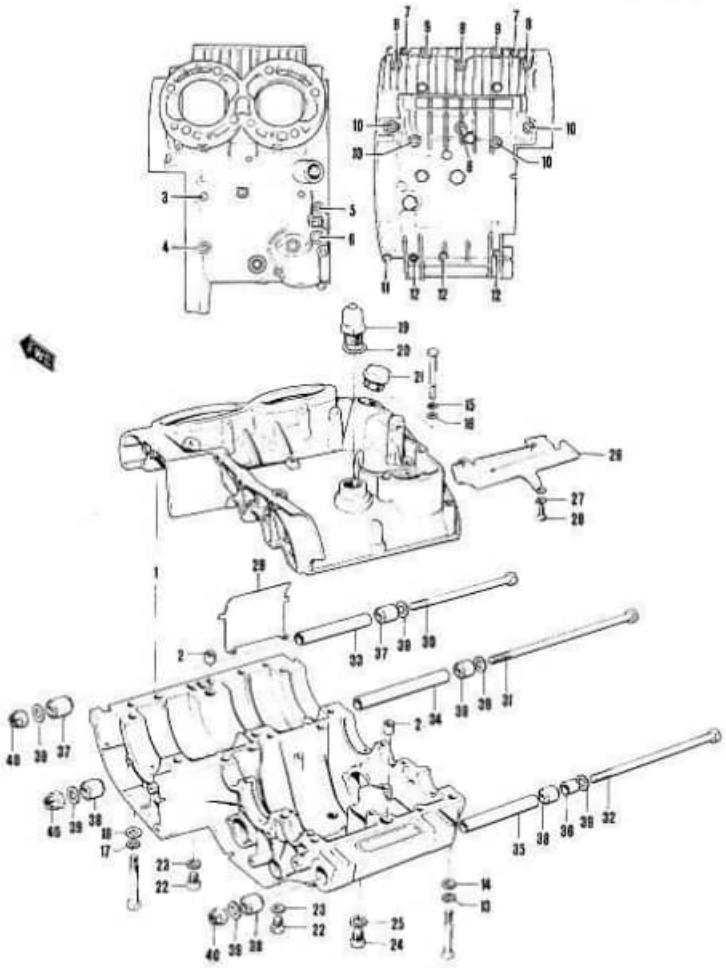
No.	Part No.	Description	Q'ty					Remarks
			T50	T50J	T50Z	T50M	T50J	
	13881-15000	HOSE, air cleaner	1	1	1	1	1	
	09402-00163	CLAMP	1	1	1	1	1	
	02111-04207	SCREW	1	1	1	1	1	
	13700-15071	CLEANER ASSY, air	1	1	1	1	1	
	13780-15070	*FILTER	1	1	1	1	1	
	08311-11068	*NUT	1	1	1	1	1	
	13749-15070	*WASHER	1	1	1	1	1	
	02112-06128	SCREW	2	2	2	2	2	
	08321-21068	LOCK WASHER	2	2	2	2	2	
	08322-21068	WASHER	2	2	2	2	2	
	33501-10801	CAP ASSY, spark plug	2	2	2	2	2	
	33542-51000	*SEAL, high tention cord	2	2	2	2	2	
	33541-11000	*SEAL, plug cap	2	2	2	2	2	
-1	09482-00003	SPARK PLUG ASSY	2	2	2	2	2	NGK B-77HC
-2	09482-00050	SPARK PLUG ASSY	2	2	2	2	2	NGK B-7HS, OPT
-3	09482-00057	SPARK PLUG ASSY	2	2	2	2	2	NGK B-8HS, OPT
-4	09482-00016	SPARK PLUG ASSY	2	2	2	2	2	NGK B-9H, OPT
	09168-14002	*GASKET	2	2	2	2	2	

CRANKCASE



CRANKCASE

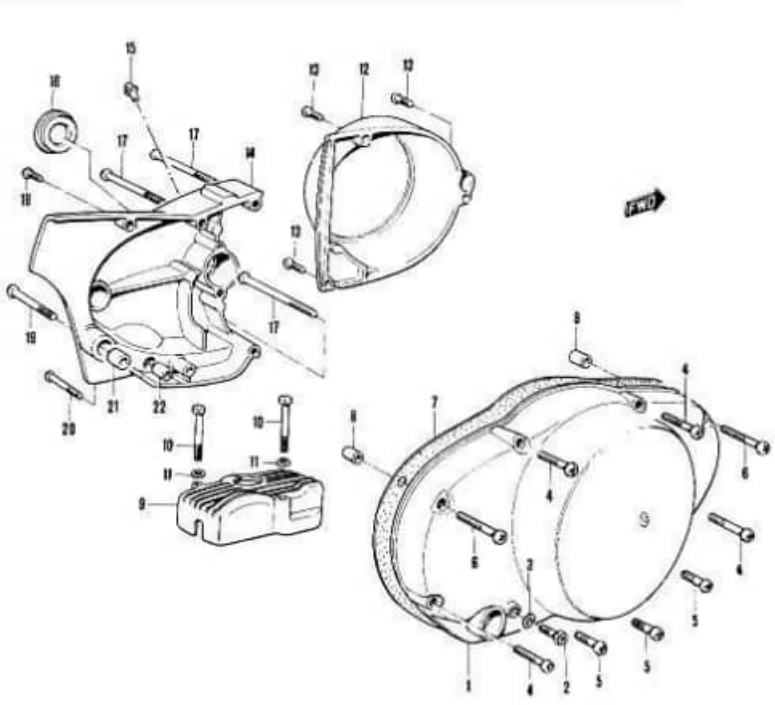
Ref.No.	Part No.	Description	Q'ty	Remarks
1	11301-15801	CRANKCASE ASSY	1 1 1 1 1	
2	09206-13001	*DOWEL PIN	2 2 2 2 2	
3	01112-06708	*BOLT	1 1 1 1 1	
4	01122-08908	*BOLT	1 1 1 1 1	
5	01112-06958	*BOLT	1 1 1 1 1	
6	01122-08708	*BOLT	1 1 1 1 1	
7	01122-08608	*BOLT	2 2 2 2 2	
8	01122-10808	*BOLT	4 4 4 4 4	
9	01122-10658	*BOLT	2 2 2 2 2	
10	09100-10035	*BOLT	4 4 4 4 4	10screw, L:100
11	01122-08658	*BOLT	1 1 1 1 1	
12	01122-08758	*BOLT	3 3 3 3 3	
13	08321-21088	*LOCK WASHER	8 8 8 8 8	
14	08322-11088	*WASHER	8 8 8 8 8	
15	08321-21068	*LOCK WASHER	2 2 2 2 2	
16	08322-21068	*WASHER	2 2 2 2 2	
17	08321-21108	*LOCK WASHER	10 10 10 10 10	
18	08322-11108	*WASHER	10 10 10 10 10	
19	24821-15000	PLUG, breather	1 1 1 1 1	
20	09168-18003	GASKET	1 1 1 1 1	OD:24.2, T:2.0
21	09259-20003	PLUG	1 1 1 1 1	20screw, L:10
22	09247-10001	PLUG	3 3 3 3 3	10screw, L:12
23	09168-10002	GASKET	3 3 3 3 3	OD:14
24	09247-12102	PLUG	1 1 1 1 1	12screw, L:12
25	09168-12003	GASKET	1 1 1 1 1	OD:16.7, T:2



CRANKCASE

Ref.No.	Part No.	Description	Q'ty					Remarks
26	24881-15000	PLATE, oil guide	1	1	1	1	1	
27	08321-21068	LOCK WASHER	3	3	3	3	3	
28	02112-06128	SCREW	3	3	3	3	3	
29	24829-15000	DEFLECTOR, oil	1	1	1	1	1	
30	09104-12104	BOLT	1	1	1	1	1	12screw x 180
31	09104-12106	BOLT	1	1	1	1	1	12screw x 230
32	09104-12105	BOLT	1	1	1	1	1	12screw x 222
33	09180-12024	SPACER	1	1	1	1	1	12.2x17x96
34	09180-12026	SPACER	1	1	1	1	1	12.2x17x138
35	09180-12025	SPACER	1	1	1	1	1	12.2x17x104
36	09180-12027	SPACER	1	1	1	1	1	12.2x17x30
37	09319-12005	BUSHING	2	2	2	2	2	ID:12.1, L:27
38	09319-12006	BUSHING	4	4	4	4	4	ID:12.5, L:27
39	08322-11128	WASHER	6	6	6	6	6	
40	09159-12102	NUT	3	3	3	3	3	12screw

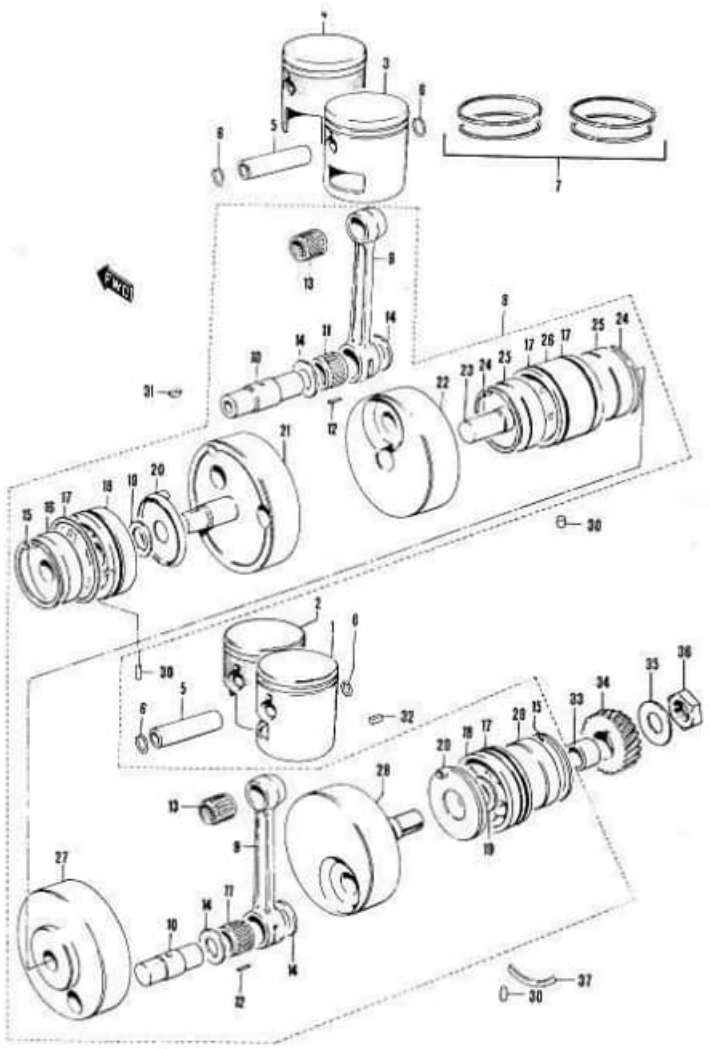
CRANKCASE COVER



CRANKCASE COVER

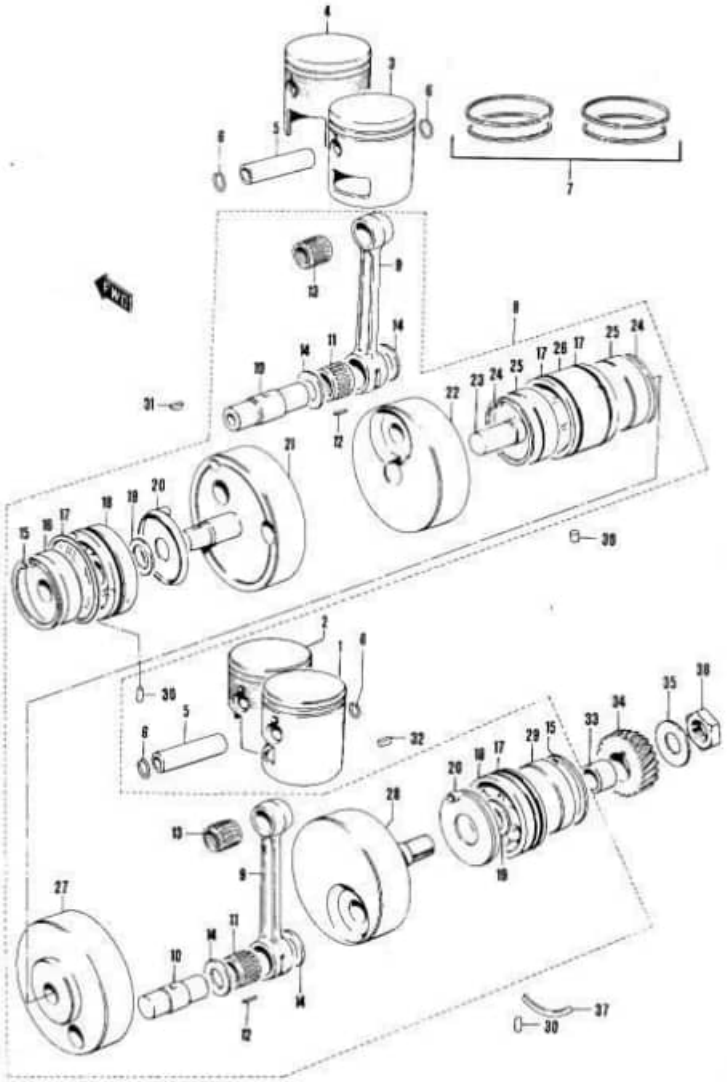
Ref.No.	Part No.	Description	Q'ty					Remarks
			T3R	T3B	T3B-Q	T3BR	T3BJ	
1	11341-15600	COVER, crankcase RH	1	1	1	1	1	
2	09128-06004	PLUG	1	1	1	1	1	6screw, L:10
3	09168-06001	GASKET	1	1	1	1	1	6.2x11x1
4	02112-06408	SCREW	4	4	4	4	4	
5	02112-06258	SCREW	3	3	3	3	3	
6	02112-06458	SCREW	2	2	2	2	2	
7	11482-15000	GASKET, RH cover	1	1	1	1	1	
8	04211-09129	DOWEL PIN	2	2	2	2	2	
9	11411-15000	COVER, oil pump	1	1	1	1	1	
10	01112-06358	BOLT	2	2	2	2	2	
11	08322-21068	WASHER	2	2	2	2	2	
12	11351-15600	COVER, crankcase LH	1	1	1	1	1	
13	02112-06208	SCREW	3	3	3	3	3	
14	11361-15601	COVER, engine sprocket	1	1	1	1	1	
15	08351-11009	GREASE NIPPLE	1	1	1	1	1	
16	09250-30003	CAP	1	1	1	1	1	
17	02112-06758	SCREW	3	3	3	3	3	
18	02112-06307	SCREW	1	1	1	1	1	
19	02112-06458	SCREW	1	1	1	1	1	
20	02112-06358	SCREW	1	1	1	1	1	
21	04211-09129	DOWEL PIN	1	1	1	1	1	
22	09320-18001	CUSHION	1	1	1	1	1	

CRANKSHAFT



CRANKSHAFT

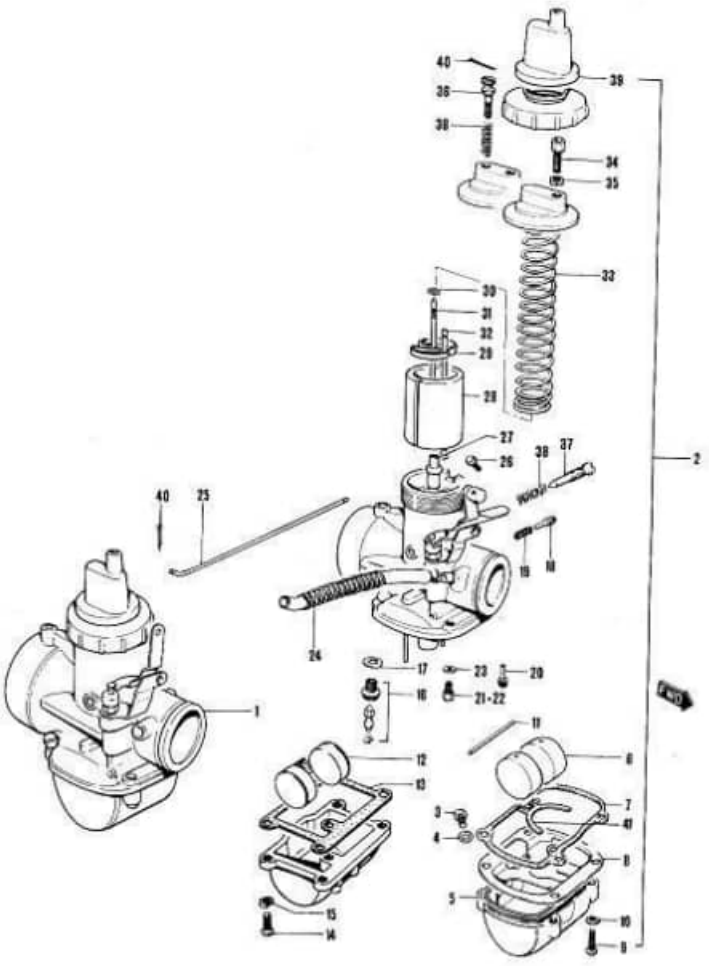
Ref.No.	Part No.	Description	Q'ty					Remarks
			T80	T80-2	T90	T90-2	T90R	T90J	
1-1	12110-15000	PISTON, RH	1					
1-2	12110-15700	PISTON, RH	1					OS:0.5
1-3	12110-15710	PISTON, RH	1					OS:1.0
2-1	12110-15101	PISTON, RH		1	1	1	1	
2-2	12110-15721	PISTON, RH		1	1	1	1	OS:0.5
2-3	12110-15731	PISTON, RH		1	1	1	1	OS:1.0
3-1	12120-15000	PISTON, LH	1					
3-2	12120-15700	PISTON, LH	1					OS:0.5
3-3	12120-15710	PISTON, LH	1					OS:1.0
4-1	12120-15101	PISTON, LH		1	1	1	1	
4-2	12120-15721	PISTON, LH		1	1	1	1	OS:0.5
4-3	12120-15731	PISTON, LH		1	1	1	1	OS:1.0
5	12151-15000	PIN, piston	2	2	2	2	2	13x18x59
6	09381-18002	CIRCLIP	4	4	4	4	4	OD:20.5, W:1.2
7-1	12140-15011	RING ASSY, piston	1	1	1	1	1	
7-2	12140-15700	RING ASSY, piston	1	1	1	1	1	OS:0.5
7-3	12140-15710	RING ASSY, piston	1	1	1	1	1	OS:1.0
8	12001-15802	CRANKSHAFT ASSY	1	1	1	1	1	
9	12161-15000	•ROD, connecting	2	2	2	2	2	
10	12211-15000	•PIN, crank	2	2	2	2	2	OD:24, L:66
11	12215-15010	•CAGE, needle roller	2	2	2	2	2	
12	09261-03009	•NEEDLE ROLLER	32	32	32	32	32	
13	09263-18005	•BEARING	2	2	2	2	2	18x23x24
14	09160-24007	•THRUST WASHER	4	4	4	4	4	24x44x1.0
15	09381-62001	•CIRCLIP	2	2	2	2	2	OD:66.2, T:1.0
16	09283-25014	•OIL SEAL	1	1	1	1	1	25x62x8.0
17	09280-76001	•O RING	4	4	4	4	4	ID:68, d.:2.5



CRANKSHAFT

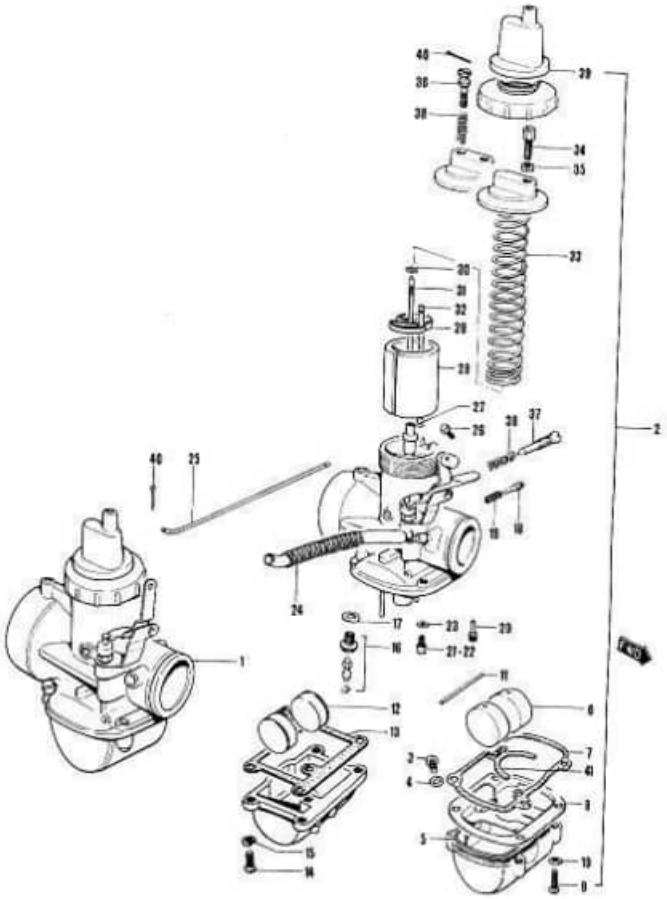
Ref.No.	Part No.	Description	Q'ty					Remarks
			TDR 75R	TDR 75RS	TDR 75RW	TDR 75RJ		
18	09269-25003	*BEARING	2	2	2	2	2	25x76.5x28
19	08211-25401	*THRUST WASHER	2	2	2	2	2	
20	12511-15000	*PLATE, oil guide	2	2	2	2	2	
21	12261-15000	*CRANKSHAFT, LH	1	1	1	1	1	
22	12251-15000	*WHEEL, middle crank LH	1	1	1	1	1	
23	12231-15000	*CRANKSHAFT, middle	1	1	1	1	1	L:83
24	09381-65001	*CIRCLIP	2	2	2	2	2	OD:68.2, T:1
25	09283-30003	*OIL SEAL	2	2	2	2	2	30x65x8
26	09269-30002	*BEARING	1	1	1	1	1	30x80x42
27	12241-15000	*WHEEL, middle crank RH	1	1	1	1	1	
28	12221-15000	*CRANKSHAFT, RH	1	1	1	1	1	
29	09283-35002	*OIL SEAL	1	1	1	1	1	35x62x8
30	06211-07123	DOWEL PIN	3	3	3	3	3	
31	08341-31039	KEY	1	1	1	1	1	
32	09421-07001	KEY	1	1	1	1	1	
33	09180-25012	SPACER	1	1	1	1	1	25x35x11.8
34	21111-15001	GEAR, primary drive	1	1	1	1	1	NT:26
35	09166-20003	WASHER	1	1	1	1	1	20.5x43x1
36	09140-20007	NUT	1	1	1	1	1	20screw
37	09390-80001	C RING	1	1	1	1	1	T:2

CARBURETOR



Ref.No.	Part No.	Description	Q'ty					Remarks
			'98	'99	'00	'01	'02	
1	13201-15602	CARBURETOR ASSY, RH	1	1	1	1	1	
2	13202-15602	CARBURETOR ASSY, LH	1	1	1	1	1	
3	13247-05010	*PLUG, drain	2	2	2	2	2	
4	13249-05010	*GASKET, drain plug	2	2	2	2	2	
5	13251-15010	*GASKET, float chamber A	2					
6	13252-15010	*FLOAT	4					
7	13258-15010	*GASKET, float chamber B	2					
8	13259-15010	*PLATE, float chamber	2					
9	02111-05182	*SCREW	8					
10	08321-21058	*LOCK WASHER	8					
11	13254-01010	*PIN, float	2	2	2	2	2	
12	13252-18010	*FLOAT		2	2	2	2	
13	13251-18010	*GASKET, float chamber		2	2	2	2	
14	02111-04168	*SCREW		8	8	8	8	
15	08321-21048	*LOCK WASHER		8	8	8	8	
16-1	13370-15010	*VALVE ASSY, needle	2					
16-2	13370-18010	*VALVE ASSY, needle		2	2	2	2	
17	13392-15010	*GASKET, needle valve	2	2	2	2	2	
18	13269-15010	*SCREW, pilot air	2	2	2	2	2	
19	13268-01010	*SPRING, air screw	2	2	2	2	2	
20-1	09492-25001	*JET, pilot	2					#25
20-2	09492-30003	*JET, pilot		2	2	2	2	#30
21-1	09491-82001	*JET, main	2					#410
21-2	09491-78001	*JET, main	2					#390, OPT
21-3	09491-80004	*JET, main	2					#400, OPT
21-4	09491-84001	*JET, main	2					#420, OPT
21-5	09491-86001	*JET, main	2					#430, OPT
21-6	09491-88001	*JET, main	2					#440, OPT

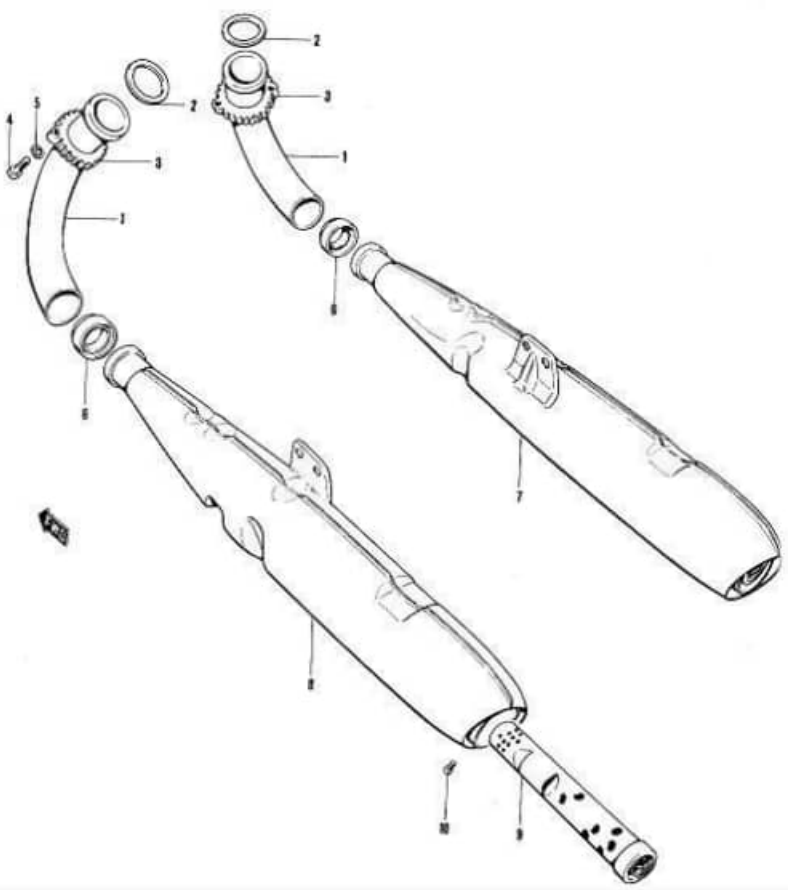
CARBURETOR



CARBURETOR

Ref.No.	Part No.	Description	Q'ty					Remarks
22-1	09491-30004	*JET, main		2	2	2	2	#150
22-2	09491-28004	*JET, main		2	2	2	2	#147.5, OPT
22-3	09491-29001	*JET, main		2	2	2	2	#145, OPT
23	13382-03110	*WASHER, main jet	2	2	2	2	2	
24	44390-15601	*TUBE, boost	1	1	1	1	1	L:180
25	13425-15010	*ROD, starter	1	1	1	1	1	
26	13429-15010	*BOLT, starter rod	1	1	1	1	1	
27-1	09494-00032	*JET, needle	2					#Q-5
27-2	09494-00051	*JET, needle (LH carburetor)		1	1	1	1	P-4
27-3	09494-00056	*JET, needle (RH carburetor)		1	1	1	1	P-5
27-4	09494-00044	*JET, needle		2	2	2	2	P-6, OPT
28-1	13551-15010	*VALVE, throttle	2					Cut-away=2.5
28-2	13551-31010	*VALVE, RH throttle		1	1	1	1	Cut-away=2.5
28-3	13561-31010	*VALVE, LH throttle		1	1	1	1	Cut-away=2.5
29	13581-15010	*SEAT, spring	2	2	2	2	2	
30	13394-10010	*CLIP, needle	2	2	2	2	2	
31-1	13383-15010	*NEEDLE, jet	2					5DP2
31-2	13383-15600	*NEEDLE, jet		2	2	2	2	5EP8
32	13296-15010	*ROD, throttle stop	2					
33	13573-31010	*SPRING, throttle valve	2	2	2	2	2	
34	13577-03010	*ADJUSTER, cable	2	2	2	2	2	
35	13661-03010	*NUT, cable adjusting	2	2	2	2	2	
36	13267-09210	*SCREW, throttle stop	2					
37	13267-15110	*SCREW, throttle stop		2	2	2	2	
38	13268-03110	*SPRING, stop screw	2	2	2	2	2	
39	13681-11010	*BOOT, cable adjuster	2	2	2	2	2	
40	04111-12108	*COTTER PIN	3	3	3	3	3	
41	13253-15010	*ARM, float	1					E.No.-T500-11547.

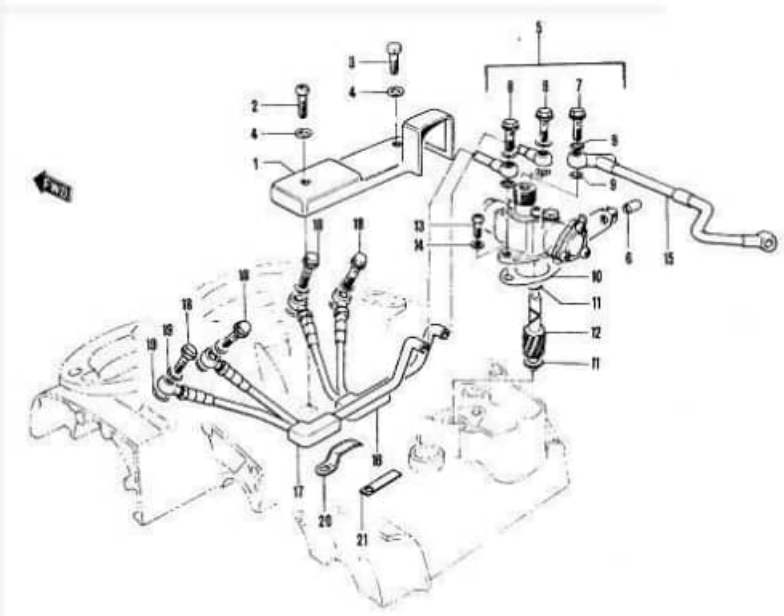
MUFFLER



MUFFLER

Ref.No.	Part No.	Description	Q'ty					Remarks
1	14150-15000	PIPE, exhaust	2	2	2	2	2	
2	14181-15010	GASKET, exhaust pipe	2	2	2	2	2	46x55x5
3	14182-15000	CLAMP, exhaust pipe	2	2	2	2	2	
4	01122-08408	BOLT	4	4	4	4	4	
5	08321-21088	LOCK WASHER	4	4	4	4	4	
6	14771-15080	CONNECTOR, muffler	2	2	2	2	2	
7-1	14301-15003	MUFFLER ASSY, RH	1	1	1	1	1	
7-2	14301-15002	MUFFLER ASSY, RH	1					~E.No.11520
8-1	14302-15003	MUFFLER ASSY, LH	1	1	1	1	1	
8-2	14302-15002	MUFFLER ASSY, LH	1					E.No.~11520
9-1	14510-15004	·PIPE, buffle	2	2	2	2	2	L:475
9-2	14510-15003	·PIPE, buffle	2					L:435, ~E.No.11520
10	02111-05068	·SCREW	2	2	2	2	2	

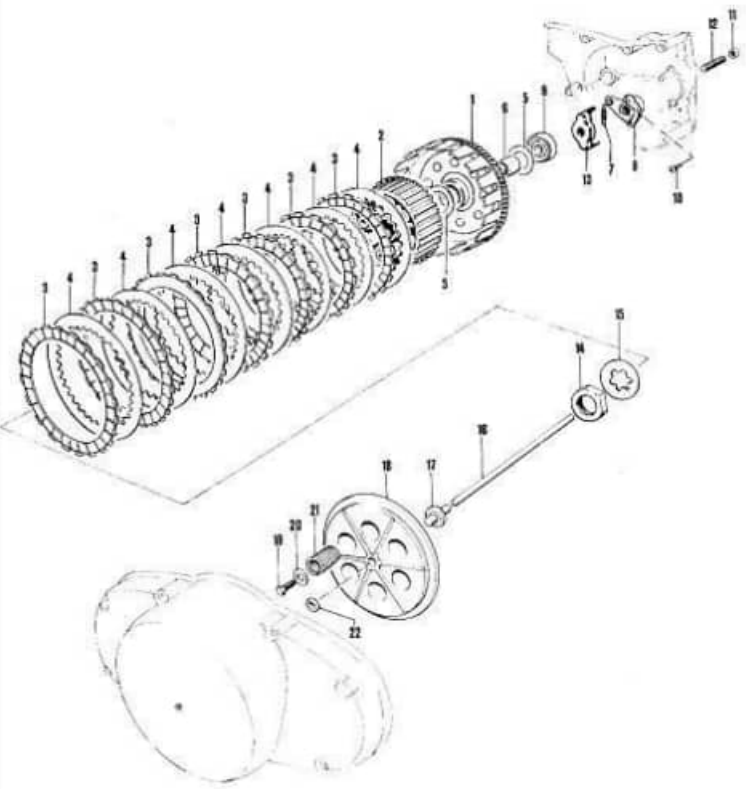
OIL PUMP



OIL PUMP

Ref.No.	Part No.	Description	Q'ty	Remarks
1	11441-15000	COVER, oil hose	1 1 1 1 1	
2	02112-06208	SCREW	1 1 1 1 1	
3	01112-06167	BOLT	1 1 1 1 1	
4	08322-21068	WASHER	2 2 2 2 2	
5-1	16001-15803	OIL PUMP ASSY	1	
5-2	16001-15815	OIL PUMP ASSY	1 1 1 1	
6	13683-51010	*TERMINAL, cable	1 1 1 1 1	
7	09360-06003	*UNION BOLT	1 1 1 1 1	3pcs:~F.No.29795
8	09360-06005	*UNION BOLT	2 2 2 2 2	
9	09168-06002	*GASKET	6 6 6 6 6	6.2x12x1.5
10	16731-11000	GASKET, oil pump	1 1 1 1 1	
11	09160-08003	THRUST WASHER	2 2 2 2 2	8.0x13.7x1.0
12	26431-15000	GEAR, tachometer driven	1 1 1 1 1	NT:10
13	02112-06168	SCREW	2 2 2 2 2	
14	08321-21068	LOCK WASHER	2 2 2 2 2	
15-1	16810-15031	HOSE, oil No.1	1	
15-2	16810-15130	HOSE, oil No.1	1 1 1 1	
16	16820-15033	HOSE, oil No.2	1 1 1 1 1	
17	16840-15033	HOSE, oil No.3	1 1 1 1 1	
18	09360-06003	UNION BOLT	4 4 4 4 4	
19	09168-06002	GASKET	8 8 8 8 8	6.2x12x1.5
20	09403-00007	CLAMP	1 1 1 1 1	
21	09403-00008	CLAMP	1 1 1 1 1	

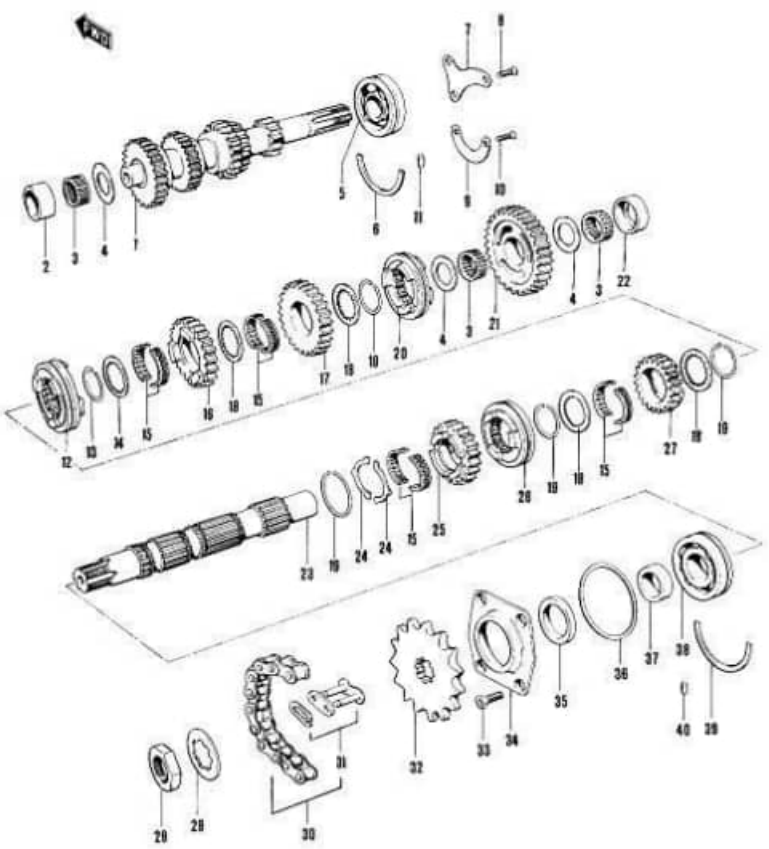
CLUTCH



CLUTCH

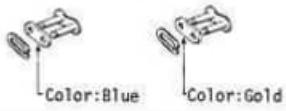
Ref.No.	Part No.	Description	Q'ty TW TW1 TW2 TW4 TW4J	Remarks
1	21200-15001	GEAR COMP, primary driven	1 1 1 1 1	NT:65
2	21411-15000	HUB, clutch sleeve	1 1 1 1 1	
3	21441-15000	PLATE, clutch drive	7 7 7 7 7	ID:116
4	21451-15000	PLATE, clutch driven	7 7 7 7 7	OD:140
5	08211-22423	THRUST WASHER	2 2 2 2 2	
6	09180-22002	SPACER	1 1 1 1 1	ID:22, OD:28
7	09443-08001	SPRING	1 1 1 1 1	
8	23200-15001	SCREW ASSY, clutch release	1 1 1 1 1	
9	09285-08001	OIL SEAL	1 1 1 1 1	
10	02112-06128	SCREW	2 2 2 2 2	
11	08312-31088	NUT	1 1 1 1 1	
12	09134-08006	SCREW	1 1 1 1 1	8screw, L:25
13	23241-15000	COVER, release screw	1 1 1 1 1	
14	09140-22003	NUT	1 1 1 1 1	22screw
15	09167-22005	WASHER	1 1 1 1 1	
16-1	23111-15001	ROD, clutch push	2 2 2 2 2	L:138.5
16-2	23111-15000	ROD, clutch push	2	L:143, ~E.No.13913
17-1	23121-15001	PIECE, clutch push	1 1 1 1 1	
17-2	23121-15000	PIECE, clutch push	1	L:46
18	21462-15000	PLATE, clutch pressure	1 1 1 1 1	
19	01112-06167	BOLT	6 6 6 6 6	
20	09160-06020	WASHER	6 6 6 6 6	6.5x20x1.6
21	09440-19003	SPRING	6 6 6 6 6	
22	09284-10002	OIL SEAL	1 1 1 1 1	10x17x5

TRANSMISSION

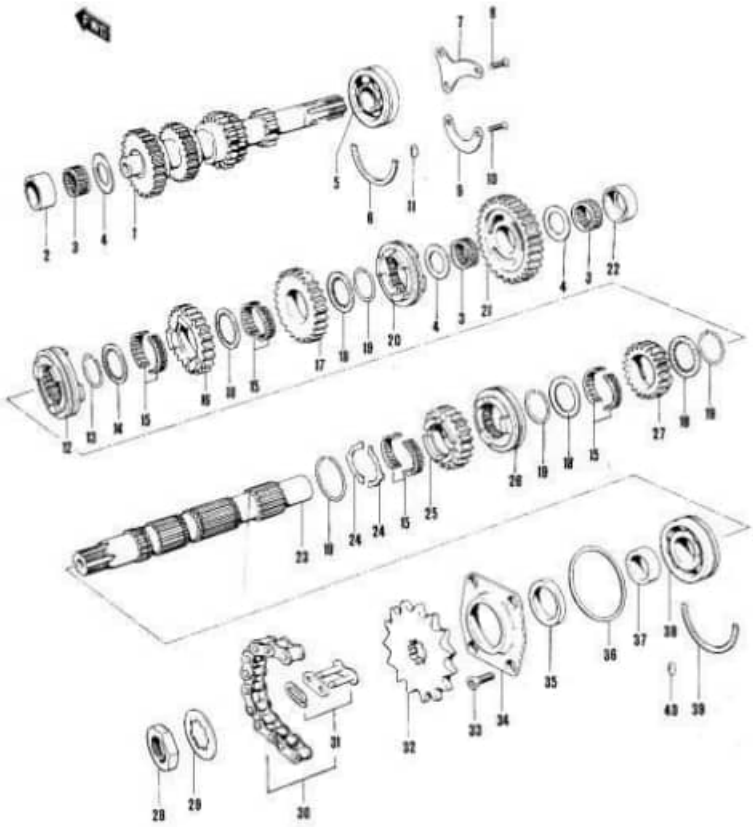


Ref.No. 31

27620-15012 27620-15015



Ref.No.	Part No.	Description	Q'ty					Remarks
			'08	'09	'10	'11	'12	
1	24120-15001	SHAFT, counter	1	1	1	1	1	L:238
2	09319-26001	BUSHING	1	1	1	1	1	OD:32, W:15
3	09263-20005	BEARING	3	3	3	3	3	20x26x12.8
4	09160-20004	THRUST WASHER	3	3	3	3	3	20x30.5x1
5	09262-22004	BEARING	1	1	1	1	1	22x59x16
6	09390-59001	C RING	1	1	1	1	1	T:2
7	24871-15000	CAP, oil reservoir	1	1	1	1	1	T:1
8	02122-06128	SCREW	3	3	3	3	3	
9	24741-15000	BEARING, drive shaft	1	1	1	1	1	T:2.3
10	02122-06168	SCREW	2	2	2	2	2	
11	06211-07123	DOWEL PIN	2	2	2	2	2	
12	24413-15000	WHEEL, 3rd driven gear	1	1	1	1	1	
13	09380-41001	CIRCLIP	1	1	1	1	1	OD:38.7, W:1.6
14	09167-30001	WASHER	1	1	1	1	1	OD:36, T:1
15	20000-15814	BEARING SET, driven gear	4	4	4	4	4	
16	24331-15000	GEAR, 3rd driven gear	1	1	1	1	1	NT:22
17	24321-15000	GEAR, 2nd driven gear	1	1	1	1	1	NT:25
18	09167-30002	WASHER	4	4	4	4	4	OD:36, T:1
19	09380-30001	CIRCLIP	4	4	4	4	4	OD:28.5, W:1.4
20	24411-15000	WHEEL, 1st driven gear	1	1	1	1	1	
21	24311-15001	GEAR, 1st driven	1	1	1	1	1	NT:30
22	09319-26002	BUSHING, drive shaft	1	1	1	1	1	OD:32, W:15
23	24131-15000	SHAFT, drive	1	1	1	1	1	L:207
24	09399-30002	RING, 5th driven gear	2	2	2	2	2	T:1.5
25	24351-15002	GEAR, 5th driven	1	1	1	1	1	NT:20
26	24415-15000	WHEEL, 5th driven gear	1	1	1	1	1	



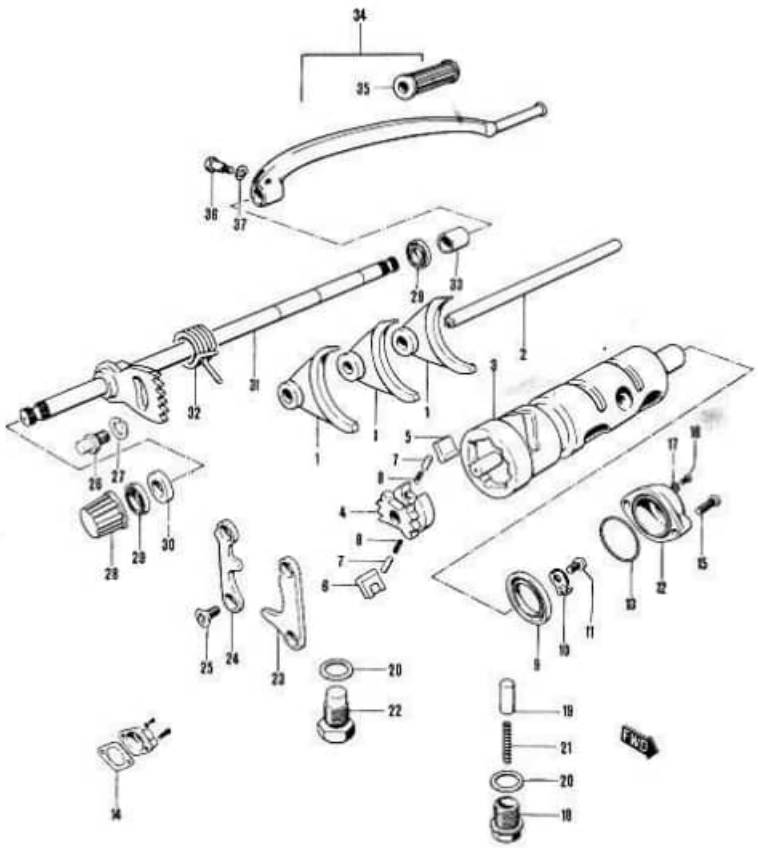
Ref.No. 31

27620-15012 27620-15015

TRANSMISSION

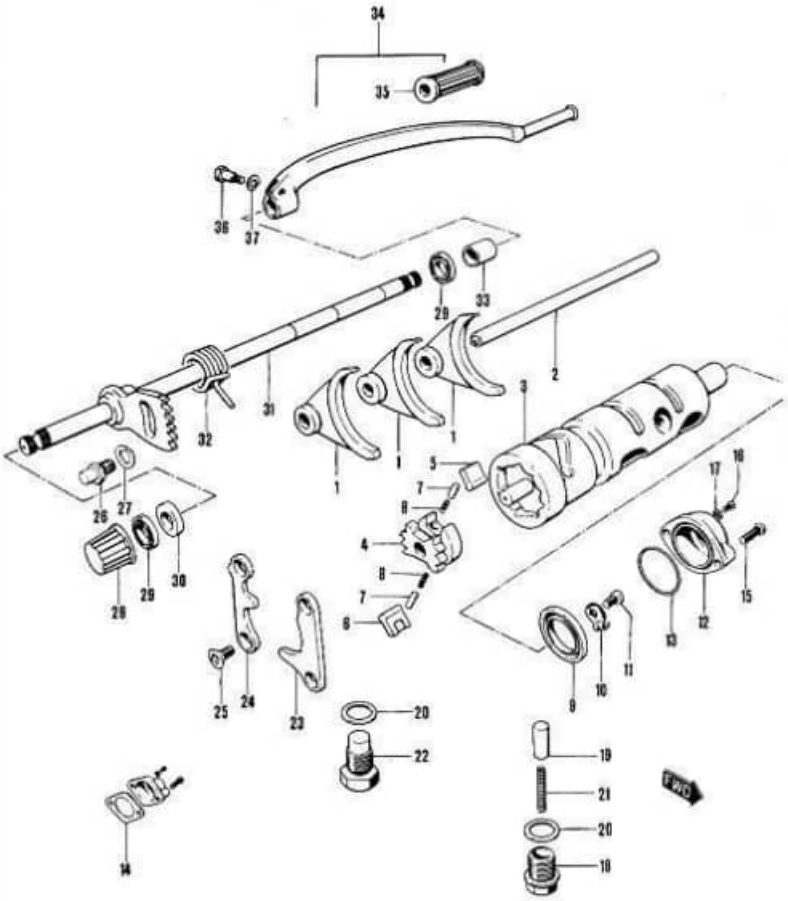
Ref.No.	Part No.	Description	Q'ty	Remarks
27	24341-15000	GEAR, 4th driven	1 1 1 1 1	NT:21
28	09140-22003	NUT	1 1 1 1 1	22screw
29	09167-22004	WASHER	1 1 1 1 1	OD:38, T:1.2
30	27600-15911	CHAIN ASSY, drive (#530HT x110L)	1 1 1 1 1	Availale #530HTx112L
31-1	27620-15012	*JOINT ASSY, chain	1 1 1 1 1	#530HT
31-2	27620-15015	*JOINT ASSY, chain	1 1 1 1 1	For 27600-15911
32-1	27511-15000	SPROCKET, engine	1 1 1 1 1	NT:15
32-2	27511-15700	SPROCKET, engine	1 1 1 1 1	NT:14, OPT
32-3	27511-15710	SPROCKET, engine	1 1 1 1 1	NT:13, OPT
33	02122-06128	SCREW	4 4 4 4 4	
34	24751-15000	PLATE, drive shaft	1 1 1 1 1	
35	09283-27001	OIL SEAL	1 1 1 1 1	OD:42, W:7
36	09280-63001	O RING	1 1 1 1 1	ID:65, d.:1.9
37	09180-22001	SPACER	1 1 1 1 1	22x27x10.7
38	09262-22001	BEARING	1 1 1 1 1	22x59x16
39	09390-59001	C RING	1 1 1 1 1	T:2
40	06211-04063	DOWEL PIN	2 2 2 2 2	

GEAR SHIFTING



GEAR SHIFTING

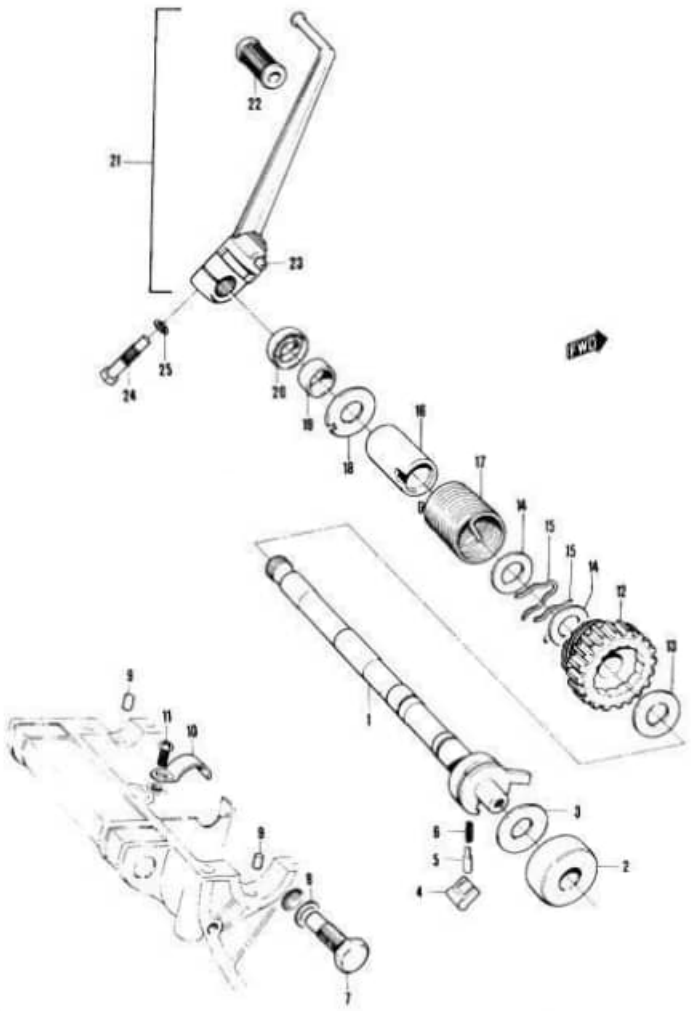
Ref.No.	Part No.	Description	Q'ty					Remarks
			TW	TW1	TW2	TW3	TW4	
1	25211-15000	FORK, gear shifting	3	3	3	3	3	
2	25411-15000	SHAFT, shifting fork	1	1	1	1	1	
3	25310-15001	CAM, gear shifting	1	1	1	1	1	
4	25322-11000	GEAR, shifting cam	1	1	1	1	1	
5	25323-11000	PAWL, gear shifting A	1	1	1	1	1	
6	25324-11000	PAWL, gear shifting B	1	1	1	1	1	
7	09261-05003	ROLLER	2	2	2	2	2	OD:5, L:8
8	09440-04003	SPRING	2	2	2	2	2	
9	09285-16002	OIL SEAL	1	1	1	1	1	OD:30, W:8
10	37711-05100	CONTACT, gear shifting switch	1	1	1	1	1	
11	02122-06128	SCREW	1	1	1	1	1	
12	37721-15002	SWITCH, gear shifting	1	1	1	1	1	
13	09280-28002	O RING	1	1	1	1	1	ID:27.7, d.:1.9
14	37712-15000	GASKET, shifting switch	1					~E.No.15560
15	02111-05207	SCREW	2	2	2	2	2	
16	02111-03048	SCREW	1	1	1	1	1	
17	08322-21038	WASHER	1	1	1	1	1	
18	25352-11000	PLUG, shifting cam stopper	1	1	1	1	1	
19	25351-11000	STOPPER, gear shifting cam	1	1	1	1	1	
20	09168-14002	GASKET	2	2	2	2	2	OD:19.2, W:2
21	09440-05007	SPRING	1	1	1	1	1	
22	09119-14003	BOLT	1	1	1	1	1	14screw, L:20
23	25331-11001	PLATE, shifting cam stopper	1	1	1	1	1	
24	25341-15000	GUIDE, gear shifting cam	1	1	1	1	1	
25	02122-06128	SCREW	4	4	4	4	4	
26	25671-01000	STOPPER, gear shifting arm	1	1	1	1	1	
27	08321-21088	LOCK WASHER	1	1	1	1	1	



GEAR SHIFTING

Ref.No.	Part No.	Description	Q'ty					Remarks
			TMR	TMR-E	TMR	TMR	TMR	
28	26391-01300	CAP, shifting shaft	1	1	1	1	1	
29	09285-12002	OIL SEAL	2	2	2	2	2	11x22x8
30	09320-13004	CUSHION	1	1	1	1	1	13x14x35
31	25510-15000	SHAFT, gear shifting	1	1	1	1	1	
32	09444-26004	SPRING	1	1	1	1	1	
33	09180-12021	SPACER	1	1	1	1	1	12.2x21x5
34	25600-18000	LEVER ASSY, gear shifting	1	1	1	1	1	
35	25652-03201	*RUBBER	1	1	1	1	1	
36	01122-08207	BOLT	1	1	1	1	1	
37	08321-21088	LOCK WASHER	1	1	1	1	1	

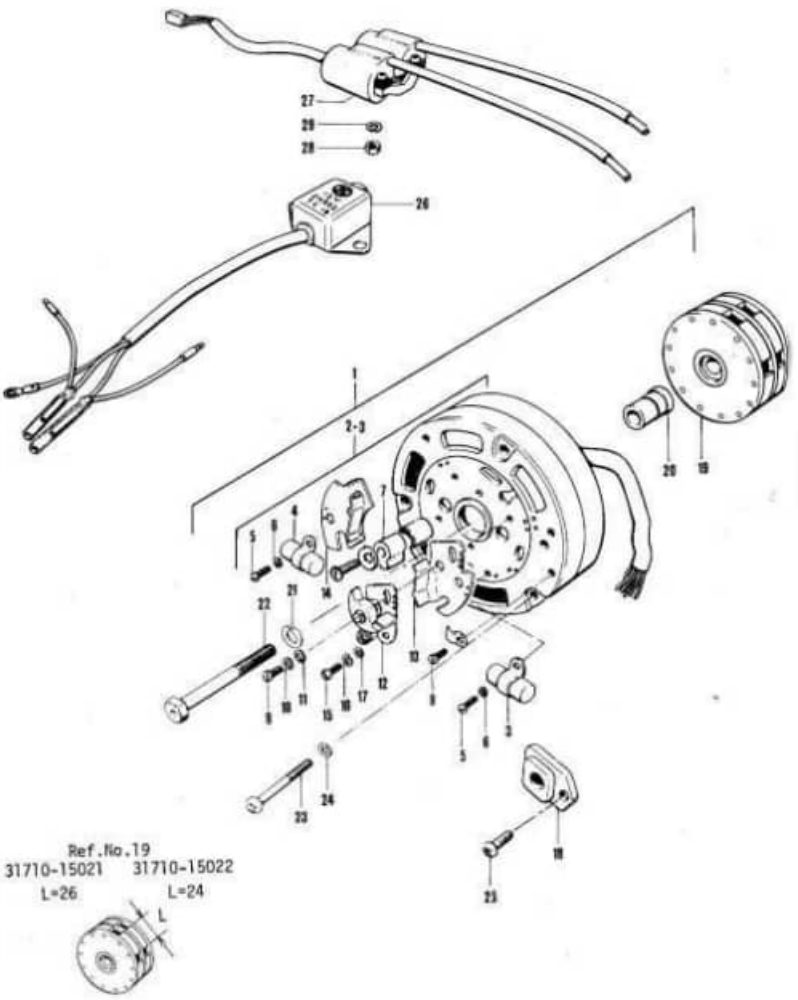
KICK STARTER



KICK STARTER

Ref.No.	Part No.	Description	Q'ty					Remarks
			TW	TW-I	TW-II	TWR	TWU	
1	26210-15001	SHAFT, kick starter	1	1	1	1	1	
2	26215-15000	BUSHING, starter shaft RH	1	1	1	1	1	
3	09160-13002	THRUST WASHER	1	1	1	1	1	13x31.5x1.5
4-1	26231-20000	PAWL, kick starter	1	1	1	1	1	
4-2	26231-16400	PAWL, kick starter	1					
5	09209-05011	PIN	1	1	1	1	1	OD:5, L:10.5
6	09440-04002	SPRING	1	1	1	1	1	
7	09135-14001	BOLT	1	1	1	1	1	14screw, L:22.5
8	09160-14001	WASHER	1	1	1	1	1	14.5x22x1.6
9	06211-07123	DOWEL PIN	2	2	2	2	2	
10	26235-15000	CLAMP, starter shaft	1	1	1	1	1	
11	02112-06128	SCREW	1	1	1	1	1	
12	26240-15002	GEAR, kick starter drive	1	1	1	1	1	
13	09160-16009	THRUST WASHER	1	1	1	1	1	16x30.5x3
14	09160-16003	THRUST WASHER	2	2	2	2	2	16x30.5x1
15	09384-16001	CIRCLIP	2	2	2	2	2	
16	26221-15000	GUIDE, return spring	1	1	1	1	1	
17	09448-37001	SPRING	1	1	1	1	1	
18	09166-16001	WASHER	1	1	1	1	1	ID:16, OD:38
19	09300-16003	BUSHING	1	1	1	1	1	16x24x13
20	09285-16001	OIL SEAL	1	1	1	1	1	14.5x30x8
21	26300-15000	LEVER ASSY, kick starter	1	1	1	1	1	
22	26352-01000	•RUBBER	1	1	1	1	1	
23	08351-11009	•GREASE NIPPLE	1	1	1	1	1	
24	09135-10002	BOLT	1	1	1	1	1	10screw, L:37.5
25	08321-21108	LOCK WASHER	1	1	1	1	1	

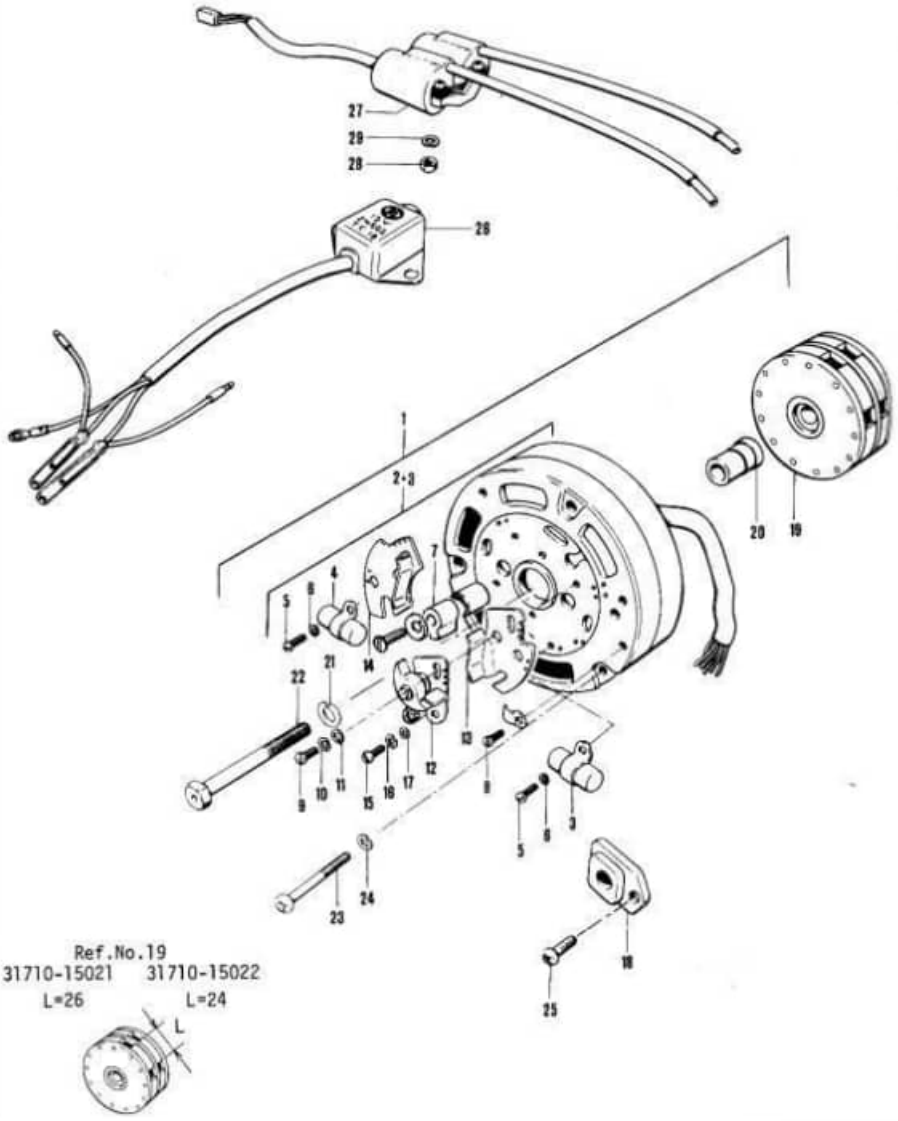
GENERATOR - IGNITION COIL



GENERATOR - IGNITION COIL

Ref.No.	Part No.	Description	Q'ty					Remarks
1	31400-15120	GENERATOR ASSY	1	1	1	1	1	
2-1	31401-15021	·STATOR ASSY	1	1	1	1	1	Non-Covered coil
2-2	31401-15121	·STATOR ASSY	1	1	1	1		Covered coil
3	31641-15021	··CONDENSER, RH	1	1	1	1	1	
4	31642-15022	··CONDENSER, LH	1	1	1	1	1	
5	02311-04068	··SCREW	2	2	2	2	2	
6	08321-21048	··LOCK WASHER	2	2	2	2	2	
7	31638-15020	··FELT, oil	1	1	1	1	1	
8	02311-04068	··SCREW	1	1	1	1	1	
9	02312-04087	··SCREW	4	4	4	4	4	
10	08321-21048	··LOCK WASHER	4	4	4	4	4	
11	08322-21048	··WASHER	4	4	4	4	4	
12	31440-15020	··POINT ASSY, contact	2	2	2	2	2	
13	31443-15022	··BASE, contact point RH	1	1	1	1	1	
14	31463-15022	··BASE, contact point LH	1	1	1	1	1	
15	02312-04087	··SCREW	2	2	2	2	2	
16	08321-21048	··LOCK WASHER	2	2	2	2	2	
17	08322-21048	··WASHER	2	2	2	2	2	
18	31485-15020	·GROMMET, wiring harness	1	1	1	1	1	
19-1	31710-15022	·ROTOR	1	1	1	1	1	L:24
19-2	31710-15021	·ROTOR	1	1	1	1		L:26
20	31724-15021	·CAM, contact breaker	1	1	1	1	1	
21	08321-21088	·LOCK WASHER	1	1	1	1	1	
22	31791-15020	·BOLT, rotor	1	1	1	1	1	

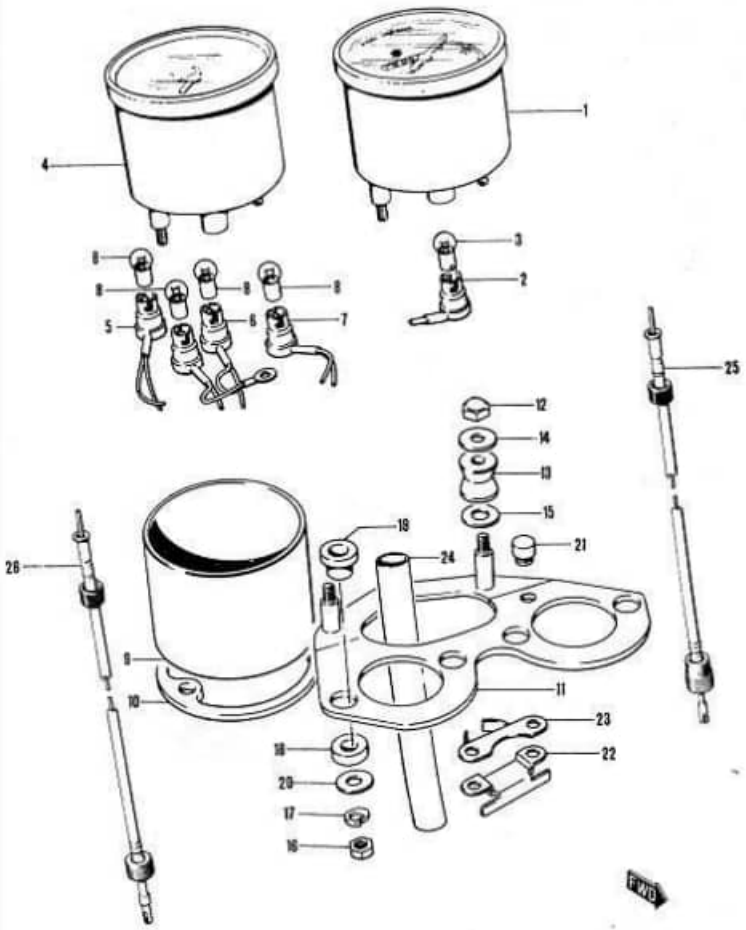
GENERATOR - IGNITION COIL



Ref.No.19

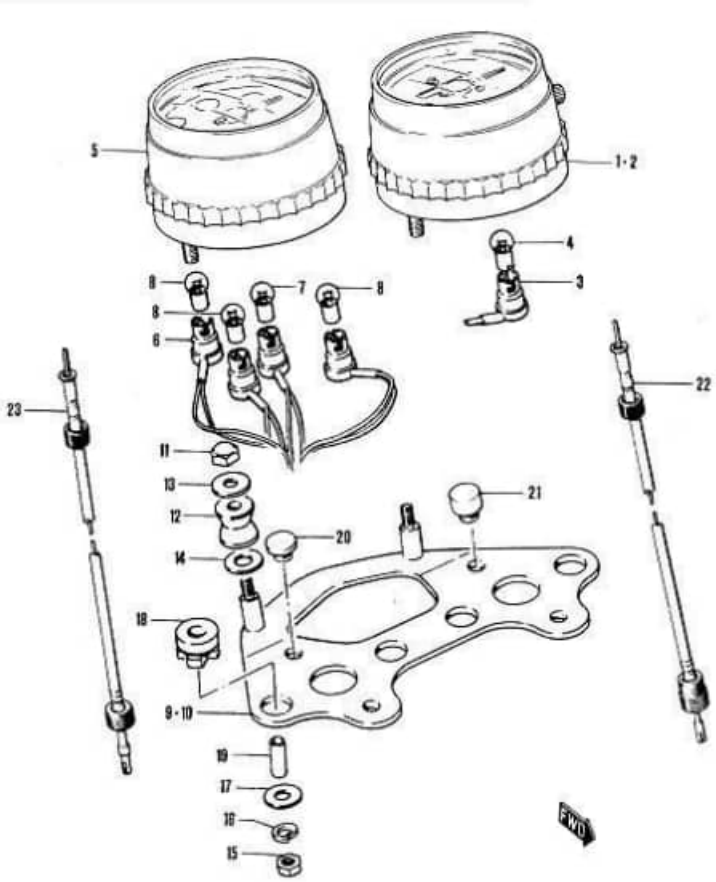
31710-15021	31710-15022
L=26	L=24

ef.No.	Part No.	Description	Q'ty
3	02112-06508	SCREW	3 3 3 3 3
4	08321-21068	LOCK WASHER	3 3 3 3 3
5	02112-06108	SCREW	1 1 1 1 1
6	32500-15020	REGULATOR ASSY	1 1 1 1 1
7	33410-15020	COIL ASSY, Ignition	1 1 1 1 1
8	08312-11088	NUT	2 2 2 2 2
9	08321-21088	LOCK WASHER	2 2 2 2 2



SPEEDOMETER - TACHOMETER

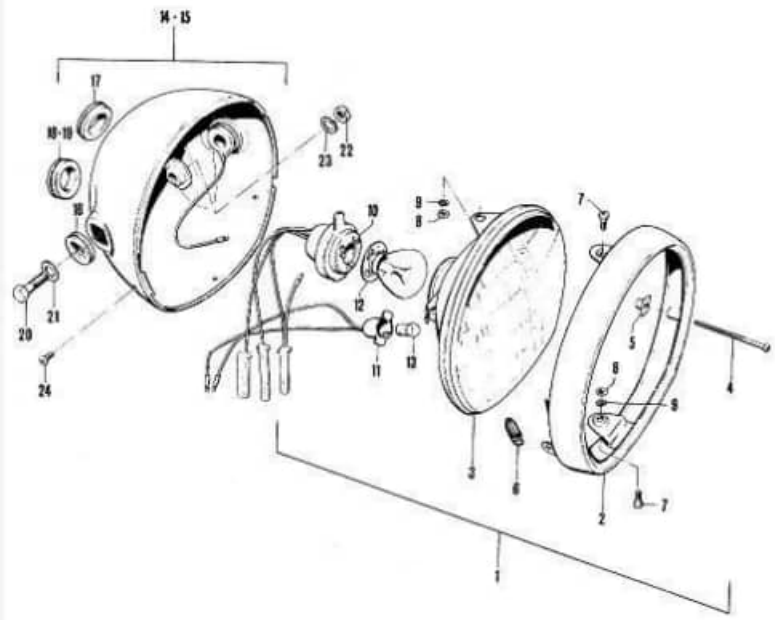
Ref.No.	Part No.	Description	Q'ty T90 T90-2 T90-3 T90M T90J	Remarks
1-1	34100-15620-999	SPEEDOMETER ASSY	1 1	MILE
1-2	34100-15120-999	SPEEDOMETER ASSY	1 1	KILO
2	34173-15120	•SOCKET, pilot bulb	1 1	
3	09471-12001	BULB	1 1	12V, 3.4W
4	34200-15710-999	TACHOMETER ASSY	1 1	
5	34175-15020	•SOCKET, turn signal bulb	1 1	
6	34173-15610	•SOCKET, high beam bulb	1 1	
7	34174-15020	•SOCKET, neutral bulb	1 1	
8	09471-12001	BULB	5 5	12V, 3.4W
9-1	34155-15001-078	COVER, meter	2	
9-2	34155-15001-079	COVER, meter	2	
9-3	34155-15001-141	COVER, meter	2	
10	34955-15000	CUSHION, meter cover	2	
11	34950-15100	BRACKET, meter	1	
12	08313-11067	NUT	2	
13	34956-15100	CUSHION, meter brakcet	2	
14	09160-06006	WASHER	2	
15	08322-21088	WASHER	2	
16	08311-11058	NUT	4 4	
17	08321-21058	LOCK WASHER	4 4	
18	09320-08004	CUSHION	4 4	
19	34955-20000	CUSHION, meter	4	
20	09160-05006	WASHER	4 4	
21	34957-05100	CUSHION, meter	1	
22	09403-00030	CLUMP	1	
23	34183-15100	CLUMP, cord	1	
24	34182-15000	TUBE, lead cord	1 1	
25	34910-16430	CABLE, speedometer	1 1	L:940
26	34940-18430	CABLE, tachometer	1 1	L:1050



SPEEDOMETER - TACHOMETER

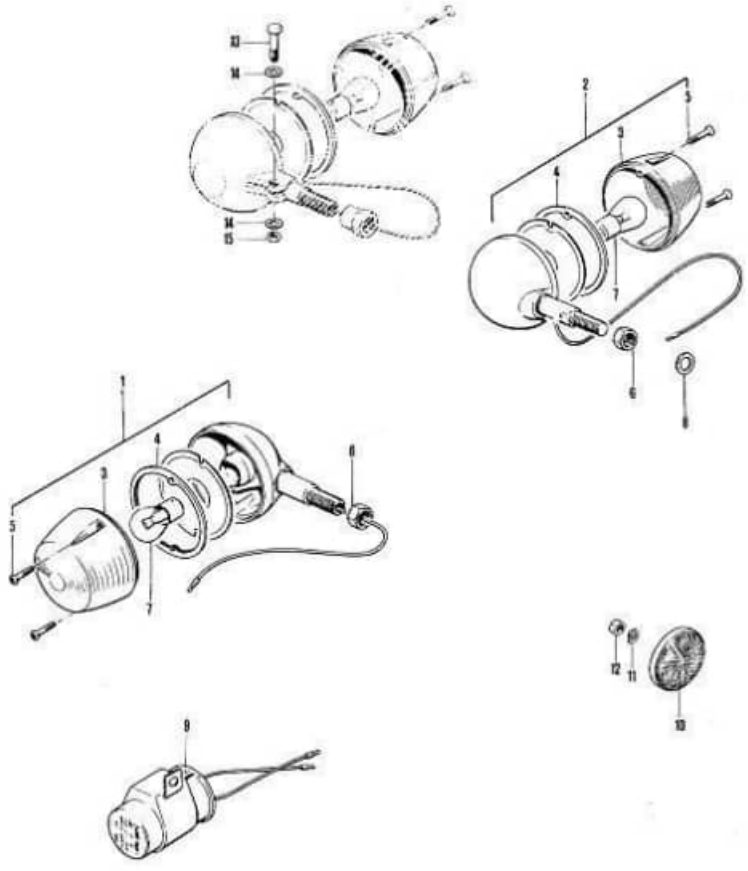
Ref.No.	Part No.	Description	Q'ty T5R T5K-Q T5K-B T5KH T5KJ	Remarks
1-1	34100-18611-999	SPEEDOMETER ASSY	1 1	MILE
1-2	34100-18621-999	SPEEDOMETER ASSY	1 1	KILO
2-1	34100-15633-999	SPEEDOMETER ASSY	1	MILE
2-2	34100-15690-999	SPEEDOMETER ASSY	1	KILO
3-1	34173-15120	·SOCKET, pilot bulb	1 1	
3-2	34173-18620	·SOCKET, pilot bulb	1 1 1	
4	09471-12001	BULB	1 1 1	12V, 3.4W
5	34200-15122-999	TACHOMETER ASSY	1 1 1	
6	34270-15120	·SOCKET	1 1 1	
7	09471-12004	BULB	1 1 1	12V,1.7W
8	09471-12001	BULB	3 3 3	12V, 3.4W
9	34950-15120	BRACKET, meter	1 1	
10	34950-15122	BRAKCET, meter	1	
11	08313-11067	NUT	2 2 2	
12	34956-15100	CUSHION, meter bracket	2 2 2	
13	09160-06006	WASHER	2 2 2	
14	08322-21088	WASHER	2 2 2	
15	08311-11068	NUT	4 4 4	
16	08321-21068	LOCK WASHER	4 4 4	
17	09160-06006	WASHER	4 4 4	
18	34955-16420	CUSHION, meter A	4 4 4	
19	34972-16420	SPACER, meter	4 4 4	
20	34956-16420	CUSHION, meter B	2 3 1	
21	34957-16420	CUSHION, meter C	2 1 1	
22	34910-16430	CABLE ASSY, speedometer	1 1 1	L:940
23	34940-18430	CABLE ASSY, tachometer	1 1 1	L:1050

HEADLAMP



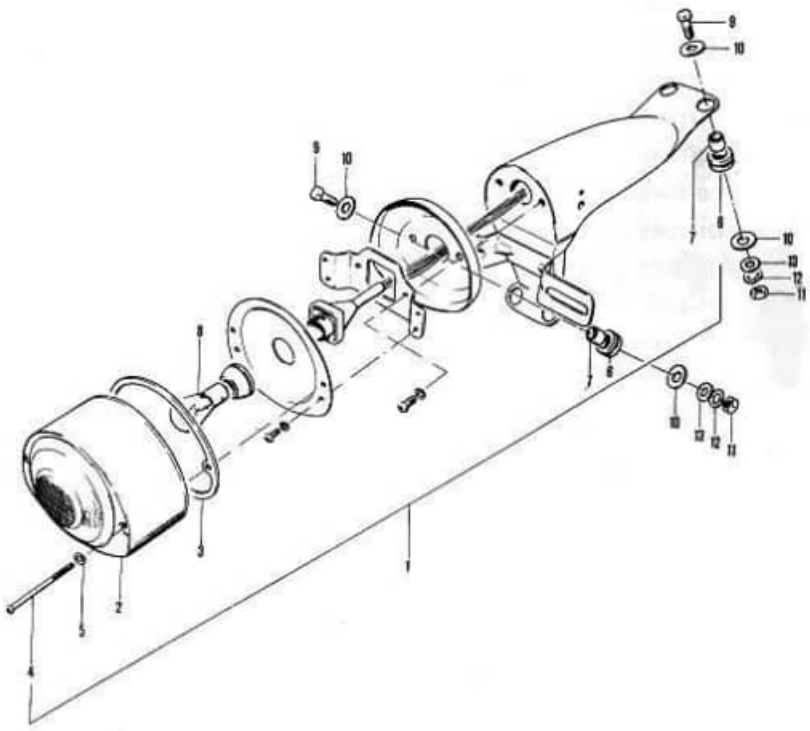
HEADLAMP

Ref.No.	Part No.	Description	Q'ty					Remarks
			TX	TX-C	TX-S	TX-R	TX-J	
1	35100-15613-999	HEADLAMP ASSY	1	1	1	1	1	
2	35111-15613	·RIM	1	1	1	1	1	
3	35121-15610	·LAMP UNIT	1	1	1	1	1	
4	35151-15611	·SCREW, lamp unit	1	1	1	1	1	4screw, L:65
5	35152-15611	·NUT, lamp unit	1	1	1	1	1	
6	35154-11610	·SPRING, lamp unit	1	1	1	1	1	
7	35181-15611	·SCREW	2	2	2	2	1	4screw
8	08311-11048	·NUT	2	2	2	2	2	
9	08321-21048	·LOCK WASHER	2	2	2	2	2	
10	35171-15610	·SOCKET, lamp unit	1	1	1	1	1	
11	36118-15610	·SOCKET, parking lamp	1	1	1	1		
12	09471-12022	BULB	1	1	1	1		12V, 35/25W
13	09471-12001	BULB	1	1	1	1		12V, 3.4W
14-1	51810-15032-078	HOUSING ASSY, headlamp	1					
14-2	51810-15032-079	HOUSING ASSY, headlamp	1					
14-3	51810-15032-141	HOUSING ASSY, headlamp	1					
15	51810-15033	HOUSING ASSY, headlamp		1	1	1	1	Chrome-plated
16	51827-15030	·RUBBER	2	2	2	2	2	
17	51845-15130	·GROMMET	1	2	2	2	2	ID:28
18	51845-15030	·GROMMET	1					ID:20
19	51846-15030	·GROMMET	1					ID:16
20	01221-08257	BOLT	2	2	2	2	2	
21	08322-11088	WASHER	2	2	2	2	2	
22	08312-11088	NUT	2			2	2	
23	08321-21088	LOCK WASHER	2			2	2	
24	02131-05107	SCREW	2	2	2	2	2	



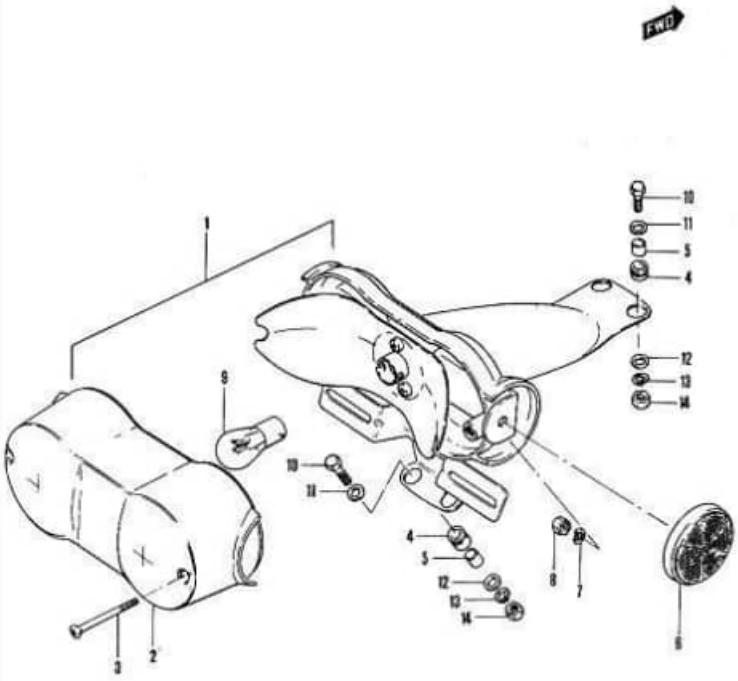
TURN SIGNAL LAMP

Ref.No.	Part No.	Description	Q'ty					Remarks
			T90	T90 E	T90 S	T90R	T90J	
1	35601-15610-999	LAMP ASSY, front turn signal	2	2	2	2	2	
2	35603-16411-999	LAMP ASSY, rear turn signal	2	2	2	2	2	
3	35612-12611	*LENS	4	4	4	4	4	
4	35613-03610	*GASKET, lens	4	4	4	4	4	
5	02131-03167	*SCREW	8	8	8	8	8	
6	08312-31108	*NUT	4	4	4	4	4	
7	09471-12006	BULB	4	4	4	4	4	12V, 32cp
8	08322-11108	WASHER	2	2	2	2	2	
9	38610-15611	RELAY, turn signal	1	1	1	1	1	12.8V, 23W x 2 + 1.7W
10	35950-31010	REFREX REFLECTOR, front					2	
11	08321-21058	LOCK WASHER					2	
12	08311-11058	NUT					2	
13	35625-12610	BOLT, turn signal lamp housing	4	4				*F.No.21118.
14	08322-11068	WASHER	8	8				
15	35626-15010	NUT, turn signal lamp housing	4	4				



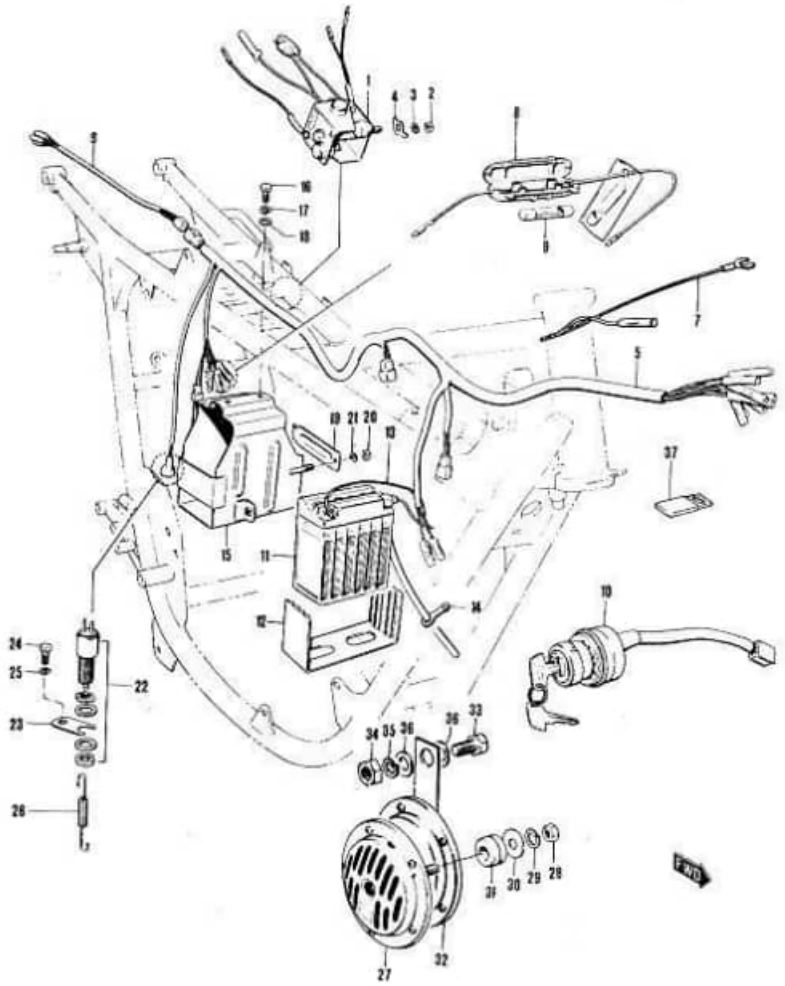
REAR COMBINATION LAMP

Ref.No.	Part No.	Description	Q'ty				Remarks
1-1	35710-15601-999	LAMP ASSY, rear combination	1	1			
1-2	35710-15111-999	LAMP ASSY, rear combination			1	1	
2-1	35712-22610	*LENS	1	1			
2-2	35712-18010	*LENS			1	1	
3	35713-15010	*GASKET	1	1	1	1	
4	02113-04558	*SCREW	2	2	2	2	
5	35727-03010	*WASHER	2	2	2	2	
6	35765-15010	*CUSHION, bracket	4	4	4	4	
7	35766-15010	*SPACER, bracket	4	4	4	4	
8	09471-12002	BULB	1	1	1	1	12V, 32/4cp
9	09100-06039	BOLT	4	4	4	4	
10	09160-06020	WASHER	8	8	8	8	6.5x20x6
11	08311-11068	NUT	4	4	4	4	
12	08321-21068	LOCK WASHER	4	4	4	4	
13	08322-21068	WASHER	4	4	4	4	



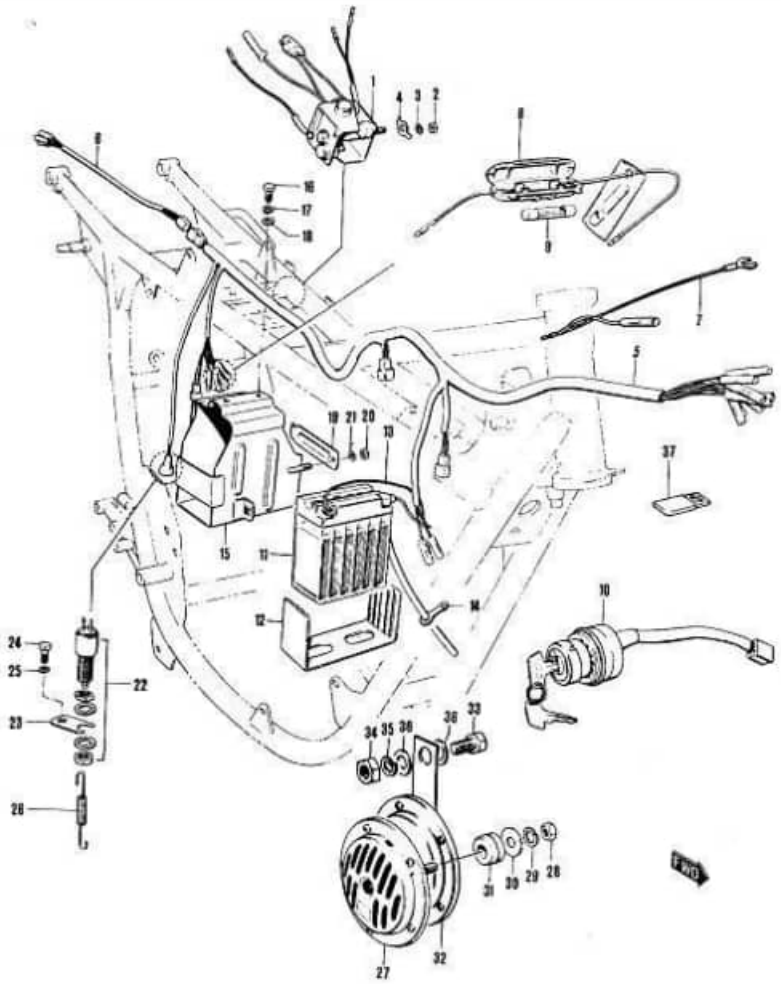
REAR COMBINATION LAMP

Ref.No.	Part No.	Description	Q'ty	Remarks
1	35710-15112-999	LAMP ASSY, rear combination	1	
2	35712-29012	·LENS	1	
3	02111-04508	·SCREW	2	
4	35765-15010	·CUSHION	4	
5	35766-15010	·SPACER	4	
6	35950-31010	REFLEX REFLECTOR, rear	2	
7	08321-21058	LOCK WASHER	2	
8	08311-11058	NUT	2	
9	09471-12035	BULB	1	12V, 32/3cp
10	09100-06039	BOLT	4	6screw, L:22
11	09160-06020	WASHER	4	6.5x20x1.6
12	08322-21068	WASHER	4	
13	08321-21068	LOCK WASHER	4	
14	08311-11068	NUT	4	



ELECTRICAL EQUIPMENT

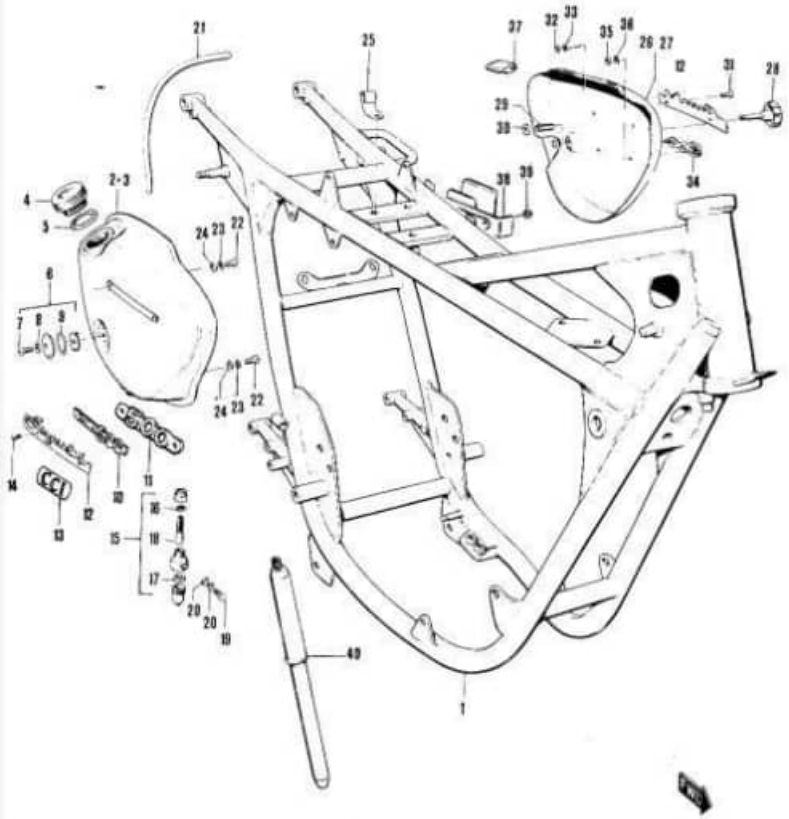
Ref.No.	Part No.	Description	Q'ty					Remarks
1	32800-18520	RECTIFIER ASSY	1	1	1	1	1	
2	08311-11058	NUT	1	1	1	1	1	
3	08321-21058	LOCK WASHER	1	1	1			
4	09169-05001	WASHER	1	1	1	1	1	
5-1	36610-15000	WIRING HARNESS A	1					
5-2	36610-15102	WIRING HARNESS A		1	1			
5-3	36610-15103	WIRING HARNESS A				1	1	
6	36620-15000	WIRING HARNESS B	1	1	1	1	1	
7	36810-15000	CARD, handlebar earth	1	1	1			
8	36740-15010	FUSE CASE ASSY	1	1	1	1	1	
9	09481-15001	FUSE	1	1	1	1	1	15A
10-1	37110-15010	SWITCH ASSY, ignition	1	1	1			
10-2	37110-15110	SWITCH ASSY, ignition				1	1	
11	33610-01320	BATTERY ASSY	1	1	1	1	1	12V, 7AH
12	33651-15000	PROTECTOR, battery	1	1	1	1	1	
13	36860-15020	CABLE, battery	1	1	1	1	1	
14	09401-00001	HOLDER	1	1	1	1	1	
15	41540-15000	HOLDER, battery	1	1	1	1	1	
16	01121-08257	BOLT	2	2	2	2	2	
17	08321-21088	LOCK WASHER	2	2	2	2	2	
18	09160-08013	WASHER	1	1	1	1	1	8.5x18x2
19	41561-15000	PLATE, battery	1					
20	08311-11068	NUT	1					
21	08321-21068	LOCK WASHER	1					



ELECTRICAL EQUIPMENT

Ref.No.	Part No.	Description	Q'ty					Remarks
			TSM	TSM E	TSM S	TSMR	TSMJ	
22	37610-53012	SWITCH ASSY, brake lamp	1	1	1	1	1	
23	37752-15001	BRACKET, brake lamp switch	1	1	1	1	1	
24	01112-06128	BOLT	1	1	1	1	1	
25	08321-21068	LOCK WASHER	1	1	1	1	1	
26	09443-06012	SPRING	1	1	1	1	1	
27	38500-15030	HORN, ASSY	1					
28	08312-11088	NUT	1					
29	08321-21088	LOCK WASHER	1					
30	09160-08014	WASHER	1					8.5x23x1.5
31	09320-12007	CUSHION	1					OD:23, W:16.6
32	38500-18410	HORN ASSY		1	1	1	1	
33	01122-08168	BOLT		1	1	1	1	
34	08312-11088	NUT		1	1	1	1	
35	08321-21088	LOCK WASHER		1	1	1	1	
36	08322-21088	WASHER		2	2	2	2	
37	09403-00045	CLAMP					1	

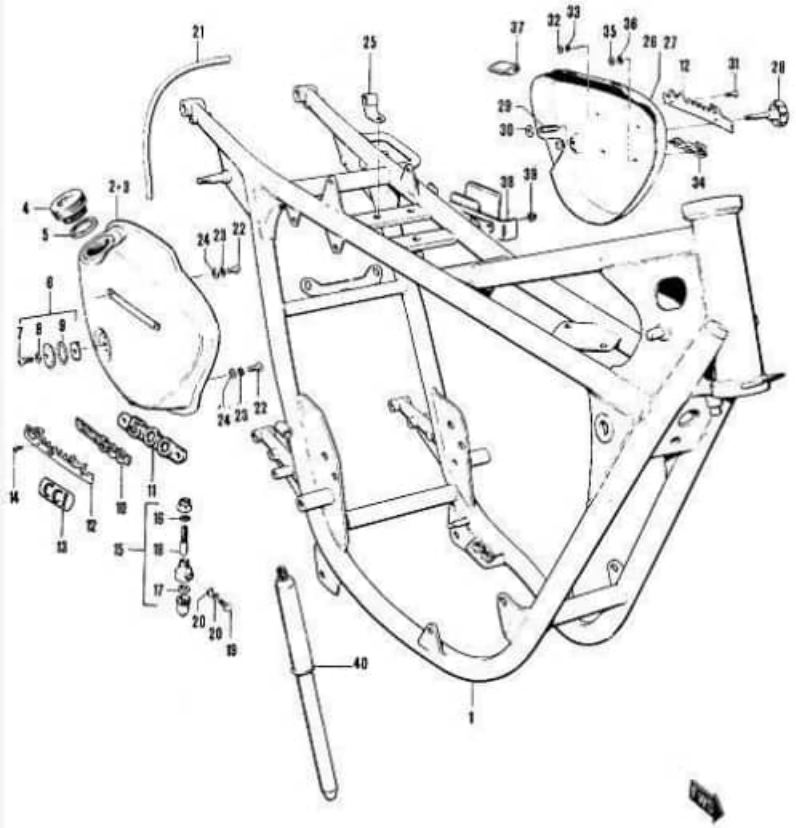
FRAME - OIL TANK



FRAME - OIL TANK

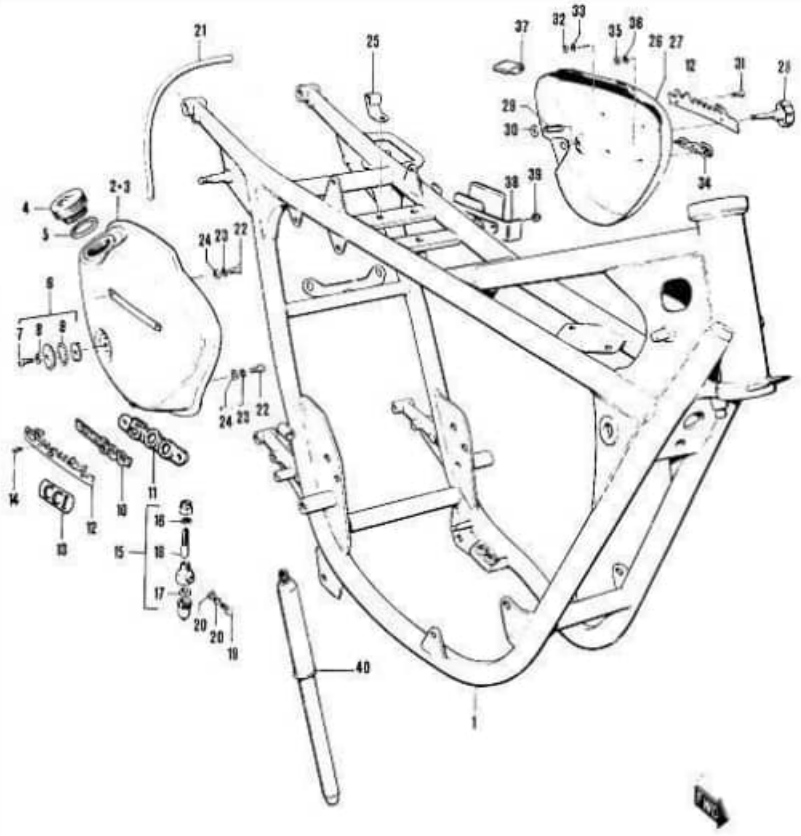
Ref.No.	Part No.	Description	Q'ty					Remarks
1-1	41100-15002-019	FRAME	1					
1-2	41100-15100-019	FRAME		1	1			
1-3	41100-15101-019	FRAME				1	1	
2-1	44610-15001-078	TANK, oil	1					
2-2	44610-15001-079	TANK, oil	1					
2-3	44610-15001-141	TANK, oil	1					
3-1	44610-15100-138	TANK, oil		1				
3-2	44610-15100-158	TANK, oil		1	1			
3-3	44610-15100-156	TANK, oil			1			
3-4	44610-15100-195	TANK, oil				1		
3-5	44610-15100-216	TANK, oil				1		
3-6	44610-15100-263	TANK, oil					1	
3-7	44610-15100-264	TANK, Oil					1	
4	44651-11040	CAP, oil tank	1	1	1	1	1	
5	44700-11827	GASKET, oil tank cap	1	1	1	1	1	
6	44640-11843	LENS SET, oil inspaction	1	1	1	1	1	
7	02112-05168	*SCREW	1	1	1	1	1	
8	09168-05001	*GASKET	1	1	1	1	1	5x9.5x1
9	09280-23001	*O RING	1	1	1	1	1	ID:23, d.:3.0
10-1	68131-15100	EMBLEM, frame cover		2				SUZUKI 500
10-2	68131-15101	EMBLEM, frame cover			2			SUZUKI 500
11	68141-15100	EMBLEM, frame cover				2	2	500
12	68131-11001	EMBLEM, frame cover	2					SUZUKI
13	68171-26000	EMBLEM, frame cover				1	1	CCI
14	02111-03048	SCREW	2	2	2	2		

FRAME - OIL TANK



FRAME - OIL TANK

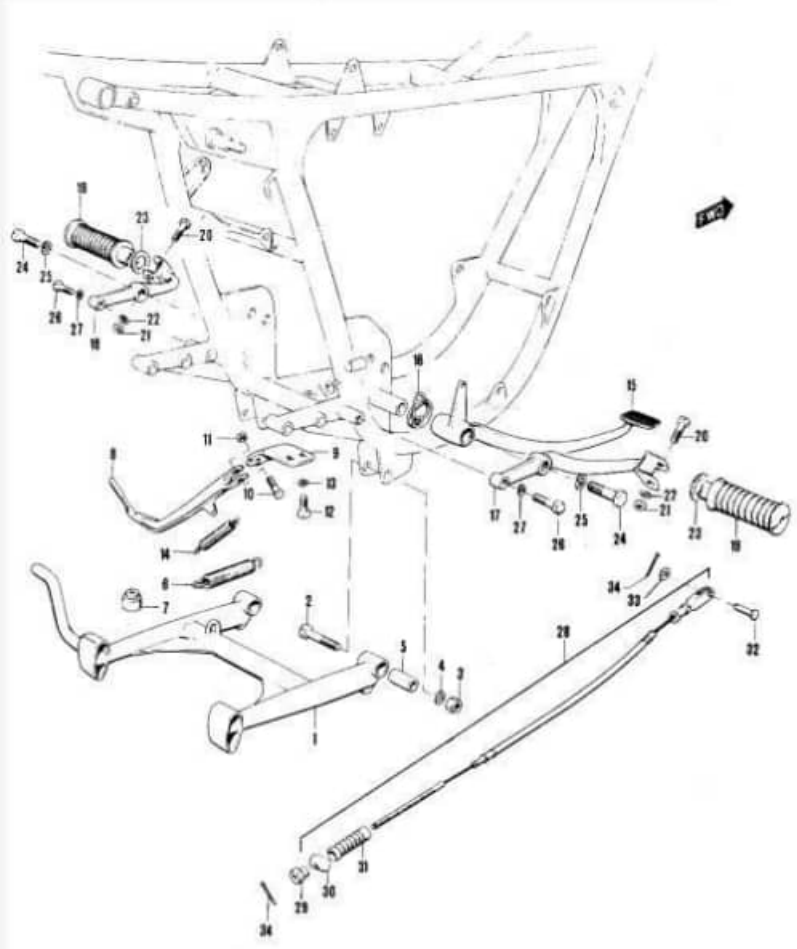
Ref.No.	Part No.	Description	Q'ty					Remarks
			TX	TX-E	TW	TW-E	TWR	
15	44700-11827	OUTLET ASSY, oil tank	1	1	1	1	1	
16	44733-11030	*GASKET	1	1	1	1	1	
17	44346-05110	*GASKET, filter cup	1	1	1	1	1	13.5x19x1.5
18	44720-11030	*FILTER	1	1	1	1	1	
19	09360-06003	*UNION BOLT	1	1	1	1	1	6screw
20	09168-06002	*GASKET	2	2	2	2	2	6.2x12x1.5
21	09344-05005	HOSE	1	1	1	1	1	5x8x200
22	01112-06128	BOLT	3	3	3	3	3	
23	08321-21068	LOCK WASHER	3	3	3	3	3	
24	08322-21068	WASHER	3	3	3	3	3	
25	09403-00004	CLAMP	1	1	1	1	1	
26-1	47210-15000-078	COVER, frame LH	1					
26-2	47210-15000-079	COVER, frame LH	1					
26-3	47210-15000-141	COVER, frame LH	1					
27-1	47211-15100-138	COVER, frame LH		1				
27-2	47211-15100-158	COVER, frame LH		1	1			
27-3	47211-15100-156	COVER, frame LH			1			
27-4	47211-15100-195	COVER, frame LH				1		
27-5	47211-15100-216	COVER, frame LH				1		
27-6	47211-15100-263	COVER, frame LH					1	
27-7	47211-15100-264	COVER, frame LH					1	
28-1	47230-01000	KNOB, frame cover		1	1	1	1	
28-2	47230-10000	KNOB, frame cover	1					
29	09180-08024	SPACER	1	1	1			t:23
30	09152-06001	STOPPER	1	1	1		1	



FRAME - OIL TANK

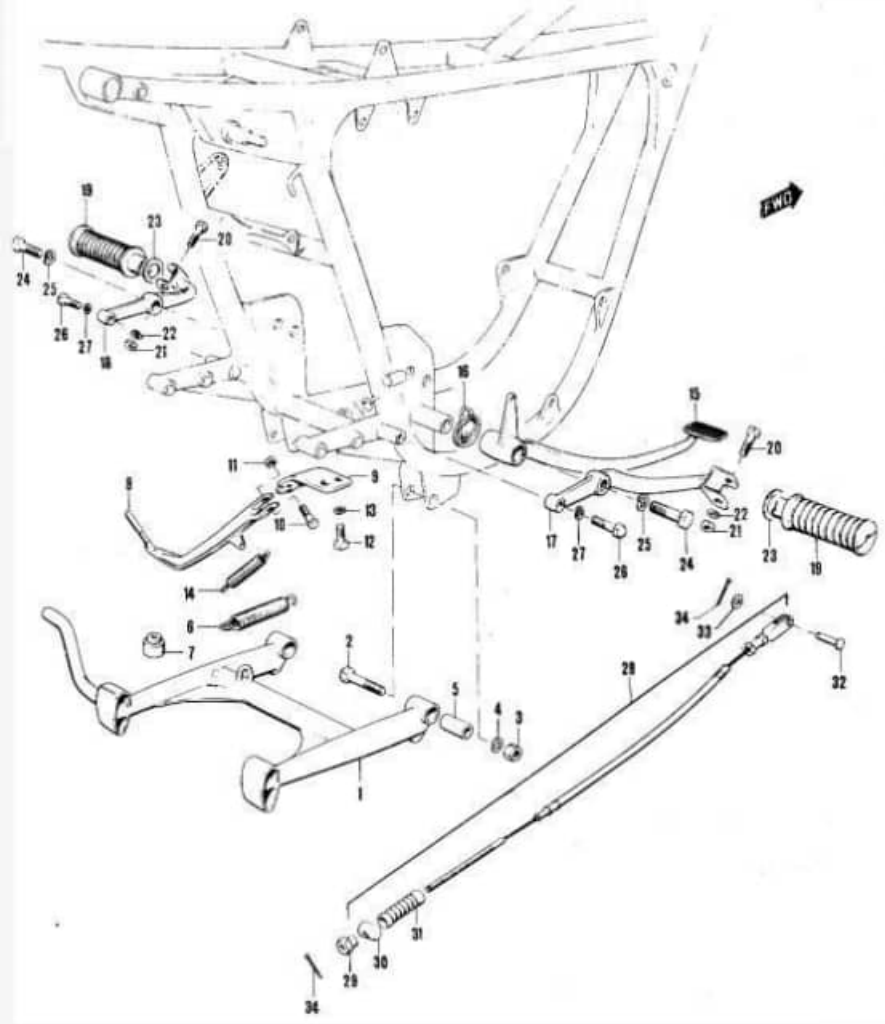
Ref.No.	Part No.	Description	Q'ty					Remarks
31	02111-03087	SCREW	2	2	2	2	2	
32	08311-11038	NUT	2	2	2	2	2	
33	08321-21038	LOCK WASHER	2	2	2	2	2	
34	68140-15001	EMBLEM, frame LH cover	1					500
35	08311-11048	NUT	2					
36	08321-21048	LOCK WASHER	2					
37	09329-02001	CUSHION	1	1	1	1	1	
38	41550-15100	HOLDER, tool		1	1	1	1	
39	08313-11067	NUT		1	1	1	1	
40	09821-00002	INFLATOR, air	1	1	1			

STAND - FOOTREST BAR



STAND - FOOTREST BAR

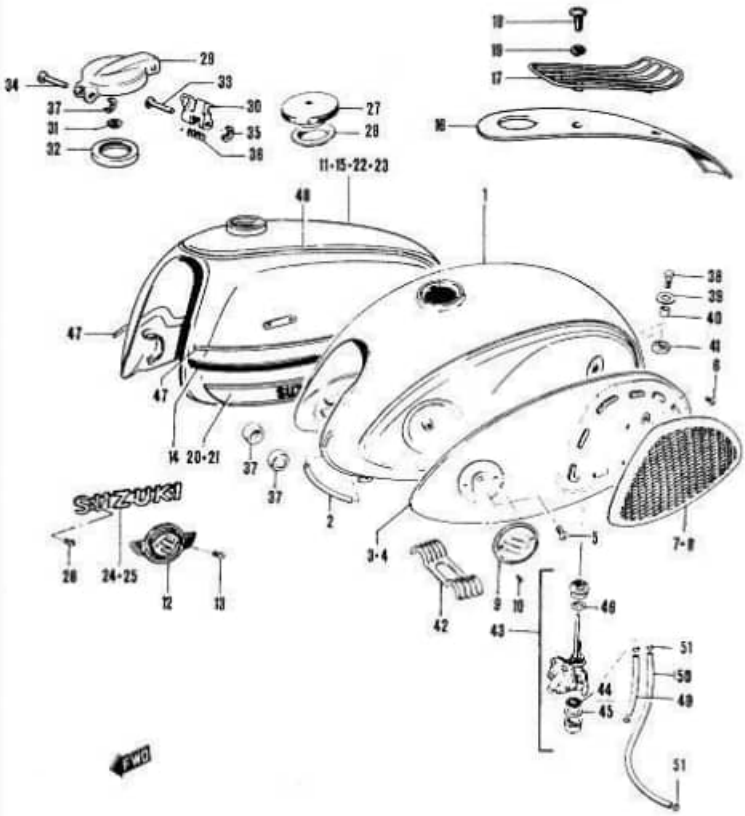
Ref.No.	Part No.	Description	Q'ty					Remarks
			T3R	T3R2	T3R-S	T3MR	T3RU	
1	42100-15000	STAND, center	1	1	1	1	1	
2	09100-10006	BOLT	2	2	2	2	2	10screw, L:48
3	08312-11108	NUT	2	2	2	2	2	
4	08321-21108	LOCK WASHER	2	2	2	2	2	
5	09180-10001	SPACER	2	2	2	2	2	
6	09443-16005	SPRING	1	1	1	1	1	
7	09321-10001	CUSHION	2	2	2	2	2	
8	42310-50761	STAND, side	1	1	1	1	1	
9	42330-15000	BRACKET, side stand	1	1	1	1	1	
10	09100-10007	BOLT	1	1	1	1	1	10screw, L:27
11	08312-31108	NUT	1	1	1	1	1	
12	01111-10258	BOLT	2	2	2	2	2	
13	08321-21108	LOCK WASHER	2	2	2	2	2	
14	09443-14005	SPRING	1	1	1	1	1	
15	43110-15000	PADAL, brake	1	1	1	1	1	
16	09448-39001	SPRING	1	1	1	1	1	
17	43510-15000	BAR, RH footrest	1	1	1	1	1	
18	43520-15000	BAR, LH footrest	1	1	1	1	1	
19	43550-16400	RUBBER, footrest	2	2	2	2	2	
20	09111-06005	BOLT	2	2	2	2	2	
21	08311-11068	NUT	2	2	2	2	2	
22	08322-21068	WASHER	2	2	2	2	2	
23	09160-22002	WASHER, footrest	2	2	2	2	2	22.5x36x2.3
24	09104-12101	BOLT	2	2	2	2	2	
25	08321-21128	LOCK WASHER	2	2	2	2	2	
26	01211-08357	BOLT	2	2	2	2	2	
27	08321-21088	LOCK WASHER	2	2	2	2	2	



STAND - FOOTREST BAR

Ref.No.	Part No.	Description	Q'ty				
			TS	TSR	TSR-2	TSRR	TSRJ
28	58500-15001	CABLE ASSY, rear brake	1	1	1	1	1
29	09150-06001	•NUT	1	1	1	1	1
30	09209-13003	•PIN	1	1	1	1	1
31	09287-05001	•BOOT	1	1	1	1	1
32	09200-05001	PIN	1	1	1	1	1
33	08322-21068	WASHER	1	1	1	1	1
34	04111-20158	COTTER PIN	2	2	2	2	2

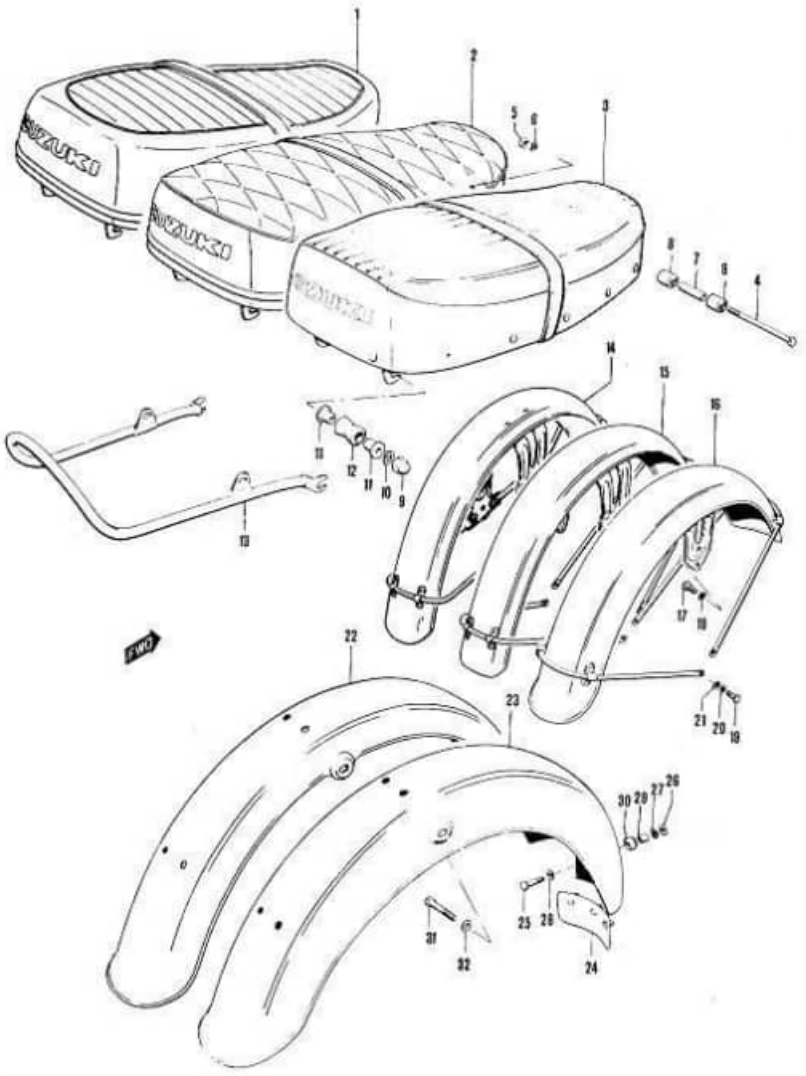
FUEL TANK



FUEL TANK

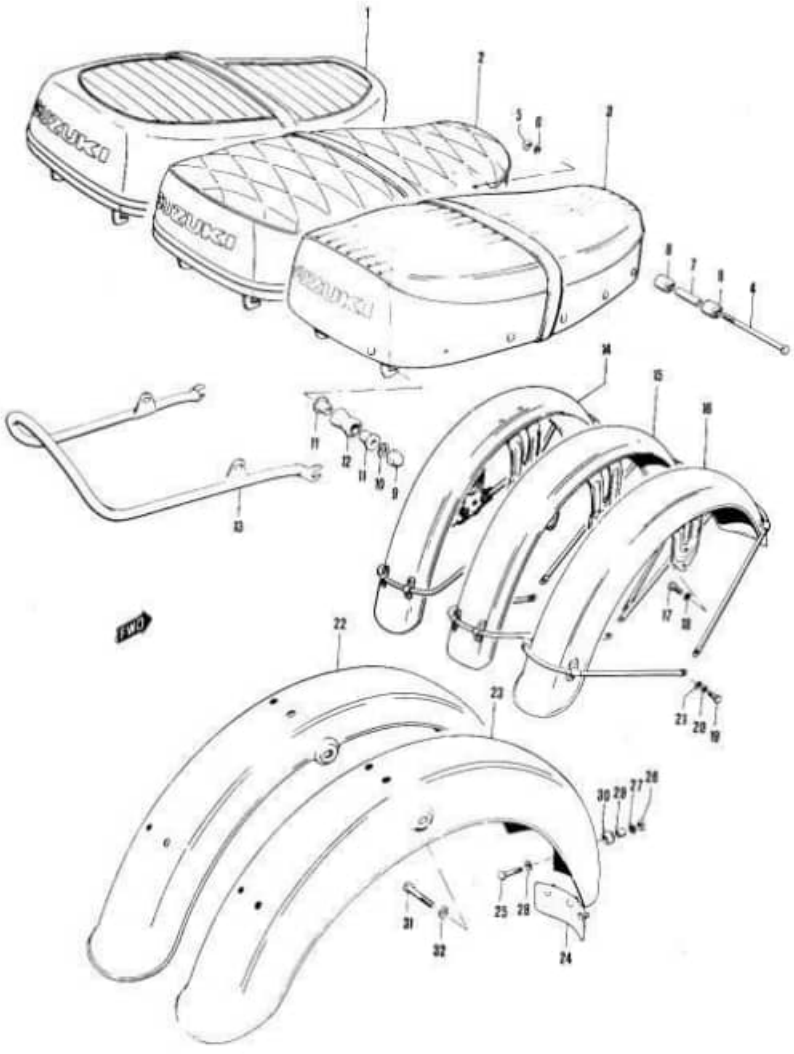
Ref.No.	Part No.	Description	Q'ty				Remarks
1-1	44110-15001-078	TANK, fuel	1				
1-2	44110-15001-079	TANK, fuel	1				
1-3	44110-15001-141	TANK, fuel	1				
2	09344-05004	HOSE	1				L:100
3	44170-15001	COVER, fuel tank RH	1				
4	44180-15001	COVER, fuel tank LH	1				
5	02111-06087	SCREW	2				
6	02141-05068	SCREW	2				
7	44251-15000	GRIP, RH knee	1				
8	44252-15000	GRIP, LH knee	1				
9	68110-15000	EMBLEM, fuel tank	2				
10	09125-03106	SCREW	2				3screw, L:8
11-1	44110-15100-649	TANK, fuel		1			
11-2	44110-15100-651	TANK, fuel		1			
12	68111-18100	EMBLEM, fuel tank		2	2		
13	09125-04108	SCREW		4	4		4screw, L:6
14	99000-78190	TAPE, striping		1			
15-1	44110-15101-156	TANK, fuel			1		
15-2	44110-15101-158	TANK, fuel			1		
16	46530-15100-187	COVER, fuel tank upper			1		
17	46510-15100	CARRIER, luggage			1		
18	02141-06107	SCREW			4		
19	08321-21068	LOCK WASHER			4		
20	68115-15100	TAPE, striping RH			1		
21	68125-15100	TAPE, steiping LH			1		
22-1	44110-15102-577	TANK, fuel				1	
22-2	44110-15102-578	TANK, fuel				1	
23-1	44110-15600-523	tank, fuel					1
23-2	44110-15600-524	TANK, fuel					1

Ref.No.	Part No.	Description	Q'ty T500	T500-E	T500-D	T500R	T500J	Remarks
24	68111-18600	EMBLEM, fuel tank				2		
25	68111-15700	EMBLEM, fuel tank					2	
26	02131-03067	SCREW				4	4	
27	44210-11000	CAP, fuel tank	1	1	1			
28	44248-11000	GASKET, tank cap	1	1	1			
29	44200-15100	CAP ASSY, fuel tank				1	1	
30	44246-15100	·LEVER				1	1	
31	09161-05005	·GASKET				1	1	
32	44248-15100	·GASKET				1	1	
33	09208-03001	·PIN				1	1	
34	09208-03002	·PIN				1	1	
35	09383-02003	·E RING				2	2	
36	09444-06002	·SPRING				1	1	
37	09329-10005	CUSHION	2	2	2	2	2	9.5x27x13
38	01122-08257	BOLT	1	1	1	1	1	
39	09160-08002	WASHER	1	1	1	1	1	
40	09180-08001	SPACER	1	1	1	1	1	8.5x29x1.5
41	09320-12009	CUSHION	1	1	1	1	1	9.0x12x11
42	44541-15000	CUSHION, tank rear A	1	1	1	1	1	12x30x7.5
43	44300-15051	COCK ASSY, fuel	1	1	1	1	1	
44	44344-15050	·FILTER	1	1	1	1	1	
45	44346-10050	·GASKET, filter cup	1	1	1	1	1	19.5x25.5x2
46	44348-10050	·GASKET	1	1	1	1	1	14x22x2
47	68115-15600	STRIPING TAPE, fuel tank lower					2	L:600
48	68116-15600	STRIPING TAPE, fuel tank upper					1	L:1100
49	09343-05025	HOSE	1	1	1	1	1	L:135
50-1	09343-05018	HOSE	1					L:180
50-2	09343-05032	HOSE		1	1	1	1	L:200
51	09386-08001	CLIP	4	4	4	4	4	



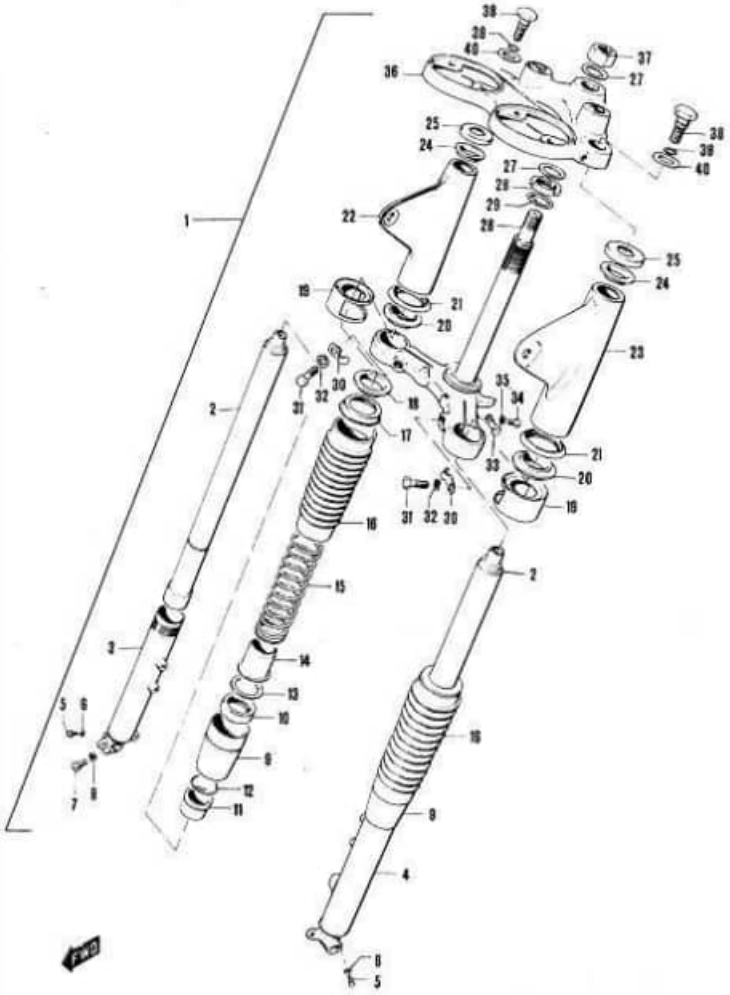
SEAT - FENDER

Ref.No.	Part No.	Description	Q'ty					Remarks
1	45100-15102-403	SEAT ASSY			1	1	1	
2	45100-15100	SEAT ASSY		1				
3	45100-15001	SEAT ASSY	1					
4	09100-08029	BOLT	1	1	1	1	1	
5	08312-11088	NUT	1	1	1	1	1	
6	08321-21088	LOCK WASHER	1	1	1	1	1	
7	09180-08023	SPACER	1	1	1	1	1	
8	09319-08002	CUSHION	2	2	2	2	2	OD:28, W:20
9	08313-11087	NUT	2	2	2	2	2	
10	08321-21088	LOCK WASHER	2	2	2	2	2	
11	09301-08001	BUSHING	4	4	4	4	4	
12	09305-12008	CUSHION	2	2	2	2	2	12.5x22.6x29.4
13-1	94710-15001	BUMPER, rear	1					
13-2	94710-15100	BUMPER, rear		1	1	1	1	
14	53100-15101	FENDER, front			1	1	1	Chrome-plated
15	53110-15100	FENDER, front		1				Chrome-plated
16	53110-15000	FENDER, front	1					Chrome-plated
17-1	09100-08055	BOLT	4	4				
17-2	09100-08073	BOLT		4	4	4	4	
18	08321-21088	LOCK WASHER	4	4	4	4	4	
19	01112-06128	BOLT	4	4				
20	08321-21068	LOCK WASHER	4	4				
21	08322-21068	WASHER	4	4				
22	63110-15100	FENDER, rear		1	1	1	1	Chrome-plated
23	63110-15001	FENDER, rear	1					Chrome-plated



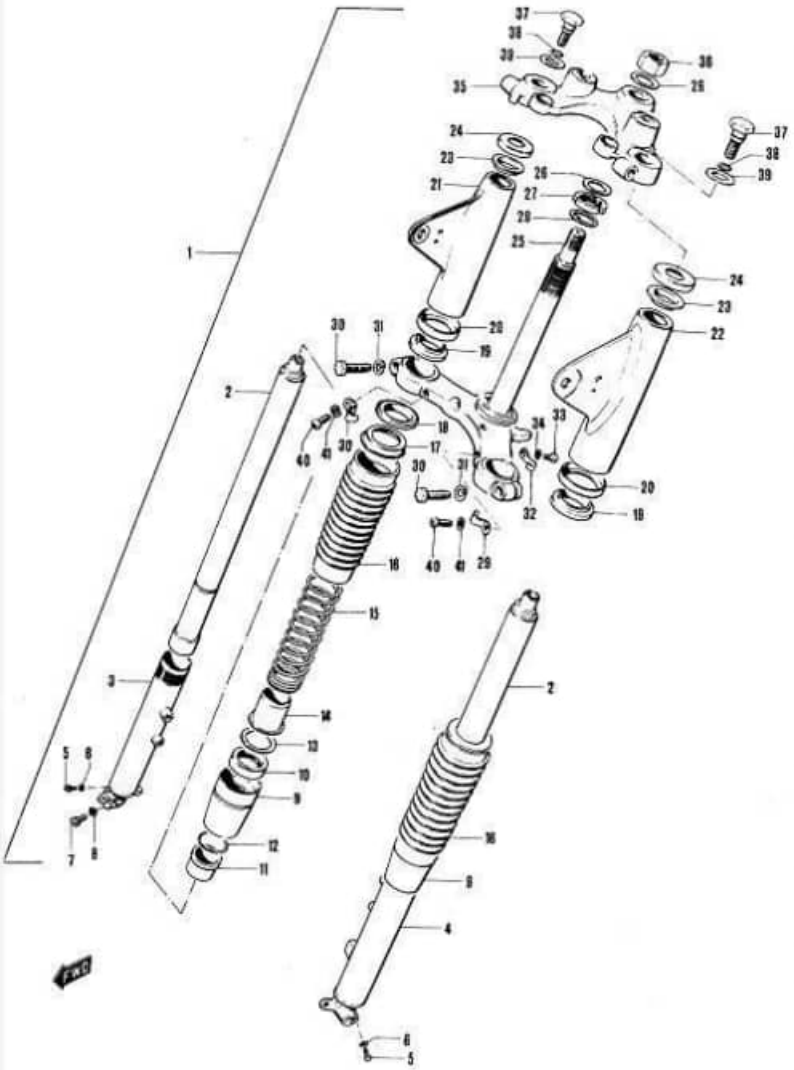
SEAT - FENDER

Ref.No.	Part No.	Description	Q'ty TM TM2 TM3 TM4 TM5	Remarks
24-1	63411-15101	GUARD, mud	1 1 1 1	
24-2	63411-11000	GUARD, mud	1	
25	01112-06207	BOLT	2 2 2 2 2	
26	08311-11068	NUT	2 2 2 2 2	
27	08321-21068	LOCK WASHER	2 2 2 2 2	
28	09160-06004	WASHER	2 2 2 2 2	6.5x24x1.6
29	09180-06002	SPACER	2 2 2 2 2	6.8x10x7.0
30	09320-09002	CUSHION	2 2 2 2 2	9.5x24x8.0
31	09100-08002	BOLT	2 2 2 2 2	8screw, L:47
32	08322-21088	WASHER	2 2 2 2 2	



FRONT FORK

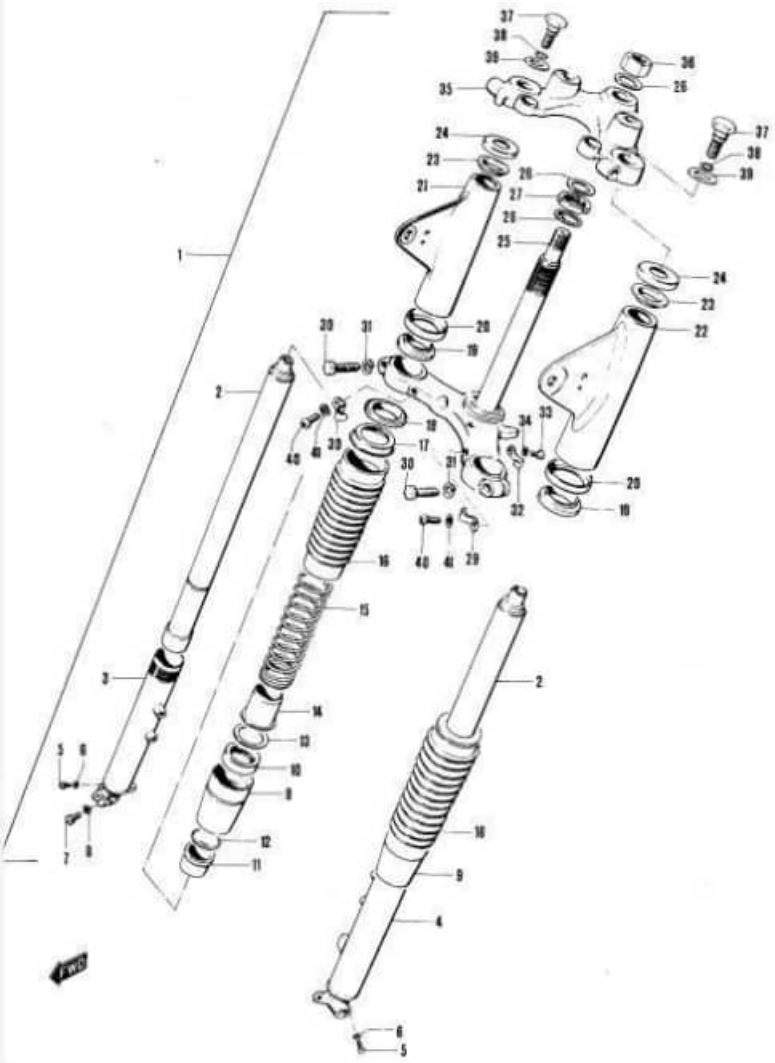
Ref.No.	Part No.	Description	Q'ty	Remarks
24	51556-15010	·CUSHION bracket upper	2	
25	51555-15010	·COVER, bracket upper	2	
26	51410-15010	·STEM, steering	1	
27	51356-11010	·WASHER, steering stem	2	18x20x2.3
28	51632-01600	·NUT, steering stem	1	
29	51641-08010	·LOCK WASHER, stem	1	26x34x2.3
30	51452-08010	·CLIP, meter cable	2	
31	51451-18630	·BOLT, inner tube	2	10screw, L:45
32	08321-21108	·LOCK WASHER	2	
33	51453-03010	·CLIP, brake cable	1	
34	02112-06108	·SCREW	1	
35	08321-21068	·LOCK WASHER	1	
36	51310-15010	·HEAD, steering stem	1	
37	08312-11188	·NUT	1	
38	51351-11011	·BOLT, fork upper	2	
39	51181-11010	·O RING	2	ID:8.8, d.:2.4
40	51356-27100	·WASHER, fork upper	2	14x30x2.3



FRONT FORK

Ref.No.	Part No.	Description	Q'ty	Remarks
1	51100-15111	FORK ASSY, front	1 1 1 1	
2	51110-15010	·INNER TUBE	2 2 2 2	
3	51130-15011	·OUTER TUBE, RH	1 1 1 1	Chrome-plated
4	51140-15011	·OUTER TUBE, LH	1 1 1 1	Chrome-plated
5	51182-03621	·PLUG, drain	2 2 2 2	
6	51183-03010	·GASKET, drain plug	2 2 2 2	4.2x7.3x1.5
7	01122-08257	·BOLT	1 1 1 1	
8	08321-21088	·LOCK WASHER	1 1 1 1	
9	51150-15010	·NUT, outer tube	2 2 2 2	
10	51153-16510	··OIL SEAL	2 2 2 2	
11	51152-11010	·GIDE, inner tube	2 2 2 2	
12	51154-11010	·O RING, outer tube	2 2 2 2	ID:39.3, d.:3.0
13	51158-11010	·SEAT, spring	2 2 2 2	35x48x1.6
14	51173-11010	·DUST SEAL	2 2 2 2	
15	51171-15010	·SPRING	2 2 2 2	
16	51571-11010	·BOOT	2 2 2 2	
17	51573-11010	·GUIDE, boot	2 2 2 2	
18	51172-15110	·SPACER, spring	2 2 2 2	
19	51553-15110	·CUSHION, bracket lower	2 2 2 2	
20	51551-15110	·SEAT, headlamp bracket	2 2 2 2	
21	51530-15110	·BRACKET, headlamp RH	1 1 1 1	Chrome-plated
22	51540-15110	·BRACKET, headlamp LH	1 1 1 1	Chrome-plated
23	51556-15010	·CUSHION, bracket upper	2 2 2 2	
24	51555-15010	·COVER, bracket upper	2 2 2 2	

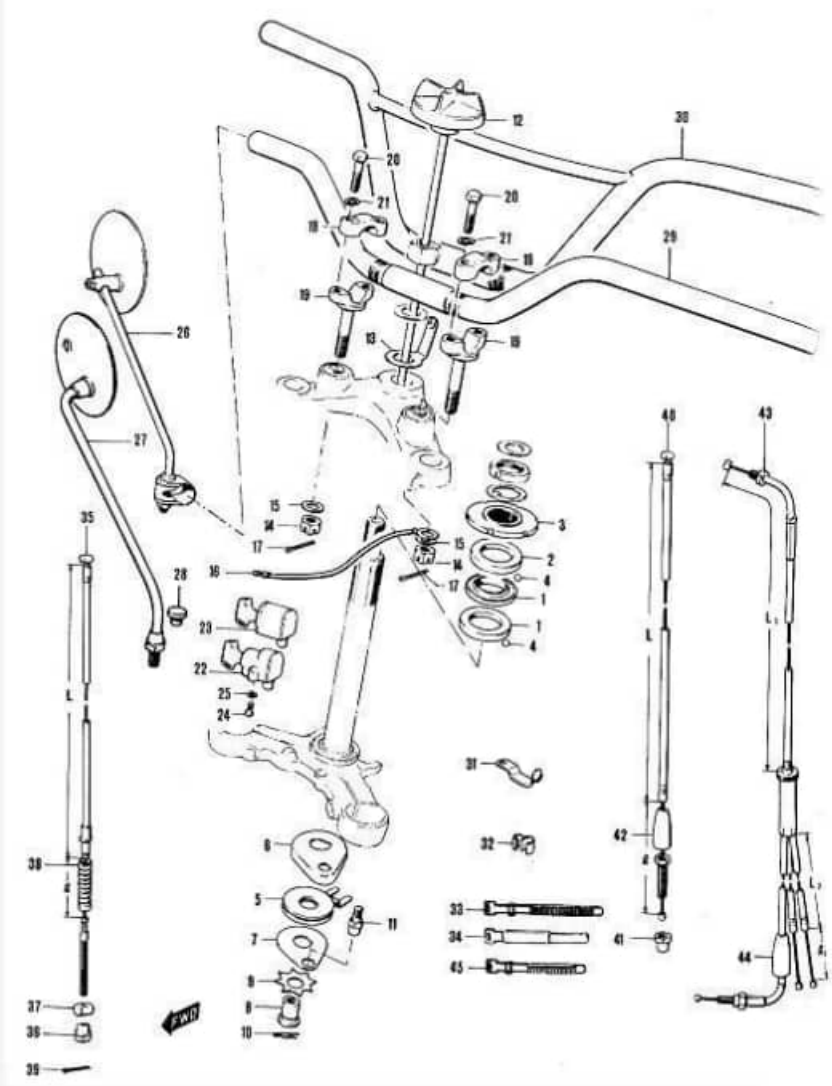
FRONT FORK



FRONT FORK

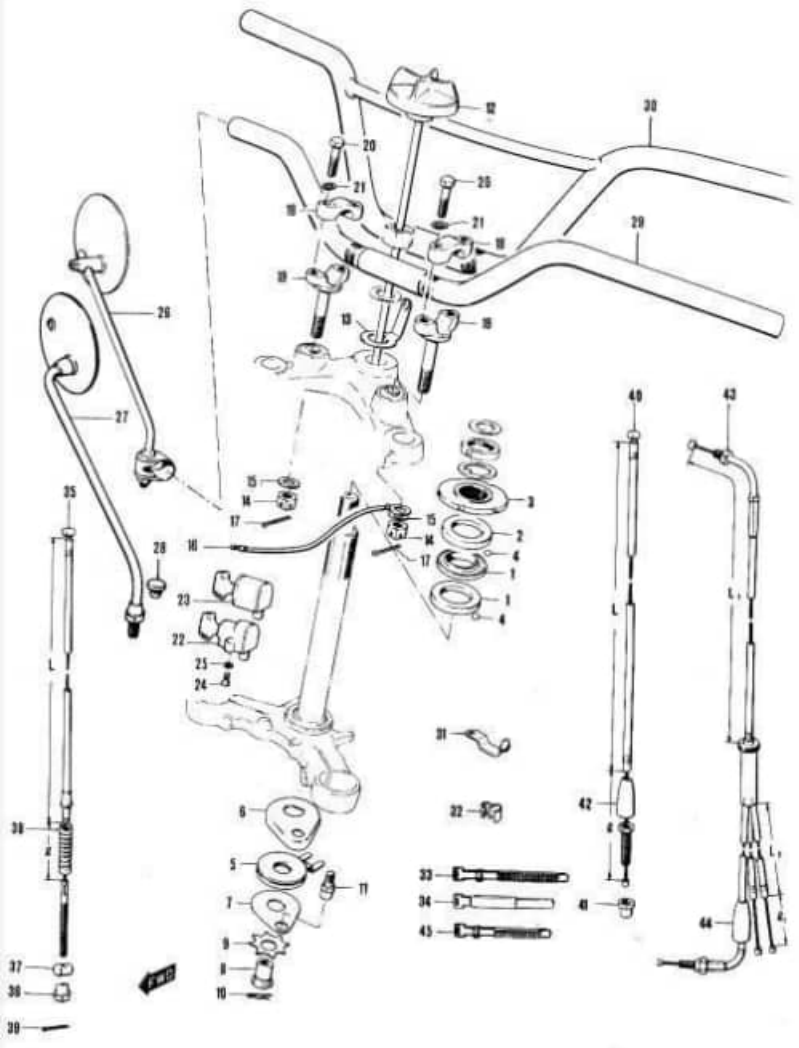
Ref.No.	Part No.	Description	Q'ty	Remarks
25	51410-15110	·STEM, steering	1 1 1 1	
26	51356-11010	·WASHER, steering stem	2 2 2 2	18x20x2.3
27	51632-01600	·NUT, steering stem	1 1 1 1	
28	51641-08010	·LOCK WASHER, stem	1 1 1 1	26x34x2.3
29	51453-30010	·CLIP, meter cable	2 2 2 2	
30-1	51451-15110	·BOLT, inner tube	2 2 2 2	10screw, L:36
30-2	51451-15111	·BOLT, inner tube	2 2 2 2	10screw, L:38
30-3	51451-15010	·BOLT, inner tube	2 2 2 2	10screw, L:45
31	08321-21108	·LOCK WASHER	2 2 2 2	
32	51453-03010	·CLIP, brake cable	1 1 1 1	
33	02112-06108	·SCREW	1 1 1 1	
34	08321-21068	·LOCK WASHER	1 1 1 1	
35	51310-15110	·HEAD, steering stem	1 1 1 1	
36	08312-11188	·NUT	1 1 1 1	
37	51351-11011	·BOLT, fork upper	2 2 2 2	
38	51181-11010	·O RING	2 2 2 2	ID:8.8, d.:2.4
39	51356-27100	·WASHER, fork upper	2 2 2 2	14x30x2.3
40	02112-06108	·SCREW	2 2 2 2	
41	08321-21068	·LOCK WASHER	2 2 2 2	
42	08313-11107	·CROWN NUT	2 2 2 2	

HANDLEBAR - CONTROL CABLE



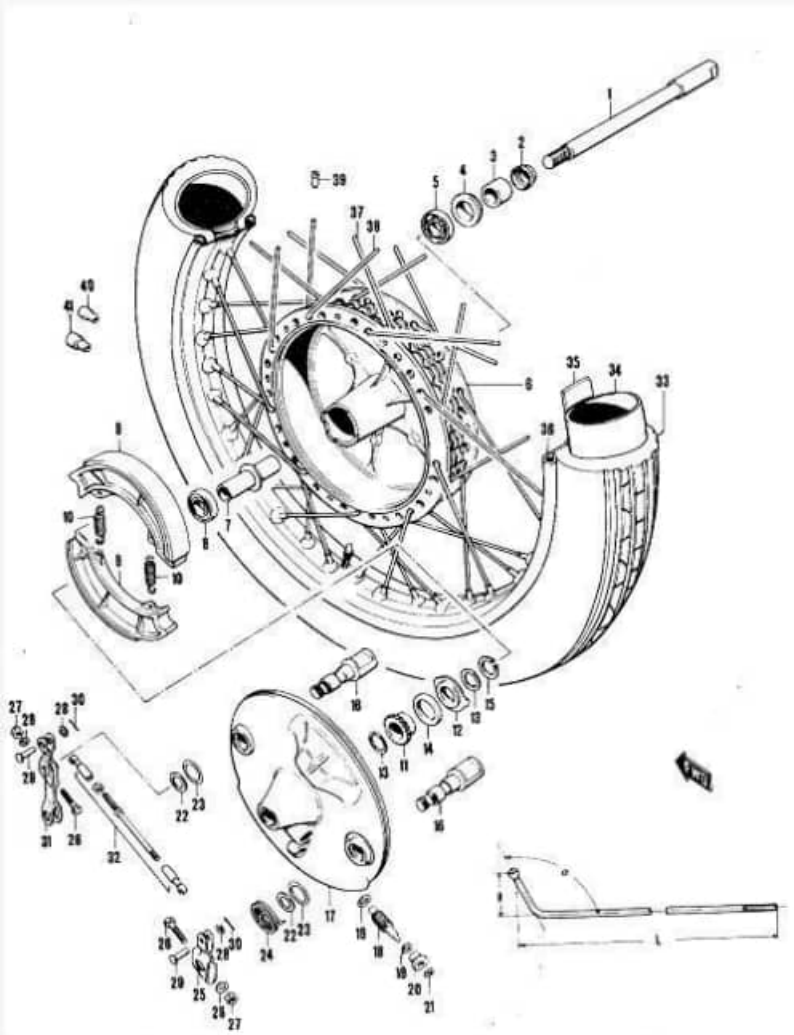
HANDLEBAR - CONTROL CABLES

Ref.No.	Part No.	Description	Q'ty					Remarks
			T50	T50-Q	T50-E	T50R	T50J	
1	51611-16500	RACE, steering inner	2	2	2	2	2	
2	51621-08000	RACE, steering outer	1	1	1	1	1	
3	51631-08010	NUT, steering stem	1	1	1	1	1	
4	06111-08004	STEEDL BALL	36	36	36	36	36	
5	51710-08100	PLATE, damper cork	1	1	1	1	1	
6	51721-08100	PLATE, damper upper	1	1	1	1	1	
7	51722-08100	PLATE, damper lower	1	1	1	1	1	
8	51741-08100	HUB, damper sleeve	1	1	1	1	1	
9	51742-08100	SPRING, damper adjust	1	1	1	1	1	
10	09385-06001	CLIP	1	1	1	1	1	
11	51781-08100	BOLT, damper lock	1	1	1	1	1	
12	51730-15000	KNOB, handle damper	1	1	1	1	1	
13	51744-08100	STOPPER, damper knob	1	1	1	1	1	
14	08314-11108	NUT	2	2	2	2	2	
15	09160-10035	WASHER	2	2	2	2	2	
16	56290-18000	PLATE, handlebar earth	1	1	1			
17	04111-20308	COTTER PIN	2	2	2	2	2	
18	56211-15000	CLAMP, handlebar upper	2	2	2	2	2	
19	56221-15000	CLAMP, handlebar lower	2	2	2	2	2	
20	01221-08307	BOLT	4	4	4	4	4	
21	08321-21088	LOCK WASHER	4	4	4	4	4	
22	51900-19010	LOCK ASSY, steering				1	1	
23	51900-03012	LOCK ASSY, steering	1	1	1			
24	02111-05107	SCREW	2	2	2	2	2	
25	08321-21058	LOCK WASHER	2	2	2	2	2	
26	56500-08600	MIRROR ASSY, rear view	1					
27-1	56500-31010	MIRROR, RH rear view		Δ1	Δ1	1	1	Δ:OPT
27-2	56600-31010	MIRROR, LH rear view		1	1	1	1	
28	09250-06001	PLUG	1	1				



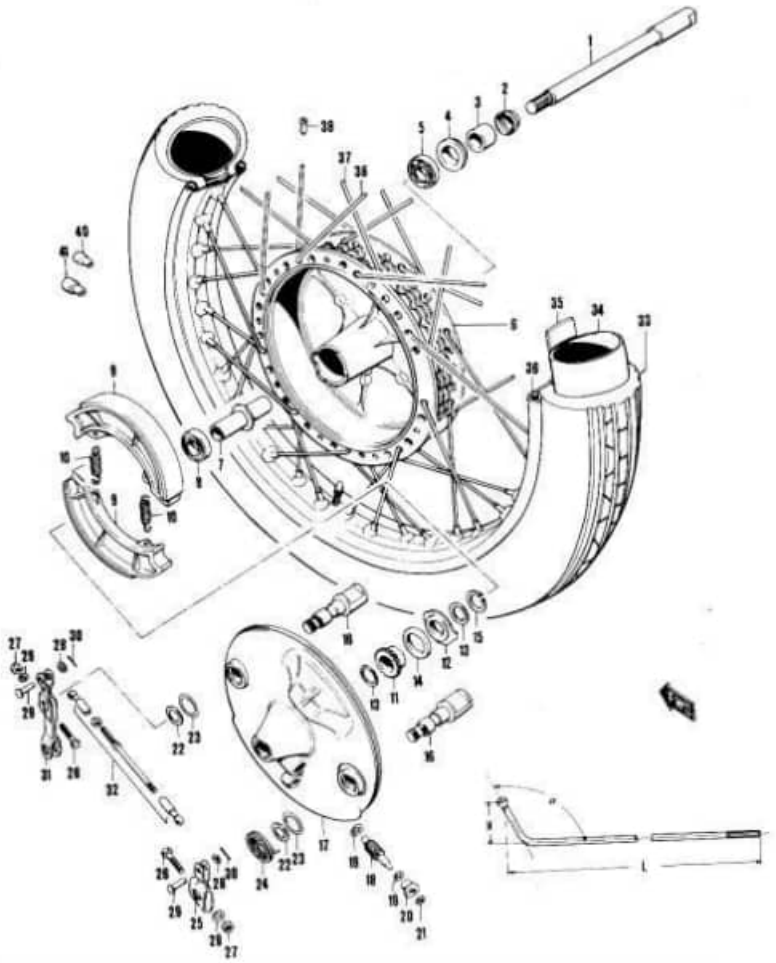
HANDLEBAR - CONTROL CABLES

Ref.No.	Part No.	Description	Q'ty					Remarks
29	56110-15002	HANDLEBAR	1					
30-1	56110-15102	HANDLEBAR		1	1			
30-2	56110-15600	HANDLEBAR				1	1	
31	09403-00006	CLAMP	1	1	1	1	1	
32	09408-00002	CLIP	1	1	1	1	1	
33	09410-00023	CLIP	1	1	1	1		L:149
34	09410-00006	CLIP					1	L:140
35-1	58100-15000	CABLE ASSY, front brake	1					L:1247, L_1:76.5
35-2	58100-15100	CABLE ASSY, front brake		1	1	1	1	L:1280, L_1:75
36	09150-06001	*NUT	1	1	1	1	1	6screw
37	09209-13003	*PIN	1	1	1	1	1	
38	09287-05001	*DUST SEAL	1	1	1	1	1	
39	04111-20158	COTTER PIN	1	1	1	1	1	
40	58200-15100	CABLE ASSY, clutch		1	1	1	1	L:1080, L_1:116
41	08312-11088	*NUT	1	1	1	1	1	
42	09287-10001	*DUST SEAL	1	1	1	1	1	
43-1	58300-15000	CABLE ASSY, throttle	1					L_1:700, L_2:229 L_3:87
43-2	58300-15100	CABLE ASSY, throttle		1	1	1	1	L_1:730, L_2:347 L_3:89
44	09287-07002	*DUST SEAL	1	1	1	1		
45	09410-00030	CLIP				1	2	L:123



FRONT WHEEL

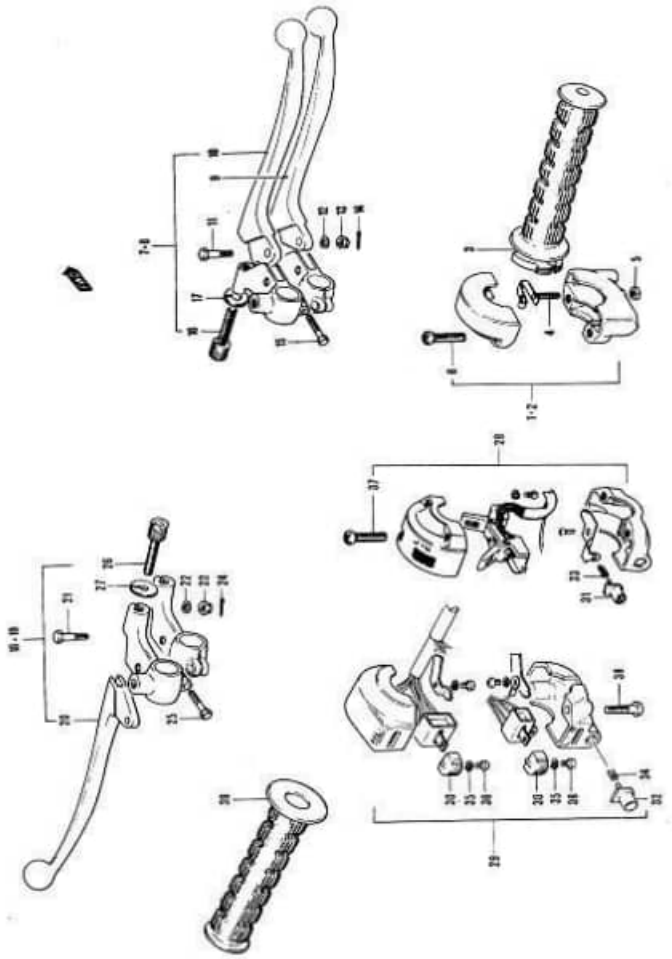
Ref.No.	Part No.	Description	Q'ty					Remarks
			TSR	TSR-D	TSR-S	TSMR	TSRU	
1	54711-15000	AXLE, front	1	1	1	1	1	L:229
2	54892-11000	COVER, hub drum dust	1	1	1	1	1	
3	09180-15001	SPACER	1	1	1	1	1	15x22x25.4
4	09284-22001	OIL SEAL	1	1	1	1	1	22x33x6
5	08113-60020	BEARING	1	1	1	1	1	
6	54110-15000	DRUM, front hub	1	1	1	1	1	
7	54730-11000	SPACER, hub bearing	1	1	1	1	1	
8	08143-62020	BEARING	1	1	1	1	1	
9	54410-15000	SHOE, brake	2	2	2	2	2	
10	55420-30000	SPRING, brake shoe	2	2	2	2	2	
11	54611-15000	GEAR, speedometer	1	1	1	1	1	
12	54660-11030	DRIVER, speedometer gear	1	1	1	1	1	
13	09160-22001	THRUST WASHER	2	2	2	2	2	22.5x27x1
14	09285-26001	OIL SEAL	1	1	1	1	1	26x38x4
15	08331-11229	CIRCLIP	1	1	1	1	1	
16	54440-11002	SHAFT, brake cam	2	2	2	2	2	
17	54210-15000	PANEL, front hub	1	1	1	1	1	
18	54621-11000	PINION, speedometer	1	1	1	1	1	
19	09160-05001	THRUST WASHER	2	2	2	2	2	5.1x9x0.4
20	54632-11020	BUSHING, speedometer pinion	1	1	1	1	1	
21	09289-06001	OIL SEAL	1	1	1	1	1	4.8x10x3
22	09160-15001	WASHER	2	2	2	2	2	15x24x1.6
23	09280-15001	O RING	2	2	2	2	2	14.8x19.6x2.4
24	09448-30001	SPRING	1	1	1	1	1	



FRONT WHEEL

Ref.No.	Part No.	Description	Q'ty	Remarks
25	54461-11000	LEVER, brake cam 2nd	1 1 1 1 1	
26	09100-06050	BOLT	2 2 2 2 2	
27	08311-11068	NUT	2 2 2 2 2	
28	08322-21068	WASHER	4 4 4 4 4	
29	09200-06001	PIN	2 2 2 2 2	
30	04111-12108	COTTER PIN	2 2 2 2 2	
31	54450-11000	LEVER, brake cam 1st	1 1 1 1 1	
32	54400-15813	ROD ASSY, brake lever	1 1 1 1 1	
33	55100-15602	TIRE, front	1 1 1 1 1	3.25-19
34	55200-15010	TUBE ASSY, inner	1 1 1 1 1	3.25-19
35	55261-15010	TUBE ASSY, inner	1 1 1 1 1	3.25-19
36	55311-15020	RIM, wheel	1 1 1 1 1	1.85Bx19
	55320-15807	SPOKE SET, front	1 1 1 1 1	
37	55321-15020	*SPOKE, inner	18 18 18 18 18	L:162.5, H:7.8 a:101°
38	55322-15020	*SPOKE, outer	18 18 18 18 18	L:162, H:9.6 a:86°
39	65325-03020	*NIPPLE, spoke	36 36 36 36 36	
40	55411-11000	BRANCER, wheel S	AR (0~3)	
41	55412-11000	BRANCER, wheel L	AR (0~3)	

HANDLE SWITCH

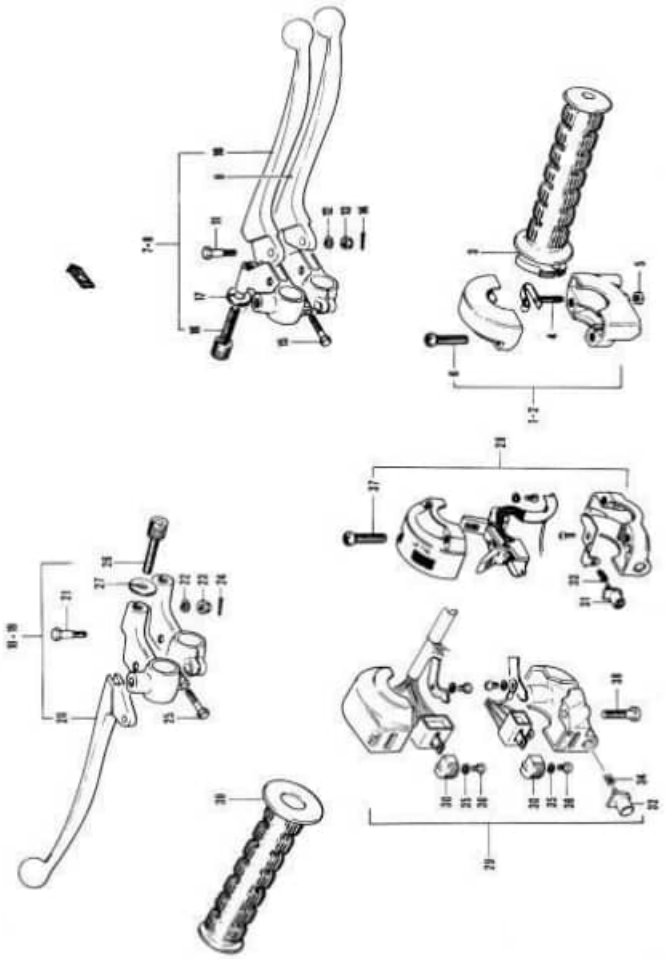


HANDLE SWITCH

Ref.No.	Part No.	Description	Q'ty					Remarks
1	57100-15110	GRIP ASSY, throttle	1	1	1			
2	57100-15111	GRIP ASSY, throttle				1	1	
3	57110-15110	*GRIP, throttle	1	1	1	1	1	
4	57170-11011	*ADJUSTER, throttle grip	1	1	1	1	1	
5	08311-11058	*NUT	1	1	1	1	1	
6-1	02111-05207	*SCREW	2	2	2			
6-2	02111-05257	*SCREW				2	2	
7	57300-11010	LEVER ASSY, brake	1					
8	57300-18010	LEVER ASSY, brake		1	1	1	1	
9	57420-11010	*LEVER, brake	1					
10	57420-18600	*LEVER, brake		1	1	1	1	
11	57431-11010	*BOLT, lever pivot	1	1	1	1	1	
12	08321-21068	*BOLT, lever pivot	1	1	1	1	1	
13	57433-11010	*NUT, lever	1	1	1	1	1	
14	04111-16158	*COTTER PIN	1	1	1	1	1	
15	57451-11010	*BOLT, holder	1	1	1	1	1	6screw, L:20
16	57441-11010	*ADJUSTER, cable	1	1	1	1	1	
17	57442-11010	*NUT, adjuster	1	1	1	1	1	
18	57500-15910	LEVER ASSY, clutch	1					
19	57500-18010	LEVER ASSY, clutch		1	1	1	1	
20	57620-11010	*LEVER, clutch	1	1	1	1	1	
21	57431-11010	*BOLT, lever pivot	1	1	1	1	1	
22	08321-21068	*LOCK WASHER	1	1	1	1	1	
23	57433-11010	*NUT, lever	1	1	1	1	1	
24	04111-16158	*COTTER PIN	1	1	1	1	1	
25	57451-11010	*BOLT, holder	1	1	1	1	1	6screw, L:20
26	57441-11010	*ADJUSTER, cable	1	1	1	1	1	
27	57442-11010	*NUT, adjuster	1	1	1	1	1	

T500 -28-1-

HANDLE SWITCH

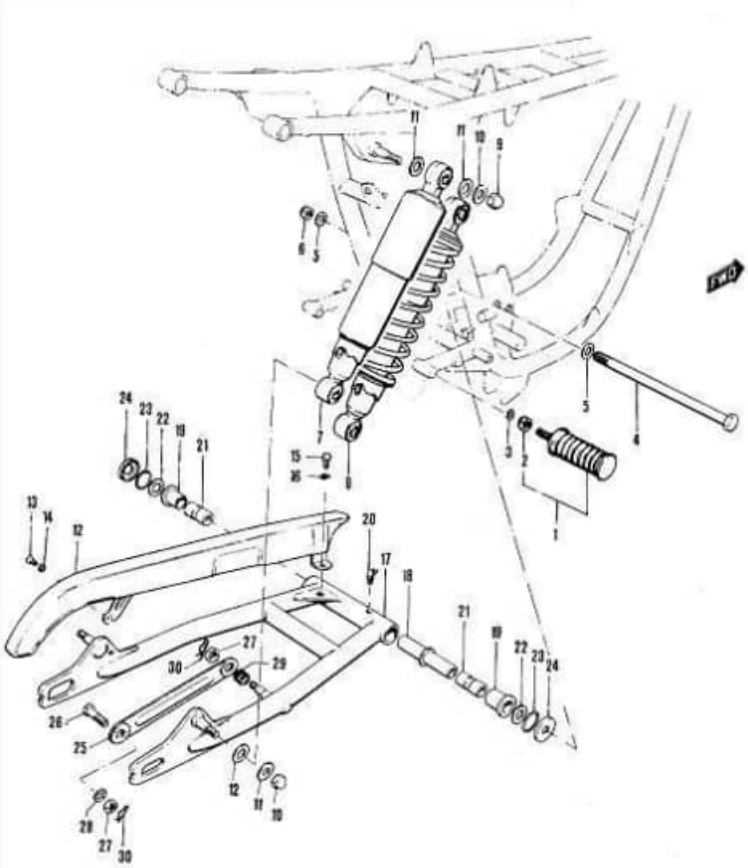


HANDLE SWITCH

Ref.No.	Part No.	Description	Q'ty					Remarks
28	57700-11011	SWITCH ASSY, handle	1	1	1			
29	57700-15110	SWITCH ASSY, handle				1	1	
30	57742-26010	*KNOB, switch				2	2	
31	57750-11010	*BUTTON, horn	1	1	1			
32	57850-31010	*BUTTON, horn				1	1	
33	57761-11010	*SPRING, horn button	1	1	1			
34	57761-26010	*SPRING, horn button				1	1	
35	08321-21038	*LOCK WASHER				2	2	
36	02111-03067	*SCREW				2	2	
37	02111-05207	*SCREW	2	2	2			
38	09125-05109	*SCREW				2	2	
39	57211-15110	GRIP, LH	1	1	1	1	1	

T500 -28-2-

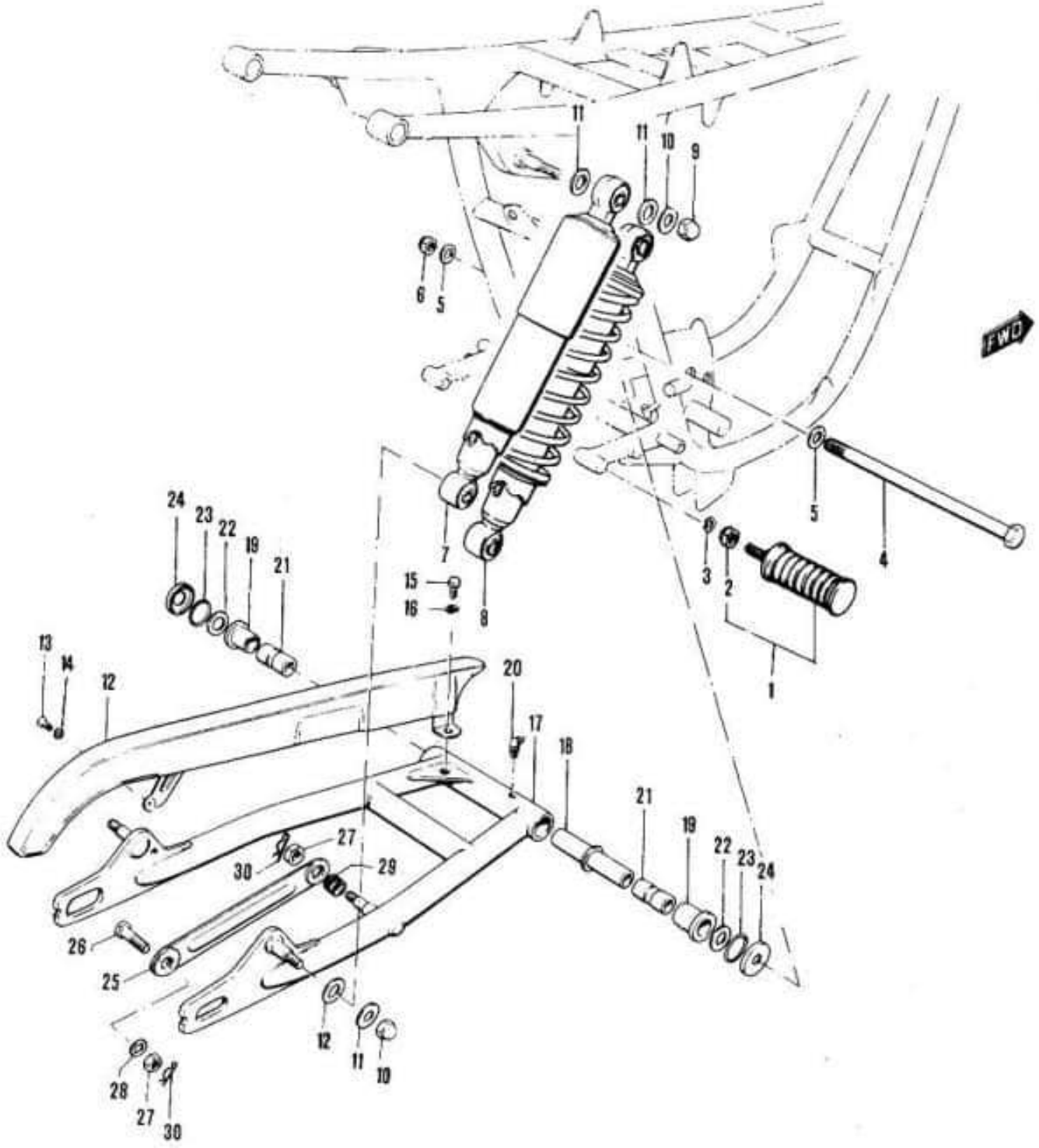
REAR SWINGING ARM



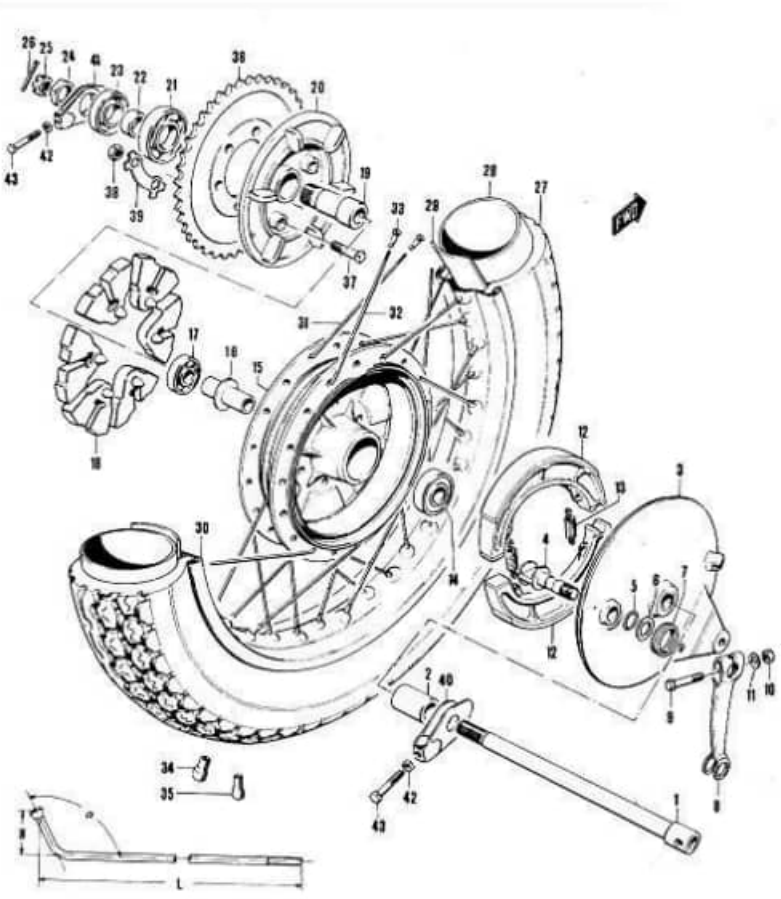
REAR SWINGING ARM

Ref.No.	Part No.	Description	Q'ty					Remarks
			TDR	TDR2	TDR2	TDR	TDR2	
1	43600-10808	FOOTREST ASSY, pillion	2	2	2	2	2	
2	08312-11108	•NUT	2	2	2	2	2	
3	08321-21108	LOCK WASHER	2	2	2	2	2	
4	61211-15003	SHAFT, swinging arm pivot	1	1	1	1	1	L:242
5	08322-11148	WASHER	2	2	2	2	2	
6	09159-14002	NUT, pivot shaft	1	1	1	1	1	14screw
7-1	62100-15010-078	SHOCK ABSORBER ASSY, rear	2					
7-2	62100-15010-079	SHOCK ABSORBER ASSY, rear	2					
7-3	62100-15010-141	SHOCK ABSORBER ASSY, rear	2					
8	62100-15110	SHOCK ABSORBER ASSY, rear		2	2	2	2	Chrome-plated
9	08313-11107	NUT	4	4	4	4	4	
10	08322-11128	WASHER	4	4	4	4	4	
11	09160-10001	WASHER	6	6	6	6	6	
12-1	61310-15002	CASE, chain	1					Chrome-plated
12-2	61310-15100	CASE, chain		1	1	1	1	Chrome-plated
13	02122-05128	SCREW	1	1	1	1	1	
14	08323-31058	TOOTHED WASHER	1	1	1	1	1	
15	01112-06128	BOLT	1	1	1	1	1	
16	08321-21068	LOCK WASHER	1	1	1	1	1	
17	61103-15810-019	SWINGING ARM ASSY	1	1	1	1	1	
18	61280-15000	•SPACER	1	1	1	1	1	ID:15.3, L:99.2
19	09301-22001	•BUSHING	2	2	2	2	2	ID:22, L:40
20	08351-31008	•GREASE NIPPLE	1	1	1	1	1	
21	61251-15000	SPACER, swinging arm	2	2	2	2	2	14x22x41.5
22	09160-14009	THRUST WASHER	2	2	2	2	2	14.5x29x2.3
23	09280-30001	O RING	2	2	2	2	2	ID:29.5, d.:3.0
24	61262-15000	COVER, dust	2	2	2	2	2	

Ref.No.	Part No.	Description	Q'ty T500	T500-II	T500-III	T500R	T500J	Remarks
25	64310-15000	TORQUE LINK, rear	1	1	1	1	1	
26	09101-10003	BOLT, torque link	1	1	1	1	1	10screw, L:28
27	08311-11108	NUT	2	2	2	2	2	
28	08321-21108	LOCK WASHER	1	1	1	1	1	
29	09440-18002	SPRING, torque link	1	1	1	1	1	
30	09385-10001	CLIP, torque link	2	2	2	2	2	

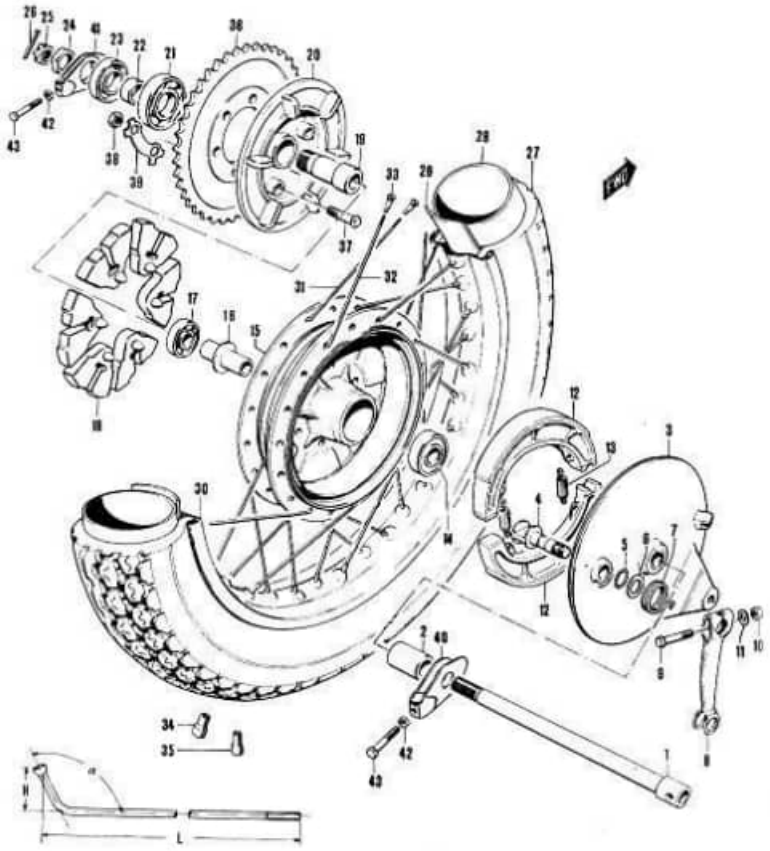


REAR WHEEL



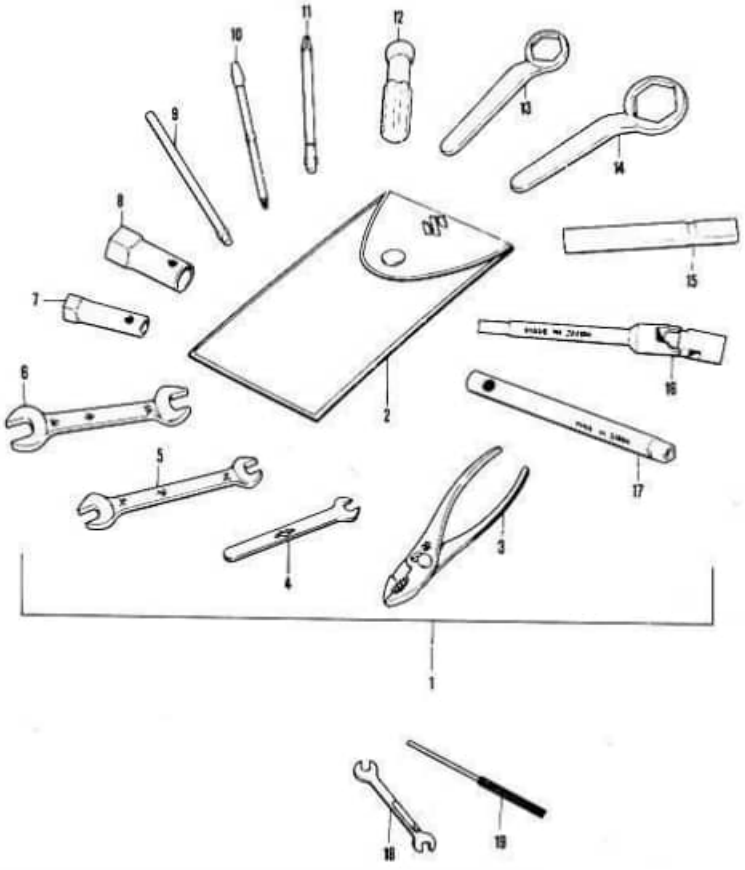
REAR WHEEL

Ref.No.	Part No.	Description	Q'ty					Remarks
			TSR	TSR2	TSR3	TSRM	TSRJ	
1	64711-11000	AXLE, rear	1	1	1	1	1	OD:16, L:252
2	09180-17024	SPACER	1	1	1	1	1	17.5x28x36.8
3	64210-11000	PANEL, rear hub	1	1	1	1	1	
4	54440-11002	SHAFT, brake cam	1	1	1	1	1	
5	09280-15001	O RING	1	1	1	1	1	14.8x19.6x2.4
6	09160-15001	WASHER	1	1	1	1	1	15x24x1.6
7	09448-30001	SPRING	1	1	1	1	1	
8	64451-11000	LEVER, brake cam	1	1	1	1	1	
9	01112-06408	BOLT	1	1	1	1	1	
10	08311-11068	NUT	1	1	1	1	1	
11	08322-21068	WASHER	1	1	1	1	1	
12	64410-11001	SHOE, rear brake	2	2	2	2	2	
13	55420-30000	SPRING, brake shoe	2	2	2	2	2	
14	08143-63030	BEARING	1	1	1	1	1	
15	64110-11000	DRUM, rear hub	1	1	1	1	1	
16	64730-11000	SPACER, hub bearing	1	1	1	1	1	L:57
17	08143-62030	BEARING	1	1	1	1	1	
18	64651-11000	SHOCK ABSORBER, hub	6	6	6	6	6	
19	64761-11000	SHAFT, sprocket drum	1	1	1	1	1	
20	64611-11000	DRUM, rear sprocket	1	1	1	1	1	
21	08113-62050	BEARING	1	1	1	1	1	
22	09180-25011	SPACER	1	1	1	1	1	25x30.5x11.3
23	09283-30001	OIL SEAL	1	1	1	1	1	30.5x52.2x8
24	09140-24002	NUT	1	1	1	1	1	24screw
25	08314-31168	NUT	1	1	1	1	1	
26	04111-40408	COTTER PIN	1	1	1	1	1	



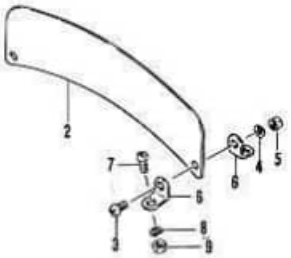
REAR WHEEL

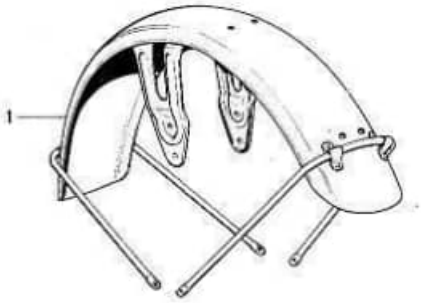
Ref.No.	Part No.	Description	Q'ty	Remarks
27	65100-15602	TIRE, rear	1 1 1 1 1	4.00-18
28	65200-15011	TUBE, inner	1 1 1 1 1	4.00-18
29	65261-15010	PROTECTOR, inner tube	1 1 1 1 1	3.50-18
30	65311-15020	RIM, wheel	1 1 1 1 1	2.15Bx18
	65320-15818	SPOKE SET	1 1 1 1 1	
31	65321-15020	*SPOKE, inner	18 18 18 18 18	D:3.2, a:95.5° H:8.5
32	65322-15020	*SPOKE, outer	18 18 18 18 18	D:3.2, a:80° H:10.5°
33	65325-03020	*NIPPLE, spoke	36 36 36 36 36	
34	55411-11000	BALANCER S	(AR 043)	
35	55412-11000	BALANCER L	(AR 043)	
36-1	64511-15000	SPROCKET, rear	1 1 1 1 1	NT:33
36-2	64511-15730	SPROCKET, rear	1 1 1 1 1	NT:32
36-3	64511-15740	SPROCKET, rear	1 1 1 1 1	NT:34 OPT
36-4	64511-15750	SPROCKET, rear	1 1 1 1 1	NT:35
37	09119-10002	BOLT	6 6 6 6 6	10screw, L:35
38	08312-31108	NUT	6 6 6 6 6	
39	09169-10006	WASHER	3 3 3 3 3	
40	61410-15002	ADJUSTER, chain RH	1 1 1 1 1	
41	61420-15002	ADJUSTER, chain LH	1 1 1 1 1	
42	08312-11088	NUT	2 2 2 2 2	
43-1	09104-08006	BOLT	2 2 2 2 2	8screw, L:50
43-2	09104-08004	BOLT	2 2 2	8screw, L:40

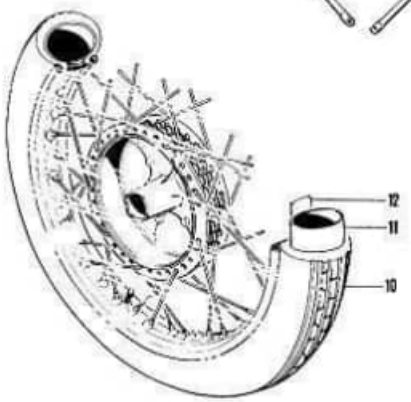


TOOL

Ref.No.		Part No.	Description	Q'ty					Remarks
				T5R	T90	T90-S	T90R	T90J	
1	*	09800-00123	TOOL SET	1	1	1	1	1	
2		09811-00118	·BAG, tool	1	1	1	1	1	
3	*	09812-00001	·PLIERS, 135mm	1	1	1	1	1	
4	*	09813-00025	·WRENCH, 8mm open end	1	1	1	1	1	
5	*	09813-00006	·WRENCH, 10x12mm open end	1	1	1	1	1	
6	*	09813-00009	·WRENCH, 14x17mm open end	1	1	1	1	1	
7		09816-00004	·WRENCH, 14mm box	1	1	1	1	1	
8		09816-00007	·WRENCH, 21mm box	1	1	1	1	1	
9		09816-00013	·HANDLE, box wrench	1	1	1	1	1	
10		09814-00001	·SCREW DRIVER, combination	1	1	1	1	1	
11		09814-00004	·SCREW DRIVER, cross	1	1	1	1	1	
12		09814-00007	·GRIP, screw driver	1	1	1	1	1	
13		09817-00103	·WRENCH, 22mm offset	1	1	1	1	1	
14		09817-00004	·WRENCH, 32mm offset	1	1	1	1	1	
15		09817-00005	·HANDLE, wrench	1	1	1	1	1	
16		09816-00018	·WRENCH, universal box	1	1	1	1	1	
17		09816-00019	·HANDLE, box wrench	1	1	1	1	1	
18		09930-20111	WRENCH, point	1	1	1	1	1	
19		09813-00001	FILE, contact point	1	1	1	1		OPT





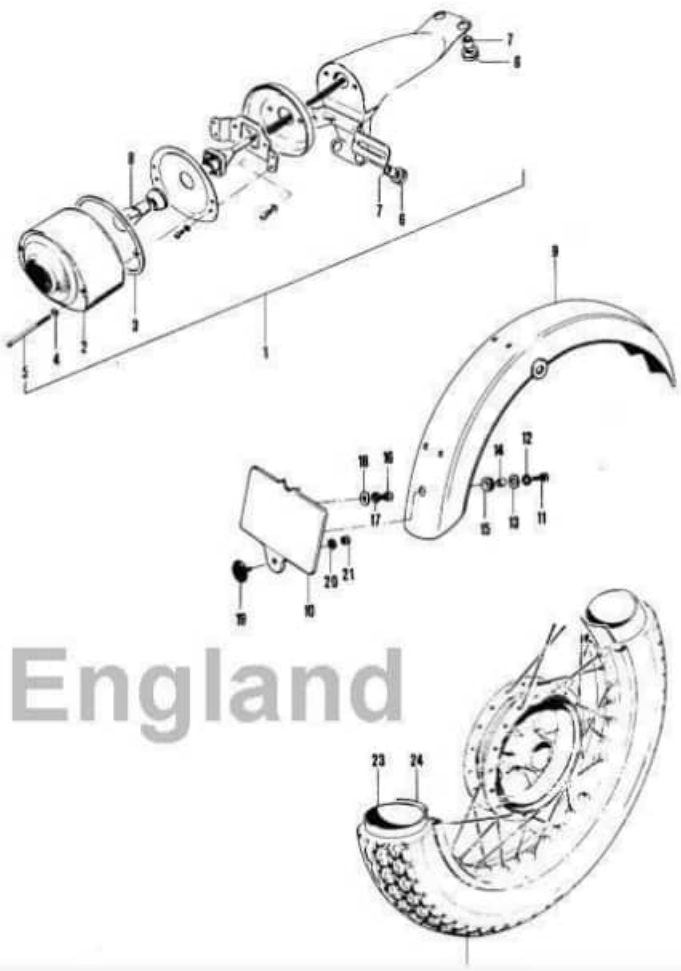


FOR YOUR MARKET (E-2)

Ref.No.	Part No.	Description	Q'ty			Remarks
			TSR	TSR[	TSR E	
1	53110-15610	FENDER, front	1			
2	53351-01600	PLATE, front licence	1			
3	02111-05087	SCREW	2			
4	08321-21058	LOCK WASHER	2			
5	08311-31058	NUT	2			
6	53361-01600	BRACKET, front licence plate	4			
7	02111-05127	SCREW	4			
8	08321-21058	LOCK WASHER	4			
9	08311-31058	NUT	4			
10-1	55100-15611	TIRE, front		1		3.25-19, RED RIBBON
10-2	55100-15031	TIRE, Front			1	3.25-19
11	55200-15010	TUBE, Inner	1	1		3.25-19
12	55261-15030	PROTECTOR, inner tube	1	1		22x19

England

FOR YOUR MARKET (E-2)

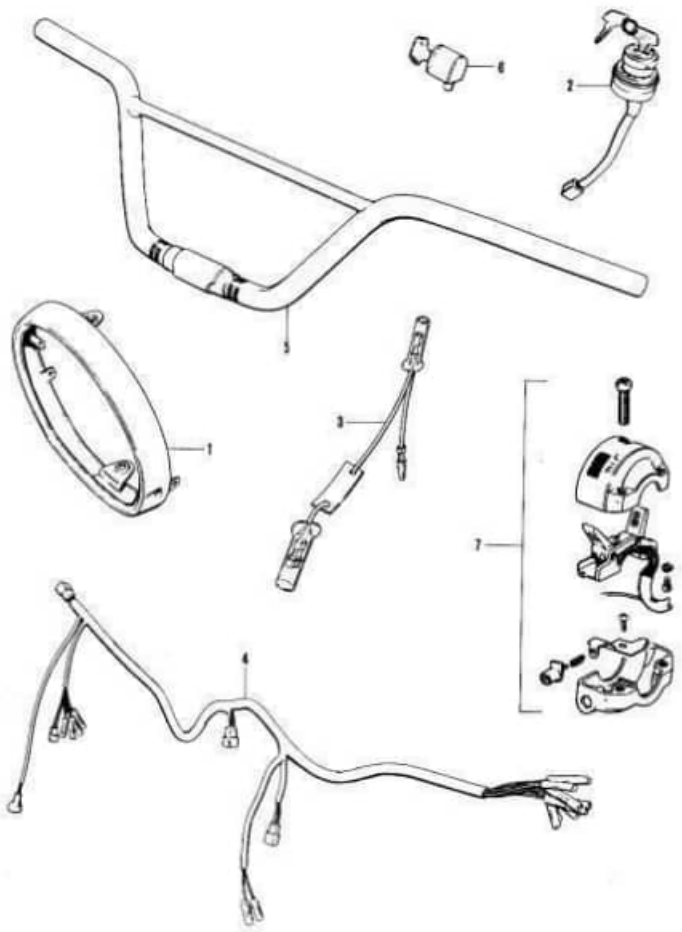


England

FOR YOUR MARKET (E-2)

Ref.No.	Part No.	Description	Q'ty	Remarks
1	35710-15620-999	LAMP ASSY, rear combination	1	
2	35712-05620	·LENS	1	
3	35713-15010	·GASKET	1	
4	35727-03010	·WASHER	2	
5	02113-04558	·SCREW	2	
6	35765-15010	·CUSHION	4	
7	35766-15010	·SPACER	4	
8	09471-12002	BULB	1	12V, 32/4cp
9	63110-15600	FENDER, rear	1	
10	63450-15600	PLATE, rear licence	1	
11	01112-06207	BOLT	1	
12	08321-21068	LOCK WASHER	1	
13	09160-06020	WASHER	1	
14	35766-15010	SPACER, rear licence plate	1	
15	35765-15010	CUSHION, rear licence plate	1	
16	01112-06128	BOLT	2	
17	08321-21068	LOCK WASHER	2	
18	08322-21068	WASHER	2	
19	35950-01622	REFLEX REFLECTOR	1	
20	08321-21058	LOCK WASHER	1	
21	08311-11058	NUT	1	
22-1	65100-15611	TIRE, rear	1	4.00-18, RED RIBBON
22-2	65100-15031	TIRE, rear	1	4.00-18
23	65200-15011	TUBE, inner	1 1	4.00-18
24	65261-15010	PROTECTOR, inner tube	1 1	22x18

FOR YOUR MARKET (E-4)



FOR YOUR MARKET (E-4)

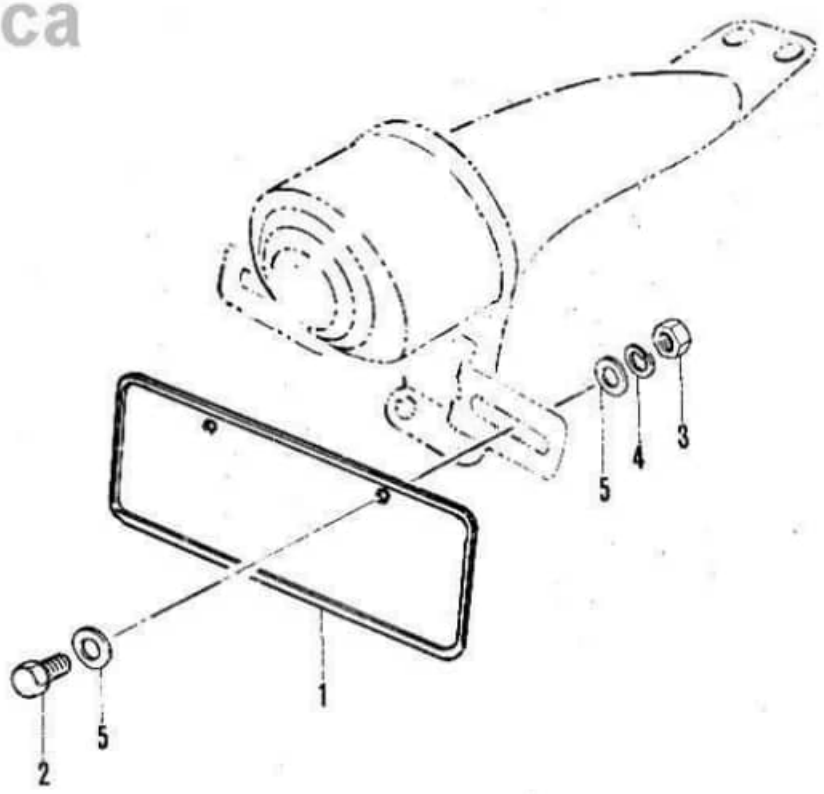
Ref.No.	Part No.	Description	Q'ty	Remarks
1	35111-15613	RIM, headlamp	1 1 1 1	
2	37110-15650	SWITCH ASSY, ignition	1 1 1 1	
3	34980-15640	WIRE, meter pilot lead	1 1 1	
4	36610-15102	WIRING HARNESS	1 1	
5	56110-15102	HANDLEBAR	1 1	
6	51900-03012	LOCK ASSY, steering	1 1	
7	57700-11011	SWITCH ASSY, handlebar LH	1 1	Same as T500-3E1

France

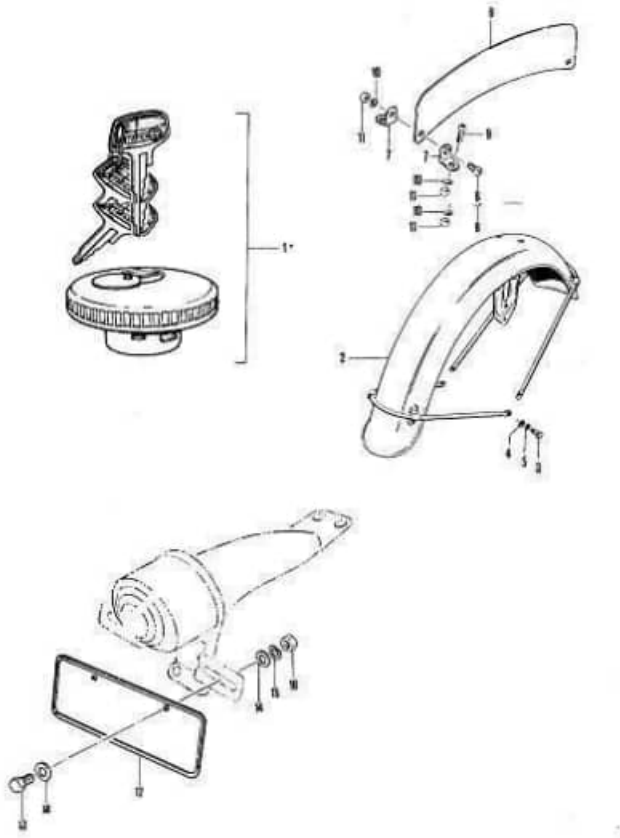
FOR YOUR MARKET (E-5)

Ref.No.	Part No.	Description	Q'ty T500 T500-II T500-III T500R T500J	Remarks
1	63451-03600	PLATE, rear licence	1	
2	01112-06128	BOLT	2	
3	08311-11068	NUT	2	
4	08321-21068	LOCK WASHER	2	
5	08322-21068	WASHER	4	

Africa



FOR YOUR MARKET (E-6)



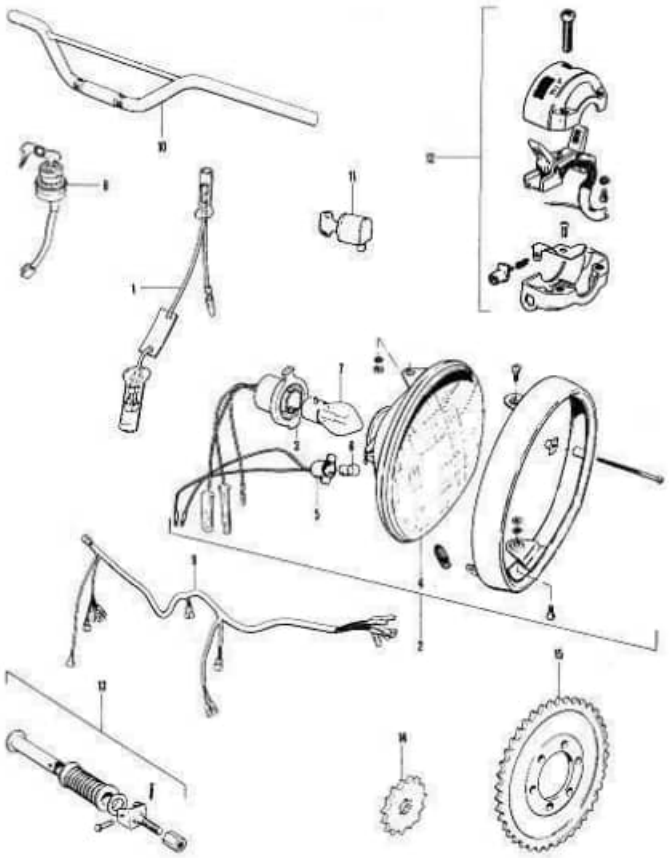
FOR YOUR MARKET (E-6)

Ref.No.	Part No.	Description	Q'ty					Remarks
1	44200-08610	CAP, fuel tank filler	1		1			Key Lock Type
2-1	53110-15600	FENDER, front	1					
2-2	53110-15610	FENDER, front		1	1	1	1	
3	01112-06128	BOLT			4	4	4	
4	08322-21068	WASHER			4	4	4	
5	08321-21068	LOCK WASHER			4	4	4	
6	53351-01600	PLATE, front licence number	1	1	1	1	1	
7	53361-01600	BRACKET, front licence plate bracket	4	4	4	4	4	
8	02111-05087	SCREW	2	2	2	2	2	
9	02111-05127	SCREW	4	4	4	4	4	
10	08321-21058	LOCK WASHER	6	6	6	6	6	
11	08311-31058	NUT	6	6	6	6	6	
12	63451-03600	PLATE, rear licence	1	1	1	1	1	
13	01112-06128	BOLT	2	2	2	2	2	
14	08322-21068	WASHER	4	4	4	4	4	
15	08321-21068	LOCK WASHER	2	2	2	2	2	
16	08311-11068	NUT	2	2	2	2	2	

South Africa

T500 E6 -36-

FOR YOUR MARKET (E-18)



FOR YOUR MARKET (E-18)

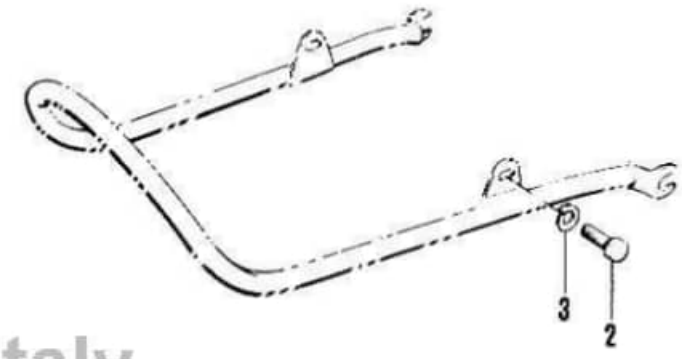
Ref.No.	Part No.	Description	Q'ty		Remarks
1	34980-15640	WIRE, meter pilot lead		1	
2	35100-15650-999	HEADLAMP ASSY	1	1	
3	35171-20680	*SOCKET	1	1	
4	35121-15650	*UNIT	1	1	
5	36118-15650	*SOCKET	1	1	
6	09471-12030	BULB, 12V, 8W	1	1	
7	09471-12020	BULB, 12V, 35/35W	1	1	PHILIPS trade No.12728
8	37110-15650	SWITCH ASSY, ignition	1	1	
9	36610-15102	WIRING HARNESS		1	
10	56110-15102	HANDLEBAR		1	
11	51900-03012	LOCK ASSY, steering		1	
12	57700-11011	SWITCH ASSY, handlebar LH		1	Same as T500-3E1
13	43600-20000	FOOTREST ASSY, pillion	2		
14	27511-15700	SPROCKET, engine	1		NT:14
15	64511-15750	SPROCKET, rear		1	NT:35

Switzerland

T500 E18 -37-

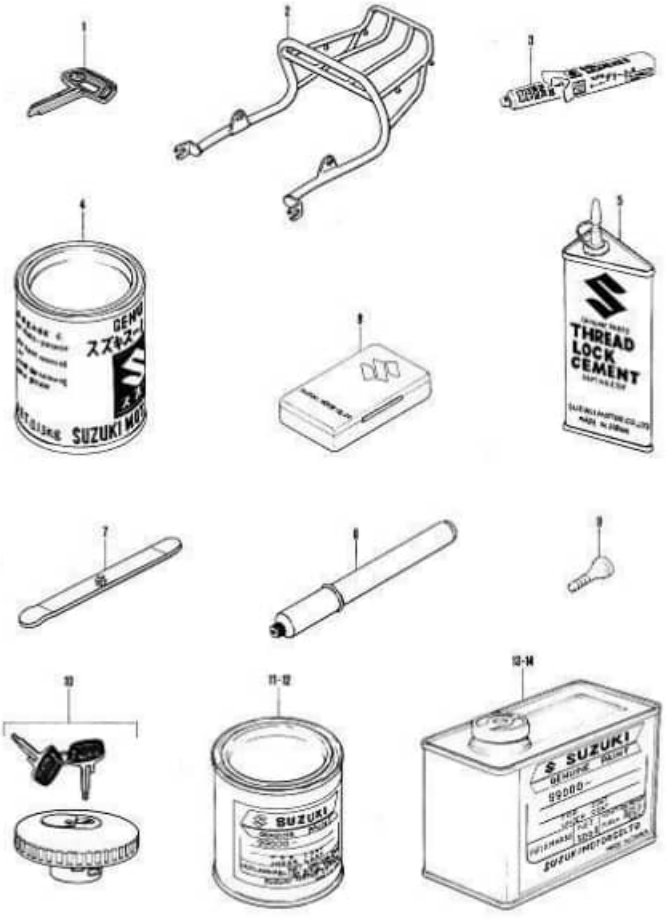
FOR YOUR MARKET (E-34)

Ref.No.	Part No.	Description	Q'ty T500 T500-II T500-III T500R T500J	Remarks
1	35111-15613	RIM, headlamp	1	
2	01221-10167	BOLT, rear bumper	2	
3	08321-21108	LOCK WASHER, rear bumper	2	



Italy

OPTIONAL

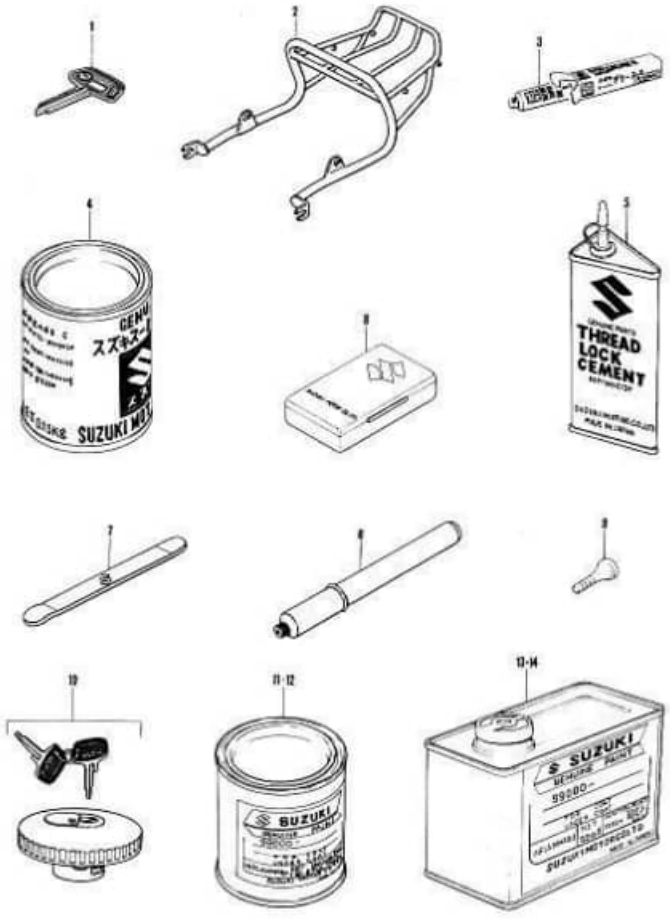


OPTIONAL

Ref.No.	Part No.	Description	Q'ty					Remarks
1-1	37145-07700	KEY, blank	1	1	1			For the 1st digit, 1
1-2	37146-07700	KEY, blank	1	1	1			For the 1st digit, 2
1-3	37147-07700	KEY, blank	1	1	1			For the 1st digit, 3
1-4	37148-07700	KEY, blank	1	1	1			For the 1st digit, 4
1-5	37145-25700	KEY, blank				1	1	For five digit
2	46310-15100	CARRIER		1	1	1	1	
3	99000-25030	GREASE, super	1	1	1	1	1	NET:150g
4	99000-31010	GASKET, liquid	1	1	1	1	1	NET:150g
5	99000-32010	CEMENT, thread lock	1	1	1	1	1	
6	09821-00002	INFLATOR ASSY, air	1	1	1	1	1	
7	09825-00002	LEVER, tire	2	2	2	2	2	
8	09826-00001	TOOL, inner tube repairing	1	1	1	1	1	
9	09827-00001	GAUGE, wheel alignment	4	4	4	4	4	
10	44200-08610	CAP, fuel tank filler	1	1	1			
11-1	99000-10199	PAINT, black	1	1	1	1	1	Color No.019
11-2	99000-10469	PAINT, silver(undercoat)	1	1	1	1	1	For Color Nos.078,079, 138,156,195,216 & 263
11-3	99000-10649	PAINT, pure white					1	Color No.064
11-4	99000-10789	PAINT, candy red	1					Color No.078
11-5	99000-10799	PAINT, candy blue	1					Color No.079
11-6	99000-11389	PAINT, candy orange		1				Color No.138
11-7	99000-11419	PAINT, candy gold-2	1					Color No.141
11-8	99000-11569	PAINT, candy corporate blue			1			Color No.156
11-9	99000-11589	PAINT, candy gold-3		1	1			Color No.158
12-1	99000-11629	PAINT, frosted black		1				Color No.162
12-2	99000-11879	PAINT, frosted grey			1			Color No.187
12-3	99000-11899	PAINT, egret white				1		Color No.189
12-4	99000-11959	PAINT, candy jackal blue				1		Color No.195

NET:90g

OPTIONAL



OPTIONAL

Ref.No.	Part No.	Description	Q'ty					Remarks	
12-5	99000-12169	PAINT, candy lavender				1		Color No.216	NET:90g
12-6	99000-12639	PAINT, candy verdoro green					1	Color No.263	
12-7	99000-12649	PAINT, pearl orange					1	Color No.264	
12-8	99000-19999	PAINT, silver(undercoat)	1	1	1			For Color Nos.141 & 158	
12-8	99000-19989	PAINT, silver(undercoat)					1	For Color No.264	
13-1	99000-10195	PAINT, black	1	1	1	1	1	Color No.019	NET:500g
13-2	99000-10465	PAINT, silver(undercoat)	1	1	1	1	1	For Color Nos.078,079, 138,156,195,216 & 263	
13-3	99000-10645	PAINT, pure white					1	Color No.064	
13-4	99000-10785	PAINT, candy red	1					Color No.078	
13-5	99000-10795	PAINT, candy blue	1					Color No.079	
13-6	99000-11358	PAINT, candy orange		1				Color No.138	
13-7	99000-11415	PAINT, candy gold-2	1					Color No.141	
13-8	99000-11565	PAINT, candy corporate blue			1			Color No.156	
13-9	99000-11585	PAINT, candy gold-3		1	1			Color No.158	
14-1	99000-11625	PAINT, frosted black	1					Color No.162	
14-2	99000-11875	PAINT, frosted grey			1			Color No.187	
14-3	99000-11895	PAINT, egret white				1		Color No.189	
14-4	99000-11955	PAINT, candy jackal blue				1		Color No.195	
14-5	99000-12165	PAINT, candy lavender				1		Color No.216	
14-6	99000-12635	PAINT, candy verdro green					1	Color No.263	
14-7	99000-12645	PAINT, pearl orange					1	Color No.264	
14-8	99000-19995	PAINT, silver(undercoat)	1	1	1			For Color Nos.141 & 158	
14-9	99000-19985	PAINT, silver(undercoat)					1	For Color No.264	

T500 -39-2-

Suzuki GT500 Parts Manual

SUZUKI
PARTS CATALOGUE

SUZUKI

GT500A

SUZUKI

GT500B

GT500A

GT500B

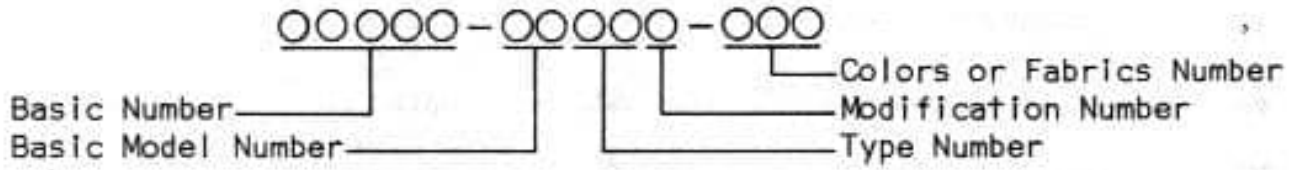
PREFACE

When it becomes necessary to replace parts on **SUZUKI MOTORCYCLES**, always use **SUZUKI GENUINE PARTS** which have passed a strict inspection which guarantees quality and performance.
This parts catalogue covers the list of all service parts for **SUZUKI GT500A**, and **GT500B**.

A. INSTRUCTIONS FOR QUOTING THE CATALOGUE

1. COMPOSITION OF THE PART NUMBER

1-1. REGULAR PARTS

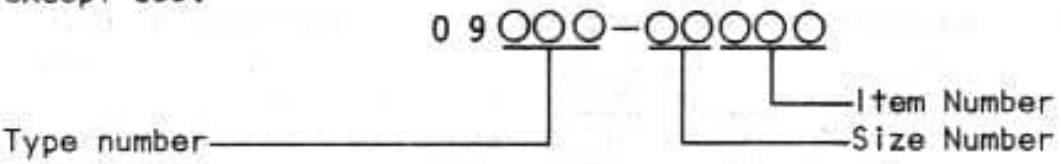


1-2. STANDARD PARTS

Numbers of all standard parts begin with **0** except beginning with **09** or **000**.

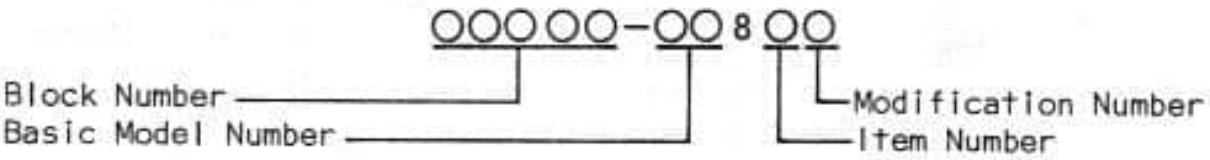
1-3. SPECIAL STANDARD PARTS

Special standard parts are parts which are similar to standard parts but differ in some respect. All special standard parts numbers begin with **09** except **099**.



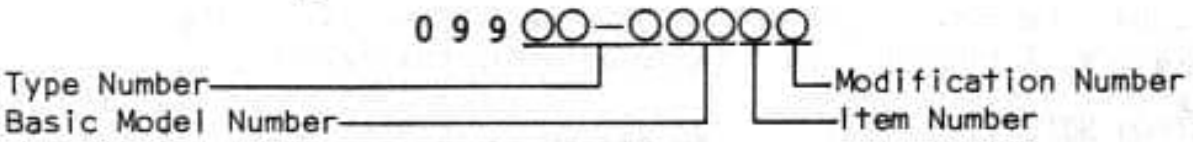
1-4. PARTS ASSEMBLIES

The eight digit of numbers of parts assemblies is always **8**.



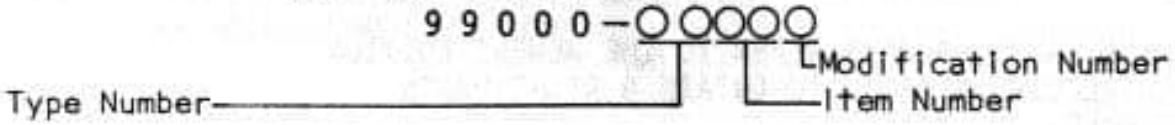
1-5. SPECIAL TOOLS

Part Numbers begin with **099**.



1-6. MISCELLANEOUS

Part numbers begin with **99000**.



2. DIMENSIONS

Dimensions of the parts in this catalogue are indicated in unit millimeters.

3. ABBREVIATIONS

Abbreviations used in this catalogue are as follows:

AR	: As required	L	: Lenght
ASSY	: Assembly	NT	: Number of teeth
F.No.	: Frame Number	OPT	: Optional
d	: Diameter of material	OS	: Over size
ID	: Inside diameter	STD	: Standard
OD	: Outside diameter	T	: Thickness
LH	: Left hand side	W	: Width
RH	: Right hand side		

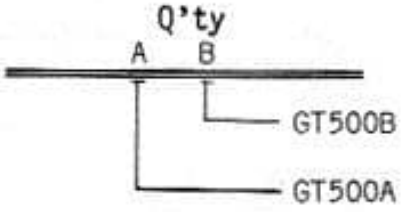
~12345 : Up to F.No. T500-12345

12345~ : From F.No. T500-12345

Figures in the remarks column show the dimensions of parts as follows:

$$\underset{\text{ID}}{12} \times \underset{\text{OD}}{34} \times \underset{\text{T(or W,L)}}{5.6}$$

The number of letter shown below Q'ty indicate the **MODELS NAME** as shown right side.



4. INNER PARTS OF ASSEMBLY

Parts number that have a period (·) mark before the parts name will be indicated the inner part in relation to the assembly.

5. MODIFICATION NOTICE

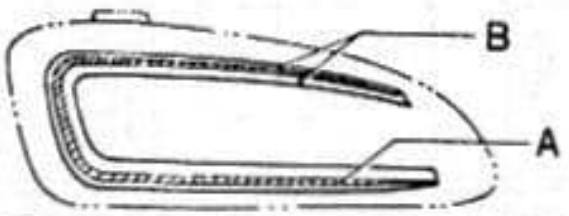
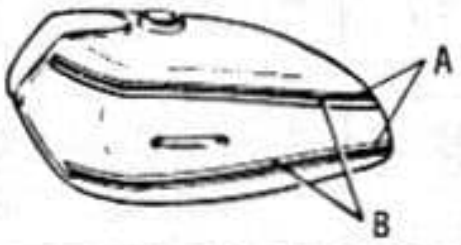
A parts bulletin will be sent to you on all occasions when changes in parts occur, including interchangeable modifications between new parts and old ones.

WHEN ORDERING PARTS, ALWAYS REFER TO THE NEWEST EDITION OF PARTS CATALOGUE IN ORDER TO OBTAIN A RIGHT PARTS WITHOUT TROUBLE.

NOTE THAT THE DRAWINGS ON THE ILLUSTRATION PAGE ARE FOR READY REFERENCE OF SPARE PARTS NUMBER, NOT TO BE USED AS AN ASSEMBLY MANUAL. WHEN ASSEMBLING, USE " SUZUKI SERVICE MANUAL".

6. COLOR CHART

COLOR No.	COLOR NAME	MANSEL COLOR No.	MODEL A	MODEL B
019	BLACK	N1	○	○
291	BLACK			○
403	BLACK (SEAT)		○	
719	ORANGE (TAPE)	2.5YR6/14		○
764	GOLD (TAPE)		○	○
797	MAUI BLUE METALLIC			○
865	BLACK (SEAT)			○
00T	CANDY CALYPSO RED			○
00U	CANDY ROSE		○	
01J	ANDES BLUE METALLIC		○	

COLOR No.	COMBINATION A	COMBINATION B	APPLICABLE TO	MODEL A	MODEL B
998	764	019		○	
61R	764	719			○
61P	764	03R			○

*The figure "999" given on end of the parts number means electrical equipment which bose not include the bulb.

PLEASE DO NOT USE THE OLD ISSUE PARTS CATALOGUE AFTER RECEIPT NEW EDITION.

MILLIMETER → INCH CONVERSION CHART

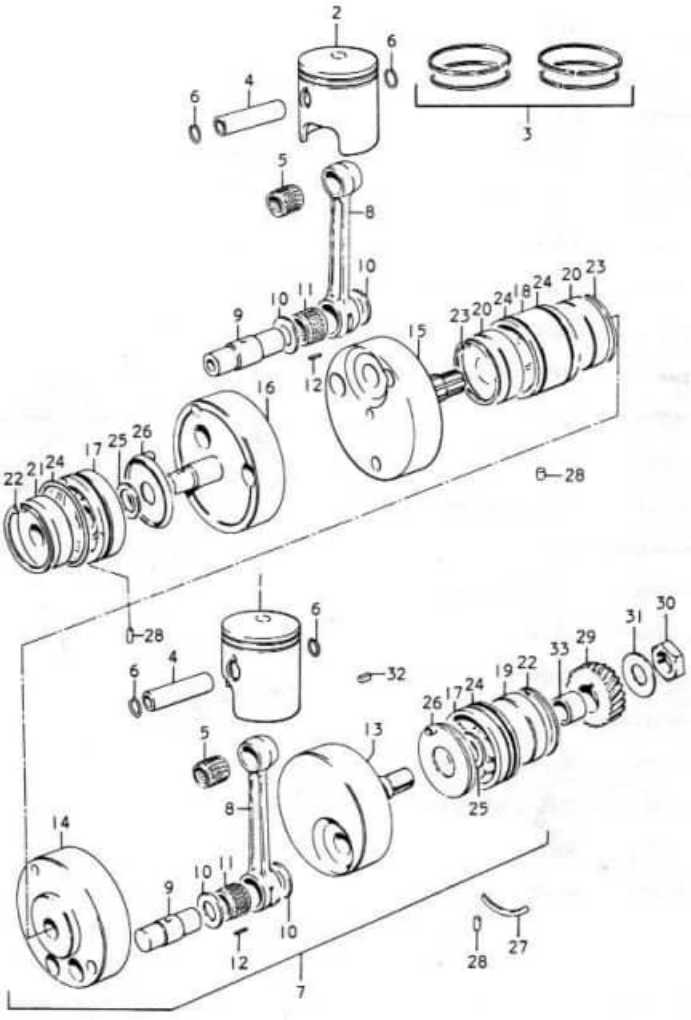
	0	1	2	3	4	5	6	7	8	9
00	.000	.039	.079	.118	.157	.197	.236	.276	.315	.354
10	.394	.433	.472	.512	.551	.591	.630	.669	.709	.748
20	.787	.827	.866	.906	.945	.984	1.024	1.063	1.102	1.142
30	1.181	1.220	1.260	1.299	1.339	1.378	1.417	1.457	1.496	1.535
40	1.575	1.614	1.654	1.693	1.732	1.772	1.811	1.850	1.890	1.929
50	1.969	2.008	2.047	2.087	2.126	2.165	2.205	2.244	2.283	2.323
60	2.362	2.402	2.441	2.480	2.520	2.559	2.598	2.638	2.677	2.717
70	2.756	2.795	2.835	2.874	2.913	2.953	2.992	3.031	3.071	3.110
80	3.150	3.189	3.228	3.268	3.307	3.346	3.386	3.425	3.465	3.504
90	3.543	3.583	3.622	3.661	3.701	3.740	3.780	3.819	3.858	3.898

How to Read

	0	1	2	3	4
00	---	---	---	---	---
10	---	---	---	---	---
20	---	---	---	0.906	---
30	---	---	---	---	---

23 millimeters equal 0.906 inch

FIG.4 CRANKSHAFT



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	12110-15103	PISTON, RH	1	1	
1-2	12110-31712	PISTON, RH	1	1	OS:0.5
1-3	12110-31722	PISTON, RH	1	1	OS:1.0
2-1	12120-15103	PISTON, LH	1	1	
2-2	12120-31712	PISTON, LH	1	1	OS:0.5
2-3	12120-31722	PISTON, LH	1	1	OS:1.0
3-1	12140-15012	RING SET, piston	1	1	
3-2	12140-15701	RING SET, piston	1	1	OS:0.5
3-3	12140-15711	RING SET, piston	1	1	OS:1.0
4	12151-15001	PIN, piston	2	2	
5	09263-18009	BEARING	2	2	from 09263-18005
6	09381-18002	CIRCLIP	4	4	
7	12200-15001	CRANKSHAFT ASSY	1	1	
8	12161-15000	·ROD, connecting	2	2	
9	12211-15000	·PIN, crank	2	2	
10	09160-24007	·THRUST WASHER	4	4	
11	12215-15010	·CAGE, needle roller	2	2	
12	09261-03009	·NEEDLE ROLLER	32	32	
13	12221-15000	·CRANKSHAFT, RH	1	1	
14	12222-15000	·WEB, crank	1	1	
15	12231-15001	·CRANKSHAFT, middle	1	1	
16	12261-15001	·CRANKSHAFT, LH	1	1	
17	09269-25003	·BEARING	2	2	
18	09269-30002	·BEARING, middle	1	1	
19	09283-35002	·OIL SEAL, RH	1	1	
20	09283-30003	·OIL SEAL, middle	2	2	
21	09283-25014	·OIL SEAL, LH	1	1	

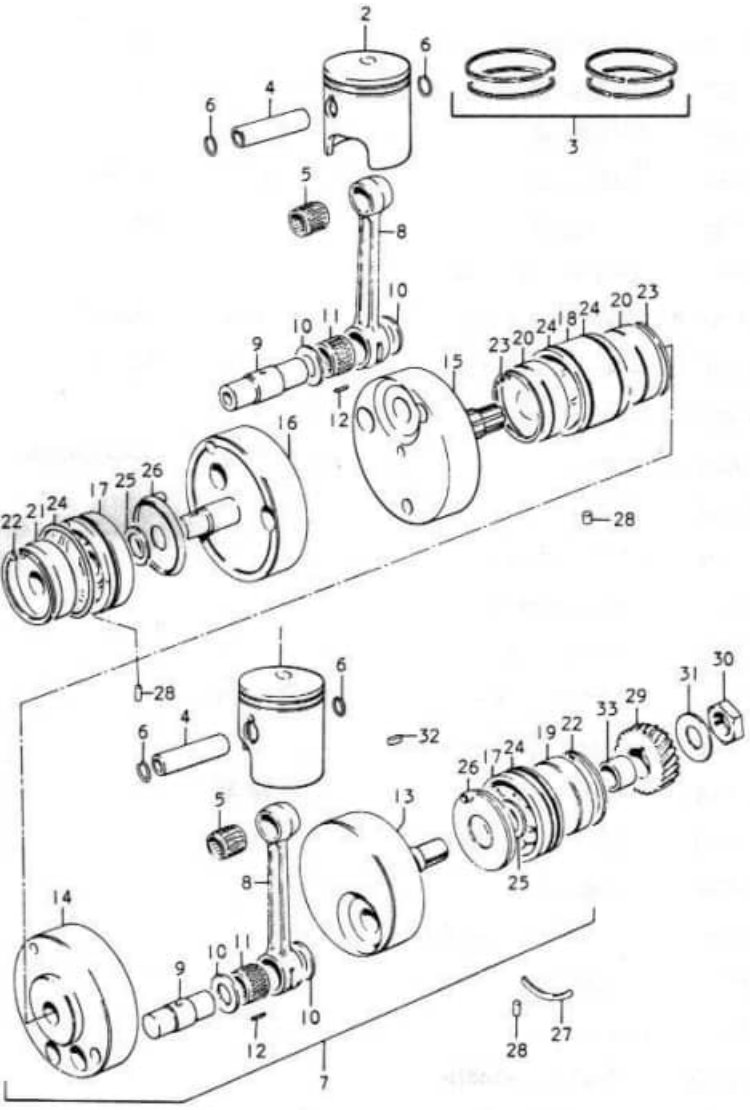
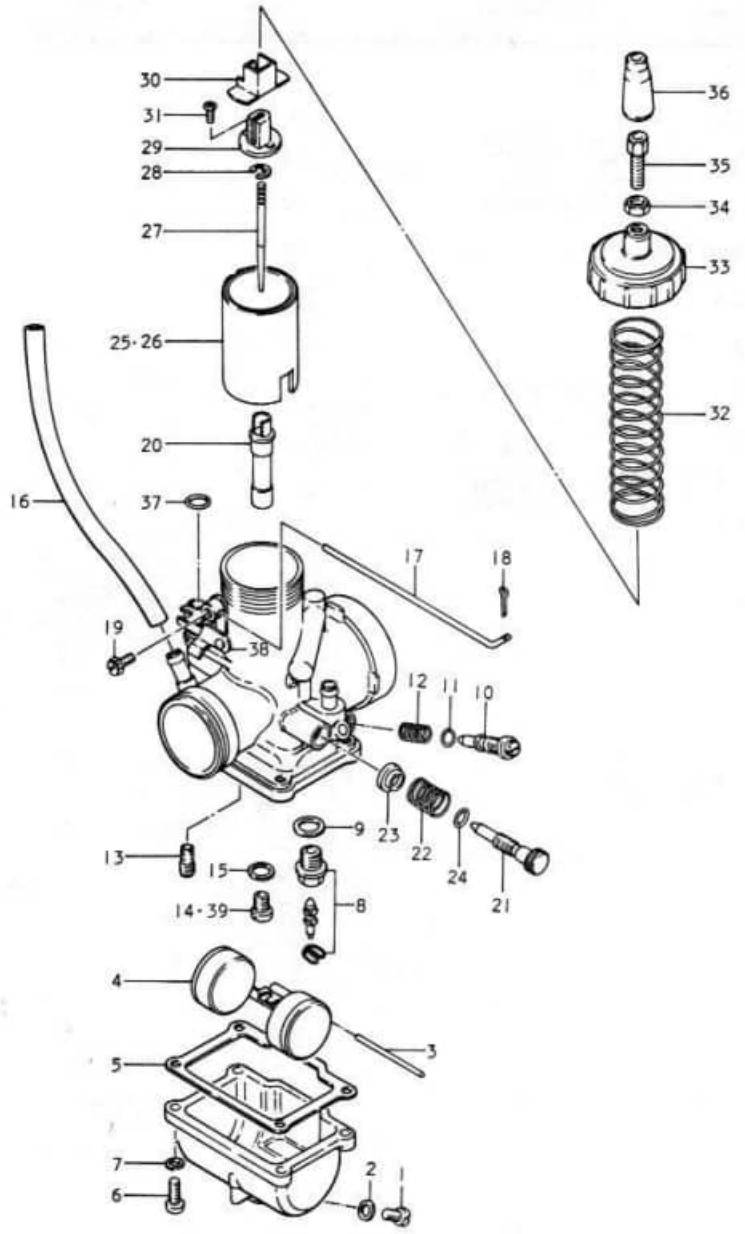


FIG.4 CRANKSHAFT

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Rem
22	09381-62001	CIRCLIP	2	2	
23	09381-65001	CIRCLIP	2	2	
24	09280-76001	O RING	4	4	
25	08212-25401	THRUST WASHER	2	2	
26	12511-15000	PLATE, oil guide	2	2	
27	09390-80001	C RING	1	1	
28	06211-07122	PIN	3	3	
29	21111-15001	GEAR, primary drive	1	1	NT:26
30	09140-20007	NUT	1	1	
31	09166-20003	WASHER	1	1	
32	09421-07001	KEY	1	1	
33	09180-25012	SPACER	1	1	

FIG.5 CARBURETOR



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remar
	13201-15313	CARBURETOR ASSY, RH	1	1	
	13202-15313	CARBURETOR ASSY, LH	1	1	
1	13247-05010	·PLUG, drain	2	2	
2	13249-05010	·GASKET	2	2	
3	13254-01010	·PIN, float	2	2	
4	13252-18010	·FLOAT	2	2	
5	13251-33110	·GASKET	2	2	
6	02111-04168	·SCREW	8	8	
7	08321-21048	·LOCK WASHER	8	8	
8	13370-32210	·VALVE, needle	2	2	
9	13392-16600	·GASKET	2	2	
10	13269-15011	·SCREW, pilot air	2	2	
11	13295-33010	·O RING	2	2	
12	13268-01010	·SPRING, pilot air screw	2	2	
13	09492-30003	·JET, pilot	2	2	#30
14	09491-97001	·JET, main	2	2	#97.5
15	13382-03110	·WASHER, main jet	2	2	
16	13683-31610	·TUBE, boost	1	1	
17	13425-15010	·ROD, starter	1	1	
18	04111-12108	·COTTER PIN	1	1	
19	13429-15010	·BOLT, starter rod	1	1	
20	09494-00051	·JET, needle	2	2	P-4
21	13267-31011	·SCREW, throttle stop	2	2	
22	13268-31011	·SPRING	2	2	
23	13291-34010	·COVER	2	2	
24	13294-30010	·O RING	2	2	

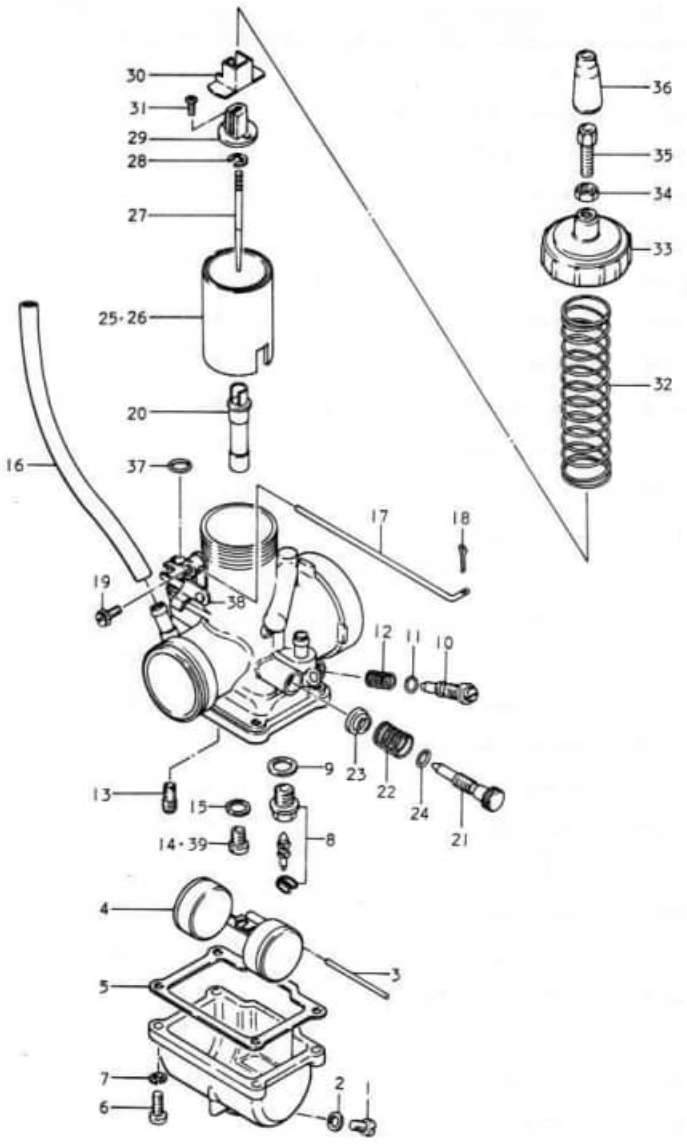


FIG.5 CARBURETOR

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
25	13551-31013	·VALVE, throttle RH	1	1	
26	13561-31013	·VALVE, throttle LH	1	1	
27	13383-15310	·NEEDLE, jet	2	2	5FP17-3
28	13394-10010	·CLIP, needle	2	2	
29	13398-34010	·CONNECTOR	2	2	
30	13394-31010	·COVER	2	2	
31	13399-34010	·SCREW	4	4	
32	13573-31012	·SPRING, throttle valve	2	2	
33	13261-15111	·CAP, mixing chamber	2	2	
34	13661-16600	·NUT	2	2	
35	13577-15010	·ADJUSTER, cable	2	2	
36	13681-33010	·BOOT	2	2	
37	13295-15010	·O RING	2	2	
38	13414-15010	·LEVER, starter	2	2	
39-1	09491-95003	JET, main	2	2	#95
39-2	09491-20003	JET, main	2	2	#100
39-3	09491-20004	JET, main	2	2	#102.5
39-4	09491-21003	JET, main	2	2	#105
39-5	09491-21006	JET, main	2	2	#107.5
39-6	09491-22004	JET, main	2	2	#110
39-7	09491-23006	JET, main	2	2	#115
39-8	09491-24005	JET, main	2	2	#120

OPT

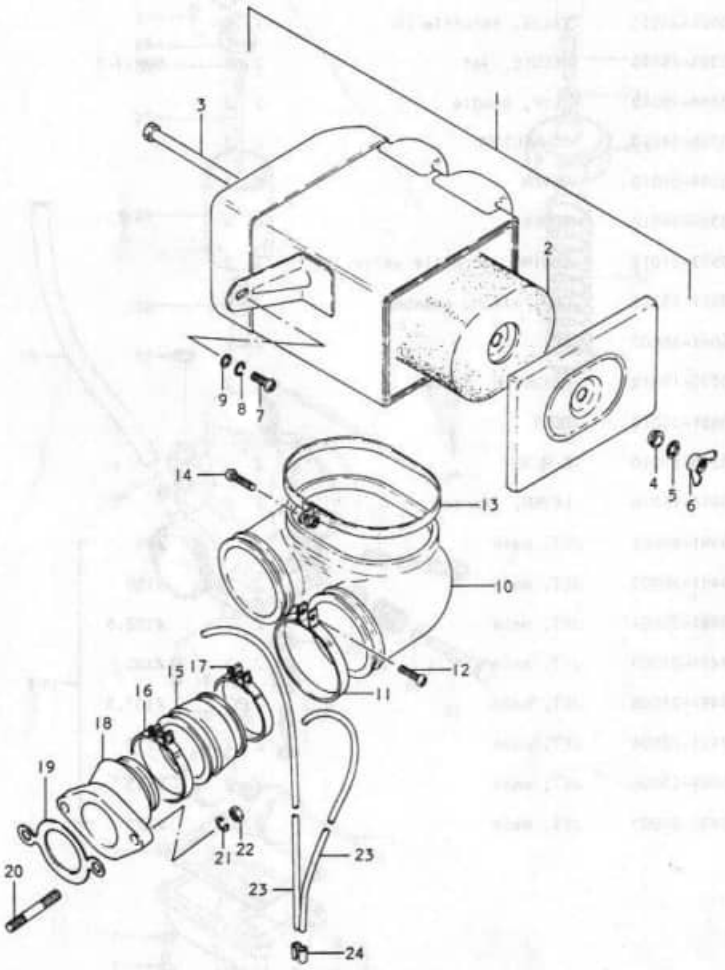


FIG.6 AIR CLEANER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	13700-15311	CLEANER ASSY, air	1	-	to 13700-15312
1-2	13700-15312	CLEANER ASSY, air	-	1	
2	13780-15310	*FILTER	1	1	
3	13726-15310	*BOLT	1	1	
4	13742-29010	*SEAL	1	1	
5	08322-11068	*WASHER	1	1	
6-1	09144-06001	*NUT	1	-	
6-2	09144-06007	*NUT	-	1	
7	02112-06128	SCREW	2	2	
8	08321-21068	LOCK WASHER	2	2	
9	08322-21068	WASHER	2	2	
10	13880-15304	HOSE, air inlet	1	1	
11	09402-64306	CLAMP	2	2	
12	03211-04258	SCREW	2	2	
13	09402-00163	CLAMP	1	1	
14	02111-04208	SCREW	1	1	
15	13111-31001	PIPE, intake (1)	2	2	
16	09402-54305	CLAMP	2	2	
17	09402-50306	CLAMP	2	2	
18	13112-15300	PIPE, intake (2)	2	2	
19	13125-15000	GASKET	2	2	
20	01421-08258	STUD BOLT	4	4	
21	08321-21088	LOCK WASHER	4	4	
22	08312-11088	NUT	4	4	
23	09344-03019	HOSE, over flow	2	2	
24	09408-00005	CLIP	1	1	

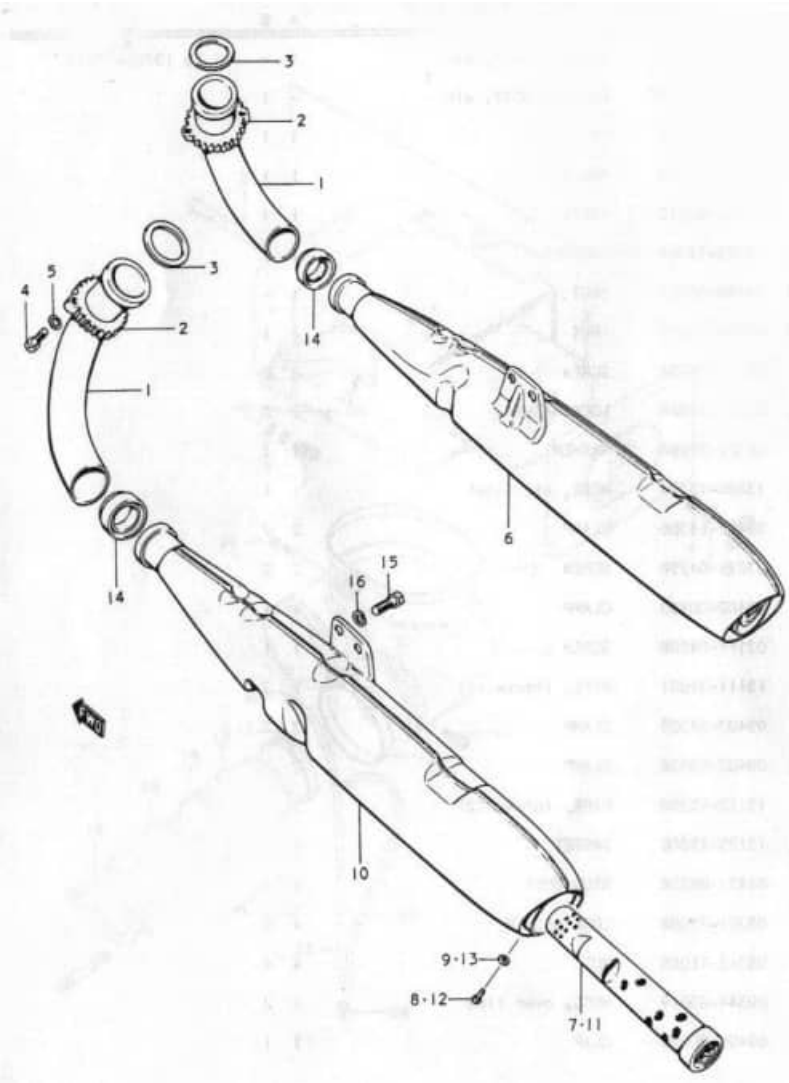


FIG.7 MUFFLER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	14150-15000	PIPE, exhaust	2	2	
2	14182-15000	CLAMP, exhaust pipe	2	2	
3	14181-15010	GASKET	2	2	
4	01122-08408	BOLT	4	4	
5	08321-21088	LOCK WASHER	4	4	
6-1	14301-15003	MUFFLER ASSY, RH	1	-	to 14301-15004
6-2	14301-15004	MUFFLER ASSY, RH	-	1	
7	14510-15004	·PIPE, baffle	1	1	
8	09128-05004	·SCREW	1	1	
9	08321-21058	·LOCK WASHER	1	1	
10-1	14302-15003	MUFFLER ASSY, LH	1	-	to 14302-15004
10-2	14302-15004	MUFFLER ASSY, LH	-	1	
11	14510-15004	·PIPE, buffle	1	1	
12	09128-05004	·SCREW	1	1	
13	08321-21058	·LOCK WASHER	1	1	
14	14771-15080	CONNECTOR, muffler	2	2	
15	01122-10168	BOLT	4	4	
16	08321-21108	LOCK WASHER	4	4	

FIG.8 OIL PUMP

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	16100-15110	PUMP, oil	1	1	
2	16731-11000	GASKET	1	1	
3	02112-06168	SCREW	2	2	
4	08321-21068	LOCK WASHER	2	2	
5	13683-51010	TERMINAL, cable	1	1	
6	09360-06005	UNION BOLT	2	2	
7	09168-06002	GASKET	4	4	
8	09119-08014	BOLT, cable adjuster	1	1	
9	08312-21088	NUT	1	1	
10	16810-15131	HOSE, oil (1)	1	1	
11	09360-06003	UNION BOLT	2	2	
12	09168-06002	GASKET	4	4	
13	16820-15033	HOSE, oil (2)	1	1	
14	16840-15033	HOSE, oil (3)	1	1	
15	09360-06003	UNION BOLT	4	4	
16	09168-06002	GASKET	8	8	
17	26431-15000	GEAR, tachometer driven	1	1	NT:10
18	09160-08003	WASHER	2	2	

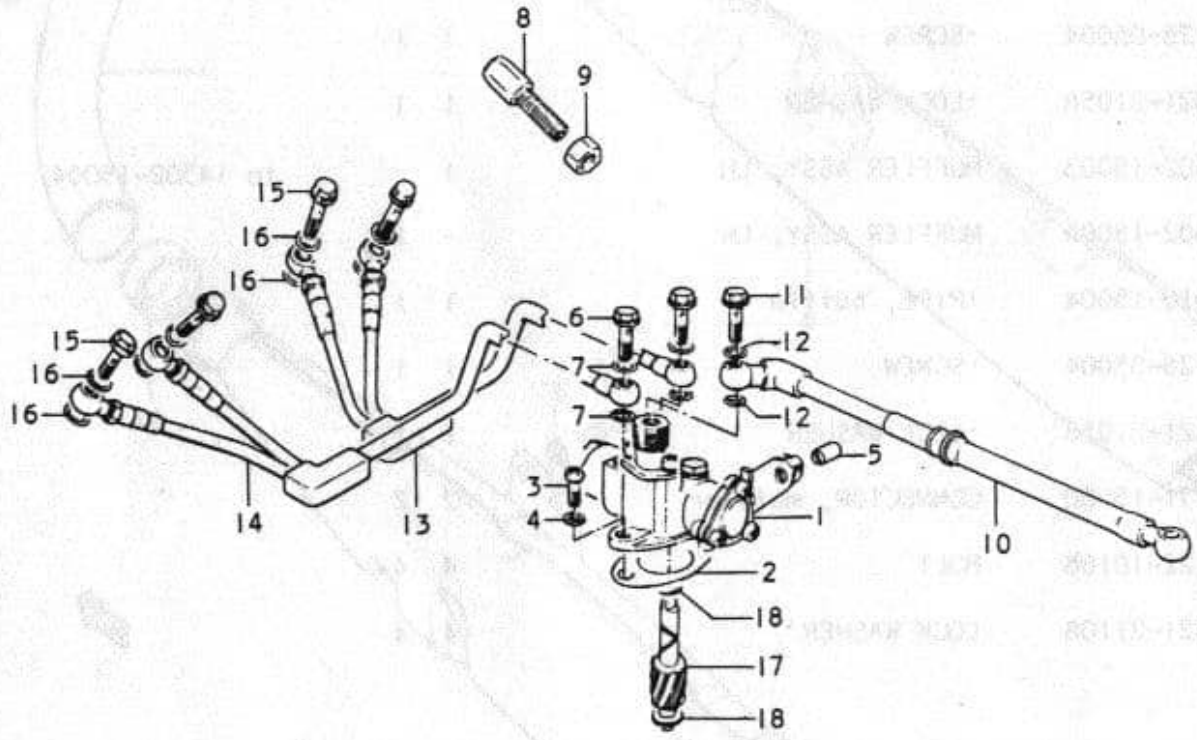
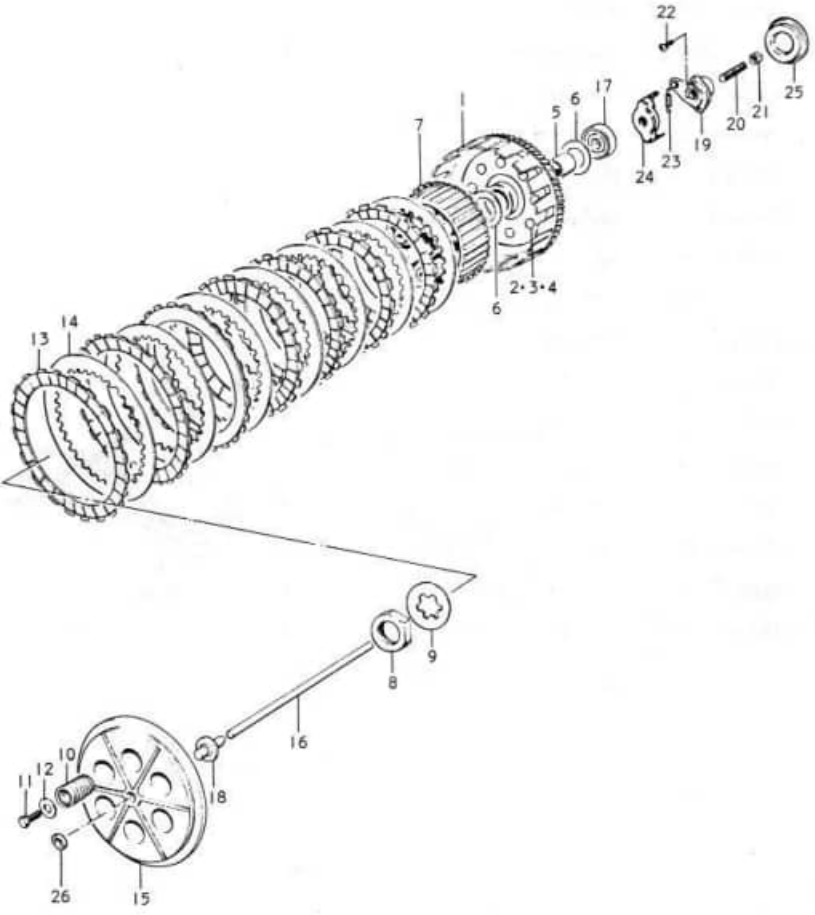


FIG.9 CLUTCH



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	21200-15002	GEAR, primary driven	1	1	NT:65
2	21231-15040	·DAMPER	8	8	
3	21241-16400	·PLATE	1	1	
4	21251-16400	·CUSHION	1	1	
5	05221-05249	·RIVET	8	8	
6	09180-22002	SPACER	1	1	
7	08211-22423	WASHER	2	2	
8	21411-15010	HUB	1	1	
9	09140-22003	NUT	1	1	
10	09167-22005	LOCK WASHER	1	1	
11	09440-19003	SPACER	6	6	
12	01112-06168	BOLT	6	6	
13	09160-06020	WASHER	6	6	
14	21441-16500	PLATE, drive	7	7	
15	21451-31000	PLATE, driven	7	7	
16	21462-15000	DISK, pressure	1	1	
17	23111-15001	ROD, push	2	2	
18	09285-08001	OIL SEAL	1	1	
19	23121-15001	PIECE, push	1	1	
20	23200-15001	SCREW ASSY, release	1	1	
21	09134-08006	·SCREW	1	1	
22	08312-32088	·NUT	1	1	
23	02112-06128	SCREW	2	2	
24	09443-08001	SPRING	1	1	
25	23241-15000	COVER, release screw	1	1	
26	09250-30003	CAP	1	1	
27	09284-10002	OIL SEAL	1	1	

FIG.1 CYLINDER

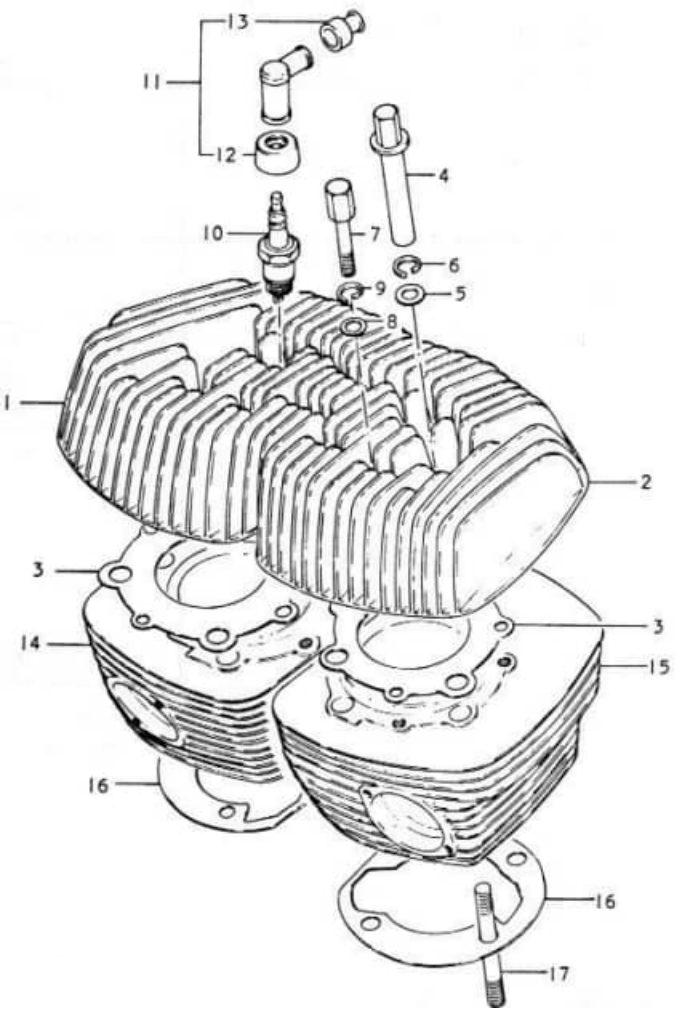


FIG.1 CYLINDER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	11111-15601	CYLINDER HEAD, RH	1	1	
2	11121-15601	CYLINDER HEAD, LH	1	1	
3	11141-15000	GASKET	2	2	
4	09159-10005	NUT	8	8	
5	08322-11148	WASHER	8	8	
6	08321-21148	LOCK WASHER	8	8	
7	09119-08001	BOLT	8	8	
8	08322-11088	WASHER	8	8	
9	08321-21088	LOCK WASHER	8	8	
10	09482-00082	SPARK PLUG	2	2	NGK, B-7HS
11	33500-69810	SPARK PLUG CAP SET	2	2	
12	33541-69010	·SEAL, cap	2	2	
13	33542-98000	·SEAL, cap	2	2	
14	11210-15301	CYLINDER, RH	1	1	
15	11220-15301	CYLINDER, LH	1	1	
16	11241-15000	GASKET	2	2	
17	01421-10858	STUD BOLT	8	8	

FIG.10 TRANSMISSION

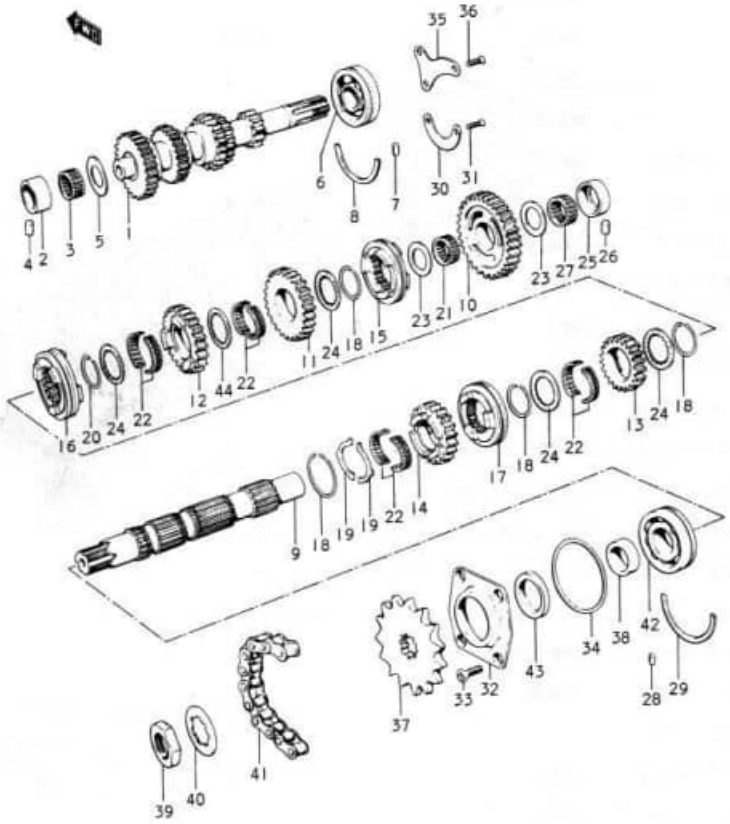


FIG.10 TRANSMISSION

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	24120-15003	COUNTERSHAFT	1	1	
2	09319-26001	BUSHING	1	1	
3	09263-20005	BEARING	1	1	
4	06211-07122	PIN	1	1	
5	09160-20004	WASHER	1	1	20x30x1
6	09262-22004	BEARING	1	1	
7	06211-04063	PIN	1	1	
8	09390-59001	C RING	1	1	
9	24131-15000	DRIVESHAFT	1	1	
10	24311-15001	GEAR, 1st driven	1	1	NT:30
11	24321-15000	GEAR, 2nd driven	1	1	NT:25
12	24331-15000	GEAR, 3rd driven	1	1	NT:22
13	24341-15001	GEAR, 4th driven	1	1	NT:21
14	24351-15003	GEAR, 5th driven	1	1	NT:20
15	24411-15000	WHEEL, 1st driven gear	1	1	
16	24413-15000	WHEEL, 3rd driven gear	1	1	
17	24415-15000	WHEEL, 5th driven gear	1	1	
18	09380-30001	CIRCLIP	4	4	
19	09399-30002	RING, 5th driven gear	2	2	
20	09380-41001	CIRCLIP, 5th driven gear	1	1	
21	09263-20005	BEARING, 1st driven gear	1	1	
22	20000-15814	BEARING SET	4	4	
23	09160-20004	WASHER, 1st driven gear	2	2	
24	09167-30002	WASHER	4	4	T:2
25	09319-26001	BUSHING	1	1	

FIG.10 TRANSMISSION

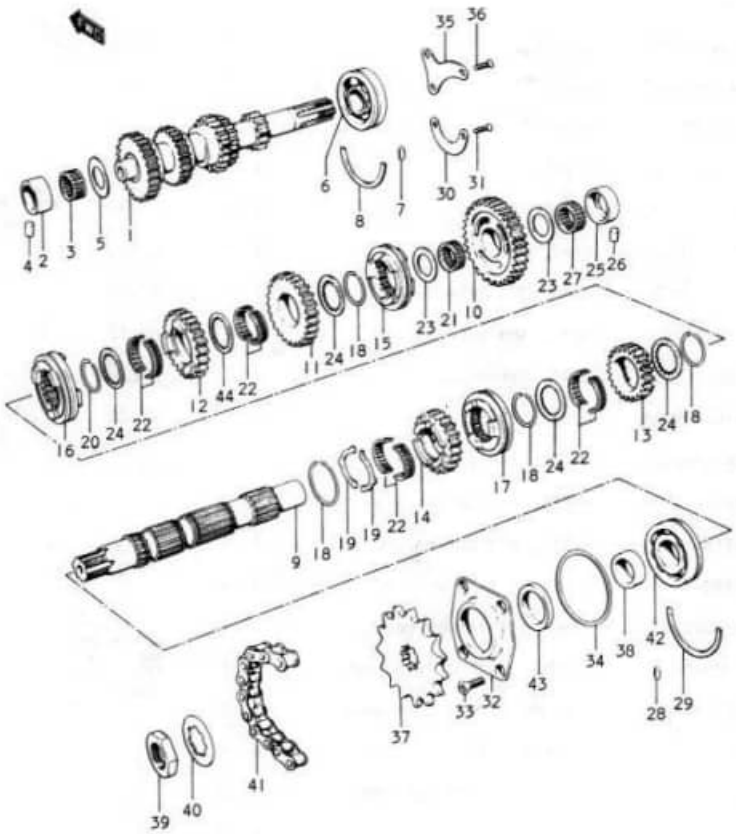
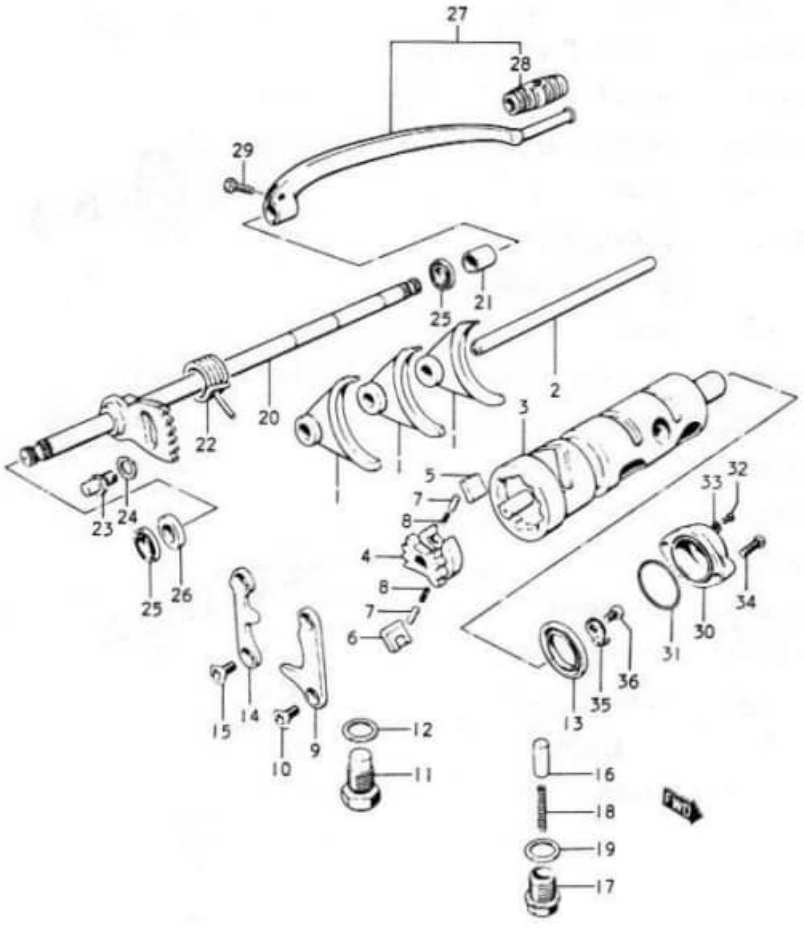


FIG.10 TRANSMISSION

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
26	06211-07122	PIN	1	1	
27	09263-20005	BEARING	1	1	
28	06211-04063	PIN	1	1	
29	09390-59001	C RING	1	1	
30	24741-15000	RETAINER, driveshaft bearing	1	1	
31	02122-06168	SCREW	2	2	
32	24751-15000	RETAINER, driveshaft bearing	1	1	
33	02122-06128	SCREW	4	4	
34	09280-63001	O RING	1	1	
35	24871-15000	CUP, oil reservoir	1	1	
36	02122-06128	SCREW	3	3	
37-1	27511-15000	SPROCKET, engine	1	1	NT:15
37-2	27511-15700	SPROCKET, engine	1	1	NT:14 ┐ OPT
37-3	27511-15710	SPROCKET, engine	1	1	NT:13 ┘ OPT
38	09180-22001	SPACER	1	1	
39	09140-22003	NUT	1	1	
40	09167-22005	LOCK WASHER	1	1	
41	27600-15911	CHAIN, drive	1	1	110L
42	09262-22001	BEARING	1	1	
43	09283-27001	OIL SEAL	1	1	
44	09167-30001	WASHER	1	1	T:1

FIG.11 GEAR SHIFTING



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	25211-15000	FORK, gear shifting	3	3
2	25411-15000	SHAFT, gear shifting fork	1	1
3	25310-15002	CAM	1	1
4	25322-11000	GEAR, driven	1	1
5	25323-11000	PAWL, (1)	1	1
6	25324-11000	PAWL, (2)	1	1
7	09261-05003	PIN	2	2
8	09440-04003	SPRING	2	2
9	25331-11001	RIFTER, pawl	1	1
10	02122-06128	SCREW	2	2
11	09119-14003	BOLT, cam guide	1	1
12	09168-14004	GASKET	1	1
13	09285-16002	OIL SEAL	1	1
14	25341-31000	STOPPER, pawl	1	1
15	02122-06128	SCREW	2	2
16	25351-11000	STOPPER, cam	1	1
17	25352-11000	HOUSING, stopper	1	1
18	09440-05007	SPRING	1	1
19	09168-14004	GASKET	1	1
20	25510-15001	SHAFT, gear shifting	1	1
21	09180-12021	SPACER	1	1
22	09444-26001	SPRING	1	1
23	25671-01000	STOPPER, arm	1	1
24	08321-21088	LOCK WASHER	1	1
25	09285-12002	OIL SEAL	2	2
26	09320-13004	CUSHION	1	1

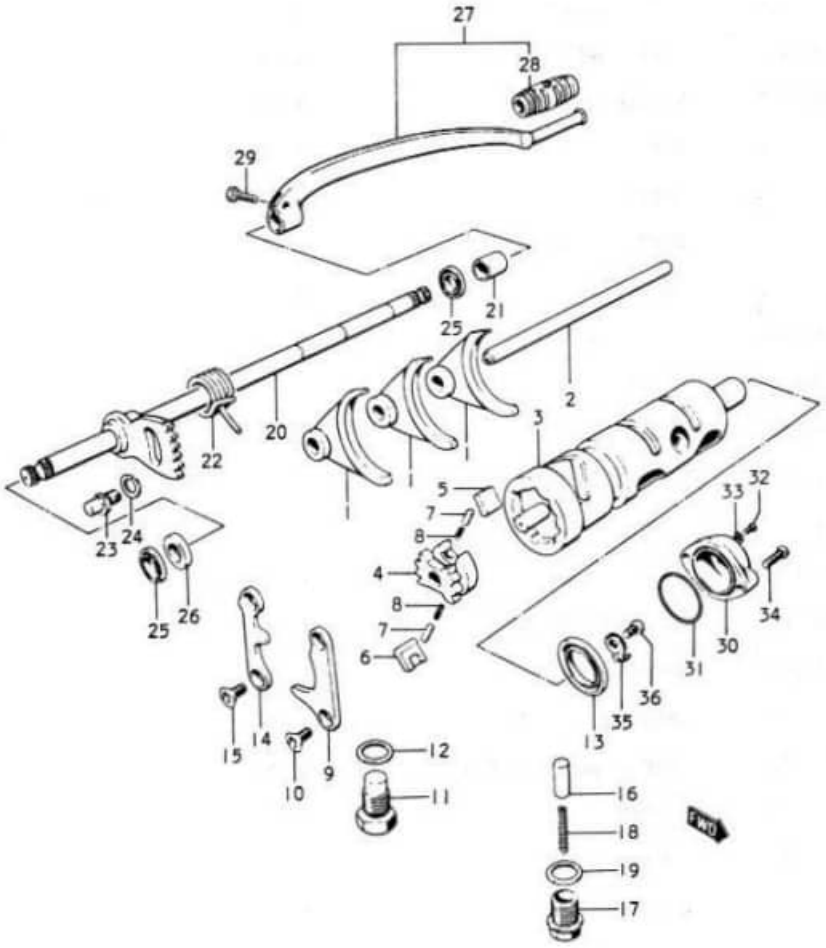


FIG.11 GEAR SHIFTING

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
27	25600-18002	LEVER ASSY, gear shifting	1	1
28	25652-16500	·COVER	1	1
29	01122-08208	BOLT	1	1
30	37721-15002	BODY, gear shifting switch	1	1
31	09280-28002	O RING	1	1
32	02111-03048	SCREW	1	1
33	08322-21038	WASHER	1	1
34	02111-05207	SCREW	2	2
35	37711-05101	CONTACT, switch	1	1
36	02122-06128	SCREW	1	1

KICK STARTER

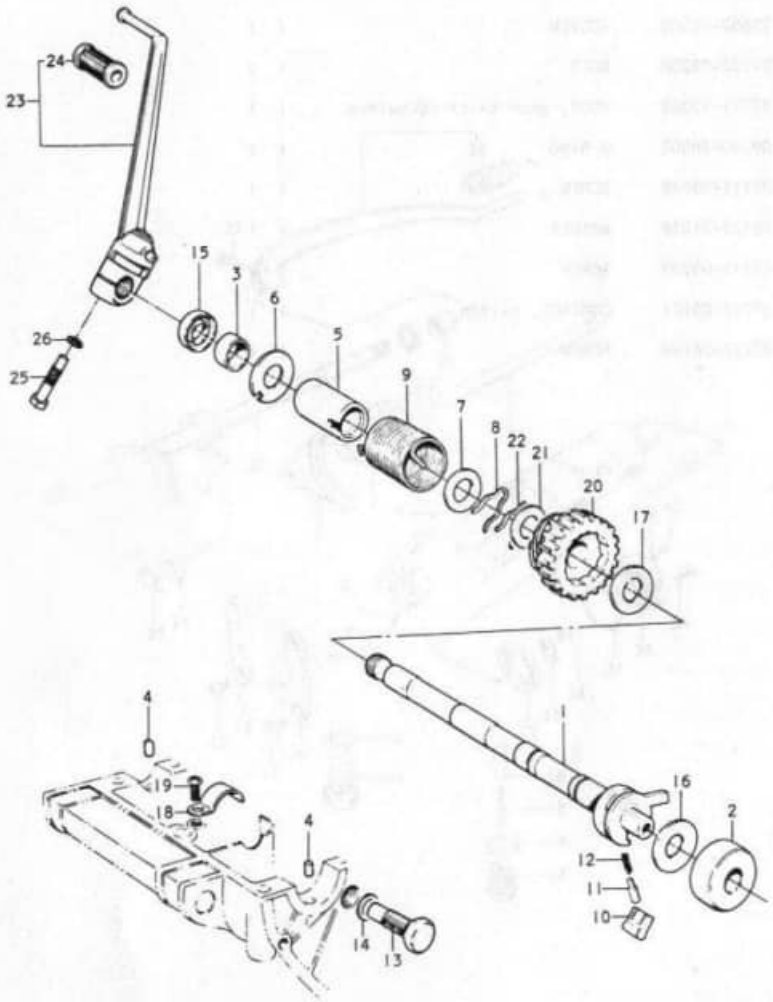


FIG.12 KICK STARTER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	26210-15001	SHAFT, kick starter	1	1	
2	26215-15000	BUSHING, RH	1	1	
3	09300-16003	BUSHING, LH	1	1	
4	06211-07122	PIN	2	2	
5	26221-15000	GUIDE, spring	1	1	
6	09166-16001	WASHER	1	1	
7	09160-16003	WASHER	1	1	
8	09384-16001	CIRCLIP	1	1	
9	09448-37001	SPRING	1	1	
10	26231-20000	PAWL	1	1	
11	09209-05011	PIN	1	1	
12	09440-04010	SPRING	1	1	
13	09135-14001	BOLT	1	1	
14	09160-14001	WASHER	1	1	
15	09285-16002	OIL SEAL	1	1	
16	09160-13002	WASHER, RH	1	1	
17	09160-16009	WASHER, LH	1	1	
18	26235-15000	CLAMP, shaft	1	1	
19	02112-06128	SCREW	1	1	
20	26240-15003	GEAR, drive	1	1	NT:20/10
21	09160-16003	WASHER	1	1	
22	09384-16001	CIRCLIP	1	1	
23	26300-15000	LEVER ASSY, kick starter	1	1	
24	26352-01000	COVER	1	1	
25	09135-10002	BOLT	1	1	
26	08321-21108	LOCK WASHER	1	1	

FIG.13 MAGNETO

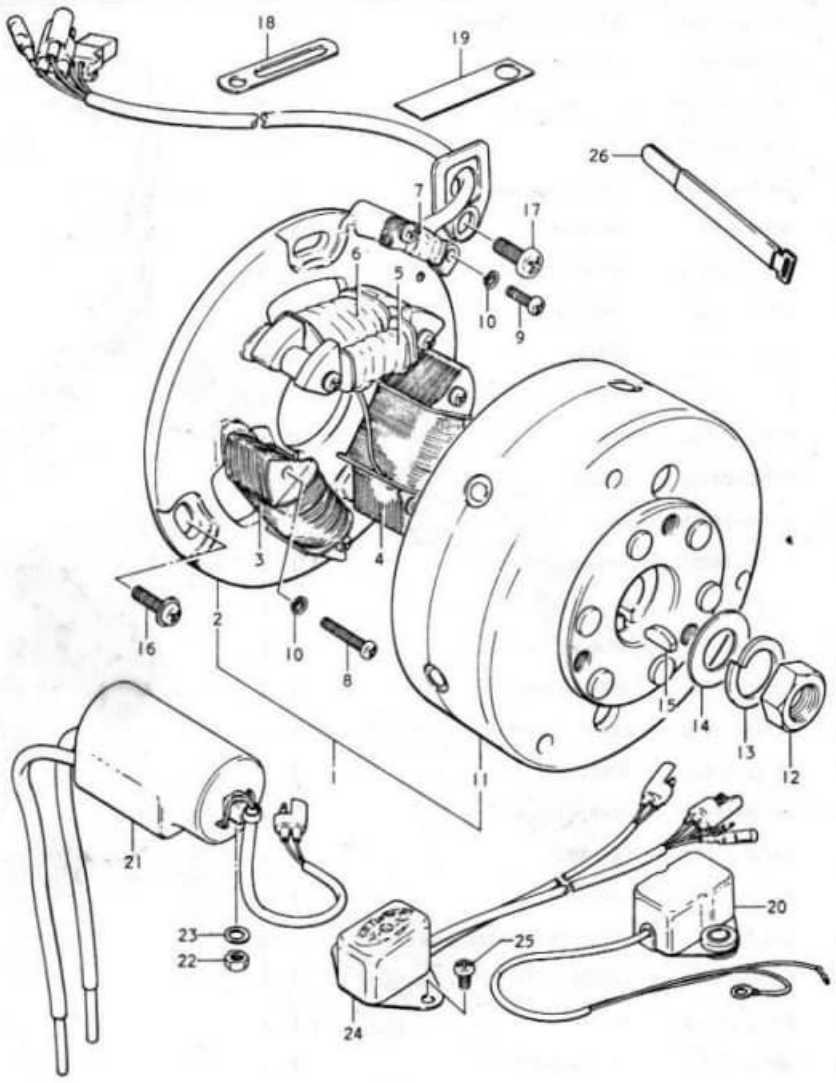
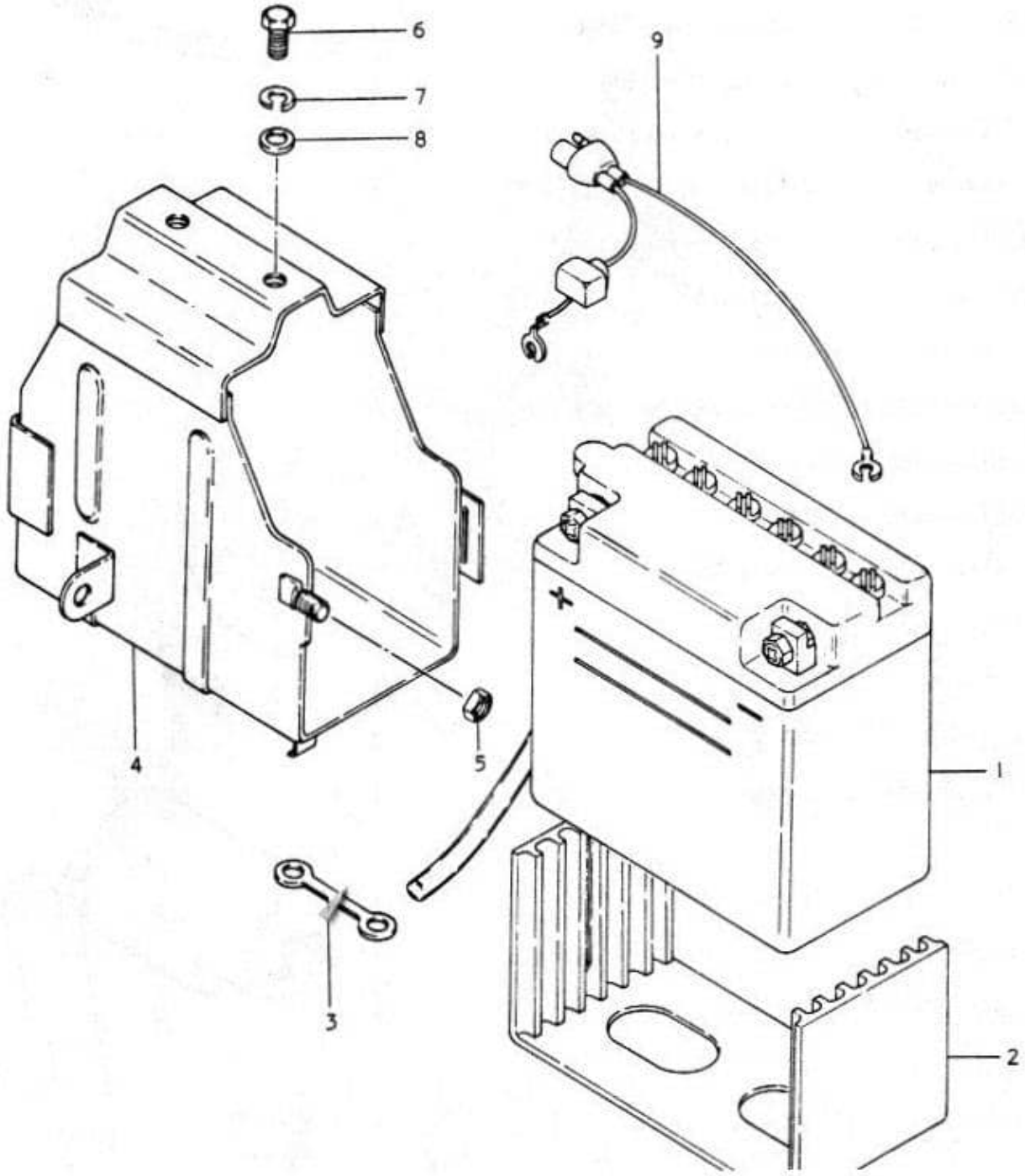


FIG.13 MAGNETO

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	32100-15320	MAGNETO ASSY	1	1
2	32101-15320	-STATOR ASSY	1	1
3	32131-15320	--COIL, charging A	1	1
4	32132-15320	--COIL, charging B	1	1
5	32141-15320	--COIL, primary A	1	1
6	32142-15320	--COIL, primary B	1	1
7	32150-15320	--COIL, pulser	1	1
8	02111-04358	--SCREW	6	6
9	02111-04208	--SCREW	2	2
10	08321-21048	--LOCK WASHER	8	8
11	32102-15320	-ROTOR	1	1
12	08312-11128	NUT	1	1
13	08321-21128	LOCK WASHER	1	1
14	08322-11128	WASHER	1	1
15	08341-31039	KEY	1	1
16	09139-05011	SCREW	3	3
17	02112-06108	SCREW	1	1
18	09404-06401	CLAMP	1	1
19	09403-00059	CLAMP	1	1
20	32500-15320	REGURATOR ASSY, voltage	1	1
21	33410-15320	COIL ASSY, ignition	1	1
22	08311-11068	NUT	2	2
23	08322-21068	WASHER	1	1
24	32900-15320	C.D.I. UNIT ASSY	1	1
25	02111-06087	SCREW	2	2
26	09407-18301	CLAMP	-	1

FIG.14 BATTERY

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	33610-33120	BATTERY	1	1	12V, 7AH
2	33651-15000	PROTECTOR	1	1	
3	09404-07704	CLAMP, exhaust pipe	1	1	
4	41540-15002	HOLDER, battery	1	1	
5	08313-11067	NUT	1	1	
6	01122-08208	BOLT	2	2	
7	08321-21088	LOCK WASHER	2	2	
8	08322-21088	WASHER	1	1	
9	36860-15020	LEAD WIRE, battery	1	1	



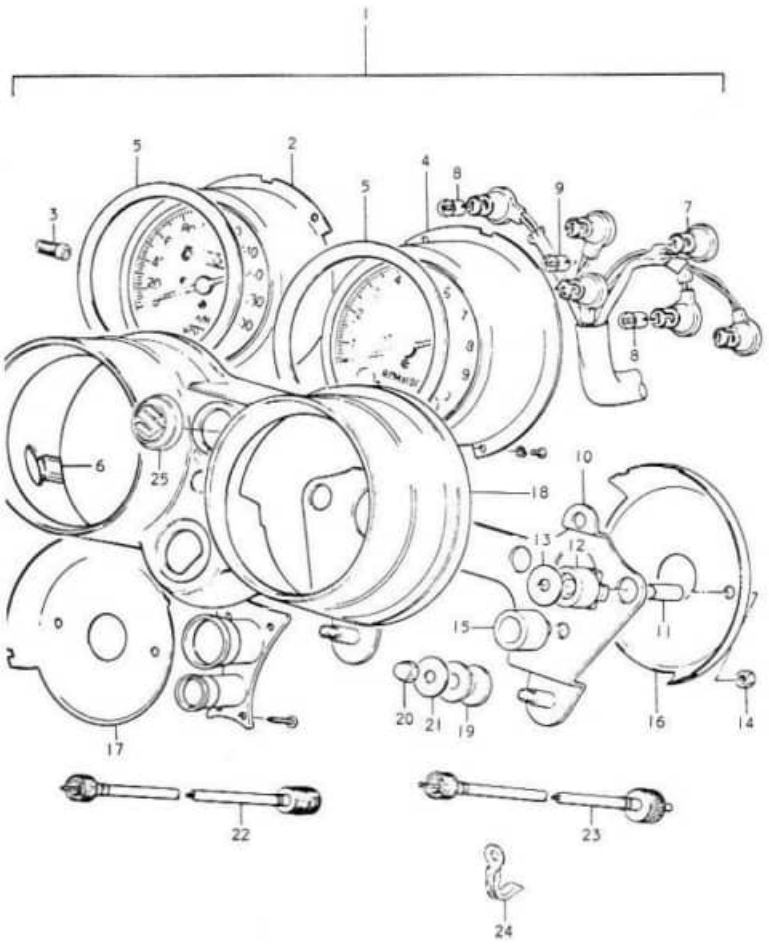
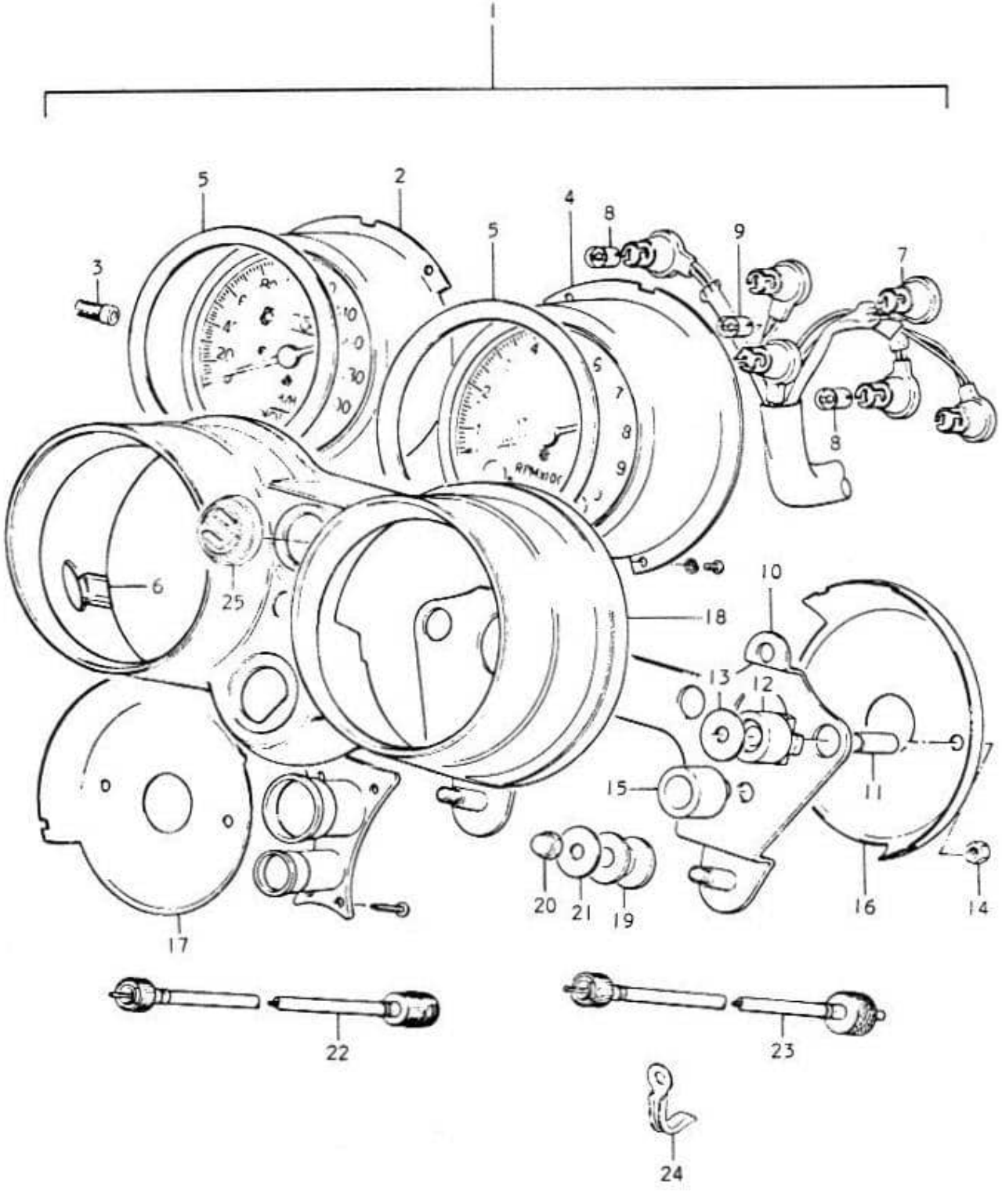


FIG.15 SPEEDOMETER - TACHOMETER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	34100-15692	SPEEDOMETER / TACHOMETER ASSY	1	-	KILO to 34100-15693
1-2	34100-15695	SPEEDOMETER / TACHOMETER ASSY	-	1	KILO
1-3	34100-15634	SPEEDOMETER / TACHOMETER ASSY	1	-	MILE to 34100-15635
1-4	34100-15637	SPEEDOMETER / TACHOMETER ASSY	-	1	MILE
2-1	34110-33621	·SPEEDOMETER	1	-	KILO to 34110-33622
2-2	34110-15691	·SPEEDOMETER	-	1	KILO
2-3	34110-33632	·SPEEDOMETER	1	-	MILE to 34110-33633
2-4	34110-15631	·SPEEDOMETER	-	1	MILE
3	34980-33600	··KNOB	1	1	
4-1	34210-15124	·TACHOMETER	1	-	to 34210-15125
4-2	34210-15630	·TACHOMETER	-	1	
5	34181-33600	·GASKET	2	2	
6	34192-33600	·CAP	1	1	
7	34170-33020	·SOCKET	1	1	
8	09471-12001	·BULB	1	1	12V, 3.4W
9	09471-12004	·BULB	4	4	12V, 1.7W
10	34950-33601	·BRACKET	1	1	
11	34972-16420	·SPACER	4	4	
12	34955-16420	·CUSHION	4	4	
13	09160-05006	·WASHER	4	4	5.5x18x1.6
14	08311-11068	·NUT	4	4	
15	34956-33600	·CUSHION	2	2	
16	34961-33602	·PLATE, tachometer	1	1	
17	34960-33602	·PLATE, speedometer	1	1	
18	34051-33600	·CASE, meter	1	1	

FIG.15 SPEEDOMETER - TACHOMETER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
19	34956-15100	CUSHION, bracket	2	2	
20	08313-11067	NUT	2	2	
21	09160-06007	WASHER	2	2	6.5x18x1.6
22	34910-18130	CABLE, speedometer	1	1	
23	34940-33030	CABLE, tachometer	1	1	
24	34991-18100	CLAMP, cable	2	-	
25	34995-31600	CAP	1	1	



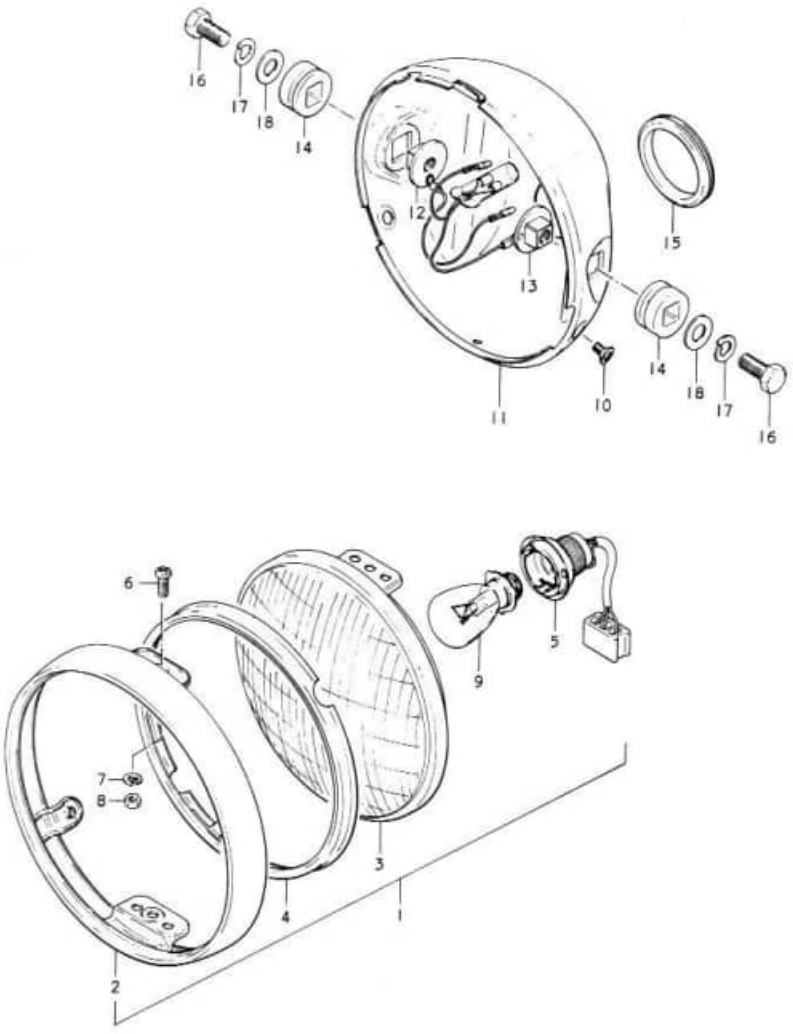


FIG.16 HEADLAMP

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-36131	HEADLAMP ASSY	1	1	
2	35111-33032	·RIM	1	1	
3	35121-33031	·UNIT	1	1	
4	35127-33031	·RING	1	1	
5	35171-36130	·SOCKET	1	1	
6	35181-33031	·SCREW	4	4	
7	08321-21058	·LOCK WASHER	4	4	
8	08311-11058	·NUT	4	4	
9	09471-12043	·BULB	1	1	12V, 35/25W
10	02231-05128	SCREW	2	2	
11-1	51810-30000	HOUSING, headlamp	1	-	
11-2	51810-27300-291	HOUSING, headlamp	-	1	
12	51821-27301	SPACER, RH	1	1	
13	51822-27301	SPACER, LH	1	1	
14	51827-27301	CUSHION	2	2	
15	51845-31031	GROMMET	2	2	
16	01221-08207	BOLT	2	2	
17	08321-21088	LOCK WASHER	2	2	
18	08322-11088	WASHER	2	2	

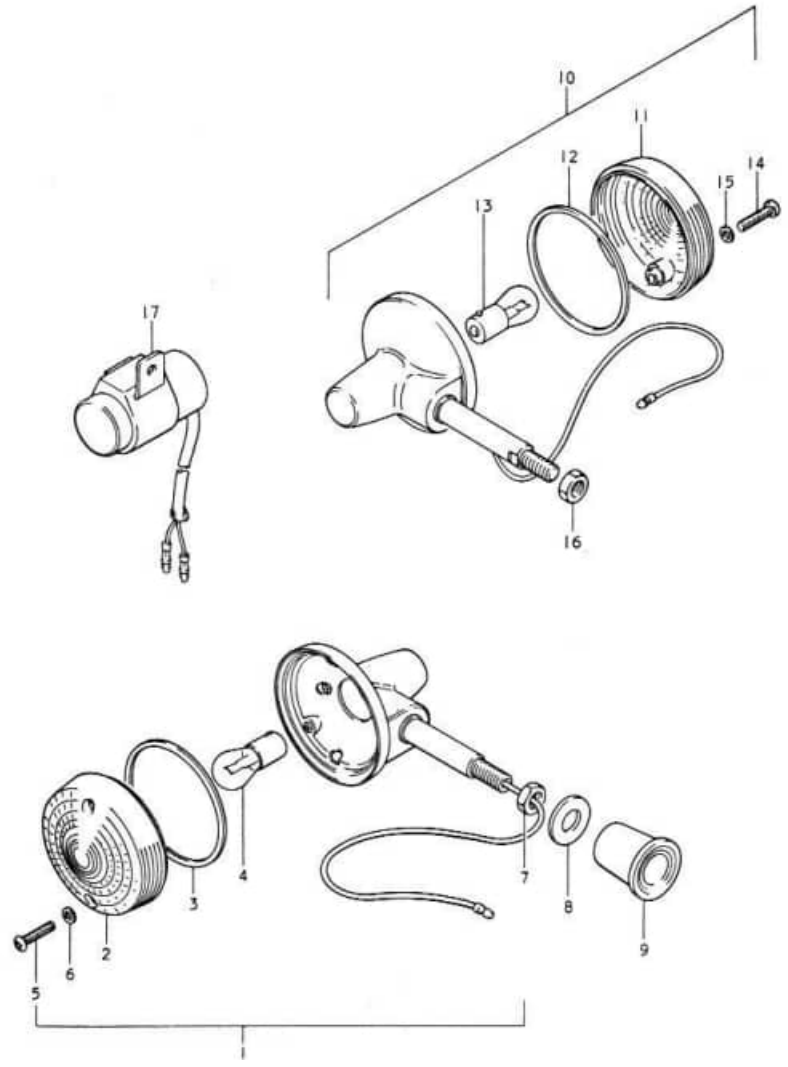


FIG.17 TURN SIGNAL LAMP

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35601-18410	LAMP ASSY, front turn signal	2	2	
2	35612-28620	·LENS	2	2	
3	35613-28620	·GASKET	2	2	
4	09471-12006	·BULB	2	2	12V, 23W
5	02111-04258	·SCREW	4	4	
6	35627-43010	·GASKET	4	4	
7	08312-32108	·NUT	2	2	
8	08322-21108	WASHER	2	2	
9	35698-28000	COVER, turn signal boss	2	2	
10-1	35603-18410	LAMP ASSY, rear turn signal	2	-	
10-2	35603-18411	LAMP ASSY, rear turn signal	-	2	
11	35612-28620	·LENS	2	2	
12	35613-28620	·GASKET	2	2	
13	09471-12006	·BULB	2	2	12V, 23W
14	02111-04258	·SCREW	4	4	
15	35627-43010	·GASKET	4	4	
16	08312-32108	·NUT	2	2	
17	38610-32210	RELAY, turn signal lamp	1	1	

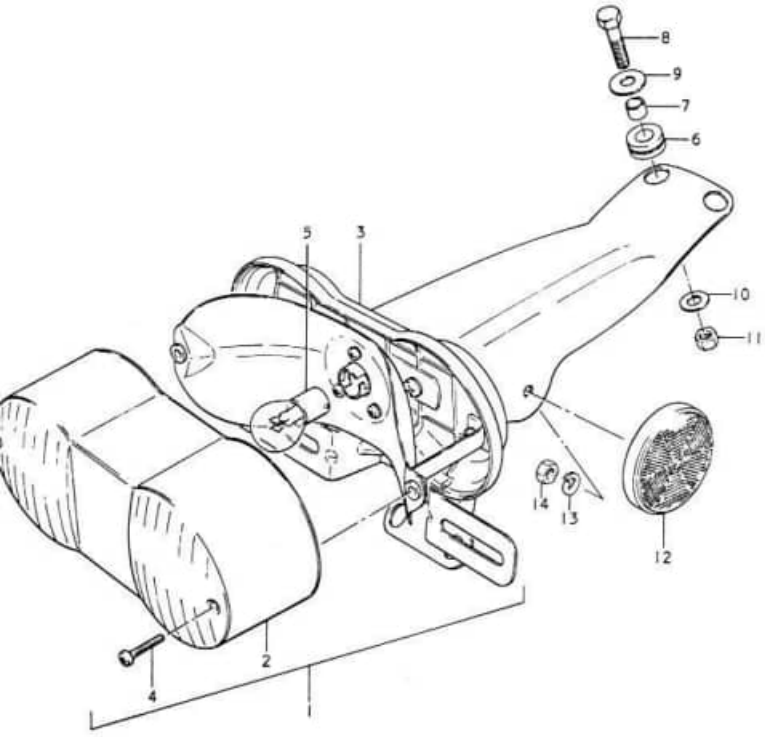


FIG.18 REAR COMBINATION LAMP (GT500A)

Ref.No.	Part No.	Description	Q'ty A	Remarks
1	35710-18110	LAMP ASSY, rear combination	1	
2	35712-27660	·LENS	1	
3	35715-27691	·HOUSING	1	
4	02111-04558	·SCREW	2	
5	09471-12035	·BULB	1	12V, 23/8W
6	35765-15010	·CUSHION	4	
7	35766-15010	·SPACER	4	
8	01112-06208	BOLT	4	
9	09160-06027	WASHER	4	
10	08322-21068	WASHER	4	
11	08311-11068	NUT	4	
12	35970-31610	REFLEX REFLECTOR, rear	2	from 35970-15010
13	08321-21058	LOCK WASHER	2	
14	08311-11058	NUT	2	

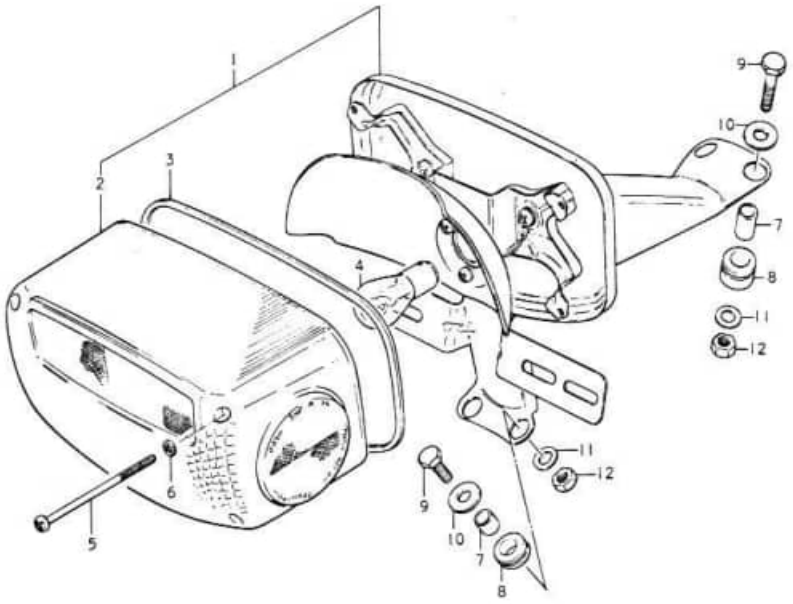
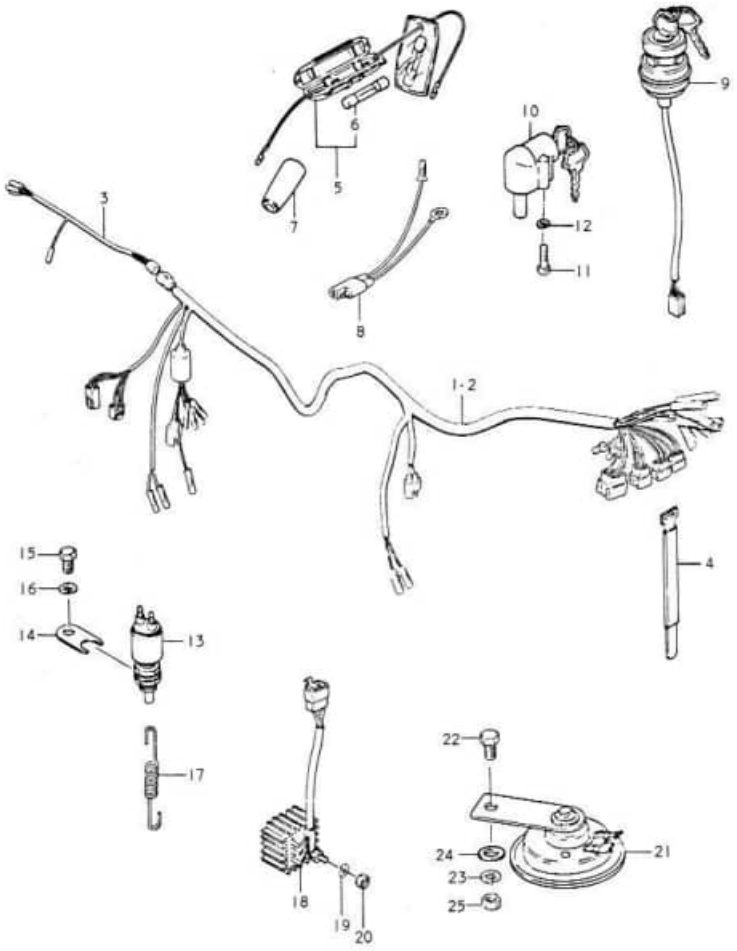


FIG.19 REAR COMBINATION LAMP (GT500B)

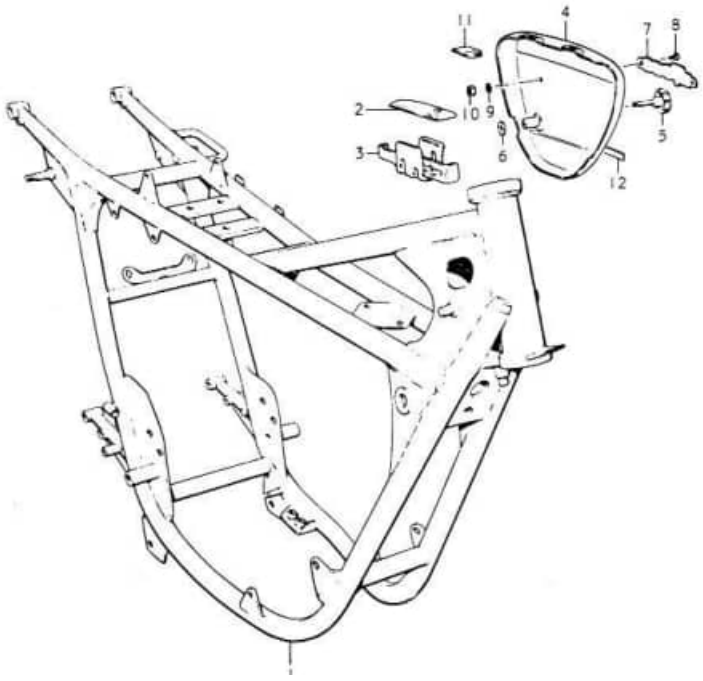
Ref.No.	Part No.	Description	Q'ty B	Remarks
1	35710-31620	LAMP ASSY, rear combination	1	
2	35712-45610	*LENS	1	
3	35713-45010	*GASKET	1	
4	09471-12035	*BULB	1	12V, 23/8W
5	02111-04558	*SCREW	4	
6	35627-43010	*GASKET	4	
7	35766-15010	*SPACER	4	
8	35765-27691	*CUSHION	4	
9	01112-06168	BOLT	4	
10	09160-06027	WASHER	4	
11	08322-21068	WASHER	4	
12	08311-11068	NUT	4	

FIG.20 ELECTRICAL



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	36610-15300	WIRING HARNESS, (1)	1	-	
2	36610-15301	WIRING HARNESS, (1)	-	1	
3	36620-15900	WIRING HARNESS, (2)	1	-	
4	09407-18301	CLAMP	1	1	
5	36740-15010	FUSE CASE ASSY	1	1	
6	09481-15001	·FUSE	1	1	15A
7	09287-10001	BOOT	1	1	
8	36870-36000	LEAD WIRE, fuse/earth	1	1	
9	37110-25318	SWITCH, ignition	1	1	from 37110-25317
10	51900-33810	LOCK STEERING	1	1	
11	02111-05257	SCREW	2	2	
12	08321-21058	LOCK WASHER	2	2	
13	37610-53011	SWITCH, brake lamp	1	1	
14	37752-15001	BRACKET, lamp switch	1	1	
15	01112-06128	BOLT	1	1	
16	08321-21068	LOCK WASHER	1	1	
17	09443-06012	SPRING	1	1	
18	32800-36021	RECTIFIER	1	1	
19	08321-21068	LOCK WASHER	1	1	
20	08311-11068	NUT	1	1	
21-1	38500-15642	HORN	1	-	
21-2	38500-15643	HORN	-	1	
22	01122-08168	BOLT	1	1	
23	08321-21088	LOCK WASHER	1	1	
24	08322-11088	WASHER	-	1	
25	08312-11088	NUT	1	1	

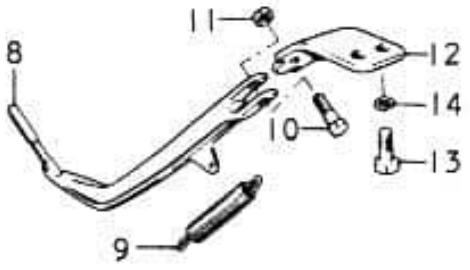
FIG.21 FRAME

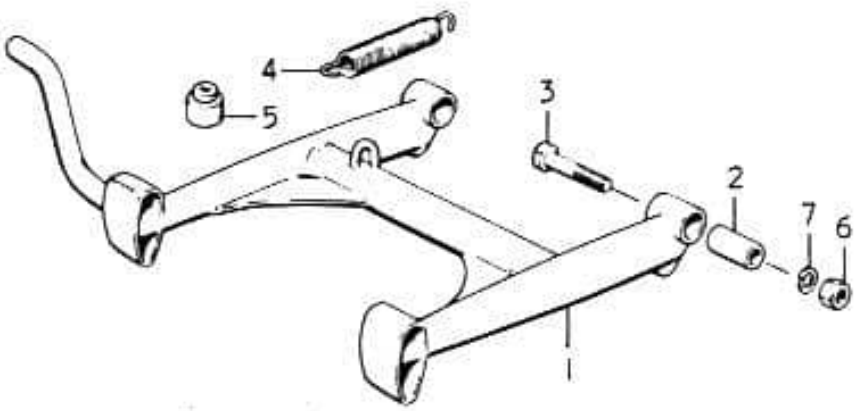


Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	41100-15103-019	FRAME	1	1	
2	09800-00146	TOOL	1	1	
3	41550-15101	HOLDER, tool	1	1	
4-1	47211-15100-00U	COVER frame, LH	1	-	
4-2	47211-15100-01J	COVER frame, LH	1	-	
4-3	47211-15100-291	COVER frame, LH	-	1	
5-1	47230-01001	KNOB, frame cover LH	1	-	to 47230-01002
5-2	47230-01002	KNOB, frame cover LH	-	1	
6	09152-06001	NUT	1	1	
7	68141-15610	EMBLEM	1	1	
8	09125-03104	SCREW	2	2	
9	08321-21038	LOCK WASHER	2	2	
10	08311-11038	NUT	2	2	
11	09329-02001	CUSHION	1	1	
12	68363-26200	EMBLEM, company name	1	1	

FIG.22 CENTER STAND

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	42100-15000	STAND, center	1	1
2	09180-10001	SPACER	2	2
3	09100-10006	BOLT	2	2
4	09443-16005	SPRING	1	1
5	09321-10001	CUSHION	2	2
6	08312-12108	NUT	2	2
7	08321-21108	LOCK WASHER	2	2
8	42310-15100	STAND, prop	1	1
9	09443-14005	SPRING	1	1
10	09100-10007	BOLT	1	1
11	08312-32108	NUT	1	1
12	42330-15000	BRACKET	1	1
13	01111-10258	BOLT	2	2
14	08321-21108	LOCK WASHER	2	2





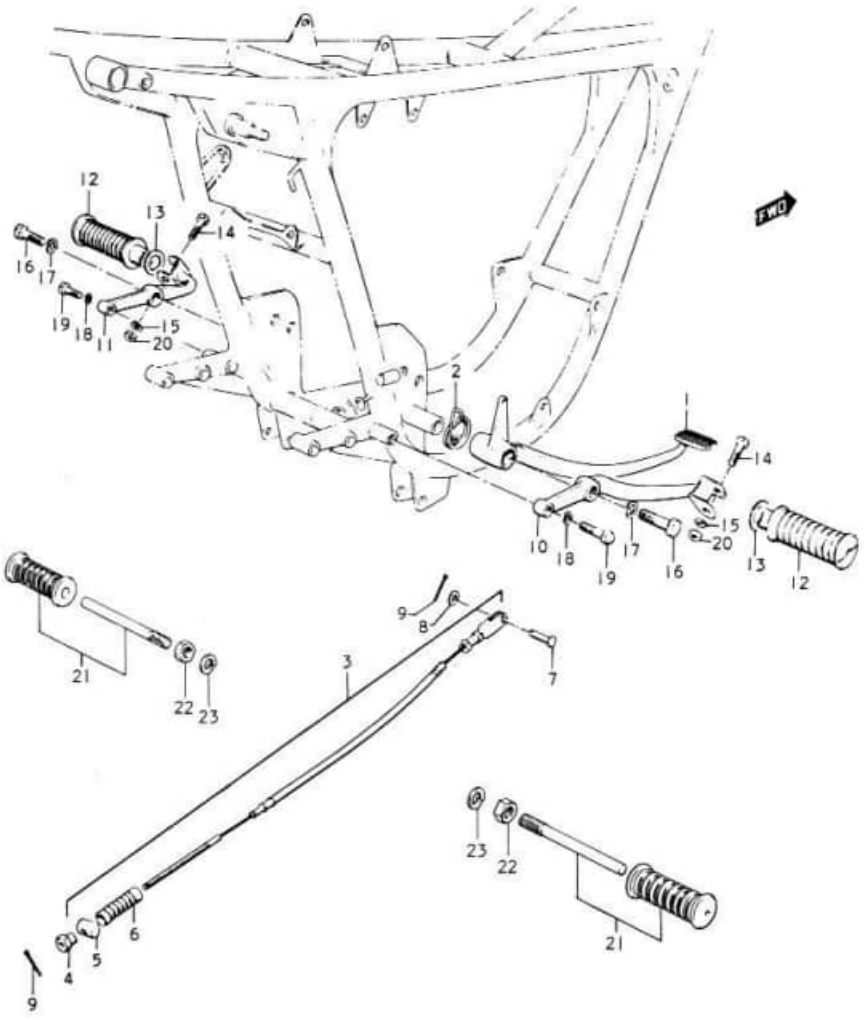
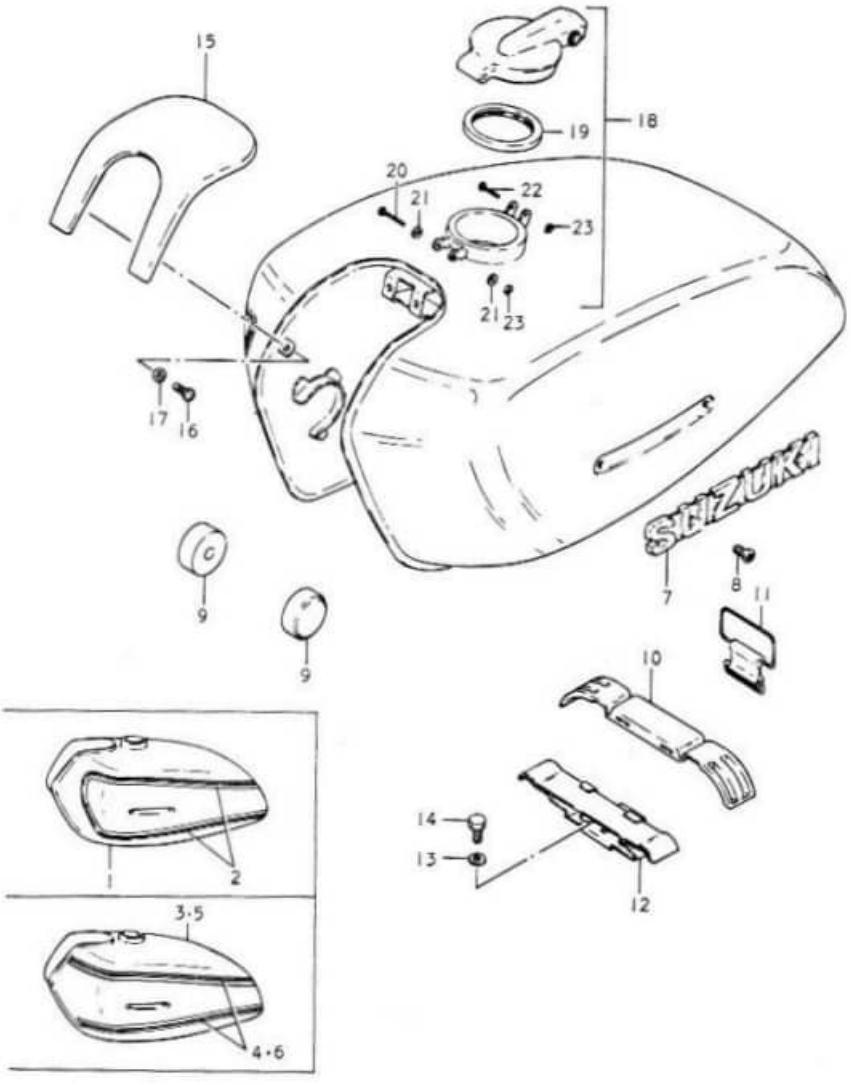


FIG.23 REAR BRAKE - FOOTREST

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	43110-15000	PEDAL, brake	1	1
2	09448-39001	SPRING	1	1
3	58500-15001	CABLE ASSY, rear brake	1	1
4	09150-06001	•NUT	1	1
5	09209-13003	•PIN	1	1
6	09287-05001	•BOOT	1	-
7	09200-05001	PIN	1	1
8	08322-21068	WASHER	1	1
9	04111-20158	COTTER PIN	2	2
10	43510-15000	BAR, front footrest RH	1	1
11	43520-15000	BAR, front footrest LH	1	1
12	43550-16400	RUBBER, front footrest	2	2
13	09160-22002	WASHER	2	2
14	09111-06005	BOLT	2	2
15	08322-21068	WASHER	2	2
16	09100-12101	BOLT, front	2	2
17	08321-21128	LOCK WASHER, front	2	2
18	08321-21088	LOCK WASHER, rear	2	2
19	01122-08358	BOLT	2	2
20	08311-11068	NUT	2	2
21	43600-10808	PILLION FOOTREST SET	2	2
22	08312-12108	NUT	2	2
23	08321-21108	LOCK WASHER	2	2

FIG.24 FUEL TANK



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1-1	44110-15640-00U	TANK, fuel	1	-
1-2	44110-15640-01J	TANK, fuel	1	-
2	68100-15880-998	·TAPE SET	1	-
3	44110-15650-797	TANK, fuel	-	1
4	68100-15890-61P	·TAPE SET	-	1
5	44110-15650-00T	TANK, fuel	-	1
6	68100-15890-61R	·TAPE SET	-	1
7	68111-31610	EMBLEM	2	2
8	09127-03002	SCREW	4	4
9	09329-10007	CUSHION, front	2	2
10	44541-31600	CUSHION, rear	1	1
11	09462-00049	BAND	1	1
12	44550-15602	BRACKET	1	1
13	08322-11088	WASHER	1	1
14	01122-08168	BOLT	1	1
15	44270-15600	COVER, front	1	1
16	02111-05108	SCREW	4	4
17	08322-21058	WASHER	4	4
18	44200-33011	CAP ASSY, fuel filler	1	1
19	44248-33011	·GASKET	1	1
20	44239-33010	·PIN, front	1	1
21	44238-33010	·WASHER	2	2
22	44233-33010	·PIN	1	1
23	09383-02003	·E RING	2	2

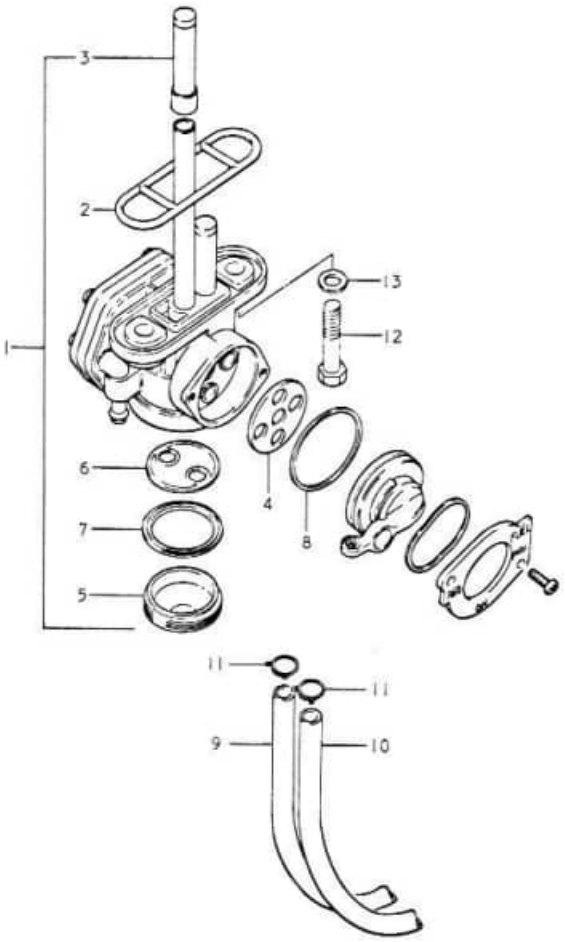


FIG.25 FUEL COCK

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	44300-15650	COCK ASSY, fuel	1	-	WHITE to 44300-15651
1-2	44300-15651	COCK ASSY, fuel	1	-	WHITE
1-3	44300-15600	COCK ASSY, fuel	-	1	BLACK
2	44348-31050	·O RING	1	1	
3	44322-31050	·FILTER	2	2	
4	44341-33150	·GASKET, lever	1	1	
5	44344-31050	·CUP	1	1	
6	44347-33150	·FILTER, cup	1	1	
7	44346-31050	·GASKET	1	1	
8	44353-33154	·V SEAL	1	1	for Ref.No. 1-2 & 1-3
9	09343-05031	HOSE, fuel RH	1	1	
10-1	09343-05018	HOSE, fuel LH	1	-	
10-2	09343-05135	HOSE, fuel LH	-	1	
11	09401-08401	CLIP	4	4	
12	09128-06006	BOLT	2	2	
13	09168-06010	GASKET	2	2	

FIG.26 SEAT

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	45100-15600-403	SEAT	1	-	
1-2	45100-15600-865	SEAT	-	1	from 45100-15600-403
2	09319-08002	BUSHING	2	2	
3	09180-08023	SPACER	1	1	
4	09100-08029	BOLT	1	1	to 09100-08030
5	08321-21088	LOCK WASHER	1	1	
6	09305-12008	BUSHING (1)	2	2	
7	09301-08001	BUSHING (2)	4	4	
8	08312-11088	NUT	1	1	
9	46310-15101	CARRER	-	1	OPT

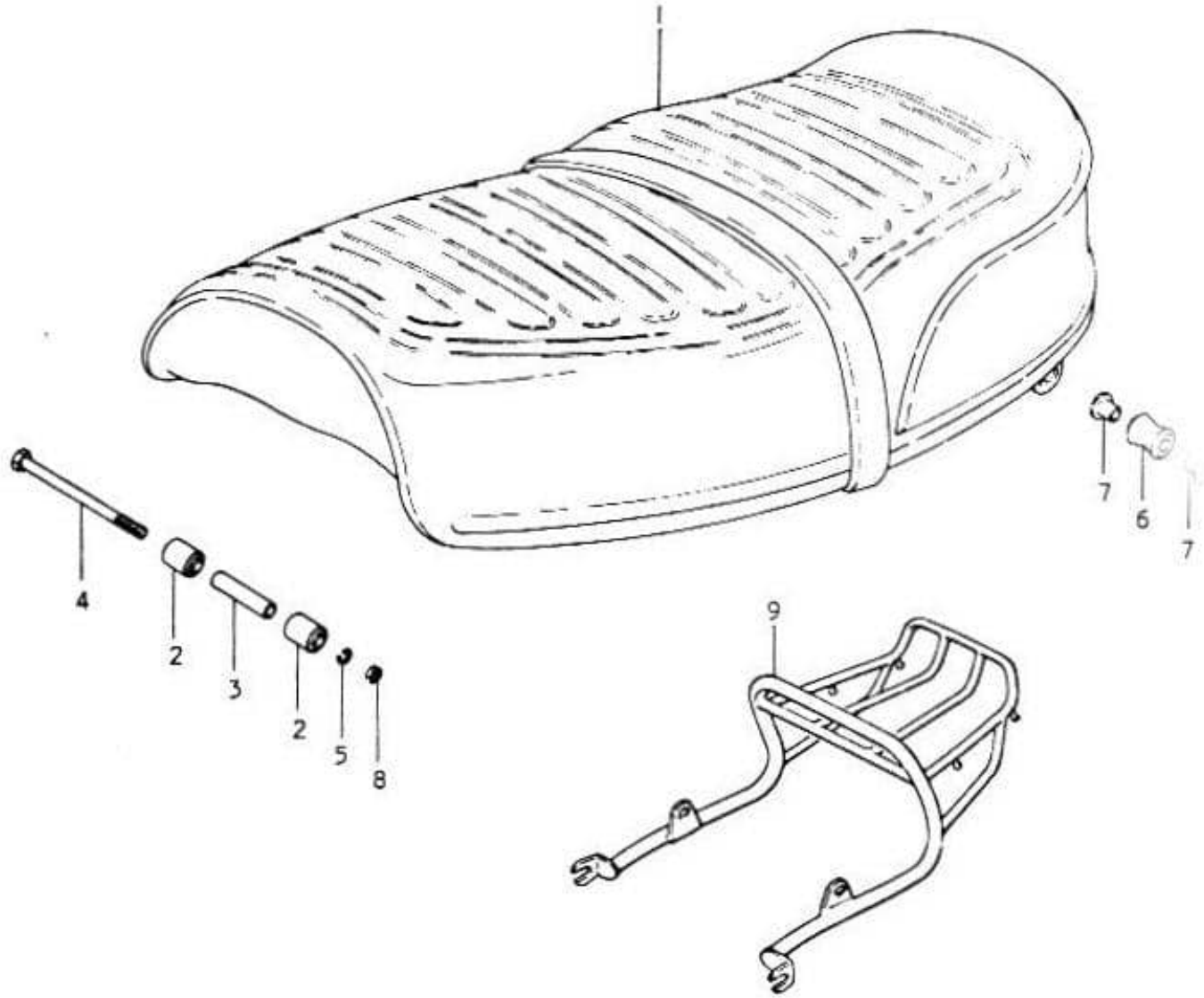
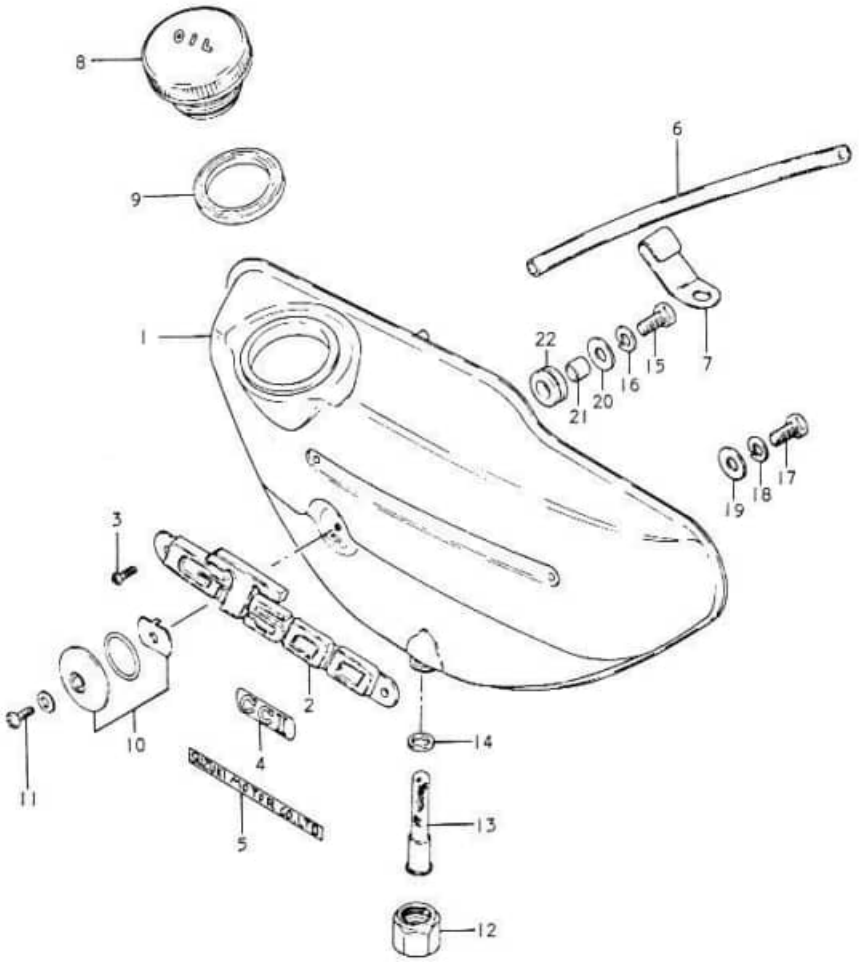
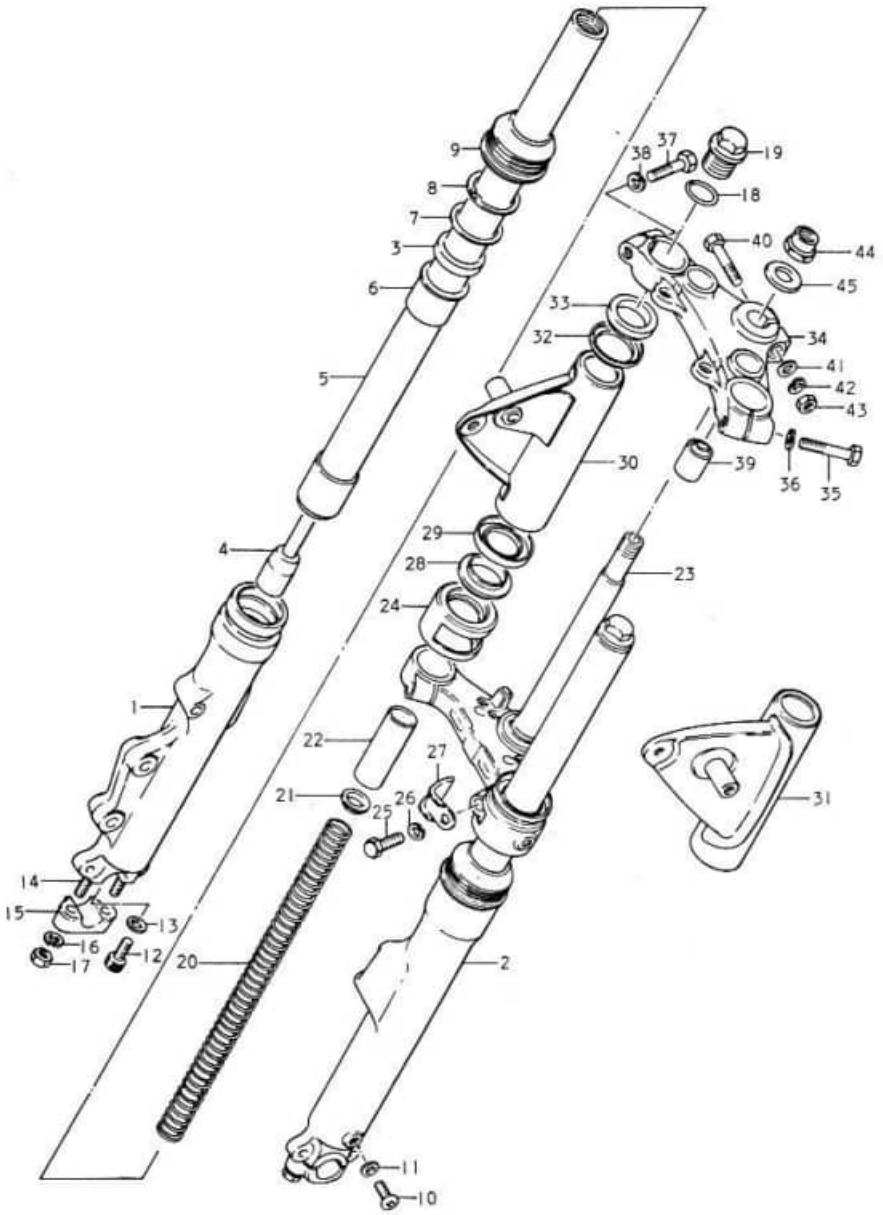


FIG.27 OIL TANK



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1-1	44610-15101-00U	TANK, oil	1	-
1-2	44610-15101-01J	TANK, oil	1	-
1-3	44610-15101-291	TANK, oil	-	1
2	68141-15610	EMBLEM	1	1
3	09125-03007	SCREW	2	2
4	68171-26000	EMBLEM, CCI	1	1
5	68363-26200	LABEL, company name	1	1
6	09344-05005	HOSE, breather	1	1
7	09403-08301	CLAMP	1	1
8	44651-11040	CAP, oil filler	1	1
9	44661-11000	GASKET	1	1
0	44640-11843	OIL LEVEL INSPECTION SET	1	1
1	02112-05168	SCREW	1	1
2	09361-14001	UNION, oil outlet	1	1
3	44720-11030	FILTER, oil	1	1
4	44733-11030	GASKET	1	1
5	01112-06168	BOLT	3	2
6	08321-21068	LOCK WASHER	3	-
7	01131-06128	BOLT	-	1
18	08321-21068	LOCK WASHER	-	1
19	08322-21068	WASHER	-	1
20	09160-06027	WASHER	2	2
21	09180-06038	SPACER	2	2
22	09320-08007	CUSHION	2	2

FIG.28 FRONT FORK



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
	51100-15210-019	FORK ASSY, front	1	-
	51100-15211-291	FORK ASSY, front	-	1
1	51131-34710	·OUTER TUBE, RH	1	1
2	51131-34010	·OUTER TUBE, LH	1	1
3	51153-34010	·OIL SEAL	2	2
4	51146-34010	·PIECE, oil lock	2	2
5	51110-15210	·INNER TUBE	2	2
6	51152-34010	·GUIDE, inner tube	2	2
7	51158-34010	·WASHER	2	2
8	51156-34010	·CIRCLIP	2	2
9	51557-34110	·COVER, dust	2	2
10	02111-04087	·PLUG, oil drain	2	2
11	51183-03010	·GASKET	2	2
12	51147-31010	·BOLT, oil lock piece	2	2
13	51148-34010	·GASKET	2	2
14	01421-08308	·STUD BOLT, axle holder	4	4
15	51132-31010	·HOLDER, axle	2	2
16	08321-21088	·LOCK WASHER	4	4
17	09140-08005	·NUT	4	4
18	51181-18510	·O RING	2	2
19	51351-31010	·CAP, inner tube	2	2
20	51171-34110	·SPRING	2	2
21	51172-34110	·GUIDE, spring	2	2
22	51176-15210	·SPACER, spring	2	2
23	51410-15210	·STEERING STEM	1	1

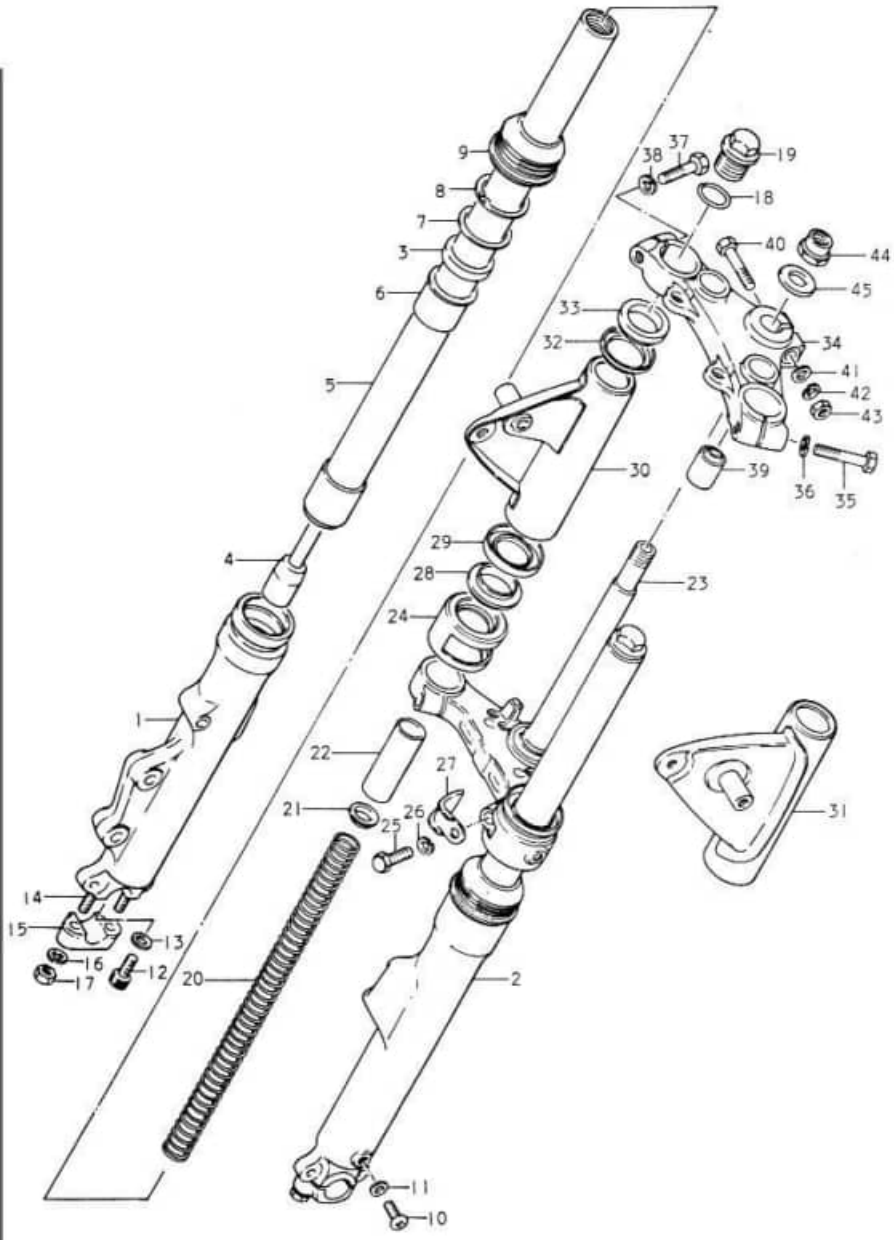


FIG.28 FRONT FORK

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
24	51575-37010	·COVER, steering stem	2	2
25	01122-10408	·BOLT	2	2
26	08321-21108	·LOCK WASHER	2	2
27	34991-18110	·CLIP, cable	1	1
28	51553-31010	·CUSHION, cover guide	2	2
29	51551-31010	·GUIDE, cover lower	2	2
30-1	51530-33110	·COVER, fork RH	1	-
30-2	51530-33611-291	·COVER, fork RH	-	1
31-1	51540-33110	·COVER, fork LH	1	-
31-2	51540-33611-291	·COVER, fork LH	-	1
32	51555-31010	·GUIDE, cover upper	2	2
33	51556-31010	·CUSHION, cover guide	2	2
34	51311-15210-019	·STEERING STEM HEAD	1	1
35	01121-10407	·BOLT, LH	1	1
36	08321-21108	·LOCK WASHER	1	1
37	51451-34710	·BOLT, RH	1	1
38	08321-21108	·LOCK WASHER	1	1
39	09319-10009	·BUSHING	2	2
40	01122-08508	·BOLT, center	1	1
41	08322-21088	·WASHER	1	1
42	08321-21088	·LOCK WASHER	1	1
43	08312-11088	·NUT	1	1
44	51353-31710	·NUT	1	1
45	51356-11010	·WASHER	1	1

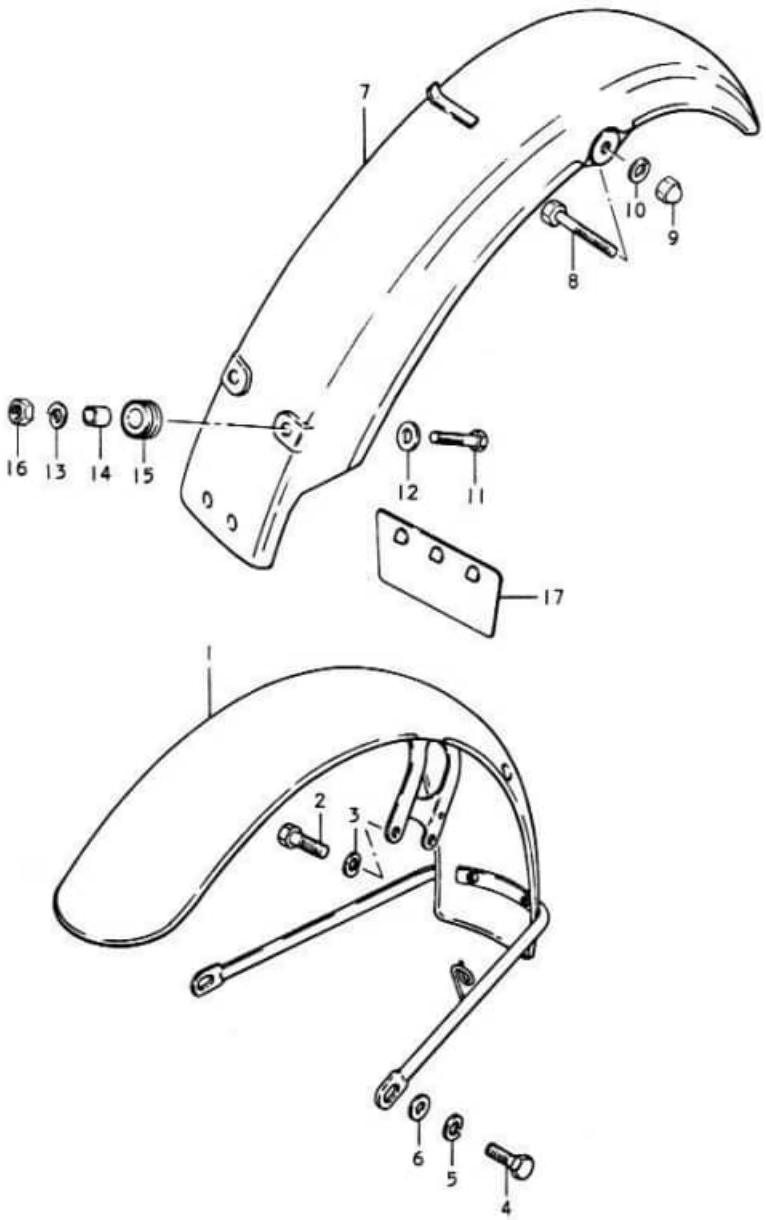
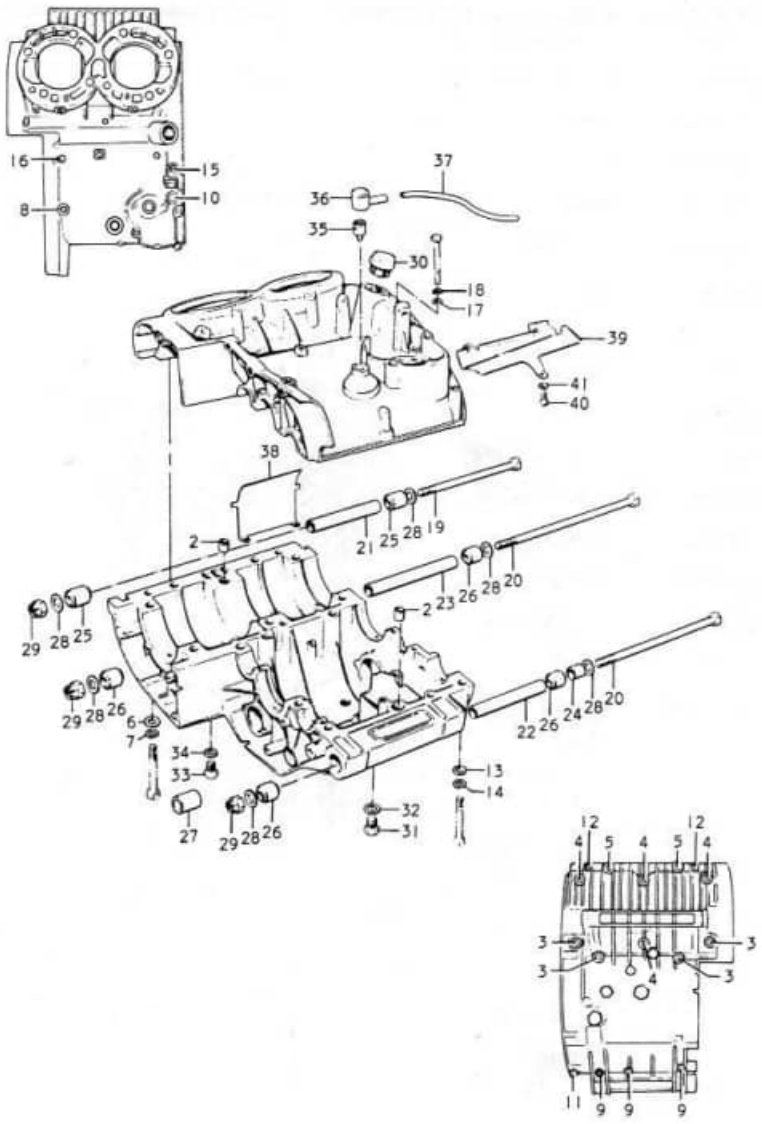


FIG.29 FENDER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	53100-31703	FENDER, front	1	1
2	01122-08168	BOLT	4	4
3	08321-21088	LOCK WASHER	4	4
4	01112-06168	BOLT	2	2
5	08321-21068	LOCK WASHER	2	2
6	08322-21068	WASHER	2	2
7-1	63110-15100	FENDER, rear	1	-
7-2	63110-15630	FENDER, rear	-	1
8	09100-08002	BOLT	2	2
9	08313-11087	NUT	2	2
10	08321-21088	LOCK WASHER	2	2
11	01112-06208	BOLT	2	2
12	09160-06004	WASHER	2	2
13	08321-21088	LOCK WASHER	2	2
14	09180-06002	SPACER	2	2
15	09320-09002	CUSHION	2	2
16	08311-11068	NUT	2	2
17	63411-15101	MUD GUARD	1	1

FIG.2 CRANKCASE



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	11300-15840	CRANKCASE SET	1	1	
2	09206-13001	·PIN	2	2	
3	09100-10035	·BOLT	4	4	
4	01122-10808	·BOLT	4	4	
5	01122-10658	·BOLT	2	2	
6	08322-11108	·WASHER	10	10	
7	08321-21108	·LOCK WASHER	10	10	
8	01122-08908	·BOLT	1	1	
9	01122-08758	·BOLT	3	3	
10	01122-08708	·BOLT	1	1	
11	01122-08658	·BOLT	1	1	
12	01122-08608	·BOLT	2	2	
13	08322-11088	·WASHER	8	8	
14	08321-21088	·LOCK WASHER	8	8	
15	01112-06958	·BOLT	1	1	
16	01112-06708	·BOLT	1	1	
17	08322-21068	·WASHER	2	2	
18	08321-21068	·LOCK WASHER	2	2	
19	09104-12104	BOLT	1	1	12x180
20	09104-12105	BOLT	2	2	12x222
21	09180-12024	SPACER	1	1	
22	09180-12025	SPACER	1	1	
23	09180-12026	SPACER	1	1	
24	09180-12027	SPACER	1	1	
25	09319-12005	BUSHING	2	2	
26	09319-12006	BUSHING	4	4	

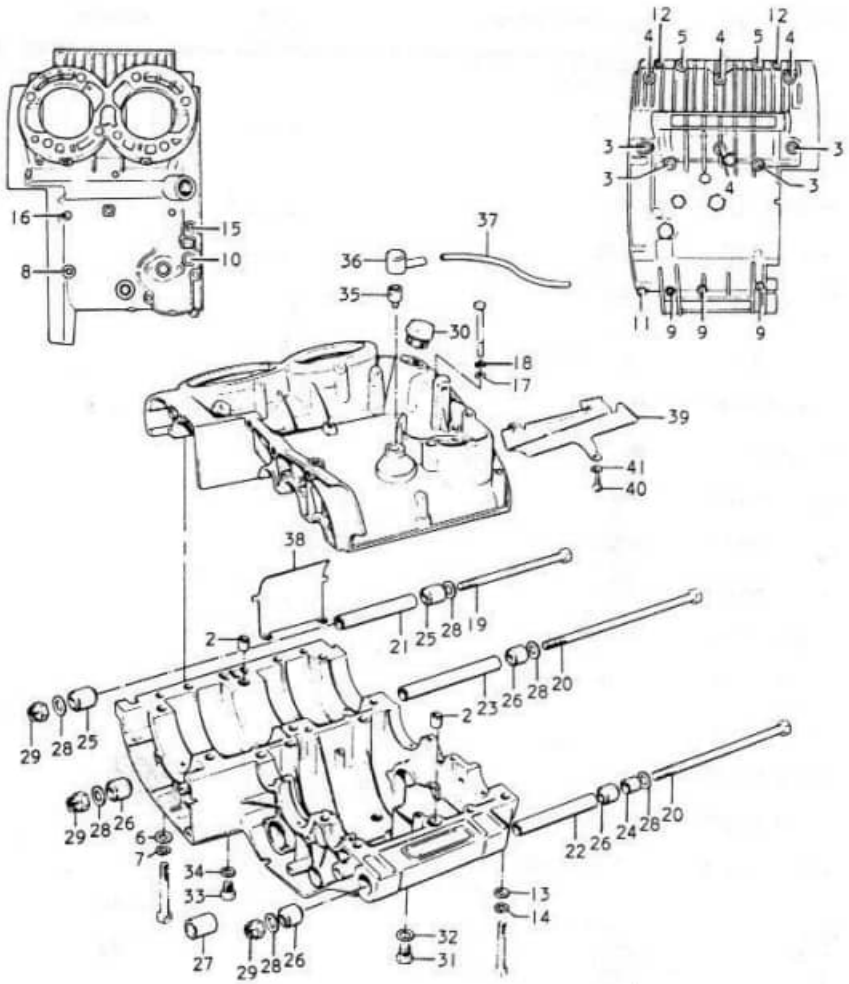
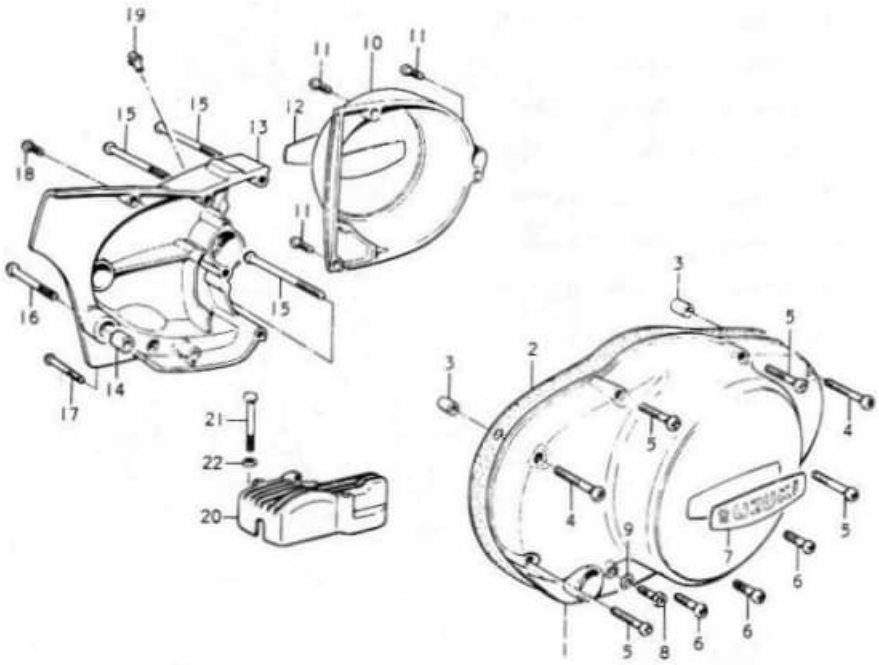


FIG.2 CRANKCASE

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
27	09320-18001	CUSHION	1	1
28	08322-11128	WASHER	6	6
29	09159-12102	NUT	3	3
30	09259-19001	PLUG, oil filler	1	1
31	09247-12102	PLUG, oil drain	1	1
32	09168-12003	GASKET	1	1
33	09247-10001	PLUG, crank drain	1	1
34	09168-10002	GASKET	1	1
35	24821-09000	PLUG, breather	1	1
36	24822-20000	CAP, breather plug	1	1
37	09344-03020	HOSE, breather	1	1
38	24829-15000	DEFLECTOR, oil	1	1
39	24881-15000	PLATE, oil guide	1	1
40	02112-06128	SCREW	3	3
41	08321-21068	LOCK WASHER	3	3

FIG.3 COVER



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	11341-15601	COVER, clutch	1	1
2	11482-15000	GASKET	1	1
3	04211-09129	PIN	2	2
4	02112-06458	SCREW	2	2
5	02112-06408	SCREW	4	4
6	02112-06258	SCREW	3	3
7	68233-33000	EMBLEM	1	1
8	09128-06004	PLUG, oil level	1	1
9	09168-06001	GASKET	1	1
10	11351-15601	COVER, magneto	1	1
11	02112-06208	SCREW	3	3
12	68233-34000	EMBLEM	1	1
13	11361-15601	COVER, engine sprocket	1	1
14	04211-09129	PIN	1	1
15	02112-06758	SCREW	3	3
16	02112-06458	SCREW	1	1
17	02112-06358	SCREW	1	1
18	02112-06307	SCREW	1	1
19	08351-11009	NIPPLE, grease	1	1
20	11411-15001	COVER, oil pump	1	1
21	01112-06358	BOLT	2	2
22	08322-21068	WASHER	2	2

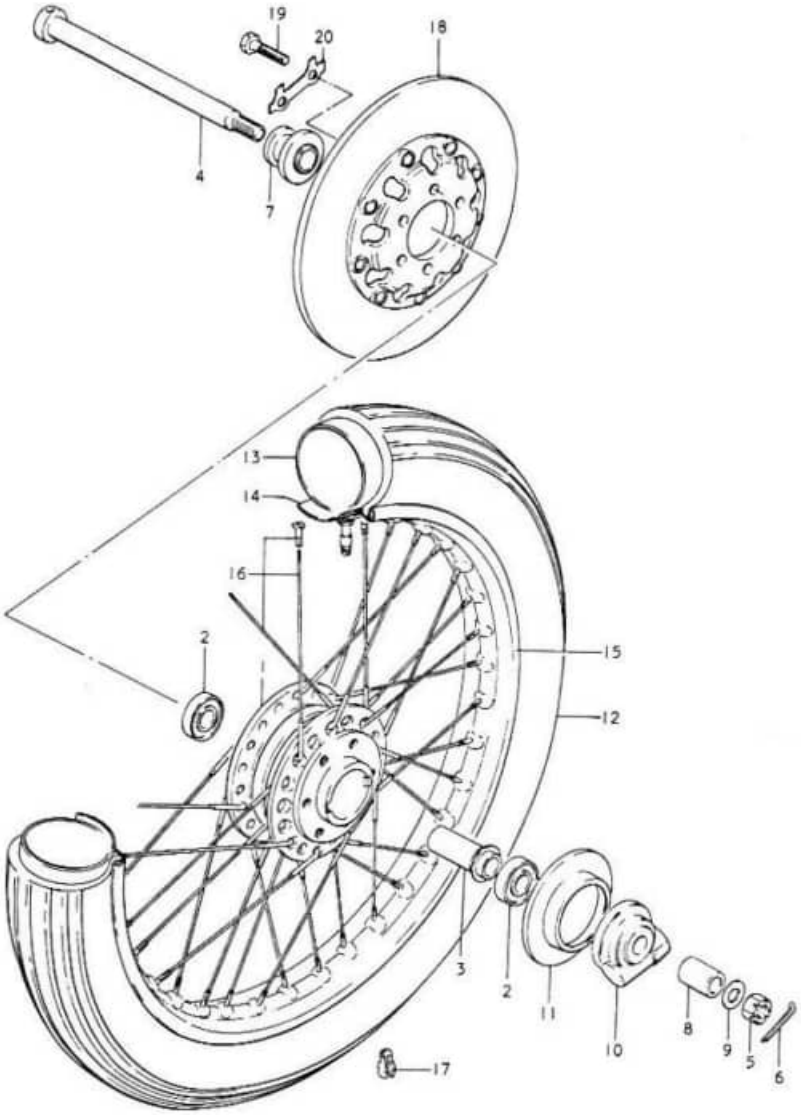


FIG.30 FRONT WHEEL

ef.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	54100-18831	HUB	1	1	
2	08123-63020	*BEARING	2	2	
3	54730-18400	*SPACER	1	1	
4	54711-33002	AXLE, front	1	1	
5	08314-31128	NUT	1	1	
6	04111-30308	COTTER PIN	1	1	
7	54740-18401	SPACER, RH	1	1	
8	09180-15034	SPACER	2	2	
9	08322-21128	WASHER	1	1	
0	54600-18401	BOX, speedometer gear	1	1	
1	54871-18400	DUST SEAL	1	1	
2	55100-15620	TIRE	1	1	325 S19
3	55200-15010	TUBE, inner	1	1	325 S19
4	55261-15010	PROTECTOR	1	1	325 S19
15	55311-34020	RIM	1	1	185x19
16	55320-34805	SPOKE SET	1	1	
17-1	55411-11000	BRANCER, S	(0~3)		
17-2	55412-11000	BRANCER, L	(0~3)		
18	59210-37001	DISK, front brake	1	1	
19	09100-08094	BOLT	6	6	
20	09169-08016	WASHER	3	3	

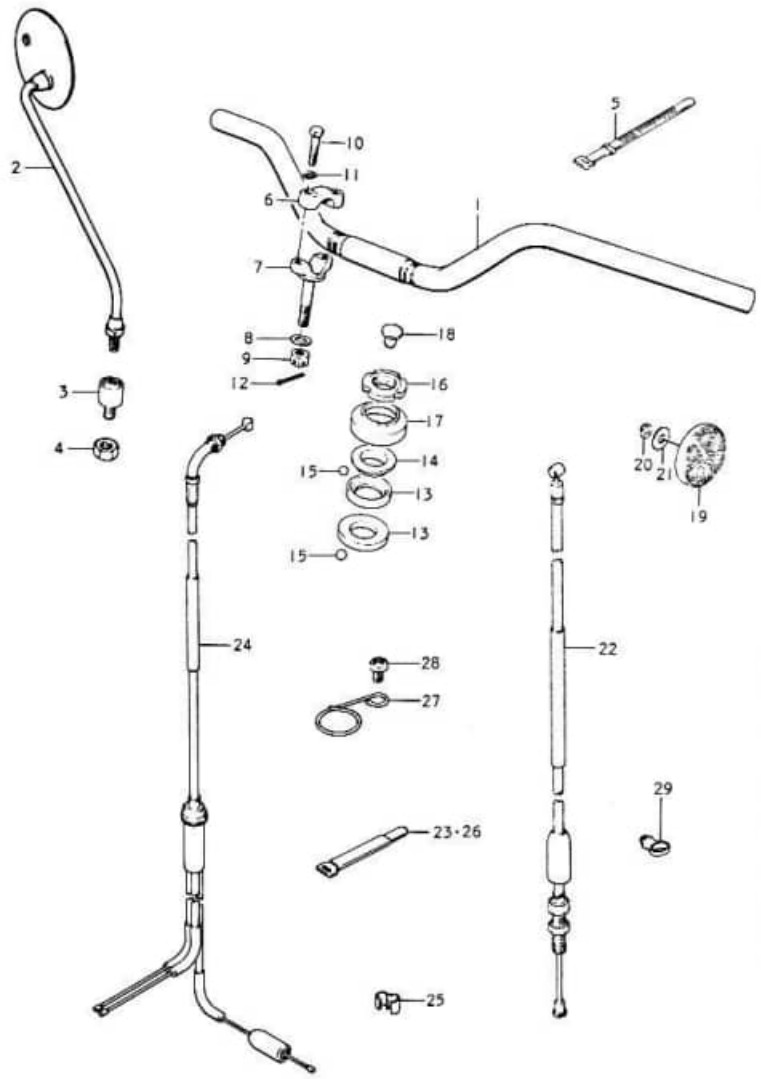


FIG.31 HANDLEBAR - CONTROL CABLE

ef.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-15103	HANDLEBAR	1	1	
2-1	56500-31011	MIRROR, rear view RH	1	1	
2-2	56600-31011	MIRROR, rear view LH	1	1	
3	56700-31001	CUSHION	2	2	from 56700-31000
4	08312-32108	NUT	2	-	
5	09407-12402	BAND, harness	2	2	
6	56211-33000	CLAMP, handlebar upper	2	2	
7	56221-33000	CLAMP, handlebar lower	2	2	
8	09160-10035	WASHER	2	2	
9	08314-11108	NUT	2	2	
10	01221-08307	BOLT	4	4	
11	08321-21088	LOCK WASHER	4	4	
12	04111-20308	COTTER PIN	2	2	
13	51611-33002	INNER RACE, steering	2	2	
14	51621-30001	OUTER RACE, steering	1	1	
15	06111-08003	BALL, steering	36	36	
16	51631-28000	NUT, steering stem	1	1	
17	51643-30000	DUST SEAL, steering upper	1	1	
18	09250-08005	CAP, steering	1	1	

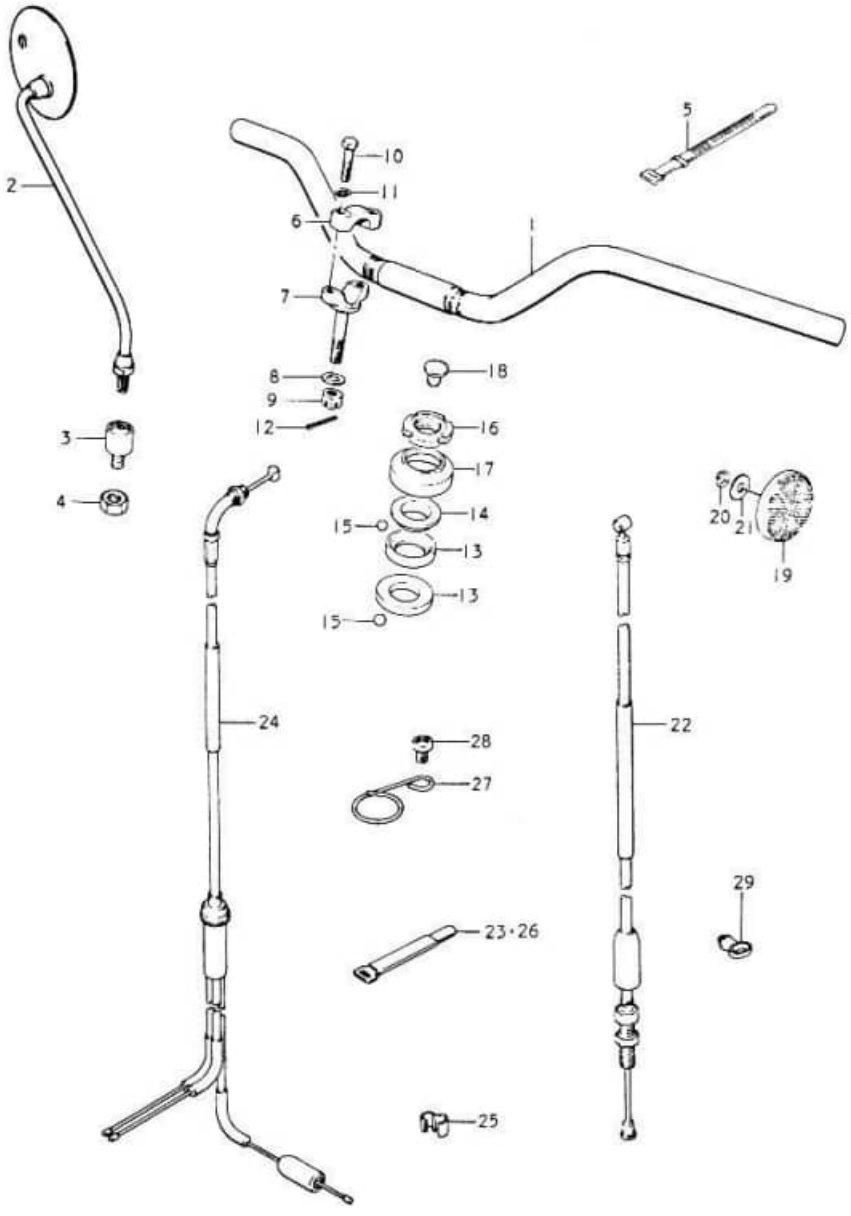


FIG.31 HANDLEBAR - CONTROL CABLE

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
19-1	35950-31010	REFLEX REFLECTOR, front	2	-
19-2	35950-45010	REFLEX REFLECTOR, front	-	2
20	08321-21058	LOCK WASHER	2	2
21	08322-21058	WASHER	2	2
22	58200-15100	CABLE, clutch	1	1
23	09407-18301	CLAMP	1	1
24	58300-15102	CABLE, throttle	1	1
25	09408-00002	CLIP	1	1
26	09407-18301	CLAMP	1	1
27	51455-31000	CLAMP	1	1
28	02111-06087	SCREW	1	1
29	58621-21202	GUIDE, cable	1	1

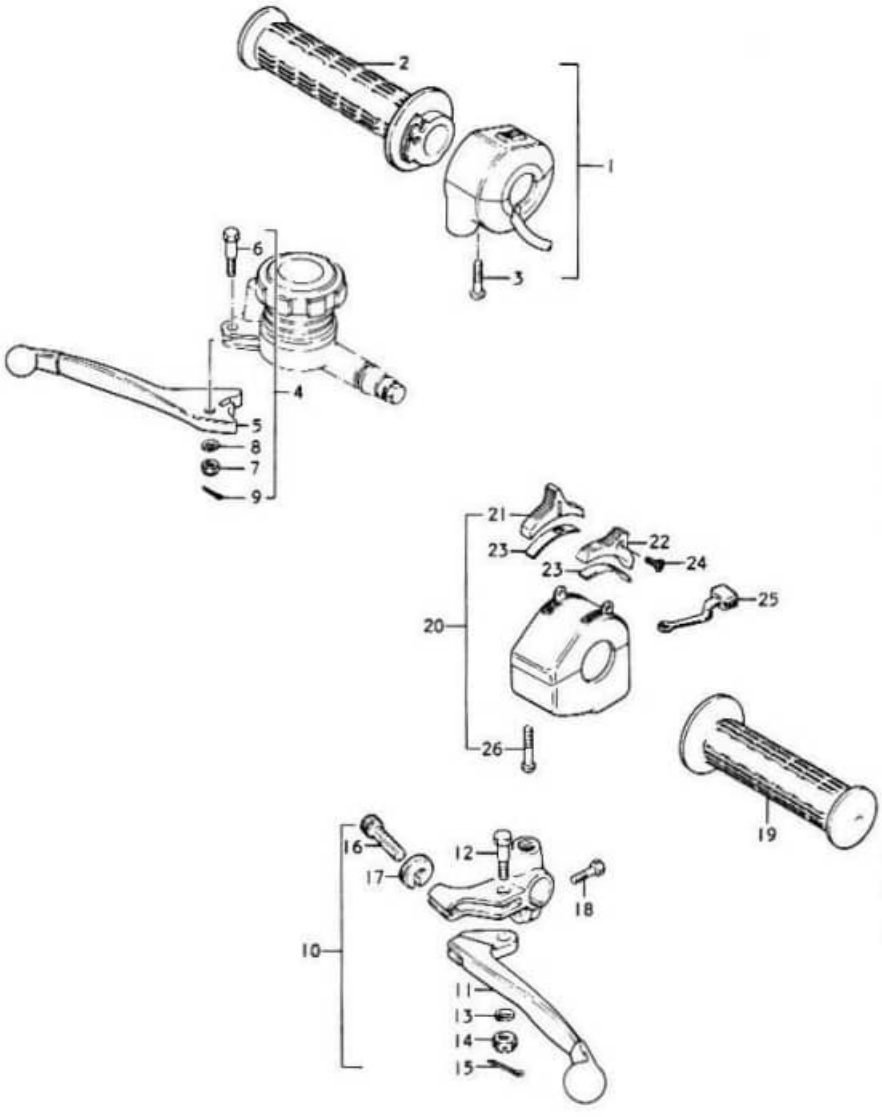


FIG.32 HANDLE SWITCH

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	57100-15610	GRIP ASSY, throttle	1	1
2	57110-33012	·GRIP, throttle	1	1
3	02111-05257	·SCREW	2	2
4	57300-18621	LEVER ASSY, brake	1	1
5	57420-18620	·LEVER, brake	1	1
6	57431-18620	·BOLT	1	1
7	57433-11010	·NUT	1	1
8	08321-21068	·LOCK WASHER	1	1
9	04111-16158	·COTTER PIN	1	1
10	57500-18601	LEVER ASSY, clutch	1	1
11	57620-11011	·LEVER, brake	1	1
12	57431-11010	·BOLT	1	1
13	08321-21068	·LOCK WASHER	1	1
14	57433-11010	·NUT	1	1
15	04111-16158	·COTTER PIN	1	1
16	57441-11010	·ADJUSTER, cable	1	1
17	57442-11010	·NUT	1	1
18	01112-06208	·BOLT	1	1
19	57211-15110	GRIP, LH	1	1
20	57700-18654	SWITCH ASSY, handle LH	1	1
21	57712-33011	·KNOB, lighting switch	1	1
22	57713-33010	·KNOB, dimmer switch	1	1
23	57714-33010	·SPRING	2	2
24	03121-03088	·SCREW	2	2
25	57650-33013	·KNOB, turn signal lamp switch	1	1
26	09125-05105	·SCREW	2	2

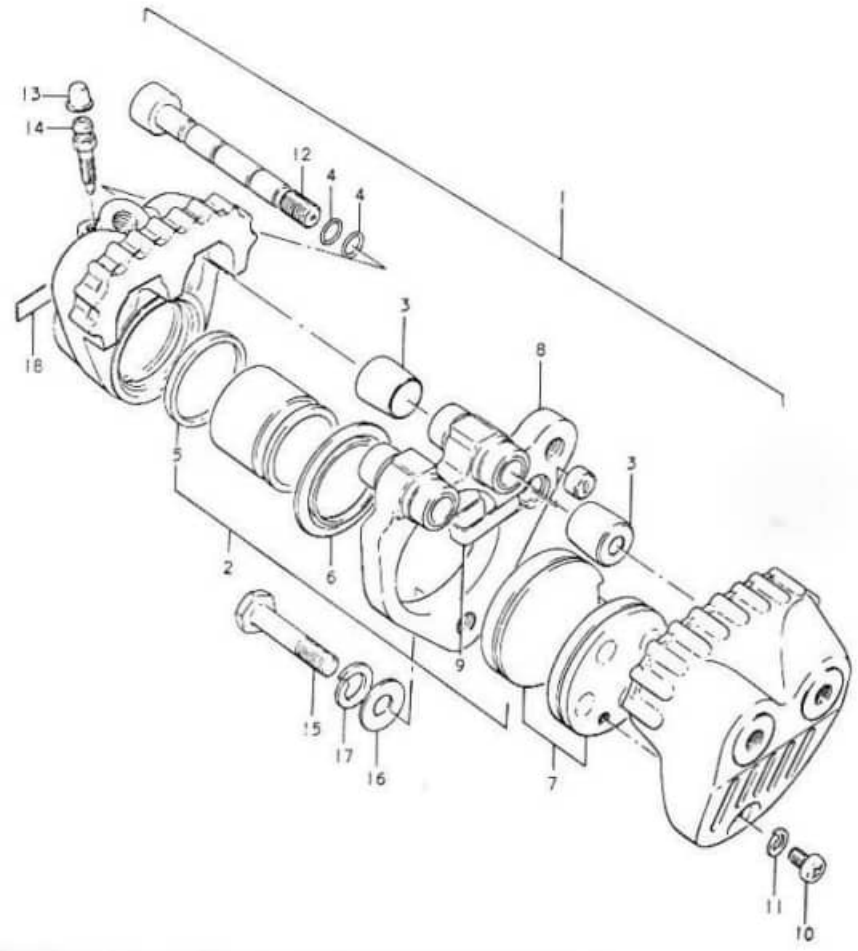


FIG.33 CALIPERS

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	59100-33111	CALIPERS ASSY	1	1
2	59100-18831	·PISTON & PAD SET	1	1
3	59112-18410	··DUST SEAL	4	4
4	59111-18410	··O RING	4	4
5	59107-18410	··SEAL	1	1
6	59108-18410	··BOOT	1	1
7	59100-18840	··PAD SET	1	1
8	59150-18411	·HOLDER, calipers	1	1
9	59153-18410	·STOPPER, holder	1	1
10	02112-06128	·SCREW	1	1
11	08321-21068	·LOCK WASHER	1	1
12	59105-18411	·AXLE	2	2
13	59122-18410	·CAP, bleeder	1	1
14	59121-18410	·BLEEDER	1	1
15	09104-10007	BOLT	2	2
16	08322-21108	WASHER	2	2
17	08321-21108	LOCK WASHER	2	2
18	68334-18400	EMBLEM	1	1

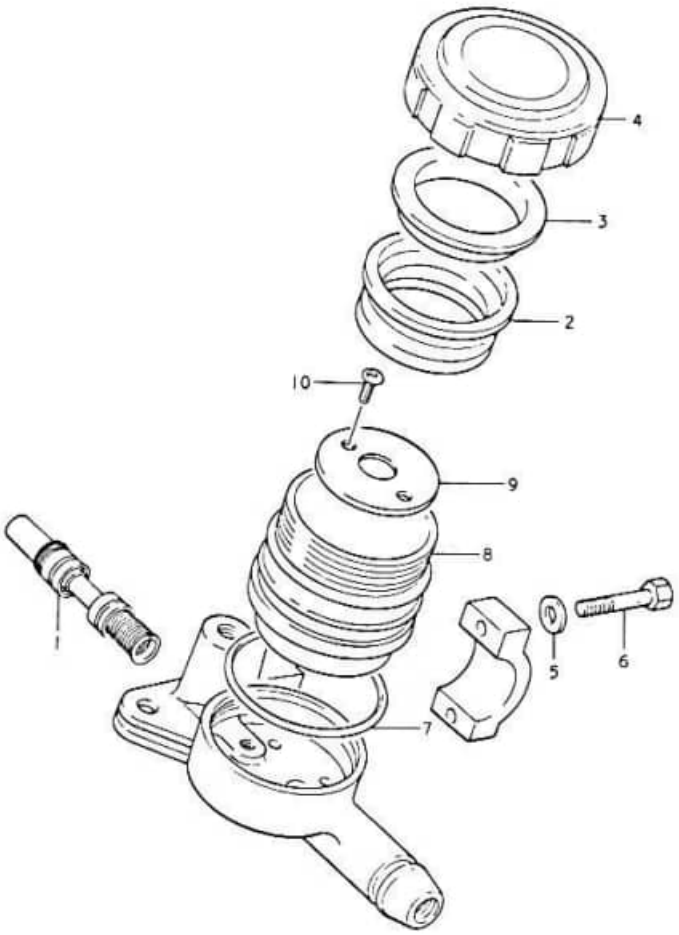


FIG.34 MASTER CYLINDER

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
	59600-33603	CYLINDER ASSY, master	1	1	NISSIN
1	59600-18824	·PISTON & CUP SET	1	1	
2	59667-18440	·DIAPHRAGM	1	1	
3	59668-18441	·PLATE	1	1	
4	59669-18604	·CAP	1	1	
5	08322-21068	·WASHER	2	2	
6	01112-06258	·BOLT	2	2	
7	59686-33600	·O RING	1	1	
8	59687-33603	·RESERVOIR	1	1	
9	59685-33600	·PLATE	1	1	
10	09125-03105	·SCREW	2	2	

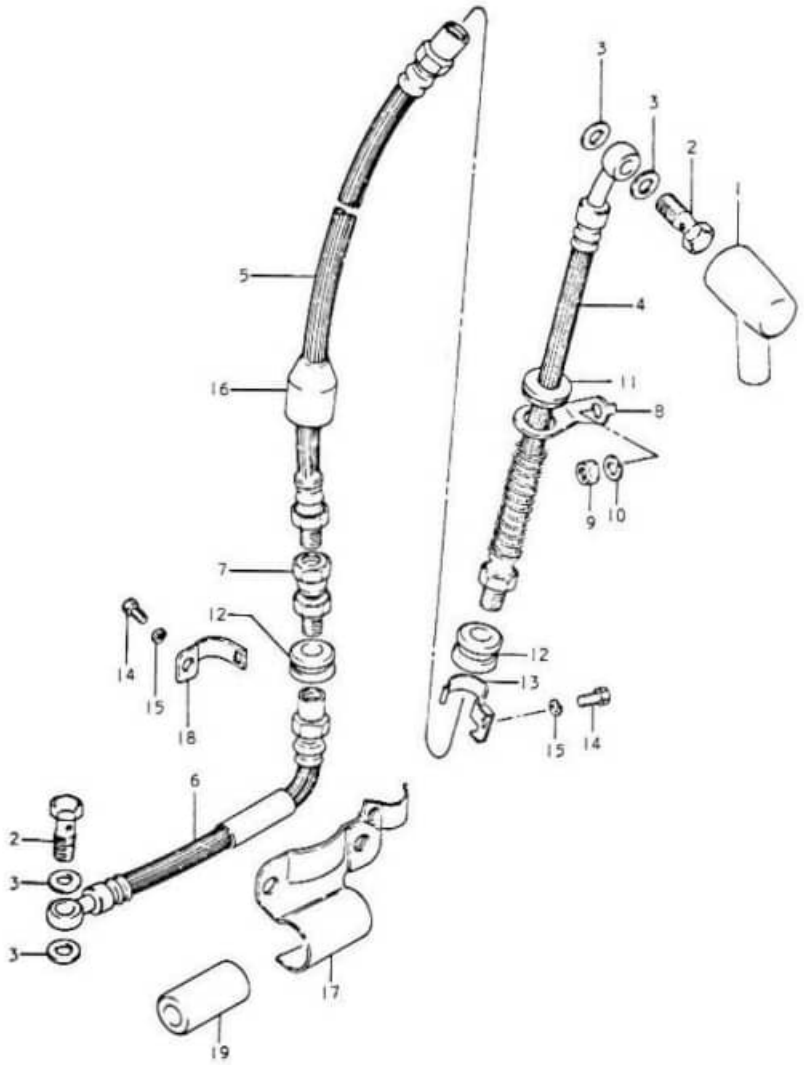
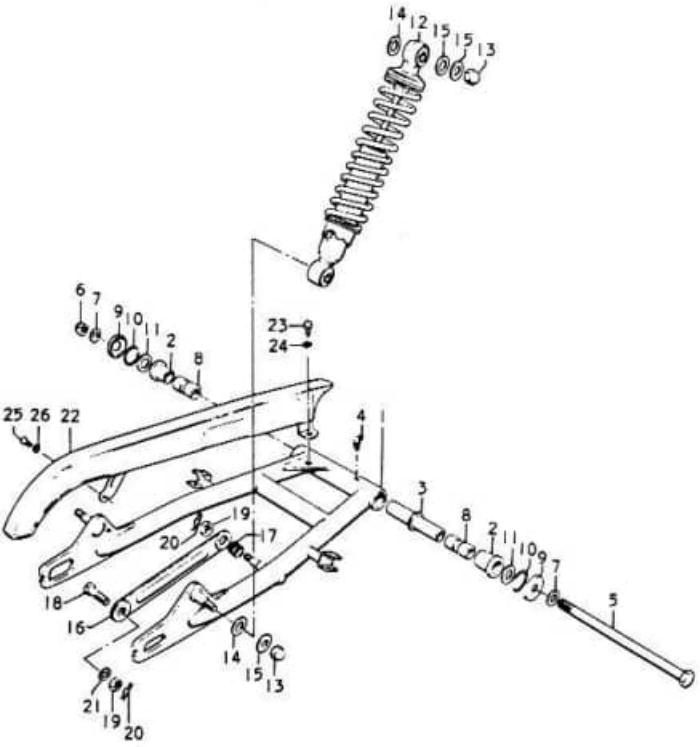


FIG.35 BRAKE HOSE

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	59711-18400	BOOT, master cylinder	1	1
2	09360-10003	BOLT	2	2
3	09161-10005	WASHER	4	4
4	59480-34902	HOSE, brake No.1	1	1
5	59240-34011	HOSE, brake No.2	1	1
6	59520-31012	HOSE, brake No.3	1	1
7	59290-33110	ADAPTOR, brake hose	1	1
8	59243-18401	GUIDE, brake hose	1	1
9	08312-32108	NUT	1	1
10	08321-21108	LOCK WASHER	1	1
11	09308-14007	GROMMET	1	1
12	09305-14003	BUSHING	2	2
13	51266-18400	CLAMP	1	1
14	09128-06011	SCREW	2	2
15	08321-21068	LOCK WASHER	2	2
16	59265-33100	BOOT, adaptor	1	1
17	59280-33101	COVER, brake hose	1	1
18	59268-33100	CLAMP	1	1
19	09320-14003	CUSHION	1	1

RM

FIG.36 REAR SWINGING ARM



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	61100-15840-019	REAR SWINGING ARM SET	1	1	to 61100-15841-019
2-1	09307-22002	·BUSHING	2	-	to 09307-22003
2-2	09307-22003	·BUSHING	-	2	
3	61280-15000	·SPACER	1	1	
4	08351-31008	·NIPPLE, grease	1	1	
5	61211-15006	SHAFT, pivot	1	1	
6	09159-14003	NUT	1	1	
7	08322-11148	WASHER	2	2	
8	61251-15001	SPACER, pivot	2	2	from 61251-15000
9	61262-15000	COVER, dust seal	2	2	
10	09280-30001	O RING	2	2	
11	09160-14009	WASHER	2	2	
12	62100-18602	SHOCK ABSORBER, rear	2	2	
13	08313-11107	NUT	4	4	
14	08322-11128	WASHER	4	4	
15	09160-10001	WASHER	8	8	
16	64310-15000	TORQUE LINK, rear vrake	1	1	
17	09440-18002	SPRING	1	1	
18	09101-10003	BOLT	1	1	
19	08311-11108	NUT	2	2	
20	09385-10001	CLIP	2	2	
21	08321-21108	LOCK WASHER	1	1	

FIG.36 REAR SWINGING ARM

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
22-1	61310-15101	CHAIN CASE	1	-	
22-2	61310-15102	CHAIN CASE	-	1	from 61310-15101
23	01112-06128	BOLT	1	1	
24	08321-21068	LOCK WASHER	1	1	
25	02121-05127	SCREW	1	1	
26	08323-31058	LOCK WASHER	1	1	

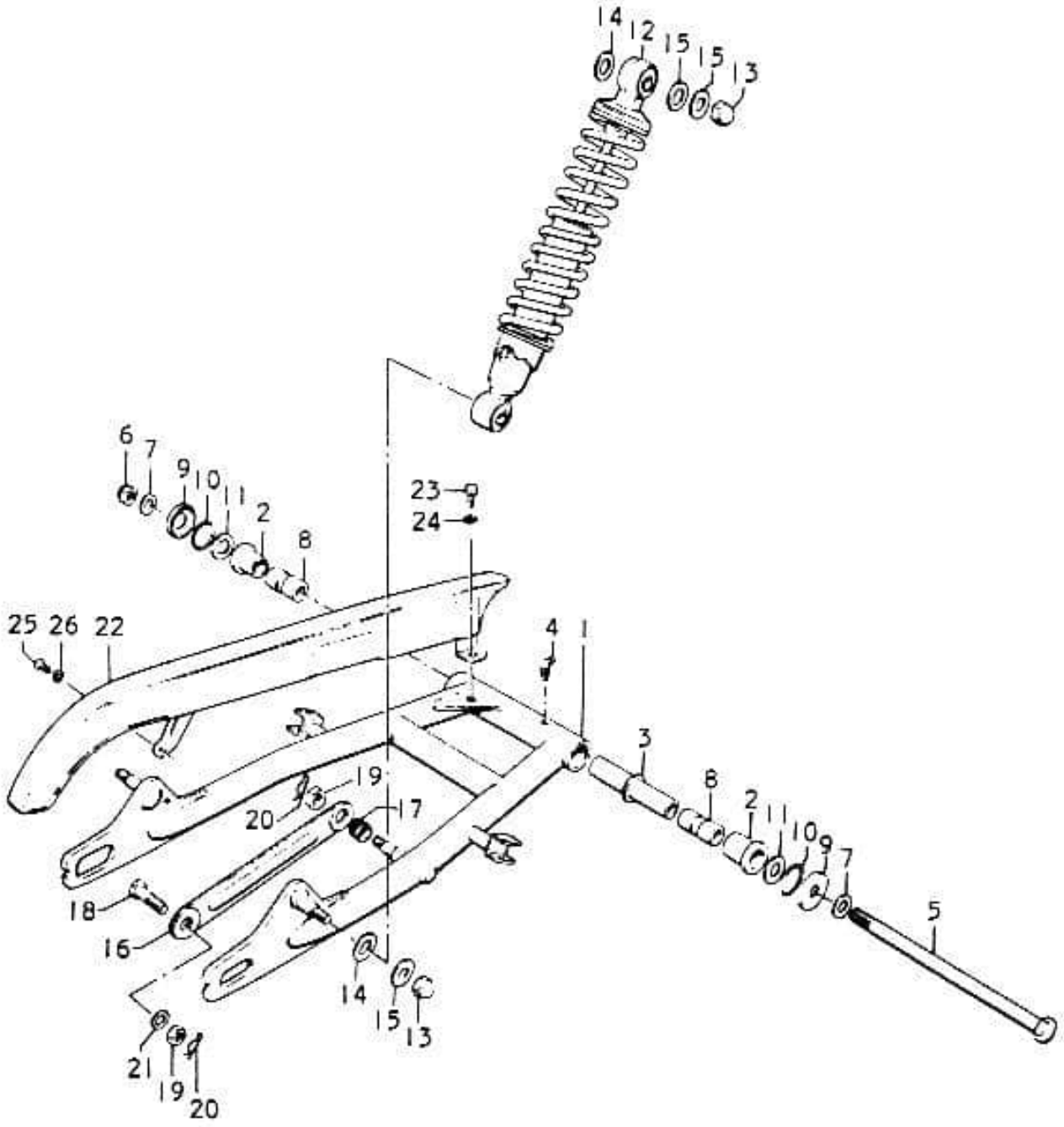
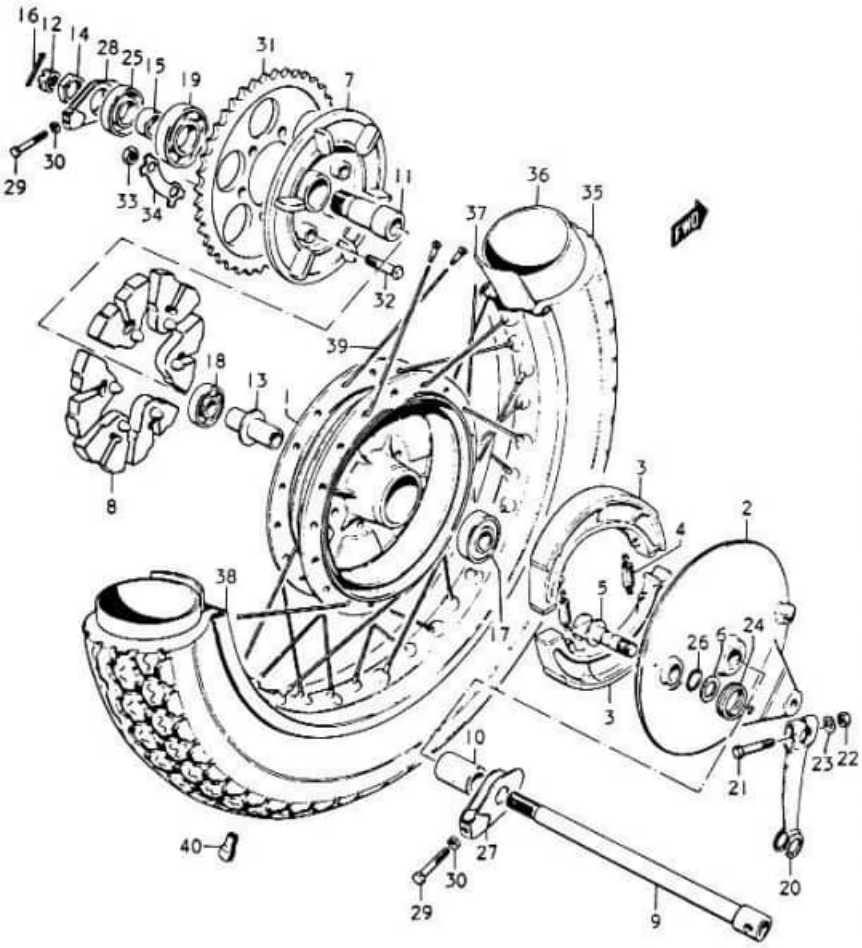
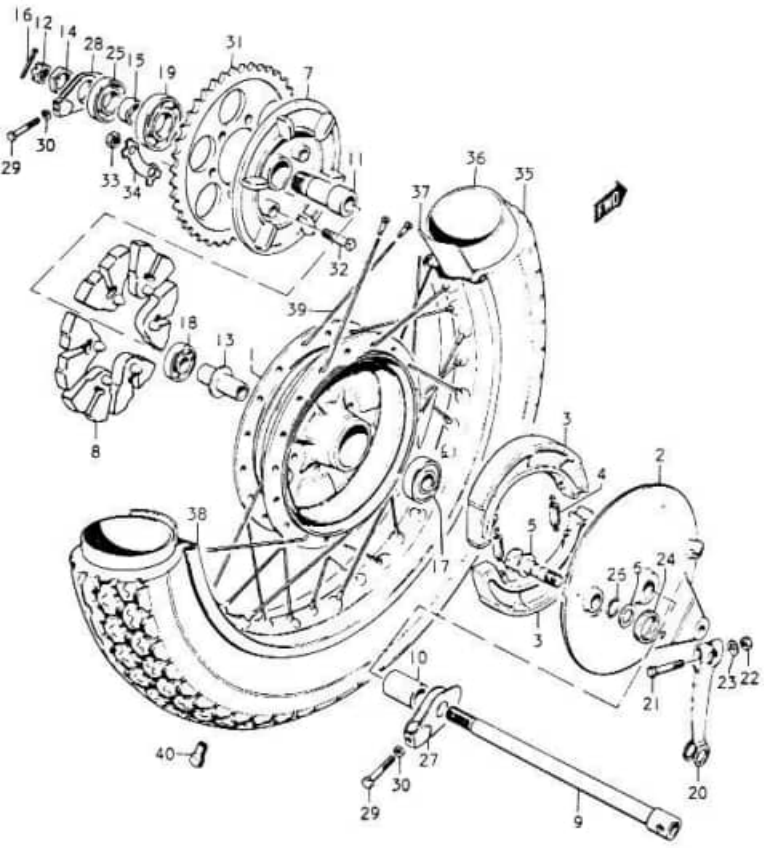


FIG.37 REAR WHEEL



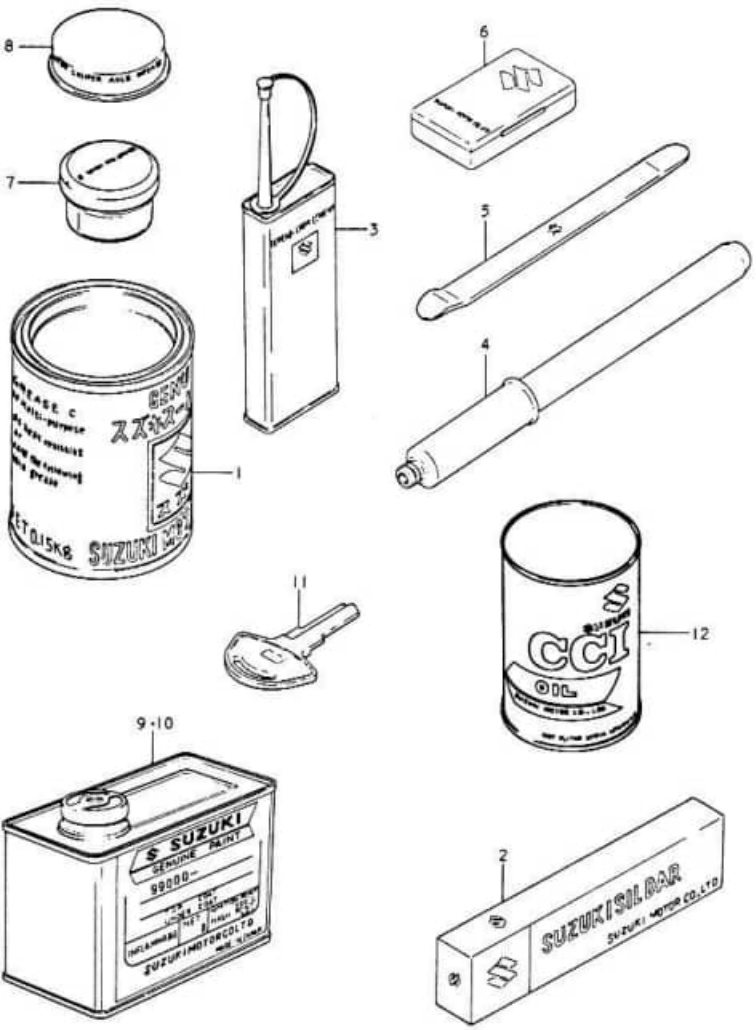
Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	64110-11001	HUB	1	1
2	64210-11002	PANEL	1	1
3	64410-11002	SHOE, brake	2	2
4	55420-30000	SPRING	2	2
5	54440-33001	CAM, brake	1	1
6	09160-15001	WASHER	1	1
7	64611-11000	DRUM, sprocket	1	1
8	64651-11000	CUSHION, hub	6	6
9	64711-11000	AXLE	1	1
10	09180-17024	SPACER, RH	1	1
11	64761-11000	SHAFT, sprocket drum	1	1
12	08314-31168	NUT	1	1
13	64730-11000	SPACER, bearing	1	1
14	09140-24002	NUT	1	1
15	09180-25011	SPACER	1	1
16	04111-40408	COTTER PIN	1	1
17	08143-63030	BEARING, RH	1	1
18	08143-62030	BEARING, LH	1	1
19	08113-62050	BEARING	1	1
20	64451-11000	LEVER, brake cam	1	1
21	01112-06408	BOLT	1	1
22	08311-11068	NUT	1	1
23	08322-21068	WASHER	1	1
24	09448-30001	SPRING	1	1
25	09283-30001	OIL SEAL	1	1
26	09280-15001	O RING	1	1

FIG.37 REAR WHEEL



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
27	61410-15002	ADJUSTER, chain RH	1	1	
28	61420-15002	ADJUSTER, chain LH	1	1	
29	09104-08006	BOLT	2	2	
30	08312-11088	NUT	2	2	
31-1	64511-15001	SPROCKET	1	1	NT:33
31-2	64511-15731	SPROCKET	1	1	NT:32 — OPT
31-3	64511-15741	SPROCKET	1	1	NT:34 — OPT
31-4	64511-15751	SPROCKET	1	1	NT:35 — OPT
31-5	64511-15761	SPROCKET	1	1	NT:36 — OPT
32	09119-10002	BOLT	6	6	
33	08312-32108	NUT	6	6	
34	09169-10006	WASHER	3	3	
35	65100-15620	TIRE	1	1	400 S18
36	65200-15011	TUBE, inner	1	1	400 S18
37	65261-15010	PROTECTOR, inner tube	1	1	400 S18
38	65311-15021	RIM	1	1	215x18
39	65300-15830	SPOKE SET	1	1	
40-1	55411-11000	BARANCER, S	(0~3)		
40-2	55412-11000	BALANCER, L	(0~3)		

FIG.38 OPTIONAL



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	99000-25030	GREASE, super	1	1	
2	99000-31010	GASKET, liquid	1	1	
3	99000-32040	CEMENT, thread lock	1	1	
4	09821-00004	INFLATOR, air	1	1	
5	09825-00002	LEVER, tire	2	2	
6	09826-00001	TOOL, tube reparing	1	1	
7	99000-25100	GREASE, brake pad	1	1	20g
8	99000-25110	GREASE, calipers axle	1	1	20g
9-1	99000-10105-019	PAINT (BLACK)	1	1	NET:500g
9-2	99000-10205-00U	PAINT (CANDY ROSE)	1	-	
9-3	99000-10205-01J	PAINT (ANDES BLUE METALLIC)	1	-	
9-4	99000-10105-291	PAINT (BLACK)	-	1	
9-5	99000-10205-797	PAINT (MAUI BLUE METALLIC)	-	1	
9-6	99000-10205-00T	PAINT (CANDY CALYPSO RED)	-	1	
10-1	99000-10109-019	PAINT (BLACK)	1	1	NET:90g
10-2	99000-10209-00U	PAINT (CANDY ROSE)	1	-	
10-3	99000-10209-01J	PAINT (ANDES BLUE METALLIC)	1	-	
10-4	99000-10109-291	PAINT (BLACK)	-	1	
10-5	99000-10209-797	PAINT (MAUI BLUE METALLIC)	-	1	
10-6	99000-10209-00T	PAINT (CANDY CALYPSO RED)	-	1	
11	37145-19710	KEY, blank	1	1	
12-1	99000-21250	SUZUKI CCI SUPER OIL	1	1	1 carton (1ℓx24CAN)
12-2	99000-21145	SUZUKI CCI OIL	1	1	1 carton (1ℓx24CAN)
12-3	99000-21021	SUZUKI CCI OIL	1	1	1 carton (4ℓx6CAN)
12-4	99000-21150	SUZUKI CCI OIL	1	1	200ℓ
	11400-15830	GASKET SET	1	1	

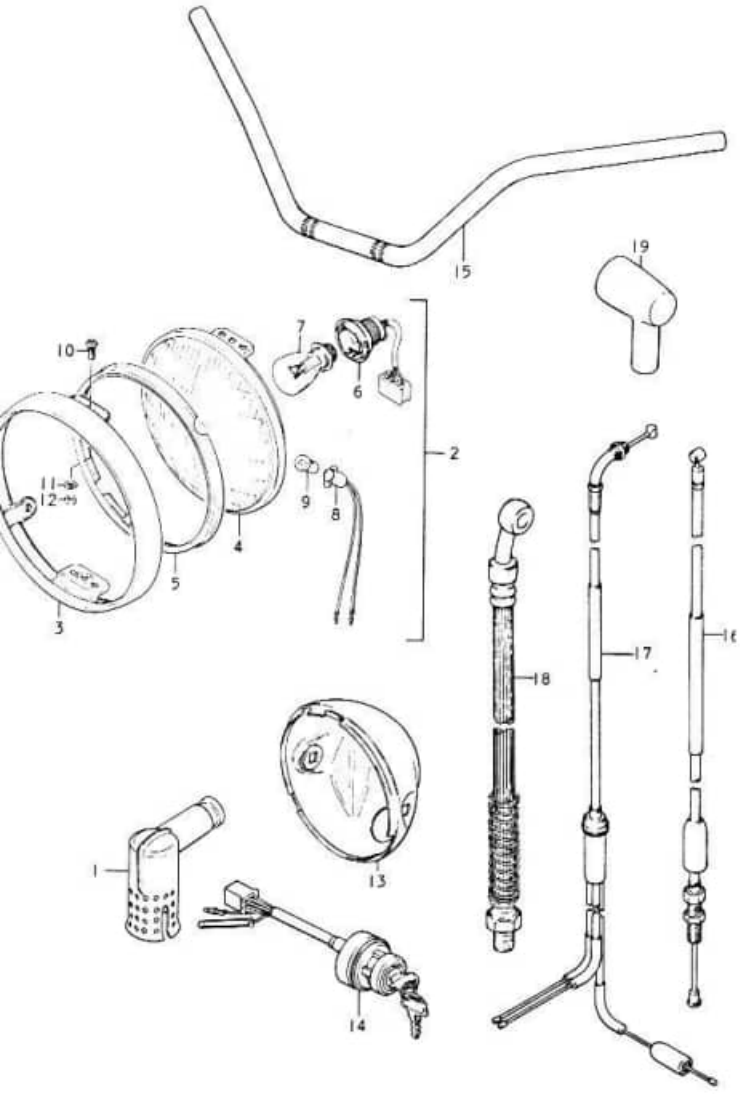


FIG.39 FOR YOUR MARKET (E2)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	33510-22600	CAP, spark plug	2	-	to 33510-22610
1-2	33510-26610	CAP, spark plug	-	2	
2	35100-15616	HEADLAMP ASSY	1	1	
3	35111-33032	·RIM	1	1	
4	35121-15614	·UNIT	1	1	
5	35127-33031	·RING	1	1	
6	35171-15616	·SOCKET	1	1	
7	09471-12043	·BULB	1	1	12V, 35/25W
8	36118-15614	·SOCKET	1	1	
9	09471-12001	·BULB	1	1	12V, 3W
10	35181-33031	·SCREW	4	4	
11	08321-21058	·LOCK WASHER	4	4	
12	08311-11058	·NUT	4	4	
13-1	51810-33600	HOUSING, headlamp	1	-	
13-2	51810-27600-291	HOUSING, headlamp	-	1	
14-1	37110-28654	SWITCH ASSY, ignition	1	-	from 37110-28653 to 37110-28655
14-2	37110-28655	SWITCH ASSY, ignition	-	1	
15	56111-33600	HANDLEBAR	1	1	
16	58200-15100	CABLE, clutch	1	1	
17	58300-15600	CABLE, throttle	1	1	FLAT HANDLEBAR
18	59480-34012	HOSE, brake No.1	1	1	
19	59711-33600	BOOT, master cylinder	1	1	

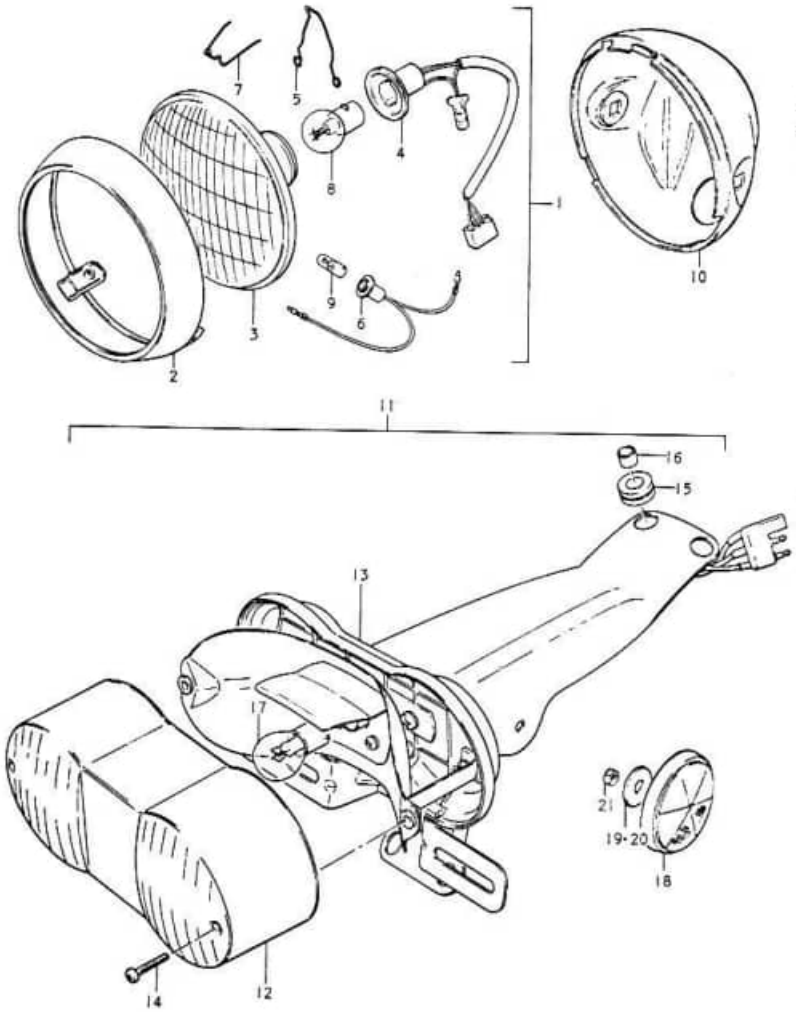


FIG.40 FOR YOUR MARKET (E4)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-36680-999	HEADLAMP ASSY	1	1	
2	35111-18660	·RIM	1	1	
3	35121-18650	·UNIT	1	1	
4	35171-36640	·SOCKET	1	1	
5	35172-28660	·CLAMP	1	1	
6	36118-28660	·SOCKET	1	1	
7	35128-18660	·CLAMP	1	1	
8	09471-12047	BULB (Executed locally) 12V, 36/36W	1	1	PHILIPS No.12725/86
9	09471-12032	BULB	1	1	12V, 4W
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	
11-1	35710-18673-999	LAMP ASSY, rear combination	1	-	
11-2	35710-33652-999	LAMP ASSY, rear combination	-	1	
12	35712-27660	·LENS	1	1	
13	35715-27691	·HOUSING	1	1	
14	02111-04208	·SCREW	2	2	
15	35765-15010	·CUSHION	4	4	
16	35766-15010	·SPACER	4	4	
17	09471-12046	BULB (Executed locally) 12V, 21/5W	1	1	PHILIPS/HELLA WA K15857
18	35950-45010	REFLEX REFLECTOR, rear	-	2	
19	35994-33600	SPACER, RH	-	1	
20	35995-33600	SPACER, LH	-	1	
21	08311-11058	NUT	-	2	

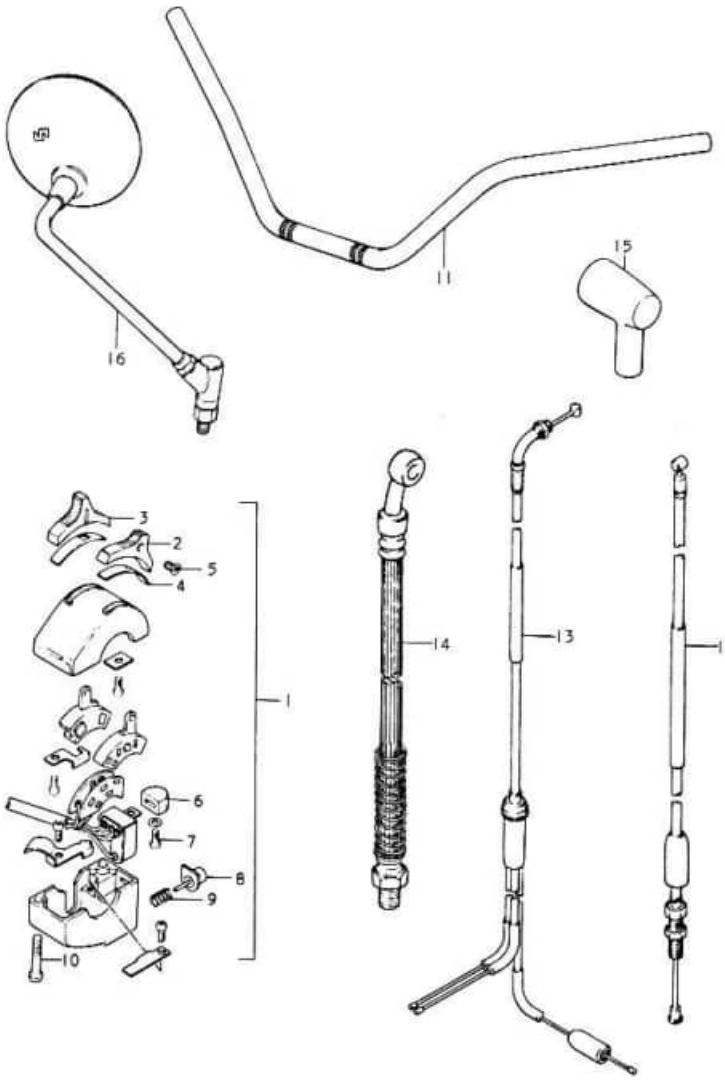
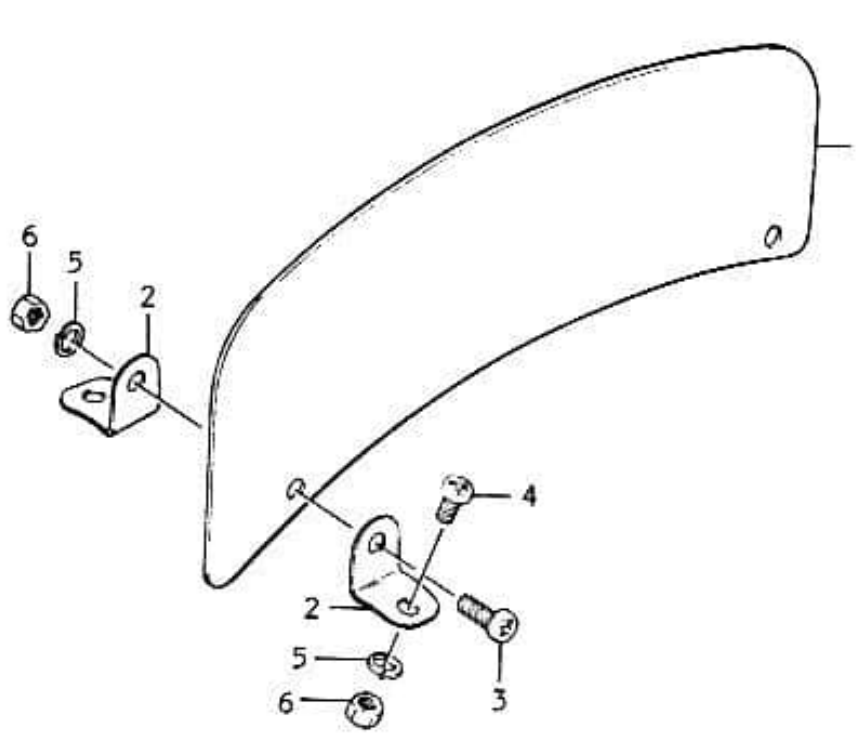


FIG.41 FOR YOUR MARKET (E4)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	57700-18670	SWITCH ASSY, handle	1	1	
2	57712-33011	·KNOB, lighting	1	1	
3	57713-33010	·KNOB, dimmer	1	1	
4	57714-33010	·PLATE	2	2	
5	02321-03088	·SCREW	2	2	
6	57742-33010	·KNOB	1	1	
7	02121-03068	·SCREW	1	1	
8	57850-31010	·BUTTON, horn	1	1	
9	57761-26010	·SPRING	1	1	
10	02111-05207	·SCREW	2	2	
11	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
12	58200-15100	CABLE, clutch	1	1	
13	58300-15600	CABLE, throttle	1	1	
14	59480-34012	HOSE, brake No.1	1	1	
15	59711-33600	BOOT, master cylinder	1	1	
16	56500-28600	MIRROR, rear view	1	2	

FIG.42 FOR YOUR MARKET (E6)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	53351-01600	PLATE	1	1	
2	53361-01600	PLATE	4	4	
3	02111-05087	SCREW	2	2	
4	02111-05127	SCREW	4	4	
5	08321-21058	LOCK WASHER	6	6	
6	08311-31058	NUT	6	6	
7	63451-03600	PLATE	1	1	
8	01112-06128	BOLT	2	2	
9	08322-21068	WASHER	4	4	
10	08321-21068	LOCK WASHER	2	2	
11	08311-11068	NUT	2	2	



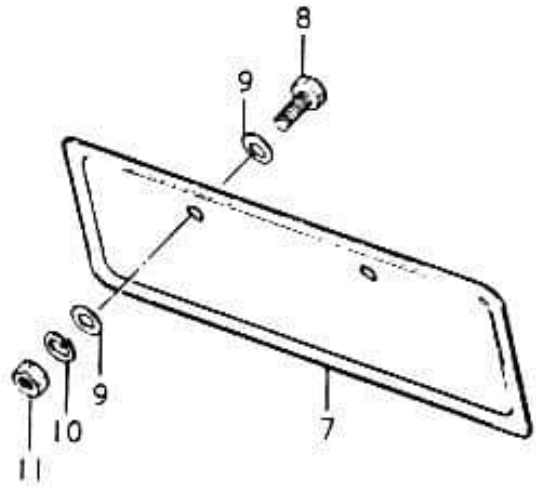


FIG.43 FOR YOUR MARKET (E18)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-33600-999	HEADLAMP ASSY	1	1	
2	35111-33660	·RIM	1	1	
3	35121-34670	·UNIT	1	1	
4	35136-34670	·SETER, bulb	1	1	
5	36118-15610	·SOCKET	1	1	
6	35128-33660	·SPRING	3	3	
7	09471-12032	BULB	1	1	12V, 4W
8	09471-12048	BULB (Executed locally)	1	1	12V, 45/40W
9	36852-34000	LEAD WIRE, headlamp	1	1	
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	

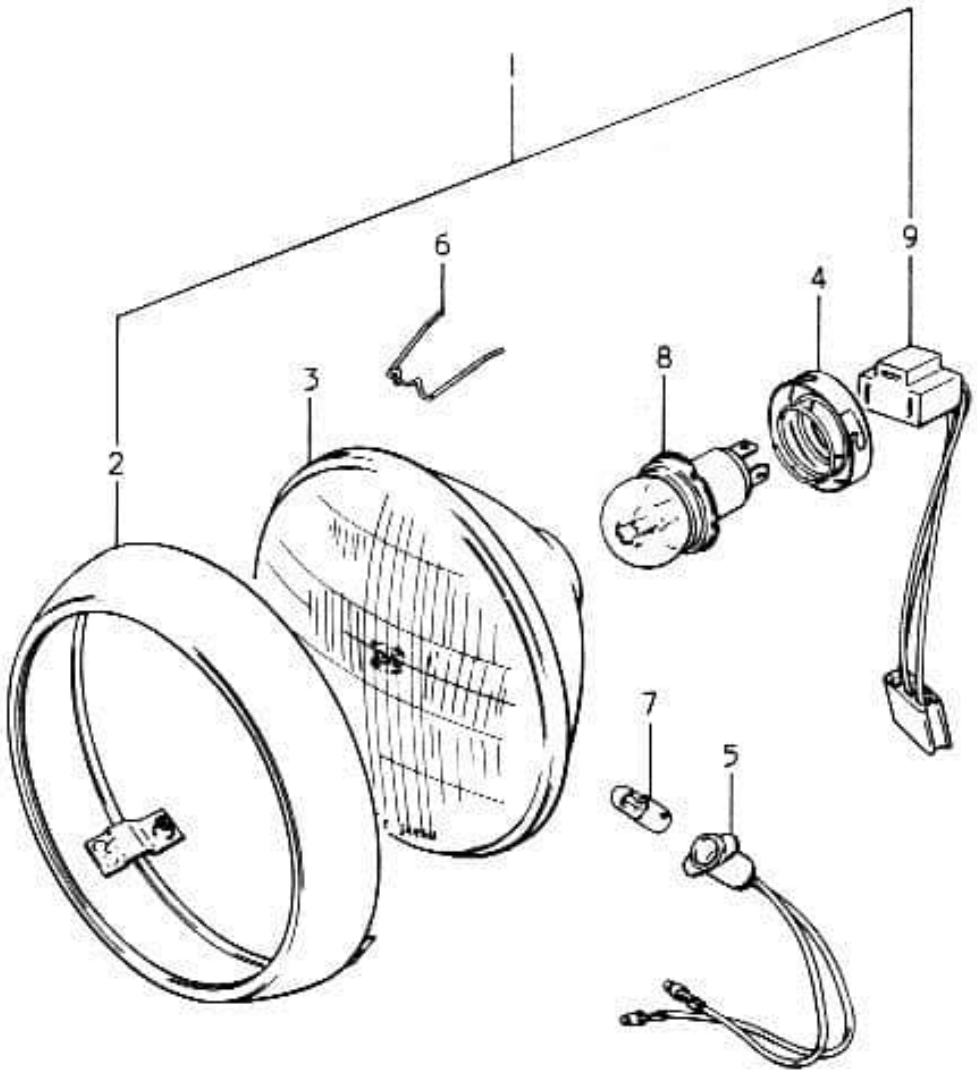
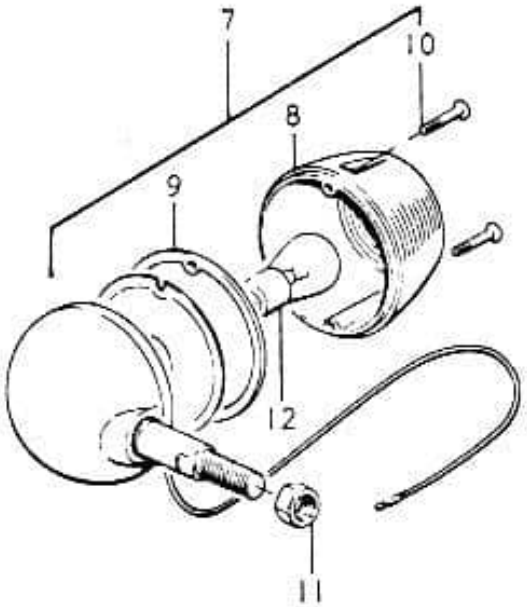
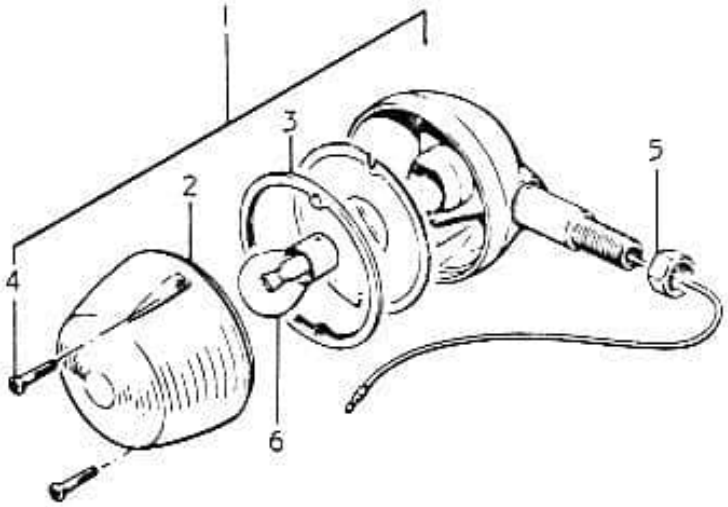


FIG.44 FOR YOUR MARKET (GT500A E18)

Ref.No.	Part No.	Description	Q'ty A	Remarks
1	35601-18670-999	LAMP ASSY, front turn signal	2	
2	35612-12611	·LENS	2	
3	35613-03610	·GASKET	2	
4	02133-03167	·SCREW	4	
5	08312-32108	·NUT	2	
6	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814
7	35603-18660-999	LAMP ASSY, rear turn signal	2	
8	35612-12611	·LENS	2	
9	35613-03610	·GASKET	2	
10	02133-03167	·SCREW	4	
11	08312-32108	·NUT	2	
12	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814





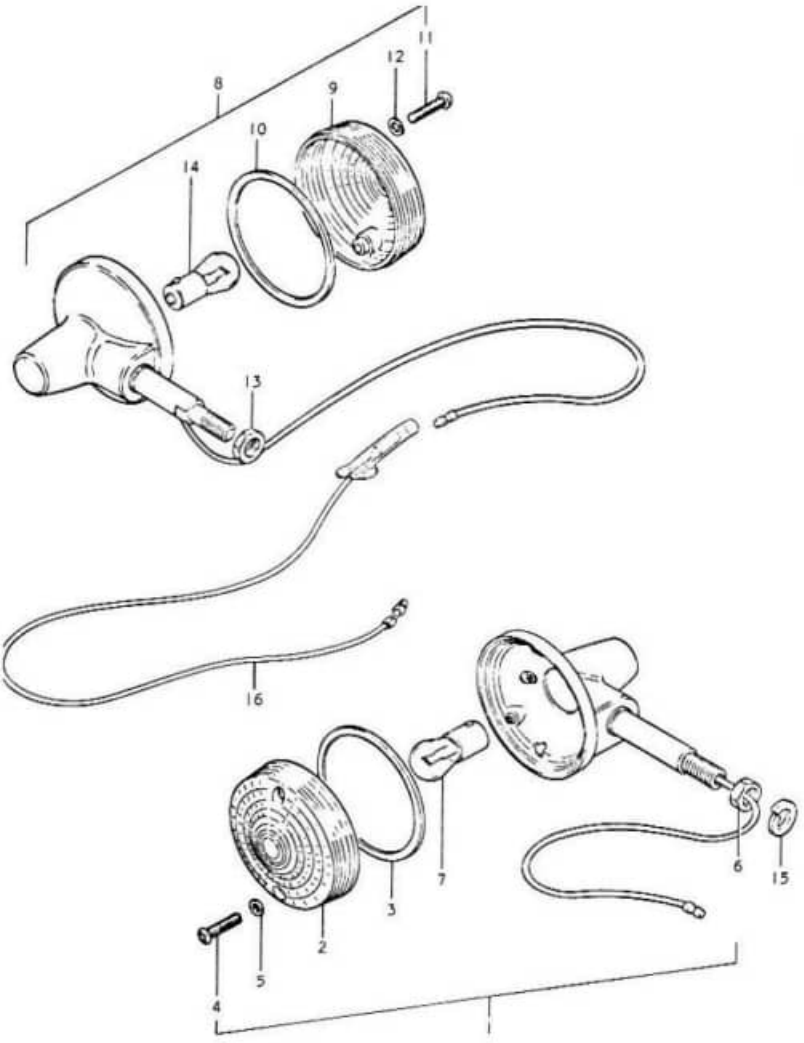


FIG.45 FOR YOUR MARKET (GT500B E18)

.No.	Part No.	Description	Q'ty B	Remarks
	35601-18640-999	LAMP ASSY, front turn signal	2	
	35612-28620	·LENS	2	
	35613-28620	·GASKET	2	
	02111-04258	·SCREW	4	
	35627-43010	·GASKET	4	
	08312-32108	·NUT	2	
	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W W. K15814
	35603-18640-999	LAMP ASSY, rear turn signal	2	
	35612-28620	·LENS	2	
	35613-28620	·GASKET	2	
	02111-04258	·SCREW	4	
	35627-43010	·GASKET	4	
	08312-32108	·NUT	2	
	09471-12045	BULB (Executed locally)	2	PHULIPS 12V, 21W W.K15814
	08321-21108	LOCK WASHER	2	
	36852-08400	LEAD WIRE, rear turn signal lamp	2	

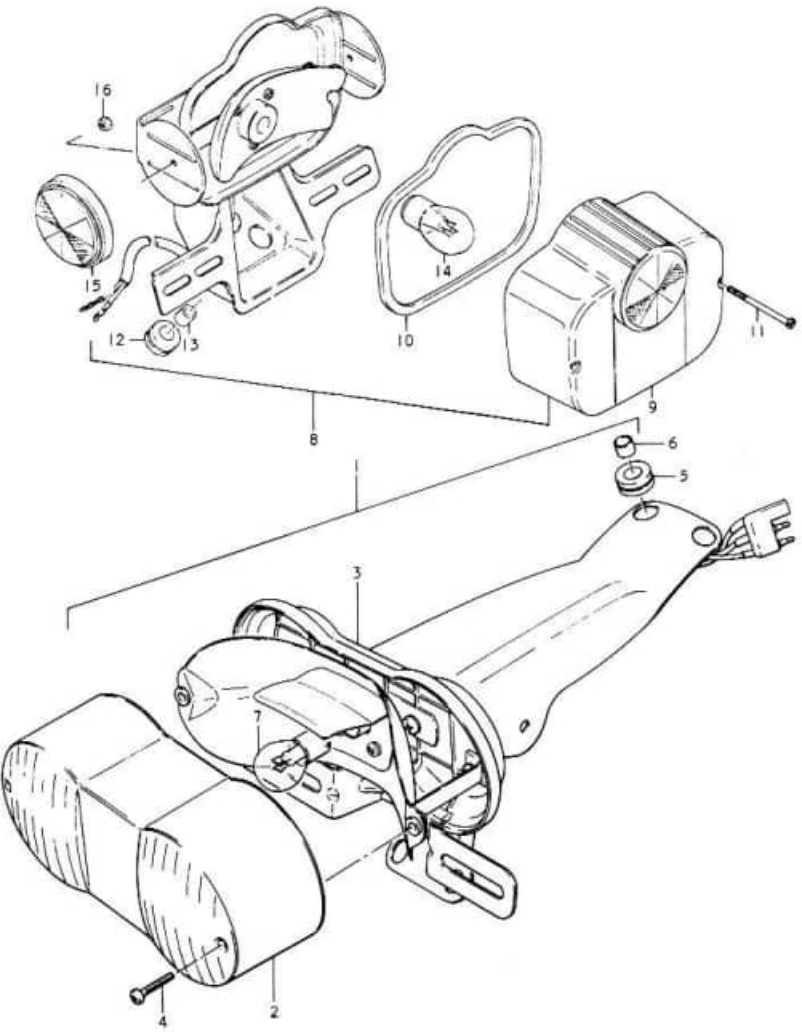
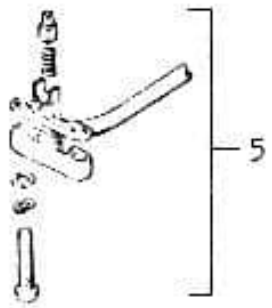


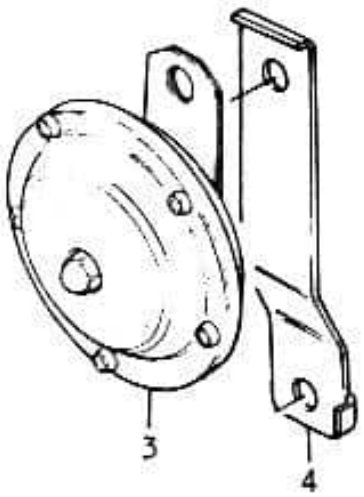
FIG.46 FOR YOUR MARKET (E18)

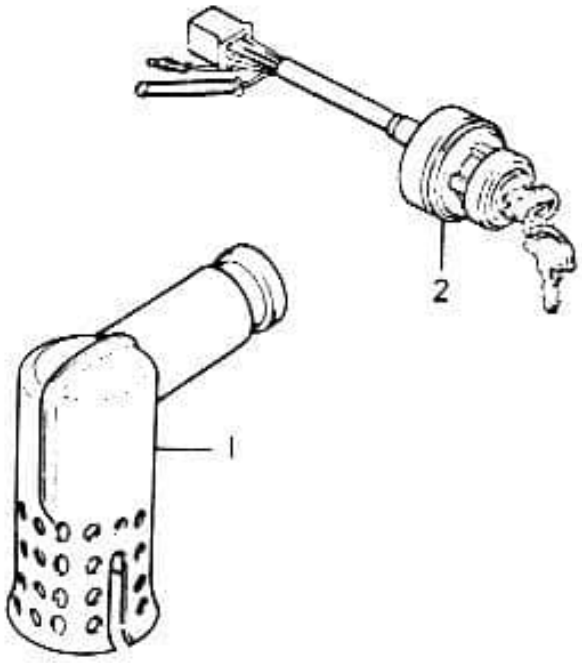
Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35710-18673-999	LAMP ASSY, rear combination lamp	1	-	
2	35712-27660	·LENS	1	-	
3	35715-27691	·HOUSING	1	-	
4	02111-04208	·SCREW	2	-	
5	35765-15010	·CUSHION	4	-	
6	35766-15010	·SPACER	4	-	
7	09471-12046	BULB (Executed locally)	1	-	PHILIPS/HELLA WK15857
8	35710-18640-999	LAMP ASSY, rear combination	-	1	
9	35712-27630	·LENS	-	1	
10	35713-27630	·GASKET	-	1	
11	02111-04127	·SCREW	-	3	
12	35765-15010	·CUSHION	-	3	
13	35766-15010	·SPACER	-	3	
14	09471-12046	BULB (Executed locally)	-	1	12V, 32/3cp
15	35950-45010	REFLEX REFLECTOR, rear side	-	2	
16	08311-11058	NUT	-	2	

FIG.47 FOR YOUR MARKET (E18)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	33510-22600	CAP ASSY, spark plug	2	-	to 33510-22610
1-2	33510-22610	CAP ASSY, spark plug	-	2	
2	37110-28655	SWITCH ASSY, ignition	-	1	
3	38500-18411	HORN	1	-	
4	38591-18600	BRACKET, horn	1	-	
5	57460-33700	SWITCH ASSY, engine stop	1	1	







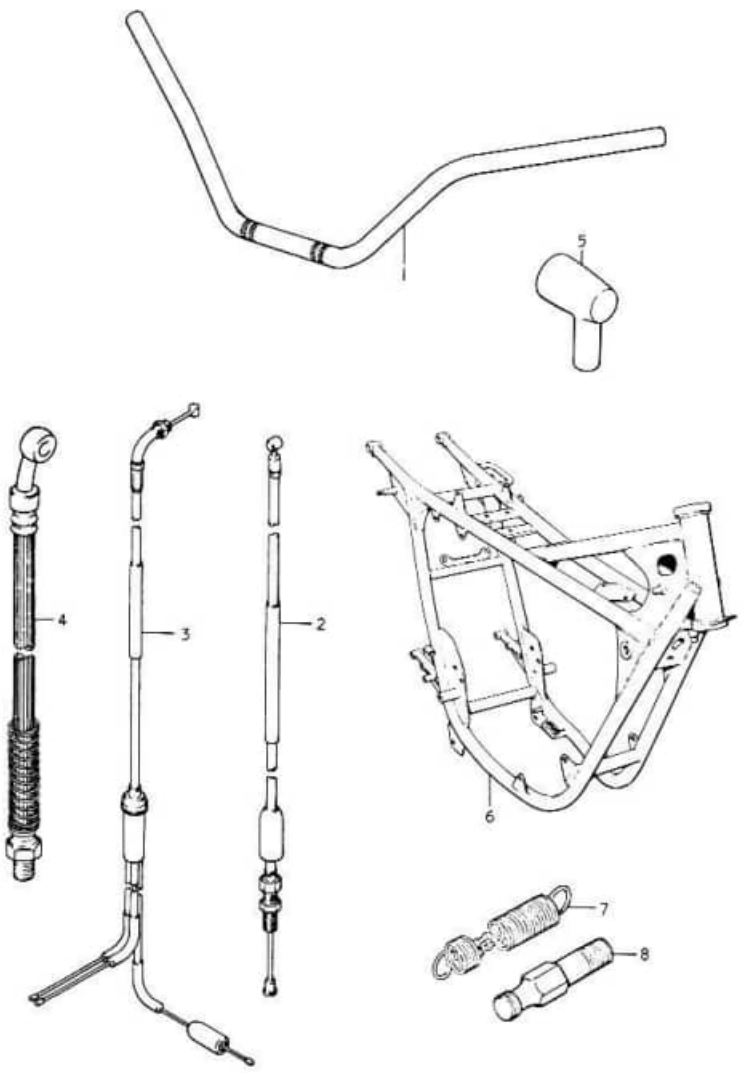


FIG.48 FOR YOUR MARKET (E18)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
2	58200-15100	CABLE, clutch	1	1	
3	58300-15600	CABLE, throttle	1	1	
4	59480-34012	HOSE, brake No.1	1	1	
5	59711-33600	BOOT, master cylinder	1	1	
6	41100-15631-019	FRAME	1	1	
7	42421-31000	SPRING, prop stand	-	1	
8	09119-10014	BOLT, prop stand	-	1	

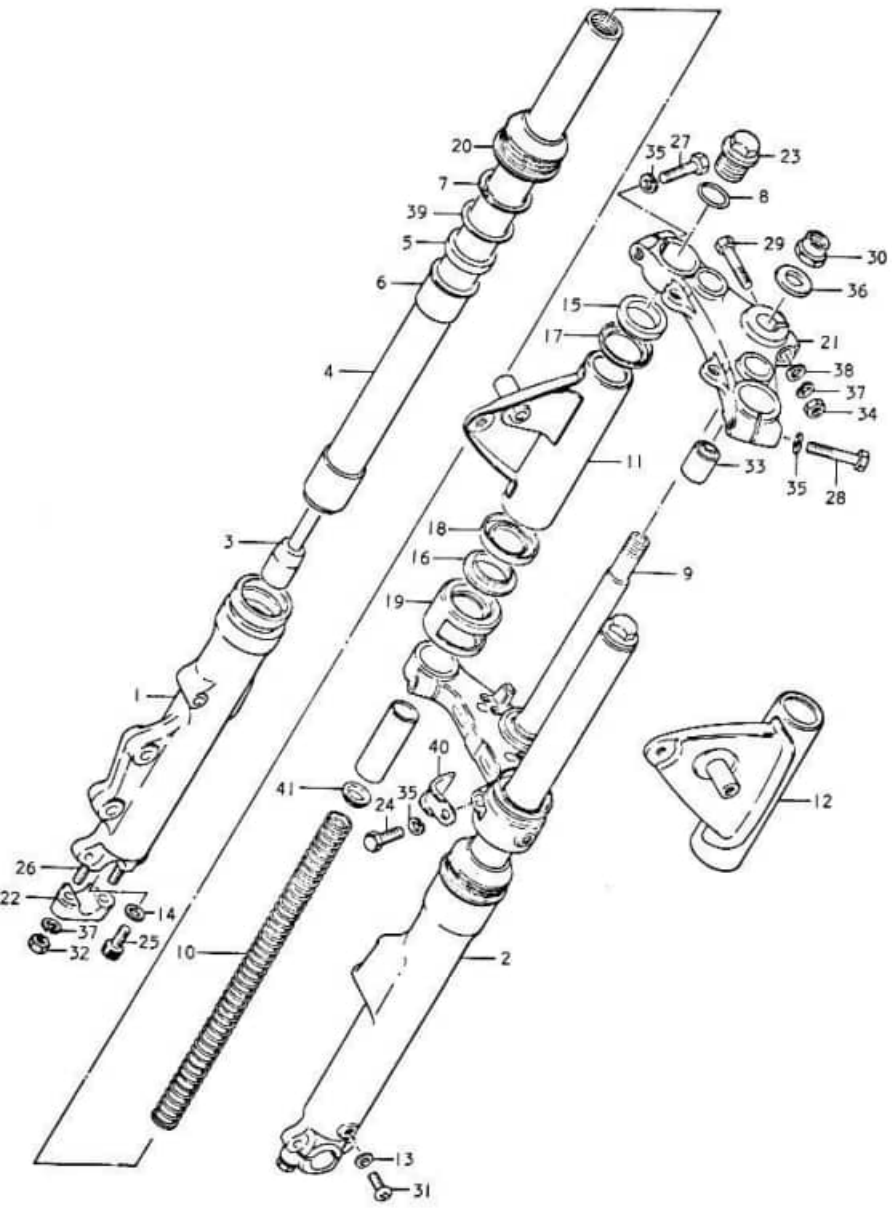


FIG.49 FOR YOUR MARKET (E18)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
	51100-15640-019	FRONT FORK ASSY	1	-
	51100-15641-291	FRONT FORK ASSY	-	1
1	51131-34710	·OUTER TUBE, RH	1	1
2	51131-34010	·OUTER TUBE, LH	1	1
3	51146-34010	·PIECE, oil lock	2	2
4	51110-15210	·INNER TUBE	2	2
5	51153-34010	·OIL SEAL	2	2
6	51152-34010	·GUIDE, inner tube	2	2
7	51156-34010	·CIRCLIP	2	2
8	51181-18510	·O RING	2	2
9	51410-15640	·STEERING STEM	1	1
10	51171-34110	·SPRING	2	2
11-1	51530-33110	·COVER, fork RH	1	-
11-2	51530-33611-291	·COVER, fork RH	-	1
12-1	51540-33110	·COVER, fork LH	1	-
12-2	51540-33611-291	·COVER, fork LH	-	1
13	51183-03010	·GASKET	2	2
14	51148-34010	·GASKET	2	2
15	51556-31010	·CUSHION, cover guide	2	2
16	51553-31010	·CUSHION, cover guide	2	2
17	51555-31010	·GUIDE, cover upper	2	2
18	51551-31010	·GUIDE, cover lower	2	2
19	51575-37010	·COVER, steering stem	2	2
20	51557-34110	·COVER, dust	2	2
21	51311-15210-019	·STEERING STEM HEAD	1	1

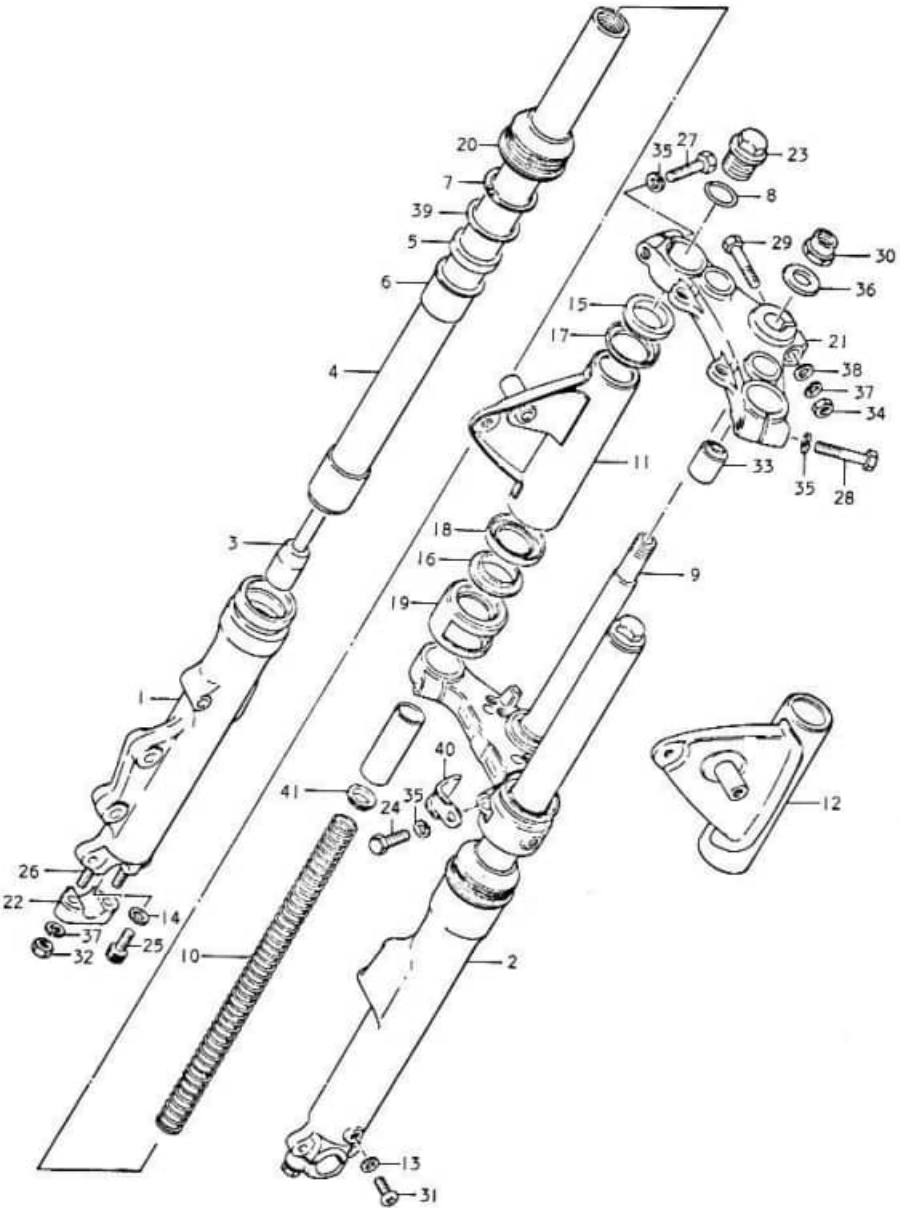
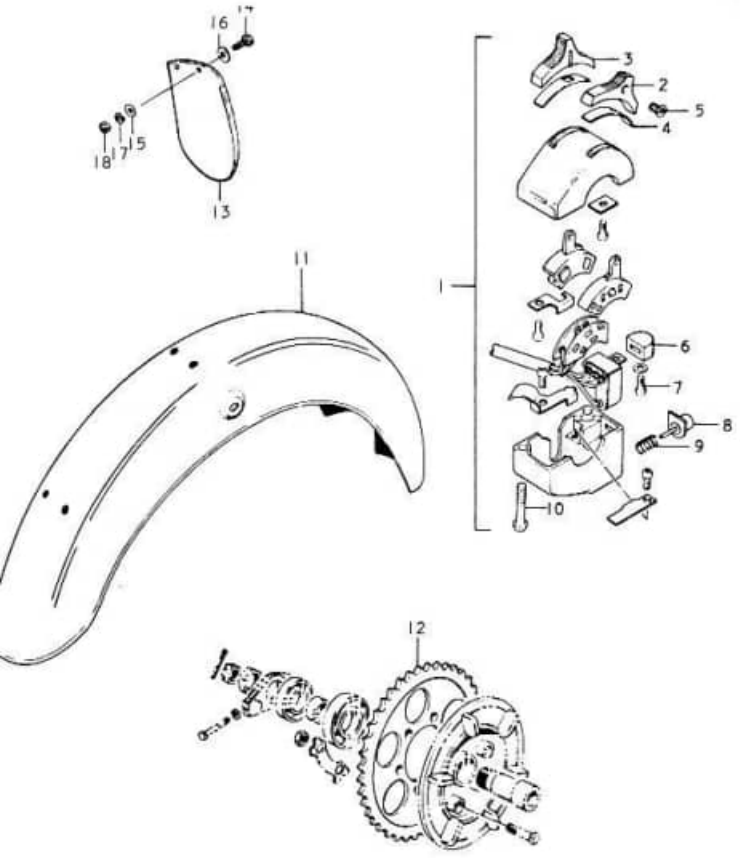


FIG.49 FOR YOUR MARKET (E18)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
22	51132-31010	·HOLDER, axle	2	2
23	51351-31010	·CAP, inner tube	2	2
24	01122-10408	·BOLT	2	2
25	51147-31010	·BOLT, oil lock piece	2	2
26	01421-08308	·BOLT	4	4
27	51451-34710	·BOLT, RH	1	1
28	01121-10407	·BOLT	1	1
29	01122-08508	·BOLT	1	1
30	51353-31710	·NUT	1	1
31	02111-04087	·SCREW	2	2
32	09140-08005	·NUT	4	4
33	09319-10009	·BUSHING	2	2
34	08312-11088	·NUT	1	1
35	08321-21108	·LOCK WASHER	4	4
36	51356-11010	·WASHER	1	1
37	08321-21088	·LOCK WASHER	5	5
38	08322-21088	·WASHER	1	1
39	51158-34010	·WASHER	2	2
40	34991-18110	·CLIP	1	1
41	51172-34110	·GUIDE, spring	2	2

FIG.50 FOR YOUR MARKET (E18)



Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	57700-18670	SWITCH ASSY, handle LH	1	1	
2	57712-33011	·KNOB	1	1	
3	57713-33010	·KNOB	1	1	
4	57714-33010	·PLATE	2	2	
5	02321-03088	·SCREW	2	2	
6	57742-33010	·KNOB, turn signal	1	1	
7	02121-03068	·SCREW	1	1	
8	57850-31010	·BUTTON, horn	1	1	
9	57761-26010	·SPRING, horn button	1	1	
10	02111-05207	·SCREW	2	2	
11-1	63110-15001	FENDER, rear	1	-	to 63110-15700
11-2	63110-15700	FENDER, rear	-	1	
12	64511-15751	SPROCKET, rear	1	1	
13	63331-33600	FLAP, mud	-	1	
14	01112-06168	BOLT	-	3	
15	08322-21068	WASHER	-	3	
16	09160-06007	WASHER	-	3	
17	08321-21068	LOCK WASHER	-	3	
18	08311-11068	NUT	-	3	

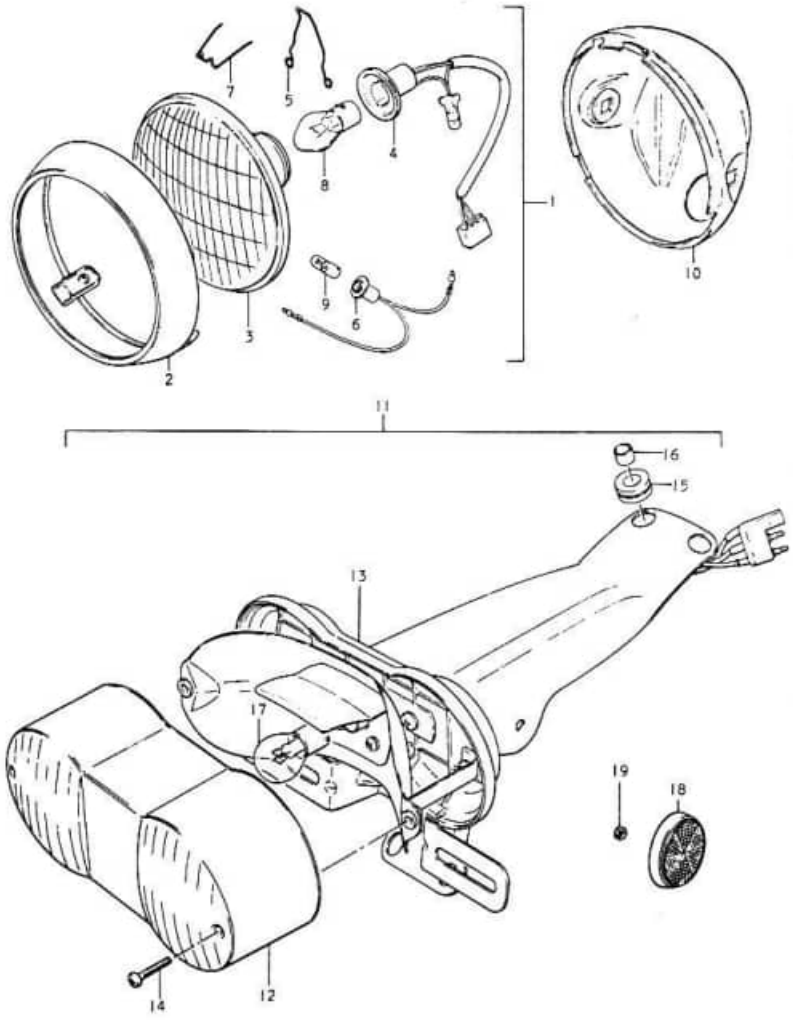
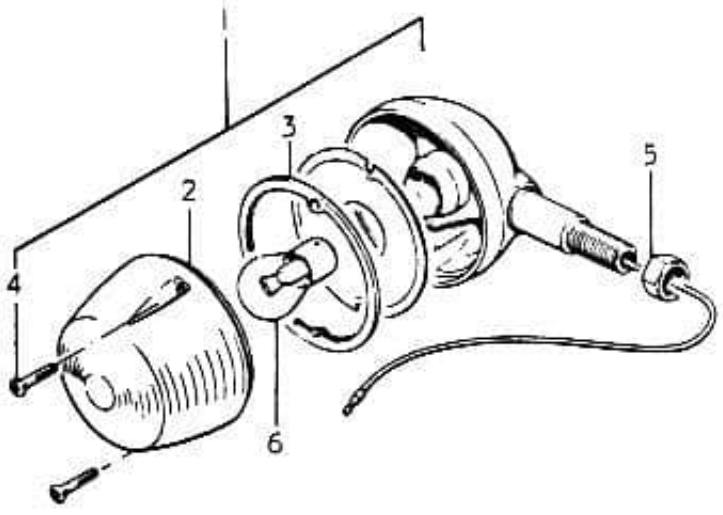


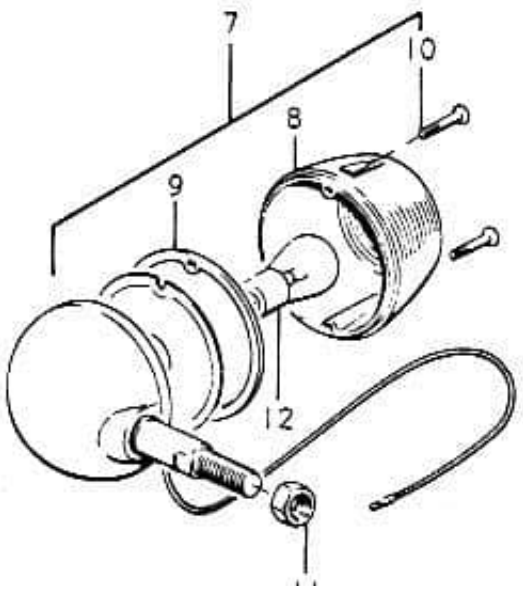
FIG.51 FOR YOUR MARKET (E21)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-36690-999	HEADLAMP ASSY	1	1	
2	35111-18660	-RIM	1	1	
3	35121-18660	-UNIT	1	1	
4	35171-36650	-SOCKET	1	1	
5	35172-28660	-CLAMP	1	1	
6	36118-28660	-SOCKET	1	1	
7	35128-18660	-CLAMP	1	1	
8	09471-12020	BULB (Executed locally) 12V, 35/35W	1	1	PHILIPS No.12728
9	09471-12032	BULB	1	1	12V, 4W
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	
11-1	35710-18673-999	LAMP ASSY, rear combination	1	-	
11-2	35710-18674-999	LAMP ASSY, rear combination	-	1	
12	35712-27660	-LENS	1	1	
13	35715-27691	-HOUSING	1	1	
14	02111-04208	-SCREW	2	2	
15	35765-15010	-CUSHION	4	4	
16	35766-15010	-SPACER	4	4	
17	09471-12046	BULB (Executed locally)	1	1	PHILIPS/HELLA WA K15857
18	35950-45010	REFLEX REFLECTOR, rear side	-	2	
19	08311-11058	NUT	-	2	

FIG.52 FOR YOUR MARKET (GT500A E21)

Ref.No.	Part No.	Description	Q'ty A	Remarks
1	35601-18670-999	LAMP ASSY, front turn signal	2	
2	35612-12611	·LENS	2	
3	35613-03610	·GASKET	2	
4	02133-03167	·SCREW	4	
5	08312-32108	·NUT	2	
6	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814
7	35603-18660-999	LAMP ASSY, rear turn signal	2	
8	35612-12611	·LENS	2	
9	35613-03610	·GASKET	2	
10	02133-03167	·SCREW	4	
11	08312-32108	·NUT	2	
12	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814





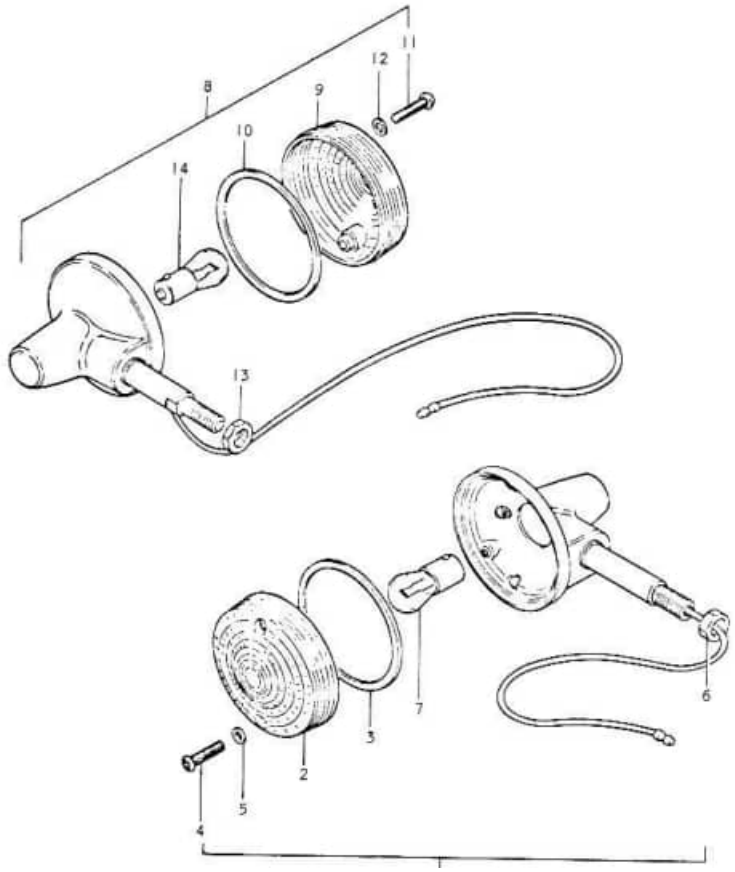


FIG.53 FOR YOUR MARKET (GT500B E21)

Ref.No.	Part No.	Description	Q'ty B	Remarks
1	35601-18640-999	LAMP ASSY, front turn signal	2	
2	35612-28620	*LENS	2	
3	35613-28620	*GASKET	2	
4	02111-04258	*SCREW	4	
5	35627-43010	*GASKET	4	
6	08312-32108	*NUT	2	
7	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WA K15814
8	35603-18640-999	LAMP ASSY, rear turn signal	2	
9	35612-28620	*LENS	2	
10	35613-28620	*GASKET	2	
11	02111-04258	*SCREW	4	
12	35627-43010	*GASKET	4	
13	08312-32108	*NUT	2	
14	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WA K15814

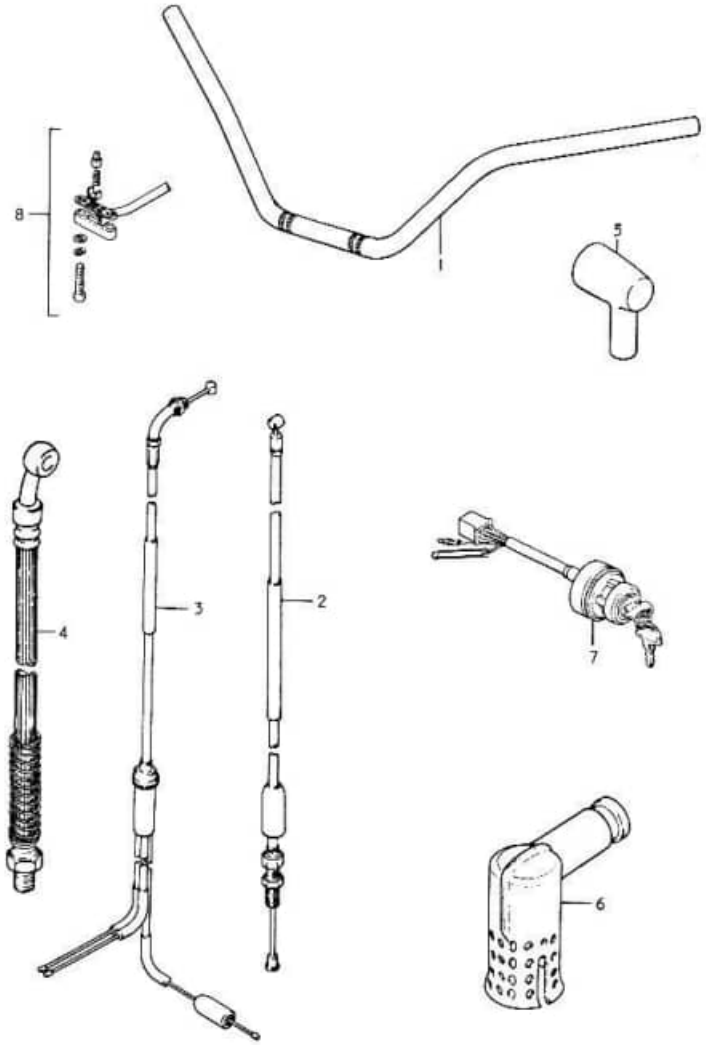


FIG.54 FOR YOUR MARKET (E21)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
2	58200-15100	CABLE, clutch	1	1	
3	58300-15600	CABLE, throttle	1	1	
4	59480-34012	HOSE, brake No.1	1	1	
5	59711-33600	BOOT, master cylinder	1	1	
6	33510-22600	CAP ASSY, spark plug	2	2	to 33510-22610
7-1	37110-28654	SWITCH ASSY, ignition	1	-	from 37110-28653 to 37110-28655
7-2	37110-28655	SWITCH ASSY, ignition	-	1	
8	57460-33700	SWITCH ASSY, engine stop	1	1	

FIG.55 FOR YOUR MARKET (E21)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	57700-18670	SWITCH ASSY, handle LH	1	1	
2	57712-33011	·KNOB	1	1	
3	57713-33010	·KNOB	1	1	
4	57714-33010	·PLATE	2	2	
5	02321-03088	·SCREW	2	2	
6	57742-33010	·KNOB, turn signal	1	1	
7	02121-03068	·SCREW	1	1	
8	57850-31010	·BUTTON, horn	1	1	
9	57761-26010	·SPRING, horn button	1	1	
10	02111-05207	·SCREW	2	2	
11-1	63110-15001	FENDER, rear	1	-	to 63110-15700
11-2	63110-15700	FENDER, rear	-	1	

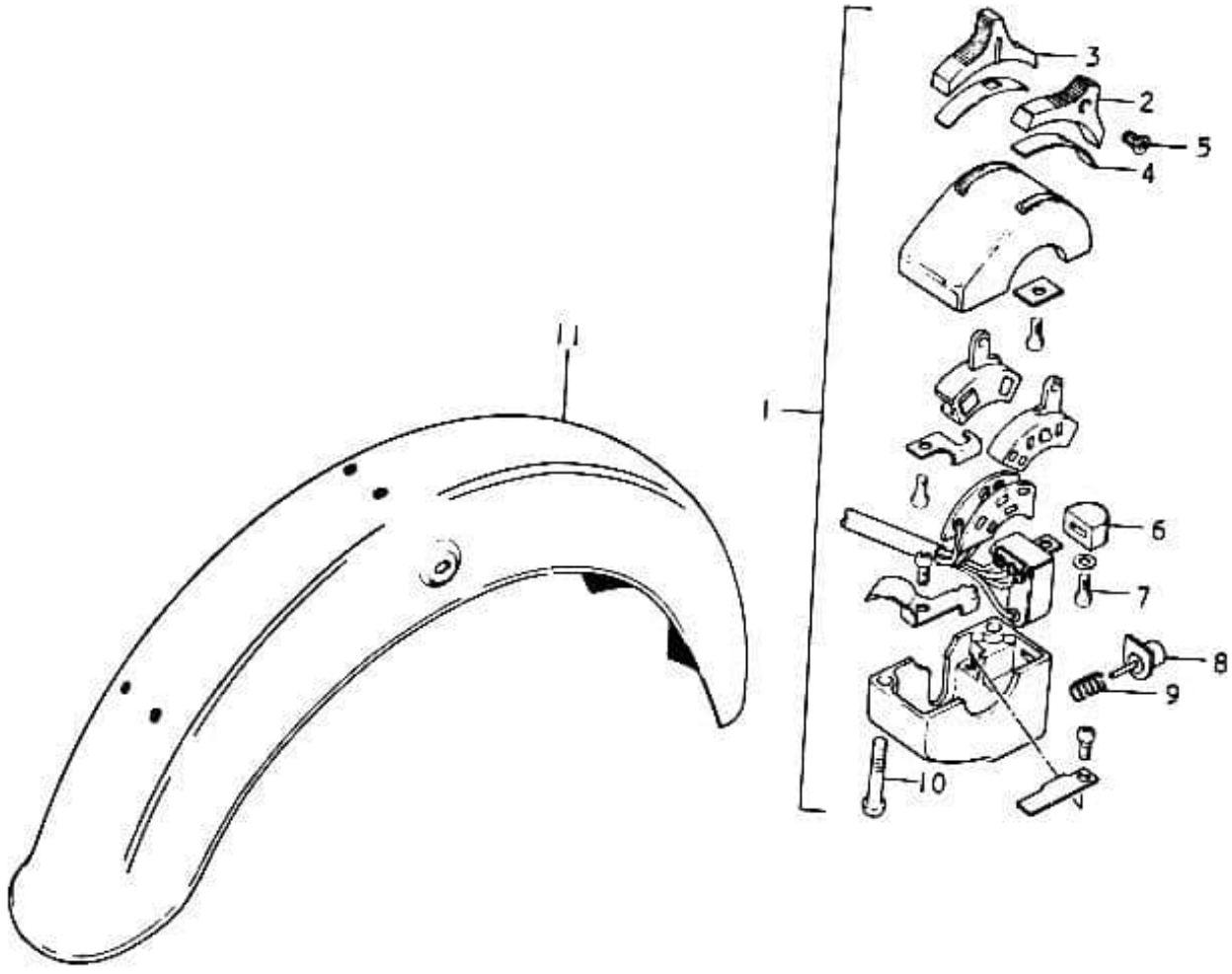


FIG.56 FOR YOUR MARKET (GT500B E22)

Ref.No.	Part No.	Description	Q'ty B	Remarks
1	14301-15601	MUFFLER ASSY, RH	1	
2	14302-15601	MUFFLER ASSY, LH	1	
3	14510-15004	·PIPE, buffle	2	
4	09128-05004	·SCREW	2	
5	08321-21058	·LOCK WASHER	2	
6	33510-22610	CAP, spark plug	2	

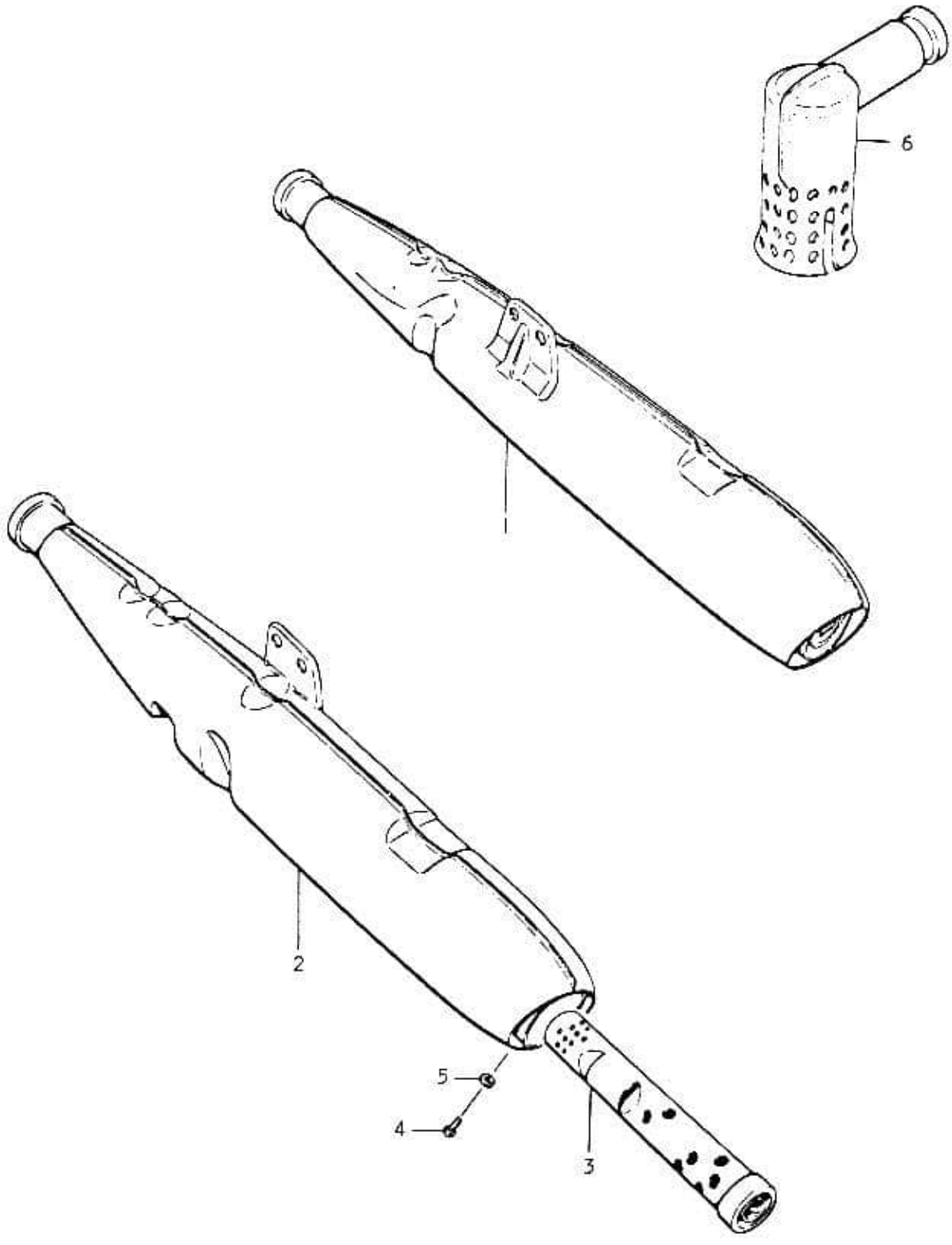


FIG.57 FOR YOUR MARKET (GT500B E22)

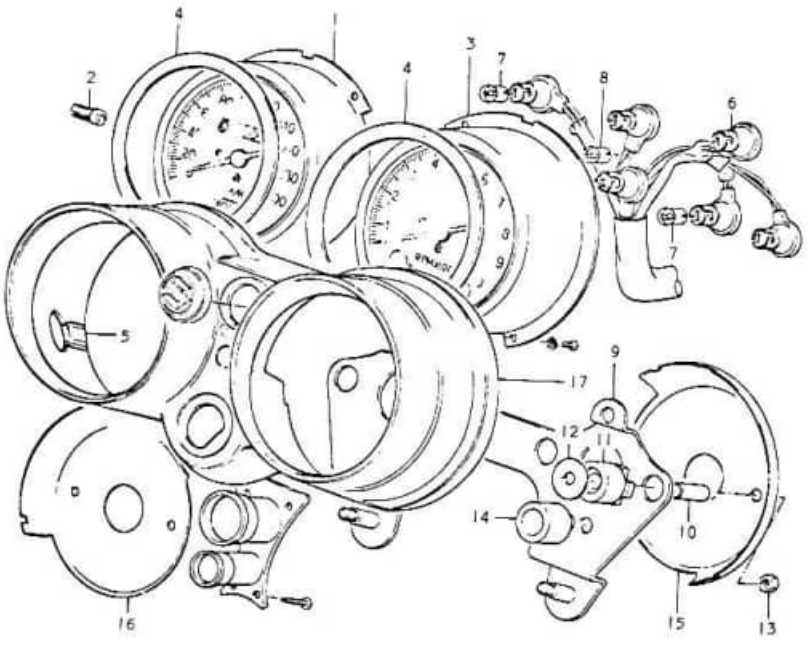


FIG.57 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
	34100-15640	SPEEDOMETER / TACHOMETER ASSY	1	-	
	34100-15642	SPEEDOMETER / TACHOMETER ASSY	-	1	
1-1	34110-33622	*SPEEDOMETER	1	-	
1-2	34110-15691	*SPEEDOMETER	-	1	
2	34980-33600	**KNOB	1	1	
3	34210-15630	*TACHOMETER	1	1	
4	34181-33600	*GASKET	2	2	
5	34192-33600	*CAP	1	1	
6	34170-33020	*SOCKET	1	1	
7	09471-12001	*BULB	1	1	12V, 3.4W
8	09471-12004	*BULB	4	4	12V, 1.7W
9	34950-33601	*BRACKET	1	1	
10	34972-16420	*SPACER	4	4	
11	34955-16420	*CUSHION	4	4	
12	09160-05006	*WASHER	4	4	
13	08311-11068	*NUT	4	4	
14	34956-33600	*CUSHION	2	2	
15	34961-33602	*PLATE, tachometer	1	1	
16	34960-33602	*PLATE, speedometer	1	1	
17	34051-33600	*CASE, meter	1	1	

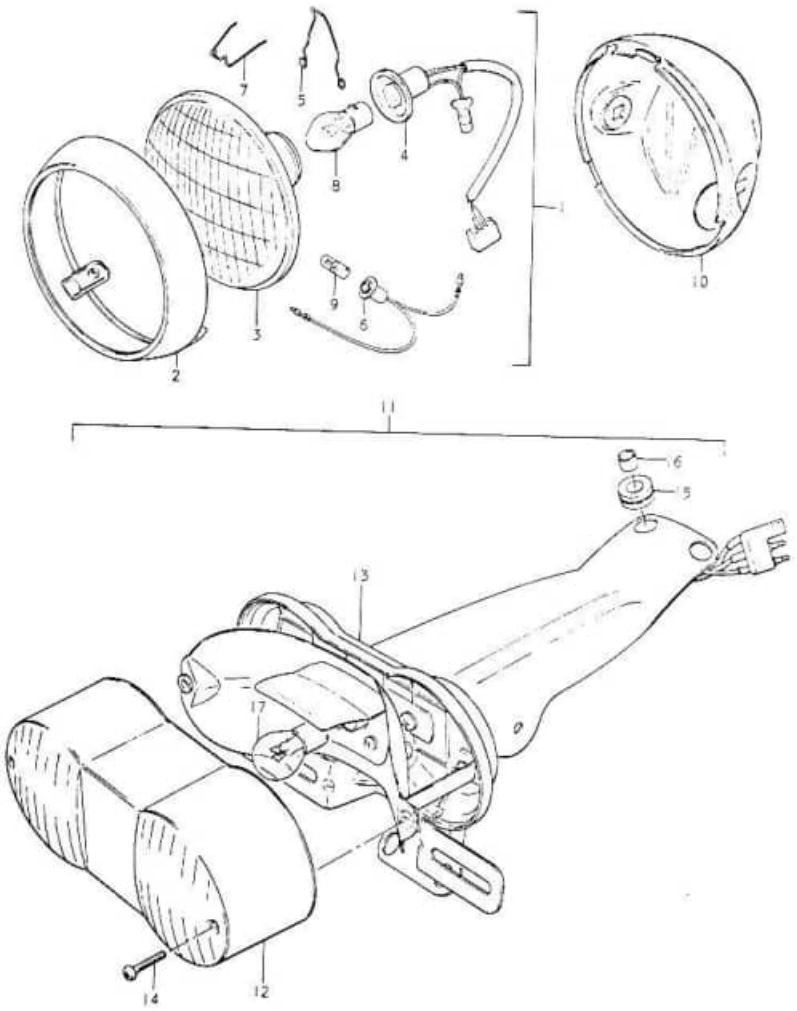
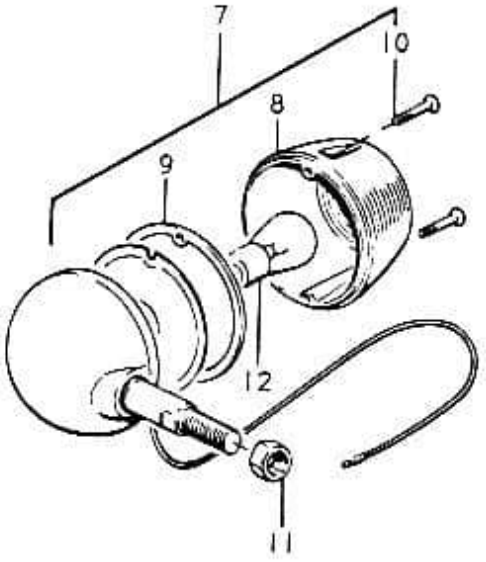


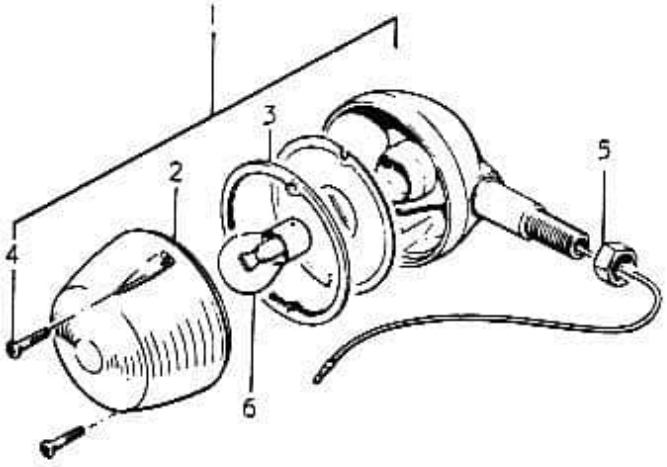
FIG.58 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-36671-999	HEADLAMP ASSY	1	1	
2	35111-18660	·RIM	1	1	
3	35121-36671	·UNIT	1	1	
4	35171-36650	·CLAMP	1	1	
5	35172-28660	·CLAMP	1	1	
6	36118-28660	·SOCKET	1	1	
7	35128-18660	·CLAMP	1	1	
8	09471-12020	BULB (Executed locally) 12V, 35/35W	1	1	PHILIPS No.12728
9	09471-12032	BULB	1	1	12V, 3W
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	
11-1	35710-18650-999	LAMP ASSY, rear combination	1	-	
11-2	35710-18651-999	LAMP ASSY, rear combination	-	1	
12	35712-27660	·LENS	1	1	
13	35715-27691	·HOUSING	1	1	
14	02111-04208	·SCREW	2	2	
15	35765-15010	·CUSHION	4	4	
16	35766-15010	·SPACER	4	4	
17	09471-12046	BULB (Executed locally) 12V, 21/5W	1	1	PHILIPS/HELLA WA K15857

FIG.59 FOR YOUR MARKET (GT500A E22)

Ref.No.	Part No.	Description	Q'ty A	Remarks
1	35601-18670-999	LAMP ASSY, front turn signal	2	
2	35612-12611	·LENS	2	
3	35613-03610	·GASKET	2	
4	02133-03167	·SCREW	4	
5	08312-32108	·NUT	2	
6	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814
7	35603-18660-999	LAMP ASSY, rear turn signal	2	
8	35612-12611	·LENS	2	
9	35613-03610	·GASKET	2	
10	02133-03167	·SCREW	4	
11	08312-32108	·NUT	2	
12	09471-12045	BULB (Executed locally) 12V, 21W	2	PHILIPS/HELLA WK15814





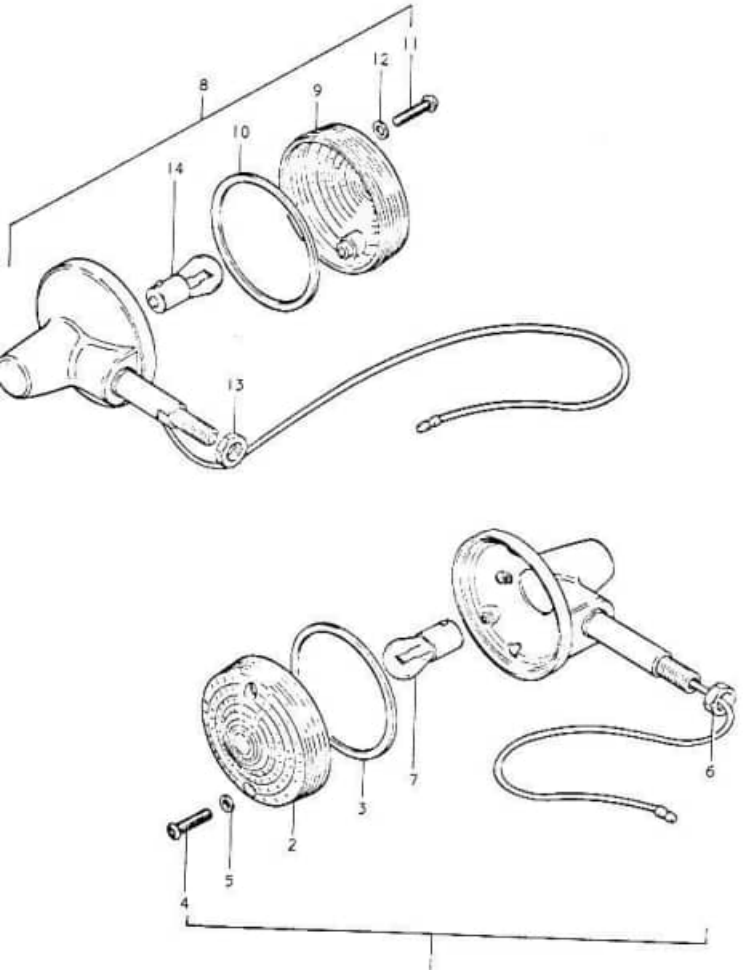
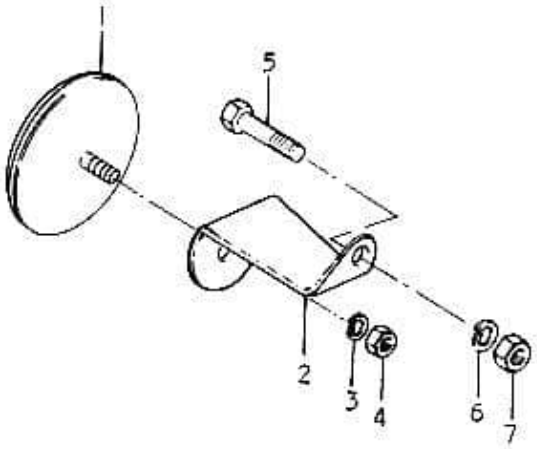


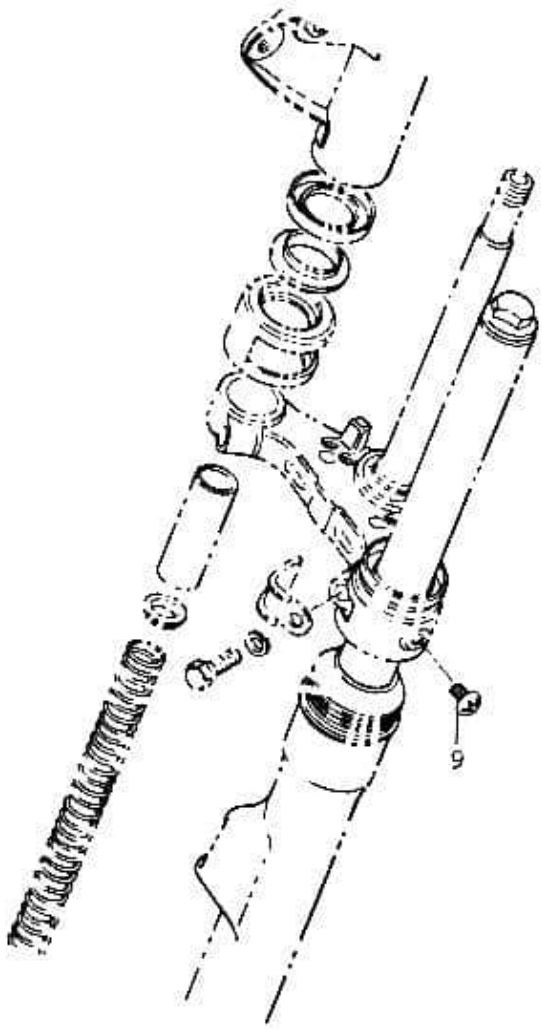
FIG.60 FOR YOUR MARKET (GT500B E22)

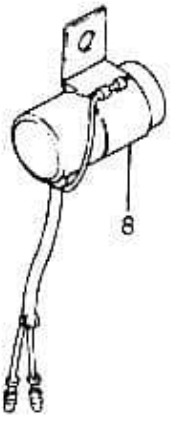
Ref.No.	Part No.	Description	Q'ty B	Remarks
1	35601-18650-999	LAMP ASSY, front turn signal	2	
2	35612-28620	·LENS	2	
3	35613-28620	·GASKET	2	
4	02111-04258	·SCREW	4	
5	35627-43010	·GASKET	4	
6	08312-32108	·NUT	2	
7	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WLK15814
8	35603-18650-999	LAMP ASSY, rear turn signal	2	
9	35612-28620	·LENS	2	
10	35613-28620	·GASKET	2	
11	02111-04258	·SCREW	4	
12	35627-43010	·GASKET	4	
13	08312-32108	·NUT	2	
14	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WLK15814

FIG.61 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35970-31610	REFLEX REFLECTOR ASSY, rear	-	1	
2	35974-36600	BRACKET	-	1	
3	08321-21058	LOCK WASHER	-	1	
4	08311-11058	NUT	-	1	
5	01112-06128	BOLT	-	1	
6	08321-21068	LOCK WASHER	-	1	
7	08311-11068	NUT	-	1	
8	38610-32210	RELAY, turn signal	1	1	
9	02141-05067	SCREW, front fork side	2	2	







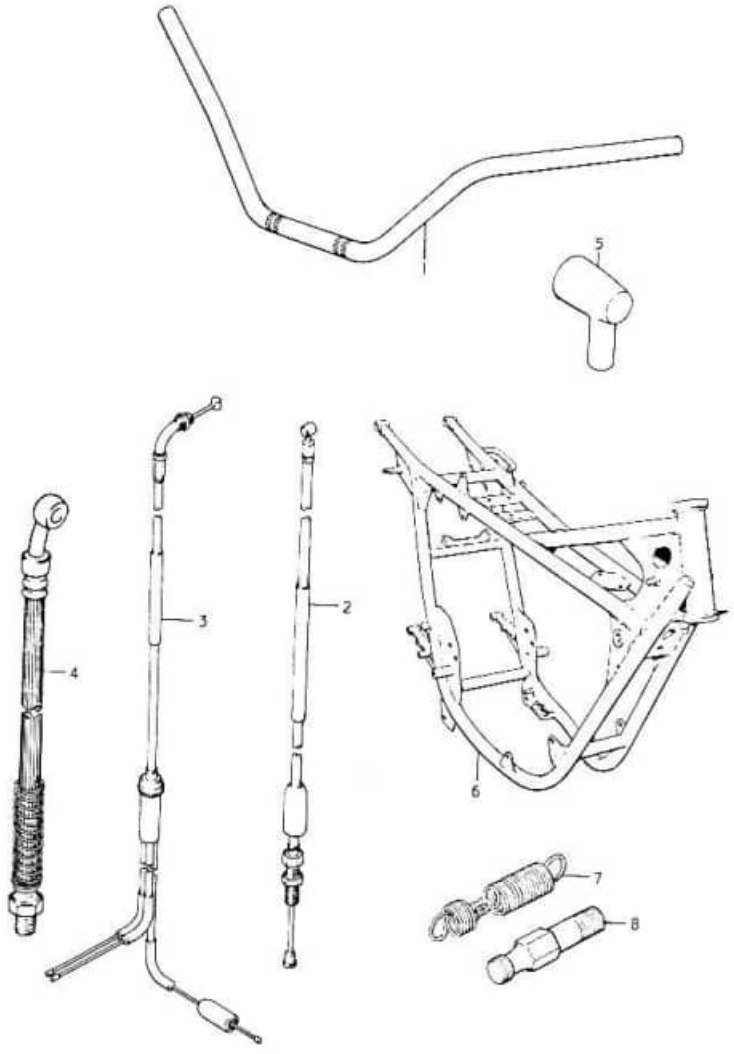


FIG.62 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
2	58200-15100	CABLE, clutch	1	1	
3	58300-15600	CABLE, throttle	1	1	
4	59480-34012	HOSE, brake No.1	1	1	
5	59711-33600	BOOT, master cylinder	1	1	
6	41100-15631-019	FRAME	1	1	
7	42421-31000	SPRING, prop stand	1	-	
8	09119-10014	BOLT	2	-	

FIG.63 FOR YOUR MARKET (E22)

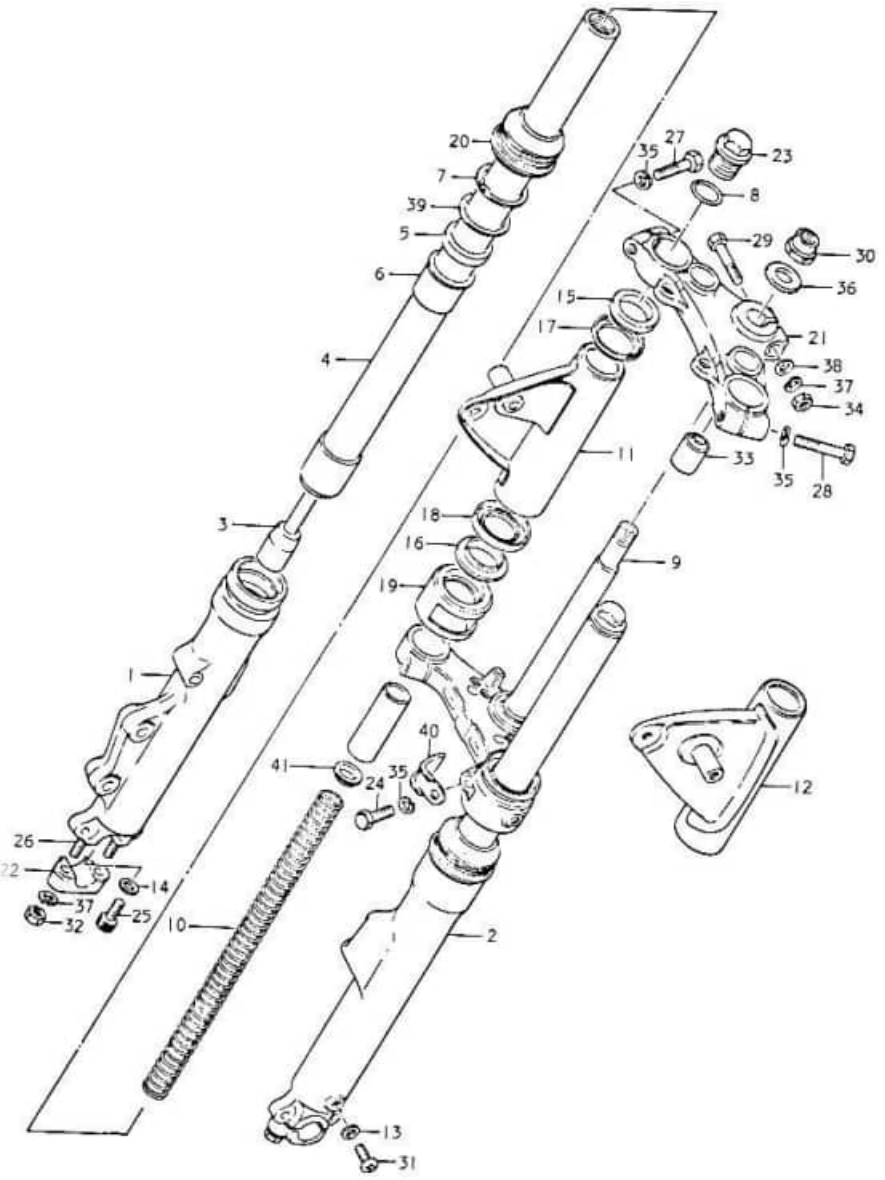


FIG.63 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
	51100-15640-019	FRONT FORK ASSY	1	-
	51100-15641-291	FRONT FORK ASSY	-	1
1	51131-34710	·OUTER TUBE, RH	1	1
2	51131-34010	·OUTER TUBE, LH	1	1
3	51146-34010	·PIECE, oil lock	2	2
4	51110-15210	·INNER TUBE	2	2
5	51153-34010	·OIL SEAL	2	2
6	51152-34010	·GUIDE, inner tube	2	2
7	51156-34010	·CIRCLIP	2	2
8	51181-18510	·O RING	2	2
9	51410-15640	·STEERING STEM	1	1
10	51171-34110	·SPRING	2	2
11-1	51530-33110	·COVER, fork RH	1	-
11-2	51530-33611-291	·COVER, fork RH	-	1
12-1	51540-33110	·COVER, fork LH	1	-
12-2	51540-33611-291	·COVER, fork LH	-	1
13	51183-03010	·GASKET	2	2
14	51148-34010	·GASKET	2	2
15	51556-31010	·CUSHION, cover guide	2	2
16	51553-31010	·CUSHION, cover guide	2	2
17	51555-31010	·GUIDE, cover upper	2	2
18	51551-31010	·GUIDE, cover lower	2	2
19	51575-37010	·COVER, steering stem	2	2
20	51557-34110	·COVER, dust	2	2
21	51311-15210-019	·STEERING STEM HEAD	1	1

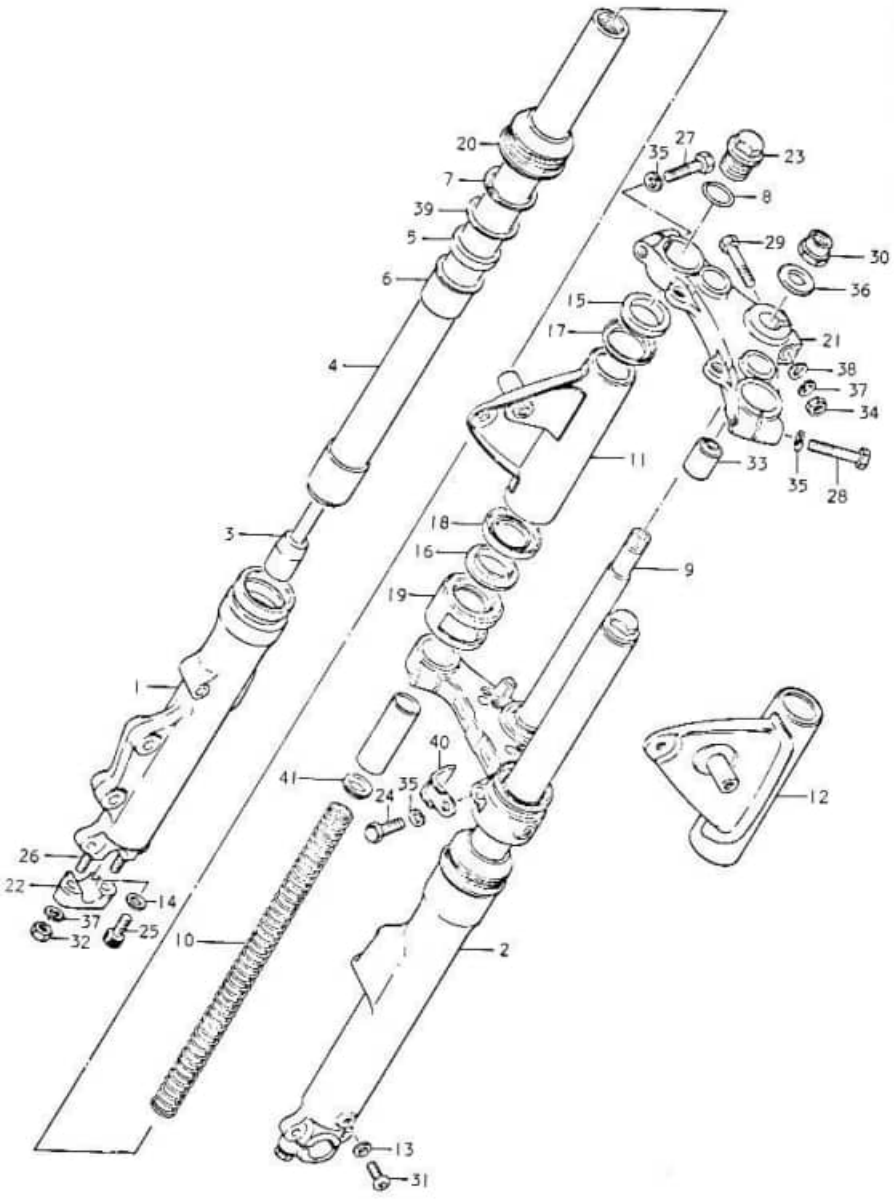
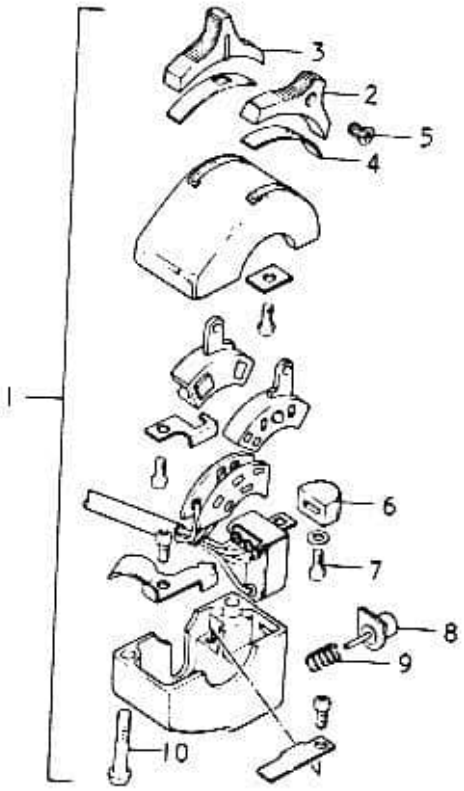


FIG.63 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
22	51132-31010	·HOLDER, axle	2	2
23	51351-31010	·CAP, inner tube	2	2
24	01122-10408	·BOLT	2	2
25	51147-31010	·BOLT, oil lock piece	2	2
26	01421-08308	·BOLT	4	4
27	51451-34710	·BOLT	1	1
28	01121-10407	·BOLT	1	1
29	01122-08508	·BOLT	1	1
30	51353-31710	·NUT	1	1
31	02111-04087	·SCREW	2	2
32	09140-08005	·NUT	4	4
33	09319-10009	·BUSHING	2	2
34	08312-11088	·NUT	1	1
35	08321-21108	·LOCK WASHER	4	4
36	51356-11010	·WASHER	1	1
37	08321-21088	·LOCK WASHER	5	5
38	08322-21088	·WASHER	1	1
39	51158-34010	·WASHER	2	2
40	34991-18110	·CLIP	1	1
41	51172-34110	·GUIDE, spring	2	2

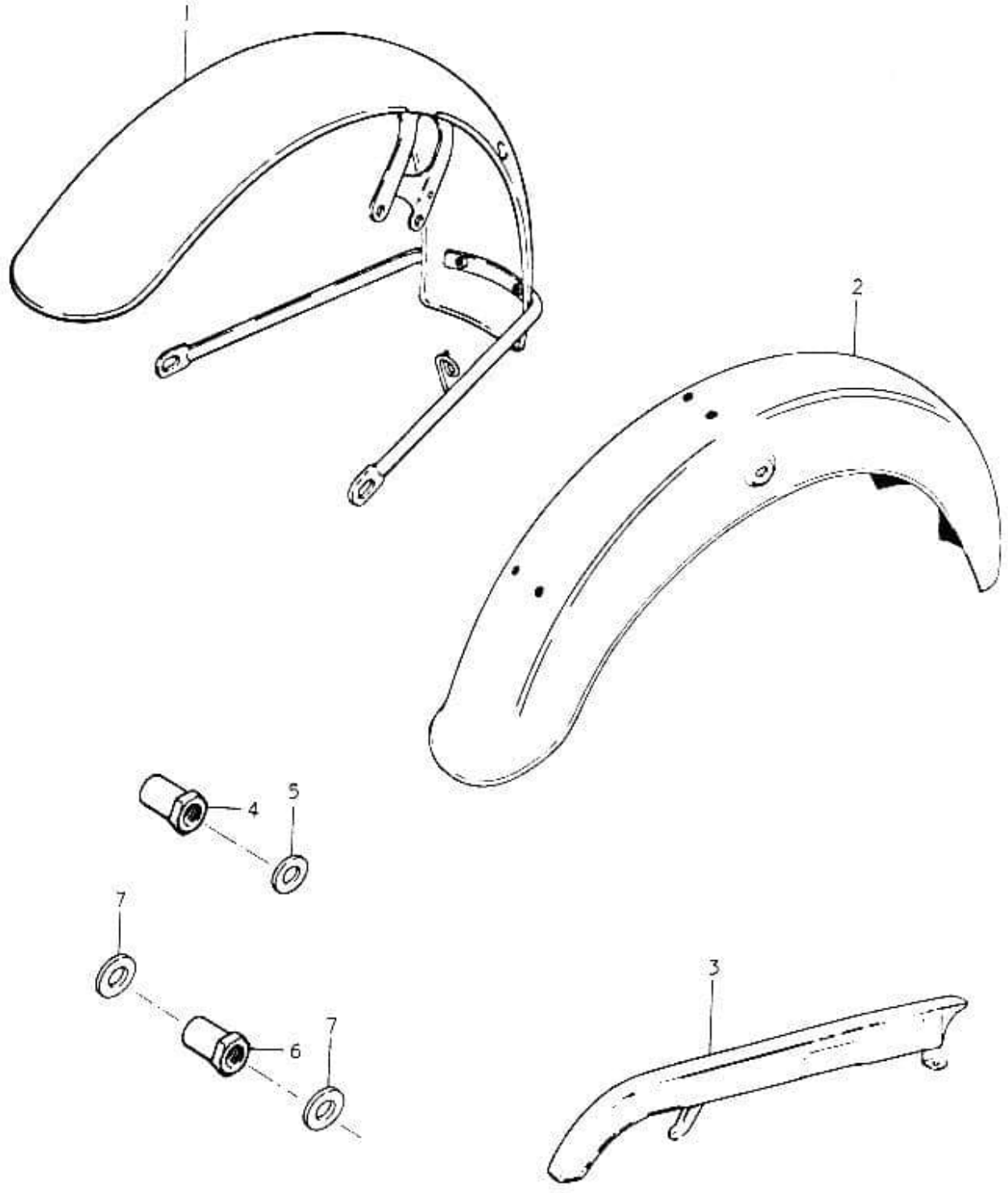
FIG.64 FOR YOUR MARKET (E22)



Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	57700-18670	SWITCH ASSY, handle LH	1	1
2	57712-33011	·KNOB	1	1
3	57713-33010	·KNOB	1	1
4	57714-33010	·PLATE	2	2
5	02321-03088	·SCREW	2	2
6	57742-33010	·KNOB, turn signal	1	1
7	02121-03068	·SCREW	1	1
8	57850-31010	·BUTTON, horn	1	1
9	57761-26010	·SPRING, horn button	1	1
10	02111-05207	·SCREW	2	2

FIG.65 FOR YOUR MARKET (E22)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	53100-31610	FENDER, front	-	1	
2-1	63110-15001	FENDER, rear	1	-	to 63110-15700
2-2	63110-15700	FENDER, rear	-	1	
3	61310-15600	CASE, chain	-	1	
4	09159-12004	NUT, front axle	-	1	
5	08322-11148	WASHER	-	1	
6	09159-16002	NUT, rear axle	-	1	
7	08322-11168	WASHER	-	2	



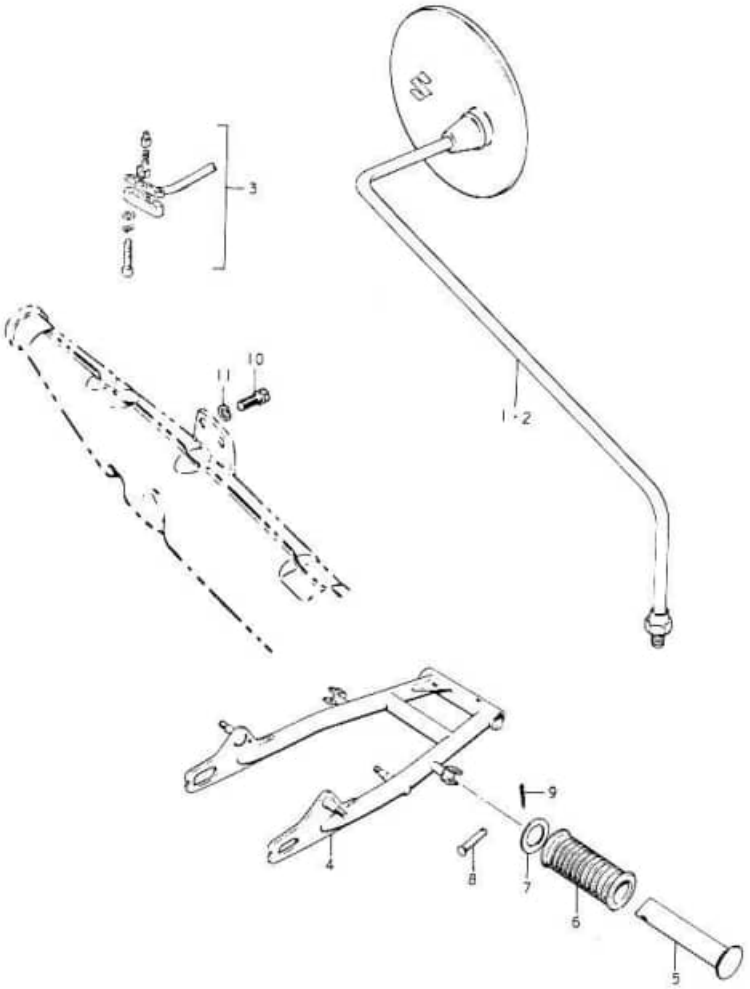


FIG.66 FOR YOUR MARKET (E24)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56500-31601	MIRROR ASSY, rear view RH	1	1	
2	56600-31601	MIRROR ASSY, rear view LH	1	1	
3	57460-33700	SWITCH ASSY, engine stop	1	1	
4	61100-15830-019	REAR SWINGING ARM	1	1	to 61100-15831-019
5	43610-03001	BAR, pillion footrest	2	2	
6	43612-03001	RUBBER	2	2	
7	09160-19006	WASHER	2	2	
8	09200-06010	PIN	2	2	
9	04111-20208	COTTER PIN	2	2	
10	01122-10168	BOLT	-	2	
11	08321-21108	LOCK WASHER	-	2	

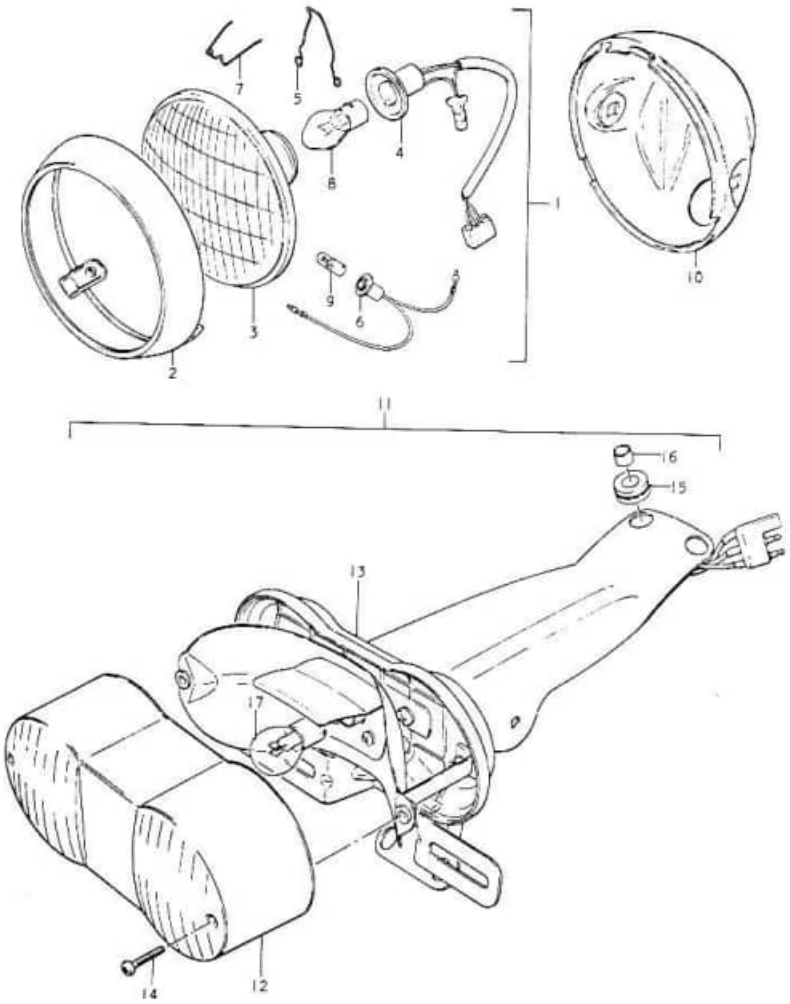


FIG.67 FOR YOUR MARKET (E25)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-36690-999	HEADLAMP ASSY	1	1	
2	35111-18660	·RIM	1	1	
3	35121-18660	·UNIT	1	1	
4	35171-36650	·SOCKET	1	1	
5	35172-28660	·CLAMP	1	1	
6	36118-28660	·SOCKET	1	1	
7	35128-18660	·CLAMP	1	1	
8	09471-12020	BULB (Executed locally) 12V, 35/35W	1	1	PHILIPS No.12728
9	09471-12032	BULB	1	1	12V, 4W
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	
11-1	35710-18673-999	LAMP ASSY, rear combination	1	-	
11-2	35710-33652-999	LAMP ASSY, rear combination	-	1	
12	35712-27660	·LENS	1	1	
13	35715-27691	·HOUSING	1	1	
14	02111-04208	·SCREW	2	2	
15	35765-15010	·CUSHION	4	4	
16	35766-15010	·SPACER	4	4	
17	09471-12046	BULB (Executed locally) 12V, 21/5W	1	1	PHILIPS/HELLA WA KI5857

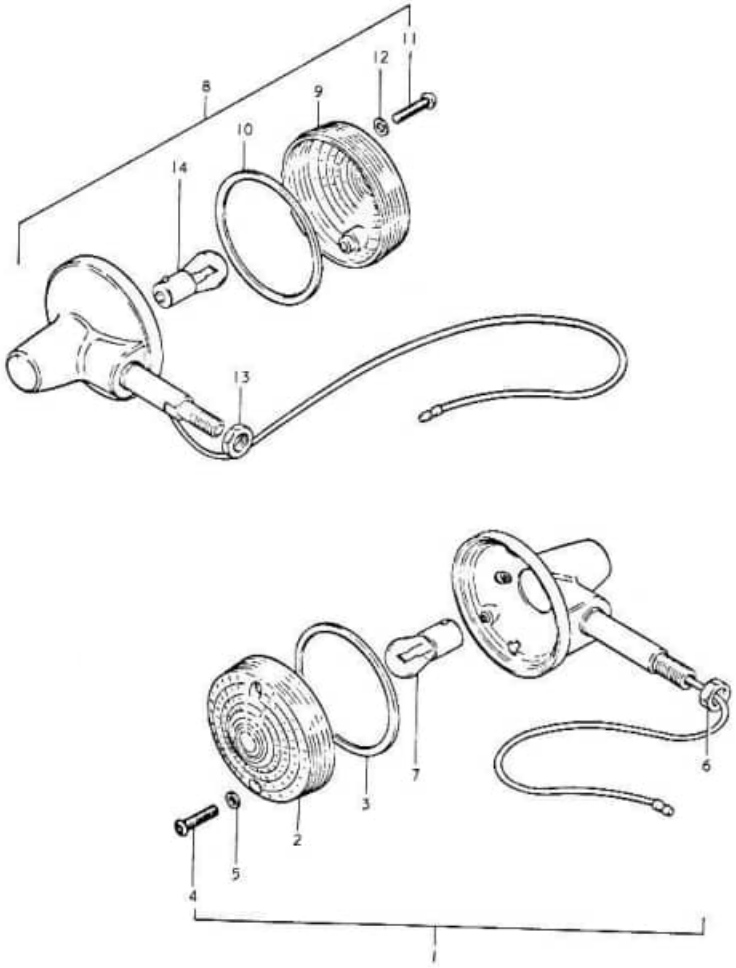
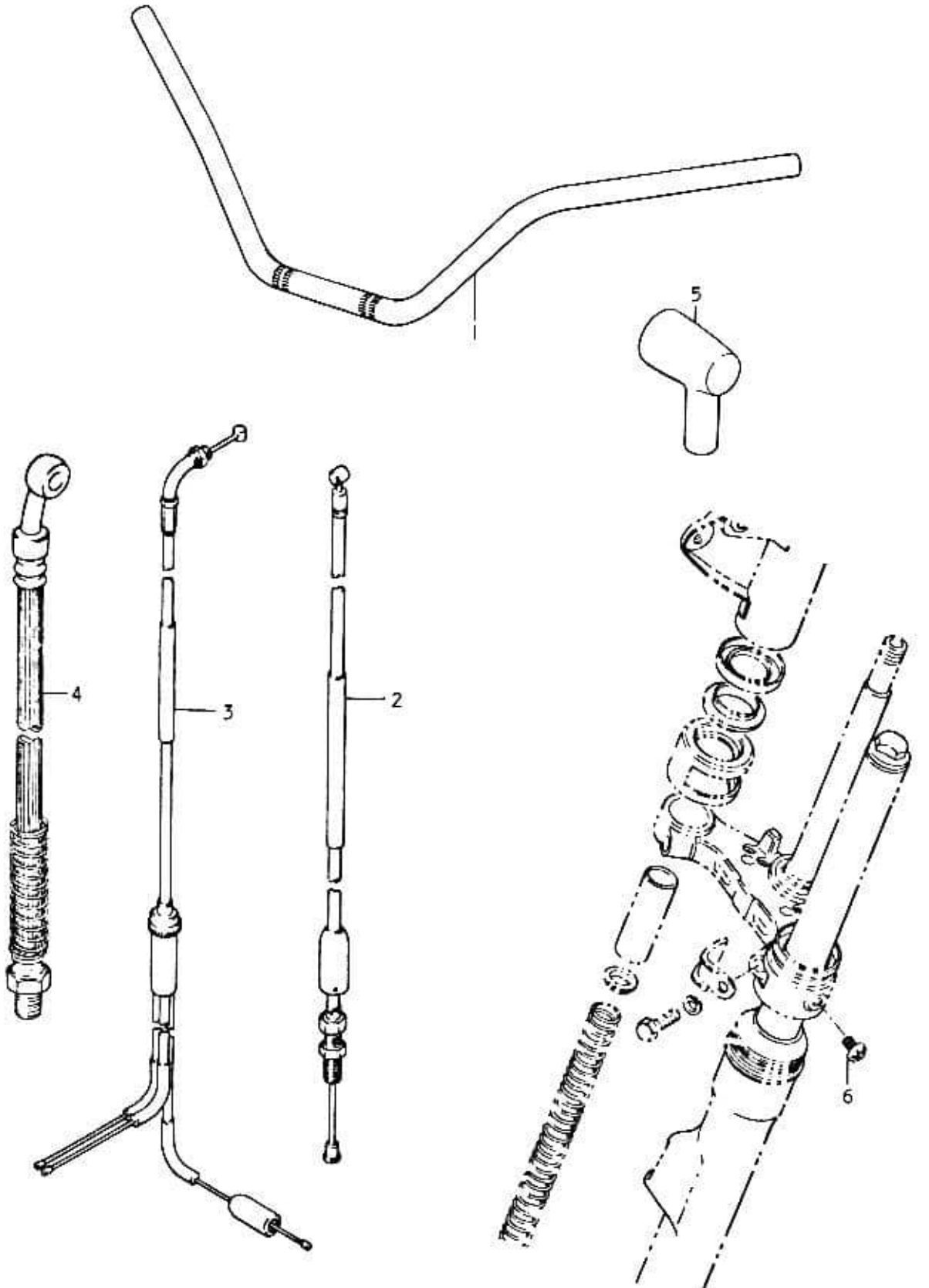


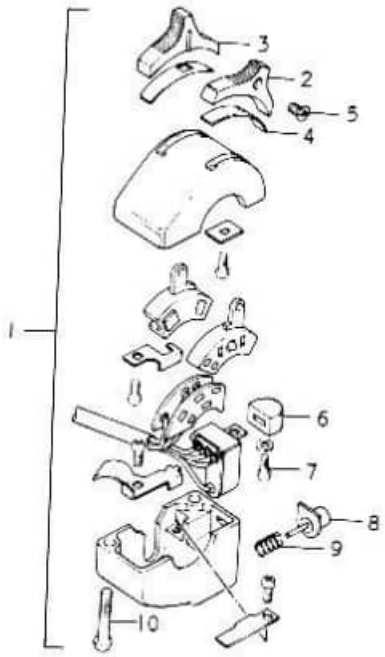
FIG.68 FOR YOUR MARKET (E25)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1-1	35601-29620	LAMP ASSY, front turn signal	2	-	
1-2	35601-18640-999	LAMP ASSY, front turn signal	-	2	
2	35612-28620	*LENS	2	2	
3	35613-28620	*GASKET	2	2	
4	02111-04258	*SCREW	4	4	
5	35627-43010	*GASKET	4	4	
6	08312-32108	*NUT	2	2	
7	09471-12045	BULB (Executed locally)	2	2	PHILIPS 12V, 21W WK15814
8	35603-18640-999	LAMP ASSY, rear turn signal	-	2	
9	35612-28620	*LENS	-	2	
10	35613-28620	*GASKET	-	2	
11	02111-04258	*SCREW	-	4	
12	35627-43010	*GASKET	-	4	
13	08312-32108	*NUT	-	2	
14	09471-12045	BULB (Executed locally)	-	2	PHILIPS 12V, 12W WK15814

FIG.69 FOR YOUR MARKET (E25)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
2	58200-15100	CABLE, clutch	1	1	
3	58300-15600	CABLE, throttle	1	1	
4	59480-34012	HOSE, brake No.1	1	1	
5	59711-33600	BOOT, master cylinder	1	1	





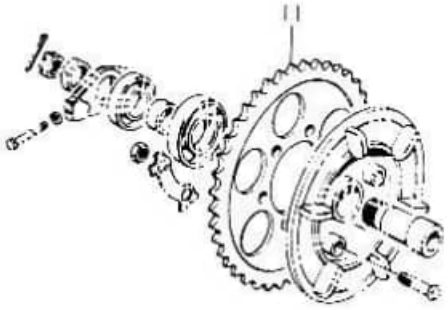


FIG.70 FOR YOUR MARKET (E25)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
1	57700-18670	SWITCH ASSY, handle LH	1	1
2	57712-33011	·KNOB	1	1
3	57713-33010	·KNOB	1	1
4	57714-33010	·PLATE	2	2
5	02321-03088	·SCREW	2	2
6	57742-33010	·KNOB, turn signal	1	1
7	02121-03068	·SCREW	1	1
8	57850-31010	·BUTTON, horn	1	1
9	57761-26010	·SPRING, horn button	1	1
10	02111-05207	·SCREW	2	2
11	64511-15751	SPROCKET, rear	1	1

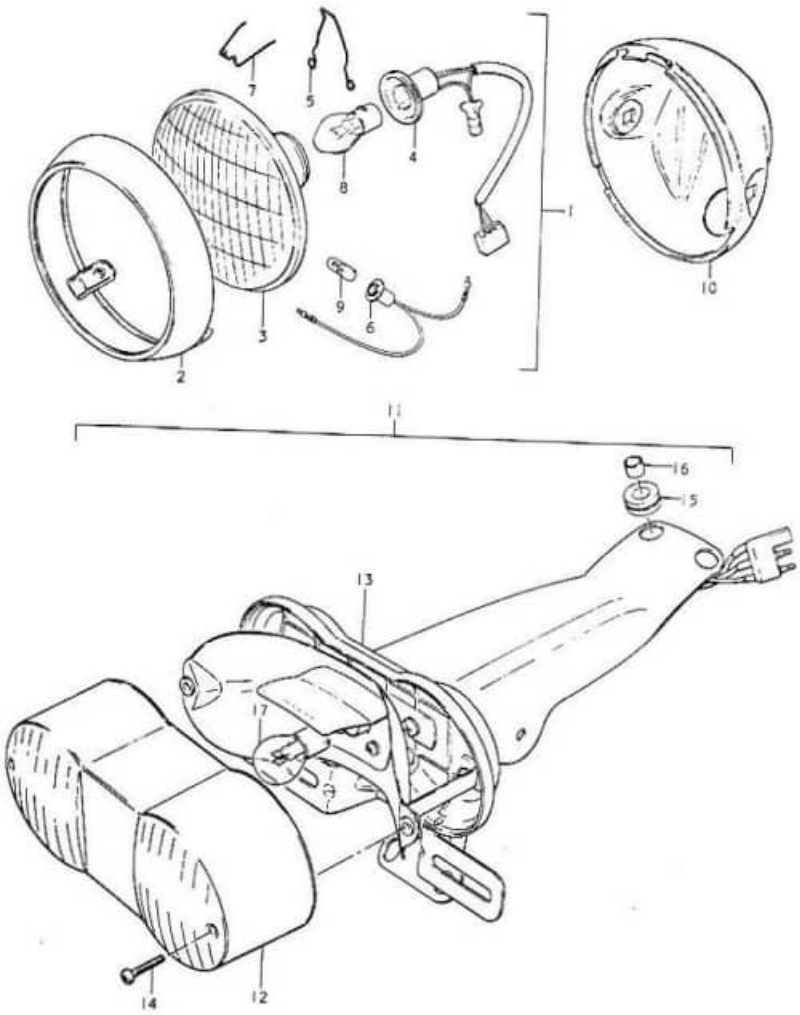
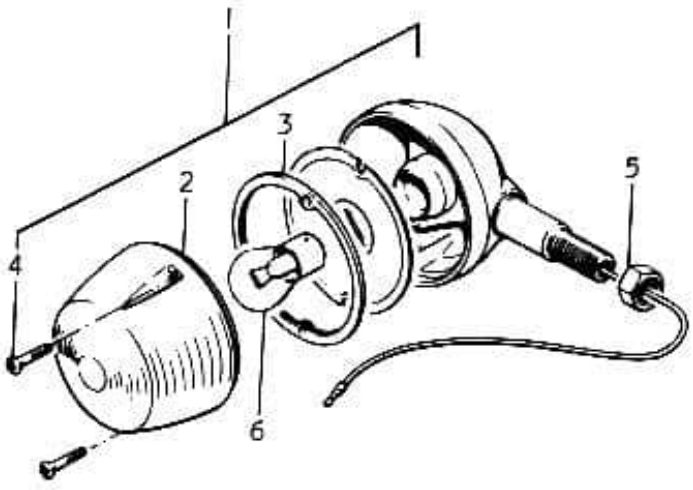


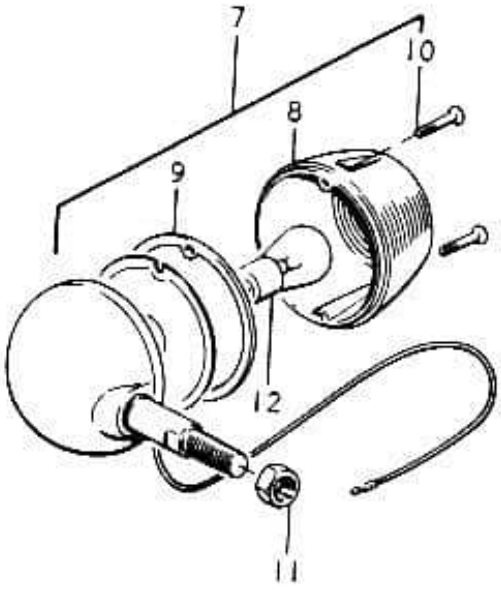
FIG.71 FOR YOUR MARKET (E34)

ef.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	35100-33671-999	HEADLAMP ASSY	1	1	
2	35111-18660	·RIM	1	1	
3	35121-33671	·UNIT	1	1	
4	35171-36650	·SOCKET	1	1	
5	35172-28660	·CLAMP	1	1	
6	36118-33670	·SOCKET	1	1	
7	35128-18660	·CLAMP	1	1	
8	09471-12020	BULB (Executed locally) 12V, 35/35W	1	1	PHILIPS No.12728
9	09471-12051	BULB (Executed locally)	1	1	12V, 3W
10-1	51810-33600	HOUSING, headlamp	1	-	
10-2	51810-27600-291	HOUSING, headlamp	-	1	
11-1	35710-18673-999	LAMP ASSY, rear combination	1	-	
11-2	35710-33652-999	LAMP ASSY, rear combination	-	1	
12	35712-27660	·LENS	1	1	
13	35715-27691	·HOUSING	1	1	
14	02111-04208	·SCREW	2	2	
15	35765-15010	·CUSHION	4	4	
16	35766-15010	·SPACER	4	4	
17	09471-12046	BULB (Executed locally) 12V, 21/5W	1	1	PHILIPS/HELLA WA K15857

FIG.72 FOR YOUR MARKET (GT500A E34)

Ref.No.	Part No.	Description	Q'ty A	Remarks
1	35601-15660	LAMP ASSY, front turn signal	2	
2	35652-15660	·LENS	2	
3	35613-03610	·GASKET	2	
4	02133-03167	·SCREW	4	
5	08312-32108	·NUT	2	
6	09471-12006	·BULB	2	12V, 32cp
7	35603-15612	LAMP ASSY, rear turn signal	2	
8	35612-12611	·LENS	2	
9	35613-03610	·GASKET	2	
10	02133-03167	·SCREW	4	
11	08312-32108	·NUT	2	
12	09471-12006	·BULB	2	12V, 32cp





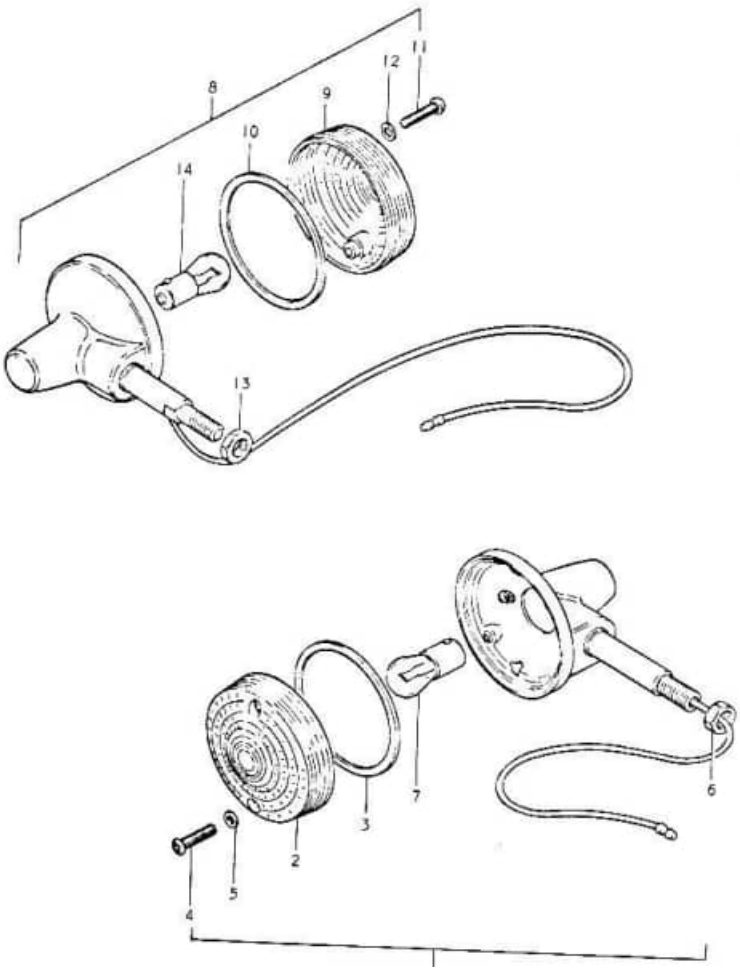
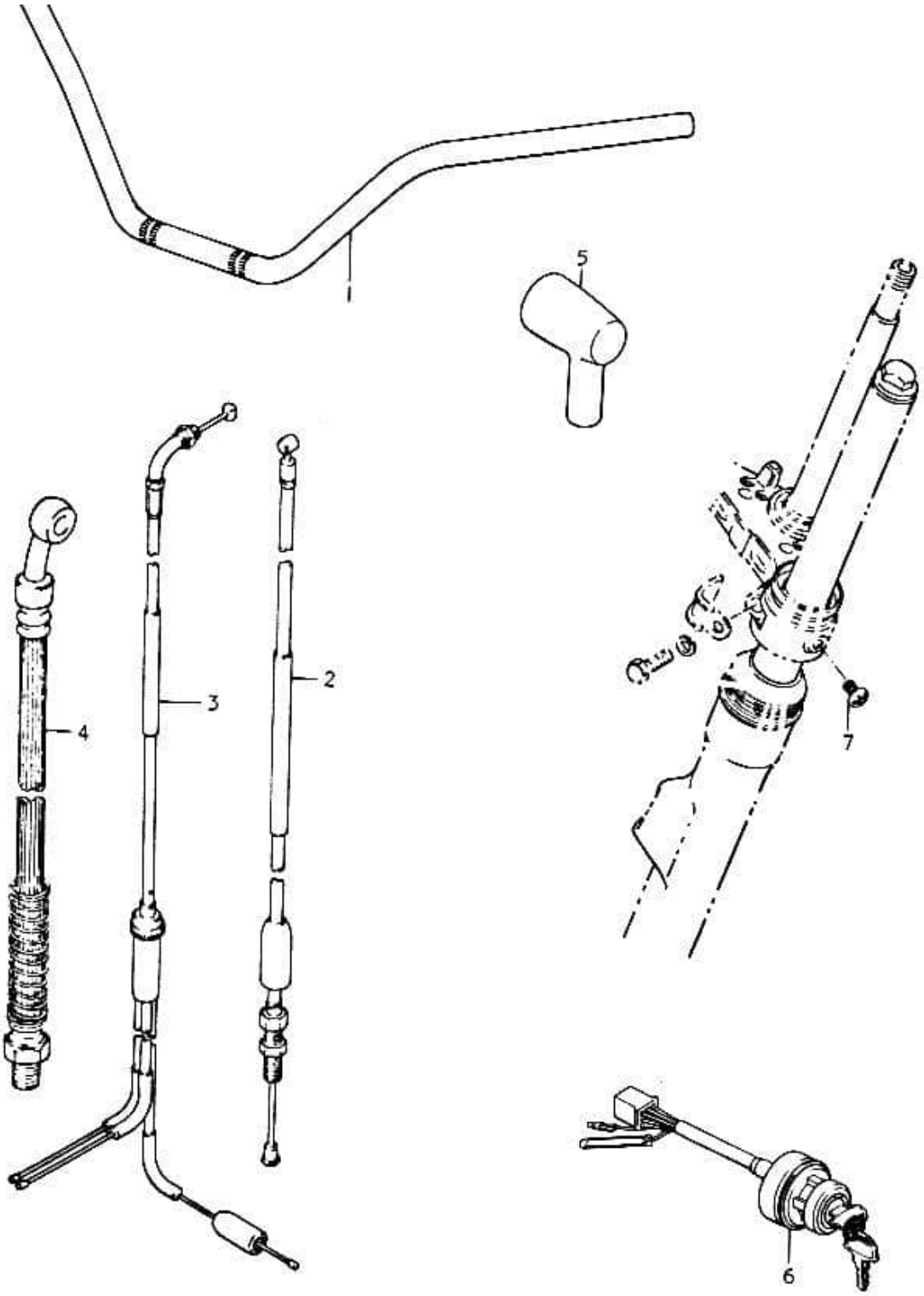


FIG.73 FOR YOUR MARKET (GT500B E34)

Ref.No.	Part No.	Description	Q'ty B	Remarks
1	35601-18640-999	LAMP ASSY, front turn signal	2	
2	35612-28620	·LENS	2	
3	35613-28620	·GASKET	2	
4	02111-04258	·SCREW	4	
5	35627-43010	·GASKET	4	
6	08312-32108	·NUT	2	
7	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WAK15814
8	35603-18640-999	LAMP ASSY, rear turn signal	2	
9	35612-28620	·LENS	2	
10	35613-28620	·GASKET	2	
11	02111-04258	·SCREW	4	
12	35627-43010	·GASKET	4	
13	08312-32108	·NUT	2	
14	09471-12045	BULB (Executed locally)	2	PHILIPS 12V, 21W WAK15814

FIG.74 FOR YOUR MARKET (E34)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B	Remarks
1	56111-33600	HANDLEBAR	1	1	FLAT HANDLEBAR
2	58200-15100	CABLE, clutch	1	1	
3	58300-15600	CABLE, throttle	1	1	
4	59480-34012	HOSE, brake No.1	1	1	
5	59711-33600	BOOT, master cylinder	1	1	
6-1	37110-28654	SWITCH ASSY, ignition	1	-	from 37110-28653 to 37110-28655
6-2	37110-28655	SWITCH ASSY, ignition	-	1	
7	02141-05067	SCREW	-	2	



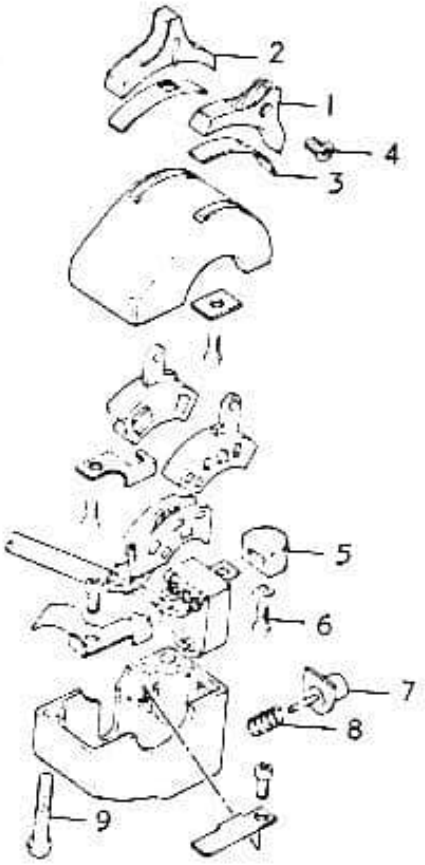


FIG.75 FOR YOUR MARKET (E34)

Ref.No.	Part No.	Description	Q'ty A	Q'ty B
	57700-18670	SWITCH ASSY, handle LH	1	1
1	57712-33011	·KNOB	1	1
2	57713-33010	·KNOB	1	1
3	57714-33010	·PLATE	2	2
4	02321-03088	·SCREW	2	2
5	57742-33010	·KNOB, turn signal	1	1
6	02121-03068	·SCREW	1	1
7	57850-31010	·BUTTON, horn	1	1
8	57761-26010	·SPRING, horn button	1	1
9	02111-05207	·SCREW	2	2

CARBURETOR JETS

Service Bulletin

ALL PRODUCTS
ISSUE NO.: M-G-0161
DATA: Jan., 30, 2004
PAGE: 1 OF 24

SUBJECT: CARBURETOR JETS
APPLICABLE MODEL:
EFFECTIVE ENGINE OR FRAME NO.:
REFERENCE:

This bulletin is intended to advise you of availability of various size of carburetor jets and their related SUZUKI part numbers. The carburetors dealt with in this bulletin cover all the products: motorcycles, automobiles, outboard motors, generators, water pumps and general purpose engines.

Also contained in this bulletin are explanations on jet type, size and code for your reference. When replacing carburetor jets or ordering the spare parts, refer to this bulletin and ensure that you are handling correct ones.

MAIN JET (MIKUNI)

The table below shows the last five digits of the part number for all the available main jets classified by type and size.

MAIN JET PART #: 09491–○○○○○
→ SHOWN BELOW

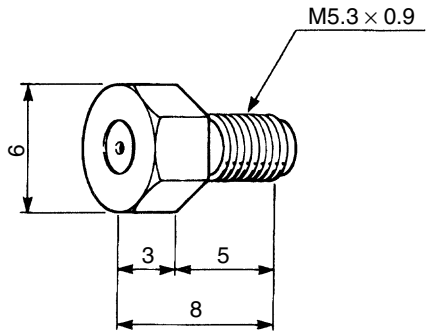
MAIN JET SIZE	TYPE CODE			
	M10/14	4/042	N100604	N102221
35	35001			35012
37.5				37006
40	40001			40012
45	45001			45002
47.5				47001
50	50001	50002		50006
52.5			52002	52003
55	55001	55002	55003	55004
57.5			57006	57003
60	60001	60002	60006	60010
62.5			62003	62006
65	65001	65002	65004	65005
67.5			67003	67004
70	70001	70002	70010	70012
72.5			72010	72012
75	75001	75002	75009	75008
76.3				76004
77.5			77004	77005
78.8				78008
80	80001	80003	80008	80009
82.5			82003	82005
83.8				84002
85	85001	85002	85008	85006

MAIN JET SIZE	TYPE CODE			
	M10/14	4/042	N100604	N102221
87.5			87005	87006
88.8				87003
90	90001	90002	90007	90011
92.5			92004	92003
93.8				94003
95	95001	95006	95005	95008
96.3				96002
97.5			97003	97007
98.8				98005
100	20001	20002	20017	20022
101.3				20016
102.5			20012	20011
103.8				20020
105	21002	21013	21016	21023
107.5			21014	21020
108.8				21024
110	22001	22003	22016	22013
111.3				22020
112.5			22015	22025
113.8				22017
115	23005	23010	23011	23012
116.3				27011
117.5			23017	23019
118.8				23023
120	24001	24014	24016	24026
122.5			24013	24023
123.8				24022
125		25009	25010	25014
127.5			25011	25018
130	26002	26003	26011	26016
132.5			26012	26013
135		27015	27009	27008
137.5			27010	27014
140	28001	28009	28010	28017
142.5			28015	28012
145		29002	29013	29006
147.5			29012	29010
150	30001	30017	30016	30010
152.5			30005	30009
155		31005	31008	31003
157.5			31002	31007
160	32001	32002	32005	32006
162.5				32008
165		33005	33002	33003
167.5				33007
170	34001	34002	34003	34008

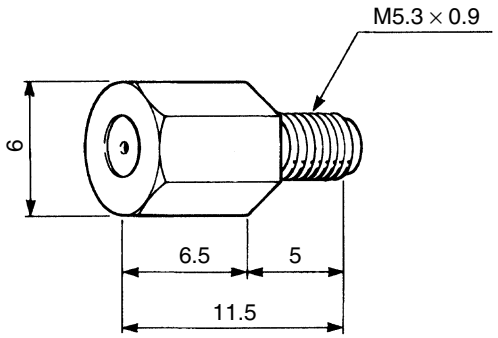
MAIN JET SIZE	TYPE CODE			
	M10/14	4/042	N100604	N102221
172.5				34006
175		35003	35002	35008
180	36002	36006	36004	36005
185		37007	37002	37004
190	38001	38009	38004	38007
195		38006		38008
200	40005	40006		40007
205				40008
210	42002	42005		42003
220	44003	44007		44004
230	46002	46001	46005	
240	48002	48003		
250		50008		
260		52006		
270		54002		
280		56003		
290		58002		
300		60007		
310		62005		
320		64002		
330		66002		
340		68002		
350		70011		
360		72011		
370		74003		
380		76003		
390		78005		
400		80010		
410		82001		
420		84001		
430		86001		
440		88001		
450		90005		
470		94001		
480		96001		
490		98001		
500		10001		
530		16001		

MAIN JET SIZE	TYPE CODE		
	N102228	N208099	VM11/22
45			45004
47.5			47002
50			50009
52.5			52007
55			55006
57.5			57005
60			60009
62.5			62007
65			65008
67.5			67005
70			70013
75			75010
77.5			77006
80		80013	80011
82.5		82009	82001
84.4		84005	
85		85010	85005
86.3		86007	
87.5		87008	87009
88.8		88005	
89.4		89001	
90			90006
91.3		91001	
95			95004
115	23007		
137.5	27007		
142.5	28008		
145	29003	29011	
150	30007	30013	
152.5		30015	
155	31004	31009	
157.5		31011	
160	32007	32009	
165		33008	
170	34005	34009	

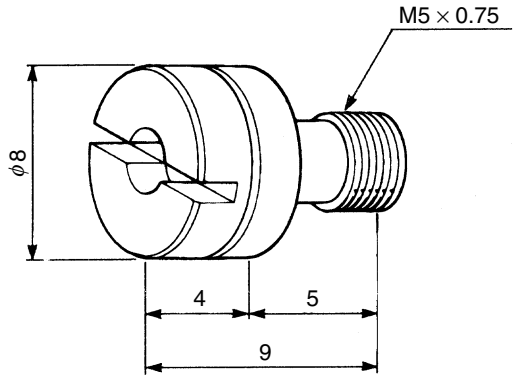
TYPE: M10/14



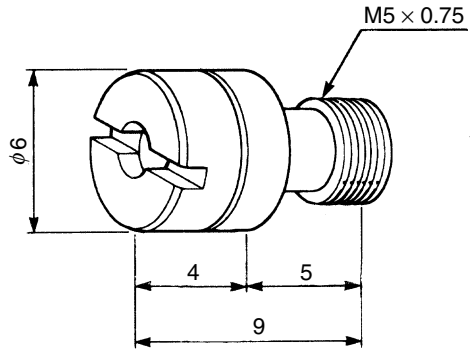
TYPE: 4/042



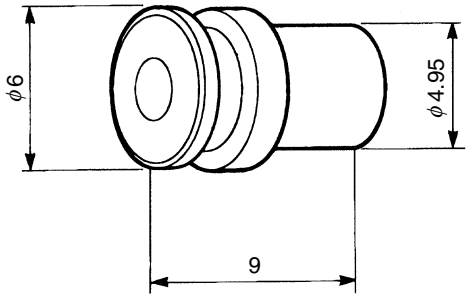
TYPE: N100604



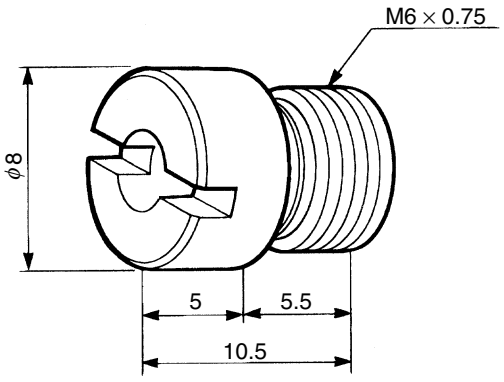
TYPE: N102221, N102228



TYPE: N208099



TYPE: VM11/12



There are two systems of size number calibration:

(a) Size number is directly proportional to the amount of fuel being able to flow through under a given pressure.

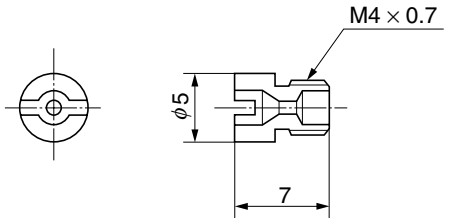
(b) Size number represents the diameter of the jet hole.

The hex type jets, M10/14 and 4/042, take the above (a) system and the round type jets, N100/604, N102221, N102228, N208099 and VM11/22, the (b) system.

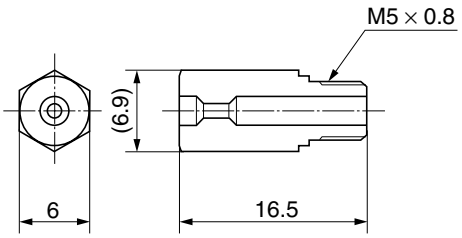
MAIN JET (KEIHIN)

MAIN JET SIZE	TYPE CODE		
	CVK(S)/PWS	PE/PWK/PWM/FCR-H/PJ	CVR/CVK/FCR-H(MAJ)
55	55008		
58	58003		
60	60011		
65	65009		
68	68003		
70	70001		
72	70015		
75	75011		
82	82010		
85	85012		85011
92			92012
95			92011
98			98008
100			20023
102	20026		20024
105	21031		20027
108	21030		21032
115	23024		23025
120	24029		24033
122			24032
125		25019	25022
128			25021
142		28020	
145		29014	
150		30018	
155		31012	
160		32010	
162		32011	
165		33009	
170		34010	
172		34011	
175		34009	
180		36008	
185		37008	
190		38011	
195		39011	
200		40013	
205		41001	
210		42006	

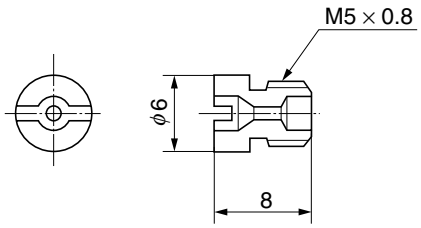
TYPE: CVK(S)/PWS



TYPE: PE/PWK/PWM/FCR-H/PJ



TYPE: CVR/CVK/FCR-H(MAJ)



The main jet size number is directly proportional to the amount of fuel being able to flow through under a given pressure.

PILOT JET (MIKUNI)

The table below shows the last five digits of the part number for all the available pilot jets classified by size and type.

PILOT JET PART #: 09492–

SHOWN BELOW

PILOT JET SIZE	TYPE CODE							
	VM22/210	VM22/140	BS30/96	N100606	N101043	VM28/486	M28/1001	N106340
12.5	12006						12001	
15	15007	15001				15005	15015	
17.5	17006	17001				17009	17004	17005
20	20008	20001				20009	20006	20005
22.5	22006	22001				22008	22005	22002
25	25005	25001				25007		
27.5	27003					27004		
30	30006	30002		30008		30007		
32.5	32001					32004		
35	35004	35001		35012	35005			
36.3					36003			
37.5	35006				35011	37002		
38.8					39001			
40	40004	40002	40007	40019	40011	40021	40006	
41.3					42009			
42.5			42007		42006	42024		
43.8			43004					
45	45009	45002	45015	45023	45011	45026		
46.3					46011			
47.5			47007		47003	47021		
48.8			48010					
50	50010		50011	50013	50008	50018		
52.5			52001		52002			
55	55005		55006	55010	55008	55013		
57.5			57002					
60	60004		60006	60007	60005	60013		
62.5				62002	62001			
65	65003			65005	65002	65007		
67.5				67001	67002			
70				70005	70001	70008		
72.5				72001	72002			
75				75002	75001			
77.5				77002				
80				80001	80003			
85				85003	85001			
87.5					87001			
90				90003	90002			
95				95002	95004			
100					20025			
105				21002				
110					22017			

PILOT JET SIZE	TYPE CODE							
	VM22/210	VM22/140	BS30/96	N100606	N101043	VM28/486	M28/1001	N106340
112.5				22007				
115				23001	23002			
125				25006				
130				26001				
135				27006				
140				28001				
145				29001				
150				30004				
160				32005				
170				34003				
180				36001				

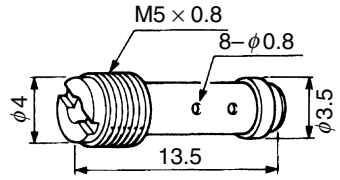
PILOT JET SIZE	TYPE CODE							
	N136230	N136300	N151067	N187106	N208222	N224103	VM13/281	VM13/352
10						10002		10001
12.5						12008	12003	12007
15						15017	15011	15016
17.5						17016	17012	17014
20						20024	20021	20023
22.5						22014		22010
25						25011		25009
27.5						27011		27012
30			30010			30014		30011
32.5			32006			32010		
35	35028		35008			35028	35018	
37.5			35010			37003	35017	
40	50021		40014			40028		
41.3	42008			41001				
42.5			42010	42015		42003	42017	
43.8				43002				
45	45018	45033	45016	45022	45031	45034		
45.6					45029			
46.3	46010	46003		46006	46009			
47.5	47006	47008	47013			47002	47019	
50			50022			50024		
52.5			52010					
55			55014			55018		
57.5			57004					

PILOT	N210620	N211100
32.5		32008
45		45028
47.5		47018
51.3		51005
52.5		52009
55		55015
60		60014
62.5		62003
70		70007

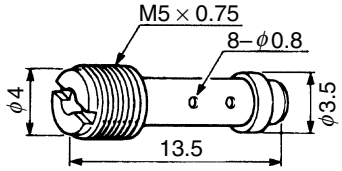
PILOT	N210620	N211100
72.5		72003
75		75005
80		80007
87.5		87002
100		20020
110	22015	09493–22011
122.5	24001	
125		25012

PILOT	N210620	N211100
127.5	25013	
130		26002
135		27010
150		30015
160		09493–32007
170		09493–34003

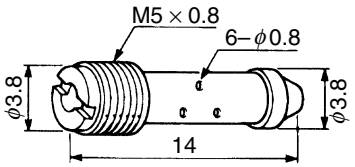
TYPE: VM22/210



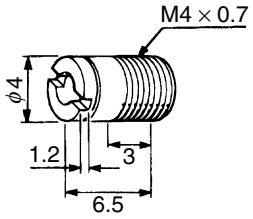
TYPE: VM22/140



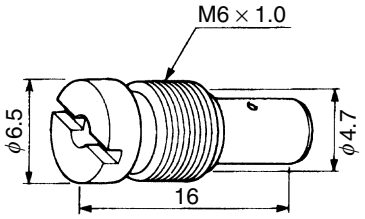
TYPE: BS30/96



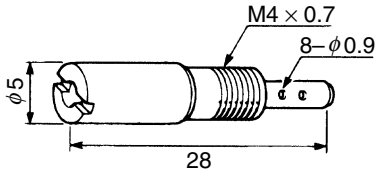
TYPE: N100606



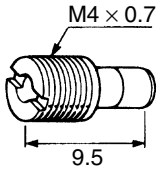
TYPE: N101043



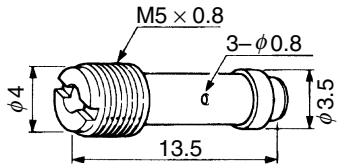
TYPE: VM28/486



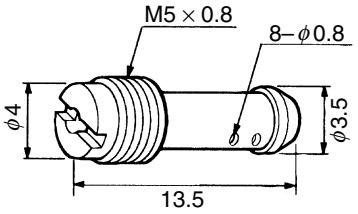
TYPE: M28/1001



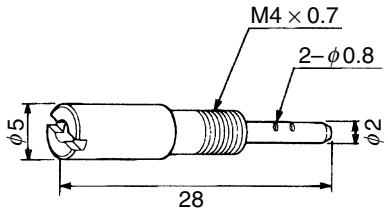
TYPE: N106340



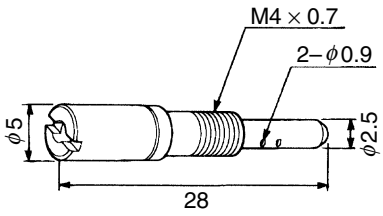
TYPE: VM13/352



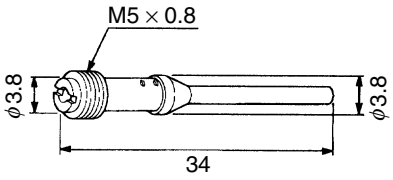
TYPE: VM13/281



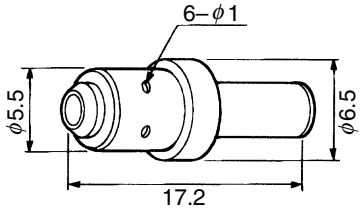
TYPE: N224103



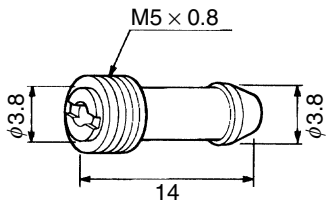
TYPE: N208222



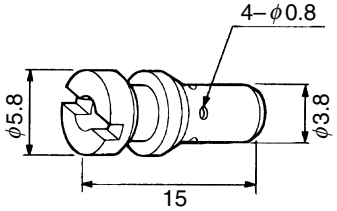
TYPE: N187106



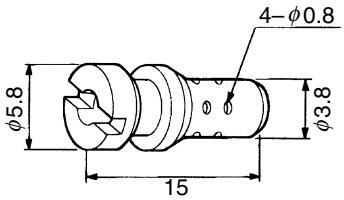
TYPE: N151067



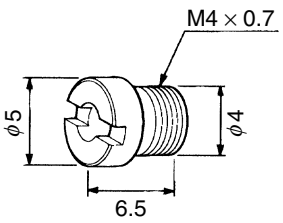
TYPE: 136300



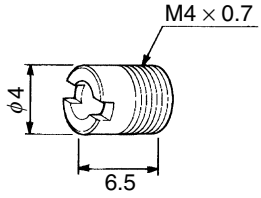
TYPE: N136230



TYPE: N210620



TYPE: N211100



The pilot jet size number is directly proportional to the amount of fuel being able to flow through under a given pressure.

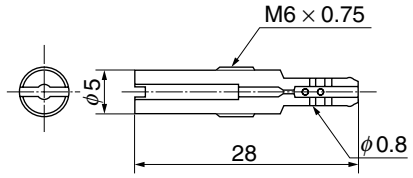
PILOT JET (KEIHIN)

PILOT JET PART #: 09492–◯◯◯◯◯

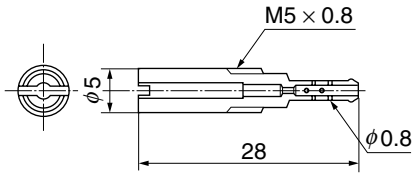
SHOWN BELOW

PILOT JET SIZE	TYPE CODE						
	CVK(S)/ PWK/PWM/ PJ	① PWS	② PWS	③ PWS	CVK(S)	CVK/FCR-H	CVR/CVK
35	35025			13351–35E00		35020	35020
38		38007	38003		38004		38005
40		40027			40026		
42	42019	42021	42020				42022
45	45032		45036			45038	
48	48013		48014				
50	50023						
52	52011						
55	55017						
58	58001						
60	60016						

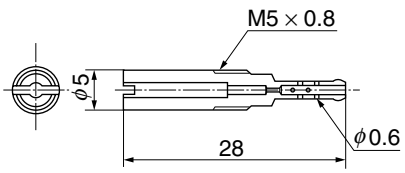
TYPE: CVK(S)/PWK/PWM/PJ



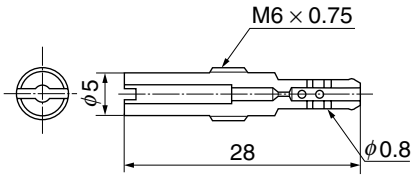
① TYPE: PWS



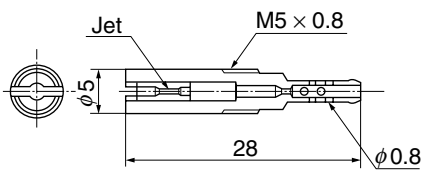
② TYPE: PWS



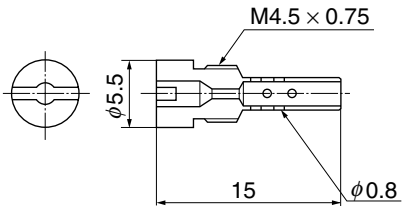
TYPE: CVK(S)



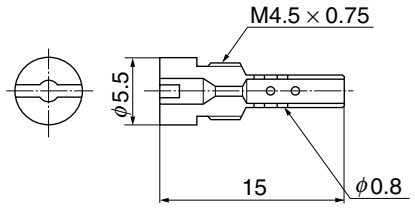
③ TYPE: PWS



TYPE: CVK/FCR-H



TYPE: CVR/CVK



The pilot jet size number is directly proportional to the amount of fuel being able to flow through under a given pressure.

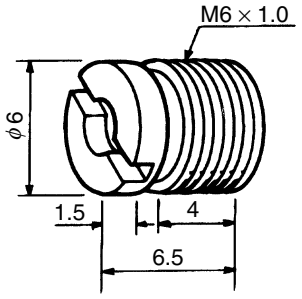
AIR JET (MIKUNI)

The table below shows the last five digits of the part number for all the available air jets classified by size and type.

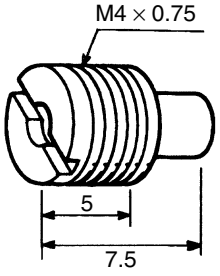
AIR JET PART #: 09493–◯◯◯◯◯
SHOWN BELOW

AIR JET SIZE	TYPE CODE		AIR JET SIZE	TYPE CODE	
	B42/55	BS30/90		B42/55	BS30/90
0		00001	30		30014
0.5		50004	45	45001	
0.6		60004	50	50003	
0.7		70009	52.5	52001	
0.8		80010	60	60003	
0.9		90006	70	70000	
0.95		95001	80	80012	
1.0		20007	100	20006	
1.1		22005	110	22006	22007
1.15		23002	115	23001	
1.2		24007	120	24005	24006
1.25		25003	125	25001	
1.3		26004	130	26005	
1.35		27002	135	27001	
1.4		28007	140	28005	
1.45		29002	145	29001	
1.5		30004	150	30003	
1.55		31001	155	30005	
1.6		32003	160	32002	
1.65		33001	170	34001	
1.7		34002	175	35001	
1.8		32004	180	36002	
1.9		38002	190	38001	
1.95		38003	200	40001	
2.0		40003	220	44001	
25		25011	230	46001	

TYPE: B42/55



TYPE: BS30/97



The size number represents the diameter of the jet hole.

NEEDLE JET (MIKUNI)

The table below shows the last five digits of part number versus identification code for all the needle jets currently available.

NEEDLE JET PART #: 09494–◯◯◯◯◯

SHOWN BELOW

IDENTIFICATION CODE		PART NUMBER
E0	110	00001
E2	110	00002
D8	110	00003
E0	137	00004
N6	138	00006
N6	147	00007
N6	136	00008
N2	136	00009
O4	136	00010
N6	122	00015
O4	129	00016
N6	126	00017
O2	180	00018
O2	171	00019
E4	110	00022
O0	132	00023
N8	134	00024
E6	132	00025
F2	156	00026
E0	135	00029
O0	136	00030
E8	156	00031
D8	168	00033
E6	174	00034
E0	168	00035
P5	159	00036
Q0	159	00037
E2	168	00038
E0	179	00039
E4	165	00040
P8	159	00044
E8	132	00045
Q0	188	00047
N6	184	00048
E0	165	00049
E2	191	00050
P4	188	00051
P0	188	00052
P2	188	00054
P5	188	00056

IDENTIFICATION CODE		PART NUMBER
E2	198	00057
N6	107	00060
E2	107	00064
P6	188	00065
E2	139	00066
E4	139	00067
E2	155	00069
O0	164	00070
E1	110	00071
E0	202	00072
E1	155	00074
O2	164	00075
O0	162	00076
O0	158	00079
O4	212	00080
E0	147	00081
O4	172	00082
N8	187	00083
O2	187	00084
O6	187	00085
E5	195	00086
Q8	159	00087
O0	216	00089
E6	139	00090
O6	192	00092
O2	219	00093
O4	214	00094
P3	188	00095
D8	165	00096
N6	223	00097
O4	192	00098
O6	171	00099
Q2	159	00100
Q6	159	00101
O0	187	00102
O2	192	00103
P0	159	00104
O5	192	00105
P2	216	00107
P0	171	00109

IDENTIFICATION CODE		PART NUMBER
E3	232	00110
P3	159	00111
P8	171	00112
P2	232	00113
E4	155	00114
E0	132	00115
O8	172	00116
O4	182	00117
N6	206	00118
O4	236	00119
E7	195	00120
E4	198	00121
Q6	188	00122
P4	192	00123
P4	216	00124
P4	171	00125
Q4	171	00126
N5	238	00127
E3	165	00128
O0	169	00129
O2	126	00130
E2	165	00131
E0	155	00132
E3	168	00133
E2	202	00134
O0	226	00135
E4	168	00136
O6	159	00137
O4	187	00139
O4	206	00140
P0	172	00142
N8	238	00143
O6	182	00144
O9	188	00146
O2	212	00147
N4	238	00148
O6	246	00149
Q2	166	00150
P1	188	00151
O5	212	00152

IDENTIFICATION CODE		PART NUMBER
O9	172	00153
N6	238	00154
R0	166	00155
O0	238	00156
O6	132	00157
O6	169	00158
O6	195	00159
P4	169	00160
O0	182	00161
O8	182	00162
O3	238	00163
E6	168	00164
Q4	159	00165
P3	234	00166
O0	172	00167
O2	172	00168
O8	169	00169
O9	169	00170
E4	232	00171
E6	198	00172
E1	165	00173
R0	159	00174
P4	195	00175
R3	159	00176
P1	250	00177
R2	159	00178
C0	15	00179
O9	182	00180
O6	250	00182
P3	169	00183
P1	182	00184
Q3	159	00185
Q5	159	00186
Q7	159	00187
R0	247	00188
R1	247	00189
R2	247	00190
R3	247	00191
R4	247	00192
R5	247	00193
R6	247	00194
P0	182	00196
E8	165	00197
O6	258	00198
O4	249	00200
O0	169	00201

IDENTIFICATION CODE		PART NUMBER
O3	182	00202
O6	265	00203
F0	165	00205
O4	258	00206
N8	126	00207
E4	272	00210
O2	195	00211
F3	107	00212
P3	282	00213
O3	147	00214
O4	147	00215
O2	220	00216
P2	206	00217
P4	277	00218
P2	277	00219
O8	288	00220
P1	277	00222
O4	279	00223
O2	258	00224
R4	159	00226
P7	258	00227
E6	165	00228
P6	277	00229
O4	258	00230
E1	278	00231
P7	258	00232
E7	165	00233
E2	275	00234
E4	294	00235
O1	280	00236
O4	277	00237
E0	278	00238
E3	275	00240
E3	278	00241
O4	304	00242
E5	110	00243
O8	312	00244
N6	129	00245
R8	159	00246
R1	286	00247
P6	286	00248
S0	286	00249
P0	312	00250
R4	286	00251
O4	308	00252
E1	320	00254

IDENTIFICATION CODE		PART NUMBER
O8	308	00255
E5	165	00256
O6	304	00257
E7	325	00258
P1	306	00259
Y3	326	00260
O9	306	00261
O7	306	00262
X6	266	00264
N5	126	00265
E6	334	00266
X1	338	00267
E6	341	00268
X6	263	00269
O9	195	00281
E0	107	00283
D8	139	00284
Q0	327	00285
P9	327	00286
P8	327	00287
Y5	352	00289
O6	263	00290
O7	263	00291
O9	354	00292
P0	361	00294
R4	348	00295
R4	286	00296
P1	258	00297
P2	258	00298
O7	263	00300
O8	263	00301
E7	349	00302
Y6	352	00303
P2	354	00304
O7	258	00305
P1	263	00306
P2	263	00307
P3	263	00308
P4	356	00309
P5	312	00310
P1	354	00312
P4	312	00314
P3	312	00315
R3	348	00317
Q6	286	00318
Y7	270	00319

IDENTIFICATION CODE		PART NUMBER
E1	107	00320
R8	327	00321
O9	312	00324
E2	295	00325
Y7	270	00326
O5	195	00327
F1	165	00328
P3	382	00329
P2	382	00330
X5	378	00331
P9	258	00332
R9	327	00333
E3	349	00334
O8	306	00335
O6	306	00336
P0	374	00337
E9	379	00338
X2	378	00339
O7	306	00340
D8	386	00341
Q3	286	00343
Q4	286	00344
Q5	286	00345
Q7	286	00346
Q8	286	00347
Q9	286	00348
R0	286	00349
E7	110	00350
E3	135	00351
O0	126	00352
F1	334	00353
E3	334	00354
O8	206	00355
Q6	389	00356
R0	389	00357
X3	338	00358
X5	338	00360
P2	405	00361
O9	408	00362
P1	408	00363
P0	258	00364
E1	400	00365
X2	338	00367
O0	412	00368
O8	402	00369
P2	393	00370

IDENTIFICATION CODE		PART NUMBER
F1	379	00371
P2	393	00372
E8	349	00373
E0	413	00374
O9	397	00375
O8	388	00377
P0	388	00378
O6	414	00379
E6	272	00380
P0	195	00381
O4	195	00382
O0	416	00383
O4	406	00384
O8	406	00385
O1	406	00386
P0	406	00387
O4	390	00388
O6	406	00389
P6	406	00390
O1	410	00392
Q8	389	00393
O9	414	00394
P1	414	00395
O8	393	00396
E7	334	00397
O4	429	00398
P0	425	00399
R4	389	00403
Y8	270	00406
P3	258	00407
O8	431	00408
N8	243	00409
Y5	270	00410
X2	378	00411
D9	400	00412
E5	400	00413
E6	400	00415
P0	393	00417
O8	422	00418
E7	400	00419
P2	440	00420
P3	440	00421
E3	400	00422
Y9	270	00425
P2	425	00426
O1	443	00427

IDENTIFICATION CODE		PART NUMBER
E5	349	00428
E7	349	00429
O0	243	00430
E8	435	00431
O8	408	00433
O8	425	00434
O3	390	00435
O2	390	00436
O2	431	00437
E3	295	00438
E9	435	00439
E2	400	00440
F0	334	00441
E7	400	00442
E7	379	00443
P3	458	00452
R2	389	00453
P3	421	00454
P2	421	00455
O2	282	00456
O4	282	00457
O6	282	00458
E9	446	00459
F1	446	00460
O8	282	00461
P2	458	00462
P3	458	00463
P4	458	00464
E4	400	00465
O7	282	00466
O6	206	00467
X3	428	00468
X5	428	00469
O0	431	00470
P0	425	00471
O6	454	00472
Y7	397	00473
Y9	459	00476
Y9	459	00477
P6	477	00479
E4	349	00480
Y5	397	00481
P4	466	00482
F3	485	00483
E8	485	00484
O8	195	00486

IDENTIFICATION CODE		PART NUMBER
E3	413	00487
N8	390	00490
Q1	327	00491
O0	390	00492
P4	493	00493
P1	421	00498
P6	306	00499
E1	502	00500
P0	459	00501
P1	443	00502
P3	459	00503
P4	443	00504
Y7	459	00505
Y8	459	00506
N9	243	00507
O2	443	00508
P5	514	00509
E0	400	00510
D9	508	00511
P4	513	00512
P6	512	00513
P5	513	00514
P5	504	00515
P2	459	00516
O8	509	00518
P0	282	00519
P5	306	00520
O7	402	00521
P2	282	00522
P4	282	00523
E4	435	00524
E5	435	00525
Q3	327	00526
P0	522	00527
E2	519	00528
E3	435	00529
P8	535	00530
E6	435	00531
E7	435	00532
O9	462	00533
D8	334	00534
P2	537	00535
O9	537	00536
X6	534	00537
E5	539	00538
X7	534	00539

IDENTIFICATION CODE		PART NUMBER
O1	390	00540
X8	534	00541
P8	513	00542
P0	431	00543
E1	139	00545
E3	519	00546
E3	546	00547
D9	549	00548
E4	268	00550
O6	462	00551
F0	446	00552
E0	549	00553
R0	327	00555
R2	327	00556
R4	327	00557
R6	327	00558
S0	327	00559
Q6	327	00560
O8	554	00561
N1	390	00562
O1	243	00563
E0	546	00564
Q0	535	00565
N5	390	00566
S2	327	00569
O9	459	00570
P2	443	00571
O9	459	00572
P3	443	00573
E4	563	00574
O6	554	00575
E0	435	00576
E1	349	00577
E8	349	00578
O6	567	00579
P4	509	00580
O1	570	00581
P9	443	00583
P8	282	00584
P6	282	00585
P0	537	00586
P2	459	00588
N7	390	00591
P4	459	00592
E6	563	00594
O4	584	00595

IDENTIFICATION CODE		PART NUMBER
O4	584	00596
P9	535	00597
Y5	589	00598
Y5	589	00599
E8	400	00600
F2	400	00601
E7	593	00602
E6	593	00603
O5	454	00605
P5	592	00606
P6	306	00607
P6	600	00608
E5	546	00609
E4	546	00610
E0	400	00611
O7	597	00613
O8	597	00614
O9	597	00615
F3	400	00616
E0	603	00620
O6	597	00621
E8	593	00622
P9	607	00623
P8	607	00624
Q0	607	00625
X2	590	00626
P4	513	00627
O2	461	00629
Y2	608	00630
P4	509	00631
O0	472	00632
Y1	608	00633
O9	615	00634
O8	615	00635
O5	462	00637
O8	619	00638
O9	619	00639
O3	584	00640
O2	584	00641
O9	621	00642
O0	618	00643
P1	421	00644
P0	620	00645
P1	620	00646
P2	620	00647
P3	620	00648

IDENTIFICATION CODE		PART NUMBER
E9	593	00649
P3	629	00650
P4	629	00651
P5	629	00652
O5	597	00653
Y4	630	00654
N8	618	00655
O2	618	00656
O4	618	00657
O6	621	00658
N9	622	00659
E3	626	00660
P2	631	00661
P0	631	00662
P1	597	00663
P2	597	00664
O1	622	00665
N8	622	00666
P0	621	00667
P0	597	00668
P2	589	00669
E0	484	00670
P3	589	00671
O5	584	00672
O5	584	00673
E4	641	00674
O8	631	00675
O8	648	00677
X9	642	00678
P3	631	00679
P4	631	00680
P8	640	00681
O1	618	00682
P9	649	00683
Y3	642	00684
P4	459	00686
P4	535	00687
P6	459	00688
P7	535	00689
O8	584	00690
O0	584	00691
O8	644	00693
O6	584	00696
D7	107	00697
N8	651	00702
P8	306	00703

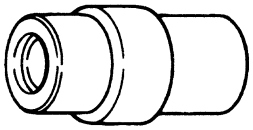
IDENTIFICATION CODE		PART NUMBER
O5	643	00704
D9	593	00705
X7	642	00706
O1	656	00707
O0	622	00709
O9	602	00710
P0	659	00711
E3	662	00714
O9	659	00715
P2	513	00716
N9	622	00717
E3	663	00718
E2	641	00719
Y1	642	00720
P2	624	00721
E2	663	00722
O7	584	00723
O8	631	00724
O8	421	00725
O6	619	00727
E2	278	00728
Q7	389	00729
P1	584	00730
O8	619	00731
E4	663	00732
O7	619	00733
F6	334	00734
F0	379	00735
P0	462	00737
O8	584	00738
O8	676	00740
O7	656	00741
E6	663	00742
X9	642	00743
P0	659	00744
E7	663	00745
P4	535	00746
E1	662	00747
O2	584	00748
X9	683	00749
P3	535	00750
O8	647	00751
P1	459	00752
P5	535	00753
Y2	691	00754
X9	689	00755

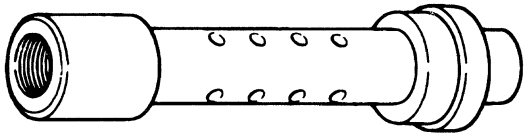
IDENTIFICATION CODE		PART NUMBER
P1	408	00756
E3	325	00757
F5	684	00758
P2	696	00759
P3	696	00760
P4	696	00761
E0	663	00762
P3	589	00763
X8	693	00764
X9	692	00765
O3	643	00766
O5	643	00767
O3	680	00768
O6	679	00770
O7	680	00771
E7	435	00772
E8	435	00773
E9	435	00774
E5	593	00775
E0	593	00776
O8	462	00777
E3	198	00778
O9	584	00779
P3	597	00780
O8	695	00781
N6	622	00782
E3	593	00783
P4	597	00784
O8	699	00787
D8	701	00788
P1	698	00789
P0	704	00790
O4	206	00791
O9	621	00792
O8	713	00793
P2	431	00794
O1	618	00795
P3	706	00799
P2	699	00800
P2	624	00801
O8	720	00802
O8	698	00804
P4	706	00805
P5	706	00806
O8	431	00807
N4	690	00808

IDENTIFICATION CODE		PART NUMBER
O9	698	00809
O9	718	00810
E1	716	00811
O9	714	00812
P0	717	00813
O8	714	00814
P3	725	00815
P2	706	00816
E2	701	00817
O8	718	00818
P3	718	00821
P1	589	00822
E3	701	00823
E4	701	00824
P5	592	00825
E7	701	00826
D7	701	00827
O8	679	00828
O4	727	00829
P4	680	00832
P1	753	00833
O7	755	00834
O9	755	00835
P1	755	00836
P3	755	00837

IDENTIFICATION CODE		PART NUMBER
P5	755	00838
N6	736	00839
N7	736	00840
N8	736	00841
N9	736	00842
O0	736	00843
O1	736	00844
P7	680	00846
E3	767	00848
F4	593	00849
O8M	759	00851
O8M	760	00852
O8M	757	00853
O9M	758	00854
P3	459	00855
P3	443	00856
P2	762	00857
P2M	771	00858
P4M	771	00859
O7	448	00860
X7	766	00861
F3	593	00862
D9	716	00864
E0	701	00865
O7	780	00866

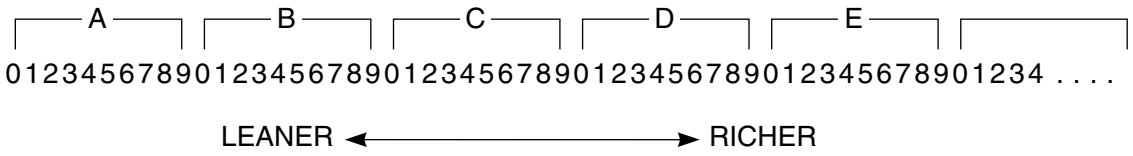
IDENTIFICATION CODE		PART NUMBER
O7	753	00867
O9	779	00868
P6	649	00870
O3M	773	00871
O9M	783	00872
P1M	784	00873
P2M	784	00874
P4	649	00876
P5	649	00877
P7	649	00878
P8	649	00879
P5M	771	00881
Y5	734	00882
D5M	773	00883
Y5M	782	00884
E0	749	00885
E3	749	00886
D9	749	00887
E0	716	00888
O7	796	00889
O4	753	00890
O1	811	00896





To identify the jet, two codes are stamped on the jet, one with a two-digit alphanumeric code and the other a three-digit numeric code. These two codes are located with spce, not adjacent to each other.

The alphanumeric code denotes size of the bore which meters the fuel flow in combination with the needle jet. The alphabetical letter in the code is the classification of the size range: the later in alphabetical order, the larger the size of the bore. The number in the code shows smaller calibration within a given size range: the greater the number, the larger the size of the bore. The following shows the example in terms of carburation, rich or lean.



The three-digit numeric code denotes the type and dimensions other than the size of bore where the fuel is metered. When replacing the needle jet with that of either the same or different alphanumeric code, make sure that the three-digit numeric code agrees with one being replaced. Otherwise, installation difficulty or unexpected carburetion problem may result.

NEEDLE JET (KEIHIN)

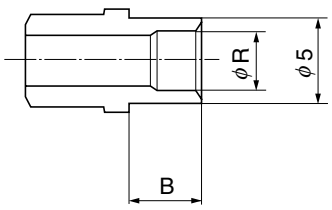
NEEDLE JET PART #: 09494–◯◯◯◯◯
SHOWN BELOW

NEEDLE JET SIZE	TYPE CODE			
	CVK		CVR/CVK	
B	ϕR	PART NUMBER	ϕR	PART NUMBER
4	ϕ3.4	00863	ϕ3.4	00869

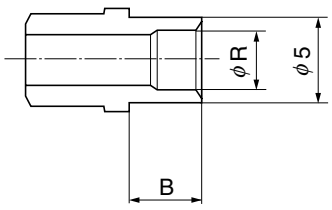
NEEDLE JET PART #: 13341–◯◯◯◯◯
SHOWN BELOW

NEEDLE JET SIZE	TYPE CODE					
	CVK		CVR/CVK		CVK(S)/PWS	
B	ϕR	PART NUMBER	ϕR	PART NUMBER	ϕR	PART NUMBER
3.5					ϕ3.0	14F00
4	ϕ3.8	03FA0				
4.5					ϕ2.8	06F80
5			ϕ3.8	03FB0		
5.5			ϕ3.8	15F00		
6			ϕ4.0	03G00		
6					ϕ2.4	35E00
6					ϕ2.8	43E00

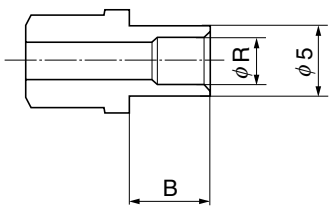
TYPE: CVK



TYPE: CVR/CVK



TYPE: CVK(S)/PWS



JET NEEDLE (MIKUNI)

The table below shows the last five digits of part number versus needle's alphanumeric code for all the jet needle currently available.

JET NEEDLE PART #: 13383–◯◯◯◯◯

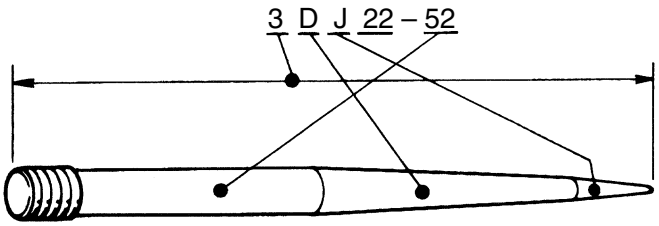
SHOWN BELOW

CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#
3CF1	06400	3I10	13610	4DO1	23400	4E14	20010	5D20	24A20	5D32	39A00
3CR3	41D30	3J04	19410	4DP53	01A30	4F19	36600	5D22	38A20	5D35	38B00
3CT2	40D50	3J17	46B00	4DZ42	05300	4F23	44010	5D24	24A10	5D39	38B90
3D4	26620	3JL9	46240	4E6	95100	4F29	44120	5D26	42A00	5D41	29331
3D16	46790	3K3	11B00	4E44	26300	4F53	12B40	5D29	06B10	5D43	40C30
3D20	26900	3L10	46160	4EJ14	39110	4FCH51	29B50	4FL38	39370	5D44	46E40
3D24	13670	3L13	35690	4F6	07010	4FD1	38D10	4FL47	05360	5D48	45C50
3DJ1	13620	3L15	43250	4F10	07630	4FL36	01400	4FL52	08B10	5D50	45110
3DJ6	13680	3L19	355440	4F17	08411	4FL41	39190	4G2	39010	5D51	46E50
3DL2	30D00	3L20	29A10	4F22	46410	4FL48	29B02	4GL27	29B11	5D58	49200
3E2	04110	3L26	29C10	4F43	12B00	4FM37	12680	4I2	27110	5D61	38E10
3E18	98420	3L30	29C50	4FCH1	05400	4GJ24	39390	4J11	36210	5D65	44A20
3F12	22020	3L39	21D60	3L29	40D00	4I1	23010	4J29	46620	5D69	44200
3F14	02500	3M3	10B10	3L31	09D10	4J13	39610	4JL43	23440	5D75	46E60
3FL16	26920	3M5	37B11	3L38	09E10	4J25	39120	4JT38	05320	5D77	42AC0
3FL29	16D20	3M7	03A72	3M2	17B00	4J31	36500	4JU42	18910	5DF5	45D00
3G9	27010	3M12	41D20	3M4	04C00	4JR39	18900	4L13	39140	5DF15	33D10
3I3	03A50	3N4	35630	3M6	03A91	4JR45	18A01	4L27	03400	5DF90	11910
3I9	35410	3N15	47A00	3N8	30A10	4JT44	24500	4P6	39200	5DF91	38300
3I14	17230	3N17	28B00	3N16	30A20	4L15	93111	5C8	15500	5DFT12	31E30
3J2	19600	3N20	03A90	3N19	35570	4L29	23060	5C13	43530	5DFT76	11930
3J14	03A10	3P10	31C80	3N26	35090	5C7	43400	5C16	24B40	5DH4	29010
3J22	41D00	3Q4	35680	3N29	355A0	5C10	43440	5C28	45400	5DH7	32C10
3K2	16B00	3R4	09C10	3Q10	23450	5C15	43560	5C32	45410	5DH9	01D10
3L4	06111	3R7	31C01	3R10	09C70	5C17	24B00	5C34	46E20	5DH48	30910
3L11	43200	3R11	40D30	3R14	21D40	5C29	38E00	5C39	24C40	5DJ5	33C00
3L16	02930	3R16	21D70	3T16	09400	5C33	37100	5C64	43410	5DJ10	33C10
3C3	02160	3T17	02A01	3T18	02A00	5C35	37110	5CD18	14D60	5DL5	34A10
3CJ3	17300	3T19	09440	3X4	29A30	5C40	24C60	5CD22	15E00	5DL10	32C50
3CR11	25E10	3X15	37B20	3X16	37B12	5C44	37400	5CD55	44500	5DL13	18630
3CV1	136A0	3X17	37B30	3X18	37B60	5C46	37410	5CDT61	44450	5DL28	12B30
3D13	02400	4C3	44100	4C7	28A00	5C53	11900	5CF9	11D00	5DL36	45030
3D23	02100	4C8	27B00	4C9	27B30	5CD16	14D20	5CH6	11E00	5DL82	49310
3D25	17240	4CFX16	33202	4CG1	10301	5CD20	14D70	5CM1	21A00	5DM2	41B10
3E3	19010	4CH1	38400	4CX2	20E20	5CD27	14D80	5CN3	18620	5DP1	01A00
3E6	98410	4CZ4	19C20	4CZ3	19C10	5CD56	14D10	5CT38	11400	5DP5	40A00
3F3	19011	4D8	20600	4CZ5	19C30	5CDT60	44460	5D3	58011	5DP11	41620
3F13	02330	4D17	36110	4D13	06B00	5CDX10	06C00	5D14	00A10	5DP39	46900
3FL15	46540	4DG6	10010	4DH23	48420	5CHT40	11420	5D21	38A00	5DT88	38210
3FL17	04700	4DH7	33010	4DL1	39350	5CN21	11300	5D23	38A10	5DV01	31E20
3G17	35060	4DJ3	05350	4DN18	31210	5D10	34621	5D25	42A10	5DX85	44410
3I5	98490	4DN3	13710	4DZ35	05310	5D10	31310	5D27	38A30	5DZ22	35C00

CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#	CODE#	PART#
5E56	40C00	5DM1	41B01	5L9	05230	5FP85	42A20	6F87	15A60	6EHL6-3	00B20
5D33	39A10	5DP7	28700	5L21	19B00	5FU96	02C01	6FJ11	30111	6EJ12-56	26C20
5D38	38B80	5DP28	29110	6AAY1-67	05D00	5FZ89	17C00	6FJ41	14220	6EN11-53	01B30
5D4	19B50	5DP74	41530	6AEJ1-60	28C30	5FZ91	17C20	6FL3-46	42EQ0	6EN11-55	01B45
5D42	40C20	5DT89	38310	6AEJ1-63	28C20	5GN56	23E10	6FL65-54	12C00	6F6	12E00
5D44	40C40	5DV03	31E00	6AEJ2-64	27C10	5HN31	25C00	6FL84-5	22D50	6F10	12E20
5D47	45C20	5DX87	44400	6AEJ2-66	27C20	5I14	11C02	6FL89-55	22D70	6F23-1	32E10
5D49	45C00	5E53	44B00	6AEL1-59	28C60	5L8	05220	6FLD72-56	12C20	6FJ6	16510
5D51	38B40	5E60	40C10	6AEL1-61	28C80	5ZDZ3	17D20	6FM46	14230	6FJ19	92311
5D52	24D00	5E72	45C30	6AFL1-60	28C90	5ZDZ5	17D10	6FN84	13E00	6FJ40	14300
5D55	26D30	5E78	07C00	6BEJ6-65	43D10	6AEJ1-59	28C40	6FP55	14510	6FJV54	13A00
5D57	45120	5E93	21E00	6BEJ6-67	43D20	6AEJ1-61	28C10	6FP63	01C10	6FL3-48	42ER0
5D59	49210	5E95	21E20	6C2	03D10	6AEJ1-64	28C50	6G7	14A70	6FL81-55	19D00
5D62	46E30	5E97	21E10	5E88	17E30	6AEJ2-65	27C00	6GH09-55	22D60	6FL85-55	22D00
5D67	19B60	5EL45	36A00	5E94	23E00	6AEL1-60	28C70	6GH13-55	22D80	6FL92	19D10
5D70	16E00	5EL68	08D00	5E96	32D80	6AFL1-59	28CA0	6GL1-55	19D30	6FLD86-56	22D10
5D76	27E00	5EN90	33C60	5E99	21E30	6AFL1-61	28CB0	6H11	12D00	6FN83	15D00
5DF4	15D60	5EZ54	32C00	5E118	29500	6BEJ6-66	43D00	6H13	12D20	6FP60	01C00
5DF9	38380	5EZ62	20C10	5EL53	36A30	6BGK1	29E00	6H21	32E20	6G1	37200
5DF17	21EC0	5EZ64	20C30	5EN74	33C50	6BGK8	29E30	6J8	15A50	6G5	47D00
5DF90	38370	5EZ74	10D10	5EP51-20	15110	6CKF1-56	12C10	6ZD13	41C00	6GH8-55	22D20
5DFD7	47D50	5F7	24E00	5ES1	12011	6DH6	43B00	6ZD16	17E00	6GH12-57	19D20
5DFT13	31E10	5F103	44C30	5EZ61	20C00	6DH20	40600	6ZD20	46E10	6GH24-53	42E00
5DFX2	06C50	5F105	44C10	5EZ63	20C20	6DJ33	00B00	6ZE11	17D30	6H6	37430
5DH5	34A00	5F108	45C60	5EZ67	10D00	6DL24-61	13A60	6ZL4	07D00	6H12	15A30
5DH8	01D00	5F11	44C40	5EZ8	33D00	6DP3	27A10	9D2-51	18E30	6H20	13D10
5DH13	02D00	5F71	05A30	5F8	17E10	6E20	03D00	6CM1	14A00	6I4	12D10
5DH55	29900	5FL1	24E20	5F104	44C00	6E38-54	33E00	6DH3	16611	6ZD7	17D00
5DJ2	05C00	5FP17	15310	5F107	45C40	6E41-55	33E20	6DH7	92010	6ZD14	18D10
5DJ7	02D10	5FP96	14D00	5F109	45C10	6EJ12-53	26C15	6DHY36	08D10	6ZD19	46E00
5DL1	20900	5FZ102	44C20	5F12	25110	6EJ12-55	26C00	6DJ4	01B15	6ZD21	46E70
5DL7	48B00	5FZ90	17C10	5F22	32600	6EJ12-57	26C25	6DK1	38230	6ZDY18	17E20
5DL11	48B20	5HN23	22A00	5F42	47090	6EN11-54	01B50	6DP1	30111	6ZEZ3	07D10
5DL15	48B10	5HP24	13A20	5F70	05A00	6EP5	14500	6DP17	41510	9D1-52	18E20
5DL24	49B00	5I15	24400	5F93	17C30	6F7	12E10	6E29	03D50		
5DL35	47010	5JP15	44A00	5FJV81	23A00	6F19	32E00	6E39-55	33E10		

The stamped alphanumeric code denotes the dimensions as follows:

EXAMPLE



3.....Denotes overall length: The number “3” indicates the 30 – 39 mm length range.
D.....Denotes taper angle: The angle increases in alphabetical order.
J.....Denotes the 2nd taper angle, if applicable: The angle increases in alphabetical order.
22.....Manufacturer’s code.
52.....Denotes diameter: The number “52” indicates the 2.52 mm.

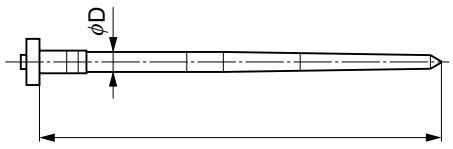
JET NEEDLE (KEIHIN)

JET NEEDLE PART #: 13383–◯◯◯◯◯
→ SHOWN BELOW

PRESS FIT				
TYPE	PART	MARK	ϕ D	L
CVK	26E20	N1QA	2.525	53
	26EA0	N2NQ	2.525	53
	03F50	N2NR	2.525	52.55
	26E10	N76L	2.525	52.33
	03FA0	N5AC	1.873	52.55
	26E30	N76L	2.525	52.55
	15F00	N8CA	2.430	57.95
	03G00	NBAY	2.420	58.4
	38F00	NBZA	2.440	57.5
CVK(S)	20EK0	5DECP	2.005	43
	14F00	N7AD	2.000	47.65
	11F00	8BJCN	2.000	43
	34FA0	NBPA	2.040	43
	34F50	NBPB	2.050	43
	34F60	NBUA	2.000	42.8
CVK/CVR	26E00	N1QJ	2.525	52.33
CVR	26E20	N1QL	2.525	53.22
	03FB0	NAGL	2.525	51.65
PWS	43E40	N8LB	2.005	31.2
	06F80	N8LC	2.005	31.2
	43E60	9SNGN	2.015	31.2

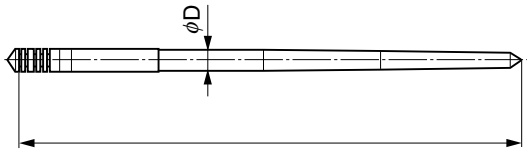
CLIP				
TYPE	PART	MARK	ϕ D	L
FCR-H	29F00	0BDXP	2.735	103.5
PJ	44E20	R1472L 1L	2.725	64.5
	43D50	R1467NS	2.675	64.5
	28E30	R1470NS	2.705	64.5
	28E50	R1471NS	2.715	64.5
	29E40	R1472M 1L	2.725	64.5
PWK	37EK0	N1EI	2.735	64.5
	37E40	N1ED	2.685	64.5
	44EA0	R1480S 3S	2.805	64.5
	37EQ0	N3WK	2.755	64.5
	37F40	N8RH	2.725	64.5
PWK/PJ	28E00	R1469M 0XHMK	2.695	64.5
PWS	43E10	3LLM	2.010	38.8
	43E00	3LLN	2.015	38.8
	35E20	N4TH	2.025	38.8
	35E10	N4VJ	2.035	38.8
	35E00	N4WA	2.015	38.8
	06F30	N4WB	2.015	38.8
	43E20	N4WD	2.005	38.8
	35E30	N5GJ	2.035	38.8

TYPE: CVK/CVK(S)/CVR/PWS



PRESS FIT

TYPE: FCR-H/PJ/PWK/PWS



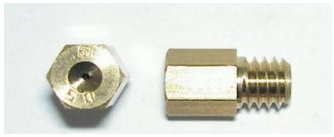
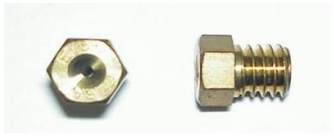
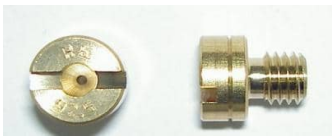
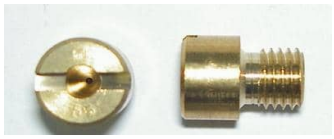
CLIP

MotoComp
Motorcycle Parts & Accessories

tel 073 750 9697 fax 086 684 1544 mcomp@mweb.co.za po box 59 Pennington 4184

Mikuni Jet ID - Type & Size

NOTE OEM PART NUMBERS USED FOR REFERENCE PURPOSES ONLY. Keyster make generally supplied

Mikini Part No/Size		Dimensions	Carb/Application
4/042 50-200 (Δ 5) 210-500 (Δ 10) 520-720 (Δ 20)		6mm Hex M5.3X0.9 Thread 11.5mm Length 5.0mm Thread	VM18 Clamp-On, VM24-512, VM26-606, OEM TMX Late Series,Needle Jet Series - 159, 176, 183, 188, 192, 193, 205, 211, 224 with 4/042 hex main, Honda CR125R (00-07), CR250R (01-07), Husqvarna CR/WR125/250, Kawasaki KX125 (00-05), Suzuki RM125 (00-07), Yamaha YZ125 (95-08), RD350/400, YFZ350 Banshee (87-06) and many 2-stroke ATV and Offroad, Polaris Snowmobile 400XC/XCR with Mikuni TMX and Polaris 2-stroke ATV with VM carburetor.
M10/14 50-200 (Δ 5)		6mm Hex M5.3x0.9 Thread 8.0mm Length 5.0mm Thread	Early Kawasaki rotary valve, 2-stroke singles and Yamaha small bore, 2-stroke singles.
N100 604 50-192.5 (Δ 2.5) 195-215 (Δ 5) 220-250 (Δ 10)		8.0mm Slot head M5x0.75 Thread 9.0mm Length 5.0mm Thread	VM16, HS40, HSR42/45/48, RS, TM33 Pumper, TM36, TM40, TM, VM29/VM33 Smoothbore, Needle Jet Series - 171, 188, 196 with Large Round, Kawasaki H1-500 (all), H2-750 (all), Z1-900, KZ900A/B, (76-77), KZ1000, KZ1100, Suzuki DR-Z125, GS450/G500/ 650/750/850/1000/1100/1150, Yamaha TTR125, XS350/400/750/1100 and many 2-stroke & 4-stroke Street, ATV, and Offroad.
N100 606 30-150 (Δ 2.5)		4.0mm Slot head M4 Thread 6.5mm Length 3.00mm Thread	Pilot Jet for Kawasaki KZ1300A (79-82) and Main Jet for Yamaha Slow Speed Jet on BN Personal Watercraft Carburetors. Super BN 38, BN44, BN46, BN38I, BN40I, BN44I, BN46I. Generator (1HX).
N102 221 30-190 (Δ 2.5) 195-230 (Δ 5)		6.0mm Slot Head M5x0.75 Thread 9.0mm Length 5.0mm Thread	Needle Jet Series 171, 188, 196. with small round. Kawasaki KSF400 "KXF" (03-06), Polaris Predator and Outlaw 500 with Mikuni BSR carburetor, Suzuki ALT50 (1983), LT50 (84-87), LT-A50 (02-05), LT-Z400, DR-Z400 with Mikuni carb, SV650, Yamaha Generator (3G2), YFM660 Raptor, YXR660 Rhino Side x Side. Personal Watercraft (High Speed Jets) Super BN 38, BN44, BN46, BN38I, BN40I, BN44I, BN46I,
N208 099 110-160 (Δ 2.5) 165-230 (Δ 5)		5.0mm smaller 6.0mm Larger 4.0mm major Total length 9mm	Ducati late model CV and Yamaha YZF750 OEM BDST Carburetors (downdraft).
VM11/22 50-150 (Δ 2.5) 150-180 (Δ 5)		8.0mm Slot head M6x0.75 Thread 10.5mm Length 5.5mm Thread	Suzuki LT-Z50 (06-07), LT-Z90 (2007), Yamaha YFM50 Raptor, YFM80 Badger, YFM80 Raptor, TTR90 (00-07).
VM17/1002 20-60 (Δ 5) 70-100 (Δ 10)		4.0mm Slot head M4 Thread 6.0mm length 3.0mm Thread	Controls enrichner on TM Carburetors. Applications: TM32 - TM38 Carburetors, RS Smoothbore.
BS30/96 30-60 (Δ 2.5)		3.8mm Slot head M5x0.8 Thread 14.0mm length 6 Bleed holes	Kawasaki, Suzuki, Yamaha. with OEM (BS) CV

Mikini Part No/Size		Dimensions	Carb/Application
BS30/97 **0.5-0.8 (Δ 0.1)** **0.85-2.0 (Δ 0.05)**		**4.0mm Slot head** **M4 Thread** **7.5mm length** **No Bleed holes**	Meters the air flow through the passage to and into the needle jet. It acts as a fine tuning component in regulating the fuel-air mixture. This is especially important when a bleed type needle jet is used. Applications: VM26 thru VM44 spigot carburetor, RS, TM, VM29/VM33 Smoothbore.
M28/1001 **10-55 (Δ 2.5)** **60-65 (Δ 5)**		**4.0mm Slot head** **M4 Thread** **9.5mm length** **5.5mm Thread** **No bleed holes**	VM20 flange, VM26-606 spigot. Yamaha RX50 Special (83-84), YSR50 (87-92), RD60 (73-74), YZ80 (75-01), DT125 (74-81), DT175 (74-81), MX175 (79-81), YFS200 Blaster (88-06), RZ350 (84-85), YFZ350 Banshee (87-06).
N151 067 **30-60 (Δ 2.5)**		**3.8mm Slot head** **M5x0.8 Thread** **14.0mm length** **No bleed holes**	Late model OEM (BS) CV Carburetors. Kawasaki KZ1000J/K/M/P/R, KZ1100, Suzuki GS1000, GS1100, Yamaha XS1100.
N224 103 **10-40 (Δ 2.5)** **45-70 (Δ 5)**		**5.0mm Slot head** **M4 Thread** **28.0mm length** **2.5mm Diameter** **8 Bleed holes**	TMS/TMX early, OEM TMX36, TMX38, OEM BSR CV Honda CR125R (00-07), CR250R (01-07), Kawasaki KX125 (00-05), KSF400 “KFX” (03-06), Suzuki RM125 (00-07), LT-Z400 (03-07), Yamaha YZ125 (95-07), YFM350 Raptor (04-07), YFM660 Raptor (01-05), YXR660 Rhino Side x Side (04-07), YZF-R1.
VM13/352 Size **15-50 (Δ 2.5)**		**4.0mm Slot head** **M5x0.8 Thread** **13.5mm length** **1.3mm Bleed holes** **8 Bleed holes**	
VM22/210-Size **10-60 (Δ 2.5)** **65-100 (Δ 5)** **100-120 (Δ 10)**		**4.0mm Slot head** **M5x0.8 Thread** **13.5mm length** **1.7mm Bleed holes** **8 Bleed holes**	VM18 clamp-on, VM22 flange, VM26-8074, VM26 - VM34 flange, VM24 -VM44 spigot, TM series TM24 - TM38 (no Accelerator pump), early TMS/TMX Carburetors, OEM Kawasaki, Suzuki, Yamaha 2-stroke and some 4-stroke models. Note: VM26-606 spigot, use M28/1001 pilot jets.
VM28/486-size **10-65 (Δ 2.5)** **70-100 (Δ 10)**		**5.0mm Slot head** **M4 Thread** **28.0mm length** **2.0mm Diameter** **8 Bleed holes**	HS40, HSR42/45/48, RS34 - RS40 and TM33, TM36, TM40 with accelerator pump, Kawasaki Z1A/B-900 (74-75), KZ900A/B (76-77), KZ1000 (77-80), Suzuki GS750, GS1100 (78-79), Yamaha TT-R125.
VM28/213-Size **15-22.5 (Δ 2.5)** **25-40 (Δ 5)**		**5.0mm Slot head** **? Thread** **28.0mm length** **?mm Diameter** **6 Bleed holes**	Kawasaki Z1/A-900 (73-74) with Mikuni (OEM) VM28SS Carburetors.
B42/55-Size **70-100 (Δ 10)** **105-200 (Δ 5)** **210-300 (Δ 10)**		**6.0mm Slot head** **M6x1.1** **9.0mm length**	OEM CV (BS) Carburetors, Pilot Air Jet and Main Air Jet for OEM Suzuki GS1000, GS1100 (80-82), OEM Yamaha XS1100 (80-81).
N101 043 **30, 35-100(Δ 2.5)** **105-160 (Δ 5)**		**6.5 mm Slot head** **M5x 1.1** **16.5 length**	B-Type Butterfly Carb.

Mikuni Main Jets

Main Jets

The main jet meters the amount of fuel entering the needle jet. Main jets control the fuel flow at the full throttle opening. The size numbers of the main jets run from smaller (leaner) to larger (richer). For example, if a 4/042 #150 main jet is being used, and a leaner main jet is required, one would use a #145 or lower.

Large Hex

Mikuni No.	Type	Sizes
4/042	**Large Hex** -fits needle jets 159, 166, 176 183, 188, 192, 193, 205, 211, 224	#50-#200 in increments of 5. (e.g. 200, 210, 220, etc.)

Order No.	Size	Order No.	Size	Orde No.	Size
004-070	#50	004-095	#175	004-125	#400
004-071	#55	004-100	#180	004-126	#410
004-072	#60	004-101	#185	004-127	#420
004-073	#65	004-102	#190	004-128	#430
004-074	#70	004-103	#195	004-129	#440
004-075	#75	004-104	#200	004-130	#450
004-076	#80	004-105	#210	004-131	#460
004-077	#85	004-106	#220	004-132	#470
004-078	#90	004-107	#230	004-133	#480
004-079	#95	004-108	#240	004-134	#490
004-080	#100	004-109	#250	004-135	#500
004-081	#105	004-110	#260	004-137	#520
004-082	#110	004-111	#270	004-139	#540
004-083	#115	004-112	#280	004-141	#560
004-084	#120	004-113	#290	004-143	#580
004-085	#125	004-115	#300	004-145	#600
004-086	#130	004-116	#310	004-146	#620
004-087	#135	004-117	#320	004-147	#640
004-088	#140	004-118	#330	004-148	#650
004-089	#145	004-119	#340	004-149	#660
004-090	#150	004-120	#350	004-150	#680
004-091	#155	004-121	#360	004-151	#700
004-092	#160	004-122	#370	004-152	#710
004-093	#165	004-123	#380	004-153	#720
004-094	#170	004-124	#390		

Small Hex

Mikuni No.	Type	Sizes
M10/14	**Small Hex** -fits needle jets	#50-#200 increments of 5.

Order No.	Size	Order No.	Size	Order No.	Size
004-224	#50	004-233	#95	004-244	#150
004-225	#55	004-234	#100	004-245	#155
004-226	#60	004-235	#105	004-246	#160
004-227	#65	004-236	#110	004-247	#165
004-228	#70	004-237	#115	004-248	#170
004-229	#75	004-238	#120	004-249	#175
004-230	#80	004-239	#125	004-250	#180
004-231	#85	004-240	#130	004-251	#185
004-232	#90	004-241	#135	004-252	#190
		004-242	#140	004-253	#195
		004-243	#145	004-254	#200

Large Round

Mikuni No.	Type	Sizes
N100/604	**Large Round** -fits needle jet 171, 188, 196	#50-#250 increments of 2.5 (e.g. 50, 52.5, 55, 57.5, etc.)

Order No.	Size				
004-160	#50	004-181	#102.5	004-204	#160
004-161	#52.5	004-182	#105	004-205	#162.5
004-162	#55	004-183	#107.5	004-206	#165
004-163	#57.5	004-184	#110	004-207	#167.5
004-164	#60	004-185	#112.5	004-208	#170
004-165	#62.5	004-186	#115	004-209	#172.5
004-166	#65	004-187	#117.5	004-210	#175
004-167	#67.5	004-188	#120	004-211	#177.5
004-168	#70	004-189	#122.5	004-212	#180
004-169	#72.5	004-190	#125	004-213	#182.5
004-170	#75	004-191	#127.5	004-214	#185
004-171	#77.5	004-192	#130	004-215	#187.5
004-172	#80	004-193	#132.5	004-216	#190
004-173	#82.5	004-194	#135	004-217	#192.5
004-174	#85	004-195	#137.5	004-218	#195
004-175	#87.5	004-196	#140	004-219	#197.5
004-176	#90	004-197	#142.5	004-220	#200
004-177	#92.5	004-198	#145	004-221	#202.5
004-178	#95	004-199	#147.5	004-222	#205
004-179	#97.5	004-200	#150	004-223	#210
004-180	#100	004-201	#152.5	004-350	#220
		004-202	#155	004-351	#230
		004-203	#157.5	004-352	#240

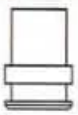
Small Round

Mikuni No.	Type	Sizes
N102/221	**Small Round** -fits needle jets Same as large round type	#50-#200 in increments of 2.5

Order No.	Size	Order No.	Size	Order No.	Size
004-255	#50	004-286	#102.5	004-307	#155
004-256	#52.5	004-287	#105	004-308	#157.5
004-267	#55	004-288	#107.5	004-309	#160
004-268	#57.5	004-289	#110	004-310	#162.5
004-269	#60	004-290	#112.5	004-311	#165
004-270	#62.5	004-291	#115	004-312	#167.5
004-271	#65	004-292	#117.5	004-313	#170
004-272	#67.5	004-293	#120	004-314	#172.5
004-273	#70	004-294	#122.5	004-315	#175
004-274	#72.5	004-295	#125	004-316	#177.5
004-275	#75	004-296	#127.5	004-317	#180
004-276	#77.5	004-297	#130	004-318	#182.5
004-277	#80	004-298	#132.5	004-319	#185
004-278	#82.5	004-299	#135	004-320	#187.5
004-279	#85	004-300	#137.5	004-321	#190
004-280	#87.5	004-301	#140	004-322	#192.5
004-281	#90	004-302	#142.5	004-323	#195
004-282	#92.5	004-303	#145	004-324	#197.5
004-283	#95	004-304	#147.5	004-325	#200
004-284	#97.5	004-305	#150		
004-285	#100	004-306	#152.5		

Press in Type

Mikuni No.	Type	Sizes
N208.099	**Press In** late model Ducati CV Yamaha CV & YZF750	110 to 140 increments of 2.5 (e.g. 110, 112.5, 115)



Order No.	Size	Order No.	Size	Order No.	Size
004-700	#110	004-709	#132.5	004-718	#155
004-701	#112.5	004-710	#135	004-719	#157.5
004-702	#115	004-711	#137.5	004-720	#160
004-703	#117.5	004-712	#140	004-721	#162.5
004-704	#120	004-713	#142.5	004-722	#165
004-706	#125	004-714	#145	004-723	#167.5
004-707	#127.5	004-715	#147.5	004-724	#170
004-708	#130	004-716	#150	004-725	#172.5
		004-717	#152.5	004-726	#175

Mikuni Pilot Jets

Pilot Jets

Mikuni No. **VM22/210**

Sizes #10-#95 - Increments of 2.5 thru #30. By "5" from #30 to #95

Application Most Mikuni carbs

Order No.	Size	Order No.	Size	Order No.	Size	Order No.	Size
004-000	#10	004-593	#32.5	004-016	#70	004-017	#75
004-001	#12.5	004-009	#35	004-018	#80	004-067	#85
004-002	#15	004-594	#37.5	004-068	#90	004-069	#95
004-003	#17.5	004-010	#40	004-590	#100	004-591	#110
004-004	#20	004-011	#45	004-592	#120		
004-005	#22.5	004-012	#50				
004-006	#25	004-013	#55				
004-007	#27.5	004-014	#60				
004-008	#30	004-015	#65				

VM28/213

#15-#40 - Increments of 2.5 (6 holes)

Z-1 1972 Mikuni carb

Order No.	Size	Order No.	Size	Order No.	Size
004-019	#15	004-022	#22.5	004-025	#35
004-020	#17.5	004-023	#25	004-026	#40
004-021	#20	004-024	#30		

VM28/486

#12.5 - #65 - Increments of 2.5 (8 holes)

1973-78 Z-1,GS750, RS36m, RS38mm

Order No.	Size				
004-027	#12.5	004-032	#25	004-037	#45
004-028	#15	004-033	#27.5	004-052	#47.5
004-029	#17.5	004-034	#30	004-038	#50
004-030	#20	004-035	#35	004-560	#55
004-031	#22.5	004-036	#40	004-561	#60
		004-051	#42.5	004-562	#65

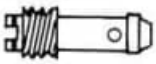
M28/1001

#15-#65 in increments of 2.5

22 Flange (1000cc, 2 cycle,Banshee, RZ Blaster ,YSR50)

Order No.	Size				
004-039	#15	004-043	#35	004-048	#60
004-050	#17.5	004-044	#40	004-049	#65
004-040	#20	004-045	#45	004-596	#27.5
004-041	#25	004-046	#50	004-597	#32.5
004-042	#30	004-047	#55		

BS30/96

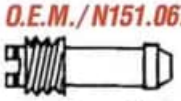


#30-#60 increments of 2.5

OEM CV Carb

Order No.	Size	Order No.	Size	Order No.	Size
004-054	#30	004-059	#42.5	004-064	#55
004-055	#32.5	004-060	#45	004-065	#57.5
004-056	#35	004-061	#47.5	004-066	#60
004-057	#37.5	004-062	#50		
004-058	#40	004-063	#52.5		

O.E.M./N151.067

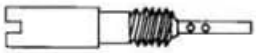


#30-#60 increments of 2.5

OEM CV Carburetors Late model Suzuki and Triumph

Order No.	Size	Order No.	Size	Order No.	Size
004-605	#30	004-610	#42.5	004-615	#55
004-606	#32.5	004-611	#45	004-616	#57.5
004-607	#35	004-612	#47.5	004-617	#60
004-608	#37.5	004-613	#50		
004-609	#40	004-614	#52.5		

TMX36/N224.103



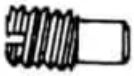
#35-#40 - Increments of 2.5; #45 - #65 in increments of 5.

OEM TMX36 on '95-later Yamaha YZ125's Honda CR125 '00 OEM BDSR-Suzuki

Order No.	Size	Order No.	Size	Order No.	Size
004-580	#10	004-567	#27.5	004-574	#50
004-581	#12.5	004-568	#30	004-575	#55
004-582	#15	004-569	#32.5	004-576	#60
004-583	#17.5	004-570	#35	004-577	#65
004-564	#20	004-571	#37.5	004-578	#70
004-565	#22.5	004-572	#40		
004-566	#25	004-573	#45		

Air Jets

Meters the air flow through the passage to and into the needle jet. It acts as a fine tuning component in regulating the fuel-air mixture. This is especially important when a bleed type needle jet is used.



Mikuni No. **BS30/907**

Application 26 thru 44mm Spigot

Order No.	Size	Order No.	Size
002-150	#0.5	002-158	#1.3
002-151	#0.6	002-159	#1.4
002-152	#0.7	002-160	#1.5
002-153	#0.8	002-161	#1.6
002-154	#0.9	002-162	#1.7
002-155	#1.0	002-163	#1.8
002-156	#1.1	002-164	#1.9
002-157	#1.2	002-165	#2.0

Pilot Air Jet and Main Air Jet OEM Suzuki carbs.

Mikuni No. **B42/55**

Application OEM CV

Order No.	Size	Order No.	Size
004-640	#70	004-660	#170
004-642	#80	004-661	#175
004-644	#90	004-662	#180
004-646	#100	004-663	#185
004-647	#105	004-664	#190
004-648	#110	004-665	#195
004-649	#115	004-666	#200
004-650	#120	004-668	#210
004-651	#125	004-670	#220
004-652	#130	004-672	#230
004-653	#135	004-674	#240
004-654	#140	004-676	#250
004-655	#145	004-678	#260
004-656	#150	004-680	#270
004-657	#155	004-682	#280
004-658	#160	004-684	#290
004-659	#165	004-686	#300

Starter Jet

(Fits TM32 thru 38) **VM17/1002**

004-400	#15	004-414	#80
004-410	#60	004-406	#40
004-402	#20	004-418	#100

SUZUKI T500 & GT500 Service Manual

SUZUKI SERVICE MANUAL

T500-II

AND

TECHNICAL BULLETIN

GT500A

SUZUKI

T500-II

SERVICE MANUAL

SUZUKI MOTOR CO., LTD.

FOREWORD

This service manual explains the construction and operation of the Suzuki T500-II motorcycle and includes instructions for inspecting and making adjustments and the proper procedure for making repairs when they are needed.

Proper use of this manual by the mechanic will result in a saving of time, avoidance of unnecessary work and better maintenance of the motorcycle.

It can be said that the repairs are nearly completed when the trouble spot is pin-pointed accurately. A list of the most common troubles and their causes is included in this service manual. This manual is a compilation of the experience and recommendations of Suzuki designers, engineers, factory personnel and motorcycle dealers who have been servicing this model for some time.

For convenience, this manual is divided into several sections. It is better if the mechanic reads the entire section first before beginning work in order to avoid unnecessary disassembly, labor, etc.

The metric system of measurements is used in the Suzuki factory, and metric measurements are used in this manual. For the convenience of users overseas who may not be familiar with the metric system however, measurements in inches, etc., are included in brackets ( ). If there is any question about measurements, rely on the metric measurements as being absolutely correct.

May 10, 1969

SUZUKI MOTOR CO.,LTD.

CONTENTS

FOREWORD

CONTENTS

1. REVOLUTIONARY "SUZUKI POSI-FORCE LUBRICATION" ... 1
2. RIGHT AND LEFT SIDE VIEWS 3
3. SPECIFICATIONS 4
4. PERFORMANCE CURVES 7
5. TIPS ON OPERATION 8
6. TROUBLE SHOOTING 10
7. SPECIAL TOOLS 16
8. ENGINE 18
9. CHASSIS 72
10. ELECTRICAL EQUIPMENT 83
11. MAINTENANCE, INSPECTIONS AND ADJUSTMENTS..... 97
12. PERIODICAL INSPECTION CHART 103

* SUZUKI T 500 - II WIRING DIAGRAM

* SUZUKI T 500 - II ENGINE

1. REVOLUTIONARY "SUZUKI POSI-FORCE LUBRICATION"

Of the various lubrication systems for two-stroke engines, Suzuki Posi-Force Lubrication developed by the Suzuki Motor Co., Ltd., the world leading producer of two-stroke engines, is not only the newest but is quite the best by a large margin.

Posi-Force is an abbreviation of Positive, Forced lubrication and this system supplies the correct amount of oil under pressure directly to the stressed points which need lubrication. This is the most advanced lubrication system in the world, because fresh oil, not old oil deteriorated after a long use as often seen in four-stroke engines, is always supplied directly to the specific engines parts needing lubrication rather than to the carburetor or cylinder inlet stub either of which systems will halve oil's lubricating performance as the oil is thinned by gasoline.

1-1. Explanation of mechanism

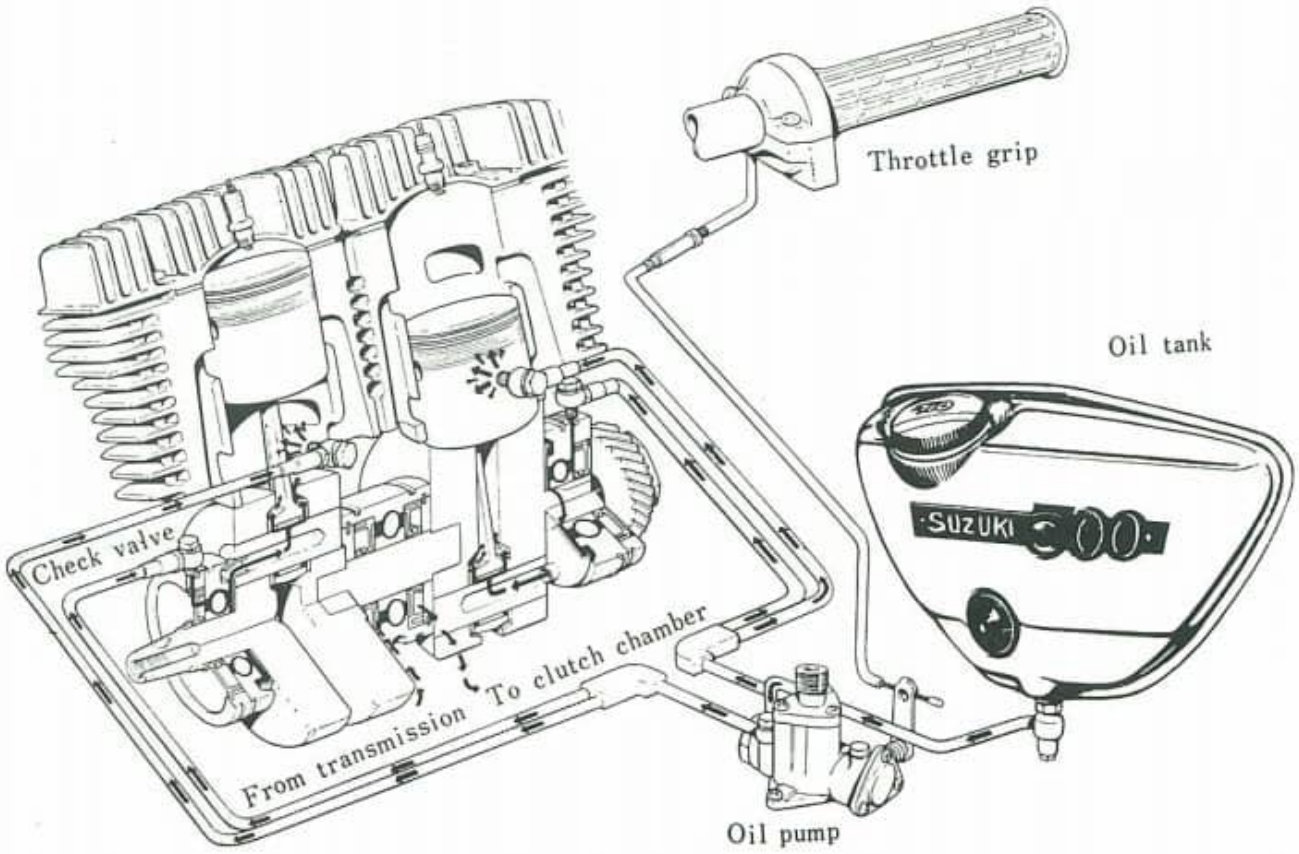


Fig. 1-1-1 Suzuki Posi-Force Lubrication

Lubrication oil is supplied under pressure through two oil pipes by an oil pump, and is completely separate from the gasoline supply. Each oil pipe is separated into two at a junction, one of which leads to the crankshaft, this oil lubricates the crankshaft side bearing. After lubricating it, the oil passes through a passage in the crankpin and lubricates the needle roller bearing in the connecting rod big end. The oil is then sprayed in to the crankcase by centrifugal force. The other oil channel supplies oil to the cylinder and lubricates the cylinder wall.

A part of the oil from this channel combines with oil sprayed from the connecting rod big end by centrifugal force and lubricates the connecting rod small end needle roller bearing, piston and cylinder wall. The middle crankshaft bearing is lubricated by oil circulating from the transmission gear box. Oil sprayed by the transmission gears enters an oil intake located in the crankcase wall and drops to the bottom of the engine, where foreign matter is precipitated, and clean oil is supplied to the middle crankshaft bearing at all times. Oil which has lubricated the middle bearing returns to the transmission gear box through an oil return hole. The middle bearing is lubricated by the gravity lubrication system.

The total amount of oil pumped is regulated by the oil pump control lever operated by the oil pump control cable, which is synchronized with the throttle cable and varies with the throttle opening. At the same time, the amount of oil supplied is also controlled by the engine speed so that the correct amount of oil, exactly the amount needed by the engine, is always supplied. Posi-Force lubrication is the most ideal lubrication system for the two-stroke engine.

1-2. Features of Suzuki Posi-Force Lubrication

1. Mixing of gasoline and oil is eliminated.
2. Pure, fresh oil is supplied directly to the engine, so lubrication efficiency is excellent.
3. The amount of oil supplied is strictly in accordance with the engine needs, so it is economical.
4. "Two-stroke" exhaust smoke is eliminated.
5. Carbon accumulation is small.
6. The motorcycle is not dirtied with oil.

2. RIGHT AND LEFT SIDE VIEWS

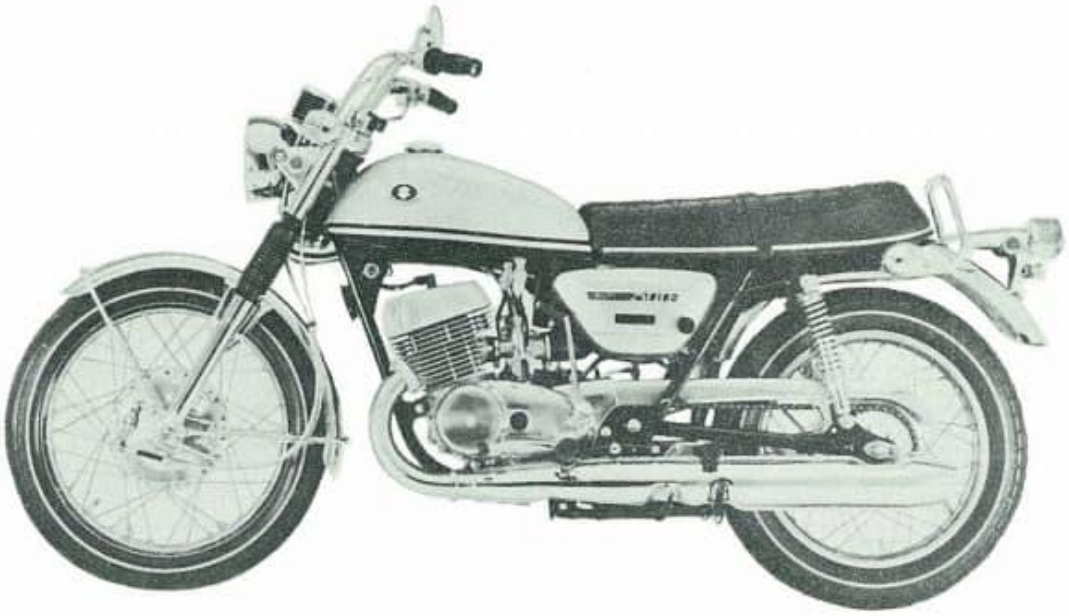


Fig. 2-1 Left side view

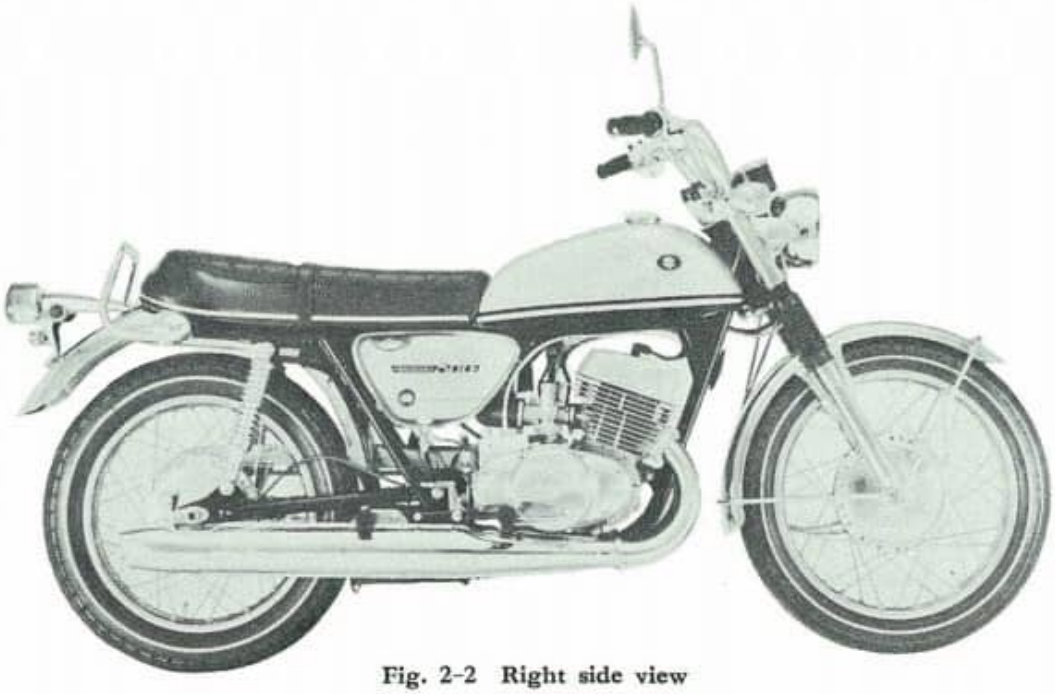


Fig. 2-2 Right side view

3. SPECIFICATIONS AND PERFORMANCE

Name	Suzuki T500 – II
Dimensions	
Overall length	2,172 mm (85.5 in)
Overall width	835 mm (32.9 in)
Overall height	1,125 mm (44.3 in)
Wheelbase	1,452 mm (57.2 in)
Ground clearance	160 mm (6.3 in)
Tires front	3.25–19 in, 4 PR
rear	4.00–18 in, 4 PR
Weight	
Dry weight	187 kg (412 lb)
Performance	
Maximum speed	176–192 km (110–120 mph)
Climbing ability	25° ($\sin\theta$=0.423)
Braking distance	12 m (39.4 ft) @ 50kph (30mph)
Engine	
Type	2-cycle, air cooled gasoline engine
Dimensions (L×W×H)	482×428×436 mm (19×16.9×17.2 in)
Weight	63 kg (139 lb)
Cylinder	Sleeved aluminum twin, forward inclined
Bore×Stroke	70×64 mm (2.75×2.52 in)
Piston displacement	492 cc (30.01 cu in)
Corrected compression ratio	6.6 : 1
Compression pressure	8~9kg/cm² (114~128 lb/in²) @ 1,200 rpm)
Maximum horse power	47 hp @7,000 rpm
Maximum torque	5.30 kg-m (37.5 lb-ft) @ 6,000 rpm)
Starter	kick

Fuel system

Carburetor	TWO VM 32 SC
Air cleaner	Resin-processed fibrous tissue
Fuel tank capacity	14 ltr (3.7/3.1 gal, US/Imp) including 2 ltr (4.2/3.6 pt, US/Imp) reserve

Lubrication

Engine	Special lubrication " Suzuki, Posi-Force "
Oil tank capacity	1.8 ltr (1.9/1.6 qt, US/Imp)
Gear box	1.2 ltr (1.3/1.1 qt, US/Imp)

Ignition system

Spark plug	NGK B-77 HC
Ignition	Battery
Ignition timing	24° (3.4 mm) before top dead center

Transmission system

Clutch		Wet multi-disc
Speeds		5-speeds, constant-mesh
Gear shifting		left foot, lever-operated return change
Gear ratios	low	2.50 : 1 (30/12)
	second	1.56 : 1 (25/16)
	third	1.16 : 1 (22/19)
	fourth	0.95 : 1 (21/22)
	top	0.87 : 1 (20/23)
Primary reduction		2.50 : 1 (65/26)
Final reduction ratio		2.2 : 1 (33/15)
Overall reduction ratio in top gear		4.79 : 1

Suspension

Front suspension	Hydraulically damped telescopic fork
Rear suspension	Hydraulically damped swinging arm

Steering

Steering angle	40° (right & left)
Trail	130.5 mm (5.14 in)
Caster	61°
Turning radius	2,300 mm (90.6 in)

Brakes

Front brake	Right hand, internal expanding double cam
Rear brake	Right foot, internal expanding

Electrical equipment

Generator	Internal rotating alternator
Battery	12 V 7 AH
Fuse	15 A
Head lamp	12 V 35/25 W
Front parking lamp	12 V 3 W
Tail / brake lamp	12 V 4/32 CP (12V 7/23W)
Neutral indicator lamp	12 V 3.4 W
Speedometer lamp	12 V 3.4 W
High beam indicator lamp	12 V 3.4 W
Turn signal lamp	12V 32CP×4 (12V23W×4)
Turn signal indicator lamp	12V 1.7W

(Specifications subject to change without notice.)

4. PERFORMANCE CURVES

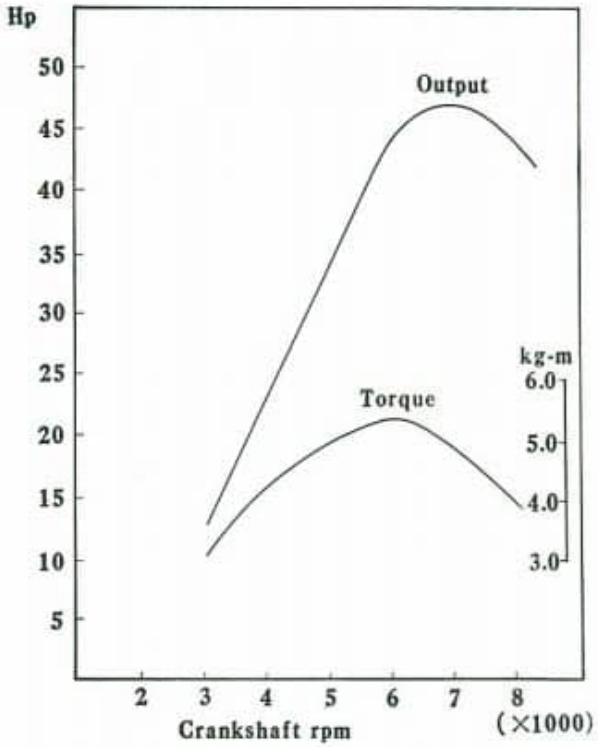


Fig. 4-1 Engine performance curves

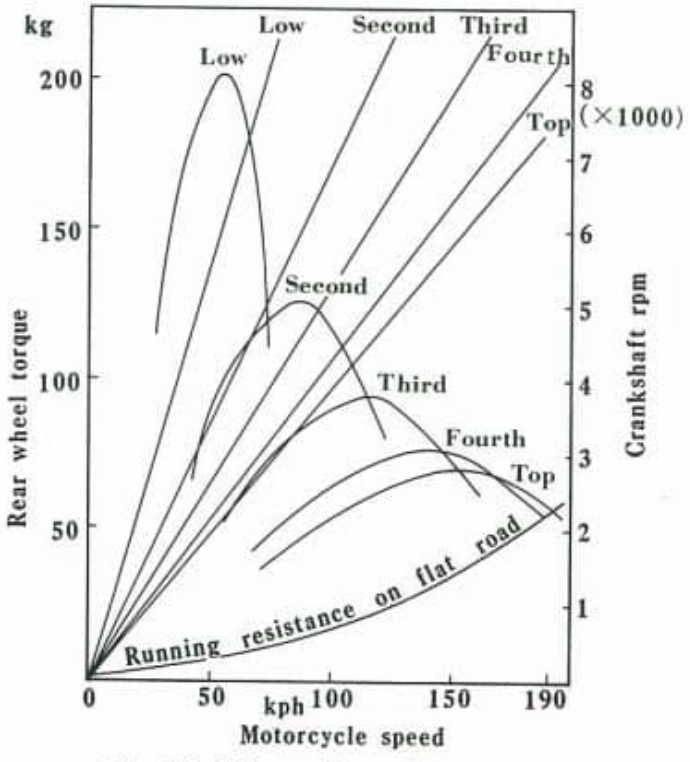


Fig. 4-2 Motorcycle performance curves

5. TIPS ON OPERATION

Please advise your customers to follow these tips to keep the motorcycle in peak condition and it will give top performance at all times.

5-1. Breaking in

The life of the motorcycle depends on the breaking-in of the engine and the way in which the motorcycle is treated.
Just as with a new-born baby, it must be given the best care possible.
It is extremely important, during the first 1,600 km (1,000 miles) to carefully observe the following limitations.

DURING THE FIRST 800 KM (500 MILES) MAXIMUM ENGINE SPEED SHOULD BE 4,000 RPM

DURING THE FIRST 800 KM (500 MILES) TO 1,600 KM (1,000 MILES), MAXIMUM ENGINE SPEED SHOULD BE 5,000 RPM

Always keep the engine rpm below 7,000, as overstraining the engine has a bad effect on it. Do not allow the pointer of the engine tachometer to stay in the red zone (7,000~9,000 rpm). The break-in indicator overlaying the tachometer face is meant to help the rider follow the above limitations: Please advise users to adhere to the rpm speeds as instructed. Additionally, do not overload or labor the engine on uphill grades or against headwinds. If engine response is poor in 4th or top gear, that is, if turning the throttle does not produce an immediate gain in speed, the rider is in too high a gear for engine power to be utilized efficiently. Downshift to 3rd or 4th gear.

5-2. Fuel

The T500-II engine requires no gas/oil mixture as fuel unlike conventional two-stroke engines. The engine parts such as crankshaft, crankshaft bearings, connecting rods, pistons and cylinder walls are positively lubricated by fresh oil which is separately pressure-delivered from the variable displacement of oil pump. This unique forced oiling system is called "Suzuki Posi-Force Lubrication."
Put gasoline only in the fuel tank and lubrication oil in the oil tank. Recommended fuel for the T500—II, as for all Suzuki motor cycles, is a premium grade gasoline. This is to insure against over heating in demanding operation
Be sure to use one of these prescribed oils:

***If the temperature is below 10°C (50°F)**

SHELL SUPER TWO STROKE OIL
MOBIL SUPER MOTOR OIL

SHELL 2T TWO STROKE OIL
SUPER SHELL MOTOR OIL

*If the temperature is above 10°C (50°F)

SHELL 2T TWO STROKE OIL
SHELL OUTBOARD ENGINE OIL
MOBIL SUPER MOTOR OIL
ESSO OUTBOARD OIL
STANDARD OUTBOARD OIL
TEXACO OUTBOARD OIL
SHELL SUPER TWO STROKE OIL
SUPER SHELL MOTOR OIL
MOBIL OUTBOARD OIL
ESSO 2T MOTOR OIL
CALTEX 2T PLUS MOTOR OIL
UNION 76 OUTBOARD OIL

5–3. Genuine Parts

When replacing parts, always use genuine Suzuki parts, which are precision made under severe quality controls. If imitation parts (not genuine parts) are used, good performance cannot be expected from the motorcycle and in the worst case, they can cause a breakdown.

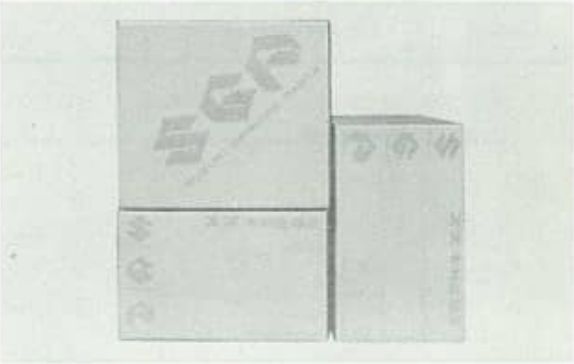


Fig. 5–3–1 Suzuki genuine parts

6. TROUBLE SHOOTING

When trouble occurs with a motorcycle, it is important to find the source of the trouble as rapidly as possible. It is also necessary to perform only the work required to repair the machine and not bother with parts which are functioning correctly. The list of possible troubles and their causes given below should help the service man to repair motorcycles quickly without loss of effort.

6-1. If Engine Is Hard To Start

Check fuel in the fuel tank first. When a proper amount of fuel is in the tank, check the following points.

Order	Description	Check Points	Action
1.	Check to see that fuel flows into carburetor.	* If fuel does not enter into carburetor	
		1. Fuel strainer clogged	Remove and clean
		2. Fuel pipe clogged or damaged	Clean or replace
		3. Fuel clock clogged	Clean with a wire
		4. Boost tube clogged or damage	Clean or replace
		5. Fuel cock diaphragm damaged	Replace
2.	Check to see that spark jumps in spark plug (turn engine with kick starter).	* If blue or hot spark jumps in the spark plug, check the following points.	
		1. Ignition timing	Adjust
		2. Fuel	Check mixture
		3. Carburetor float	Adjust or replace
		4. Engine compression	See specifications
	* If the spark is weak or red.		
		1. Damage in spark plug	Replace
		2. Incorrect spark plug gap	Adjust
		3. Damage in spark plug cap	Replace
		4. Dirty contact breaker points	Clean and adjust
		5. Bad insulation in condenser	Replace
		6. Damage in ignition coil or primary coil	Replace
	* If there is no spark.		
		1. Damage in spark plug	Replace
		2. Dirty or wet spark plug	Clean
		3. Incorrect spark plug gap	Adjust
		4. Dirty or incorrect contact breaker point gap	Clean and Adjust
		5. Bad insulation in condenser	Replace
		6. Damage in ignition coil or battery	Replace
		7. Damage in ignition switch	Replace
		8. Damage in wiring harnesses	Repair or replace

3. Check to see that engine compression is proper. (Turn engine with kick starter)	* If engine compression is improper.	
	1. Worn cylinder and piston rings	Repair or replace
	2. Stiff piston ring on piston	Repair or replace
	3. Damaged cylinder head gasket	Replace
	4. Damaged piston	Replace
	5. Improperly tightened spark plug	Tighten securely
	6. Improperly tightened cylinder head	Tighten securely
	7. Gas leaks from crankcase joining surface	Repair or replace
	8. Damaged cylinder or cylinder head	Replace

These three things—fuel, spark and compression—are basic points for engine operation. To find troubles, first check these points.

6–2. If Engine Does Not Run Smoothly

Order	Description	Check Points	Action
1.	Turning throttle grip, check to see that engine rpm increases.	* Engine rpm increases, but motorcycle does not run fast.	
		1. Clutch slippage	Adjust or replace clutch discs
		* If engine rpm does not increase.	
		1. Improperly adjusted carburetor	Adjust
		2. Dirty air cleaner	Clean
		3. Clogged fuel line	Clean
		4. Improperly adjusted ignition timing	Adjust
		5. Clogged exhaust pipe and muffler	Clean
2.	Turning throttle grip, check to see that engine runs smoothly.	When rapidly accelerated, engine does not run smoothly.	
		1. Improper ignition timing	Adjust
		2. Improperly working contact breaker	Adjust
		3. Improperly adjusted carburetor	Adjust
		4. Dirty spark plug	Clean and adjust
		* Engine does not run smoothly at low rpm	
		1. Too early ignition (Advanced)	Adjust
		2. Dirty contact breaker	Clean and adjust
		3. Dirty or improperly adjusted spark plug	Clean and adjust
		4. Improperly adjusted carburetor pilot air adjusting screw	Adjust
		5. Clogged or damaged fuel line	Clean or replace
		6. Improperly working contact breaker	Adjust

	* Engine does not run smoothly at high rpm.	
	1. Clogged or damaged fuel line	Clean or replace
	2. Dirty or improperly adjusted spark plug	Clean and adjust
	3. Improperly working contact breaker	Adjust
	4. Too late ignition (Retarded)	Adjust
	5. Improperly adjusted carburetor	Adjust
	6. Dirty air cleaner	Clean
3. Check to see that engine compression is proper.	See "If engine is hard to start" section.	
4. If engine overheats.		
	1. Improperly adjusted oil pump control lever adjusting marks	Adjust
	2. Air in oil lines	Remove air
	3. Improper ignition timing	Adjust
	4. Carbon deposit in combustion chamber	Clean
	5. Carbon deposit in exhaust pipe and muffler	Clean
	6. Incorrect spark plug heat range	Replace with colder plug
	7. Low grade oil used	Replace with correct oil
	8. Clutch slippage	Adjust or replace plates
	9. Brake dragging	Adjust
	10. Drive chain too tight	Adjust

6-3. If Abnormal Noise is Heard in Engine

Order	Description	Check points	Action
		1. Too big clearance between piston and cylinder	Repair or replace
		2. Too big clearance between piston rings and grooves	Replace piston
		3. Piston rings stiff with carbon	Clean
		4. Worn con-rod big end	Replace
		5. Worn con-rod small end bearing	Replace
		6. Damaged piston rings	Replace
		7. Too early ignition timing	Adjust
		8. Defective primary pinion and gear	Replace
		9. Worn crankshaft bearings	Replace
		10. Defective transmission gears	Replace
		11. Defective transmission shaft bearings	Replace

6-4. If Engine Overheats

If engine overheats at high speed running after it is broken in, check to see if the oiling system is in good condition, the brake is dragging, or cylinder cooling fins are dirty. Inspect the following points.

Order	Description	Check Points	Action
1.	Check to see if oiling system is in good condition	1. Improperly adjusted oil pump control lever adjusting marks	Adjust
		2. Air in oil lines	Remove air
		3. Choked oil tank breather pipe	Correct
		4. Incorrect oil used	Use prescribed oils
2.	Check to see if engine compression is higher than standard	* Too high compression	
		1. Carbon deposits in combustion chamber	Remove carbon deposits
		2. Too thin cylinder head gasket	Replace
3.	Check carbon deposits	* Check for carbon deposits in muffler, exhaust pipe, exhaust port and combustion chamber	Disassemble and remove carbon deposits
4.	Check to see that piston rings move smoothly in grooves	* Piston rings stiff from carbon deposits	Remove carbon deposits
5.	Check to see that the clutch works properly	Clutch slippage causes overheating of engine	Adjust or replace plates
6.	Check to see that the ignition timing is correct		Adjust
7.	Drive chain too tight		Adjust
8.	Incorrect spark plug heat range		Replace with colder plug
9.	Too lean fuel mixture		Adjust carburetor

6–5. If Engine Stops Abruptly During Running

If engine Stops during running, first check to see if there is fuel in tank, wiring harnesses are connected etc. and inspect the following points.

Order	Description	Check Points	Action
1.	If engine stops abruptly	1. Seized piston	Repair or replace
		2. Seized crankshaft	Repair or replace
		3. Seized transmission gear	Repair or replace
		4. Spark plug bridged	Clean
		5. Defective ignition coil	Replace
		6. Troubles in ignition system	Diagnose
		7. Clogged fuel line	Clean
2.	If engine stops gradually	1. Loose spark plug	Tighten securely
		2. Loose cylinder head	Tighten securely
		3. Damaged cylinder head gasket	Replace
		4. Clogged fuel line	Clean

6-6. Deffective Brakes

First check the play in the front brake lever and the rear brake pedal. Inspect the following points.

Order	Description	Check Points	Action
1.	Insufficient braking	1. Worn brake linings	Replace
		2. Dirty brake linings	Clean
		3. Brake drum worn or dirty with mud or water	Replace or clean
		4. Worn brake cam	Replace
		5. Improperly working brake wire	Adjust or replace
2.	Brake drags	1. Rust in moving parts	Repair
		2. Moving parts dirty with oil or insufficient lubricant	Clean and apply a proper amount of lubricant
3.	Abnormal noises are heard	1. Worn brake linings	Replace
		2. Foreign particeles on brake linings	Clean
		3. Dirty brake drum	Clean

6-7. Defective Clutch

Order	Description	Check Points	Action
1.	Clutch slippage	1. Improperly adjusted clutch	Adjust
		2. Worn clutch springs	Replace
		3. Worn clutch plates	Replace
2.	If clutch drags	1. Improper weight oil	Replace
		2. Uneven clutch spring tension	Replace
		3. Defective clutch plate operation	Repair or replace

6-7. Gear Shiftings Troubles

First check the clutch operation and amount of oil in the transmission chamber. Inspect the following points.

Order	Description	Check Points	Action
1.	Gear engagement	* If gears do not engage, check for:	
		1. Incorrectly set pawl holder	Adjust
		2. Worn gear shifting pawl	Inspect and replace if necessary
		3. Damaged cam groove	Replace change cam
		4. Shifting forks not moving smoothly on cam	Repair scoring or burs
		5. Damaged gear shifting fork	Replace
		6. Seized gears	Replace

2. Gear shifting lever	*If gear shifting lever does not return to normal position, check for: 1. Damaged gear shifting shaft return spring	 Replace
3. Jumping out of gear	* If the gears disengage while running, check for: 1. Bad operation gear shifting cam stopper 2. Worn or bent gear shifting fork 3. Worn gear or driven gear wheel dog teeth	 Inspect and replace if necessary Replace Replace gear or driven gear wheel

6–8. Bad Stabilization and Steering

Order	Description	Check Points	Action
1.	Handlebar stiff	1. Steering stem lock nut too tight 2. Bent steering stem 3. Damaged steel balls	Adjust Repair or replace Replace
2.	Handlebar not stable	1. Incorrect wheel alignment 2. Play in front wheel fitting 3. Damaged steel balls 4. Bent fork stem 5. Worn or damaged bearing races 6. Bent front forks 7. Bent swinging arm 8. Incorrect for oil level 9. Worn fork spring	Adjust Repair Replace Repair or replace Replace Repair or replace Repair Correct Replace
3.	Wheel is not true	1. Incorrect wheel balance 2. Up-and-down play in hub bearings 3. Deformed wheel rim 4. Loose sporkes 5. Chain too tight 6. Loose swinging arm fitting 7. Warped frame 8. Incorrect tire pressure	Adjust Replace Repair or replace Repair Adjust Tighten Replace correct

7. SPECIAL TOOLS

Special tools listed here are used to disassemble, assemble and perform other maintenance and services. These special tools make work easy which cannot be done simply with ordinary tools and also do not damage parts.

It is recommended to obtain these special tools as shop equipment.

1. 09900-15201	T0B-001A	Special Tool box	
2. 09913-50110	T-006	Oil seal remover	remove oil seal
3. 09913-70122	T-010	Bearing & oil seal installing tool	installing bearing & oil seal
4. 09910-70110	T2-029	Exhaust pipe cleaner	remove carbon
5. 09913-80110	T-619	Oil seal installing tool	installing oil seal
6. 09920-70110	T-012A	Snap ring opener	fit & remove circlips
7. 09910-20111	T-020A	Piston holder	prevent crankshaft from turning
8. 09921-10111	T-027A	Engine sprocket holder	hold engine sprocket
9. 09920-51510		Clutch sleeve hub holder	hold clutch sleeve hub
10. 09920-60310	T-054-2	Clutch sleeve hub holder handle	hold clutch sleeve hub
11. 09940-10121	T-055A	Steering stem nut wrench	loosen & tighten nut
12. 09940-20110	T-056	Steering stem lock nut wrench	loosen & tighten lock nut
13. 09940-30110	T-057	Front fork assembling tool	pull up fork inner tubes
14. 09940-40111	T2-001	Front fork oil level gauge	gauge oil level
15. 09930-10111	T2-006A	Spark plug wrench	loosen & tighten spark plugs
16. 09930-31110	T2-010	Rotor remover	remove rotor
17. 09913-61110	T2-018	Bearing puller	remove bearings
18. 09940-60111	T2-020A	Spoke nipple wrench	loosen & tighter spoke nipples
19. 09941-00110	T2-023	Front fork outer tube nut wrench	loosen & tighten outer tube nut
20. 09931-00110	T2-024	Timing gauge	Check ignition timing
21. 09813-00012	TA-9251K1	Contact point wrench	Check contact point gap

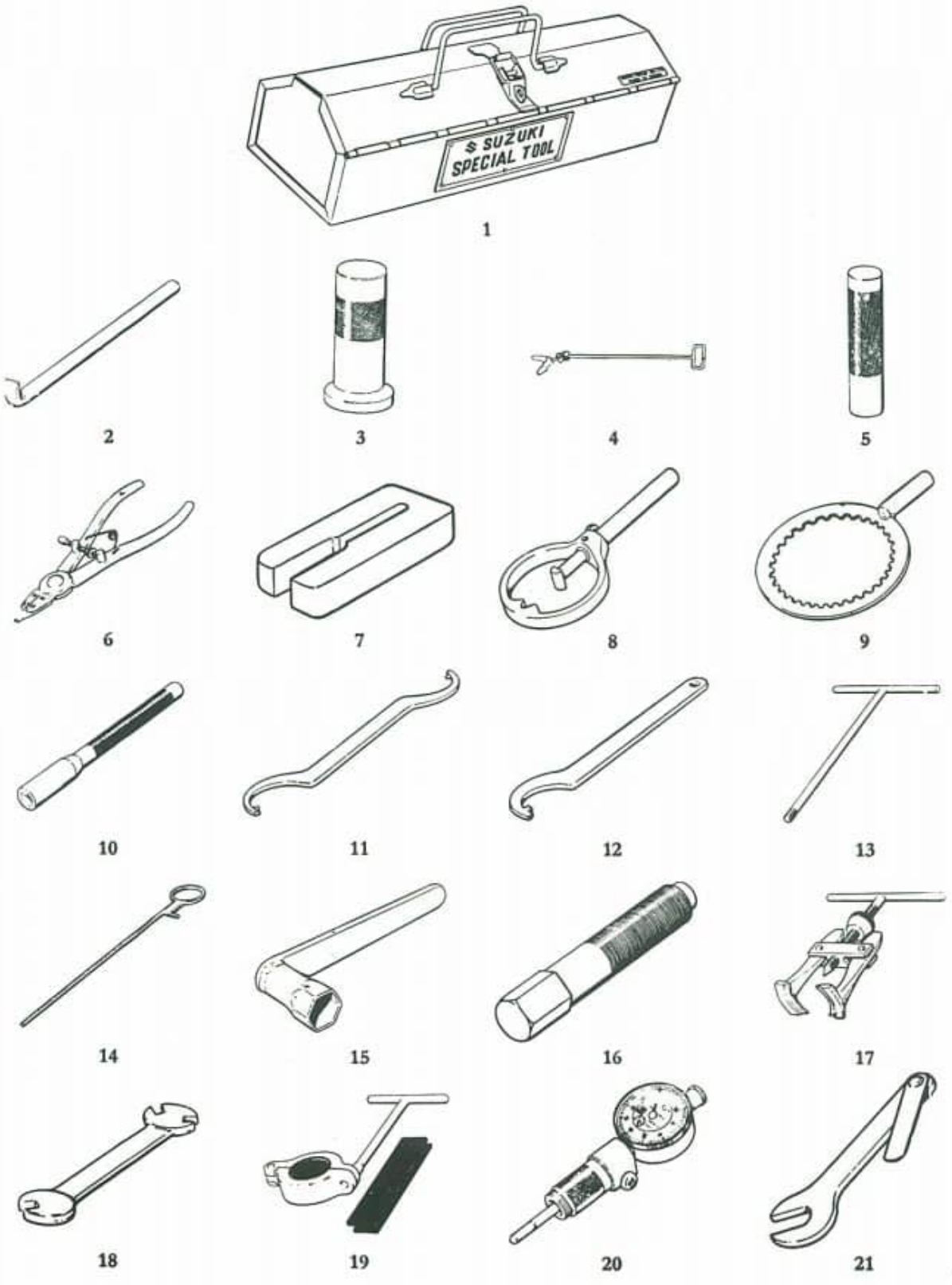


Fig. 7-1 Special tools

8. ENGINE

CONTENTS

		page
8—1.	Work with Engine in Frame	19
8—2.	Work with Engine Removed from Frame	20
8—3.	Removing and Installing Engine in Frame	20
8—4.	Tips on Assembling and Disassembling Engine	22
8—5.	Cylinder Heads	23
8—6.	Cylinder Head Gaskets	24
8—7.	Cylinder	24
8—8.	Piston Pins	25
8—9.	Piston Pin Bearings	26
8–10.	Pistons	26
8–11.	Piston Rings	28
8–12.	A.C. Generator	29
8–13.	Neutral Indicator Switch	29
8–14.	Engine Sprocket	30
8–15.	Drive Shaft Bearing Retainer	30
8–16.	Oil Pump	31
8–17.	Oil Outlet Pipes	36
8–18.	Clutch	37
8–19.	Primary Pinion	44
8–20.	Crankcase	45
8–21.	Crankshaft	47
8–22.	Transmission	50
8–23.	Gear Shifting Mechanism	55
8–24.	Kick Starter Mechanism	58
8–25.	Carburetors	60

8. ENGINE

8-1. Work with Engine in Frame

These parts can be inspected, adjusted and replaced without removing the engine from the frame. When removing the crankcase cover for repairing clutch, gear shifting shaft, etc, first remove the two oil drain plugs located on the bottom of the engine to drain the oil from the gearbox and clutch chamber.

	Parts	Operation
1.	Spark Plugs	Retighten, inspect, adjust gap, remove carbon, replace; Inspect gaskets for flexibility, replace
2.	Cylinder Heads	Retighten cylinder head bolts; Remove carbon, check for warpage, repair
3.	Cylinder Head Gaskets	Inspect, replace
4.	Cylinder	Remove carbon from ports; Check for burned spots and scoring, repair; Check for wear, rebore
5.	Pistons	Remove carbon from heads and ring groves; Inspect for burned spots and scoring, repair or replace; Check piston pin holes and ring locating pins for wear, replace
6.	Piston Rings	Inspect for wear and tension, replace
7.	Piston Pins	Inspect for wear, replace
8.	Piston Pin Circlips	Inspect for warpage and dropping out, replace or repair
9.	Con-rod Small End Needle bearing	Inspect for wear, replace
10.	AC Generator	Check contact point and ignition timing, adjust; Check point surface for pits, polish; Check condenser, replace
11.	Neutral Indicator Switch	Inspect for wire break, repair or replace; Inspect gasket, replace
12.	Engine Sprocket	Inspect for wear, replace
13.	Clutch Release Device	Inspect for cracks and scratches, replace
14.	Primary Pinion	Inspect for backlash, replace
15.	Clutch	Inspect cork plates for wear, replace; Inspect springs for free length, repair or replace; Inspect sleeve hub for stepped splines, replace; Check housing for loose riveting and burrs on grooves, repair or replace, check gear backlash, replace
16.	Gear Shifting Shaft	Inspect shaft return spring for tension, replace
17.	Gear Shifting Pawls	Inspect pawl and pawl spring for wear and tension, replace
18.	Oil Pump	Check control lever clearance, adjust; Check oil lines for air remove
19.	Carburetors	Check play in throttle cables, adjust; check float level, check fuel mixture for various throttle openings, adjust; Clean

8-2. Work with Engine Removed from Frame

Remove the engine from the frame and separate the crankcase into upper and lower halves for these jobs.

	Parts	Operation
1.	Crankshaft	Inspect for shake, repair or replace; Check bearings for wear, replace; Check oil seals for leakage, replace
2.	Transmission System	Check gears and shafts, adjust or replace· Check bearings and bushing, replace
3.	Gear shifting System	Inspect shifting cam groove for damage, repair or replace; Inspect shifting forks for burned spots and wear, repair or replace
4.	Kick Starter System	Inspect pinion for worn ratchet, replace; Inspect pawl and pawl spring for wear and tension, replace; Inspect kick starter shaft return spring, replace

8-3. Removing and Installing Engine in Frame

Before begining the removal operation, thoroughly clean the engine with a steam cleaner or cleaning solvent to remove road dirt.

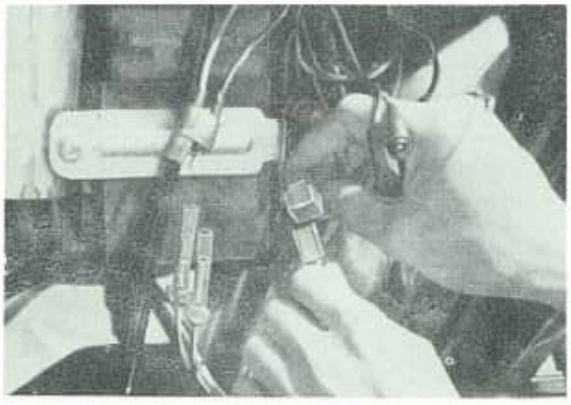


Fig. 8-3-1 Disconnecting A. C. generator wires

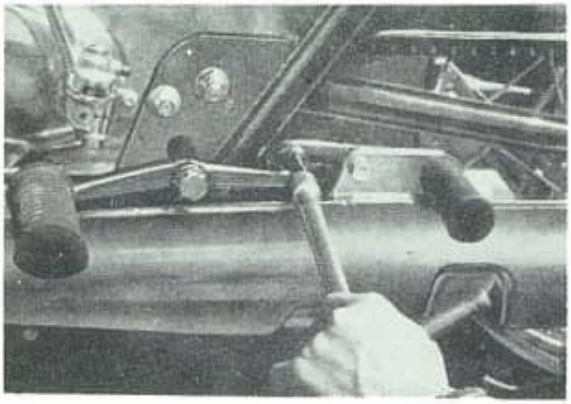


Fig. 8-3-2 Removing the front footrest

1. Remove spark plug caps from spark plugs.
2. Remove the frame left cover and disconnect the wires from the A.C. generator.
3. Remove the left and right front footrests with a 14 mm and a 19 mm wrench respectively.
4. Remove the left and right exhaust pipe clump fitting bolts with a 14 mm wrench.
5. Remove the left and right muffler fitting bolts and rear footrests and remove the exhaust pipe and muffler.
6. Remove the kick starter lever and gear shifting lever. Loosen 6 cross head screws with a screw driver and remove engine sprocket cover.
7. Turning rear wheel locate chain master link. Separate ends of chain by removing master link with pliers.
8. Remove the brake lamp switch with a 14 mm wrench and then remove brake pedal by hand.
9. Remove the tachometer cable from oil pump with a pliers.

10. Unscrewing union bolt with a 8 mm wrench disconnect oil line from oil tank outlet and insert a 6 mm bolt or screw into oil tank outlet to prevent oil leakage.

11. Remove oil pump cover by loosening two bolts with a 10 mm wrench and take off cover from crankcase.

12. Pull-up the control lever of the oil pump and disconnect the cable terminal; then pull upward the control wire.

13. If intending to disassemble engine, drain oil from the gear box by loosening the two drain plugs with a 21 mm wrench.

14. Loosening carburetor tube front clamp screws with a cross head screw driver.

15. After loosening the swinging arm pivot shaft nut, unscrew nuts from 3 engine mounting bolts with a 14 mm and a 19 mm wrench respectively. Pull out the 3 engine mounting bolts with pliers.

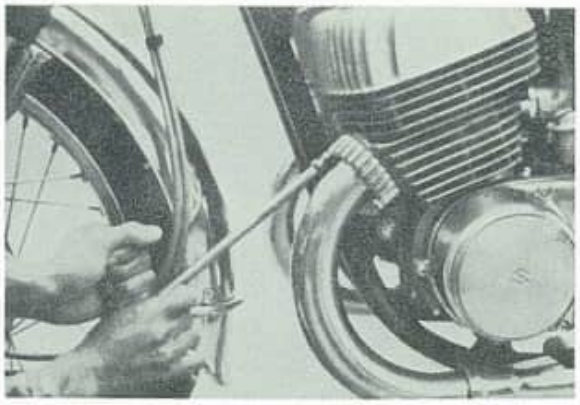


Fig. 8-3-3 Removing exhaust pipe clamp fitting bolts

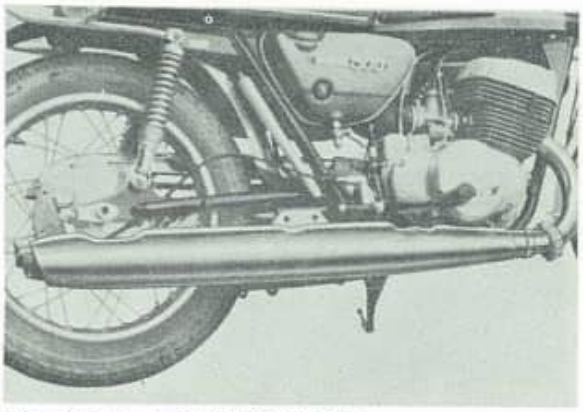


Fig. 8-3-4 Removing muffler

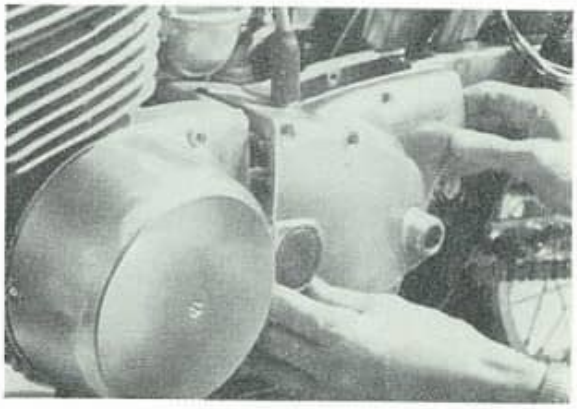


Fig. 8-3-5 Removing engine sprocket cover

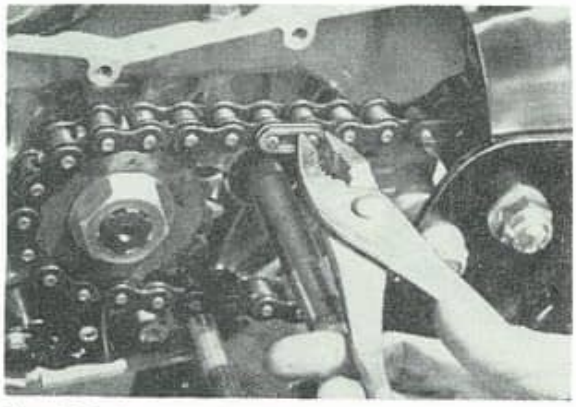


Fig. 8-3-6 Detaching chain joint clip

Fig. 8-3-7 Removing brake lamp switch

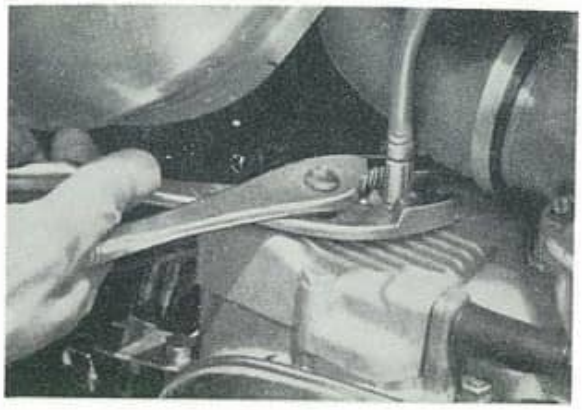


Fig. 8-3-8 Removing engine tachometer cable

Fig. 8-3-9 Screwing 6 mm screw

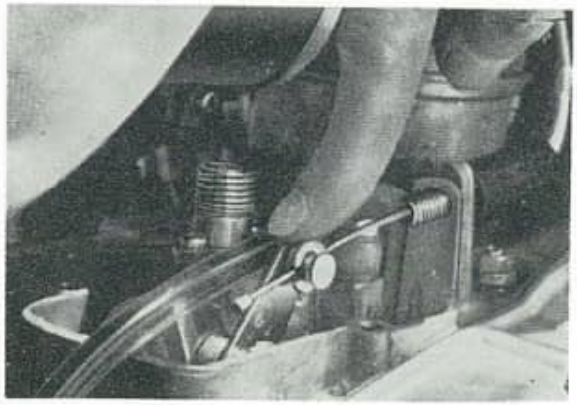


Fig. 8-3-10 Unhooking pump control cable

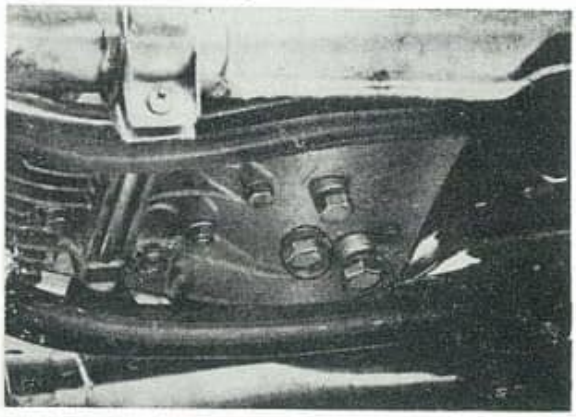


Fig. 8-3-11 Drain plugs

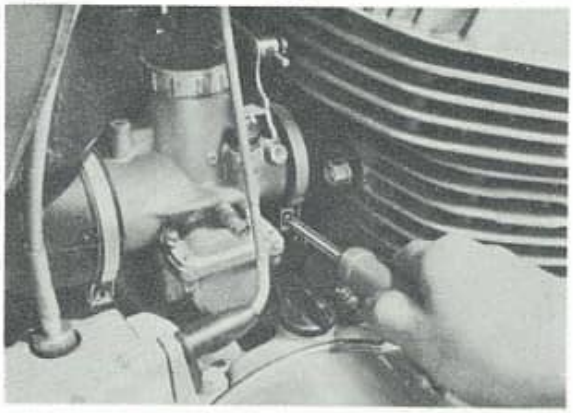


Fig. 8-3-12 Removing carburetor tube front clamp

To install the engine into the frame reverse the order of removal. Connect wires according to the wiring diagram. Check the oil pump control lever gap. Inspect the clutch operation.

8-4. Tips on Assembling and Disassembling Engine

The Engine is the heart of the motorcycle and consists of precisely manufactured parts, which must be handled and assembled most carefully. When working on the engine, keep your hands and tools clean at all times.

Before beginning work, prepare work benches, necessary tools, clean rags and cleaning solvent for washing parts.

8-5. Cylinder Heads

8-5-1. Removing

Remove 8 cylinder head nuts and bolts with a 14 mm wrench and take off the cylinder heads. When loosening cylinder head bolts and nuts, be sure to loosen them diagonally, not in sequence, to prevent the cylinder heads from warping.

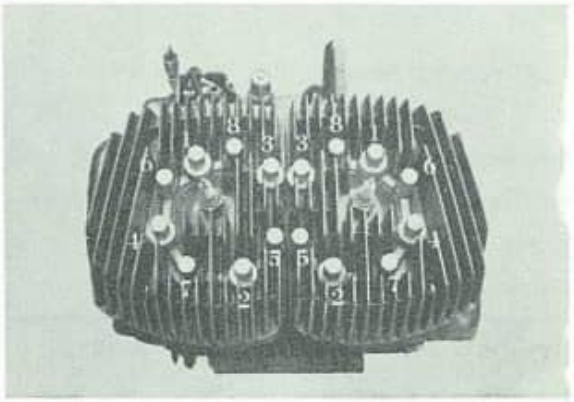


Fig. 8-5-1 Loosening order of cylinder head nuts

8-5-2. Inspecting and servicing

A. Removing Carbon Deposits

Check to see if carbon has accumulated in the combustion chamber. Carbon doposits which are produced when fuel is burned in the combustion chamber do not transfer heat properly as well as increasing engine compression, thus causing engine overheating. Remove carbon deposits with a scraper or screw driver every 6,000 km (4,000 mi), taking care not to damage dome surface.

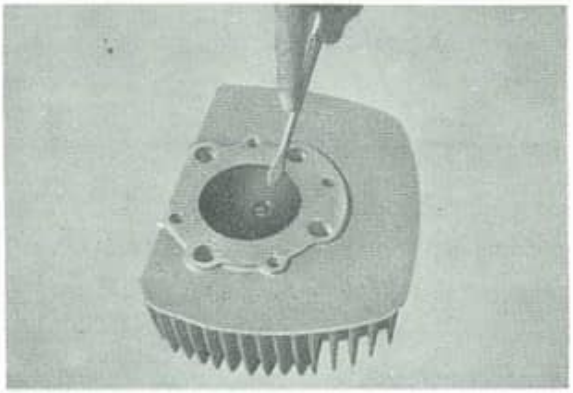


Fig. 8-5-2 Removing carbon

B. Removing Dirt Accumulation

Dirt accumulated between the cooling fins can cause engine overheating because it also decreases thermal radiation.

To clean the cylinder heads of dirt accumulation, use a screw driver and then brush with gasoline or cleaning solvent.

C. Checking Warpage

The cylinder heads are always exposed to extremely high pressure and temperature, so they can warp if used for a long time.

A cylinder head which is excessively warped can not fit the cylinder tightly even if cylinder head nuts are tightened firmly and not only leaks compression but also sucks in air with resultant decrease in power and increase in fuel consumption.

To repair a warped cylinder head, place it on a surface plate and grind the face flat on it with first #200 and then #400 emerypaper.

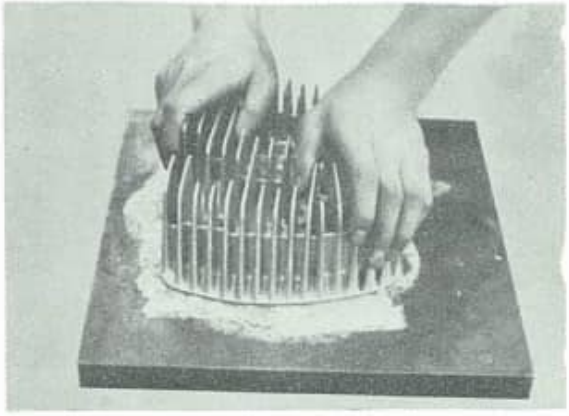


Fig. 8-5-3 Checking cylinder head warpage

D. Checking Spark Plug Hole

If the spark plug hole threads are stripped, compression will leak. Replace with a new cylinder head if the threads are found stripped.

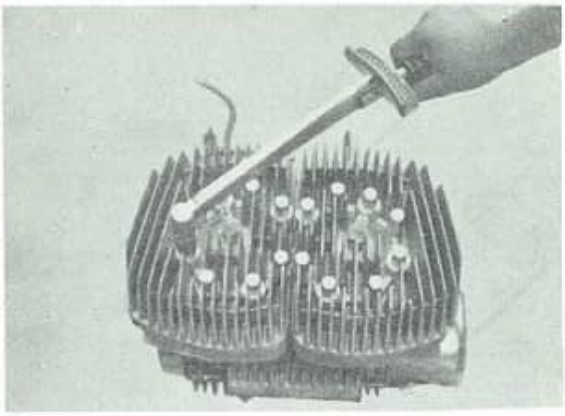


Fig. 8-5-4 Tightening cylider head nuts and bolts

8-5-3. Installing

Place cylinder head gasket between the cylinder heads and cylinders and fit the cylinder heads with 8 bolts and 8 nuts.

To tighten the cylinder head nuts and bolts, use a torque wrench so that they are tightened correctly and evenly, and gas leakage does not occur. Tighten nuts only when engine is cold. Tighten them diagonally just the same as when loosening.

Be sure to fit a lock washer under each cylinder head nut and bolt.

Cylinder head nut tightening torque	350 kg-cm (25 lb-ft)
Cylinder head bolt tightening torque	200 kg-cm (14.4 lb-ft)

The cylinder head nuts and bolts become loose from compression and vibrations during operation. Compression leakage decreases engine power.

Retighten the cylinder head nuts and bolts at first 1,000 km(750 mi) and every 3,000 km (2,000 mi) there-after. Tighten nuts only when engine is cold.

8-6. Cylinder Head Gaskets

The cylinder head gaskets are made of aluminum and installed between the cylinder heads and cylinders to prevent compressed fuel from leaking. The thickness is 0.5 mm (0.02 in). If worn or damaged gasket leaks compression, performance of the engine is badly affected.

Worn or damaged gasket must be replaced with new one.

It is good practice to throw away the old head gaskets and install new one each time the cylinder heads are removed from the cylinders even if it does not appear to be damaged or worn.

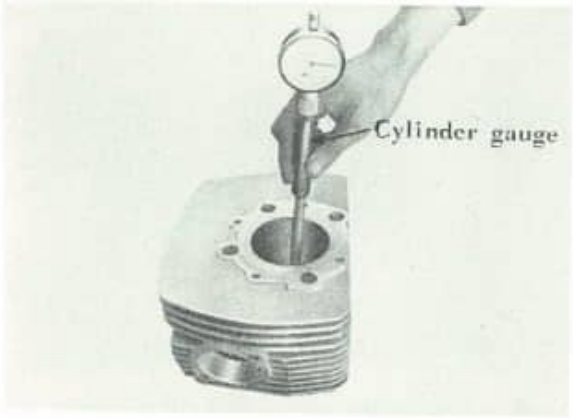


Fig. 8-7-1 Measuring cylinder bore

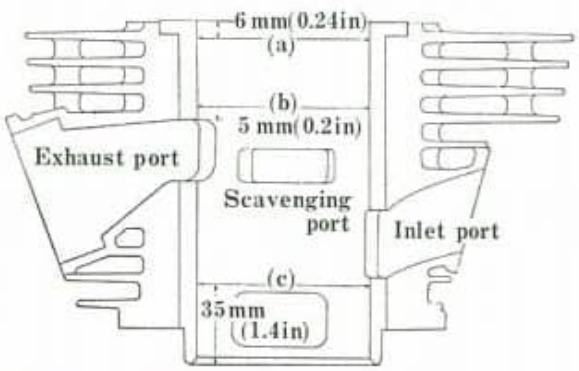


Fig. 8-7-2 Points to be measured

8-7. Cylinders

8-7-1. Removing

Clean the crankcase around the cylinder base to prevent dirt from entering into the crank chambers before removing the cylinders. The cylinders can be removed easily by lifting them off of 8 studs screwed into the crankcase upper half. When the cylinders are removed, cover the crankcase openings with clean rags to prevent dust from entering into the crank chambers.

8-7-2. Inspecting

Check the cylinder for wear. To determine the amount of wear, measure the cylinder bore with a cylinder gauge. Measure the cylinder bore from front to back and from side to side at three point, 6 mm (0.24 in) below the cylinder face (a), 5 mm (0.2 in) above the exhaust port (b), and 35 mm (1.4 in) from the cylinder bottom (c).

If the figure obtained by subtracting the smallest measurement from the largest one is over 0.05 mm (0.002 in), rebore the cylinder.

When refinishing the cylinder oversize, first add to the standard cylinder bore size the oversize step apparently required to clean up the bore. This gives the exact size to which the cylinder should be refinished. Check carefully with an accurate cylinder gauge to be sure of refinishing to this size. If this is accurately done, an oversize piston will fit with normal clearance.

Oversize pistons are provided in 0.5 mm (0.02 in) and 1.0 mm (0.04 in) sizes.

Standard cylinder bore	70.000–70.015 mm

It must be noted that the edges of each port need to be rounded after reboring the cylinder. If they are not rounded, rapid wear of the piston rings and unpleasant cylinder noise will result. Round the edges with a hand grinder or file according to the dimensions prescribed in the illustration.

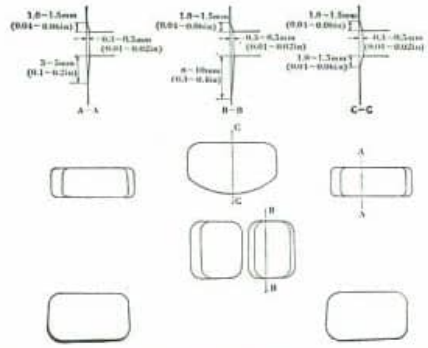


Fig. 8–7–3 Amount to be removed from port edges

8–7–3. Servicing

Carbon deposits accumulated around the exhaust port increase resistance to the passage of exhaust gas and cause loss of engine power and engine overheating. Remove carbon deposits every 6,000 km (4,000 mi) with a scraper or screw driver. Be careful not to scratch or score the cylinder wall or passage surface.

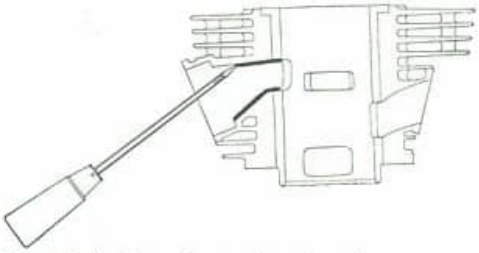


Fig. 8–7–4 Removing carbon deposit

8–7–4. Installing

Place cylinder base gaskets between the crankcase and cylinders and install the cylinders over the pistons and eight stud bolts seeing that all the piston rings are in the right position. Application of motor oil over the piston rings will fit the cylinder over the piston easily. Use new cylinder base gaskets each time the cylinders are removed. Use the kick starter lever to check the piston movement after they are installed.

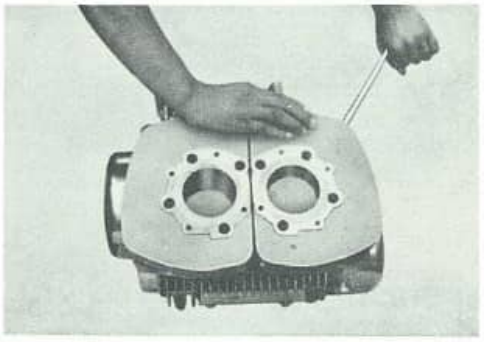


Fig. 8–7–5 Inspecting piston movement

8–8. Piston pins

8–8–1. Removing

Cover the crankcase openings with clean rags to prevent piston pin circlips from dropping into the crank chamber when removing it. Remove one piston pin circlip from each piston with a small screw driver

Fig. 8–8–1 Removing piston pin circlip

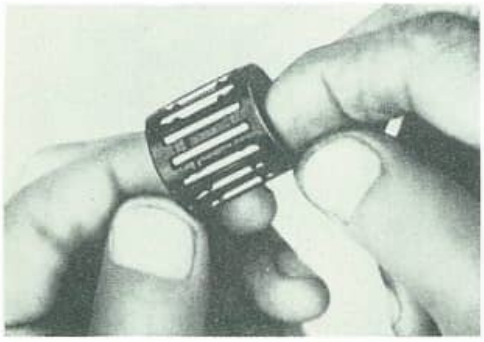


Fig. 8-9-1 Checking piston pin bearing for wear

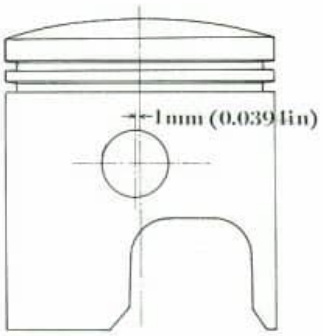


Fig. 8-10-1 Piston pin hole offset

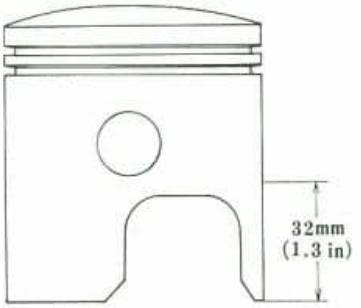


Fig. 8-10-2 Point to be measured

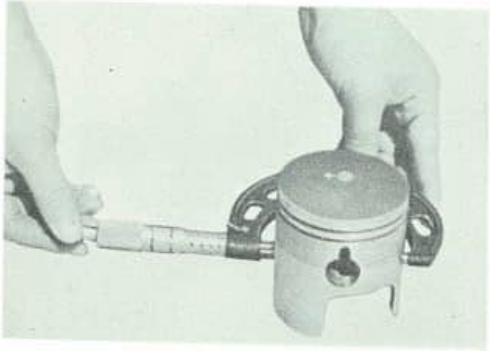


Fig. 8-10-3 Measuring piston diameter

or needle nose pliers.

Be careful not to lose piston pin circlip as sometimes it springs away. Now piston pins can be removed easily by pushing the other end of them with a rod. It is advised to hold the connecting rod from the opposite side when driving out the piston pin if it is very tight.

8-8-2. Inspecting

Check the piston pin for scratches, stepped wear etc. Replace if badly damaged or worn and repair minor defects with #400 emery paper.

8-9. Piston Pin Bearings

8-9-1. Removing

The piston pin bearings are installed on the con-rod small end and its fit is loose, so it can be removed by hand.

8-9-2. Inspecting

To check the piston pin bearing for wear, fit the bearing into the small end of a new con-rod, insert a new piston pin into the bearing and move the piston pin up and down. Replace the piston pin bearing with a new one if the play is over 0,045 mm (0,00177 in).

8-10. Pistons

8-10-1. Inspecting

A. Piston-cylinder clearance:

The standard piston-cylinder clearance is 0.065~0.075 mm (0.0026~0.0030 in).

The clearance is determined by subtracting piston diameter from cylinder diameter. The cylinder measurement should be taken at 5 mm (0.2 in) above the exhaust port, and the piston measurement at 32 mm (1.3 in) above the piston skirt 90° from the piston pin holes.

Replace the piston with a new one when it has

worn to under 69. 85 mm (2.75in).

Clearance	Standerd	Limit
	0.065~0.075 mm (0.0026~0.0030in)	0.25 mm (0.0098 in)

B. Checking wear and damage :
Inspect the piston pin holes and piston ring locating pins for wear and the piston surface for burned spots, piston rings to turn in the grooves and possibly catch on the ports of the cylinder. If the piston has burned spots or scratches on its surface, cylinder noise is produced and engine rotation becomes unsmooth, resulting in loss of engine power. Further, the piston is apt to seize at these points. Replace if badly worn and repair burns or minor defects with #400 emery paper.

8-10-2. Servicing

Remove carbon deposits from the top and piston ring grooves with a knife or tip of an old piston ring. Carbon deposits on the top increase compression and cause engine overheating, and those in the piston ring grooves cause the piston rings to become stiff and seize, causing compression leakage.

It must be borne in mind that edges of the ports need to be rounded after reboring the cylinders. It they are not rounded, rapid wear of the piston rings and unpleasant cylinder noise will result. Round the top and bottom edges of the ports with a hand grinder or file accoring to the prescribed dimensions.

The scavenging ports of right and left cylinder are positioned unsymmetrically to the piston centers, so great care not to mistake the right piston for left one is required when installing.

The difference between right and left piston is show in Fig 8-10-6.

As the piston pin is off-center, the piston can be installed in only one direction. If it is installed backwards, the scavenging ports will not align with the slots on the piston skirt, piston rings will break and engine will be badly damaged. Install the piston with the arrow mark stamped on the piston head pointing toward the exhaust port.

Fig. 8-10-4 Polishing piston surface

Fig. 8-10-5 Removing carbon from ring grooves

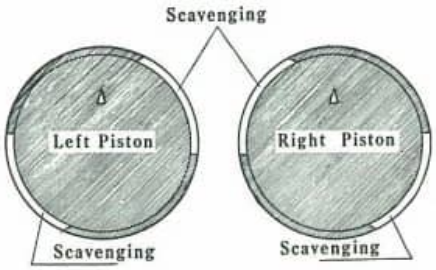


Fig. 8-10-6 Right & left pistons

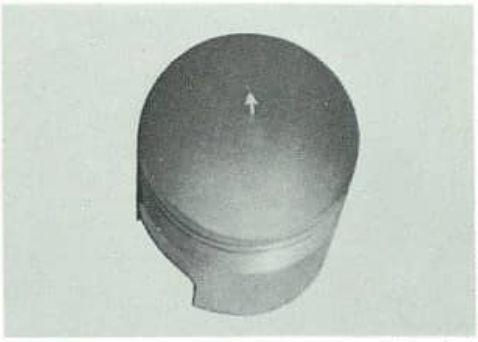


Fig. 8-10-7 Arrow mark

Fig. 8-11-1 Removing piston

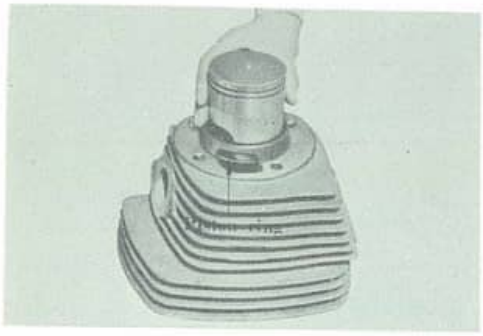


Fig. 8-11-2 Inserting piston ring into cylinder

Fig. 8-11-3 Measuring end gap

Fig. 8-11-4 Checking side clearance

8-11. Piston Rings

The piston rings on this engine are of keystone type and tapered 7° on the upper surface. The most outstanding advantage of keystone type ring is to prevent carbon from accumulating on the upper and lower surfaces of the ring grooves of the piston and thus prevents ring sticking.

Both the top and second rings are chrome-plated for higher resistance to wear.

8-11-1. Removing

Expand the ends of the ring with thumb nails and remove the ring over the top of the piston frome the opposite side, taking care not to break or twist the ring or damage the piston surface.

8-11-2. Inspecting

Measure the end gap to check the the piston rings for wear. To measure the end gap, first insert the ring into the lower part of the cylinder, where wear is the smallest, and then put a feeler gauge in the end gap. Use a piston to insert the piston ring into the cylinder so that the ring is fitted square with the cylinder.

8-11-3. Installing

Before installing the piston rings, clear the ring grooves on the piston and piston rings of any foreign particles.

Fit the stamped mark side up. Be sure to turn the rings in the grooves after installing them.

If they do not turn smoothly, it indicates that foreign particles still exist.

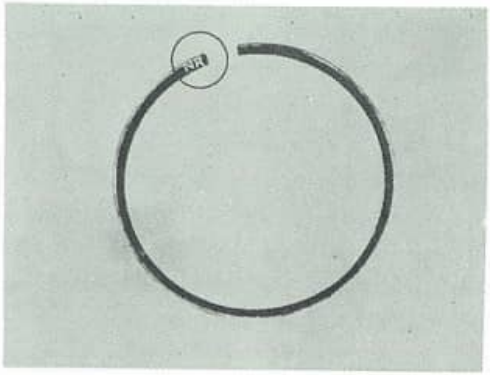


Fig. 8-11-6 stamped marks

Take the piston rings out of the grooves again and remove the foreign particles. Although the top and second rings are quite the same, be careful to fit them in the same groove as before in order to maintain mated condition in case used piston rings are reinstalled.

8-12. A.C. Generator

8-12-1. Removing

1. Disconnect the blue wire from the neutral indicator switch by looseing the fitting screw with a cross head screw driver.
2. Loosen the A.C. generator lead wire clamp fitting bolt with a 10 mm box wrench.
3. Remove the grommet screw with a cross head screw driver.
4. Loosen three cross head screws which fix the generator to the crankcase and remove the generator assembly, pulling the generator wiring harness out of the crankcase.
5. Hold the con-rod small end with a piston holder (special tool 09910-20111) to prevent the crankshaft from turning.
6. Loosen the rotor fitting bolt with a 14 mm wrench and take off the rotor fitting bolt and contact breaker cam.
7. Screw a rotor remover (special tool 09930-31110) clockwise into the center hole of the rotor with a 17 mm wrench. The rotor can be removed from the crankcase.

8-13. Neutral Indicator Switch

8-13-1. Removing

Unscrew two fitting screws with a cross head screw

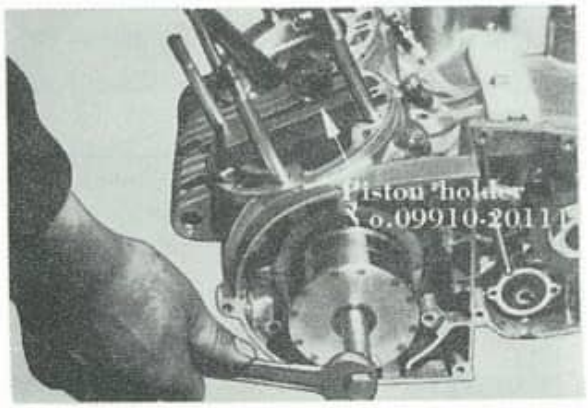


Fig. 8-12-3 Removing rotor

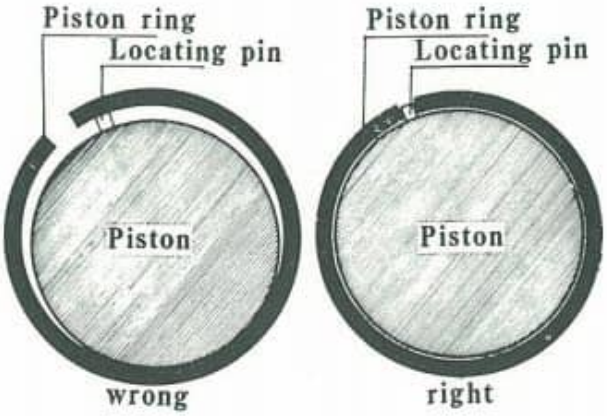


Fig. 8-11-7 Piston ring fitting

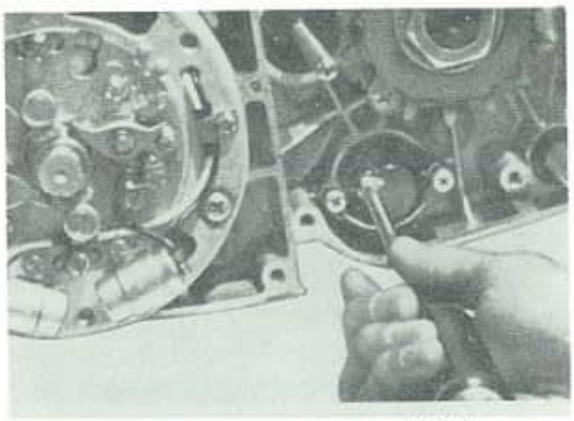


Fig. 8-12-1 Disconnecting neutral indicator switch wire

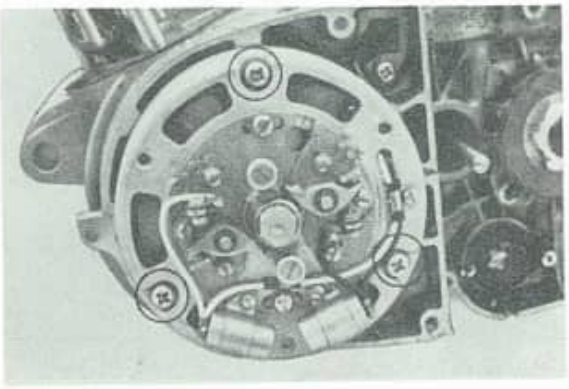


Fig. 8-12-2 A, C generator fitting screws

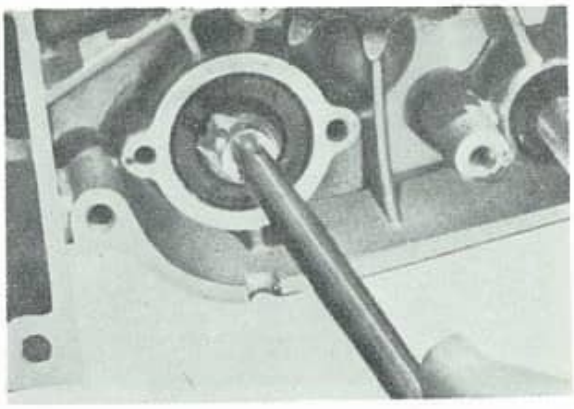


Fig. 8-13-1 Removing neutral indicator switch contact point

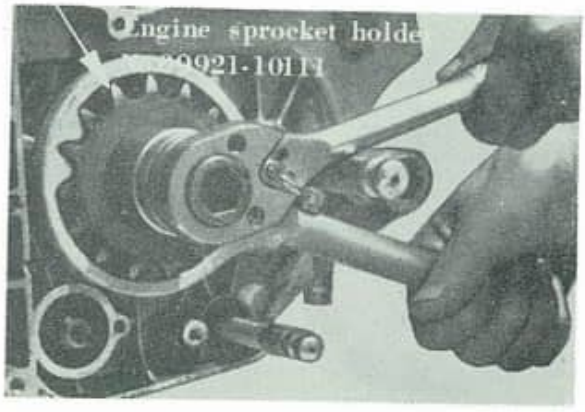


Fig. 8-14-1 Loosening engine sprocket nut

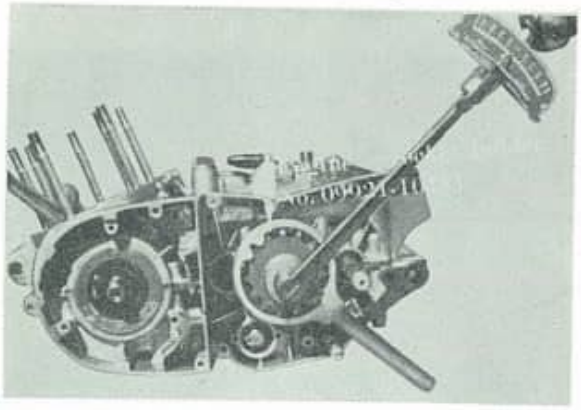


Fig. 8-14-2 Tightening engine sprocket nut

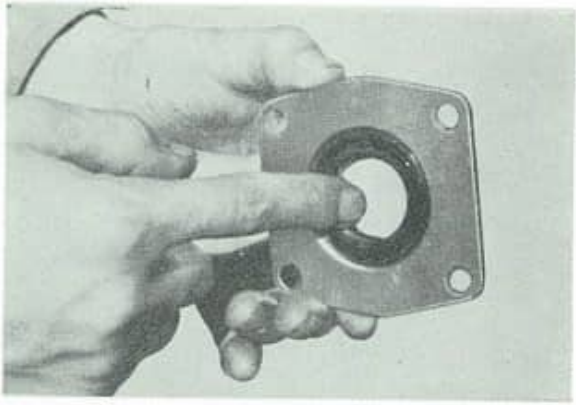


Fig. 8-15-1 Smearing grease

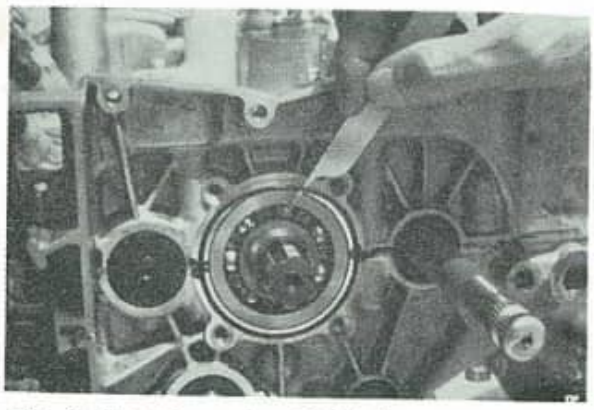


Fig. 8-15-2 Removing "O" ring

driver and remove the neutral indicator switch body and gasket. Remove the neutral indicator switch contact spring with a cross head screw driver.

8-14. Engine Sprocket

The engine sprocket is fitted to the engine drive shaft and transmits engine power to the rear wheel through the drive chain and rear wheel sprocket.
A 15-tooth sprocket is standard, but 13-tooth and 14-tooth sprockets are also available for the selection of the best ratio according to various road conditions and rider use.

Optional part No.	Part name	Remarks
27511-15700	Engine sprocket	14-tooth
27511-15710	Engine sprocket	13-tooth

8-14-1. Removing

Straighten the engine sprocket washer with a chisel and hammer. Hold the sprocket with an engine sprocket holder (special tool 09921-10110) and loosen the nut with a 29 mm wrench.

8-14-2. Inspecting

Inspect the engine sprocket teeth for wear. An engine sprocket of which teeth are excessively worn and sharpened shortens the life of the drive chain. Replace the sprocket with a new one if excessively worn.

8-14-3. Installing

Fit the engine sprocket to the drive shaft after putting on the collar. Holding the engine sprocket with an engine sprocket holder, tighten the nut with a 29 mm wrench. Bend the washer up tightly against the nut with a chisel and hammer to keep the nut from becoming loose.

Engine sprocket Nut tightening torque	400 kg-cm (29 lb-ft)

8-15. Drive Shaft Bearing Retainer

8-15-1. Removing

Loosening four screws with a cross head screw driver,

remove the drive shaft bearing retainer and "0" ring from the crankcase.

8-15-2. Inspecting

A. Drive shaft bearing retainer gasket

A rubber "0" ring is fitted in the crankcase to maintain the oil-tightness of the transmission chamber. A damaged "0" ring allows transmission oil to leak, resulting in engine power-drop and transmission seizure. Check the "0" ring for damage.

B. Drive shaft bearing oil seal

An oil seal whose lip is damaged or excessively worn causes transmission oil leakage. Be sure to examine the oil seal and replace with new ones if their lips are damaged or worn.

8-15-3. Installing

First fit an "0" ring into its groove at the left side of the crankcase.

Next set the driveshaft bearing retainer over the driveshaft after smearing grease to the lip of the oil seal inside the retainer. Finally tighten this retainer diagonally with 4 screws as shown in fig 8-15-3.

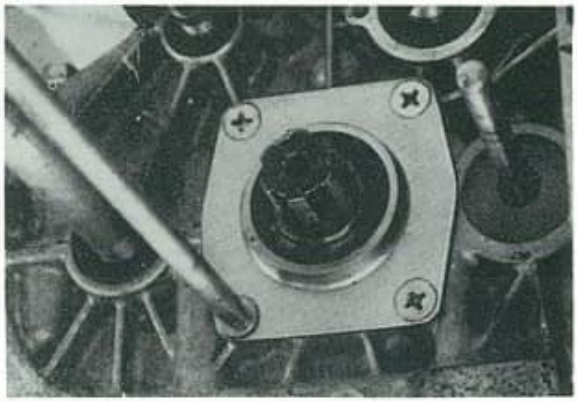
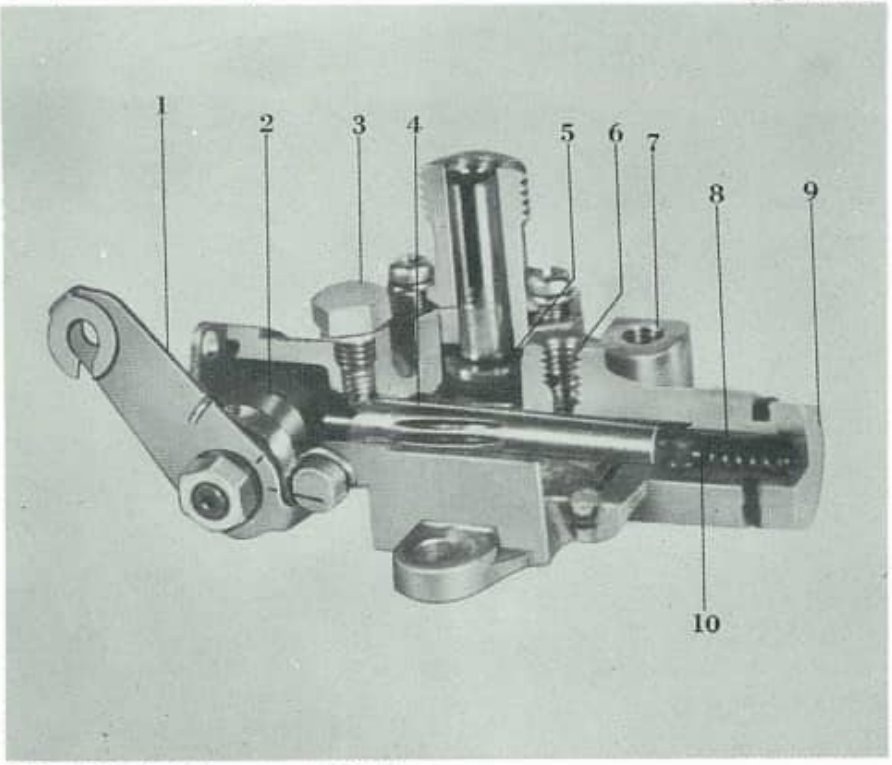


Fig. 8-15-3 Tightening retainer

8-16. Oil Pump



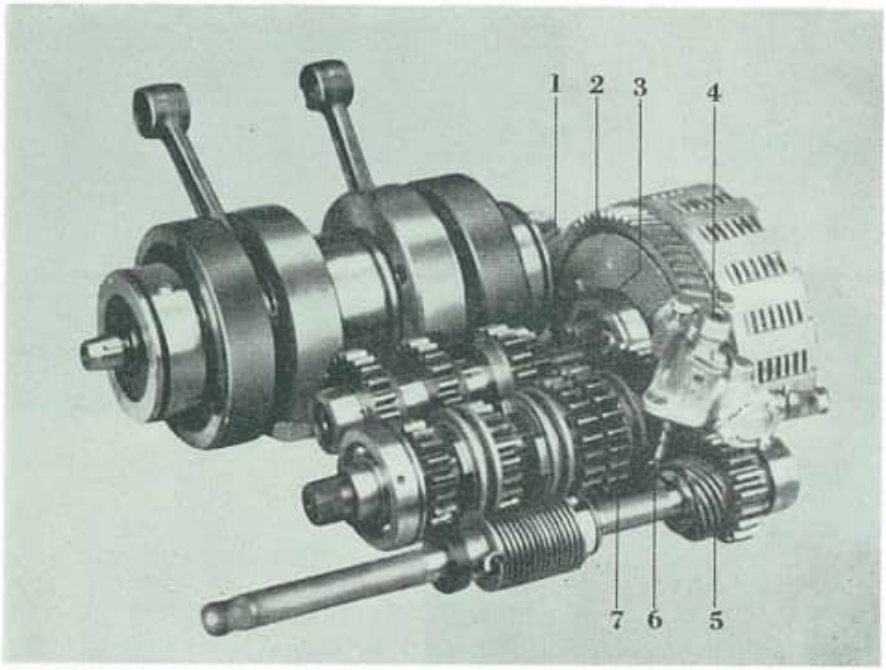
1 Control lever
2 Cam
3 Plunger guide
4 Plunger
5 Driving worm
6 Intake port
7 Discharge port
8 Plunger spring
9 Differential plunger housing
10 Differential plunger

Fig. 8-16-1 Oil pump mechanism

The plunger type oil pump is driven by the engine through the crankshaft and reduction gear. The construction of the oil pump is shown in Fig 8-16-1. When the pump driving worm is driven by the reduction gear, the plunger, engaged at a 90° angle with the worm, rotates.

The plunger rotates 1/14 turn to every turn of the driving worm so that its overall reduction ratio to the crankshaft is 1 to 58.38. A circular ramp is machined into the bottom of the plunger. This ramp section engages the plunger guide and the plunger moves up and down by utilizing the plunger rotating action.

The combination of rotation action and up and down movement opens and closes the intake port and discharge port, changes displacement in the oil pump cylinder and changes the pressure of oil. The oil pump control cable, which is synchronized with the throttle cable, is fitted to the oil pump control lever. The control lever is pulled in accordance with the throttle opening and turns a camshaft fitted to the lever. When the throttle is opened only slightly, the cam limits the length of the oil pump plunger stroke. When the throttle opening is increased, the cam turns and alows a longer plunger stroke, so that the amount of oil discharged increases.

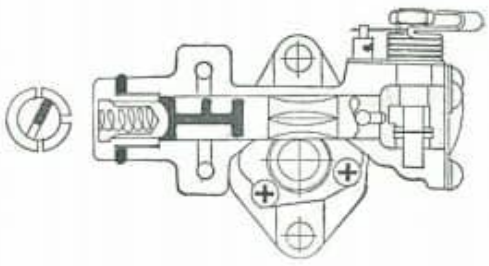


1 Primary pinion
2 Primary gear
3 Low pinion
4 Oil pump
5 Kick starter pinion comp
6 Tachometer worm gear
7 Top gear

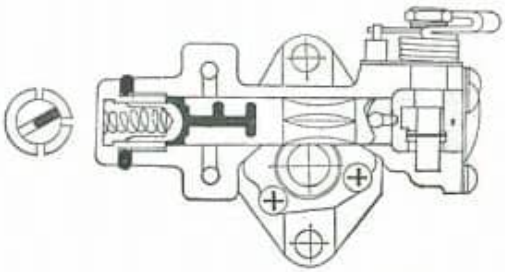
Fig. 8-16-2 Oil pump driving mechanism

8-16-1. Operation

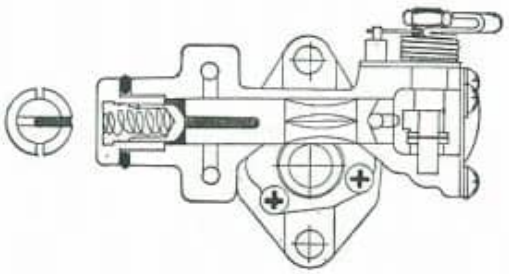
1. Oil discharging finishes and the plunger begins moving downward while rotating. Plunger operation enters the oil intake stage.



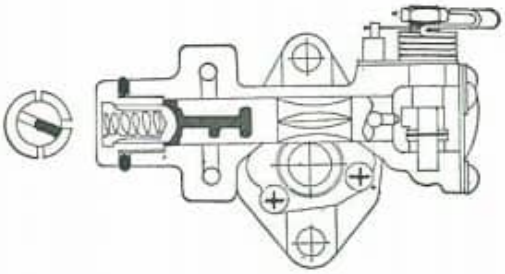
2. The plunger moves down more and a vacuum is created in the oil pump cylinder above the plunger.



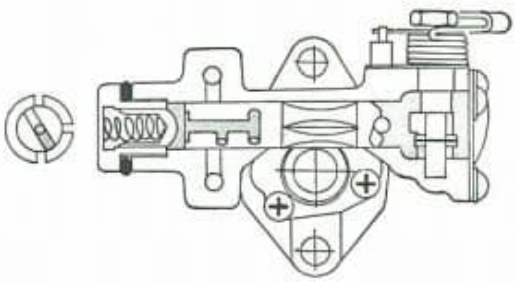
3. The plunger nears bottom dead center and one of the two plunger intake ports aligns with the cylinder by a vacuum created above the plunger.



4. Oil intake is finished and the plunger begins to move upward while rotating. Oil in the cylinder begins to be compressed.



5. The plunger moves up more and the oil is further compressed. The oil pressure causes the differential plunger to be pushed up and move away from the plunger. In this procedure, the oil in the cylinder is compressed by the differential pluger and oil is discharged smoothly.



6. When the plunger nears the top dead center position, the plunger discharge port aligns with one cylinder discharge port. The compressed oil is discharged.

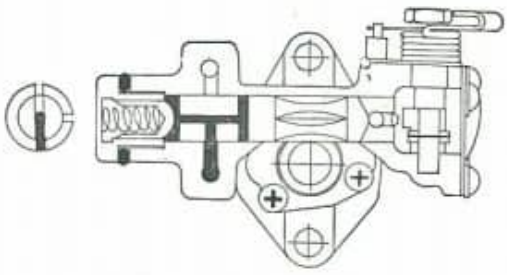


Fig. 8-16-3 Operation of oil pump

As shown in the illustration, the plunger rotates one half a turn with each stroke. The ramp is shaped so that the plunger strokes twice while making one full rotation. Two discharge ports are located on the cylinder so that oil is discharge twice and taken in twice when the plunger makes one full rotation, that is two strokes.

8-16-2. Controlling Discharge by Throttle Opening

The amount of oil pumped must vary in accordance with changes in the loads which the engine receives, as well as the engine rpm.

For instance when encountering an up-hill that is, when the load is large, the engine must be fed more oil than when running on a flat road with the same engine rpm.

To fulfil these reguirements of the engine, a camshaft, which synchronizes with the throttle, is provided below the plunger tip so that the plunger displacement varies with the throttle opening and the proper amount of oil is always supplied to the engine.

1. At minimum throttle opening, the stroke of the plunger is shortened by cam so that a small amount of oil is discharged.
2. At maximum throttle opening the cam does not restrict the plunger stroke so that the plunger makes a full stroke along the plunger guide and takes in and discharge more oil.

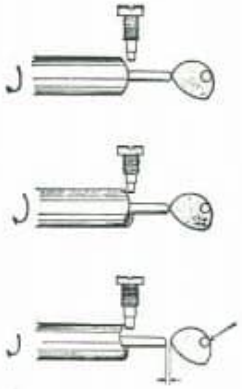


Fig. 8-16-4 Plunger stroke at minimum throttle opening

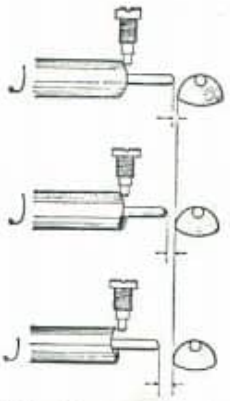


Fig. 8-16-5 Plunger stroke at maximum throttle opening

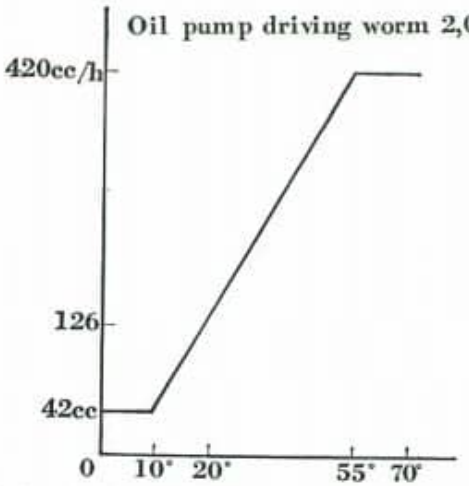


Fig. 8-16-6 Oil pump performance curve

8-16-3. Oil pump Performance Curve

Fig 8-16-6 shows the relation between control lever angle and amount of oil pumped when the driving worm speed is kept at 2,000 rpm.

8-16-4. Removing

1. Remove three union bolts with a 10 mm wrench, and disconnect the oil inlet and outlet lines from the oil pump.
2. Loosening two cross head screws which fix the oil pump to the crankcase, remove the pump in an assembly.

8–16–5. Installing

Fit the driving worm end into the dog of the oil pump worm gearshaft and then fix the oil pump with two cross head screws. Don't forget to place a gasket between the crankcase and oil pump to prevent oil leakage. Fit the oil lines to the inlet and outlet of the pump. Be sure to use a gasket on either side of the banjo connection as shown in Fig 8–16–8.
Be careful not to overtighten the union bolts as the gaskets or banjo connections could be damaged.

Oil pump union bolt tightening torque	50 kg-cm (3.6 lb.ft)

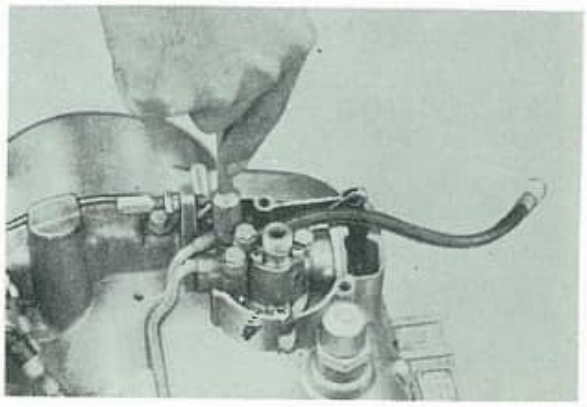


Fig. 8–16–7 Unscrewing oil pump union bolt

8–16–6. Inspecting and Serviring

Do not disassemble the oil pump as it is precision-made and its pumping performance may change when reassembled.

A. Expelling

If air is found in the oil line, bleed the air out of the oil line as follows:

Inlet side: Loosen the union bolt which fits the inlet line to the pump and let oil flow out of the line until all the air is removed.

Outlet side: Start the engine and leave it running at 1,500–2,000 rpm, with the oil pump control lever fully turned by hand, until all the air is gone. In case air is found for a distance of 10 mm (0,4 in) or more, loosen the oil line fitting at the check valve so that the line fitting is not air tight. Force a small amount of the specified oil into the oil line from the pump side with a squirt can until all the air has been forced out and tighten the oil line fitting. If continous bubbles are seen in the oil line when the engine is running, check these points:

1. Joints of inlet and outlet banjo connections.
2. Fitting of vinyl oil lines on inlet and outlet banjo connections.
3. Fitting of differential plunger housing to oil pump main body.

Fig. 8–16–8 Oil line gaskets

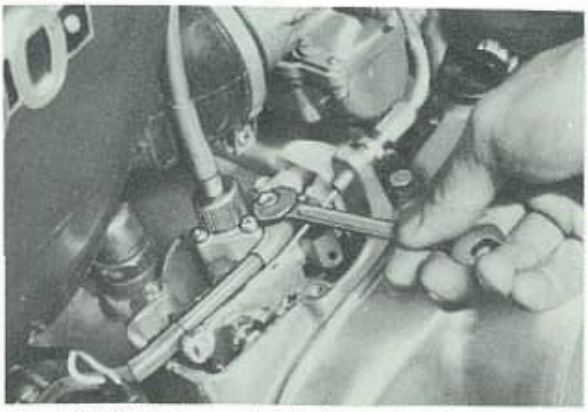


Fig. 8–16–9 Loosening inlet union bolt

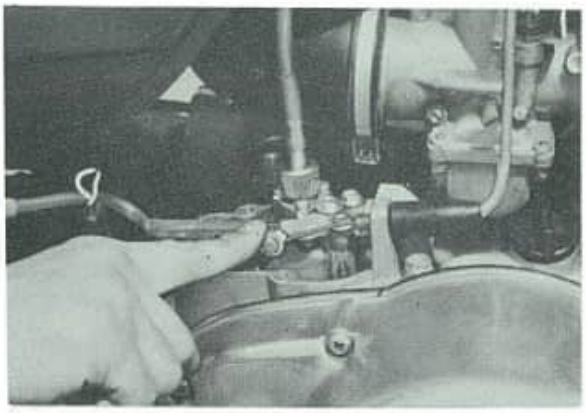


Fig. 8–16–10 Oil pump control lever fully opened by finger

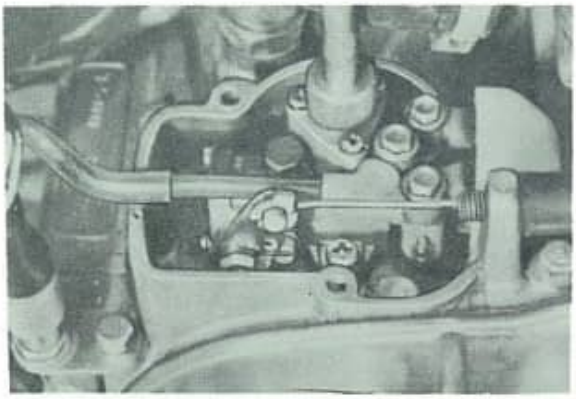


Fig. 8-16-11 Control lever adjusting marks

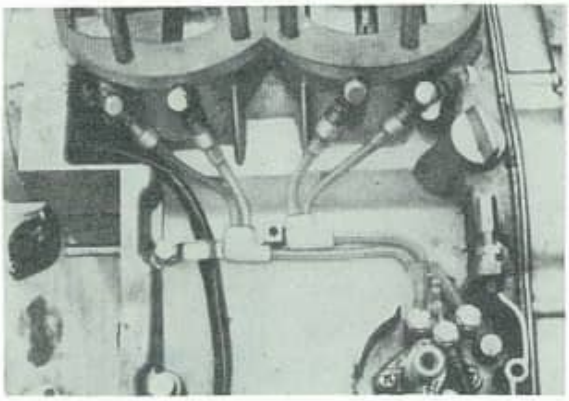


Fig. 8-17-1 Oil line assembly

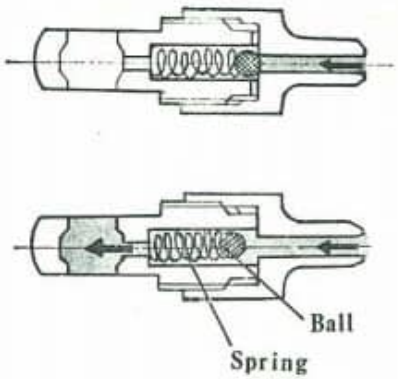


Fig. 8-17-2 Check valve operation

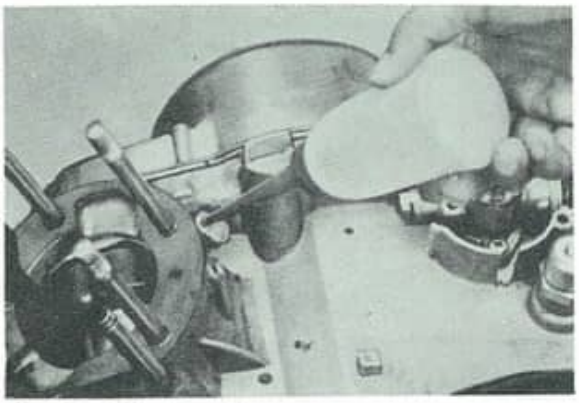


Fig. 8-17-3 Supplying oil

If bubbling stops when grease is applied to any of these three points, it indicates that air is being inhaled from these points. Retighten or repair the connections.

2. Adjusting oil pump control cable

Before adjusting the oil pump control cable check to see if the throttle valve opens fully when the throttle grip is turned all the way. The throttle cable play is known by the amount of movement of the throttle cable sheath just before the throttle valve begin to move when the cable sheath is pulled by hand. Adjust the play to 0.5-1.0 mm (0.02-0.04 in) by turning in or out the throttle cable adjuster provided on the top of the carburetor.

Adjust the oil pump with the oil pump control cable adjuster so that the marks shown in Fig. 8-16-11 may align when the throttle is twisted inward all the way.

8-17. Oil Outlet pipes

The oil line assembly consists of three lines, one junction where the lines are connected, three banjo connections, and two check valves.

8-17-1. Removing

Remove the oil pipe cover with a 10 mm wrench and a cross head screw driver.
Loosen the four union bolts from the crankcase with a 10 mm wrench.

8-17-2. Inspecting

Check the oil line for a leak, paying special attention to the connected parts. Replace the oil line assembly with a new one if a leak is found.

8-17-3. One-way valve mechanism

A one-way valve mechanism is contrived inside the union bolt at each of the four lines to check the oil from flowing automatically from gravity or flowing back into the pump from pressure in the crank chamber, after the oil has been discharged from the pump into the crank chamber. The check valve

consists of a steel ball and a coil spring which presses the ball tightly against its seat.

If pressure over 0.3 kg/sq cm² (4.3 lb/sq in) is exerted the steel ball is pushed down, leaving gap to permit the oil discharged from the pump the flow into the crank chamber.

Since this check valve is constructed to permit no disassembling and therefore once it is disassembled, it cannot be reassembled.

Fig. 8-17-4 Smearing thread lock cement

8-17-4. Tips on installing

Before installing the union bolts, pour about 10 cc (0,35 t oz) of a specified oil into the fitting holes on the crankcase upper half. Be sure to use a gasket on either side of to banjo connection.

Apply thread lock cement to the union bolts to prevent oil from oozing out.

Keep to the prescribed torque as follow:

Union bolt tightening torque	50 kg-cm (3.6 lb-ft)

8-18. Clutch

1 Clutch Housing Ass'y
2 Clutch Sleeve Hub
3 Clutch Cork Plate
4 Clutch Steel Plate
5 Clutch Pressure Plate
6 Clutch Push Rod
7 Clutch Release Rod
8 Clutch Release Screw Ass'y
9 Hexagon Bolt
10 Cross Head Screw
11 Thrust Washer
12 Small Hexagon Nut
13 Clutch Adjusting Screw
14 Clutch Sleeve Hub Nut
15 Clutch Spring Washer
16 Clutch Sleeve Hub Washer
17 Clutch Housing Spacer
18 Release Rod Oil Seal
19 Push Rod Oil Seal
20 Clutch Spring
21 Release Arm Return Spring

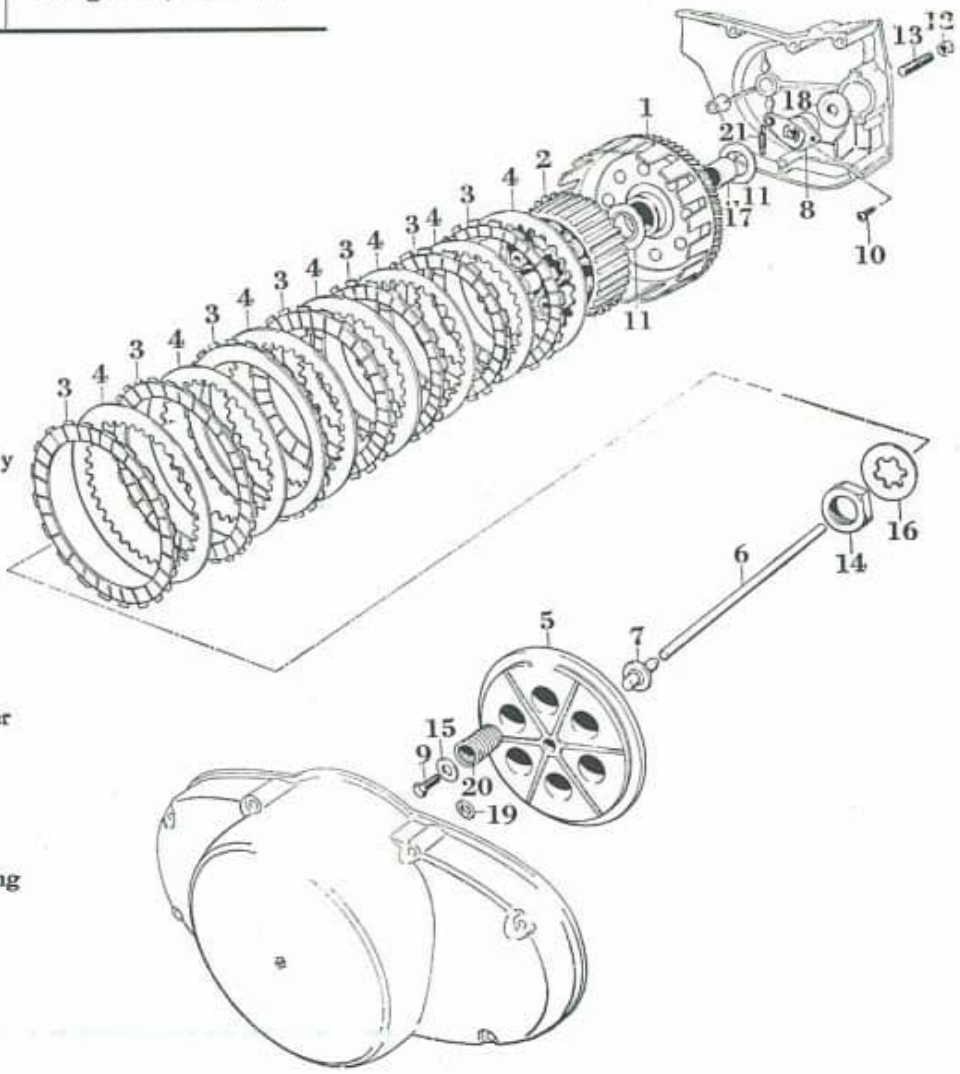


Fig. 8-18-1 Clutch system

The clutch is an important part of the engine, situated between the crankshaft and transmission gears. The clutch transmits or breaks transmission of the engine power to the gears. The clutch must have a long life and not slip or drag. The clutch mounted on this engine consists of sets of seven cork plates and steel plates, clutch housing and sleeve hub, and is submerged in motor oil in the clutch chamber. This type of clutch is called a wet, multi-plate clutch. As less pressure per unit is exerted and oil film is always formed between the plates, wear of the plates is held to a minimum. The clutch assmbly is installed on the right end of the countershaft and the clutch release mechanism is installed on the crankcase left cover.

The clutch cork and steel plates are retained in the clutch housing by the clutch pressure plate. The clutch pressure plate is fixed to the clutch housing by six springs and bolts.

These six clutch springs exert pressure on the pressure plate and thus hold the cork plates against the steel plates. The inside edges of the steel plates have teeth which engage with the outside splines of sleeve hub. The inside splines of the sleeve hub mesh with the splines on the countershaft so that the steel plates and sleeve hub turn with the countershaft. The outer edges of the cork plates have teeth which engage with the slots on the clutch housing. The clutch housing is installed over the countershaft but it is not held by the splines so that it can rotate freely.

8-18-2. Operation

When the clutch is engaded, the clutch springs (1) force the pressure plate (2) against the cork plates (3) and steel plates (4). The entire clutch is then held as a single unit by frictional force. The primary pinion installed on the right end of the crankshaft drive the primary gear (5) riveted to the clutch housing (6), thus rotating the clutch assembly.

The clutch assembly turns the transmission countershaft.

When the clutch lever (7) mounted on the handlebar is squeezed, the clutch wire (8) is pulled, turning the release screw (9) in the release screw guide (10) so that the push rod (11) installed in the countershaft is pushed against the release rod (12) by the adjusting screw (13) which moves the pressure plate (2) out so that the clutch disengages.

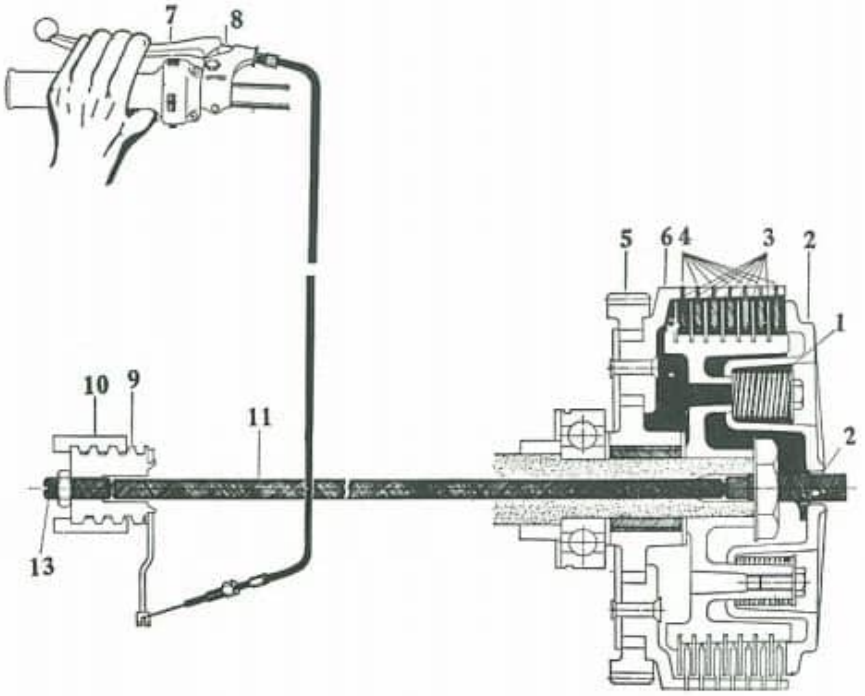


Fig. 8-18-2 Clutch operation

8-18-3. Removing and disassembling

1. Remove the nine crankcase right cover fitting screws with a cross head screw driver and take off the cover and gasket.
2. Using a piston holder (special tool 09910-20111) to prevent the crankshaft from turning, loosen the clutch spring fitting bolts with a 10 mm wrench.
3. Remove the pressure plate, the release rod and the cork and steel plates from the clutch housing by hand.
4. Flatten the clutch sleeve hub washer with a chisel and hammer and hold the clutch sleeve hub holder (special tool) to loosen the clutch sleeve hub nut with a 29 mm wrench.
5. Remove the clutch housing from the countershaft together with the clutch sleeve hub.
6. Turn back the tongue of the clutch release screw arm hook with a screw driver and slip off the clutch cable inner wire end.
7. Unhook the clutch release screw arm spring. Lossen clutch release screw guide fitting screws with a cross head screw driver and remove the clutch release screw assembly from the crankcase left cover.

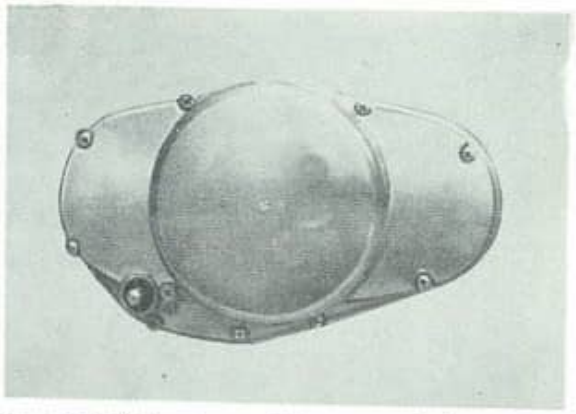


Fig. 8-18-3 Crankcase right cover fitting screws

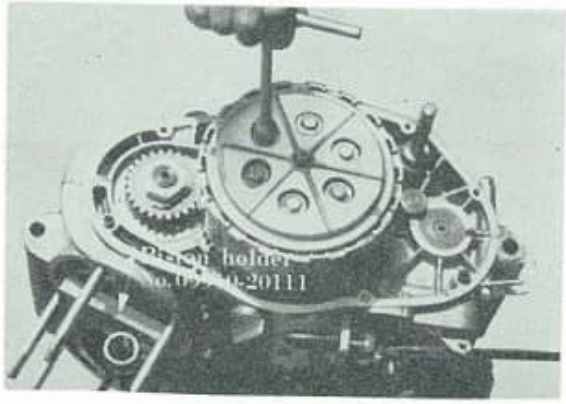


Fig. 8-18-4 Removing clutch fitting bolt

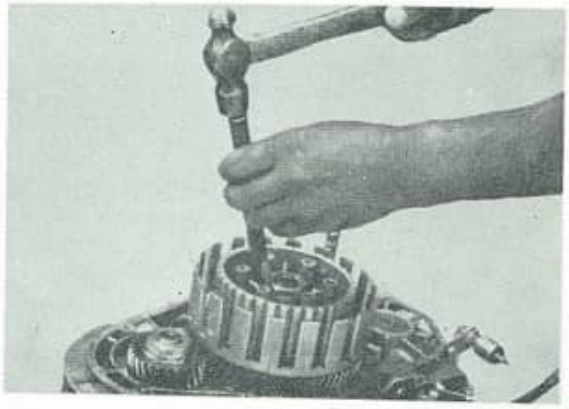


Fig. 8-18-5 Flattening clutch sleeve hub washer

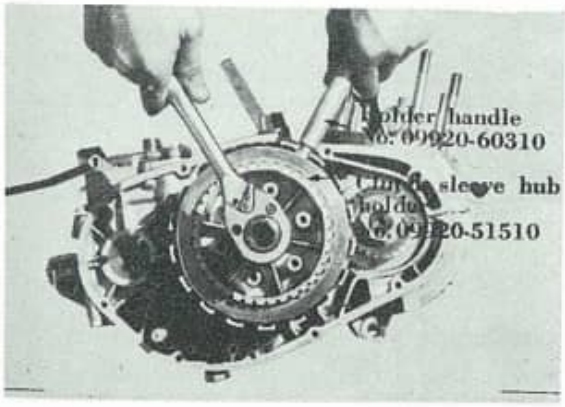


Fig. 8-18-6 Loosening clutch sleeve hub nut

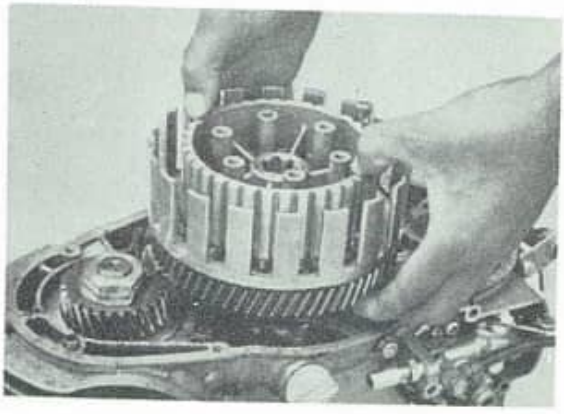


Fig. 8-18-7 Removing clutch housing

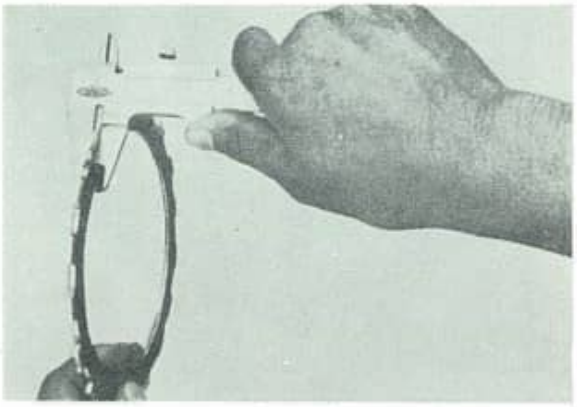


Fig. 8-18-8 Measuring cork plate thickness

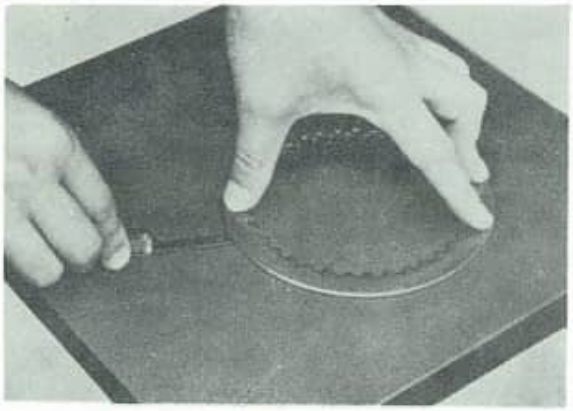


Fig. 8-18-9 Checking steel plate warpage

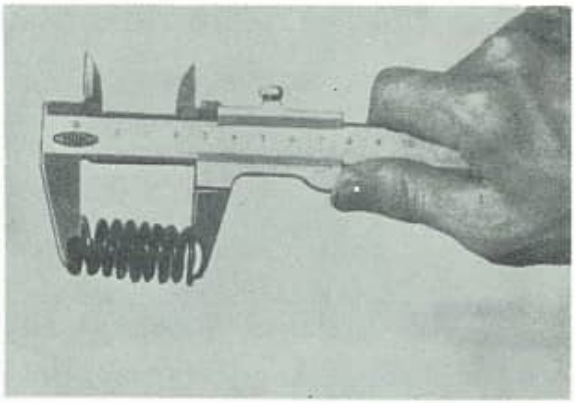


Fig. 8-18-10 measuring clutch spring free length

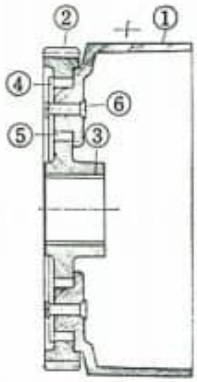


Fig. 8-18-11 Construction of clutch housing

8-18-4 Inspecting

A. Cork plates

As the clutch has seven cork plates and they are submerged in oil, wear is very small. After a long period, however, when the clutch plates become worn or warped, the clutch will slip even if the clutch adjustment is correct. Measure the thickness and warpage of each cork plate with calipers and feeler gauge.

	Standard	Limit	Operation
Thickness	3.5 mm (0.138 in)	3.2 mm (0.126 in)	Replace
Warpage	under 0.4 mm (0.016 in)	0.4 mm (0.016 in)	Replace

B. Steel plates

Seven steel plates are used and they have knurls on their surfaces to prevent the clutch from dragging in cold weather.

Check the thickness and warpage of each steel plate with calipers and feeler gauge.

	Standard	Limit	Operation
Thickness	2 mm (0.08 in)	1.85 mm (0.07 in)	Replace
Warpage	under 0.1 mm (0.004 in)	0.1 mm (0.004 in)	Replace

C. Clutch springs

The clutch spring which have lost their tension also cause clutch slipping, resulting in loss of power and rapid wear of the clutch plates.

Measure their free length with calipers.

	Standard	Limit	Operation
Free length	40.4 mm (1.58 in)	39 mm (1.53 in)	Replace

D. Clutch housing

1. Construction

The clutch housing complete consists of clutch housing (1), primary gear (2) primary gear housing (3) and primary gear fitting plate (4) into which dampers (5) are inserted and calked with rivets (6) as shown in fig 8-18-11.

2. Backlash between primary gear and primary pinion excessively large or small backlash between the primary gear and primary pinion causes abnormal noise. Measure the backlash with a dial gauge as shown in Fig 8-18-13. Be sure to set the feeler of the dial gauge along the tangential line and turn the clutch housing by hand.

There is another method to measure the backlash. Insert the end of a piece of fuse wire or a small piece of soft metal such as aluminum between the gear and pinion and turn the gear.

Measure the thickness of the pressed part with a micrometer.

When the backlash exceeds the limit, adjust the backlash to the standard by replacing the primary pinion or clutch housing complete.

	Standard	Limit	Operation
Backlash	0.025~0.065mm (0.0010~0.0026in)	0.16mm (0.006in)	Replace pinion or gear

3. Play in axial direction

If the play of the clutch housing in the axial direction becomes large, a rattling noise is produced. After placing a clutch housing thrust washer under the clutch housing on a surface plate and then measure the difference between the collor and housing by use a dial gauge as shown in Fig 8-18-15. If the play is found large, grind one end of the spacer on a hone. Do not remove too much, or clutch will not release.

	Standard	Limit
Axial play	0.05~0.20mm (0.002~0.0079 in)	0.25 mm (0.01 in)

4. Checking for loose rivet calking and scoring

When the rivets become loose and fitting of the primary gear to the clutch housing become loose, replace the clutch housing complete. If the

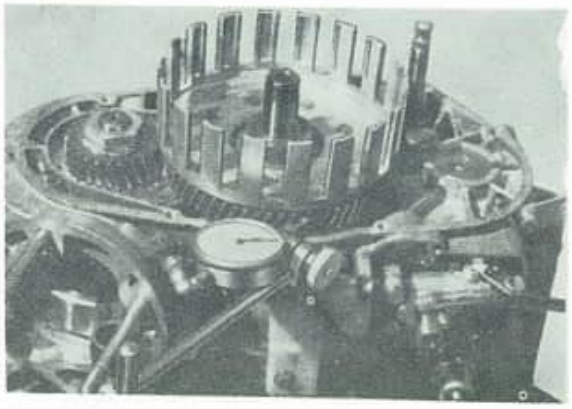


Fig. 8-18-12 Measuring backlash

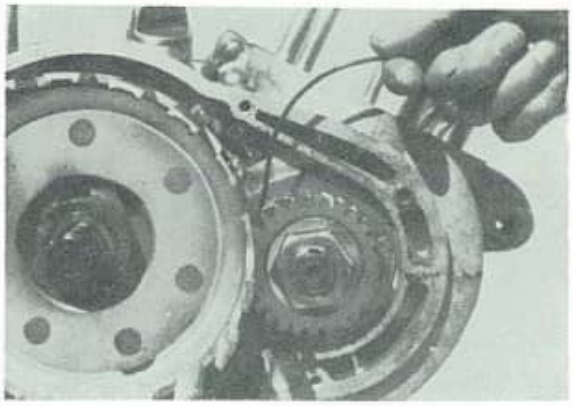


Fig. 8-18-13 Inserting fuse wire

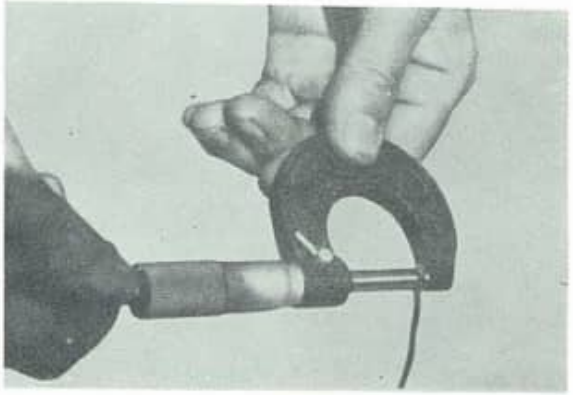


Fig. 8-18-14 Measuring pressed part of fuse wire

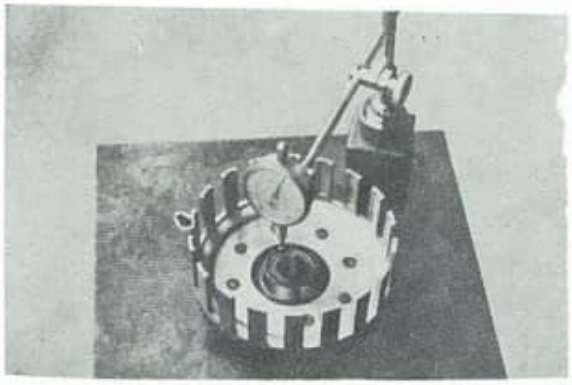


Fig. 8-18-15 Measuring axial play

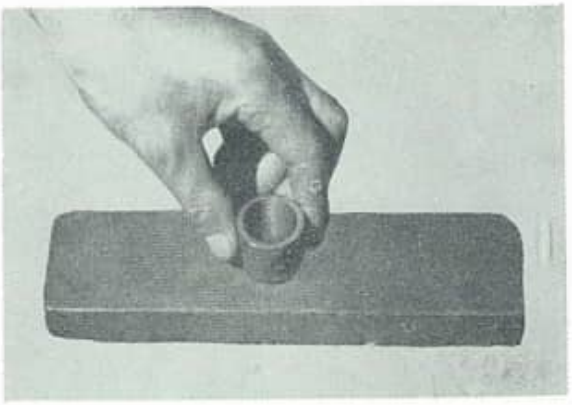


Fig. 8-18-16 Grinding clutch housing spacer

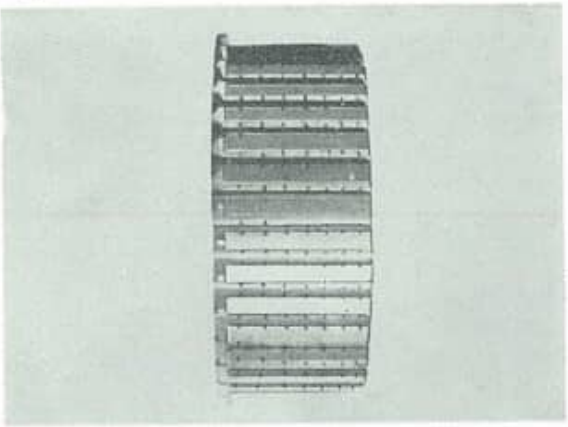


Fig. 8-18-17 Stepped clutch sleeve hub splines

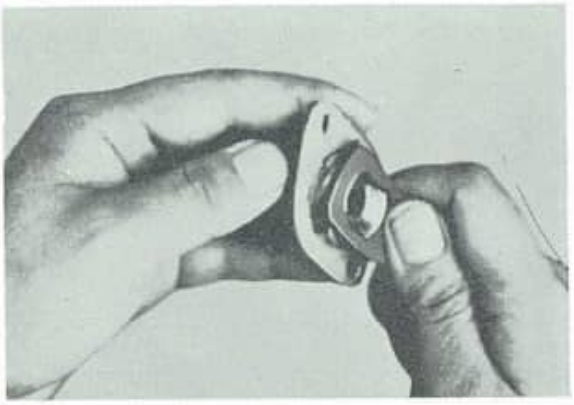


Fig. 8-18-18 Checking clutch release screw movement

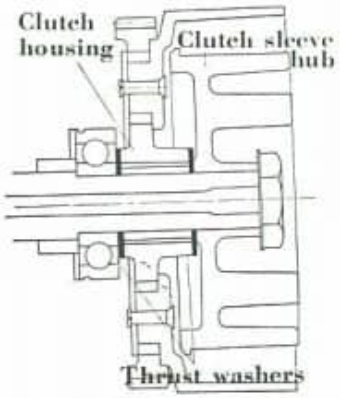


Fig. 8-18-19 Thrust washer location

clutch housing and primary gear are riveted with a chisel and hammer, the rivets are apt to become loose in a short time. Always use a clutch housing complete assembled in the Suzuki factory. Scores on the clutch housing slots catch the cork plates and prevent smooth clutch operation. Repair with emery paper.

E. Clutch sleeve hub
Check the clutch sleeve hub for stepped wear to the outside splines and replace with a new one if excessively stepped. Clutch operation becomes unsmooth if the splines are stepped.

F. Clutch release mechanism
Check the clutch release screw movement in the guide. If too much play, cracking or loose riveting is found, replace with a new one.

8-18-5. Assembling and instelling

1. Fit one thrust washer and the clutch housing spacer on the countershaft. If the washer is forgotten, the clutch housing touches the gear shifting shaft
2. Fit the clutch housing over the clutch housing spacer.
3. Be sure to insert another thrust washer and then fit the clutch sleeve hub. If the clutch sleeve hub is installed without placing the thrust washer beneath it, the rivets on the clutch housing will catch the sleeve hub, causing the clutch to drag.
4. Fit the clutch sleeve hub washer and screw on the clutch sleeve hub nut. Holding the clutch sleeve hub with a clutch sleeve hub holder (special tools 09920-60310, 09920-51510), tighten with a 29 mm wrench with tightening torque of 500 kg-cm (36 lb-ft). Bend the washer up tightly against the nut to lock the nut.
5. Fit the clutch steel plates and cork plates alternately. It is better if the rounder side of the steel plates faces upward. Fit steel plate first, cork plate next, etc., until all fourteen plates are

fitted with a cork plate on top.

6. Insert the clutch pushrod and clutch release rod into the center of the countershaft from the hub side.
7. Place a piston holder (special tool 09910-20111) between the connecting rod small end and the crank case to prevent the crankshaft from turning, and then set the clutch pressure plate on the clutch sleeve hub, and place the clutch springs in the hollows of the clutch pressure plate. By tightening the bolts for these springs, fix the clutch pressure plate firmly.
8. Insert the clutch release screw guide into its seat in the cranckcase left cover. Aligning holes, secure the clutch release screw guide with screws. Fit the clutch release screw into the guide after applying grease to it.
9. Insert the clutch cable inner wire end into the clutch release screw arm hook and secure by bending the tonque tightly against it with needle nose pliers.
10. Hook the clutch release screw arm spring with needle nose pliers in the hook on the crankcase left cover.
11. Place a new crankcase right cover gasket and fit the cover over the two dowel pins. Then secure the cover with cross head screws.

8-18-6. Servicing

The clutch inner wire stretches and the clutch plates wear as the motorcycle mileage increases, thus the clutch play changes. So the clutch should be checked and adjusted every 1,500 km (1,000 mi).

Adjust the clutch with both the clutch cable adjuster and release adjusting screw.

To adjust the clutch play, loosen the lock nut with a 12 mm wrench and screw the clutch cable adjuster all the way in temporarily. Check the play in the clutch cable, and loosen the clutch cable adjuster until there is no play left in the cable. Secure the clutch cable adjuster with the lock nut. Next, remove

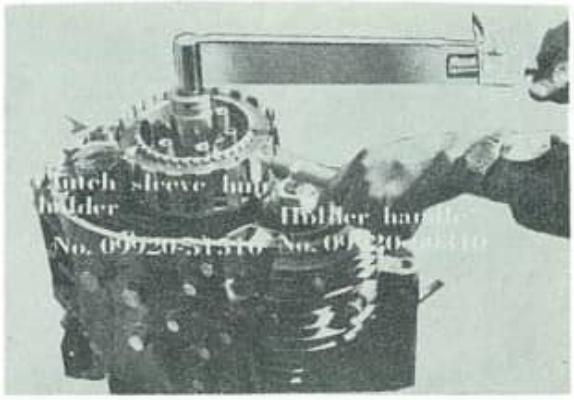


Fig. 8-18-21 Tightening clutch sleeve hub nut

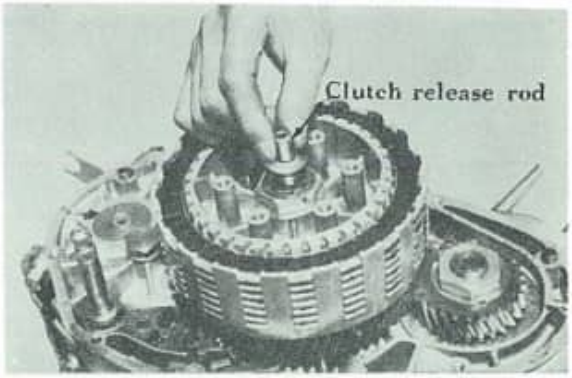


Fig. 8-18-22 Putting the clutch release rod

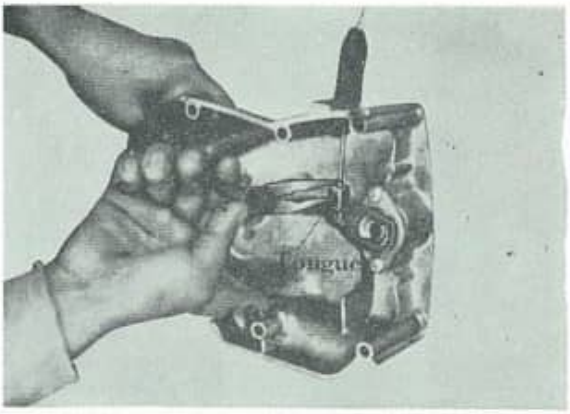


Fig. 8-18-23 Securing clutch cable inner wire end

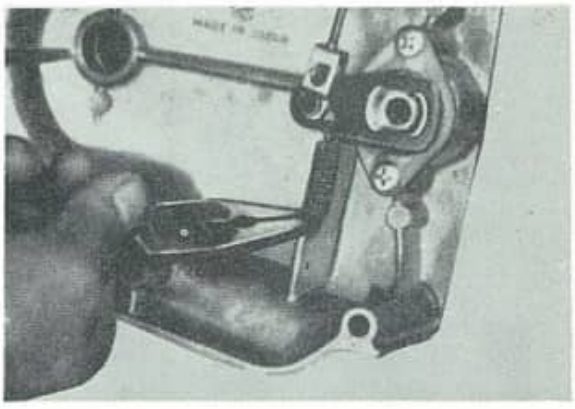


Fig. 8-18-24 Hooking clutch release screw arm spring

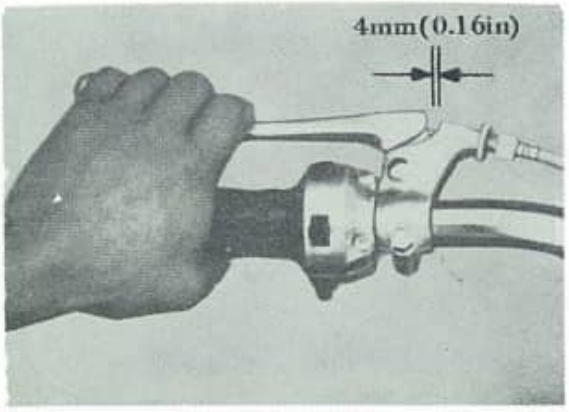


Fig. 8-18-25 Clutch lever play

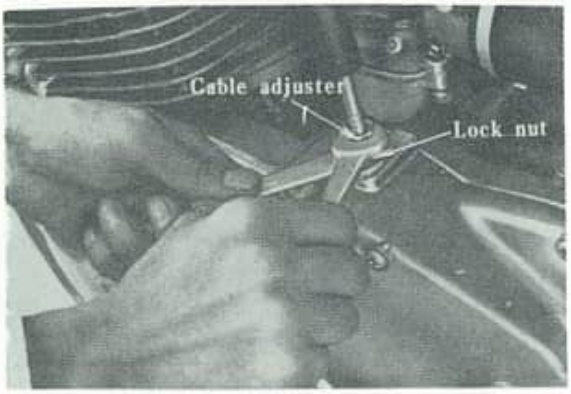


Fig. 8-18-26 Adjusting clutch cable play

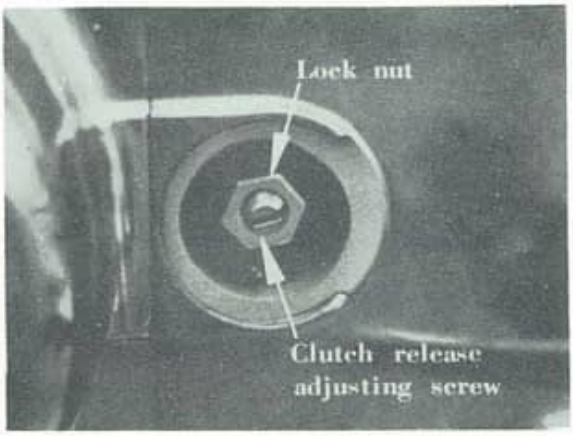


Fig. 8-18-27 Clutch release adjusting screw

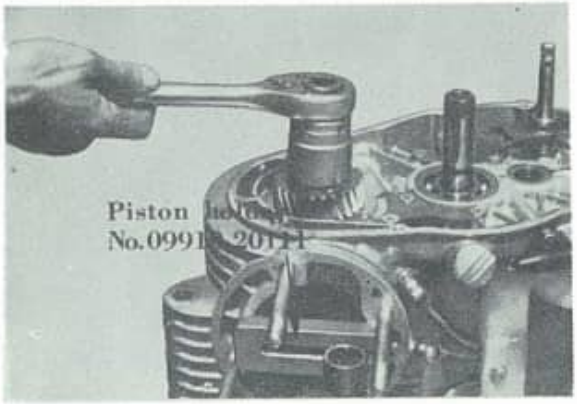


Fig. 8-19-1 Loosening primary pinion nut

the clutch release screw cap and then loosen the lock nut with a 10 mm wrench.

Turn the clutch adjusting screw in or out with a screw driver until the play measured at the clutch lever base in 4 mm (0,16 in). If the clutch adjusting screw is turned in, the play will decrease. If the screw is turned out, the play will increase.

Tighten the lock nut after the adjustment is completed. Make sure the clutch release screw is seated at the bottom of the guide by the clutch release screw arm spring when the clutch lever is let out. See Fig. 8-18-28.

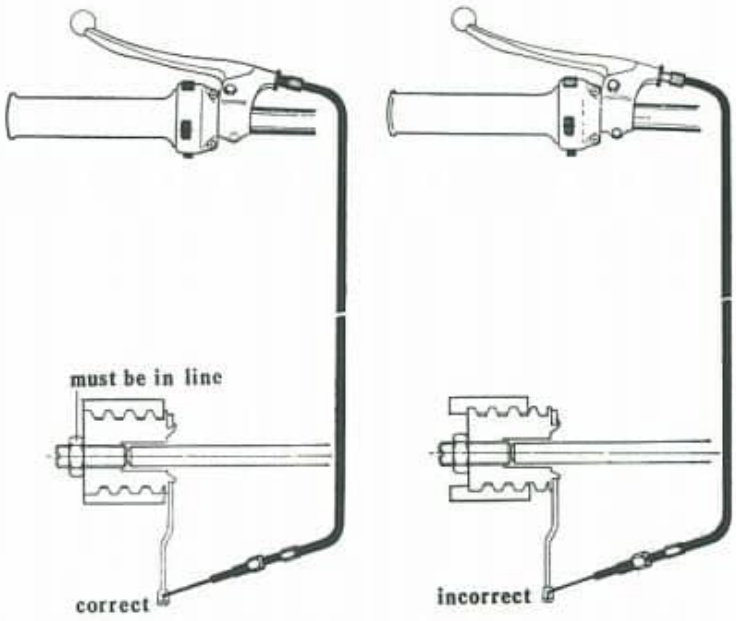


Fig. 8-18-28 Position of clutch release screw when off duty

8-19. Primary Pinion

8-19-1. Removing

Use a piston holder (special tool 09910-20111) to hold the connecting rod small end and prevent the crankshaft from turning. Straighten the primary pinion washer with a chisel and hammer. Loosen the nut with a 21 mm wrench. Remove the washer, pinion and spacer by hand.

8–19–2. Inspecting

Check the backlash between the primary gear on the clutch housing and the primary pinon and replace the primary pinion with a new one if the backlash is over 0.16 mm (0.006 in).

8–9–13. Installing

First fit the spacer and then the pinion making sure a key on the crankshaft fits into the slot in the pinion. Aligning the tooth of the washer with the hole on the pinion, put on the washer and screw in the nut by hand. Place the piston holder (special tool 09910-20111) between connecting rod small end and the crankcase to prevent the crankshaft from turning, and then tighten the nut firmly with a 21 mm wrench. Bend the washer up tightly against the nut to prevent the nut from becoming loose.

Primary pinion nut tightening torque	500 kg-cm (36 lb-ft)

1 Primary pinion spacer
2 Primary pinion
3 Primary pinion key
4 Primary pinion washer
5 Primary pinion nut

Fig. 8–19–2 Primary pinion and relatiue parts

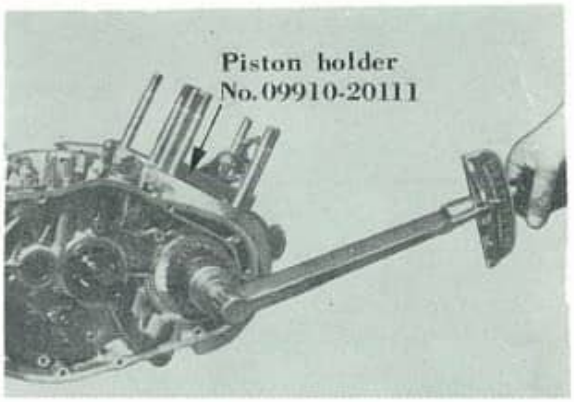


Fig. 8–19–3 Tightening primary pinion nut

8–20. Crankcase

The crankcase is made of aluminum alloy which is of high quality and light in weight.

The upper and lower halves of the crankcase are joined with two dowel pins and seventeen bolts, to form a case for the crank and transmission. Liquid gasket is applied on the joining surfaces and the two parts are held by so many bolts that there is no warpage or leakage problem. It is one of the most outstanding features of this engine that the crankcase can be separated into the upper and lower halves so that installing the crankshaft and transmission gears is easy.

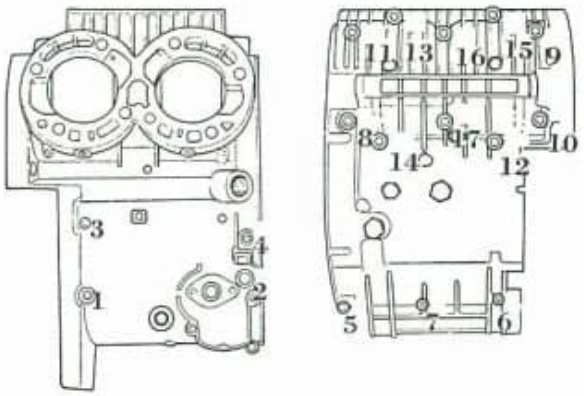


Fig. 8–20–1 crankcase

8–20–1. Disassembling

1. Loosen the 17 crankcase joining bolts with 10 mm and 12 mm socket wrenches in order of numbers on the crankcase shown in Fig 8–20–1.
2. Making sure the crankshaft and transmission gears ramain in the lower half of the case, gently strike the lugs of the upper half with a plastic mallet to separate the two parts of the crankcase. Never insert a screw driver between the crankcase halves to separate the crankcase as it

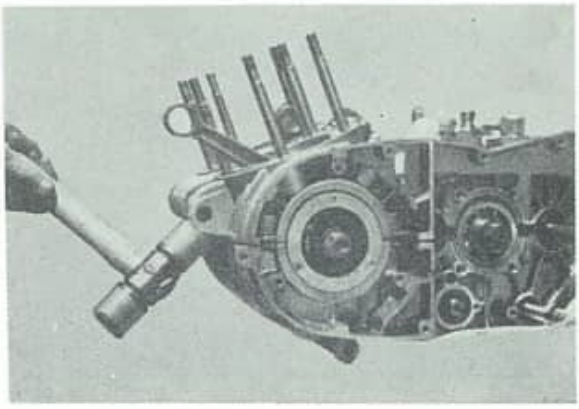


Fig. 8–20–2 Separating crankcase halves

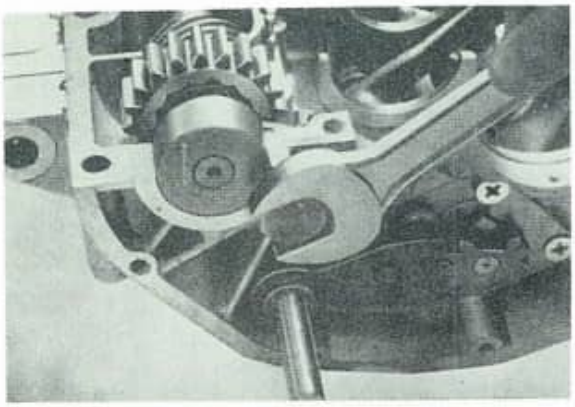


Fig. 8-20-3 Loosening kick stopper bolt

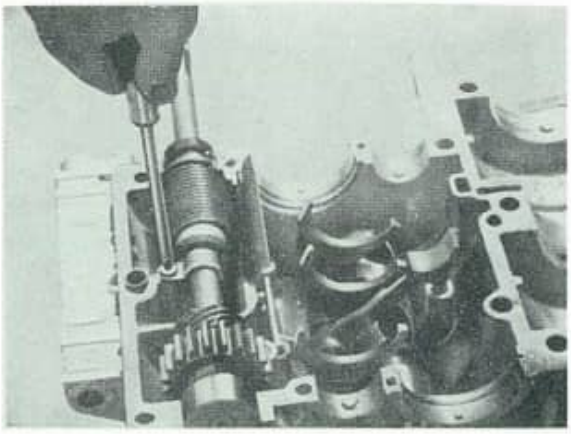


Fig. 8-20-4 Loosening kick shaft fitting bolt

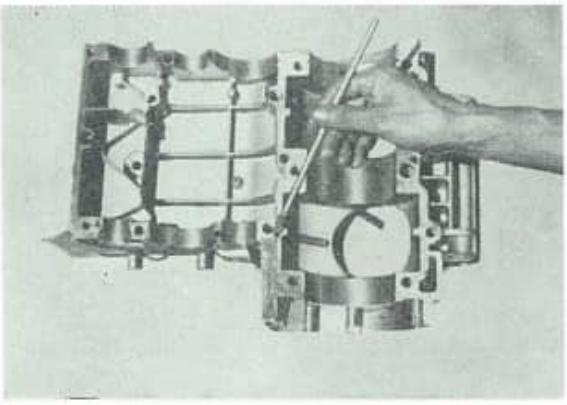


Fig. 8-20-5 Applying liquid gasket

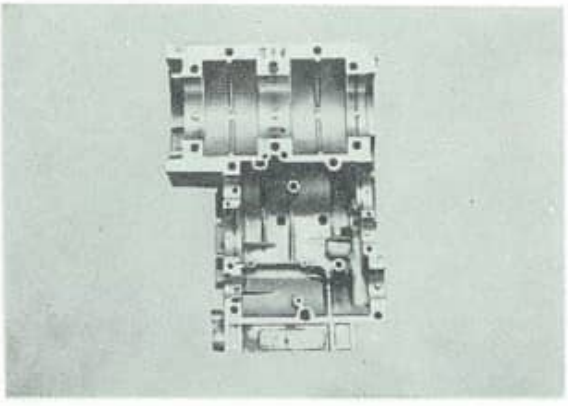


Fig. 8-20-6 Dowel pins and positioning pieces

damages the joining surfaces, causing compression and oil to leak.

3. Loosen the kick stopper bolt until it slips off of the kick shaft arm. After that, remove the kick shaft set plate by unscrewing the kick shaft plate fitting screw.

8-20-3. Assembling

1. Wipe the crankcase joining surface clean with a rag, and apply liquid gasket. Let it dry for about five minutes.
2. Fit the proper dowel pins and slotted bearing positioning piece on the lower half.
3. Install the crankshaft and gear box components in the lower half of the case.
4. After setting the kick shaft fitting plate to the crankcase with a screw, install the kick starter lever on the end of the kick shaft.
   Insert the plain screw driver between the kick starter pinion and crankcase to hold down the kick pawl and then turn the kick lever till the kick shaft stopper arm goes over the kick shaft stopper bolt. Finally tighten the kick stopper bolt firmly.
5. Check to see that the two dowel pins are properly located and that the kick starter shaft is installed with the finger on the larger section pointing toward the drive shaft so as not to hit the lower crankcase, fit the lower case over the upper one. Strike the kick part of the crankcase gently with a plastic mallet to make it fit firmly, if necessary.
6. After joining the case, turn the countershaft and drive shaft by hand and check to make sure the shafts turn smoothly.
   If they do not, the case is not joined properly, so disassemble and repeat the assembling procedure again.
7. Tighten the crankcase bolts in the order of the numbers on the crankcase.
   Be sure to fit a flat washer and lock washer one each bolt.

crankcase bolt tightening torque	6 mm bolt	8 mm bolt
	100 kg-cm(7 lb-ft)	200 kg-cm(14 lb-ft)

8. After tightening the bolts, again check to make sure all shafts turn easily and smoothly by turning them by hand.

8-21. Crankshaft

8-21-1. Description

The crankshaft is held in three special ball bearings. Each bearing is located with a dowel pin so that bearing outer race creepage is prevented. Caged needle roller bearings are used for both the connecting rod small ends and big end, so the engine can be run for long and continuous operation at high speeds. Aluminum plugs are pressed into the crank wheel balance holes, so the engine delivers high output.

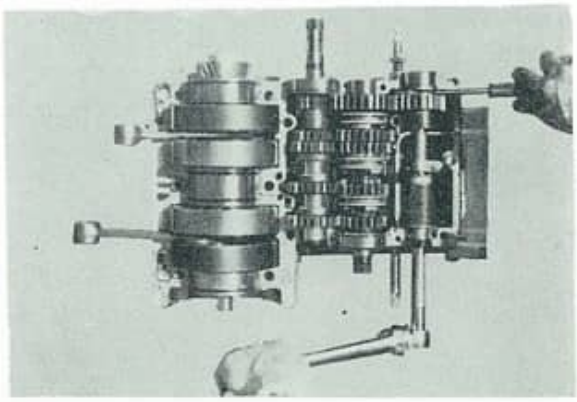


Fig. 8-20-7 Turning kick starter bolt

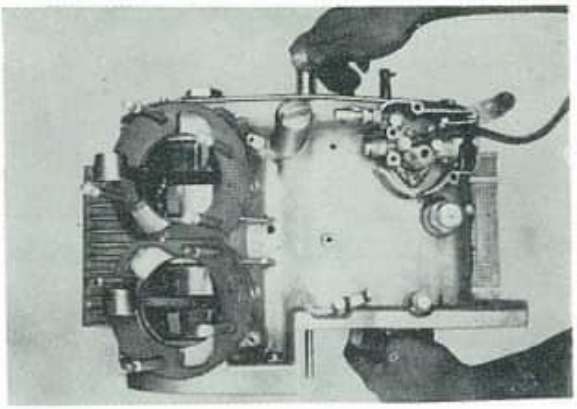


Fig. 8-20-9 Crankcase shaft turning

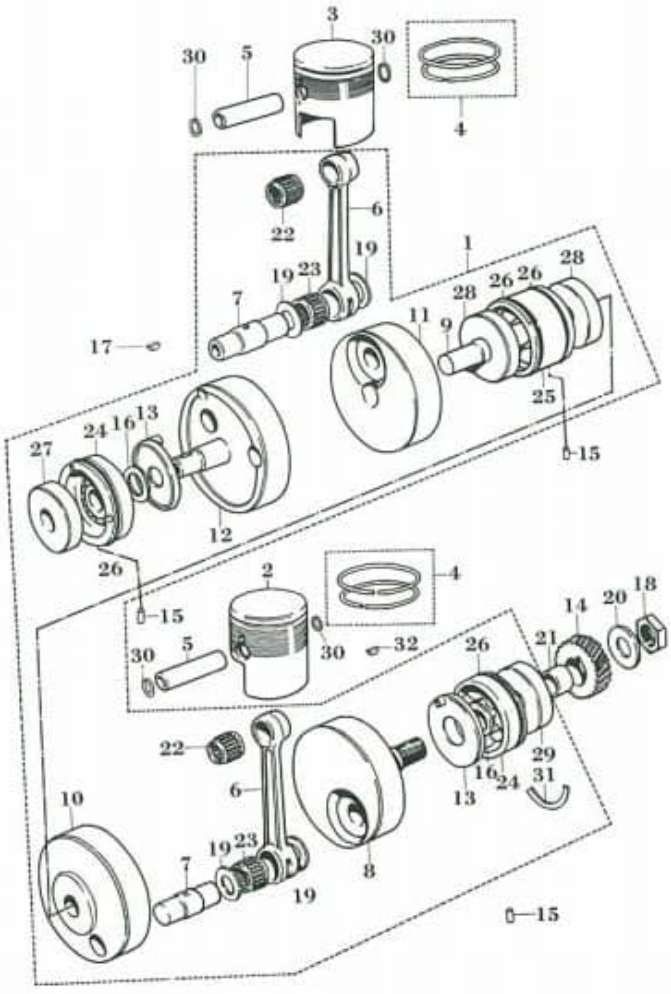


Fig. 8-21-1 Exploded view of crankshaft assembly

1 Crankshaft Ass'y
2 Right Piston
3 Left Piston
4 Piston Ring Set
5 Piston Pin
6 Connecting Rod
7 Crank Pin
8 Right Crankshaft
9 Center Crankshaft
10 Right Crank Wheel
11 Left Crank Wheel
12 Left Crankshaft
13 Oil Guide Plate
14 Primary Pinion
15 Dowel Pin
16 Thrust Washer
17 Key
18 Primary Pinion Nut
19 Connecting Rod Thrust Washer
20 Primary Pinion Washer
21 Primary Pinion Spacer
22 Piston Pin Bearing
23 Crank Pin Bearing
24 Crank Shaft Bearing
25 Center Crank Shaft Bearing
26 Crankshaft Housing "O' Ring
27 Left Crankshaft Oil Seal
28 Center Crankshaft Oil Seal
29 Right Crankshaft Oil Seal
30 Piston Pin Circlip
31 Crankshaft Oil Seal Positioning Piece
32 Key

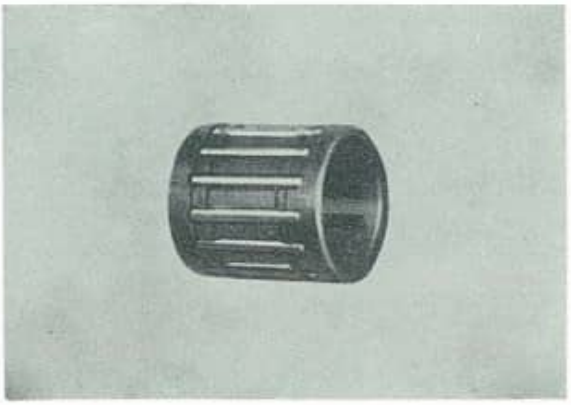


Fig. 8-21-2 Checking small end needle bearing

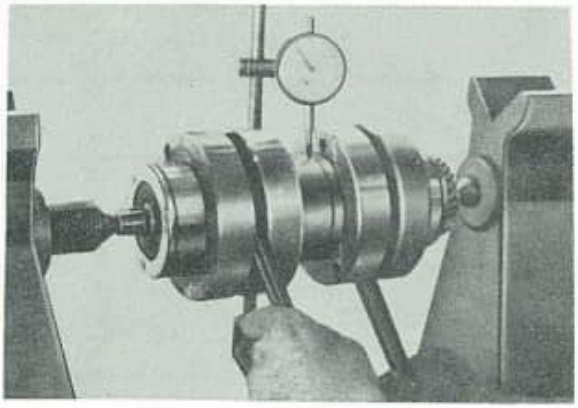


Fig. 8-21-3 Measuring crankshaft shake

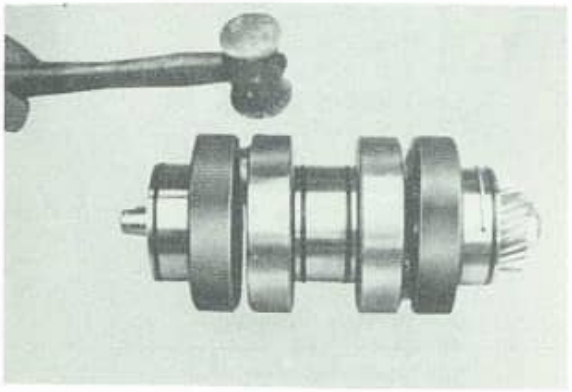


Fig. 8-21-4 Repairing crankshaft shake

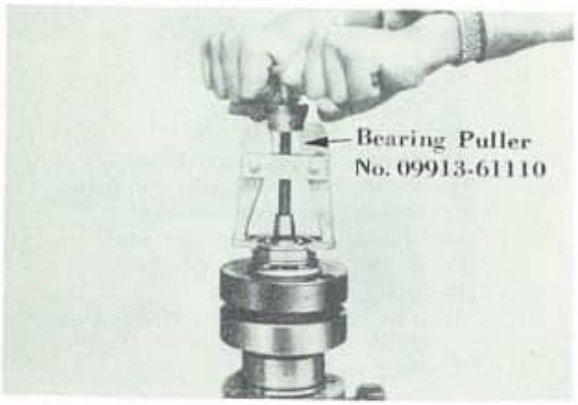


Fig. 8-21-5 Removing crankshaft bearing

8-21-2. Inspecting, adjusting and repairing

A. Small end needle bearings

Check the small end needle bearings for wear. If they are excessively worn and needle rollers slip out of the retainers, replace with new ones.

B. Crankshaft shake

If the crankshaft is not centered properly and shakes excessively, wear of the crankshaft bearings, pistons, cylinders and piston pins are hastened. Measure the crankshaft shake and adjust. To measure the crankshaft shake, place the crankshaft on a V-block or between the centers of a lathe or centering stand. The crankshaft shake should be measured with a dial gaug on right and left crankshaft journals and on the center crankshaft ball bearing. The crankshaft should be repaired if it is shakes over 0.06 mm (0.0023 in), when the crankshaft is turned slowly.

	Standard	Limit
crankshaft shake	below 0.06 mm (0.0024 in)	0.06 mm (0.0024 in)

The reading obtained will show the direction in which the wheels are out of truth. Lay the crankshaft assembly on the V-block, and with a copper mallet give shaking wheels a light tap in the required direction. Again check the shake: continue this work until the reading of the dial gauge is below 0.06 mm (0.0024 in).

The crankshaft shake is caused by insufficient tightness between the crank pins, center crankshafr and crank wheels, worn bearings or by stress put on the crankshaft when assembling the crankcase.

When replacing the crankshaft bearings, use a bearing puller (special tool 09913-61110) and a bearing installing tool (special tool 09913-70122).

	Standard
Crank pin/Crank wheel fit	0.056T-0.081Tmm (0.0022T-0.0032T in)
Center Crankshaft/Crank wheel fit	0.052T-0.078Tmm (0.00205T-0.00307 Tin)

Excessively worn bearing can cause engine noise. Replace worn bearings.

C. Connecting rod small end shake

Rest the crankshaft assembly on the V-block and place one of the connecting rods at its top dead center position, where the crahkshaft shake is the largest. Place the feeler of the dial gauge against the small end. Incline the connecting rod to the left as far as it will go and then to the right and measure the connecting rod small end shake. Repeat the same procedure for the other connecting rod. If the reading abtained are over 3 mm (0.118in), repairing is required.

Limit of small end shake	3 mm (0.118 in)

The connectsng rod shake is caused by worn large end eyes, crank pins, large end needle rollers, needle roller retainers, etc.

Disassemble the crankshaft by using disassembling jigs and a press and replace worn parts with new ones.

When the crankshaft is disassembled, it is better to replace the center crankshaft oil seal with a new one, even if it does not seem to be worn.

When reassembling the crankshaft, apply grease to all joining sections and use specially designed assembling jigs and press.

After reassembling the crankshaft, be sure to check the crankshaft shake and repair if necessary.

D. Oil seals

An oil seal whose lip is damaged or excessively worn causes compression leakage, resulting in hard starting of the engine and decrease in engine output. Be sure to examine the crankshaft oil seals and replace with new ones if their lips are damaged or worn.

Fig. 8-21-6 Replacing crankshaft bearing

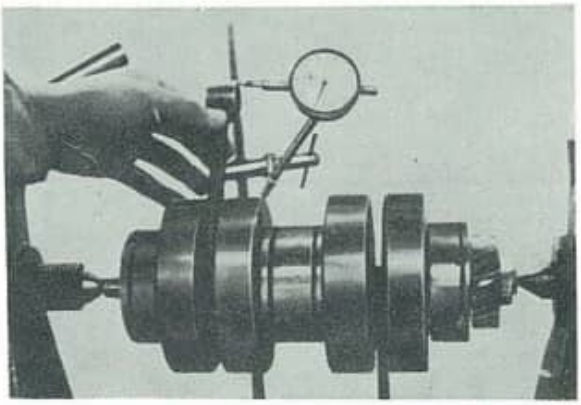


Fig. 8-21-7 Measuring connecting rod small end shake

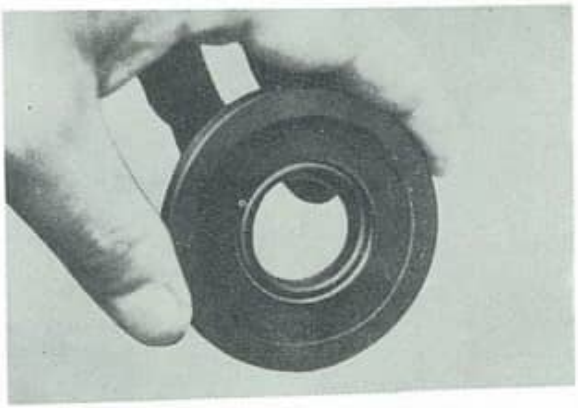


Fig. 8-21-8 Checking crankshaft oil seal

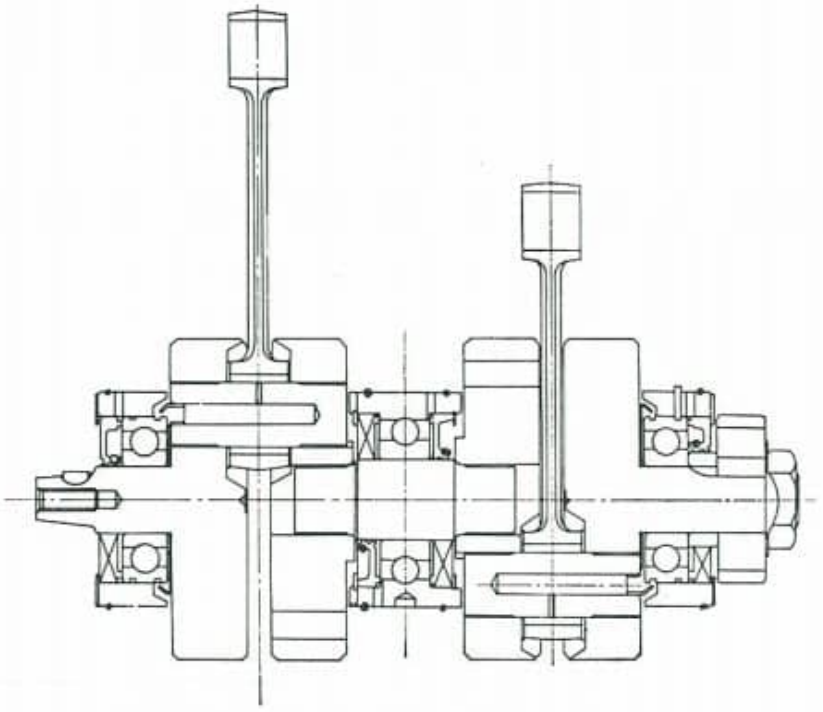


Fig. 8-21-9 Sectional view of crankshaft

8-22. Transmission

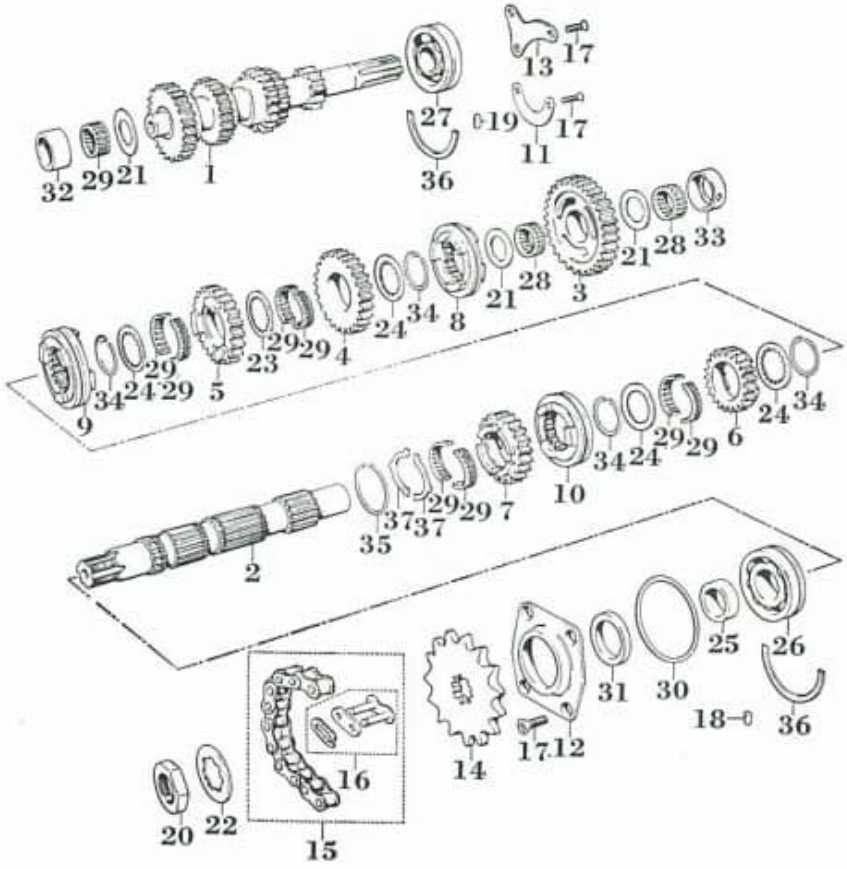


Fig. 8-22-1 Exploded view of transmission

The transmission is composed of countershaft, drive shaft, gears and drive gear wheels. The countershaft is unit-constructed with 3rd, 4th and top pinions. The drive shaft has gears supported with circlips and each gear holds either separable or inseparable needle rollers in its inside.

1	Countershaft	L.=238 (9.37)
2	Drive Shaft	L.=207 (8.15)
3	Low Gear	N.T.=30
4	Second Gear	N.T.=25
5	Third Gear	N.T.=22
6	Fourth Gear	N.T.=21
7	Top Gear	N.T.=20
8	Low Gear Wheel	
9	Third Gear Wheel	
10	Top Gear Wheel	
11	Drive Shaft Bushing Retainer	T.=2.3 (0.09)
12	Drive Shaft Bushing Retainer	
13	Oil Reservoir Cap	T.=1.0 (0.04)
14	Engine Sprocket	N.T.=15
	Engine Sprocket	N.T.=14, Optional
	Engine Sprocket	N.T.=13, Optional
15	Drive Chain Ass'y	♯530HT×110L
16	Chain Joint Ass'y	♯530HT
17	Cross Head Screw	
18	Dowel Pin	
19	Dowel Pin	
20	Engine Sprocket Nut	I.D.=22 screw
21	Top Gear Thrust Washer	O.D.=30.5 (1.20), I.D.=20 (0.79), T.=1.0 (0.04)
22	Engine Sprocket Washer	O.D.=38 (0.15), T.=1.2 (0.05)
23	Third Gear Washer	O.D.=36 (1.42), T.=1.0 (0.04)
24	Second Gear Washer	O.D.=36 (1.42), T.=2.0 (0.08)
25	Engine Sprocket Spacer	O.D.=27 (1.06), I.D.=22 (0.87), W.=10.7 (0.42)
26	Drive Shaft Bearing	O.D.=59 (2.32), I.D.=22 (0.87), W.16 (0.63)
27	Countershaft Bearing	O.D.=59 (2.32), I.D.=22 (0.87), W.=16 (0.63)
28	Transmission Shaft Needle	O.D.=26 (1.02), I.D.=20 (0.79), W.=12.8 (0.50)
29	Transmission Gear Needle Bearing	O.D.=30 (1.18), I.D.=26 (1.02), W.=9.8 (038)
30	Drive Shaft "O" Ring	I.D.=65 (2.56), W.=1.9 (0.07)
31	Drive Shaft Oil Seal	I.D.=42 (1.65), W.=7.0 (0.28)
32	Countershaft Bushing	O.D.=32 (1.26), W.=15 (0.59)
33	Drive Shaft Bushing	O.D.=32 (1.26), W-=15 (0.59), Marked "D"
34	Second Gear Circlip	O.D.=28.5 (1.12), W.=1.4 (0.06)
35	Top Gear Circlip	O.D.=38.7 (1.52), W.=1.6 (0.06)
36	Slotted Bearing Positioning Piece	T.=2.0 (0.08)
37	Top Gear Ring	T.=1.5 (0.06)

8-22-1. Operation

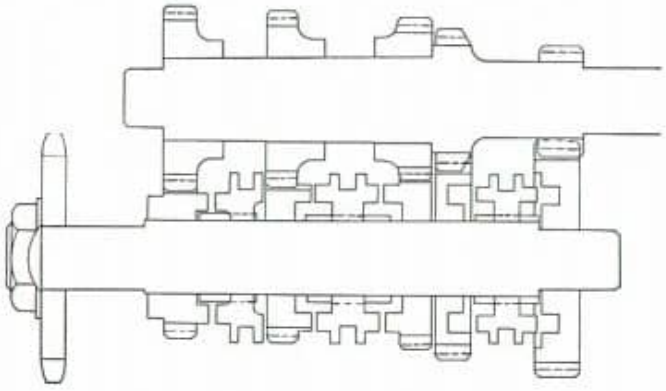


Fig. 8-22-2 Gear positions for neutral

Engine power is transmitted from the crankshaft to the primary gear on the clutch housing through the primary pinion.

When the clutch is engaged, the power is transferred through the clutch plates and sleeve hub to the countershaft.

The low gear is driven by the low pinion which is unit-constructed with the countershaft. In the neutral position, the low gear turns freely on the drive shaft so that engine power is not transmitted to the drive shaft.

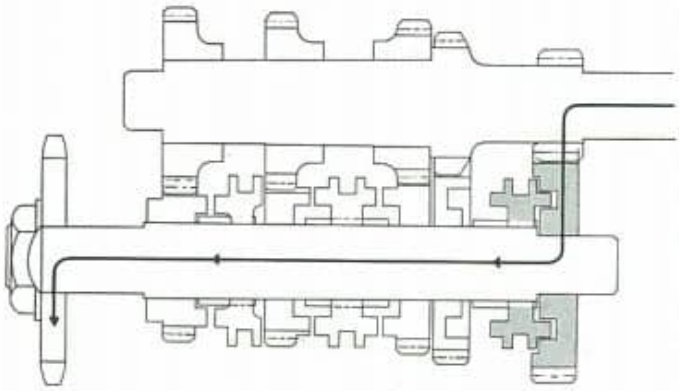


Fig. 8-22-3 Gear positions low speed

For low speed, the first driven gear wheel is slid to the right on the drive shaft by the gear shifting fork. Then dogs on the right side of the first driven gear wheel engage with holes on the low gear and rotational power is transmitted to the drive shaft through the combined low gear and first driven gear wheel.

For second speed, the first driven gear wheel is slid to the left on the splines of the drive shaft by the gear shifting fork so that dogs on the left side of the first driven gear wheel engage with those of the second gear which turns freely on the drive shaft. Rotational power is then transmitted from the countershaft to the drive shaft trough the second pinion which is unit-constructen to the countershaft and the combined second gear and first driven gear wheel.

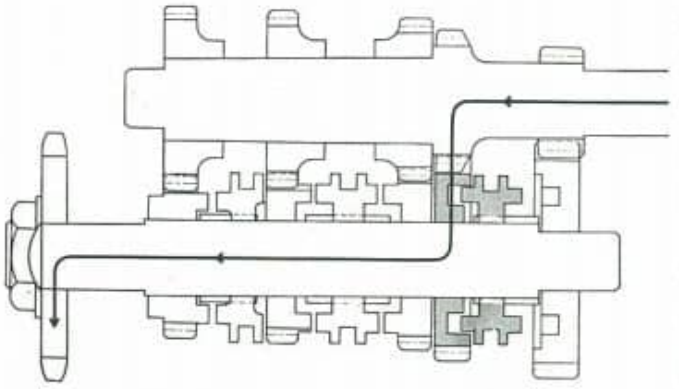


Fig. 8-22-4 Gear positions second speed

For third speed, the third drive gear wheel is slid to the right on the splines of the drive shaft by the gear shifting fork. Dogs on the right side of the third driven gear wheel then engage with those of the third gear which turns freely on the drive shaft. Thus the third driven gear wheel and third gear are combined and work as a single unit so that rotational power is transmitted from the countershaft to the drive shaft.

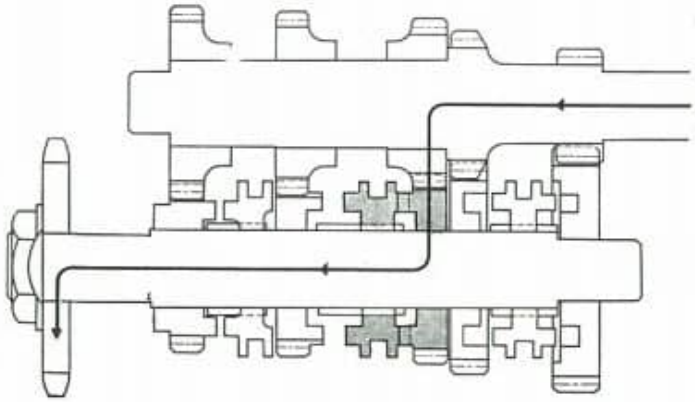


Fig. 8-22-5 Gear positions third speed

For fouth speed the third driven gear wheel is slid to the left on the splines of the drive shaft by the gear shifting fork. Dogs on the left side of the third driven gear wheel then engage with those of the fourth gear which turns freely on the drive shaft. Thus the fourth gear and third drive gear wheel are combined and work as a single unit so that rotational power is transmitted from the countershaft to the drive shaft.

For top speed the fifth driven gear wheel is slid to the left on the splines of the drive shaft by the gear shifting fork. Dogs on the left side of the fifth driven gear wheel then engage with those of the top gear which turns freely on the driveshaft. Thus the top gear and fifth drive gear wheel are combined and work as a single unit so that rotational power is transmitted from the countershaft to the drived shaft.

In the neutral position, none of the gears is engaged in an axial direction so that no rotational power is transmitted to the engine sprocket.

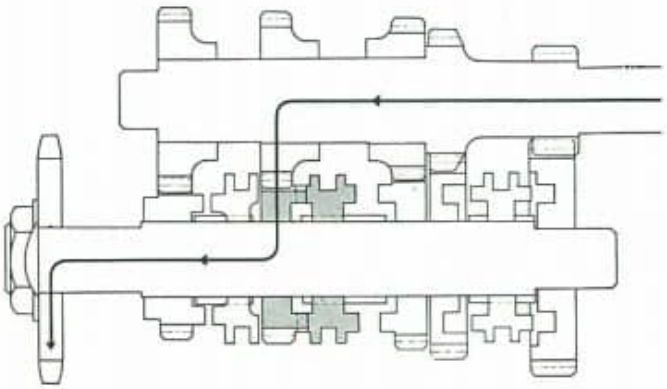


Fig. 8-22-6 Gear positions fou th speed

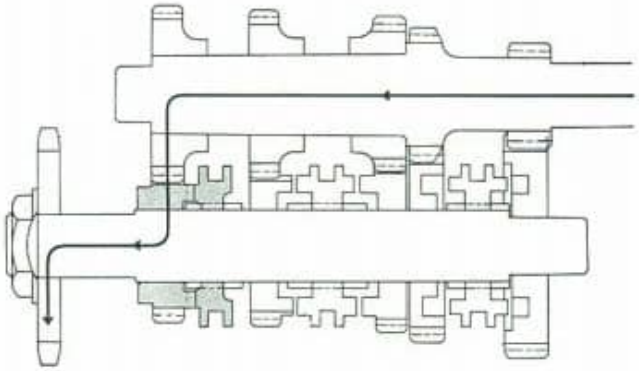


Fig. 8-22-7 Gear positions top speed

8-22-3. Inspecting and adjusting

A. Gears

Inspect the transmission gears for engagement, and wear and damage of dog teeth each time the engine is disassembled. If they are damaged excessively, replace with new parts.

B. Shifting fork grooves

The three driven gear wheels have grooves into which the gear shifting forks are placed. If the grooves are worn from friction with the forks, and the clearance becomes excessively large, travel of the first, third and fifth driven gear wheels decreases, so that they are difficult to engage with the adjacent gears and are easy to slip out of engagement. Measure the clearance between the gear shifting forks and grooves. Replace with new ones if it is over the limit.

	Standard	Limit	Operation
Fork/groove	0.4~0.6 mm (0.016~0.024in)	0.8 mm (0.03in)	Replace

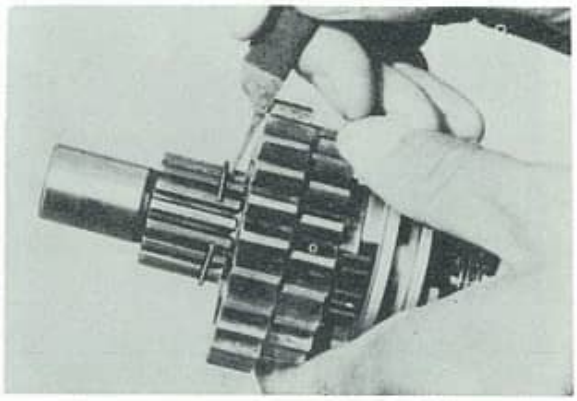


Fig. 8-22-8 Measuring fork/groove clearance

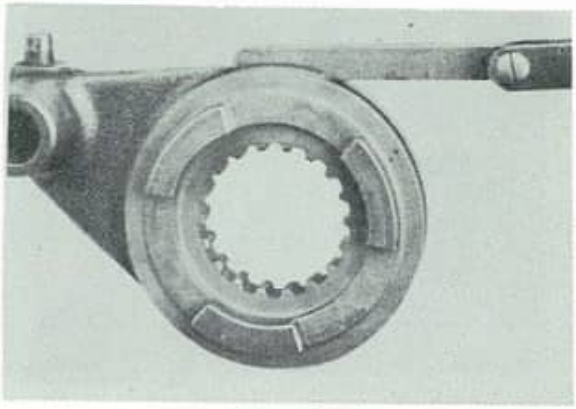


Fig. 8-22-9 Removing cirilip

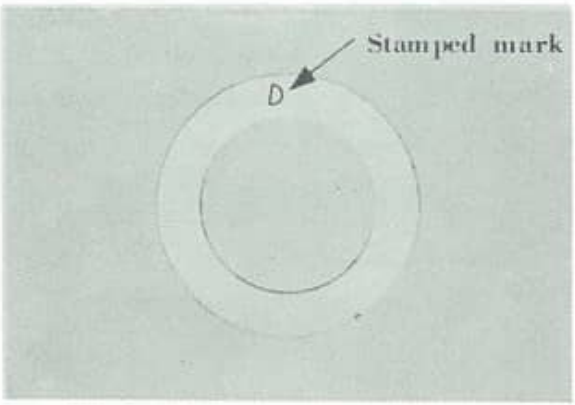


Fig. 8-22-10 Drive shaft bushing

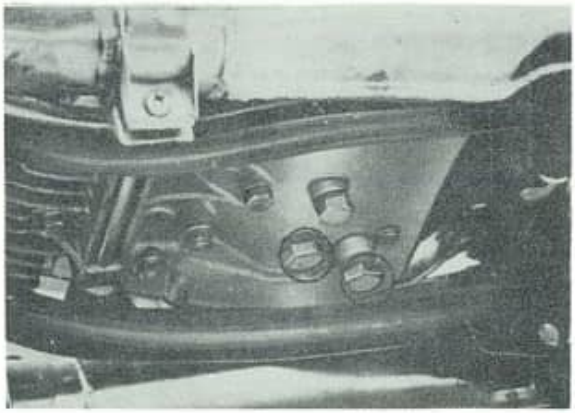


Fig. 8-22-11 Oil drain plugs

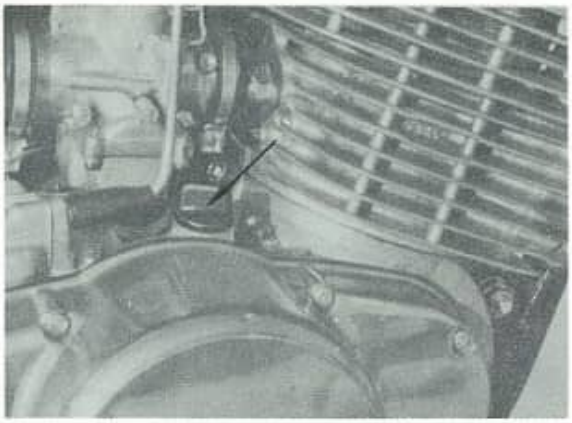


Fig. 8-22-12 Oil filler plug

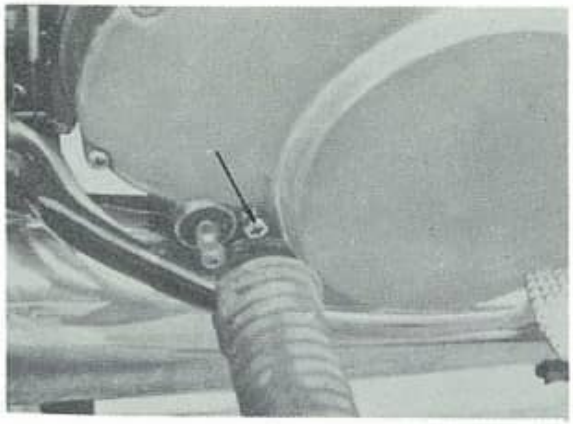


Fig. 8-22-13 Oil level screw

C. Ball bearings, bushing and oil seal

Check the ball bearings and bushings which hold the shafts to see if they are worn. If they are worn and play is found, replace with new ones, as this causes rapid wear in other transmission components.

The drive shaft and push rod oil seals prevent the oil from leaking. If they are worn and oil leakage is found, replace with new ones.

D. Transmission shaft needle bearings

Check the needle bearings for wear. If they are excessively worn and needle roller slip out of the retainers, replace with new ones.

8-22-4. Tips on assembling

The countershaft bushing and the drive shaft bushing resemble in both shape and size, but the latter alone has a stamped mark "D" as shown in Fig 8-22-10. When assembling do not mistake the former for the latter. The circlip should be replaced each time when disassembling.

8-22-5. Gear box oil

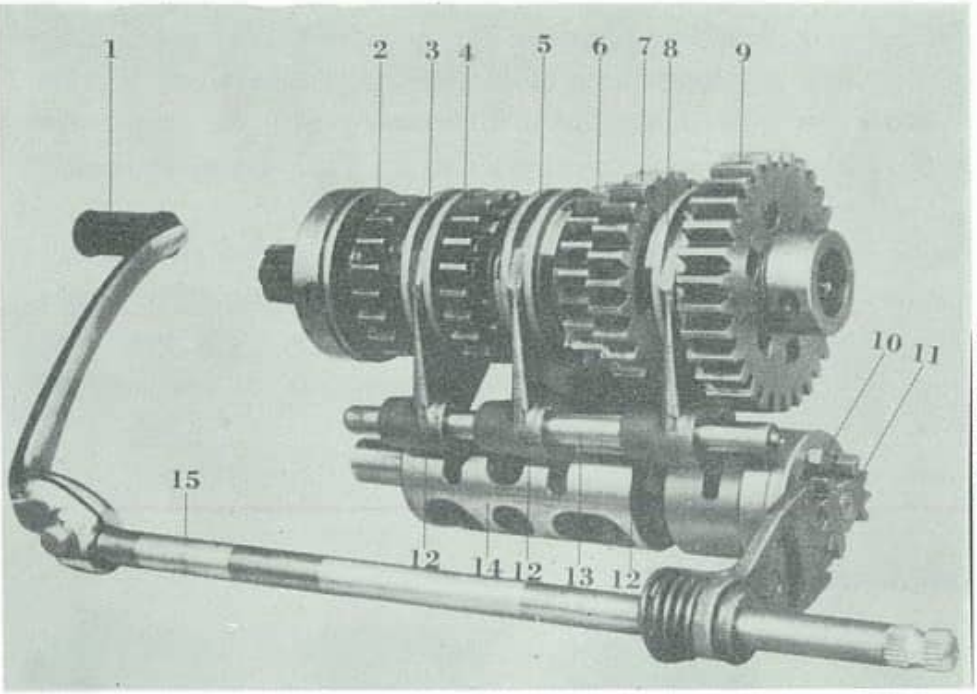
Oil in the gearbox lubricates and cools the transmission and clutch. High grade oil with excellent lubrication efficiency should be used, and the proper viscosity must be chosen. When too light oil used, the clutch becomes easy to disengage but gear noise increases and lubrication becomes incomplete.

When too heavy oil is used, gear noise decrease but the clutch drags in cold weather. Use high gear SAE 20W/40 multigrade oil. Oil deteriorates and its lubricating performance decreases if it is used for a long time, so change oil after the first 1,000 km (750 mi) and every 3,000 km (2,000 mi) after the first oil change.

To drain the used oil, remove the two oil drain plugs on the bottom of the engine. To expedite the job, drain the oil while the engine is warm and the oil viscosity is low. To fill the gearbox with oil, remove the filler plug and oil level screw. Pour oil through the oil filler hole until oil flows from the oil level screw hole.

The gearbox holds 1200 cc (1.3/1.1 qt, US/Imp) of oil.

8-23. Gear Shifting Mechanism



1 Gear shifting lever
2 Top gear
3 Fifth driven gear wheel
4 Fourth gear
5 Third driven gear wheel
6 Third gear
7 Second gear
8 First driven gear wheel
9 Low gear
10 Gear shifting pawl
11 Gear shifting pawl holder
12 Gear shifting fork
13 Gear shifting fork shaft
14 Gear shifting cam
15 Gear shifting shaft comp

Fig. 8-23-1 Gear shifting mechanism

As the gear shifting lever is depressed, the gear shifting arm rotates downward. The gear shifting pawl holder engaged with the sector gear of the gear shifting arm begins to turn down, too. The gear shifting pawl holder contains two gear shifting pawls inside of it which rotate the gear shifting cam by being engaged with the inside teeth of the cam in shifting up or down the gear shifting lever. Three gear shifting forks are fitted into the grooves on the shifting cam.
If the cam is rotated, the gear shifting forks and the drive gear wheels move in the axial direction.

A. Operating gear shifting lever

The model T500-II gear shifting system,ccording to the operation of the gear shifting lever, is illustrated in Fig 8-23-2.

To shift into low gear from neutral, depress the gear shifting lever. To shift from low to second, third, etc. . . . and top gear, lift the gear shifting lever. To shift down depress the gear shifting lever. When the gear shifting lever is pulled up the gears are shifting directly from low to second gear but when the gear shifting lever is depressed from second the gears are shifted into neutral. It is not possible to shift down directly from second to low gear.

To shift from second to low gear it is necessary

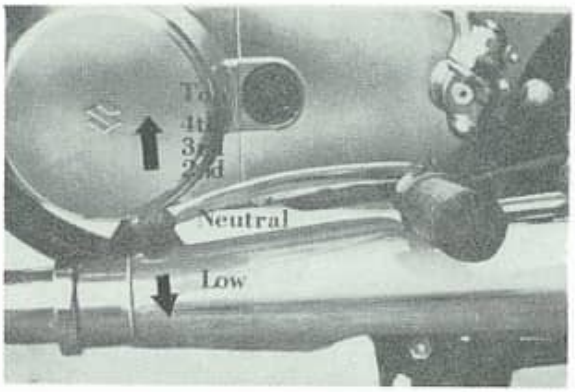


Fig. 8-23-2 gear shifting operation

to depress the gear shifting lever twice, the first time shifting from second to neutral and the second time from neutral to low gear.

B. Gear shifting system special mechanisms

The low gear, second gear and neutral incorporate a special mechanism to make shifting gears easier and positive so that gears can be shifted from low to second with one stroke, but a special mechanism operates to make it impossible to shift down from second gear into low gear with one stroke. When the gear shifting lever is depressed with the transmission engaged in second gear, the gear shifting pawl holder turns in the "A" section as show in Fig 8-23-3.

The shifting pawl, however, slips through the groove in the "A" section and the pawl cannot turn the shifting cam as the gear shifting lever moves down the first half a stroke. In the next half stroke the shifting pawl engages with the "B" section. The pawl turns the shifting cam and one full stroke is achieved. Neutral is engaged. An additional full stroke is necessary to shift into low-gear.

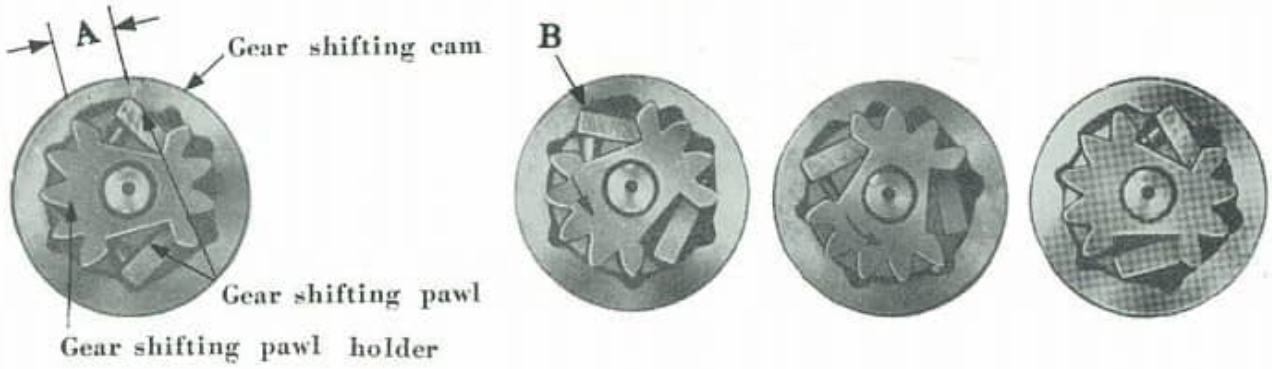


Fig. 8-23-3 Gear shifting mechanism operation

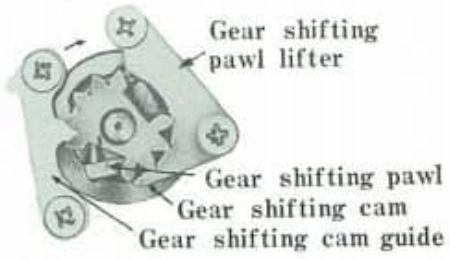


Fig. 8-23-4 Positive shift feature

C. Positive shift feature

When gears are shifted rapidly, the shifting cam drum tends to rotate beyond the desired position. To prevent the cam drum from turning too far a positive stop shifting device is incorporated, ensuring confident gear selection.

A stopper is included on the gear shifting cam drum guide as shown in Fig 8-23-4 so that the gear shifting pawl hits the stopper and the gear shifting cam drum cannot be turned too far even if the gear shifting lever is operated roughly. Gear shifting is always positive.

8-23-1. Removing

Pull out the gear shifting shaft and gear shifting shaft return spring. Remove the shifting cam guide and gear shifting stopper bolt. Remove the gear shifting pawl lifter and gear shifting cam guide by loosening 4 cross head screws with a screw driver. Remove the gear shifting pawl holder with two gear shifting pawl springs, two gear shifting pawl rollers and gear shifting pawls. Pull out the gear shifting fork shaft with pliers. Slip the gear shifting cam out of the right-hand side of the crankcase.

The cases must be split and the gear shifting fork guide pins removed.

8-23-2. Tips on installing

When installing the gear shifting shaft, align the center of sector located at the gear shifting shaft arm with the center of the five-tooth side of the gear shifting pawl holder regardless of the gear shifting cam position. Do not align it with the four-tooth side of the pawl holder.

If the components are installed in the wrong way, the gears cannot be shifted.

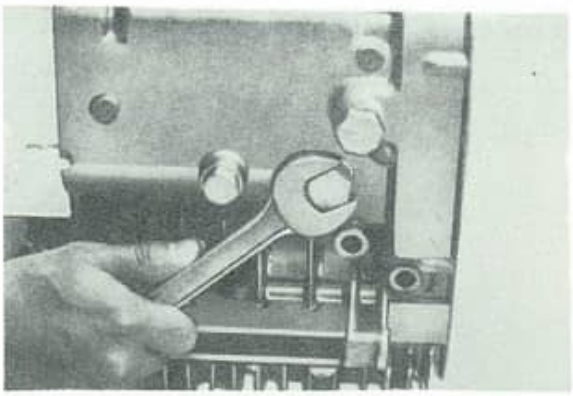


Fig. 8-23-5 Removing shifting cam guide

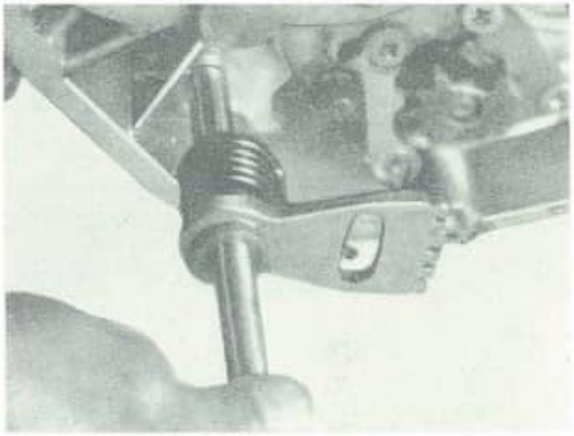


Fig. 8-23-6 Pulling out gear shifting shaft

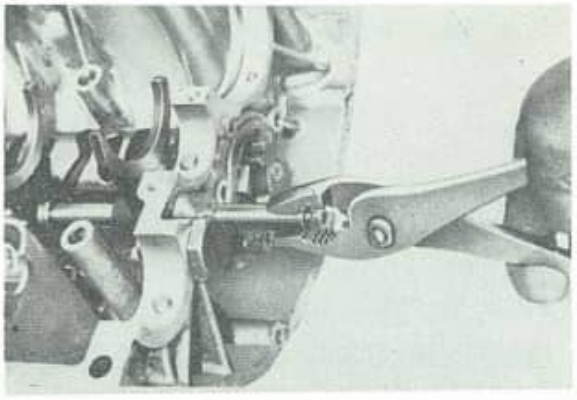


Fig. 8-23-7 Pulling out gear shifting fork shaft

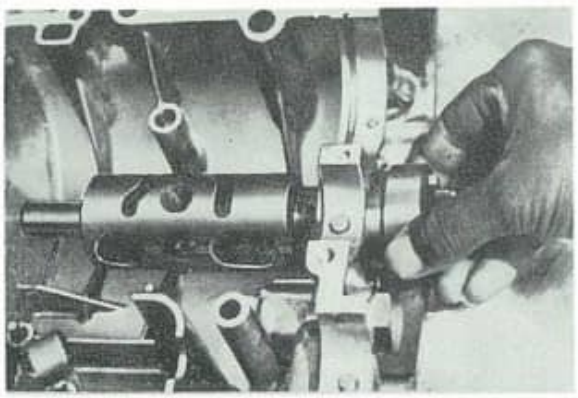


Fig. 8-23-8 Slipping gear shifting cam out of crankcase

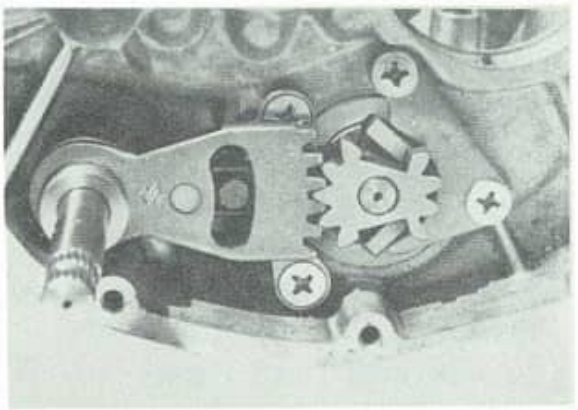


Fig. 8-23-9 Aligning center of sector with gear shifting pawl holder

8-24. Kick Starter Mechanism

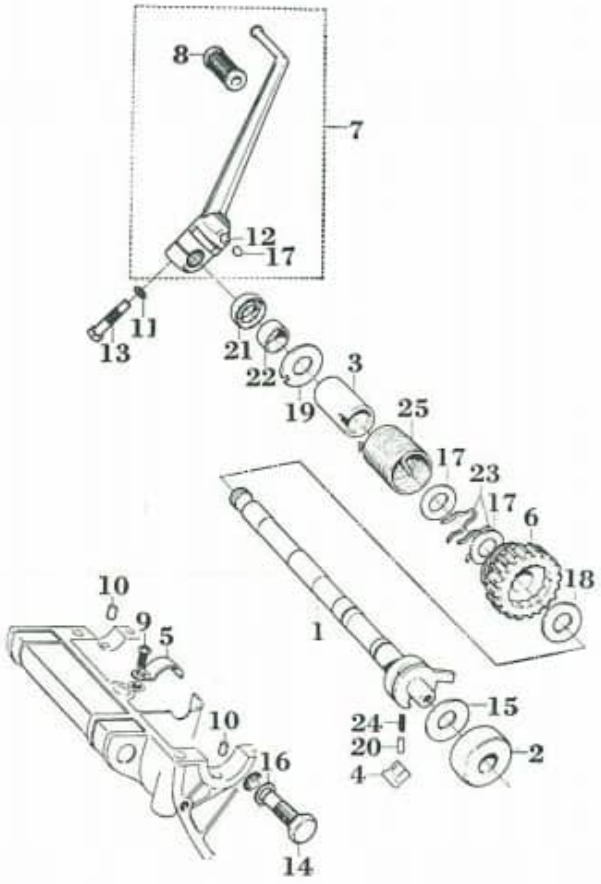


Fig. 8-24-1 Exploded view of kick starter part

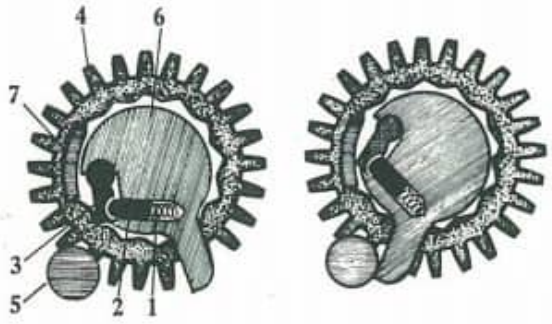
1 Kick Starter Shaft
2 Kick Starter Shaft Right Bushing
3 Kick Starter Shaft Return Spring Guide
4 Kick Starter Pawl
5 Kick Starter Shaft Clamp
6 Kick Starter Pinion
7 Kick Starter Lever Ass'y
8 Kick Starter Lever Rubber
9 Cross Head Screw
10 Dowel Pin
11 Lock Washer
12 Grease Nipple
13 Kick Starter Lever Bolt
14 Kick Starter Stopper Bolt
15 Kick Starter Shaft Right Thrust Washer
16 Kick Starter Stopper Washer
17 Tachometer Gear Thrust Washer
18 Kick Starter Pinion Thrust Washer
19 Kick Starter Shaft Return Spring Washer
20 Kick Starter Pawl Roller
21 Kick Starter Shaft Oil Seal
22 Kick Starter Shaft Left Bushing
23 Kick Starter Shaft Circlip
24 Kick Starter Pawl Spring
25 Kick Starter Shaft Return Spring

The kick starter shaft is held by the right and left bushings which are firmly positioned on the crankcase by means of dowel pins. The kick starter pinion is fixed on the shaft with a circlip. Inside the kick starter pinion are retained a pawl, pawl roller and pawl spring. The kick starter mechanism employs a kind of ratchet as shown in the illustration. When the kick starter lever is depressed, the kick starter shaft turns in a counterclockwise direction when seen from the kick starter lever end of the shaft. When the kick starter shaft turns counterclockwise, the kick starter pawl engages with the teeth on the inside of the kick starter pinion and the kick starter pinion turns, as the kick starter pawl moves at a right angle to it.

The kick starter pinion moves the low gear with which it is engaged and the crakshaft is turned in the order of low pinion, primary gear, primary pinion and crankshaft.

Once the engine is started and the kick starter lever is released, the kick starter shaft is returned to its original position by the kick starter shaft return spring and the pawl is pushed back out of the way by the finger of the kick starter shaft right bushing so that rorational power is not transmitted to the kick starter shaft.

The kick starter shaft stopper fitted to the lower half of the crankcase stops the kick starter shaft when it is returned by the return spring and prevents the pawl from going further than the finger of the right bushing and catching on it when the kick starter lever is depressed again.



When kick starter lever depressed

When kick starter lever released

(1) Kick starter pawl spring
(2) Kick starter pawl roller
(3) Kick starter pawl
(4) Kick starter pinion
(5) Kick starter shaft stopper
(6) Kick starter shaft
(7) Finger of kick starter shaft right bushing

Fig. 8-24-2 Kick starter mechanism

8-24-1. Inspection

A. Kick starter pinion & pawl

Inspect the internal teeth of the kick starter pinion for wear. If they are excessively worn, the pawl does not engage with them properly and slips when the kick starter lever is operated, causing rotational power not to be transmitted to the crankshaft.

An excessively worn kick starter pawl also causes the same kind of trouble. Replace with new ones if thay are worn.

B. Kick starter pawl roller & spring

Check the kick starter pawl roller by pushing it with a thumb to see if it operates properly in the hole on the kick starter shaft. If it does not operate smoothly due to foreign matter in the hole or a defective spring, it causes rapid wear of the kick starter pinion internal teeth and the pawl as well as kick starter slippage. Clean foreign matter from the hole and replace a defective spring with a new one.

8-24-2. Tips on Assembling

When assembling the kick starter shaft parts, be sure to fit washers in the right positions as shown in Fig 8-24-6.

When putting the roller into the hole on the large section of the shaft, be sure to fit with flat end facing inward.

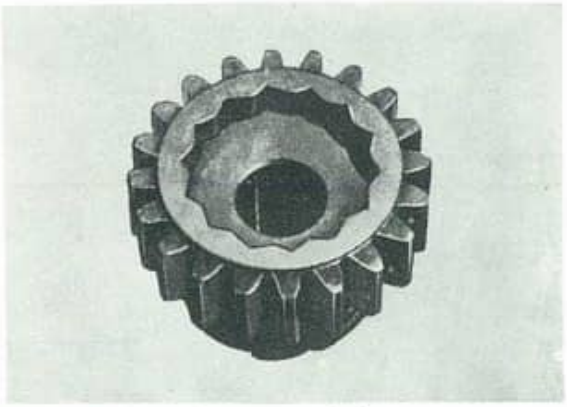


Fig. 8-24-3 Kick starter pinion

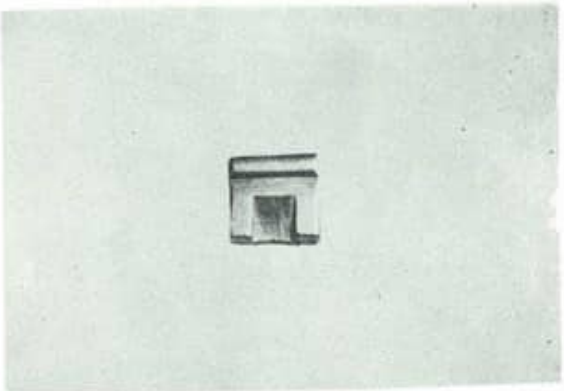


Fig. 8-24-4 Kick starter paw.

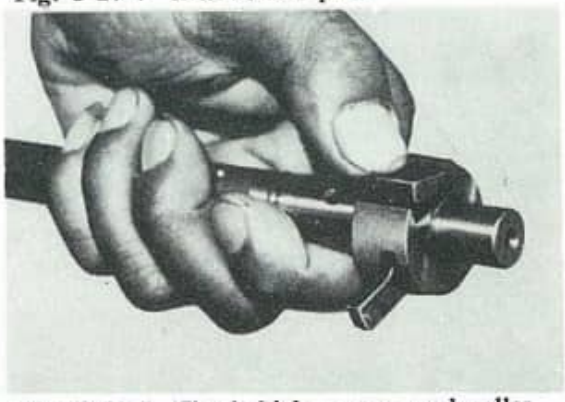


Fig. 8-24-5 Check kick starter pawl roller operation

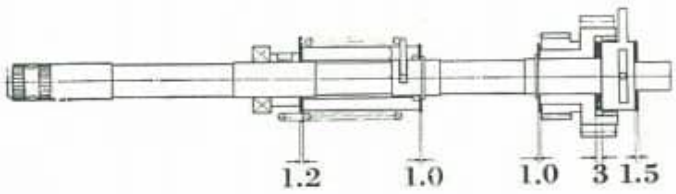


Fig.8-24-6 Washer position

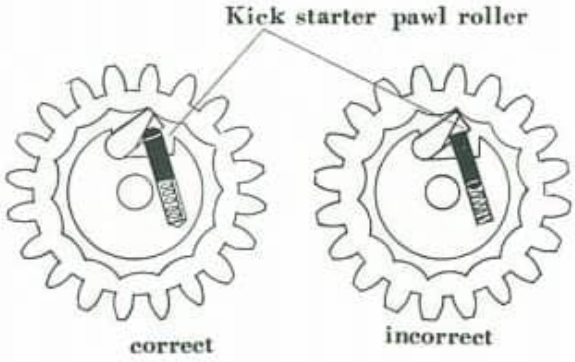


Fig. 8-24-7 Fitted direction of kick starter pawl roller

8-25. Carburetors

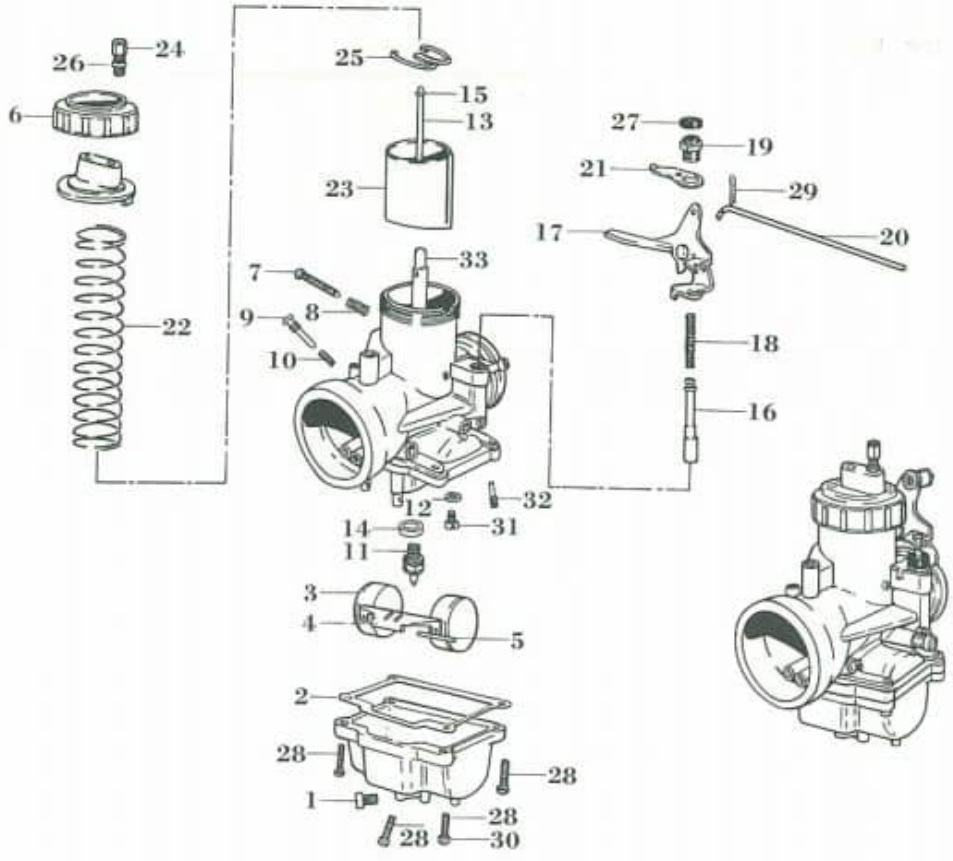


Fig. 8-25-1 Exploded view of carburetor

1 Carburetor Drain Plug
2 Float Chamber Gasket
3 Float
4 Float Arm
5 Carburetor Arm Pin
6 Mixing Chamber Cap
7 Throttle Stop Screw
8 Throttle Stop Screw Spring
9 Pilot Air Adjusting Screw
10 Pilot Screw Spring
11 Needle Valve
12 Needle Jet Stop Washer
13 Jet Needle
14 Needle Valve Seat Gasket
15 Needle Clip
16 Starter Plunger
17 Starter Lever
18 Starter Plunger Spring
19 Starter Plunger Cap
20 Starter Rod
21 Starter Lever Spring
22 Throttle Valve Spring
23 Throttle Valve
24 Cable Adjuster
25 Throttle Valve Spring Seat
26 Cable Adjusting Nut
27 Starter Rubber Cap
28 Cross Head Screw
29 Cotter Pin
30 Lock Washer
31 Main Jet
32 Pilot Jet
33 Needle Jet

A piece of new mechanism is ingeniously contrived into the T500－II carburetors.
With the high speed engine, carburetor settings are selected with the principal point put at high revs of the engine so that the mixture meterd at low revs below 4,000 rpm is inevitably on the rich side and engine response becomes poor when engine speed is out of the power range.
This type of engine will prove rather hard to handle in the stop-and go city traffic.
This disadvantage can't be overcome in the carburetor design so far in use.
With the T500-II carburetors, however, the problem has been successfully solved by doing away with the air vent in the mixing chamber and providing a special channel between the air funnel portion and float chamber, which produces negative pressure in the float chamber and makes it difficult for fuel to be primed up at low revs.
Difference in negative pressure between points Ⓐ and Ⓑ... or between points Ⓑ and Ⓒ is small when the engine speed is low and thereby the fuel in the float chamber is hard to be primed up resulting in no more over rich mixture. (With conventional carburetors, atmospheric pressure is always applied on the fuel in the float chamber, giving the fuel a boost.)
The difference becomes larger in accordance with increase in engine rpm because the velocity of air flow is different at points Ⓐ and Ⓑ and the negative pressure is proportional to the square of the velocity.
The larger the difference becomes, the larger amount of fuel is allowed to gush through the main jet.
Thus the carburetors always supply an ideal fuel/air mixture to the engine, widening the engine power range and marking the engine flexible. Carburetors of this type are called **homo-pressure** carburetors.

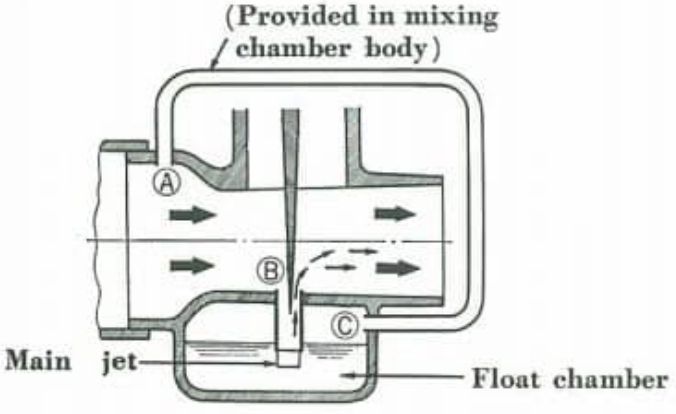


Fig. 8-25-2 Homo-pressure operation

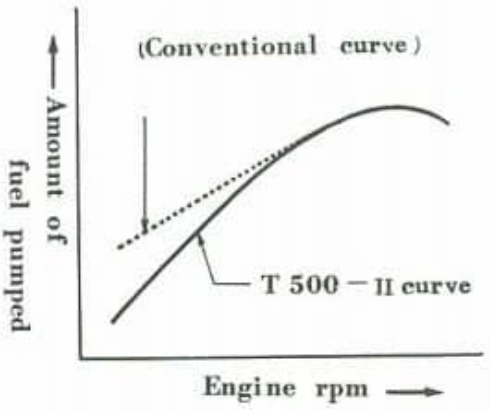


Fig. 8-25-3 Carburetor pumping performance

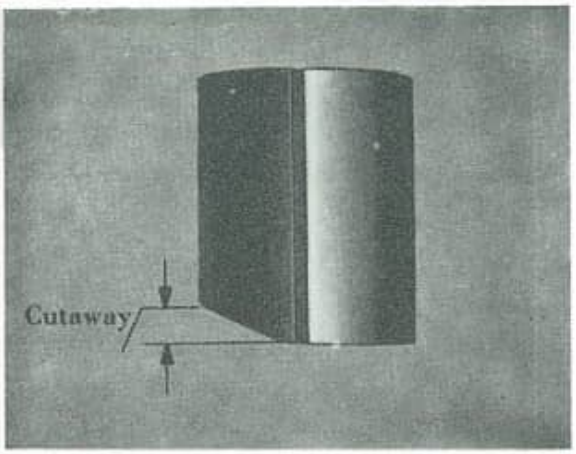


Fig. 8-25-4 Throttle valve

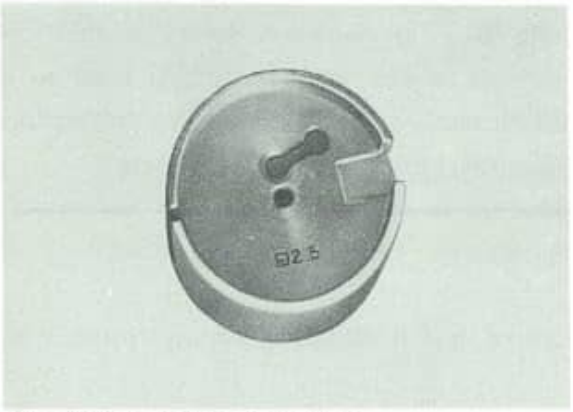


Fig. 8-25-5 Cutaway number

8-25-1. Function of main components

A. Throttle valve

The throttle valve determines the amount of air sucked into the engine through the main bore by changing the throat opening, thus controlling engine output.

As the valve is raised by turning the throttle grip inward, the throat opening becomes larger and larger, permitting a greater amount of air to flow under it and resultantly increasing engine output.

The throttle valve has a cutaway which determines the velocity of air flow and the amount of fuel to be primed up at medium speed from 1/4 to 3/4 throat opening.

The standard cutaway is 2.5/16 inch in size as indicated by the cutaway size number.

The number "1.0" means 1/16 inch "3.0" 3/16 inch, etc

A higher numbered throttle valve cutaway gives a leaner mixutre and a lower numbered a richer mixture.

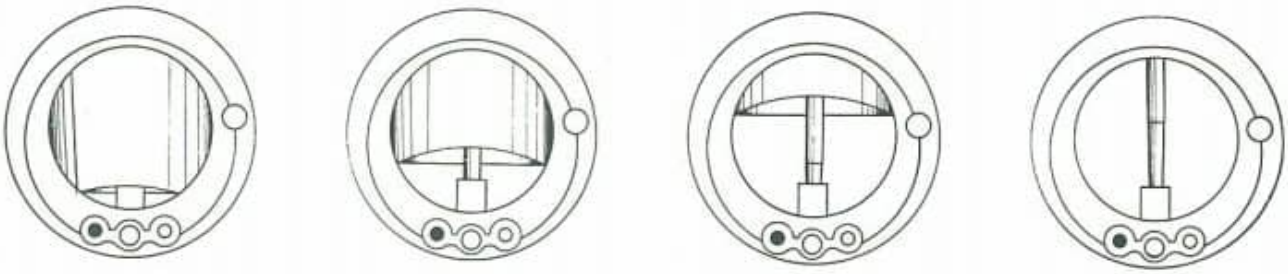


Fig. 8-25-6 Throttle valve operation controlling throat opening

B. Jet needle

The jet needle has five grooves at the upper part and is tapered at the lower end approximately from the center. It is clipped into the third groove from the top and is seated in the center of the throttle valve. The tapered end is inserted into the needle jet.

Engine output is regulated by the amount of air inhaled into the engine, as explained in paragraph A. When the amount of air inhaled into the engine is changed, the amount of fuel

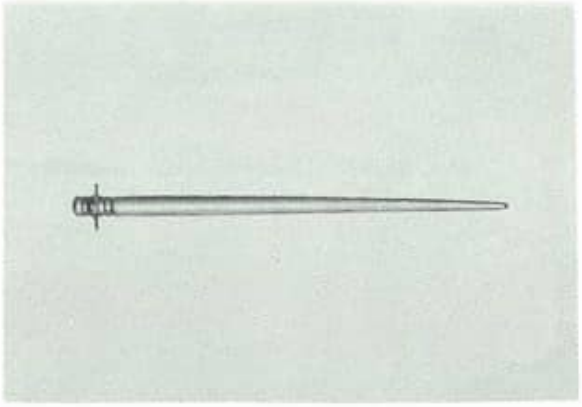


Fig. 8-25-7 Jet needle and clip

mixed with the air must be changed as well to keep the fuel/air mixture ratio proper at all times. The clearance between the jet needle and the needle jet determines the amount of fuel which is pumped up through the main jet from the float chamber at medium speed from 1/4 to 3/4 throat opening. As throttle valve is raised, the clearance increases.

C. Needle jet

The needle jet determines the amount of fuel together with the jet needle. At the upper end it has primary chamber where air entering from the air jet flows in at high speed and creates bubbles in the fuel sucked up through the main jet and helps to atomize it, and at the lower end threads for fitting the main jet.

D. Main jet

The main jet determines the amount of fuel at high speeds from 3/4 to fuel throat opening. The main jet number is stamped on the hexagonal end. Main jets are mubered according to the amount, measured in cubic centimeters, of fuel which can flow through it in one minute.

E. Pilot jet

The pilot jet determines the amount of fuel at low speeds from 0 to 1/4 throat opening. The pilot jet has eight bleed holes from which the air inhaled through the pilot air inlet is admitted and mixed with the sucked-up fuel and helps to atomize it before jetting from the pilot outlet. The pilot jet number is stamped near the holes. Pilot jet is also numbered according to the amount, measured in cubic centimeters, of fuel which can flow through it in one minute.

F. Pilot air adjusting screw

The pilot air adjusting screw determines the amount of air inhaled through the pilot air inlet and adjusts the fuel/air mixture ratio at low speed from 0 to 1/4 throat opening. It is tapered so that the open ng of the pilot air passage increases or decreases according to turning of it.

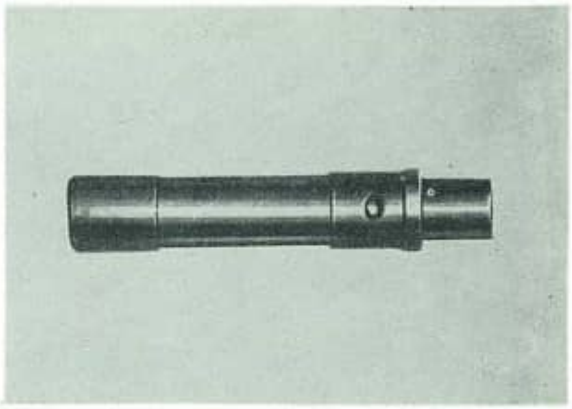


Fig. 8-25-8 Needle jet

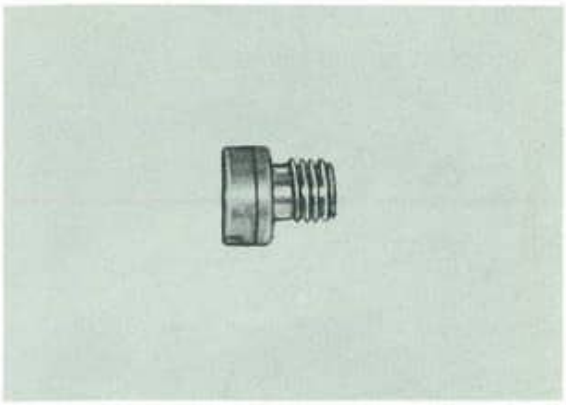


Fig. 8-25-9 Main jet

Fig. 8-25-10 Pilot jet

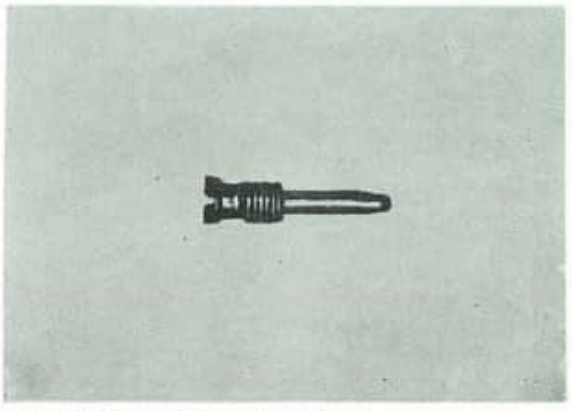


Fig. 8-25-11 Pilot air adjusting screw

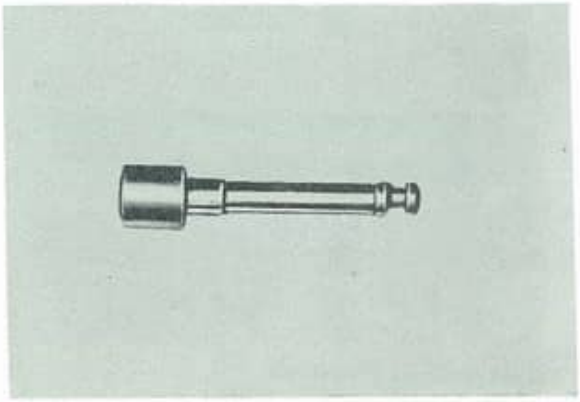


Fig. 8-25-12 Starter plunger

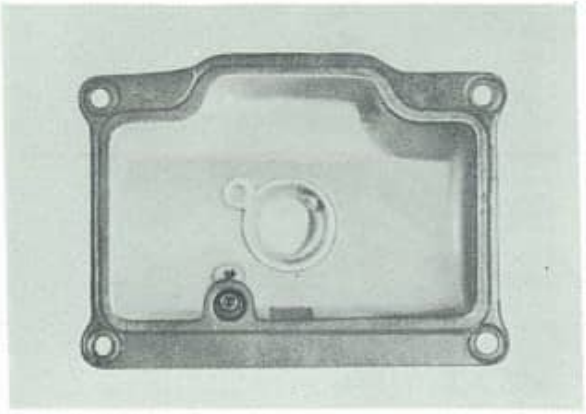


Fig. 8-25-13 Starter jet

G, Starter plunger

The starter plunger is a kind of valve which controls the starter systen. If it is raised the passages for air and fuel are opened and a rich fuel/air mixture enough to start the coldest engine is dispensed. If it is lowered to the bottom, the passages are clossed.

H. Starter jet

The starter jet, which is press-fitted to the float chamber bowl, determines the amount of fuel supplied to the starter system. Starter jet is also numbered according to the amount, measured in cubic centimeters, of fuel which can flow through it in one minute.

I. Air jet

The air jet meters the bleed air which flows into the primary chamber of the needle jet and atomizes the fuel sucked up through the main jet.

J. Throttle valve adjusting screw

The throttle valve adjusting screw determines the minimum opening of the throttle and regulates the rpm of the engine when it is idling. Turning the throttle valve adjusting screw in lowers the engine rpm, while turning it out raises the same.

8-25-2. Specifications

Main jet	150
Air jet	
Jet needle	5FP8—3
Needle jet	P-4
Throttle valve cutaway	2.5
Pilot jet	30
By-pass	1.4
Pilot outlet	0.6
Pilot air adjusting screw	1 1/4
Valve seat	2.5
Starter jet	70

8-25-3. Removing

1. Disconnect the plunger lever link from the left plunger lever by loosening a fitting screw with pliers.
2. Loosening carburetor front and rear clamp screws with a cross head screw driver, and pull the left carburetor toward you to remove it from left cylinder.
3. Remove the fuel line clips with nose pliers and take off the fuel lines and boost tube.
4. Loosen the mixing chamber caps with a screw driver and pull from the carburetors along with the throttle valves, jet needles and jet needle clips.

8-25-4. Disassembling

1. Remove four fitting screws with a cross head screw driver and separate the float chamber body from the mixing chamber body.
2. The float can be removed from the mixing chamber body.
   Be careful not to bend or raise the float tongue which contacts the needle valve and controls closing and opening of the fuel passage, as

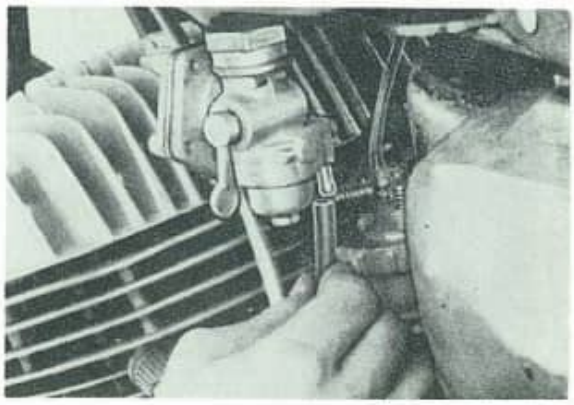


Fig. 8-25-14 Removing fuel line clip

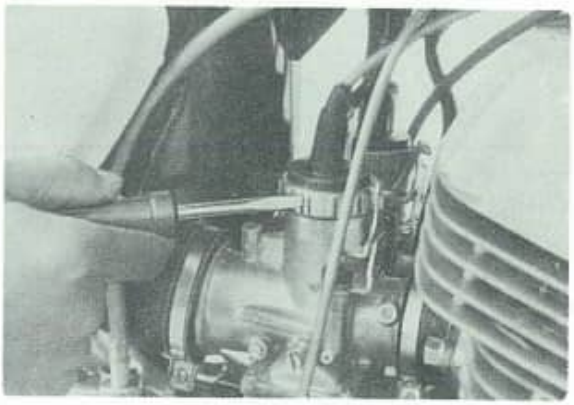


Fig. 8-25-15 Removing mixing chamber cap

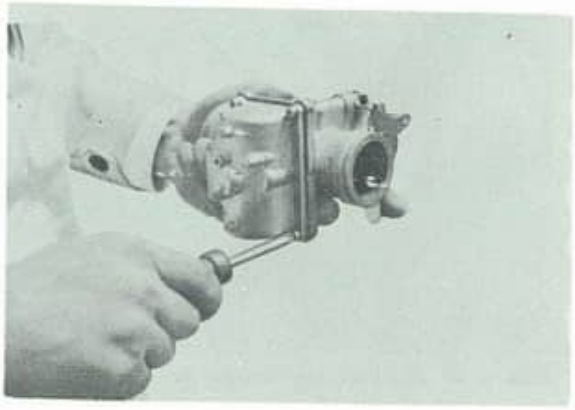


Fig. 8-25-16 Loosening four fitting screws

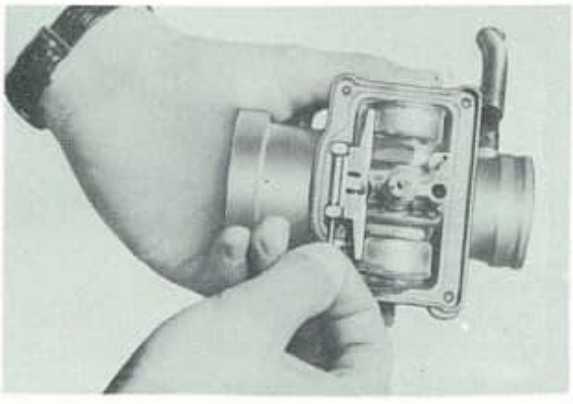


Fig. 8-25-17 Removing float pin

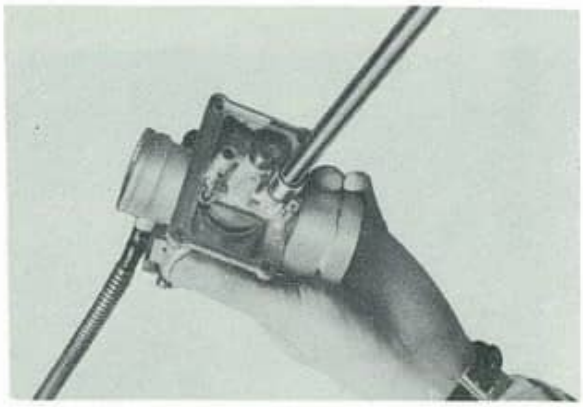


Fig. 8-25-18 Removing needle valve seat

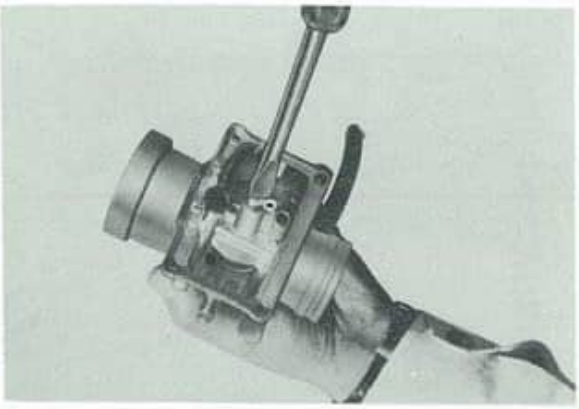


Fig. 8-25-19 Removing main jet

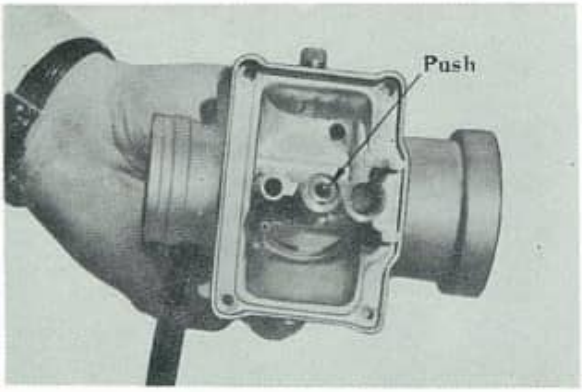


Fig. 8-25-20 Pushing needle jet out of position

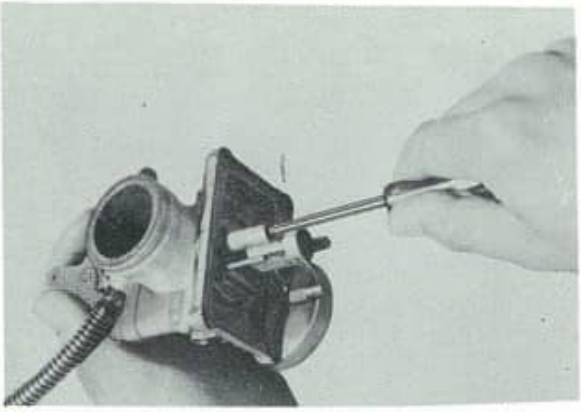


Fig. 8-25-21 Removing pilot jet

change in the float tongue angle causes an incorrect fuel level, resulting in maladjusted carburation.

Remove the needle valve by hand.

Remove the needle valve seat with a 10 mm wrench, and then remove the gasket.

Remove the main jet with a screw driver, and the needle jet stop washer.

5. Push the needle jet out of the top of the body.
6. Remove the pilot jet with a small screw driver.
7. Remove the pilot air adjusting screw and spring with a screw driver.

8-25-5. Inspecting and servicing

1. Wash all parts with cleaning solvent and dry.
2. Blow compressed air through all jets and passages to make sure they are not clogged.
   Do not use wire, etc. to clean them, as this can damage the parts.
3. Check the float chamber gasket for damage and wear, and replace if needed.
4. Insert the throttle valve in mixing chamber and check for play to see if the throttle valve is worn. Replace a worn, scored or scratched throttle valve.
5. Check the needle valve tapered end for wear. As the needle valve repeatedly contacts with the valve seat to keep the fuel level correct, the tapered end of the needle valve is apt to wear. If the needle valve is worn, there will be a gap between the valve seat and needle valve even when the float tongue pushes the needle valve. Fuel will flow into the carburetor continuously and overflow. Check to see if the needle valve contacts with the valve seat properly when disassembling the carburetor. Replace the needle valve if needed. To check, refit the valve seat, needle valve and float to the mixing chamber body, and then connect the fuel line to the fuel cock. Push the float with a finger until the tongue pushes the needle valve. Turn on the fuel cock. If fuel flows into the carburetor, the needle valve is worn. In most cases, however, fuel overflow is caused by a foreign matter caught between the valve seat and needle valve. Therefore the filter screen of the fuel cock must always be kept in good condition.
6. A damaged float also causes fuel overflow. Shake the float to see if there is fuel inside. If there is, the float leaks and must be replaced. Do not use compressed air for cleaning an assembled carburetor, because there is possibility of gollapsing the floats. This will result in a rich mixture.

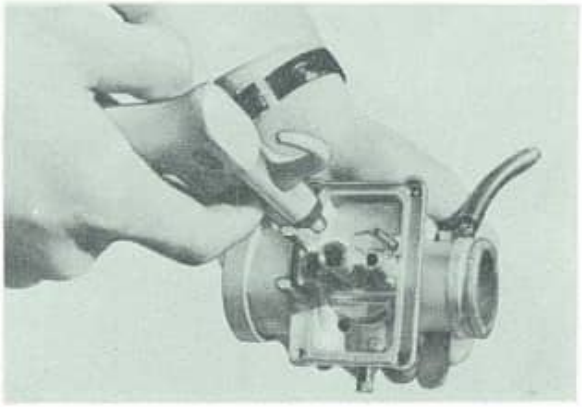


Fig. 8-25-22 Blowing compressed air

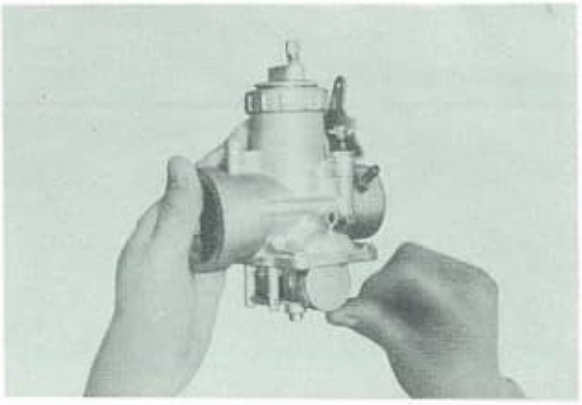


Fig. 8-25-23 Checking needle operation

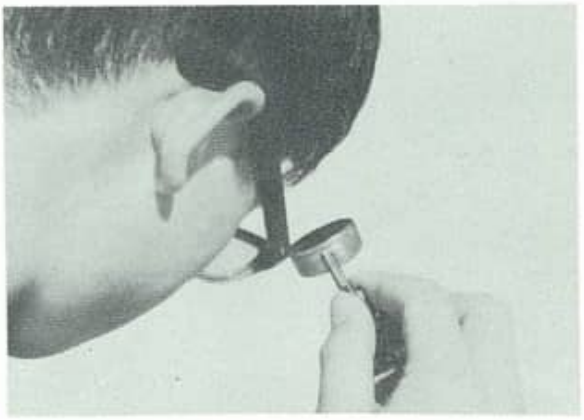


Fig. 8-25-24 Checking float for leakage

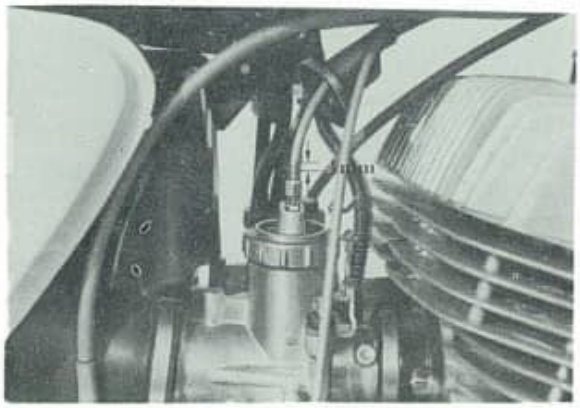


Fig. 8-25-25 Checking throttle cable play

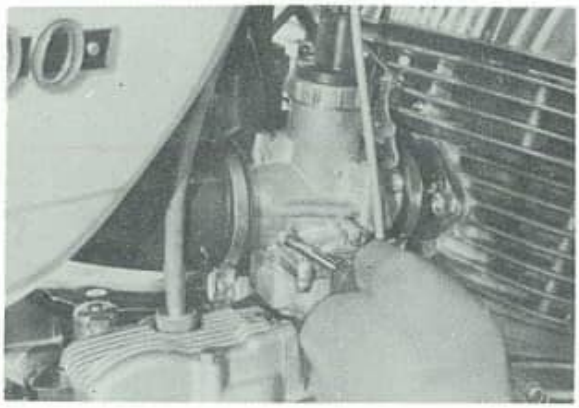


Fig. 8-25-26 Adjusting pilot air adjusting screw

8-25-6. Adjusting idling

A. Preparations

1. Make sure the jet needles are clipped into the third grove from the top.
2. At fuel throttle, adjust play in both the right and left throttle cables to 0.5~1.0 mm (0.02~0.04 in) with the throttle cable adjusters on the top of the carburetors. If the throttle cables are not adjusted equally, the engine rpm will differ when the throttle grip is moved slightly from the idling position.

   Further, if the play in the two cables differs considerably, the engine rpm at medium and high speeds will differ.
3. Warm the engine up for a few minutes.

B. Adjusting

1. Remove the spark plug cap on one cylinder.
2. Turn the pilot air adjusting screw on the other side down to the bottom, then turn it back out 1 1/4 turns.
3. Start the engine, which, of course, will fire on only one cylinder since the spark plug cap is off of the cylinder other than one being adjusted.
4. Adjust the throttle valve adjusting screw until the engine runs at its lowest rpm.
5. Turn the pilot air adjusting screw in and out within the range of 1/4 of a turn from the standard setting (**1 1/4 turns** out from the bottom). The engine rpm will increase and decrease in accordance with the turning of the screw. Find the position where the engine runs regularly and smoothly at the lowest rpm, and fix the screw there.
6. After adjusting the pilot air adjusting screw, adjust the throttle valve adjusting screw again and determine the engine idling speed while running on one cylinder.
7. When one cylinder has been adjusted, adjust the other cylinder in the same manner.
8. After adjusting the two carburetors separately, operate both cylinders at the same time.

   Idling rpm will be rather high. Turn both throttle valve adjusting screws in the same amount and adjust the idling rpm.

The engine idling speed should be as low as possible (about **1,500 rpm**).

C. Balancing right and left cylinders

The right and left carburetors can be adjusted by adjusting the throttle cables, pilot air adjusting screws and throttle valve adjusting screws, but if the density or amount of exhaust fumes from the two cylinders is not the same adjust the engine in the following manner:

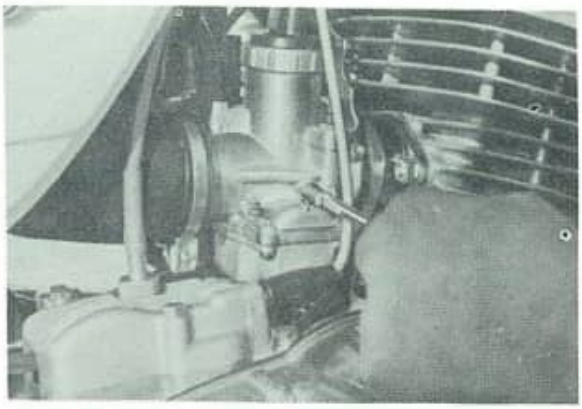


Fig. 8-25-27 Adjusting throttle valve adjusting screw

1. Gradually turn the pilot air adjusting screw out on the cylinder which exhaust richer fumes.
2. Turn the pilot air adjusting screw in gradually on the cylinder which exhausts leaner fumes.
3. The amount to turn each screw depends on the condition of the engine, but do not turn the screw in beyond the position where it is turned out 1 1/4 turns from the bottom and do not turn it out where it is more than 1 3/4 turns from the bottom.
4. Keep the difference between the position of the two screws to within one full turn.
   An excessive difference causes over-heating or increases fuel consumption.

8-25-7. Adjusting fuel/air mixture

A. Checking mixture

Too rich or too lean fuel adversely affects engine performance. The fuel/air mixture can be adjusted by adjusting carburetor settings. Check to see that the fuel and air is properly mixed.

1. Symptoms of too rich mixture.
   a. Exhaust fumes are dense and bluish white in color.
   b. The motorcycle feels sluggish when running.
   c. The spark plug is wet and dirty and becomes black in color. (The same condition is produced if too cold a plug is used or the motorcycle is always ridden at extremely low speeds. Replace with a NGK B-7HC plug.)
   d. The engine runs smoothly if the starter channel is opened.
2. Symptoms of too lean mixture
   a. The engine will not idle smoothly.
   b. Engine rpm fluctuates even if the throttle grip is held steady.
   c. The engine is apt to overheat.
   d. The spark plug becomes white in color. (The same condition is produced if too hot a plug is used or the motorcycle is always ridden at extremely high speeds. Replace with a NGK B-8HC plug.)
   e. The engine will run smoothly if the starter channel is opened.

B. Adjusting for various speeds

1. High speeds

A clogged main jet or needle jet can cause too lean a mixture, while a clogged air jet or loose main jet too rich a mixture. Therefore, make sure they are in good condition before adjusting the main jet.

From 3/4 to full throttle opening, the mixture ratio can be adjusted by the main jet.

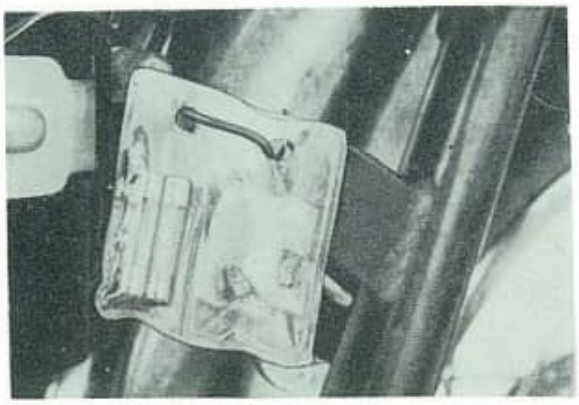


Fig. 8-25-28 Main jet for adjustment

When the throttle grip is turned back slightly from the full throttle position, if the engine rpm increases the fuel mixture is too lean and if it decreases the mixture is proper or too rich.

When the mixture is too lean, use a higher numbered main jet than the standard #150.

When the mixture is too rich, use a lower numbered main jet. Suzuki distributes two #147.5 main jets with every T500—II machine. They are provided in the fuse bag inside the frame right cover, and should be used in place of the standard-fitted main jets in case the mixtures is too rich.

Before distributing a motorcycle to a customer, be sure to check the mixture from 3/4 to full throttle opening and replace the main jets if needed.

2. Medium speeds

A clogged air jet, worn jet needle or needle jet, or loose main jet can cause too rich a mixture and a clogged main jet too lean a mixture. Make sure they are in good condition before adjusting the jet needle.

From 1/4 to 3/4 throttle opening, the mixture ratio can be adjusted by changing the position of the jet needle or by the throttle valve cutaway.

a. Adjusting with jet needle

There are five grooves at the upper part of the jet needle and they are counted from the top to the bottom, first, second, etc.

If the exhaust fumes are bluish white caused by a too rich fuel mixture, lower the jet needle one notch by fitting the clip in the top groove. The third groove is standard setting.

If the engine seems to be dragging when the motorcycle is accelerating or running, it indicates that the fuel mixture is too lean. Raise the jet needle by one notch.

b. Adjusting with throttle valve cutaway

A higher numbered throttle valve cutaway gives a leaner mixture and a lower numbered one a richer mixture. The standard throttle valves cutaway for the T500—II is #2.5.

A different size throttle valve cutaway, however, seriously affects engine operation below 1/4 throttle opening.

Do not change the throttle valve cutaway unless it is urgently necessary.

c. Low speeds

A clogged pilot air passage or clogged pilot jet bleed holes can cause too rich a mixture and a clogged pilot jet or pilot outlet too lean a mixture. Make sure they are not clogged.

From 1/8 to 1/4 throttle opening, the mixture ratio can be adjusted with the pilot air adjusting screw. Refer to the Adjusting idling section above.

Throttle Opening	Too Rich Fuel	Too Lean Fuel
0~1/8	Turn pilot air adjusting screw out	Turn pilot air adjusting screw in
1/8~1/4	Use throttle valve with larger cutaway	Use throttle valve with smaller cut-away
1/4~3/4	Lower jet needle	Raise jet needle
3/4~full	Use smaller numbered main jet	Use larger numbered main jet

* **Refrain from replacing the throttle valve if possible and use other methods to adjust the carburetor.**

9 CHASSIS

CONTENTS

		Page
9-1	Fuel Tank	73
9-2	Fuel Cock	73
9-3	Air Cleaner	76
9-4	Oil Tank And Outlet	77
9-5	Steering Damper	78
9-6	Front Fork	79
9-7	Front and Rear Wheels	82

9-1 Fuel Tank

The fuel tank capacity is 14 liter (3.7/3.1 gal, Us/Imp) including a reserve supply of 2 liter (4.2/3.6 qt, Us/Imp)

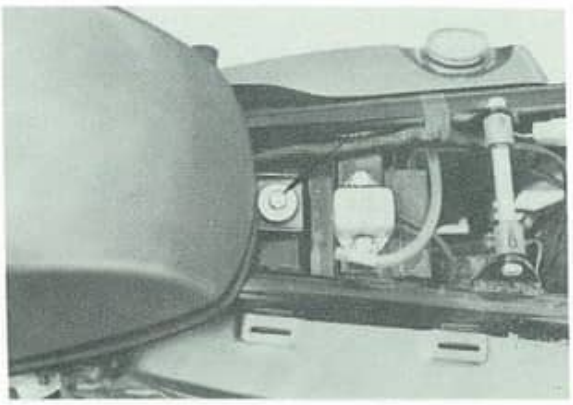


Fig. 9-1-1 Removing fuel tank

9-1-1 Removing and installing

1. In removing the fuel tank, dual seat set bolt shall be loosened by a wrench, 14 mm. After removing the seat, fuel lines shall be taken off the fuel cock. Fuel tank rear set bolt shall be unfastened by a 14 mm wrench, to extract the fuel tankward.
2. As for the front setting portion of the fuel tank, fuel tank shall be fitted over the mounting rubber on the boss of the frame.

Fig. 9-1-2 Fuel tank mounting rubber

9-2 Fuel Cock

The T500 – II employs a diaphragm fuel cock which actuates on vacuum from the engine and opens a tap automatically when the engine starts.

The diaphragm chamber includes a diaphragm, valve and spring which presses the valve against the valve seat to close a fuel passage.

From the vacuum chamber to the left hand carburetor runs a strip of tube which transmits the vacuum generated in the carburetor to the cock.

Once the engine runs and vacuum is generated in the carburetor, the diaphragm together with the valve is pulled against the spring by the vacuum, leaving a gap between the valve and seat through which fuel is allowed to flow down to the carburetors.

This fuel cock has three positions, "On", "Reserve", and "Priming". Turning the fuel cock lever to "Priming" position allows fuel to flow directly to the carburetor without passing through the diaphragm valve system. When starting the engine of a machine which has been left unused for a long time or the carburetors of which were overhauled, first supply fuel to the carburetor float chamber by turning the cock lever to "Priming" position.

Turn the lever again to "On" position when the engine has started in order to prevent running out of fuel on the way.

The outstanding virtues of the diaphragm cock:

1. There is no need to close the fuel cock manually for prevention of overflow when parking the motorbike.
2. There is no danger of a fire in the event of a fall because the fuel tap is closed automatically.

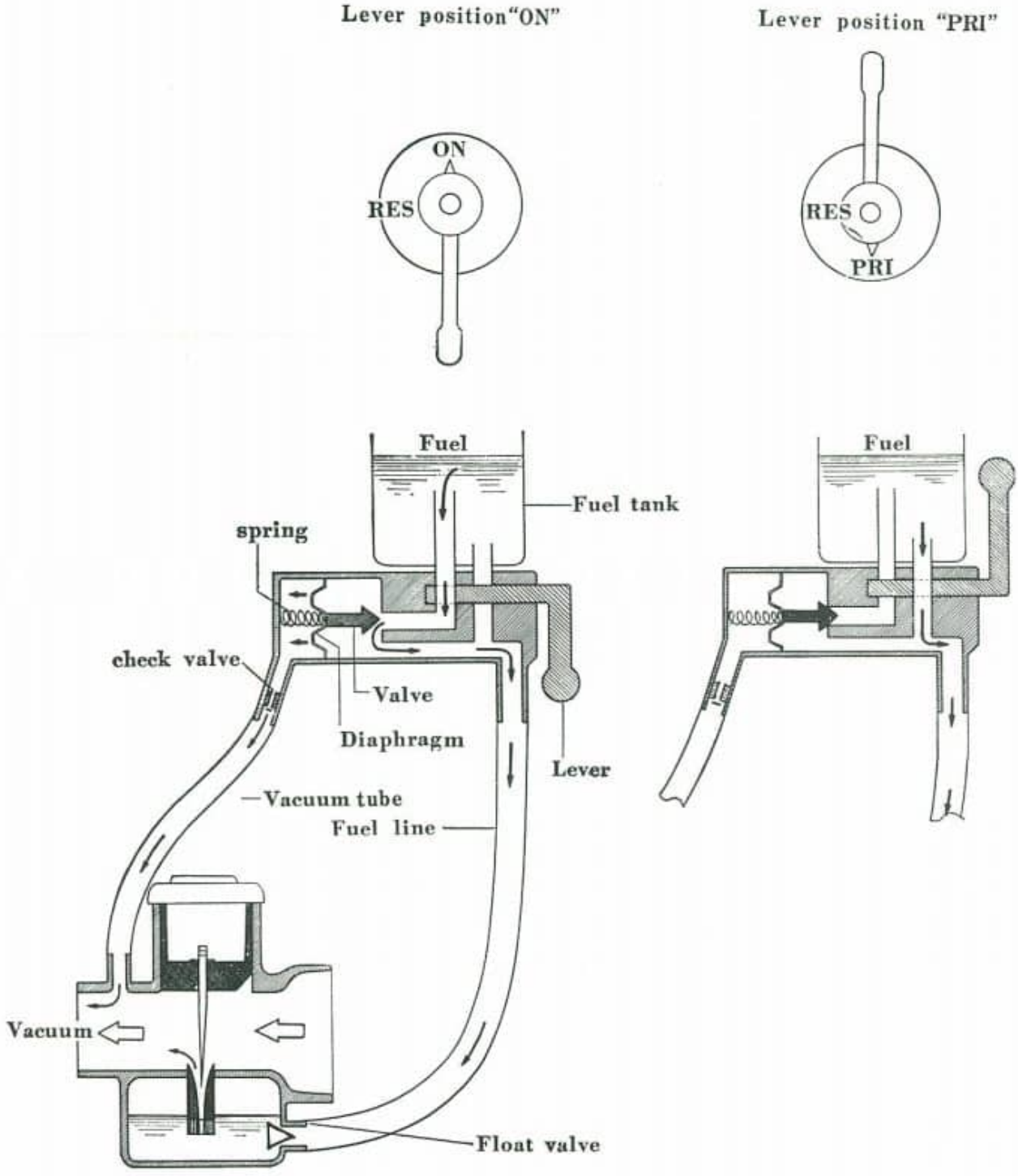


Fig.9-2-1 Fuel cock operation

Caution:

Don't disassemble the vacuum chamber, as the components thereof are precisely assembled and the diaphragm valve system may not work properly after they are reassembled.

Importance:

Don't allow the fuel cock to stay in the "priming" position for longer than one minute as the crankcase may fill with fuel. Damage to the engine connecting rod, piston, and seals can result from hydrostatic lock.

Fig.9-3-1 Sectional view of air cleaner

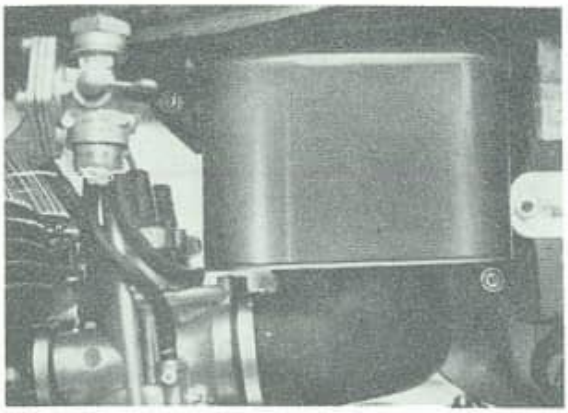


Fig. 9-3-2 Air cleaner fitting bolts

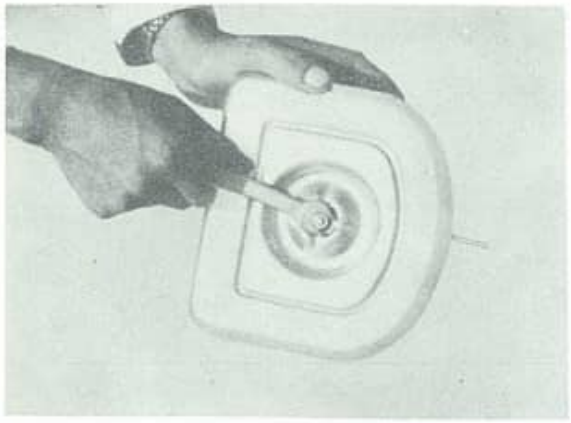


Fig. 9-3-3 Removing element

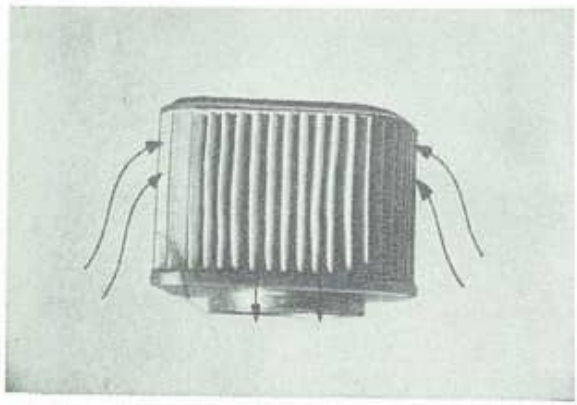


Fig. 9-3-4 Intake air in element

9-3 Air Cleanner

Air cleaner has an element, which inhales the air by means of the negative pressure of engine, and sends the filtered and cleaned air to the carburetor.

9-3-1 Removing

1. After removing the frame left cover, air cleaner front tube fitting screws shall be taken off by cross head screw driver, and two clamping bolts for the air cleaner shall be loosened by a 10 mm wrench.
2. Remove the air cleaner tube from the air cleaner by loosening the rubber tube clamp fitting screw with a cross head screw driver and then remove the air cleaner element by loosening the air cleaner center fitting bolt with a 10 mm wrench.

9-3-2 Servicing

Dust and dirt collected on the outside of the air cleaner element increase resistance to air flow and decreases engine power.

1. Clean the air cleaner element every 3,000 km (2,000 mi) and more frequently when riding in dusty areas. Never run the motorcycle without the air cleaner mounted. To clean the element, blow out dirt and dust from inside and outside the element by using an air gun.
2. Do not wash the air cleaner with gasoline or water which clogs the element and ruins it.
3. When the air cleaner element is exceedingly dirty, replace it with a new one.

Fig. 9-3-5 Clean element

9-4 Oil Tank And Outlet

The capacity of the oil tank is 1.8 liter (1.9/1.6 qt, Us/Imp) and on the oil tank is fitted a small inspecting eye. A breather hose is installed to relieve vacuum.

At the bottom of the oil tank is installed an oil outlet. And the magnet piece in the strainer cup of the oil outlet attracts foreign matter from oil, resulting in sending pure oil to the oil pump.

Caution :

Don't pinch breather hose when servicing motorcycle. This hose insures free flow of oil from tank.

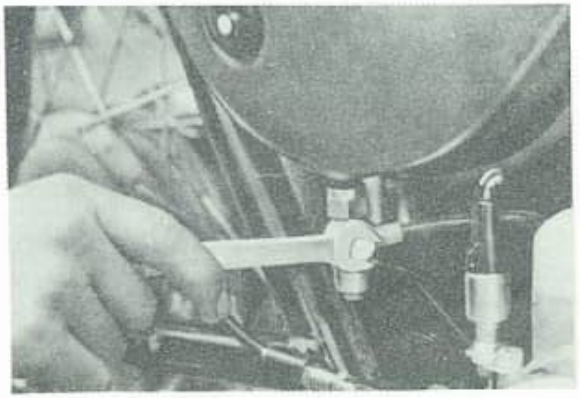


Fig. 9-4-1 Removing oil pipe

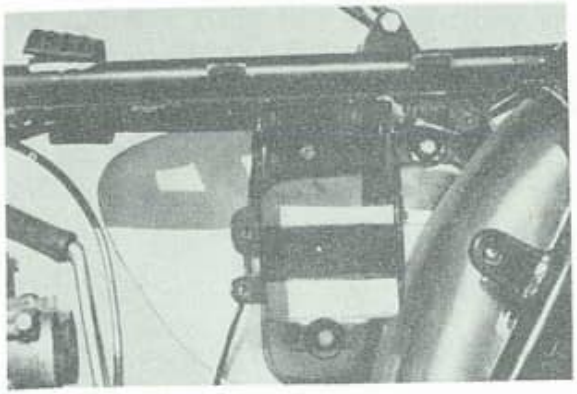


Fig. 9-4-2 Oil tank fitting bolts

9-4-1 Removing

1. Remove the oil pipe from the outlet with a 8 mm wrench and in case that oil is in the oil tank, fit a 6 mm screw or bolt into the oil outlet to prevent oil from flowing out.
2. To take off the oil tank remove the three bolts which are inside the frame with a 10 mm wrench.
3. Remove the oil outlet with a 17 mm wrench first and then remove the strainer cup from the oil outlet with a 10 mm wrench.

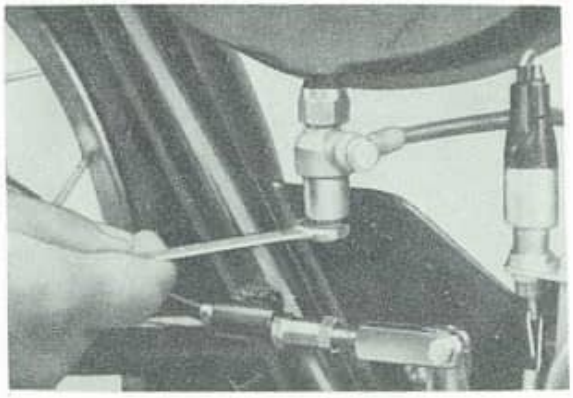


Fig. 9-4-3 Removing strainer cup

9-4-2 Servicing

1. Check to see that the breather pipe is not clogged. Because if the breather pipe of tank is clogged, it prevents oil from flowing smoothly.
2. A magnet is fitted in the oil tank outlet strainer cup to attract foreign matter in the oil tank. Remove foreign matter from the magnet every 3,000 km (2,000 mi) to clean the oil outlet strainer and oil strainer with compressed air or gasoline. with compressed air or gasoline.
3. After installing the oil tank, secure breather pipe with the fitting band above the battery so carefully as not to be bent.

Fig. 9-4-4 Checking oil breather pipe

Fig. 9-4-5 Clean strainer

9–5 Steering Damper

The unit is equipped with the friction disc so that the handle may be turned easily or with difficulty to meet the road condition. By virtue of its frictional force, steerage can be stabilized.

When the knob on the steering is turned to the right, frictional force is increased to make it difficult to operate the handle. When it is turned to the left, meanwhile, the operation becomes easy.

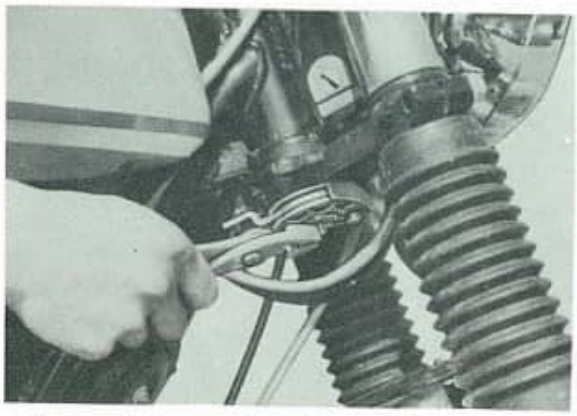
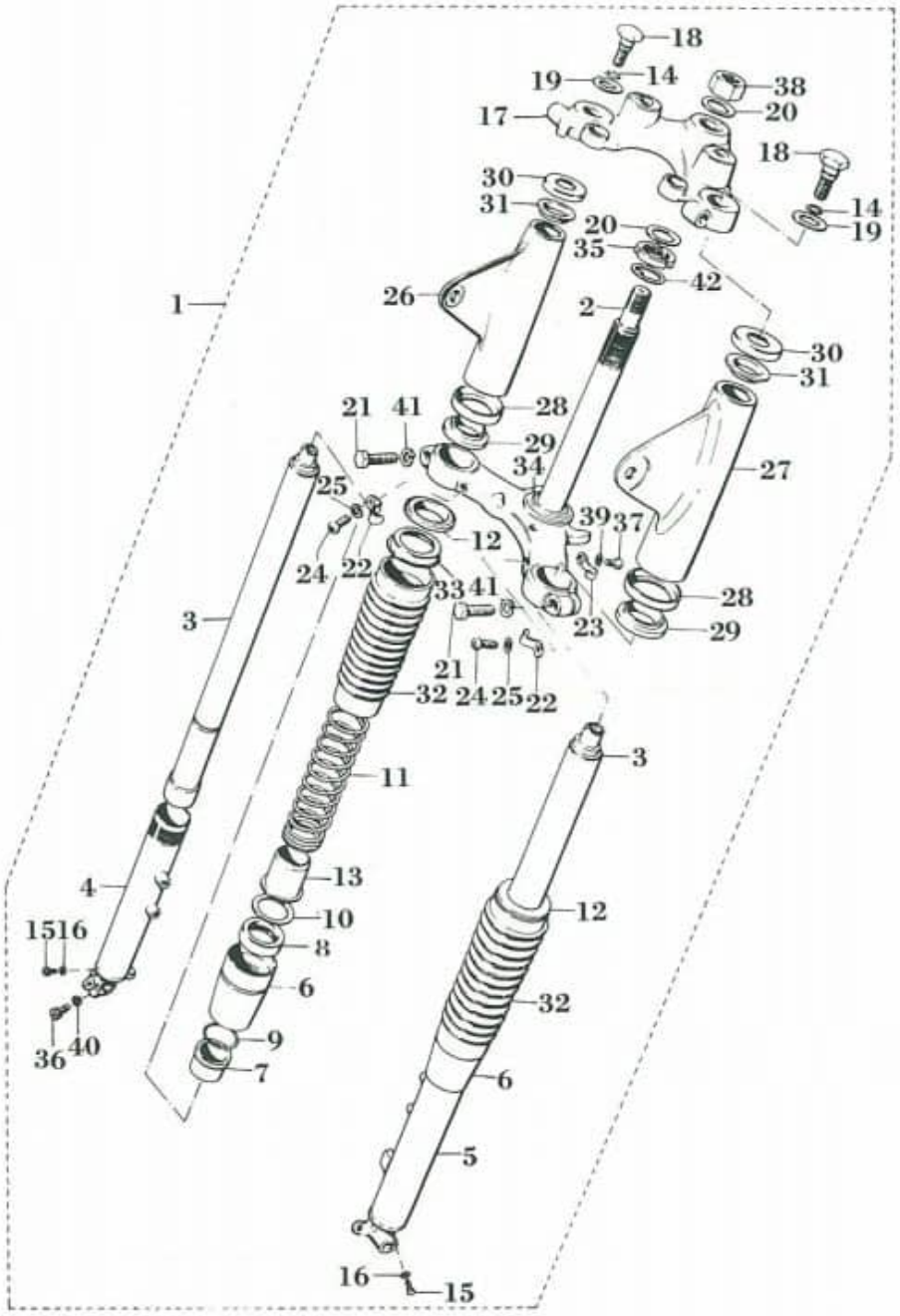


Fig. 9-5-1 Removing damper pin

9–5–1 Removing

First extract the steering damper pin below the steering under bracket with pliers, and then turn the damper knob to the left by hand until the threaded end of it is screwed out completely.

Finally pulling up the damper knob out of the frame neck, the steering damper components can be disassembled easily.



1 Front Fork Ass'y
2 Steering Stem
3 Fork Inner Tube
4 Fork Right Outer Tube
5 Fork Left Outer Tube
6 Fork Outer Tube Nut
7 Fork Inner Tube Guide
8 Fork Oil Seal
9 Oil Seal Lower "O" Ring
10 Fork Spring Seat
11 Front Fork Spring
12 Fork Spring Spacer
13 Fork Dust Seal
14 Fork Fitting Bolt "O" Ring
15 Fork Oil Drain Plug
16 Fork Oil Drain Plug Gasket
17 Steering Stem Head
18 Fork Fitting Bolt
19 Fork Fitting Washer
20 Steering Stem Lower Washer
21 Fork Inner Tube Fitting Bolt
22 Speedometer Cable Clip
23 Brake Cable Clip
24 Cross Head Screw
25 Lock Washer
26 Head Lamp Right Bracket
27 Head Lamp Left Bracket
28 Head Lamp Bracket Seat
29 Head Lamp Bracket Shock Damper (A)
30 Head Lamp Bracket Cap
31 Head Lamp Bracket Shock Damper (B)
32 Fork Spring Cover Boot
33 Fork Spring Cover Boot Guide
34 Steering Outer Race
35 Steering Stem Lock Nut
36 Small Head Hexagon Bolt
37 Cross Head Screw
38 Small Hexagon Nut
39 Lock Washer
40 Lock Washer
41 Lock Washer
42 Steering Stem Lock Washer

Fig. 9-6-1 Exploded view of front fork

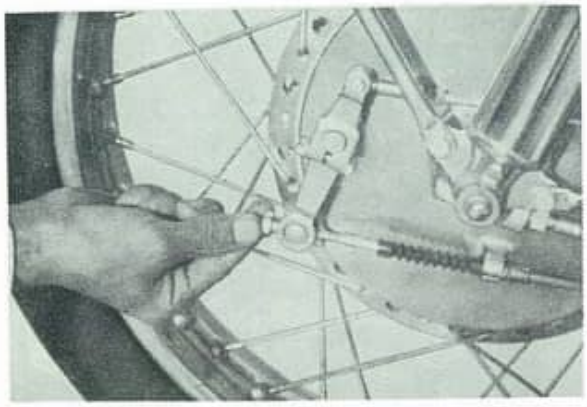


Fig. 9-6-2 Removing brake cable

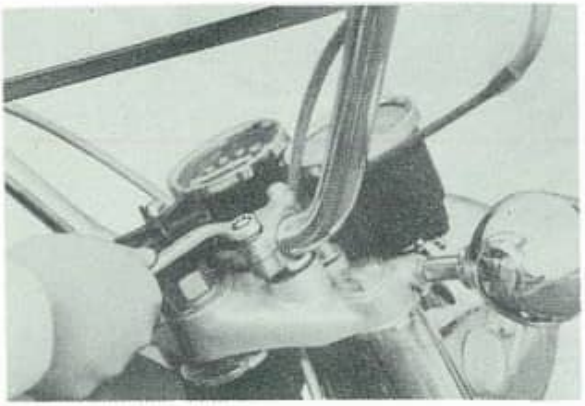


Fig. 9-6-3 Removing handlebar

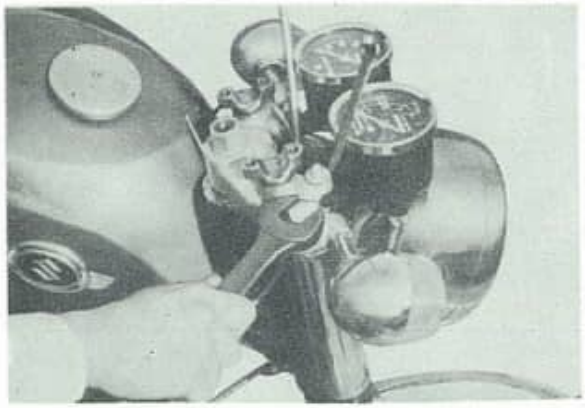


Fig. 9-6-4 Removing upper head

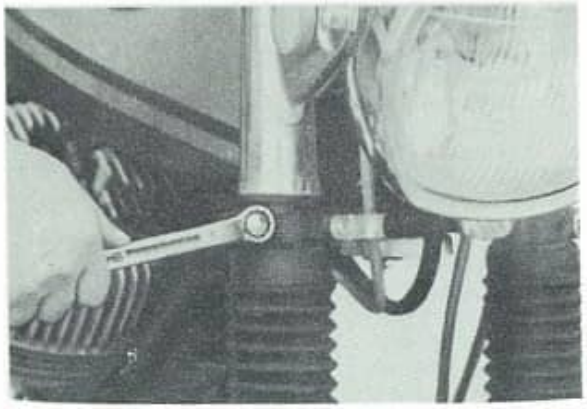


Fig. 9-6-5 Loosening inner tube fitting bolt

The front fork is constructed to support the front wheel and to absorb shock received by the front wheel to ensure safe steering during operation of the motorcycle.

The two legs which form the front fork are firmly fixed at three points, the steering stem head, steering stem and front axle.

9-6-1 Removing

1. After taking the front brake and speedometer cables off the front panel, the front fender shall be removed.
2. After taking the clutch, front brake and throttle cables off both handle ends, green and gray wires within the head lamp holder shall be disconnected. Four bolts of the handle holder shall be loosened by 12 mm wrench to remove the handlebar.
3. Steering head is equipped with the speedometer and tachometer. Therefore, their cables shall be taken off by pliers on the meter side.
   In order to remove the upper head, three bolts shall be loosened with 23 mm and 26 mm wrenches.
4. Two clamping bolts for the fork inner tube of steering stem shall be loosened with a 14 mm wrench to extract the outer tube downward.

9-6-2 Disassembling

1. Clamp the outer tube bracket in a vise and turn fork inner tube nut counterclockwise by using front fork inner tube nut special tool (09941-00110) and fork inner tube nut can be removed

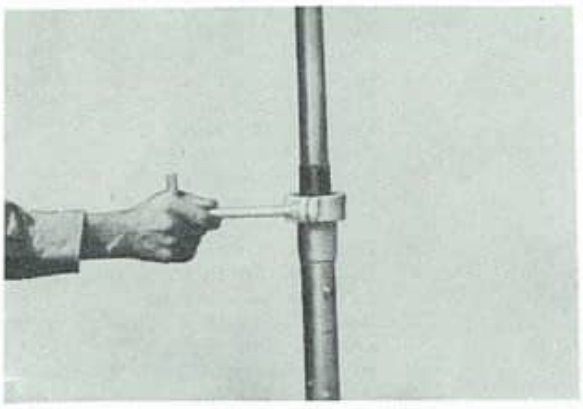


Fig. 9-6-6 Removing inner tube nut

together with oil seal from the outer tube.

2. If the oil seal is worn out or damaged, strike it out with a rod and a hammer and replace it with a new one.

9-6-3 Installing And Servicing

1. Screw the front fork assembling special tool (09940-30110) into the inner tube and pull it up tightly.

   Holding it pulled up tighten the fork inner tube fitting bolt firmly with a 14 mm wrench. Unscrew the special tool from the inner tube.

2. Motor oil, SAE #30, 220 cc. (0.462 US pint, 0.352 Imp. pint) shall be supplied from the top hole of each inner tube.

   When the front fork is filled with more or less oil than specified quantity, the function of the front fork may be lost. When the oil is too much, the stroke of the front fork is sometimes shortened and it becomes difficult to absorb external shocks. On the contrary, when the oil is too little, the front fork cannot stop stretching due to lack of oil, until the staged bottom end of the inner tube fits against the inner tube guide of the outer tube, causing a rattling noise.

   When no oil measuring cylinder is available, oil shall be gradually supplied to the guage level by using the oil level guage (09940-40111) as shown in Fig. 9-6-10. When the oil level is measured, on the main stand, motorcycle shall stand upright.

3. Front fork oil shall be fully drained by removing the drain plug and renewed at every 3,000 km (2,000 mi).

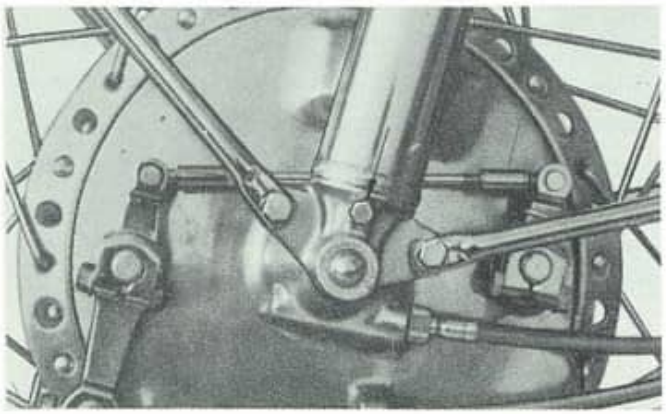


Fig. 9-6-11 Fork oil drain plug

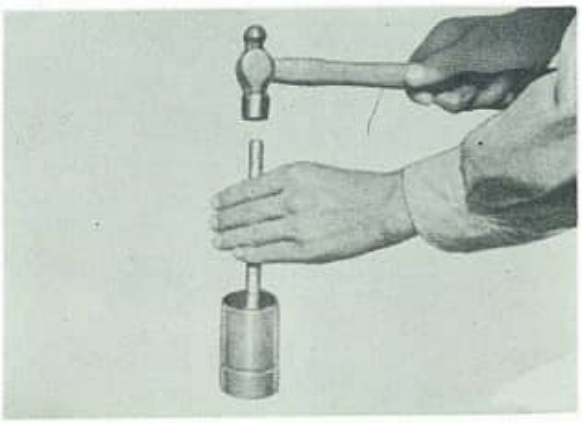


Fig. 9-6-7 Removing oil seal

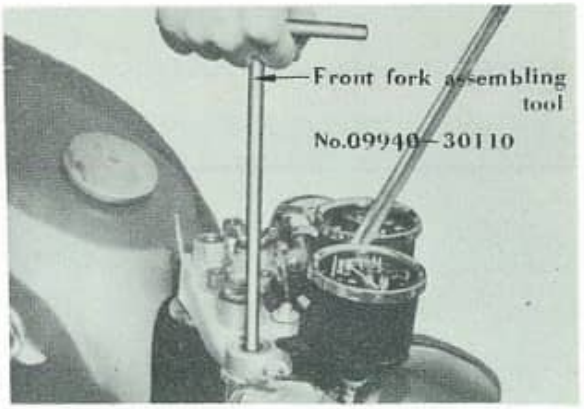
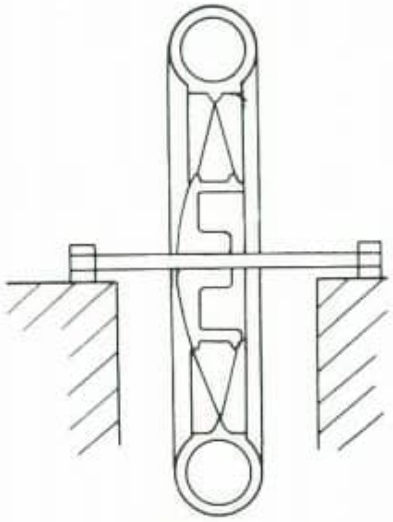


Fig. 9-6-8 Pulling inner tube

Fig. 9-6-9 Pouring fork oil

Fig. 9-6-10 Measuring fork oil level



Fig, 9-7-1 Checking wheel balanced

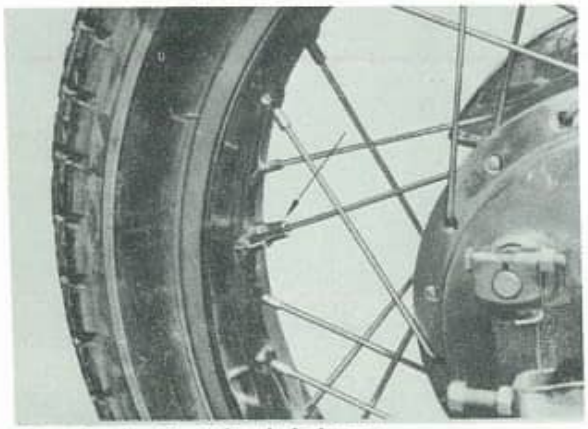


Fig. 9-7-2 Wheel balancer

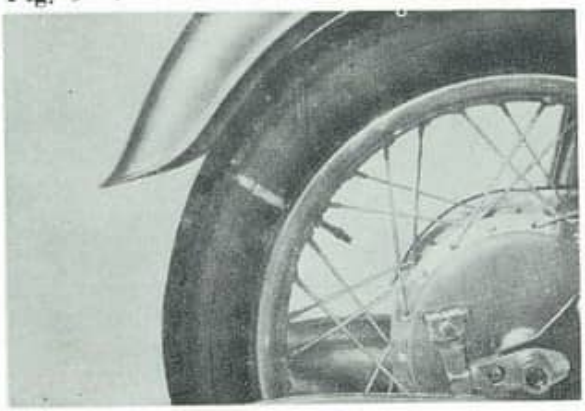


Fig. 9-7-3 Marking tire

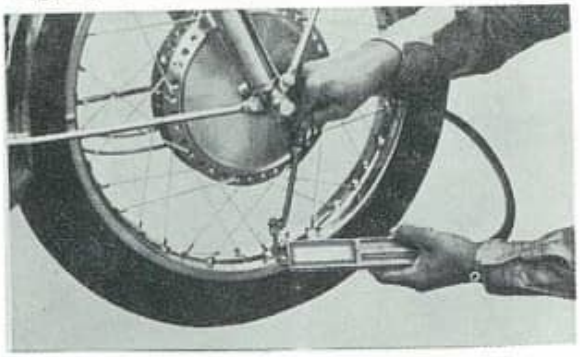


Fig. 9-7-4 Checking air pressure

9-7 Front and Rear Wheels

The front and rear wheels are balanced after the tires are fitted to ensure stability at high speeds.

9-7-1 Balancing wheel

Turn the wheel gently by hand and check the position where the wheel stops. Repeating this procedure several times, if the wheel always stops at the same position, fit a balance weight to the top of the wheel. Repeat until the wheel is balanced and does not stop at one position all the time. Balancing Weights of 20 grams and 30 grams are stocked as spare parts.

9-7-2 Caution

1. The inner tube valve side of the wheel is usually the heaviest, so balance weights must be fitted on the opposite side of it.
2. Remove the drive chain, before starting to balance the rear wheel.
3. Mark the tire at the position of the inner tube valve stem before replacing a puncture to prevent the wheel from becoming unbalanced. Align the mark with inner tube valve stem hole mounting the tire on the rim so the wheel remains balanced.

9-7-3 Air pressure

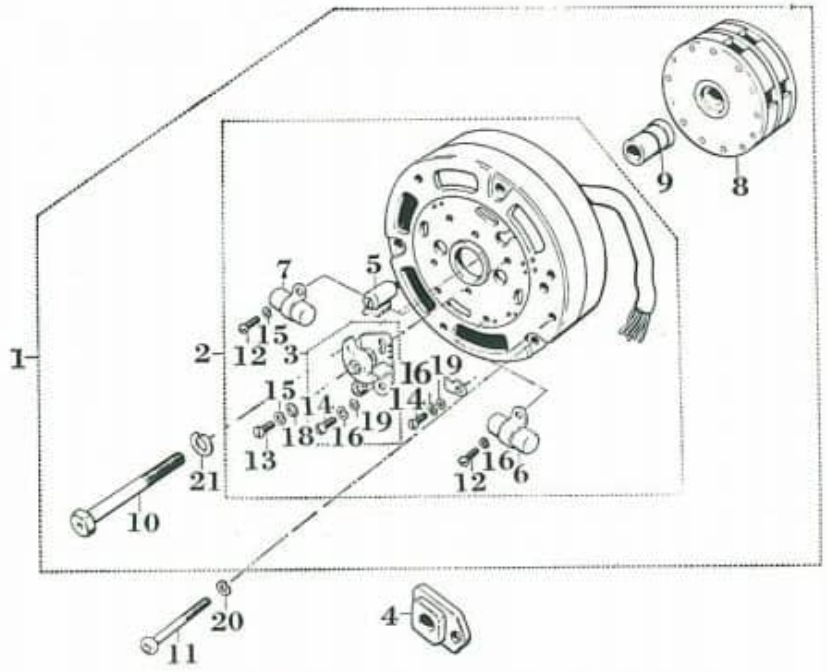
The tire size is 3.25-19 for the front, and 4.00-18 for the rear. Insufficient air presseure in the tires hastens tire wear and increases road resistance which increases fuel consumption and adversely affects the performance of the motorcycle. Soft tires also make smooth cornering difficult. Over-inflated tires decrease the areas of them in contact with the ground and cause skids when the brakes are applied as well as subjecting the tire to stress, which is bad for it. Hard tires also tend to throw the motorcycle into slides on corners. Be sure that tire pressure is correct at all time.

Front……1.6 kg/sq cm (23 lb/sq in)
Rear……solo riding……1.9 kg/sq cm (27 lb/sq in)
dual riding……2.3 kg/sq cm (33 lb/sq in)

10 ELECTRICAL EQUIPMENT

		Page
10-1	AC Generator	84
10-2	Ignition SyStem	85
10-3	Ignition Timing	90
10-4	Charging System	92
10-5	Voltage regulator	93
10-6	Battery	94

10-1 AC Generator

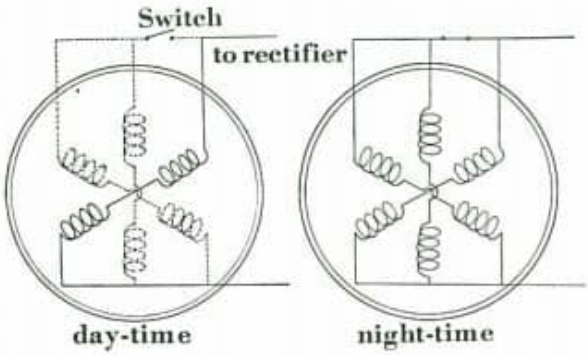


1 A.C.Generator Ass'y
2 Stator Ass'y
3 Contact Point Ass'y
4 A.C.Generator Wiring Harness Bushing
5 Cam Oil Felt Ass'y
6 Right Condenser
7 Left Condenser
8 Rotor
9 Contact Breaker Cam
10 Rotor Fitting Bolt
11 Strong Cross Head Screw
12 Slotted Pan Head Screw
13 Slotted Pan Head Screw
14 Slotted Pan Head Screw
15 Lock Washer
16 Lock Washer
17 Lock Washer
18 Lock Washer
19 Flat Washer
20 Lock Washer
21 Lock Washer

Fig. 10-1-1 Exploded view of generator

AC generator is featured by the followings: Its construction is so simple that it can be easily served. Its rotor is an inside running type, and generating coil can be laid outside. Therefore, the number of coils and turns can be increased, making the generating capacity larger.

As the generated current is alternating, battery cannot be directly charged. After being converted into direct current by rectifier, the current charges the battery, and is also supplied to the ignition system, head lamp, horn, etc.



A. day-time B. night-time

Fig. 10-1-2 A.C. generator wiring diagram

10-1-1 Construction

6-pole permanent magnet is pressed on the inside of rotor. Rotor is fitted on the tapered end of the crankshaft by means of the clamping bolt.

Six generating coils are incorporated into the stator in parallel, and produce electromotive force with the run of motor. When the ignition switch is placed on the daytime position, only two coils, C_1 and C_2 produce electromotive force as shown in the Fig. 10-1-2 (A). When it is placed on the night position, however, switch "S" is closed (Fig. 10-1-2 (B)), and all the coils, C_1-C_6 produce electromotive force to meet the electrical load, because the power is used for the head lamp and others.

10-1-3 Specification

Manufacturer	Kokusan Denki
Type	EF 39
Turning Direction	Counterclockwise
Air Gap	0.5 mm (0.02 in)
Weight	3 kg (6.6 lb)
Ignition Timing	24°(3.4mm)before top dead center
Contact Point Gap	0.3—0.4 (0.012—0.016 in)
Contact point pressure	650—850 g (1.43—1.87 lb)
Condenser Capacity	0.22—0.28 μF
Turning Speed	500—8,000 rpm (momentary maximum rpm: 12,000)

10-1-4 Inspection

1. Checking the broken coils
   Resistance between the yellow-green and red-green lead wires shall be checked by tester. When the resistance between the above both wires is approx. 0.6 Ω, it is normal. When it is more .than the above value, coil is broken. Therefore, stator shall be replaced.
2. Checking the grounded coils.
   When there is no conductibility between the tester core and the stator coil lead wires colored with the yellow-green, red-green and green-white respectively, the coils are in normal condition. If any con ductibility is observed, coil is grounded. Therefore, coil shall be renewed.
3. As a magnet is pressed on the rotor inside, foreign matter would be often attracted to it. If the unit is used in such a status, foreign matter would fly out by virtue of centrifugal force to damage the rotor or disconnect the stator coil. Accordingly, surroundings and inside of the rotor shall be checked.

10-2 Ignition system

Power generated by the AC generator is stored in the battery. Power, which becomes high voltage by way of contact points, condenser and ignition coil, sets fire to the fuel mixture in the combustion chamber by means of spark plug, and becomes a source on the explosion stroke of the engine.

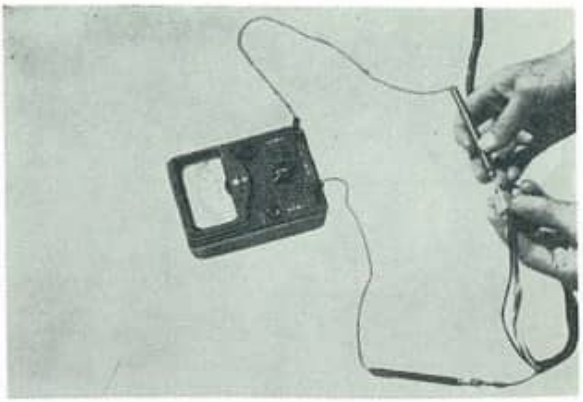


Fig. 10-1-3 Checking of stator coil

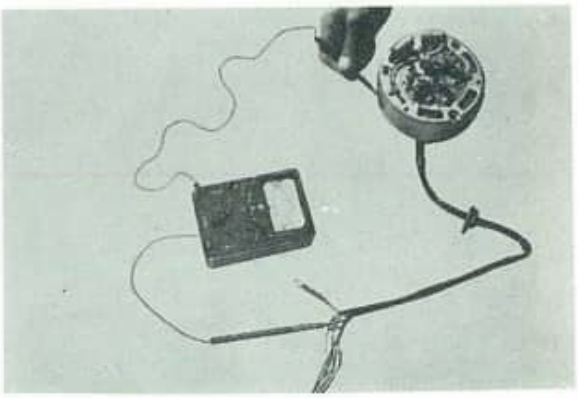


Fig. 10-1-4 Checking ground stator coil

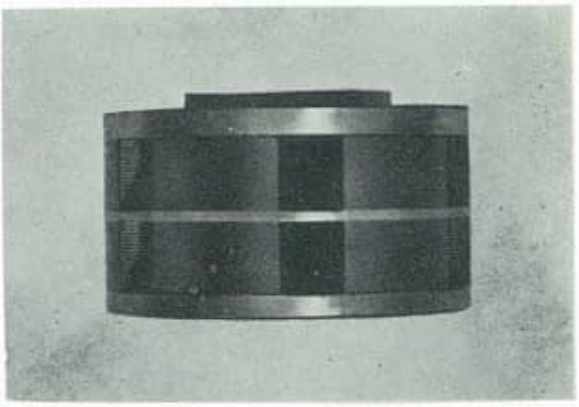


Fig. 10-1-5 Checking rotor

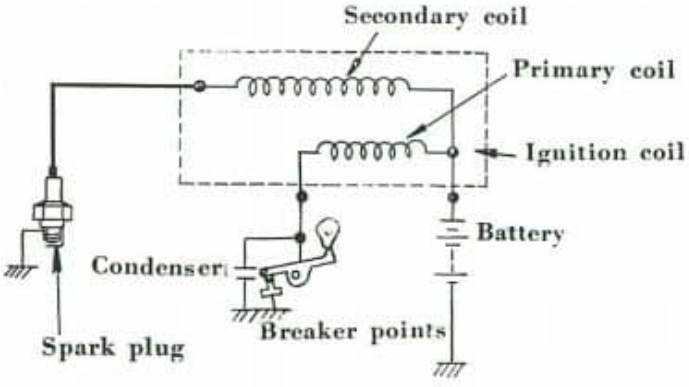


Fig. 10-2-1 Sectional view of ignition system

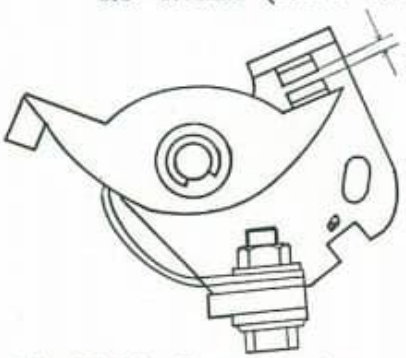


Fig. 10-2-2 Contact breaker

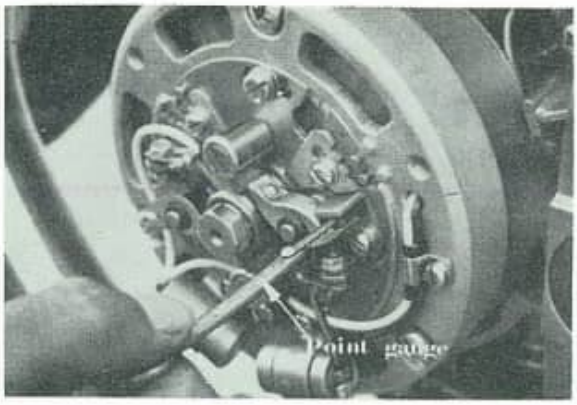


Fig. 10-2-3 Measuring point gap

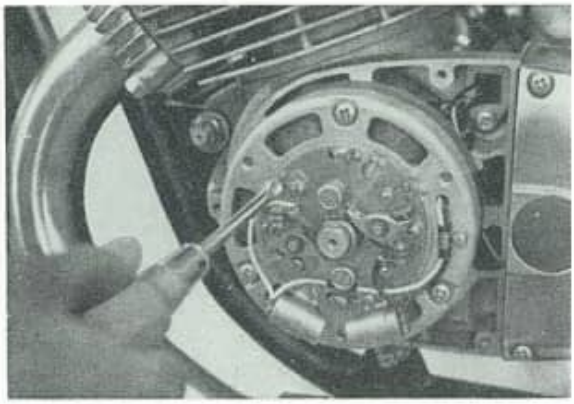


Fig. 10-2-4 Adjusting point gap

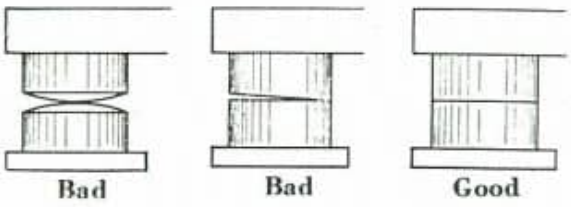


Fig. 10-2-5 Contact point

10-2-2 Contact breaker

The contact breaker installed on the stater is a kind of switch which cuts the primary current generated in the ignition primary coil by the action of a rotating cam outside on the rotor.

A. Point gap

To generate high voltage in the ignition coil, it is necessary to interrupt the flow of current in the ignition primary coil, and the flow of the current is interrupted when the contact points just open.

If the point gap is too small, the current is not interrupted completely because of the flying arc, and if too large, the absolute quantity of the primary current decreases.

In both cases high voltage cannot be produced. The standard contact point gap should be 0.3—0.4 mm (0.012—0.016 in). To measure the gap, use the thickness gauge.

If the contact point gap is larger than standard, first, loosen the screw (a), insert screw driver in slot (b) located on the contact base and then move the base to the right to adjust the gap to the standard. If the gap is smaller, move the base to the left.

B. Inspecting

After removing the moving point and the fixed point together and separating both contact points by removing the circlip on pivot, see if the point surfaces are burned or pitted. Polish them with an oil stone.

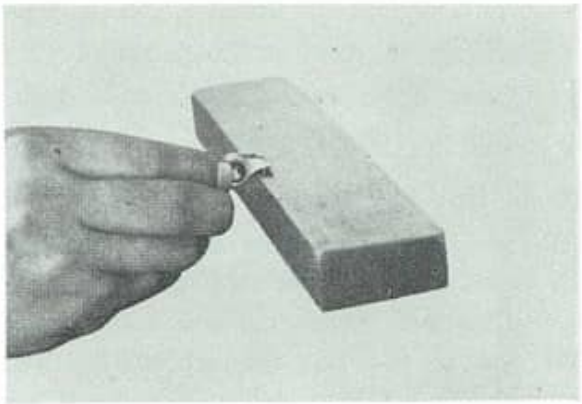


Fig. 10-2-6 Polishing points

10-2-3 Ignition coil

The ignition coils are installed under the fuel tank to obtain excellent cooling and increased insulation. Further, the arrangement of the parts leaves enough space so that the life of coils is prolonged.

A. Inspecting

1. Engine starts but does not run smoothly; check the performance of the ignition coil using an electro tester. Remove the spark plug cap (Right or left) from high tension cord. Connect the end of the high tension cord to the tester positive terminal and the spark plug to the tester negative terminal.

   Adjust the tester three prong gap until it reaches 6 mm (0.236 in). Check the spark for about five minutes. Open the gap to more than 6 mm. If the spark is still strong and blue, the ignition system is good.

   Note: 1. Use a new spark plug.
   2. Do not open the three prong gap over 8 mm (0.315 in), or coil damage will result.
   3. When starting the engine, set the three prong gap to zero.

2. Engine does not start

   In case the engine does not start despite of the correct gap of contact points, proper spark plugs and smooth flow of fuel to the carburetors, check the ignition coil as a unit by using a 12 volt battery as the electric source for the electro tester.

   a. Connect the ignition coil to be tested with the tester as shown in Fig. 10-2-9
   b. Turn up the spark test switch
   c. Turning the three prong gap dial, find the spark length of 6 mm to 8 mm which is most suitable for the test.

3. Don't run engine with coil high tension disconnected. Coil will be damaged.

10-2-4 Condenser

The condenser is necessary to prevent sparks from arcing in the contact points. A condenser is connected in parallel with the contact points to absorb electric energy and keep it from sparking in the contact breaker.

The condenser has a proper capacity to absorb

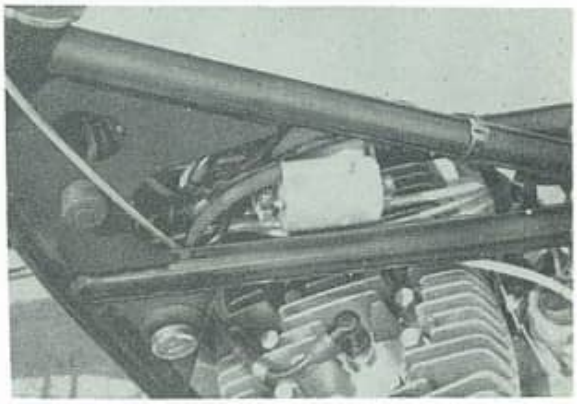


Fig. 10-2-7 Position of ignition coil

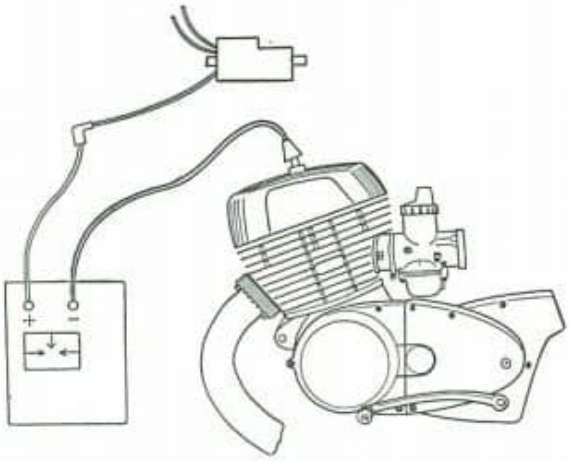


Fig. 10-2-8 Checking ignition performance

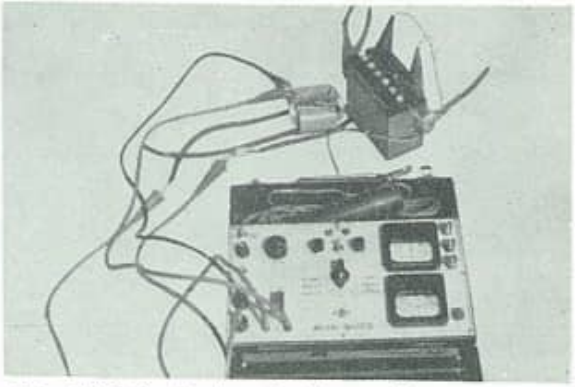


Fig. 10-2-9 Testing ignition coil

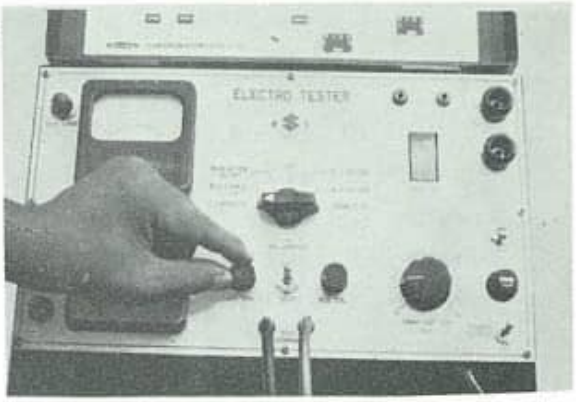


Fig. 10-2-10 Adjusting capacity

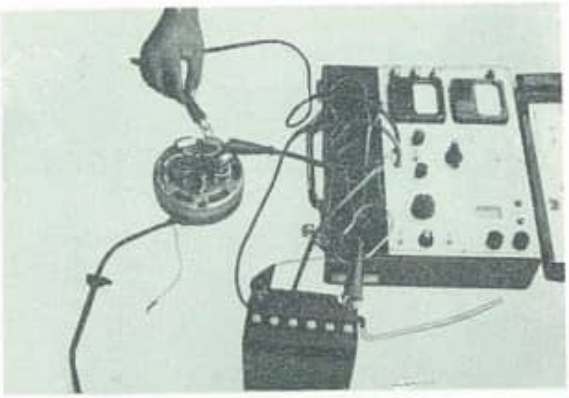


Fig. 10-2-11 Testing condenser capacity

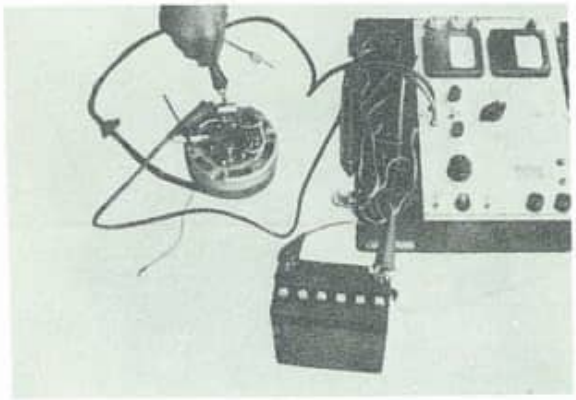


Fig. 10-2-12 Inspecting insulation resistance of condenser

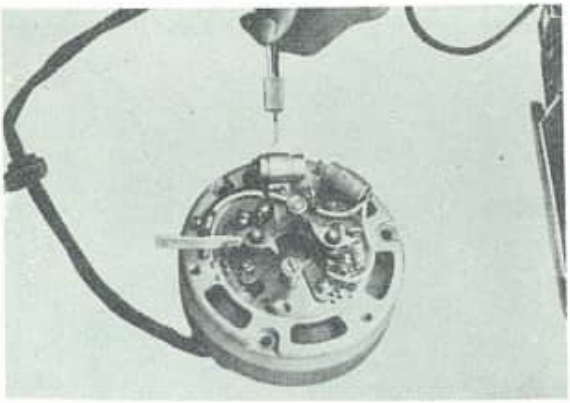


Fig. 10-2-13 Spark jumping of condenser

and charge electric energy. If the capacity is not sufficient, spark jumps between the contact points, burning them.

A condenser with too great capacity produces poor sparks in the spark plug.

The condenser must have a capacity of 0.22—0.28 μF.

A. Inspecting

Check the condenser performance as follows by using a 12 volt battery as the electric source for the electro tester.

° Measurement of capacity

1. Turn the selecter switch to "C Capacity" position.
2. Turn the tumbler switch (CAL-TEST) Up to "CAL" position, and turn the capacity adjustment knob (CAP-CAL) until the pointer of the meter comes to show the equivalent value to the capacity (inscribed in the name plate) of the standard condenser built in the electro tester.
3. Apply the test cords to the terminal marked "TEST-TERMINAL", connect the condenser to be tested with the other ends of the cords, and turn the tumbler switch down, then the pointer will show the capacity of the condenser being tested.

The capacity of the normal condenser	0.22—0.28 μF

° Measurement of insulation resistance

1. Turn the selector switch to "Insulation" (Megohm).
2. Turn up the knob of the tumbler switch to "CAL" position and then turn the zero adjustment knob marked "RES. CAL" until the pointer of the meter comes to 0.
3. Be sure to insert a piece of paper between the contact points of the generator stator.
4. Connect the test-cord with the terminals mark "TEST TERMINAL", turn down the tumbler switch, and apply the other ends of cord to the condenser to be tested. The pointer of the meter will move to the right and then quietly back to the left.

Keeping the connection till the pointer comes to stand still, read the pointer on the scale by Megohm. Bring the condenser wire near the body, so a spark will jump between the wire and the body.

The insulation resistance of the normal condenser	Over the 10 Meg-ohm

10-2-5 Spark plug

The standard spark plug for this engine is NGK B-77HC. If the spark plug is always wet with oil, use a hotter plug. If the spark plug is burned, use a colder plug. Check to see that the carburetor is working properly before changing spark plug. It is a very rare case when a hotter plug is required. Usually a wet spark plug is a sign of improper carburetion or ignition.

Good Burned Wet

Fig. 10-2-14 Condition of spark plug

Hot type ←—	Standard	—→ Cold type
B-7HC	B-77HC	B-8HC

A. Checking

Place the spark plug with cap connected on the cylinder head after removing from the spark plug hole.

Turn on the ignition switch and check to see that a strong blue spark jumps between the electrodes by turning the engine with the kick starter lever. In case no blue spark is produced, take the spark plug cap off of the high tension cord. Hold the end of the high tension cord about 4-5 mm (0.16-0.20 in) away from a cylinder head, depress the kick starter lever smartly. If a spark jumps between the high tension cord and cylinder head, the plug is in bad condition. If not, the problem is in the preceding spots.

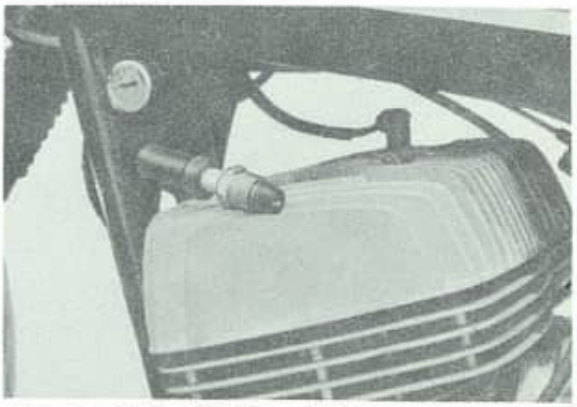


Fig. 10-2-15 Checking ignition

B. Servicing

1. Cleaning

Remove the spark plug from the cylinder head and clean off the carbon deposit. Use a spark plug cleaner, if available. If not, clean with a pin, wire, etc., but take care not to damage the insulator, clean any abrasive from the spark plug with solvent or gasoline.

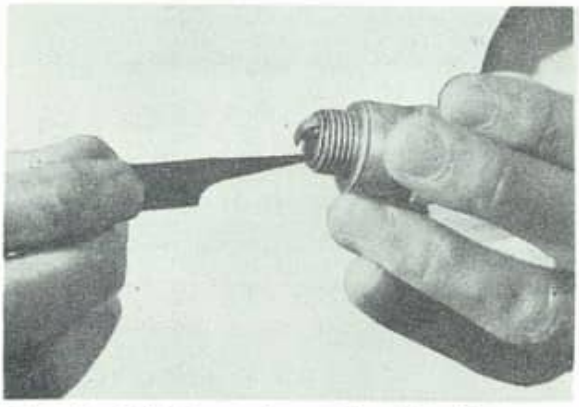


Fig. 10-2-16 Removing carbon deposits

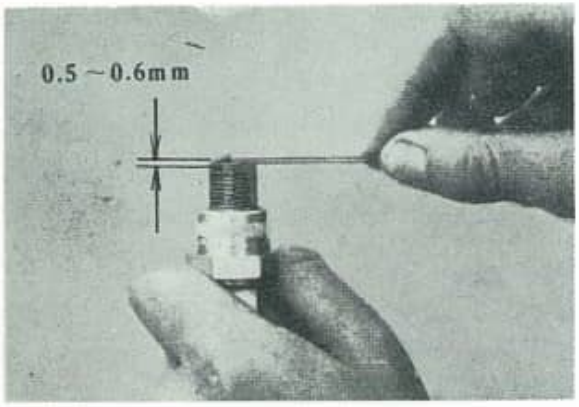


Fig. 10-2-17 Checking spark plug gap

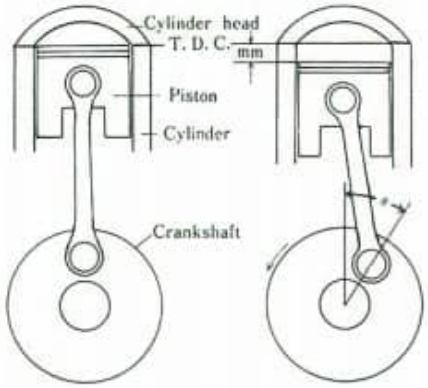


Fig. 10-3-1 Ignition timing

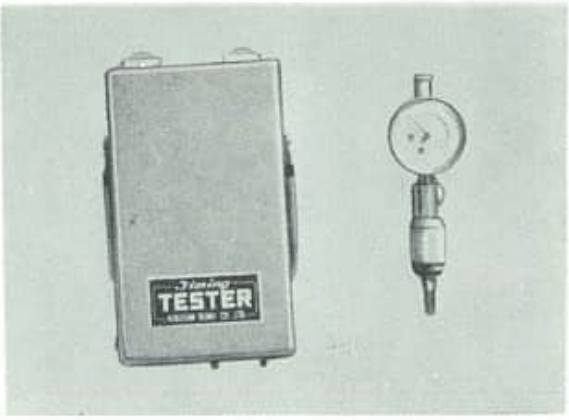


Fig. 10-3-2 Checking tools of ignition timing

2. Regapping

The gap between the center electrode and side electrode should be adjusted to 0.5 - 0.6 mm (0.020 - 0.024 in).

Electrodes wear during operation and the gap becomes larger. It is difficult for a spark to jump between the electrodes when the gap exceeds 0.6 mm (0.024 in) and engine performance decreases. If the center electrode is worn badly, replace the spark plug with a new one.

Adjust spark plug gap by bending the side electrode. Check and adjust spark plug gap every 1,000 km (600 mi).

10-3 Ignition Timing

Ignition timing is the most proper time to ignite the compressed gas in the compression process of the engine and is usually shown by the distance from T.D.C. down to the top of the piston when the contact point just begin to open. Improperly adjusted ignition timing not only causes decreased engine performance but also causes ahnormal noises in the engine and shortens the life of the engine. Adjust ignition timing carefully.

The relation between piston distance (mm) and crankshaft angle of T500 - II.

Timing retards			Standard	Timing advance	
Piston distance (mm)	2.86	3.13	3.40	3.67	3.95
Crank angle	22°	23°	24°	25°	26°

10-3-1 Checking ignition timing

Before checking ignition timing, turn off the ignition switch and be sure that contact point gap is set at 0.35 mm.

A. Checking with timing gauge and timing tester

(1) Removing the spark plug from the left or right cylinder head, screw the timing gauge holder with the timing gauge inserted in it into the spark plug hole.

(2) Use the timing tester to find the moment the contact points begin opening.
Connect one of lead wires of a timing tester to the positive terminal of the black or white wire from contact points (right contact points for checking ignition timing of the right cylinder and left points for the left cylinder) and the other lead to somewhere on engine to ground it.

(3) Find out T.D.C. by turning the crankshaft slowly and adjust the dial gauge needle to "0" when the piston is at T.D.C.

(4) Turning slowly the crankhaft clockwise-in other words, in opposite direction of engine rotation, tone of the timing tester buzzer changes, and the lamp on the tester goes out. These changes tell you the precise position where contact points begin to open that is ignition timing. Read the dial gauge at this moment. If the reading is smaller than the 3.49 mm (standard), ignition timing is retarded and if larger, it is advanced. In either case, adjust it to the standard by moving the contact point base referring to paragraph 10-3-2 ,Adjusting.

B. Checking timing marks

1. Check with timing tester

Turn the crankshaft slowly to the left with 14 mm wrench. Use the timing tester to find the position that the contact points just begin to open. Check to see that at this position black and red timing marks on the rotor align perfectly with the timing mark on the stator. The ignition timing is correct if the maximum contact point gap is 0.35 mm (0.014 in).

Black mark: for right cylinder, right contact point

Red mark: for left cylinder, left contact point

2. Checking with timing lamp (Suzuki electro tester)

If the light of a timing lamp is thrown on the ignition timing marks with the engine running, the timing marks appear to stop at the position where the spark jumps in the spark plug.

Check to see that the marks on the rotor (Red and blue) align with the mark on the stator.

10-3-2 Adjusting

If the reading of the dial indicator in piston stroke is larger than 3.4 mm or timing mark B on the rotor is above pointer A on the stator the ignition timing is advanced.

If the reading is smaller than 3.4 mm or mark B is below A, the ignition timing is retarded. In either case, adjust the ignition timing to the standard.

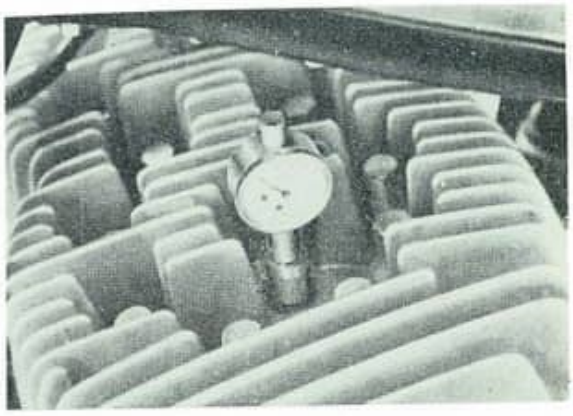


Fig. 10-3-3 Timing gauge

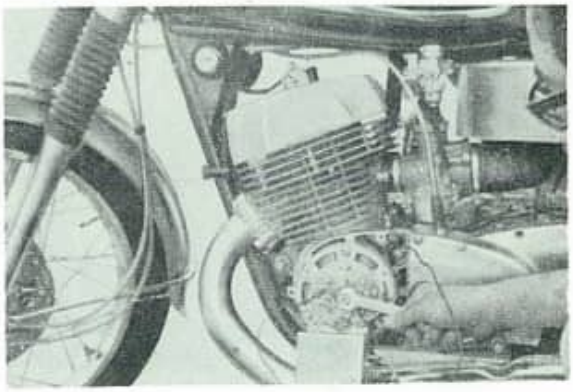


Fig. 10-3-4 Inspecting ignition timing

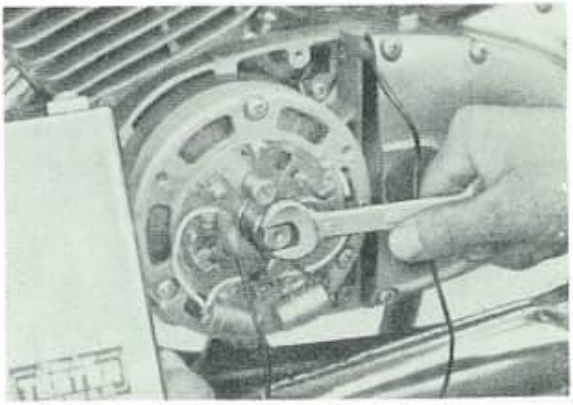


Fig. 10-3-5 Checking timing marks

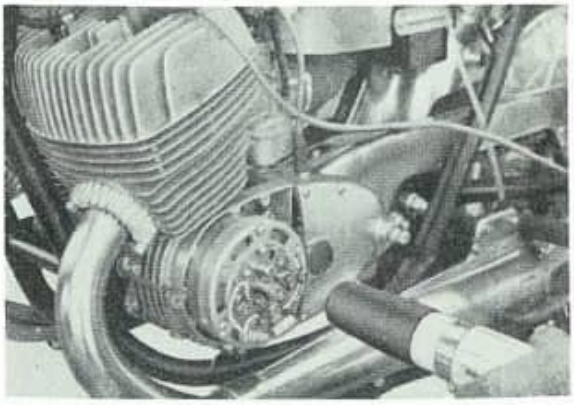


Fig. 10-3-6 Confirming ignition timing

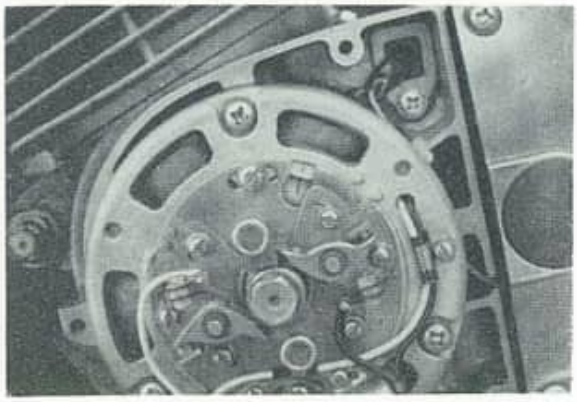


Fig. 10-3-7 Ignition timing marks

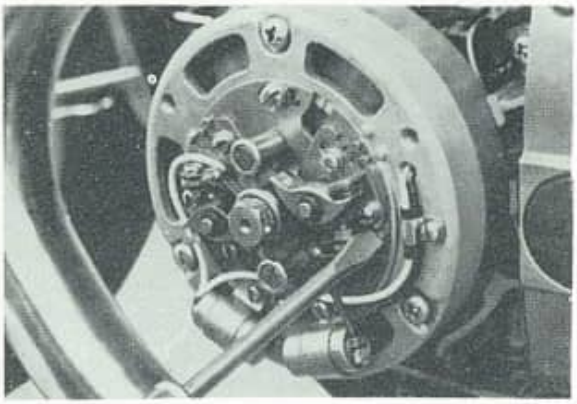


Fig. 10-3-8 Adjusting ignition timing

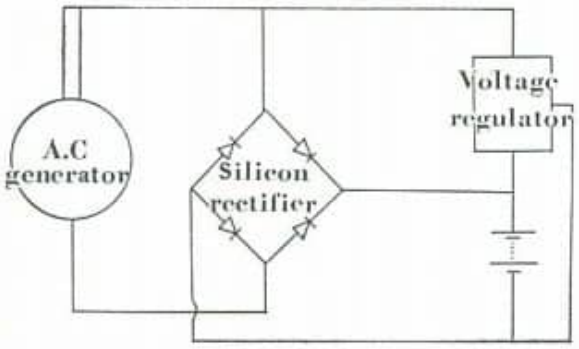


Fig. 10-4-1 Charging system wiring

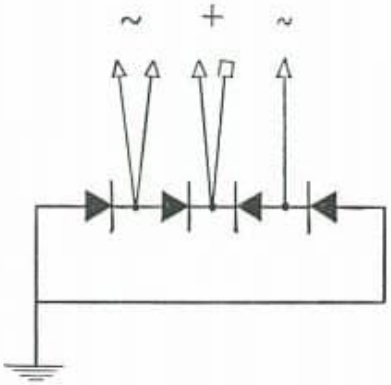


Fig. 10-4-2 Rectifier wiring

Loosen the screws (A, B) for adjustment of the ignition timing in the left cylinder or screws (C, D) for adjustment in the right cylinder. To adjust to the correct ignition timing, move the contact point bese to the right side with a screw driver when ignition timing is retarded and to the left side when ignition timing is advanced. Tighten the screws firmly after adjusting ignition timing.

10-4 Charging system

AC power generated in the generator is converted into the DC in the silicon rectifier, which is stored in the battery. It is then supplied to the ignition system, head lamp, etc. In order to prevent the overcharge of battery in case of the high-speed running, high-voltage current is adjusted to 15.8 - 16.6 volts in the voltage regulator. Thus the constantly stabilized current is fed to the battery.

10-4-1 Charging performance

Value in bracket ( ) shows that without voltage regulator connected.

Item \ rpm	1,500	8,000
Charging current (day)	begin to charge	below 2A (below 3A)
Charging current (Night) when using head lamp beam (25w)	begin to charge	below 1.5A (below 3.7A)

10-4-2 Silicon rectifier

A four diode silicon rectifier is installed, bridging the electrical circuit so that alternating current produced by the AC generator is rectified and direct current is supplied to the battery.

Electric current generated in the AC generator alternately change from positive to negative and from negative to positive, but this electric current is rectified by a full wave rectification to produce a direct current most effectually.

A. Inspecting

Connect the rectifier wire to a tester one by one. Check the conductivity in positive direction and negative direction in accordance with 1 to 4. If any of the four checks is not satisfactory, it indicates

that electric current is flowing in the reverse direction from what it should. Replace the rectifier with a new one as this indicates the rectifier is defective.

1. yellow/green red
2. ground red/green
3. red/green red
4. ground yellow/green

Example:

When conductivity from yellow/green to red is checked and red to yellow/green conductivity is found, the rectifier is defective.

10–5 Voltage regulator

Voltage regulator above the battery controls the voltage so that the constant-voltage current may be supplied to the electrical equipment. The specified voltage regulated is 15.8—16.6 volts. It is an electronic relay without any mechanically working mechanism, which utilizes the special property of semiconductor.

This regulator is characterized by its compactness and light weight, simple setting, stabilized value of the regulated voltage, and its semipermanent life.

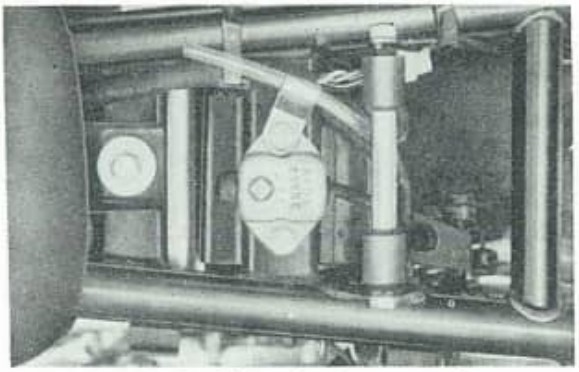


Fig. 10-5-1 Position of voltage regulator

10–5–1 Construction

When the battery is so fully charged as to increase its voltage, current flows in a direction reverse to the "ZD" (Fig. 10-5-2). When the reversely applied voltage exceeds the definite value, the "ZD" lets the current flow in an inverse direction, which flows to the gate of "S.C.R.". Current of the S.C.R. flows in the arrow-marked direction. Unless any current is given to the gate from outside, however, current does not flow in the arrow-marked direction, too.

When the current, which had flowed through the "ZD", is given to the gate of "S.C.R.', gate is opened, the current from the generator does not flow to the battery but is fed back to the generator. As the through the S. C. R. from the anodento the cathode causing battery voltage to decrease. When the battery voltage decreases, current does not flow to the gate, gate is closed, generated current does not flow through the voltage regulator, but directly to the battery to resume charge. When this operation is repeated, battery input voltage is controlled.

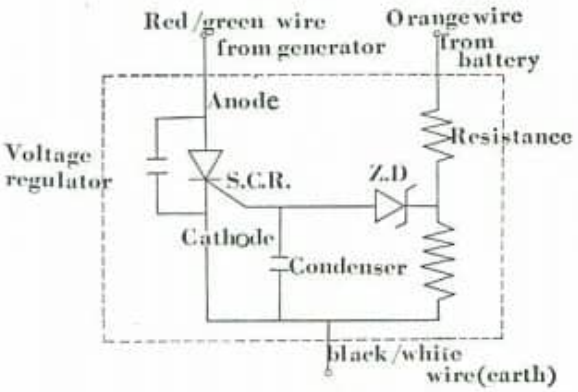


Fig. 10-5-2 Wiring of voltage regulator

ZD : Zener Diode

S.C.R: Silicon Control Rectifier

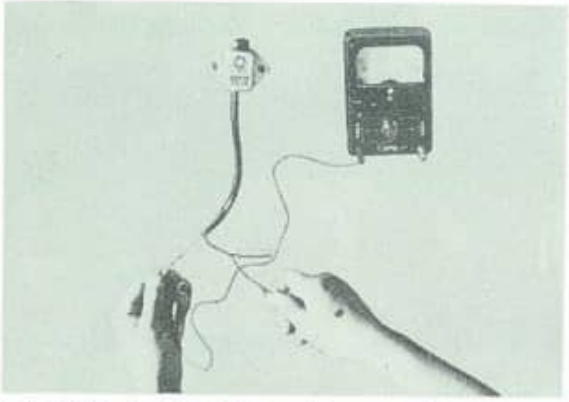
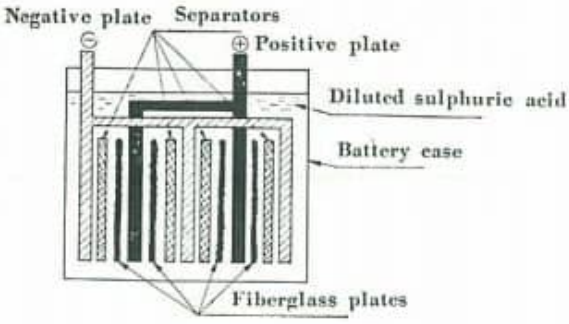


Fig. 10-5-3 Checking voltage regulator



Fg. 10-6-1 Battery construction

Fig. 10-6-2 Electrolyte solution level lines

10-5-2 Inspection

In case the battery charging voltage is higher than 15.8—16.6 v, i,e. the battery is somewhat overcharged, regulator small be checked.

1. Tester shall be connected between the orange-colored and black-white wires. If the resistance is approx. 1 K Ω, condition is good.
2. Tester shall be applied to the portions from the red-green to the black-white wires, and from the black-white to the red—green wires to check the conductibility.Condition is good if the tester shows no conductibility in both cases.
3. Cautions in handling

A. Rubber cap projecting on the outside of the voltage regulartor shall not be removed, because it prevents the short circuit.
Hexagonal nut in the rubber cap is used to connect the internal circuit. If it is loosened therefore, regulator would be out of order. Regulator would be connected in such a condition that the engine is not started.

B. A mistaken connection would damage the regulator and battery. Caution should be used for the connection.

10-6 Battery

The 12V 7AH battery is fitted into the center part of the frame left side together with the battery fitting plate with bolt.

The battery is constructed of alternating positive and negative plates with separators between them to prevent a short circuit. The positive plates have fiberglass fitted on both sides to prevent them from peeling off. The battery consists of lead peroxide positive plates and spongy lead negative plates and diluted sulfuric acid electrolyte. Six cell are connected in series in the 12 volt battery.

10-6-1 Inspecting

1. Checking battery electrolyte solution
If the battery solution decreases and the level drops to the lower level line, add pure distilled water up to the upper level line. Do not use city water or well water, which damages the battery, and do not add diluted sulphuric acid.

2. Measuring specific gravity

Use a hydrometer to measure the status of the battery charge. Fill the battery to the upper level line before measuring the specific gravity of the solution with a hydrometer. If the specific gravity is below the standard, charge the battery.

	Fully charged	Usable limit
Specific gravity	1.23	1.23

The specific gravity varies according to the temperature of the solution so it is necessary to convert the reading into its equivalent at 20°C (68°F) by using the conversion chart.

Temperature	-10°C (14°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°)
Specific gravity	1,311 1,301 1,291	1,304 1,294 1,284	1,297 1,287 1,277	1,290 1,280 1,270	1,283 1,273 1,263	1,276 1,266 1,256

3. Sulfation and plate corroding

When sulfation occurs in the battery, white dots or clouding can be seen on the plates. Battery charging capacity decreases if sulfation is extreme, so the battery must be replaced with a new one. If plate material drops to the bottom of the case and much sediment accumulates on the bottom so it can be seen through the case, replace the battery with a new one.

10-6-2 Charging

1. Remove the 6 filler plugs. The battery could explode if charged with the plugs installed.
2. Check the solution level. Add pure distilled water to bring the solution up to the upper level line.
3. Do not charge near an open flame, as charging creates an explosive gas.
4. Charge the battery with 0.7 ampere current.

Fig. 10-6-3 Checking specific gravity

Fig. 10-6-4 Measuring solution temperature

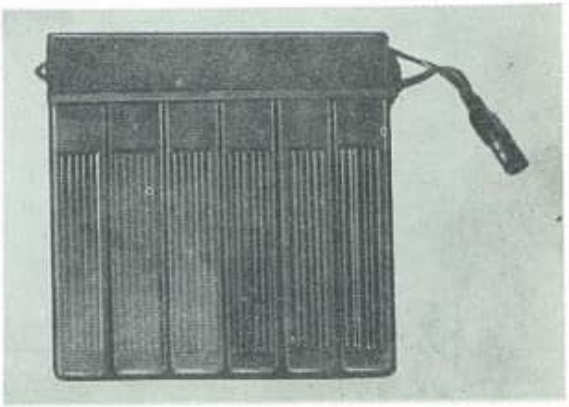


Fig. 10-6-5 Sulfation

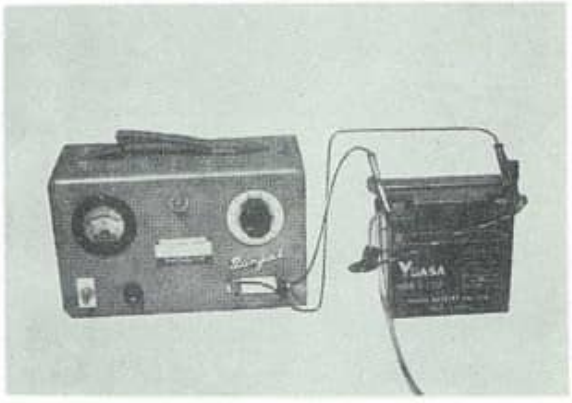


Fig. 10-6-6 Charging battery

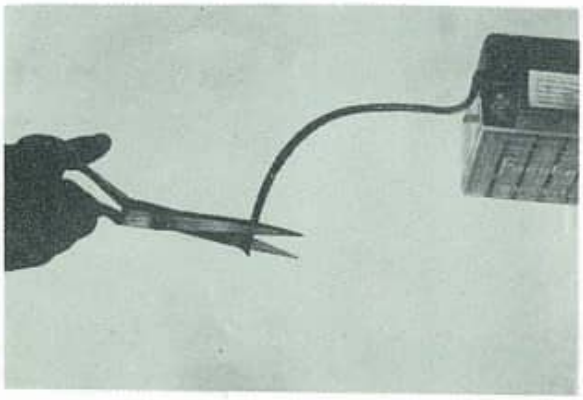


Fig. 10-6-7 Cutting air vent pipe

10-6-3 Initial charge

1. Use electrolyte solution with a specific gravity of 1.28 at 20°C (68°F). The temperature of the solution should be below 30°C (86°F) when it is poured into the battery. Fill up to the upper line printed on the outside of the battery. Cut off sealed end of air vent pipe at about 30 mm (1.2 in) from tip.
2. Charge the battery with 0.7 ampere current for initial charge.
   The charging time differs by the period after manufacturing of a battery, so charge it referring to the following.

Months after manufacturing	Within 6	Within 9	Within 12	Over 12
Necessary charging hours	20	30	40	60

This is the time in case filler plugs and seals are fixed right.

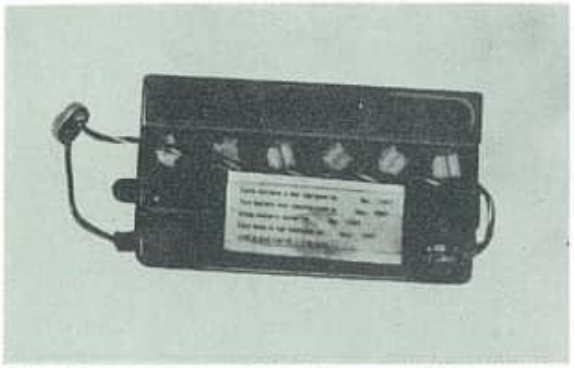


Fig.10-6-8 Date of manufacture of battery

3. Date of manufacture is printed on the tape, enclosed with filler plugs.

11. MAINTENANCE, INSPECTIONS AND ADJUSTMENTS

11—1. Explanation

This section includes instructions on adjusting the motorcycle after assembling, and daily maintenance, inspections, and adjustments. To have the motorcycle give good performance, it is necessary to take care of the machine properly as outlined here.

11—2. Servicing Spark Plugs

Check to see that the spark plugs are fitted into the cylinder heads tightly. Check to see if the spark plugs are burned. Clean off carbon deposits. Inspect and adjust the spark gap between the electrodes. (See section 10—2—5)

11—3. Adjusting Contact Breaker Points Gap and Ignition Timing

The contact breaker points gap and ignition timing greatly affect engine performance. Check and adjust and polish contact breaker point surfaces and points gap. Check and adjust igntion timing. (See section 10—3—1)

11—4. Cleaning Air Cleaner

Intake resistance increases and engine output decreases when the air cleaner is clogged. Clean the air cieaner with a brush or compressed air. (See section 9—3—2)

11—6 Adjusting Oil pump lever

With throttle grip fully open, adjust the oil pump control cable so that the gap between the oil pump lever and stop is 0.5 mm (00.2 in). (See section 8—16—6) Before adjusting, be sure th rottle cables are correctly adjusted. (See section 8—25—6)

11—7 Checking Fuel System

The air vents in the fuel tank cap must be open. Keep the inside of the fuel tank clean and free from lint and dirt.

Do not allow the fuel cock strainer net to become clogged with dirt and lint.

Do not leave the petcock in the "Priming" position for more than one minute.

11—8. Adjusting Carburetors

The carburetors should be adjusted correctly at all times. Engine revolutions at idle speed and the adjustment of the pilot air adjusting screws should be kept adjusted properly. (See section 8—25—7)

11—9. Cleaning Exhaust Pipes and Mufflers

Remove carbon accumulation from the exhaust pipes. Remove carbon and tar deposits from the muffler baffle pipes and mufflers.

11—9. Adjusting Chain Tension

See figure 11—10—1.

11—10. Adjustment of Wheel Alignment

The adjustment of wheel alignment is necessary not only to secure safe driving, but to prevent the one-sided wear of tyres while running at high speed.

For adjusting wheel alignment, there are four alignment gauges of the same size The gap between the grooves on the gauge is 2.5 mm (0.1 in). See figure Fig 11—10—2

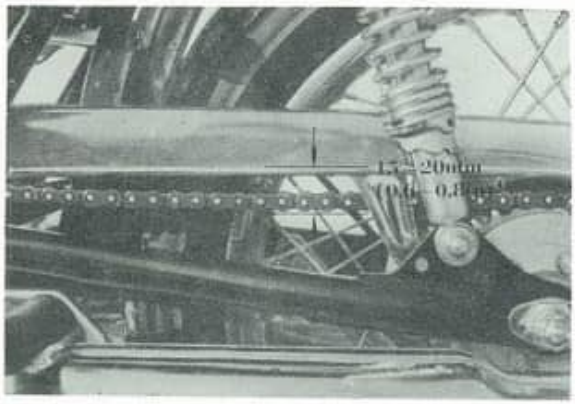
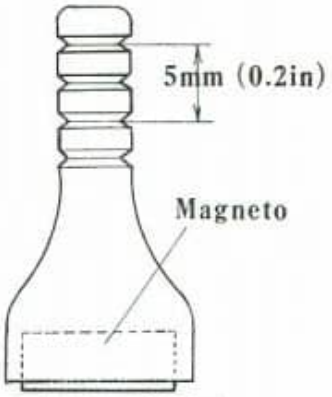


Fig. 11-10-1 Drive chain play



Part No.09827-00001

Fig. 11-10-2 wheel alignment gauge

Adjusting method of wheel alignment

1. Put motorcycle on center stand
2. After chain adjustment, clean the right side of the wheel rim with gasoline or other cleaning solvent and then fit the gauge on the wheel rim at about 20 cm (7.8 in) above the ground.
3. Fasten the end of a thread to a spoke of the rear wheel. Sitting at the right side of the front wheel, stretch the thread so that the thread as shown in the right figure may pass in the inner- most grooves of the two alignment gauges put on the rear rim.
4. Move to adjust the front wheel with hand so that it may be in parallel to the stretched thread. The front wheel rim is narrower than the rear wheel rim by 5 mm from the center in either side. If the thread passes in the second grooves of the gauges on the front wheel rim counting from the outside, both front and rear wheels are in line and wheel alignment is completely adjusted.

5. If the mis-alignment from the center is over 3.0 mm, adjust by the following procedure.

(1) In case that the thread position is mis-aligned over 30 mm outside from the second groove of the front wheel side gauge:

- Loosen the lock nuts (A & B) and chain adjuster lock nut of the left side and finally screw in the adjuster bolt.
- Leave the right side chain adjuster undone.
- Tighten the lock nuts (A & B) and check for mis-alignment in the afore-mentioned way. If mis-alignment is found over 3.0 mm, readjustment is required.

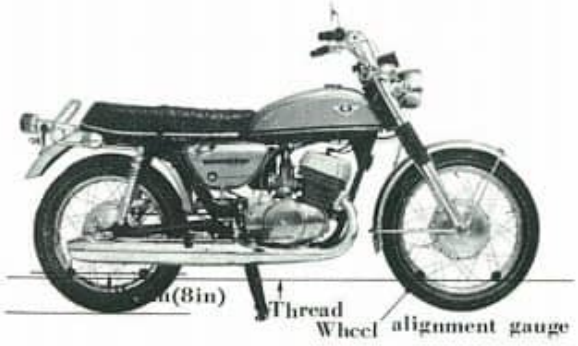


Fig. 11-10-3 Checking wheel alignment

Fig. 11-10-4 Wheel alignment (correct)

(II) In case that the thread position is mis-aligned over 3.0 mm inside from the second groove of the front wheel side gauge:

- Loosen the lock nuts (A & B) and chain adjuster lock nut of the right side and finally screw in the adjuster bolt.
  Leave the leftside chain adjuster undone.
  Tighten the lock nuts (A & B) and check for misalignment. If mis-alignment is found, adjust until it be comes below 3.0 mm.

Tyres

The T 500 − II such tyres especially excellent in stability running at high speeds or on corners. The riding stability of a motor cycle used mainly for high speeds is especially influenced by its tyres replacepment of. Never fail to use the INOUE tyres for standard equipment.

Fig. 11-10-5 Wheel alignment (incorrect)

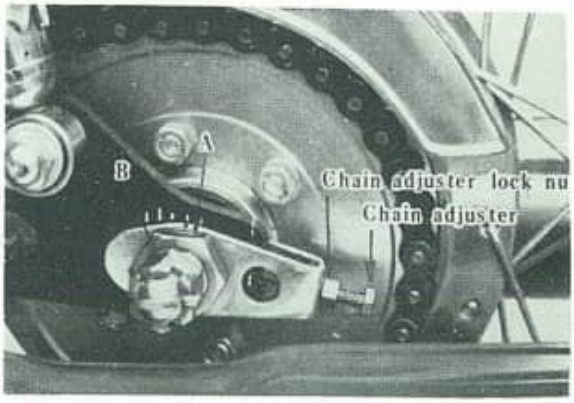


Fig. 11-10-6 Chain adjuster

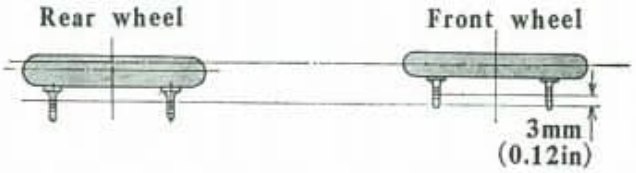


Fig. 11-10-7 Wheel alignment (incorrect)

11—11. Adjusting Brakes

a. Front Brake

The front brake should be adjusted by turning the adjusting nut and the cable adjuster so that it may begin to work when the clearance between the throttle grip and the front brake lever reaches 20 mm (0.8 in) as shown in Fig 11—12—1. Turning the nut in decreases play and turning it out increases play.

b. Rear Brake

There should be 20—30 mm (0.8—1.2 in) of free travel in the brake pedal as shown in Fig. 11-11-3.

The rear brake can be adjusted with the brake rod adjusting nut fitted on the brake rod as shown in Fig. 11-11-4.

Turning the nut in decreases travel and turning it out increases travel.

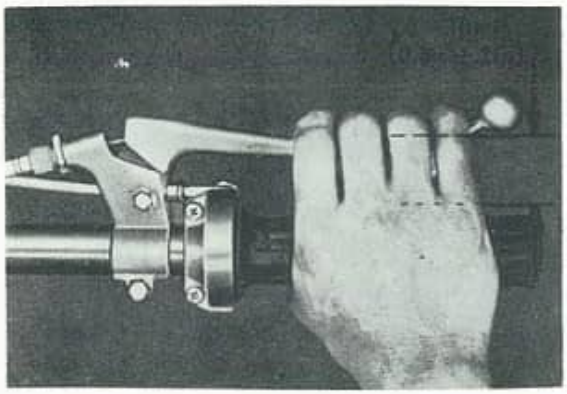


Fig. 11-11-1 Front brake lever play

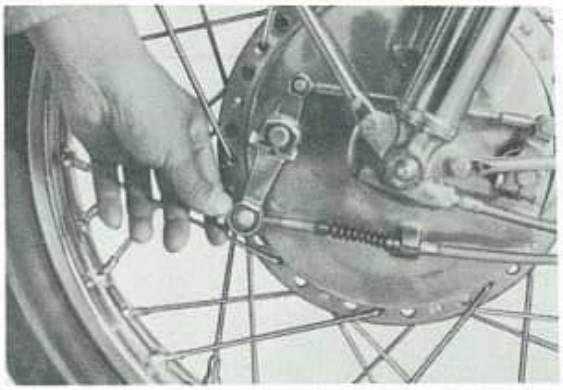


Fig. 11-11-2 Adjusting front brake

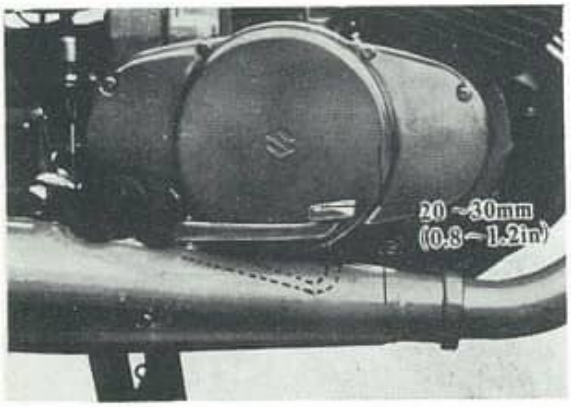


Fig. 11-11-3 Brake pedal travel

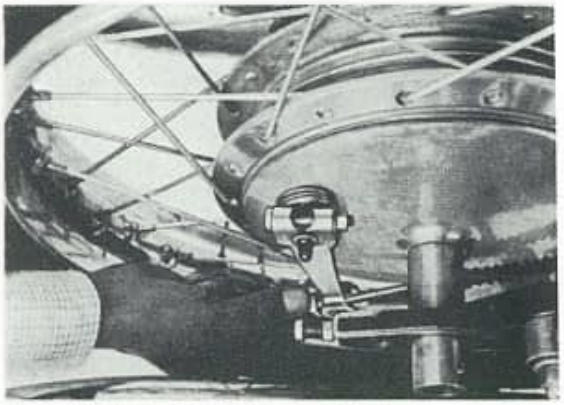


Fig. 11-11-4 Adjusting rear brake

11—12. Adjusting Clutch

The clutch inner wire stretches as the bike's mileages increases and the clutch plates also wear, with consequent increase of the amount of play in the clutch cable. Adjust the clutch with the clutch cable adjuster, cable adjuster and release adjusting screw. (See section 8—18—6)

11—13. Battery Maintenance

Check to see that the terminals are tightened firmly. Check the battery solution level. Visually check the condition of the battery plates. Check to see if battery solution has spilled.

11—14. Retightening Bolts, Nuts and Screws

Bolts, nuts and screws are apt to work loose during running. Check and retighten. (Fig. 11—14—1)

No.	Part	Q'ty	Tightening Torque
①	Front Axle Nut	1	650 kg-cm (47 lb-ft)
②	Fork Inner Tube Fitting Bolt	2	200 kg-cm (14 lb-ft)
③	Steering Stem Head Fitting Bolt	3	250 kg-cm (18 lb-ft)
④	Handlebar Clamp Bolt	4	130 kg-cm (9.5 lb-ft)
⑤	Spark Plug	2	200 kg-cm (14 lb-ft)
⑥	Cylinder Head Nut & Bolt	16	350 kg-cm, 200 kg-cm
⑦	Kick Starter Fitting Bolt	1	300 kg-cm (21 lb-ft)
⑧	Rear Shock Absorber Nut	4	250 kg-cm (18 lb-ft)
⑨	Rear Axle Nut	1	650 kg-cm (47 lb-ft)
⑩	Muffler Fitting Bolt	4	300 kg-cm (21 lb-ft)
⑪	Rear Swinging Arm Pivot Shaft	1	650 kg-cm (47 lb-ft)
⑫	Engine Mounting Bolt	3	600 kg-cm (43 lb-ft)
⑬	Exhaust Pipe Fitting Bolt	4	130 kg-cm (9.5 lb-ft)
⑭	Spoke Nipple	72	

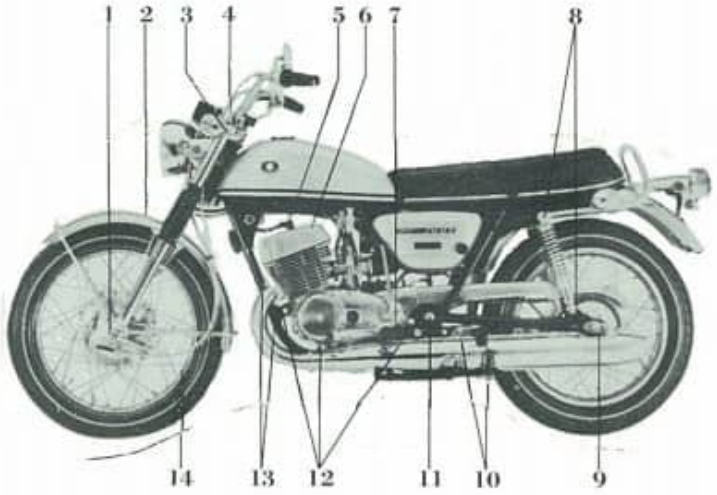


Fig. 11-14-1 Check and retighten

11—15. Checking Tire Air Pressure

Keep the tire pressure proper at all times to prolong the life of the tires and for safe and comfortable riding.

	One person	Two persons
Front	1.6 kg/sq cm (23 lb/sq in)	1.6 kg/sq cm (23 lb/sq in)
Rear	1.9 kg/sq cm (27 lb/sq in)	2.3 kg/sq cm (33 lb/sq in)

SUZUKI MOTOR CO.,LTD.

Head Office : P.O. Box 116, Hamamatsu, Japan

Home of world-clampion motorcycle

NEW MODEL
TECHNICAL BULLETIN

SUZUKI

GT500A

INTRODUCTION

Model GT500—the new 500-cc sport model already introduced in other SUZUKI publications—is described here in greater detail to emphasize its sales points to our SUZUKI salesmen.

The new GT500 has been developed by redesigning Model T500, the 500-cc machine that had thrilled and delighted thousands of speed enthusiasts all over the world, and now comes with improved features in its brakes, suspension, electrical equipment and body to repeat the success with which the old T500 model was met years ago when it made a debut.

Additional information is given in this booklet on interchangeability of parts between Model GT500 and Model T500 and also on maintenance of the new model. This booklet is thus intended not only for salesmen but also for those engaged in servicing work or in control of spare and replacement parts supply.

SUZUKI MOTOR CO., LTD.

Service Department
Overseas Marketing Division

NEW FEATURES ON MODEL GT500

As contrasted to the predecessor Model T500, the new model has these new features:

- DISC BRAKE – *Front wheel is equipped with a disc brake for improved braking performance.*

- NEWLY DESIGNED FRONT FORK – *Outer tubes of the front fork are made of a high-strength aluminum alloy for weight reduction and, hence, increased stability of steering control.*

- LARGE-CAPACITY FUEL TANK – *A 17-litre tank is fitted to Model GT500 to cover a greater mileage with a single filling than was possible with Model T500.*

- LARGE-SIZE TURN SIGNAL LAMPS – *To secure greater safety on the road.*

- SUZUKI "PEI" – *The conventional ignition system is supplanted by the SUZUKI "PEI" system to make available increased ignition energy to the spark plugs.*

SPECIFICATIONS

DIMENSIONS AND WEIGHT

Overall length	2,206 mm (86.9 in)
Overall width	880 mm (34.6 in)
Overall height	1,135 mm (44.7 in)
Wheelbase	1,466 mm (57.7 in)
Ground clearance	160 mm (6.3 in)
Dry weight	179 kg (395lbs)

ENGINE

Type	Two-stroke cycle, air-cooled gasoline engine
Intake system	Piston valve
Number of cylinders	2
Bore	70.0 mm (2.76 in)
Stroke	64.0 mm (2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.6 : 1
Carburetor	Two, MIKUNI VM32SS
Air cleaner	Wet polyurethane filter
Starter system	Kick
Lubrication system	SUZUKI "CCI"

TRANSMISSION SYSTEM

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down 4-up
Primary reduction	2.500 (65/26)
Final reduction	2.200 (33/15)
Gear ratios, low	2.500 (30/12)
2nd	1.563 (25/16)
3rd	1.158 (22/19)
4th	0.955 (21/22)
top	0.870 (20/23)
Drive chain, size	DAIDO, #50HDS
number of links	110 links

CHASSIS

Front suspension	Telescopic fork with hydraulic damper
Rear suspension	Swinging arm with hydraulic damper, spring 5-way adjustable
Steering angle	40° (right & left)
Caster	61°
Trail	121 mm (4.76 in)
Turning radius	2.6 m (8.53 ft)
Front brake	Hydraulic operated, caliper disc
Rear brake	Mechanical, internal expanding
Front tire size	3.25S19-4PR
Rear tire size	4.00S18-4PR

ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	24° B.T.D.C.
Battery	12V 7AH
Generator	Flywheel magneto

CAPACITIES

Fuel tank including reserve	17 lit (4.5/3.7 US/Imp gal)
reserve	3.5 lit (0.9/0.8 US/Imp gal)
Engine oil tank	1.8 lit (3.8/3.2 US/Imp pt)

* The specifications are subject to change without notice.

DETAILS OF NEW FEATURES

Each new feature will be described in detail in contrast to its counterpart in the predecessor Model T500:

CHASSIS

Front Fork

Note the differences, in the illustrations below, between GT500 and T500 in terms of the front fork. Weight reduction is made in GT500 by using aluminum-alloy outer tubes in the fork in order to secure improved damper performance.

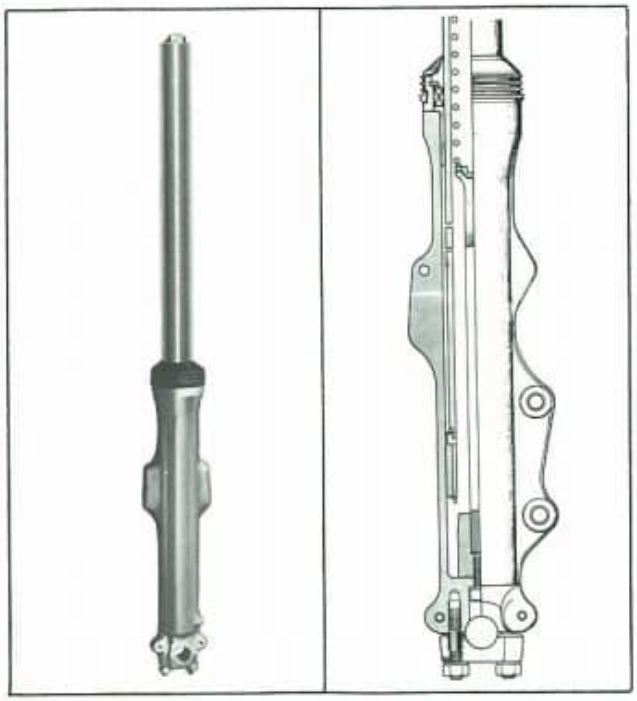


Fig. 1. GT500 Front Fork

Fig. 2. T500 Front Fork

Front Brake

The unmistakable mark of difference between GT500 and T500 that hits the eyes of the beholder is the front brake: a caliper-type disc brake is incorporated as the front brake in GT500 to provide a braking performance better suited to high-speed cruising.

Fig. 3. GT500 Front Brake

Fig. 4. T500 Front Brake

Front Fender

The brace staying the front fender in T500 is omitted in GT500; instead, the front fender of GT500 is stayed differently to present a sharp, sporty appearance at the front end.

Fig. 5. GT500 Front Fender

Fig. 6. T500 Front Fender

Turn Signal Lamps

The lamps of GT500 are larger so that they can be recognized at a much greater distance to add to the ability of this machine to avoid accidents.

Fig. 7. GT500 Turn Signal Lamp

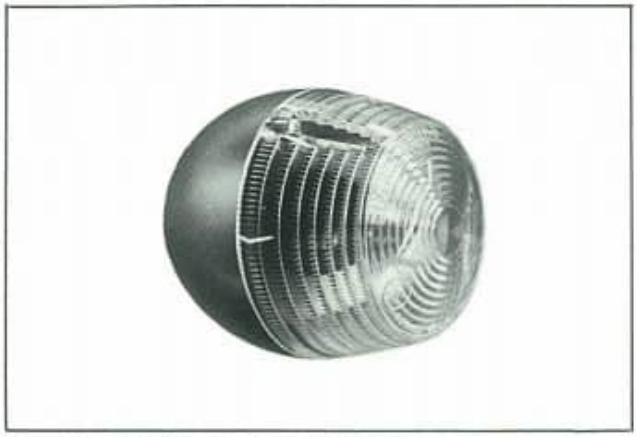


Fig. 8. T500 Turn Signal Lamp

Meter Assembly and Ignition Switch

Sun visors are added, and the ignition switch is relocated. Thus, the meters are easier to read, and the switch is easier to operate.

Fig. 9. Meters and Ignition Switch in GT500

Fig. 10. Meters and Ignition Switch in T500

Fuel Tank

The fuel tank of GT500 holds 3 litres more fuel than that of T500. Note the difference in shape between the two tanks: one holds 14 litres while the other holds 17 litres.

Fig. 11. GT500 Fuel Tank
17 lit. (4.5/3.7 US/Imp gal)

Fig. 12. T500 Fuel Tank
14 lit. (3.7/3.1 US/Imp gal)

Rider's Seat

GT500 has a wider and softer seat.

Fig. 13. GT500 Seat

Fig. 14. T500 Seat

Rear Shock Absorbers

The cover is done away with in GT500 to make the absorber look simplistic and sporty.

Fig. 15. GT500 Rear Shock Absorber

Fig. 16. T500 Rear Shock Absorber

ELECTRICAL

SUZUKI "PEI" System for Greater Ignition Energy

It will be recalled that, in Model T500, the spark plugs receive energy in the conventional manner, that is, through a contact breaker and an ignition coil. The "PEI" system (for Point-less Electronic Ignition system) used in GT500 is a radical departure not only because it replaces the conventional system but also because this "PEI" system includes innovations and thus differs from the "PEI" system that has long been applied to SUZUKI single-cylinder motorcycles.

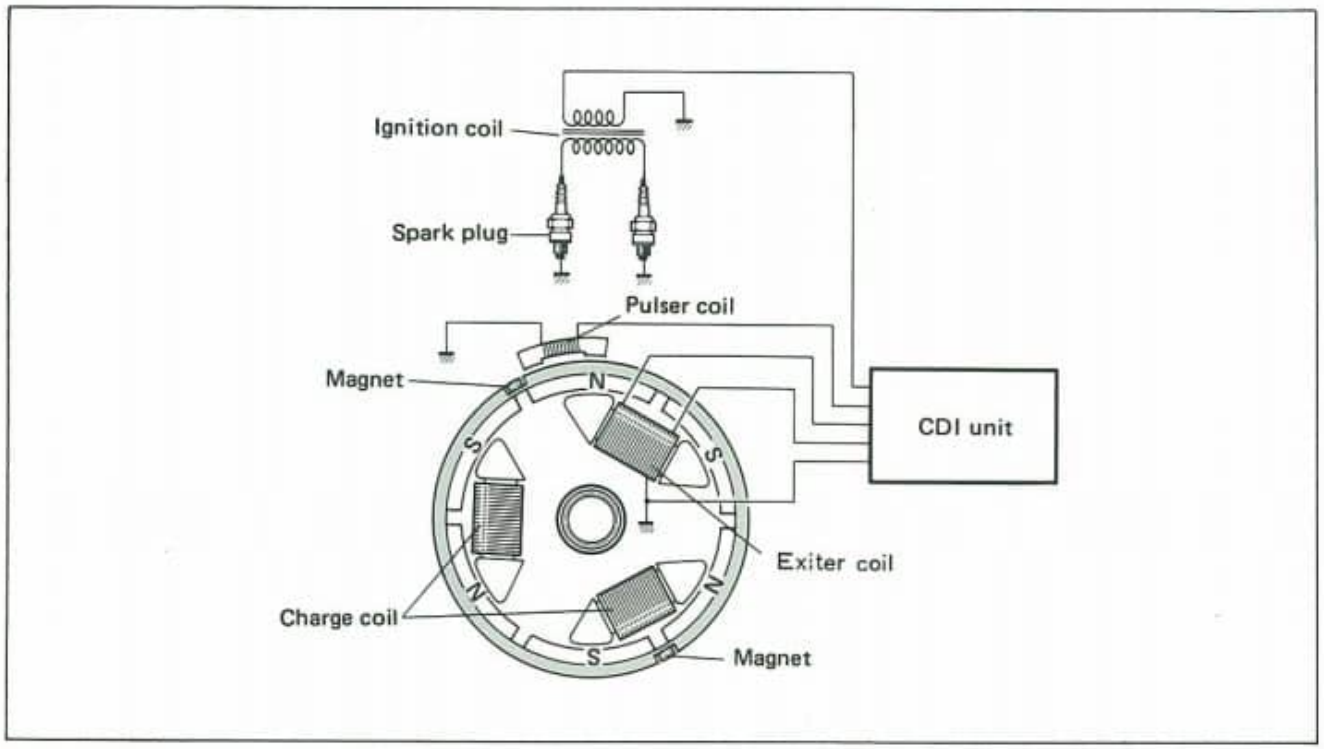


Fig. 17. Ignition System of GT500

Note that the new "PEI" differs from the old one in this regard: the pulser coil for producing signals to trigger the "CDI" unit is located close to the periphery of the flywheel, and is excited by a small magnet imbedded in the flywheel. In operation, as the magnet moves past the pulser coil, a trigger signal is induced in the coil: this intermittent induction corresponds to the contact points separated by the cam in the conventional contact breaker. Actually, there are two such magnets, 180° apart.

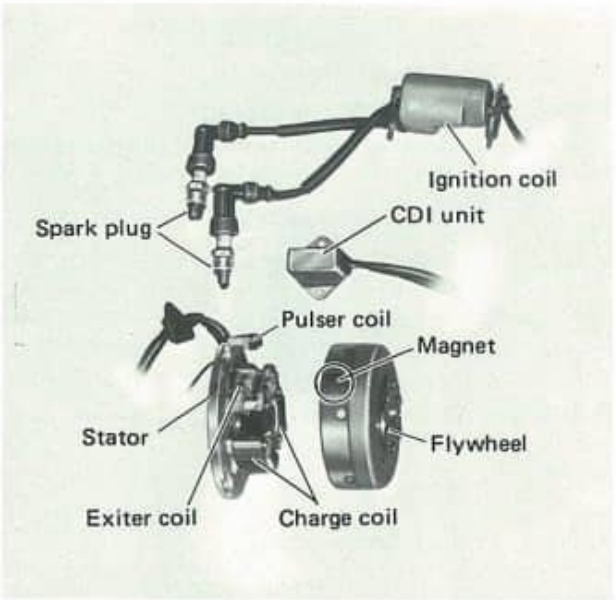


Fig. 18. Components of GT500 Ignition System

For one familiar with the SUZUKI "PEI" system hitherto used in other SUZUKI models, it is obvious that the excitation magnet—the small magnet carried by the flywheel—is discrete from the exciter coil and charge coils and thus represents a new feature of the GT500 "PEI" system. It follows from this feature that the signal-producing action of the pulser coil in terms of timing and signal intensity is not affected at all by the loaded condition of the three coils. Ignition is stable and reliable in Model GT500.

In the "PEI" system hitherto used, the pulser coil is continuously excited to deliver alternating current and its output voltage is devised to intermittently drive the "CDI" unit: in other words, the "CDI" unit is triggered when the pulser coil output voltage rises to a certain level. Although this method permits the ignition timing to be electronically varied for automatic advancing, the merit of the automatic advancing action is canceled off by the fact that the timing becomes disturbed when electrical load on the generator increases, as in night driving or battery charging, to affect the performance of the pulser coil.

The ignition coil used in the "PEI" system of GT500 is slightly different in that each end of its secondary winding is connected through a cord to the spark plug. Thus, the two plugs receive sparking energy at the same time.

MAINTENANCE INFORMATION

Maintenance for GT500 is generally the same as for T500. There are minor differences, however, because of the new features given to GT500. Of those differences relative to inspection, checking and servicing, the ones meriting discussion will be taken up with a view to thoroughly acquainting the servicemen with Model GT500:

Checking and Adjusting Ignition Timing

As long as the screws securing the stator are tight, the ignition timing initially set remains undisturbed to require no re-adjustment. Since engine disassembly involves the removal and installation of the stator, the methods of adjusting and checking the timing will be described:

IGNITION TIMING ADJUSTMENT

Stator has a line mark (shown as "A") and, similarly, crankcase has a line mark (shown as "B"), as will be seen in Fig. 19. Align the two lines by adjusting the stator in place: this sets the timing to the specification. Secure the stator in that position by tightening the screws.

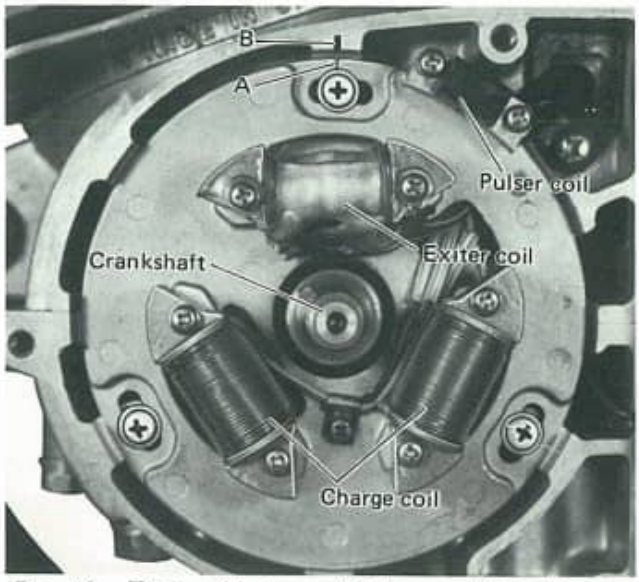


Fig. 19. Timing Marks on Stator and Crankcase

CHECKING THE TIMING

All you have to do is this: check to be sure that lines "A" and "B", mentioned above, are aligned. Remove magneto cover (left cover) to take a look at these lines. There's no need of removing the flywheel.

You may use a timing lamp to check the timing. In this case, run the engine at about 3,000 rpm: if the line on crankcase appears aligned to the line on flywheel, then you may rest assured that ignition is timed correctly.

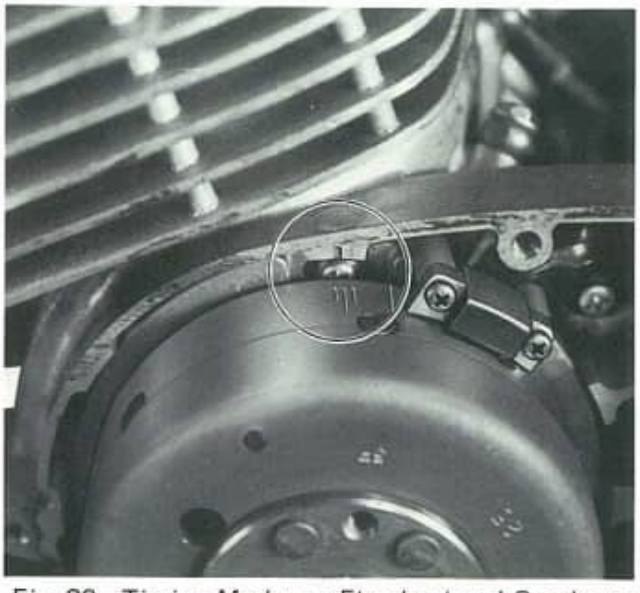


Fig. 20. Timing Marks on Flywheel and Crankcase

Ignition Circuit and Battery Charging Circuit

To check the circuits for malcondition, refer to the circuit diagram, below, covering the ignition and charging circuits:

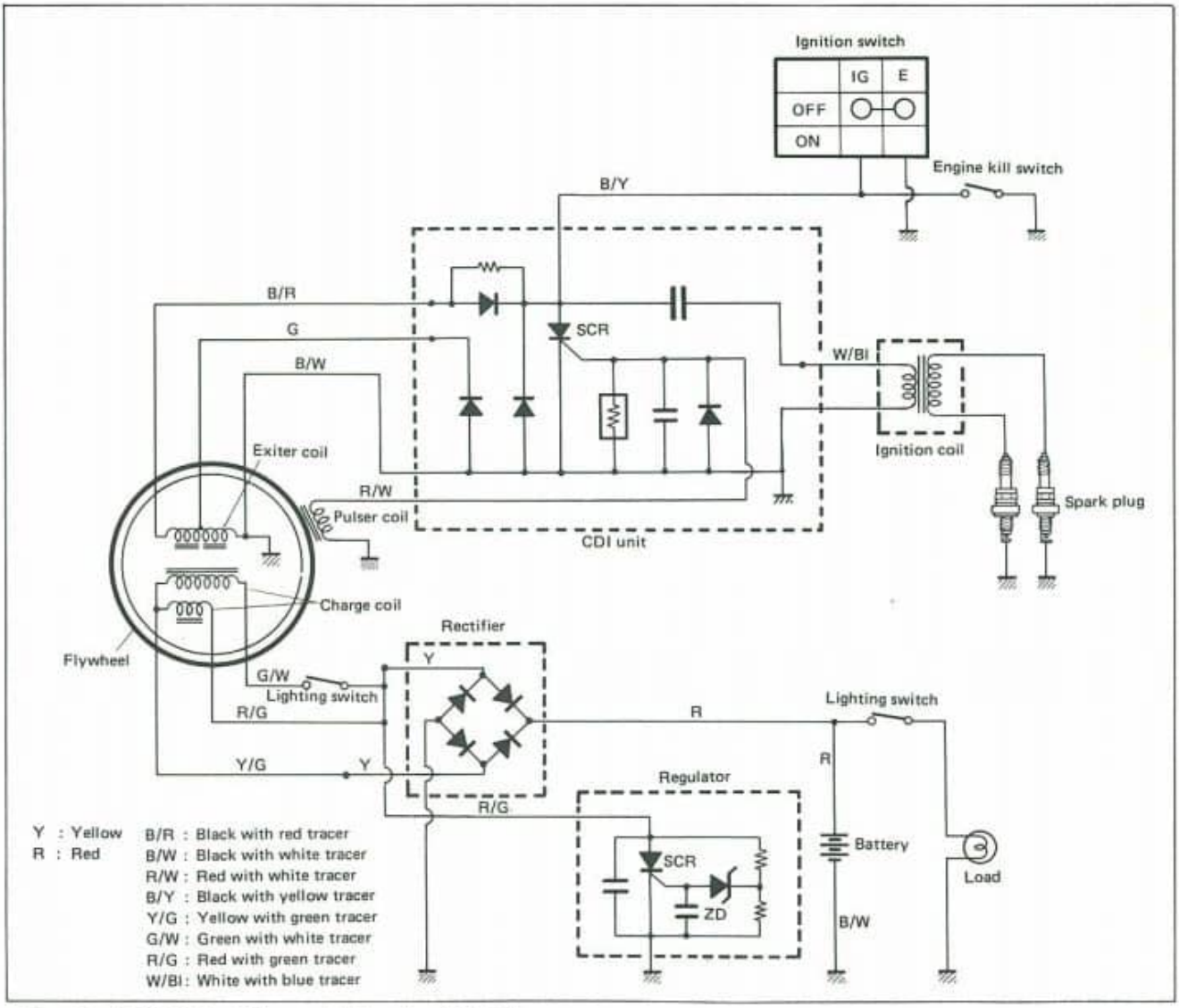


Fig. 21. GT500 Ignition and Charging Circuit

Maintenance information on "CDI" unit, regulator and various coils follow:

CHECKING THE "CDI" UNIT

Use a SUZUKI pocket tester (Special Tool No. 09900-25001) in reference to the chart of Fig. 22, by adhering to these rules:

1) Before starting to check the "CDI" unit, be sure to have all lead-wire couplers unmade.
2) Just before putting your pocket tester to two "CDI" terminals, briefly shortcircuit them with a jumper.
3) Set the tester knob to "RX100" range.

Put negative (–) pin of tester to:	Put positive (+) pin of tester to:						
		B/R	G	B/Y	R/W	W/Bl	B/W
	B/R		off	on	off	con	off
	G	off		off	off	off	off
	B/Y	*off	off		off	con	off
	R/W	*off	on	on		con	on
	W/Bl	con	off	con	off		off
	B/W	*off	on	on	on	con	

Fig. 22. "CDI" Checking Chart

B/R : Black with red tracer
B/Y : Black with yellow tracer
R/W : Red with white tracer
B/W : Black with white tracer
G : Green

This chart presupposes that the "CDI" unit is in sound condition; "on", "off" and "con" in the boxes of the chart refer to what your pocket tester will indicate when its positive and negative pins are put to the indicated terminals of a good "CDI" unit.

1) "on" – Tester should indicate continuity; it means that you are checking a diode for continuity in its normal (forward) direction.
2) "con" – This stands for a condenser. The indicating hand of your tester will momentarily deflect and settles back to indicate infinity, meaning that the condenser being checked is not ruptured.
3) "off" – Tester should indicate infinity, that is, its indicating hand should remain undeflected to mean that the circuit being checked has an infinitely large resistance or, possibly, off as it should be.
4) "*off" – The indicating hand should deflect just a little, indicating a resistance value close to infinity.

CHECKING THE REGULATOR

The purpose of this check is to judge whether or not the charging system is working properly, and is accomplished by checking the battery terminal voltage while the charging system is in operation. Read the voltage at the battery under the conditions enumerated below; if the reading is off the specification, it means that the regulator or, less frequently, rectifier or magneto is in defective condition to demand closer investigation:

1) Run the engine at 4,000 rpm.
2) Make sure that the battery is in fully charged state.
3) Have lamps and other electrical loads turned off.

The specified terminal voltage is 14 ± 0.5 volts. If the reading is off this value, replace the existing regulator by a new one; if this replacement results in a reading of 14 ± 0.5 volts, it means that the existing regulator is out of order.

CHECKING THE COILS

Various coils are used in the ignition and charging system. Using the tester, check each coil for continuity and for ohmic resistance in reference to this table:

Coil	Check at: (Lead wire)	Standard Resistance
Exciter coil	G . . . . . GROUND	185 ohms ±10%
Exciter coil	B/R . . . . . GROUND	214 ohms ±10%
Pulser coil	R/W . . . . . GROUND	67 ohms ±10%
Ignition coil, primary	W/B – B/W	4 ohms ±10%
Ignition coil, secondary	Between plug cords	12 kilohms ±10%
Charge coil	Y/G – R/G	1 ohm ± 10%
Charge coil	Y/G – G/W	1 ohm ±10%

Fig. 23. Coils Checking Chart

B/R	: Black with red tracer	G	: Green
R/W	: Red with white tracer	Y/G	: Yellow with green tracer
W/B	: White with black tracer	R/G	: Red with green tracer
B/W	: Black with white tracer	G/W	: Green with white tracer

Servicing Air Cleaner

At regular intervals, indicated below, clean the air cleaner element (which is a polyurethane element for GT500) in the following manner:

Fill a properly sized pan or pot with gasoline; immerse the element in the gasoline; and wash it gently while examining it for evidence of rupture or fissure. (A ruptured or otherwise damaged element must be replaced.)

After washing, squeeze gasoline off the element; and dry it completely.

Immerse the dried element in a pool of SUZUKI CCI oil or high-grade motor oil of SAE #30, and squeeze oil off the element to make it oil-wet without dripping.

CAUTION:

Do not wring the element to squeeze liquid off. Wringing could damage the element.

Cleaning interval	**3,000 km (2,000 miles)**

Fig. 24. Air Cleaner Element

Fig. 25. Washing the Element

Servicing the Front Fork

The front fork of GT500 differs in construction from that of T500, and must be taken care of as follows:

OIL CHANGE

A drain plug is located at the lower section of each fork leg, as shown in Fig. 26. To drain out oil, remove this plug and also the cap bolt. To fill up the leg, pour oil through the hole for the cap bolt.

1) Oil specification: Use SAE 10W/20 motor oil, or automatic transmission fluid.
2) Oil capacity: Each leg needs 266 cc (9.0/9.4 US/Imp oz) of oil, in contrast to 220 cc (7.4/7.7 US/Imp oz) needed by the fork leg in T500.

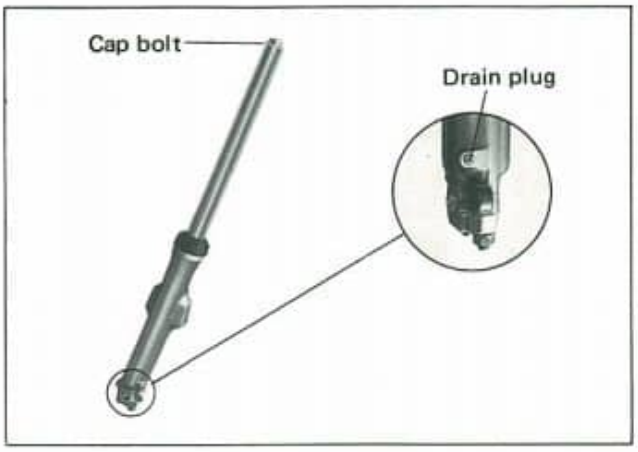


Fig. 26. Drain Plug and Cap Bolt

DISASSEMBLY

First, remove the circlip on each leg. With the circlips removed, the front fork can be disassembled by removing its parts one after another.

Do not attempt to loosen the bolt securing the spring seat in the bottom section of the leg: the seat is centered inside the inner tube by this bolt. Loosening the bolt may result in a mispositioned seat and, hence, in chattering or rattle noise coming from the fork during operation. The front fork disassembly does not require the removal of these bolts.

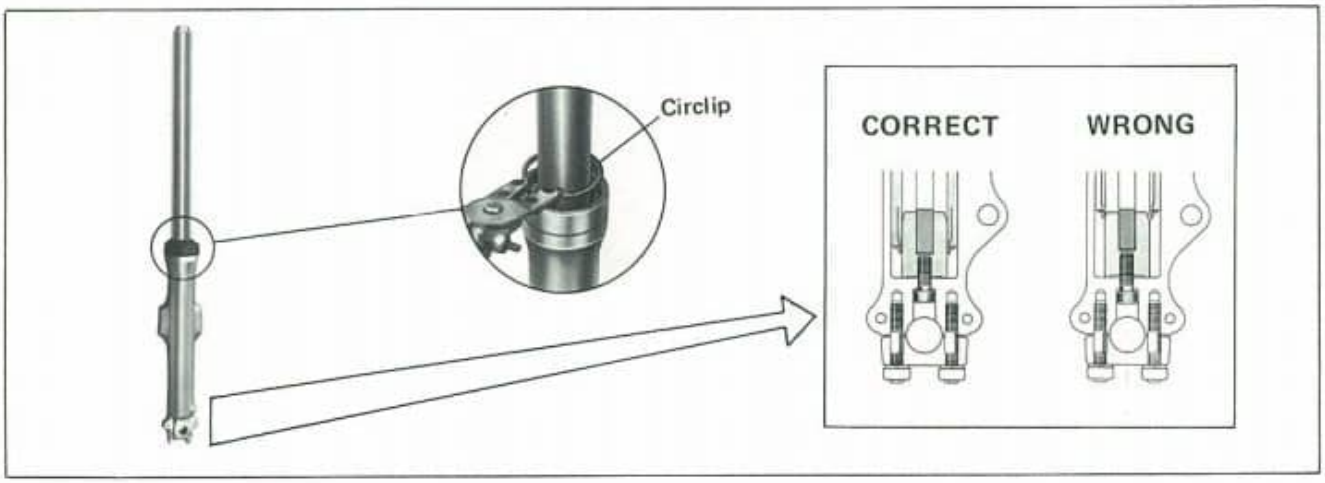


Fig. 27. Front Fork Details

Reassembly is the reverse of disassembly, but must be effected by installing replacement oil seals. Be sure to use the oil seal installing tool (Special Tool No. 09940-53110). Disassembly affords an opportunity for oil change: after reassembling the front fork, be sure to fill up its legs with new oil.

Fig. 28. Oil Seal Installing Tool and Oil Seal

Checking the Disc Brake

BRAKE FLUID

Check to be sure that the brake fluid is up to level between the two limits, UPPER and LOWER, both cast out on the reservoir, as shown. If the fluid in the reservoir is found to be prematurely low, check the brake for oil leakage.

Fig. 29. Brake Fluid Level

Select one brand of brake fluid for GT500 as guided by this chart:

Brake fluid specification	Where
DOT 3 DOT 4	U.S.A.
SAE J 1703a SAE J 1703b SAE J 1703c SAE 70 R 3	Other countries

Fig. 30. Brake Fluid Selection Guide

PAD REPLACEMENT

Each pad has a red line on its periphery. This line is the limit of pad wear. Replace the pad when it is found to have worn down to this line.

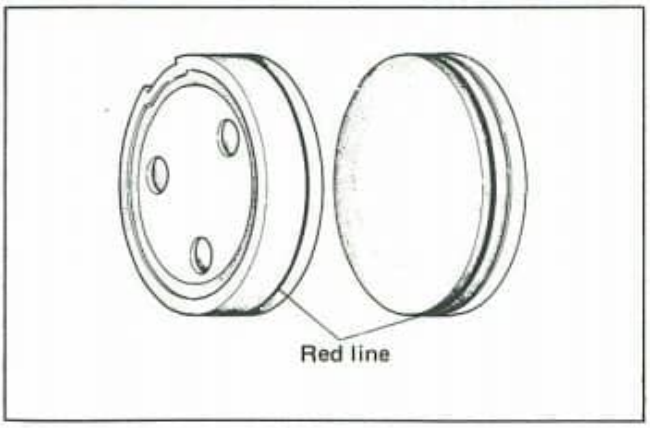


Fig. 31 Disc Brake Pads

BRAKE DISC

The disc too is subject to wear, and needs to be replaced when its wear has progressed to reduce the disc thickness to 6 mm (0.236 in.). Disc thickness refers the middle portion of its friction face coming into contact with the pad; read the thickness there with calipers.

Limit thickness of disc	6 mm (0.236 in)

PARTS INTERCHANGEABILITY

Interchangeability of parts between GT500 and T500 concerning the major differences is as follows:

1) FRONT FORK – Not interchangeable.

2) DISC BRAKE – T500 does not accept the disc brake of GT500.

3) FRONT FENDER – Not interchangeable because of the difference in installing method.

4) TURN SIGNAL LAMPS – Interchangeable.

5) METER ASSEMBLY & IGNITION SWITCH – Not interchangeable.

6) FUEL TANK – Not interchangeable because the stays securing the tank to frame differ between the two models.

7) RIDER'S SEAT – The seat of GT500 is mountable on T500. With this seat mounted on T500, however, a clearance of about 3 cm occurs between seat and fuel tank.

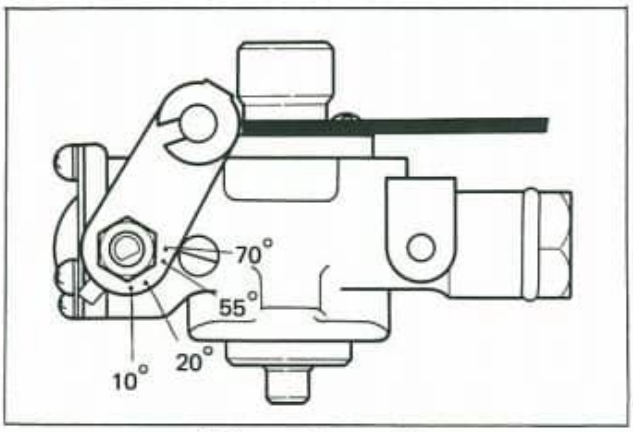
SERVICE DATA

Engine

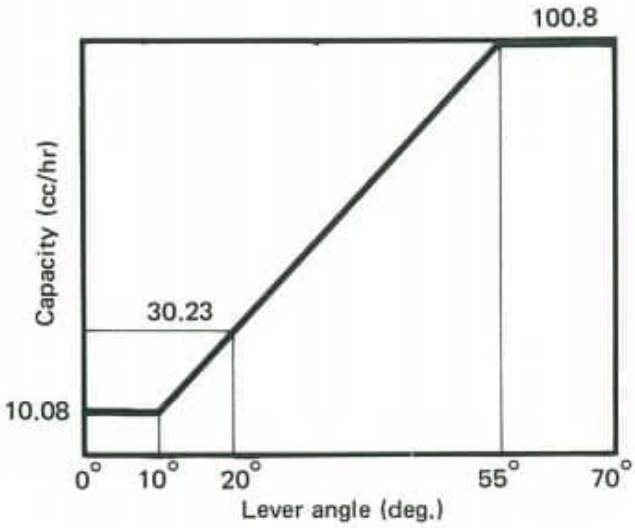
1) Piston-to-cylinder clearance: 0.065 ~ 0.075 mm (0.0026 ~ 0.0030 in), based on piston O.D. reading taken at 32 mm above skirt end.
2) Standard engine idling speed: 1,300 rpm
3) Carburetor jetting:

Main jet	#97.5	Pilot jet	#30
Jet needle	5FP17-3	Air screw setting	1½ turns backed
Needle jet	P-4	Starter jet	#70
Cut-away	2.5	Float level	27.25 mm (1.073 in)

4) Oil pump capacity at 1,000 engine rpm:



Oil pump lever angle



Drive Train

1) Transmission oil capacity: 1,400 cc (3.0/2.4 US/Imp pt), SAE 20W/40 motor oil.
2) Drive chain tension: 15 ~ 20 mm (0.6 ~ 0.8 in) as chain sag between two sprockets without the rider mounted on the machine.

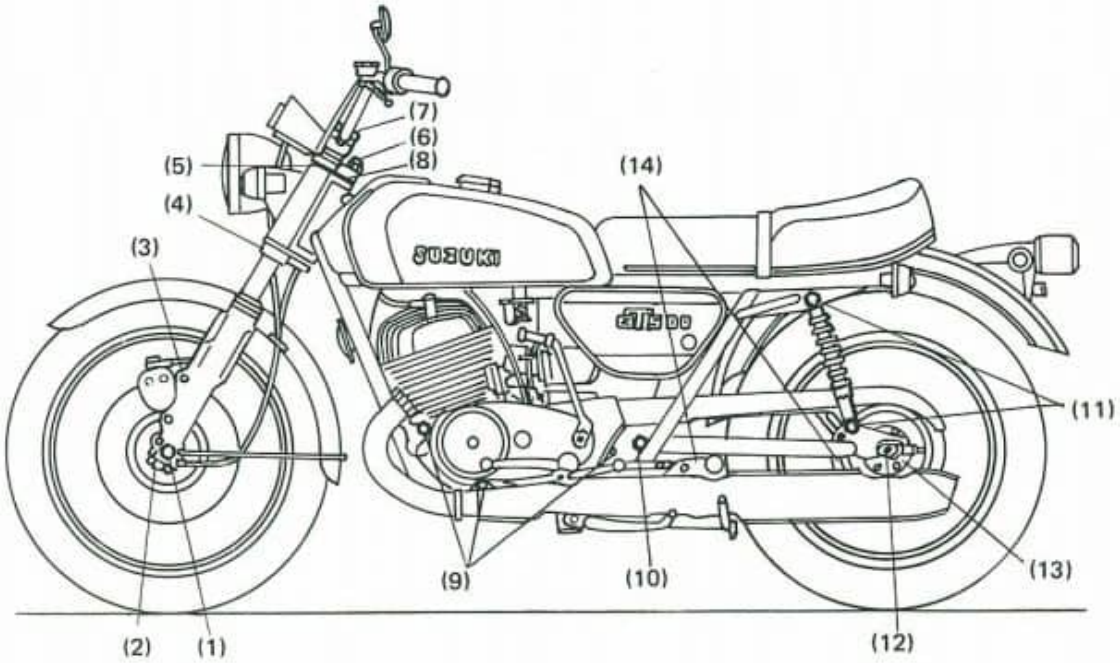
Chassis

1) Front fork oil: SAE 10W/20 motor oil or automatic transmission fluid, 266 cc (9.0/9.4 US/Imp oz) for each leg.
2) Wear limit on front brake disc: 6 mm (0.236 in)

Electrical

1) Standard spark plug: NGK B-7HS, or NIPPON DENSO W22FS
2) Spark plug gap: 0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
3) Battery electrolyte S.G. in fully charged state: 1.280 (as corrected to 20°C)

TIGHTENING TORQUE



		Torque kg-cm	Torque lb-ft
(1)	Front axle nut	360 - 520	27 - 37
(2)	Front axle holder nut	160 - 240	12 - 17
(3)	Caliper bolt	260 - 390	19 - 28
(4)	Front fork lower bracket	260 - 390	19 - 28
(5)	Front fork upper bracket (right & left)	200 - 300	15 - 21
(6)	Front fork upper bracket (center)	640 - 960	47 - 69
(7)	Handlebar clamp bolt	130 - 190	10 - 13
(8)	Steering stem nut	260 - 390	19 - 28
(9)	Engine mounting nut	260 - 390	19 - 28
(10)	Rear swinging arm shaft nut	500 - 750	37 - 54
(11)	Rear shock absorber nut (upper & lower)	200 - 300	15 - 21
(12)	Rear axle nut	520 - 780	38 - 56
(13)	Rear brake cam lever bolt	55 - 75	4 - 5
(14)	Rear brake torque link nut (front & rear)	200 - 300	15 - 21

SPECIAL TOOLS

SUZUKI motorcycles are easy to service, repair or overhaul because a family of handtools tailored to respective needs are available and because each new model is accompanied by new tools, if necessary, for handling those jobs that cannot be coped with by the existing ones.
The special tools listed here for the new GT500 are among the family of already existing ones. Two tools, marked with asterisk (*), are needed by GT500 but not by T500.

1.	09910-10710	8 mm stud installing tool
2.	09910-11510	10 mm stud installing tool
3.	09910-20113	Piston holder
*4.	09911-71510	8 mm hexagon "L" type wrench
5.	09913-70122	Bearing and oil seal installing tool (ID: 40.5 mm, OD: 50.0 mm)
6.	09913-80111	Bearing and oil seal installing tool (ID: 25.2 mm, OD: 34.0 mm)
7.	09920-53710	Clutch sleeve hub holder
*8	09920-73110	Special circlip opener
9.	09930-30101	Rotor remover shaft set
10.	09930-30190	Rotor remover attachment
11.	09930-40113	Engine sprocket and flywheel holder
12.	09940-10122	Steering stem lock nut wrench
13.	09940-53111	Front fork oil seal installing tool
14.	09940-60112	Spoke nipple wrench
15.	09900-20804	Thickness gauge
16.	09900-09002	Shock driver set
17.	09900-21602	Engine oil measuring tool
18.	09900-25001	Pocket tester
19.	09900-28103	Electro tester (Type SS-II)

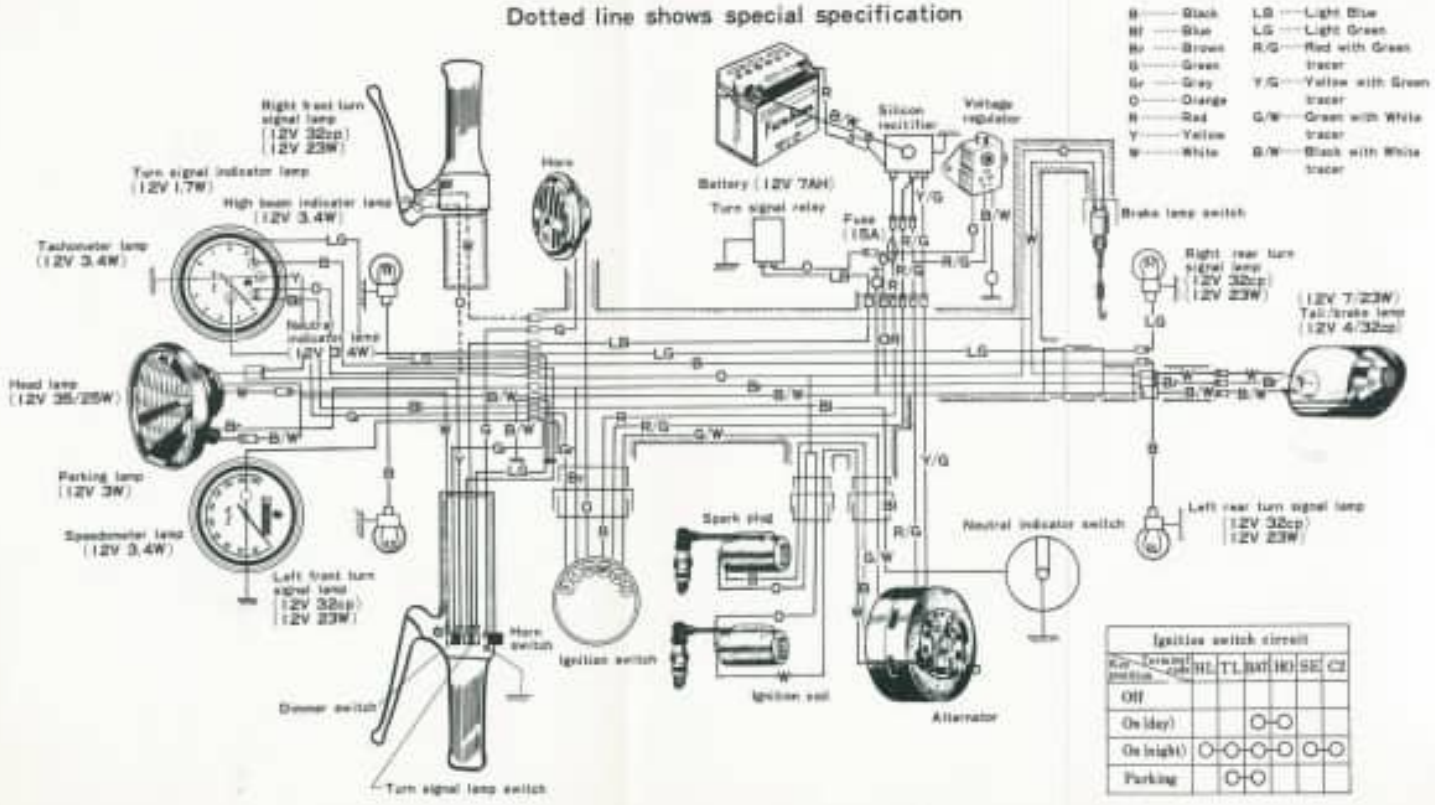
13. PERIODICAL INSPECTION CHART

The chart below indicates time when inspections, adjustments and maintenance are required based on the distance the motorcycle runs, that is first 750mi(1,000 km), and every 2,000mi(3,000km), 4,000mi(6,000km) and 8,000mi(12,000km) thereafter. According to the chart advise, mere to make the motorcycle checked and serviced at your shop. See the appropriate section for instructions on making the inspection.

Distance (mile)	750 mi	Every 2,000 mi	Every 4,000 mi	Every 8,000 mi
Distance (km) / Service	1,000 km	Every 3,000 km	Every 6,000 km	Every 12,000 km
Oil Pump	Check operation, adjust control lever adjusting marks	Check operation, adjust control lever adjusting marks		
Spark Plugs	Clean	Clean and adjust gap	Replace	
Gearbox Oil	Change	Change		
Throttle, Brake and Clutch Cables	Adjust play	Adjust play	Lubricate	
Carburetors	Adjust with throttle valve screw and pilot air screw	Adjust with throttle valve screw and pilot air screw		Overhaul and clean
A. C. Generator	Check contact point gap and ignition timing	Check contact point gap and ignition timing, Lubricate contact breaker cam oil felt		Replace contact points
Cylinder Heads and Cylinders	Retighten cylinder head nuts and bolts	Retighten cylinder head nuts	Remove carbon	
Battery	Check and service electrolyte solution	Check and service electrolyte solution		
Fuel Cock	Clean fuel strainer		Clean fuel strainer	
Drive Chain	Adjust	Adjust and lubricate	Wash	
Brakes	Adjust play	Adjust play		
Air Cleaner		Clean		
Throttle Grip			Put grease in throttle grip	
Exhaust Pipes and Mufflers	Retighten exhaust pipe fixing bolts	Retighten exhaust pipe fixing bolts	Remove carbon	
Steering Stem	Check play Retighten stem nut		Check play Retighten stem nut	
Bolts, Nuts and Spokes	Retighten		Retighten	
Oil Outlet			Clean outlet strainer top	
Clutch	Adjust	Adjust		

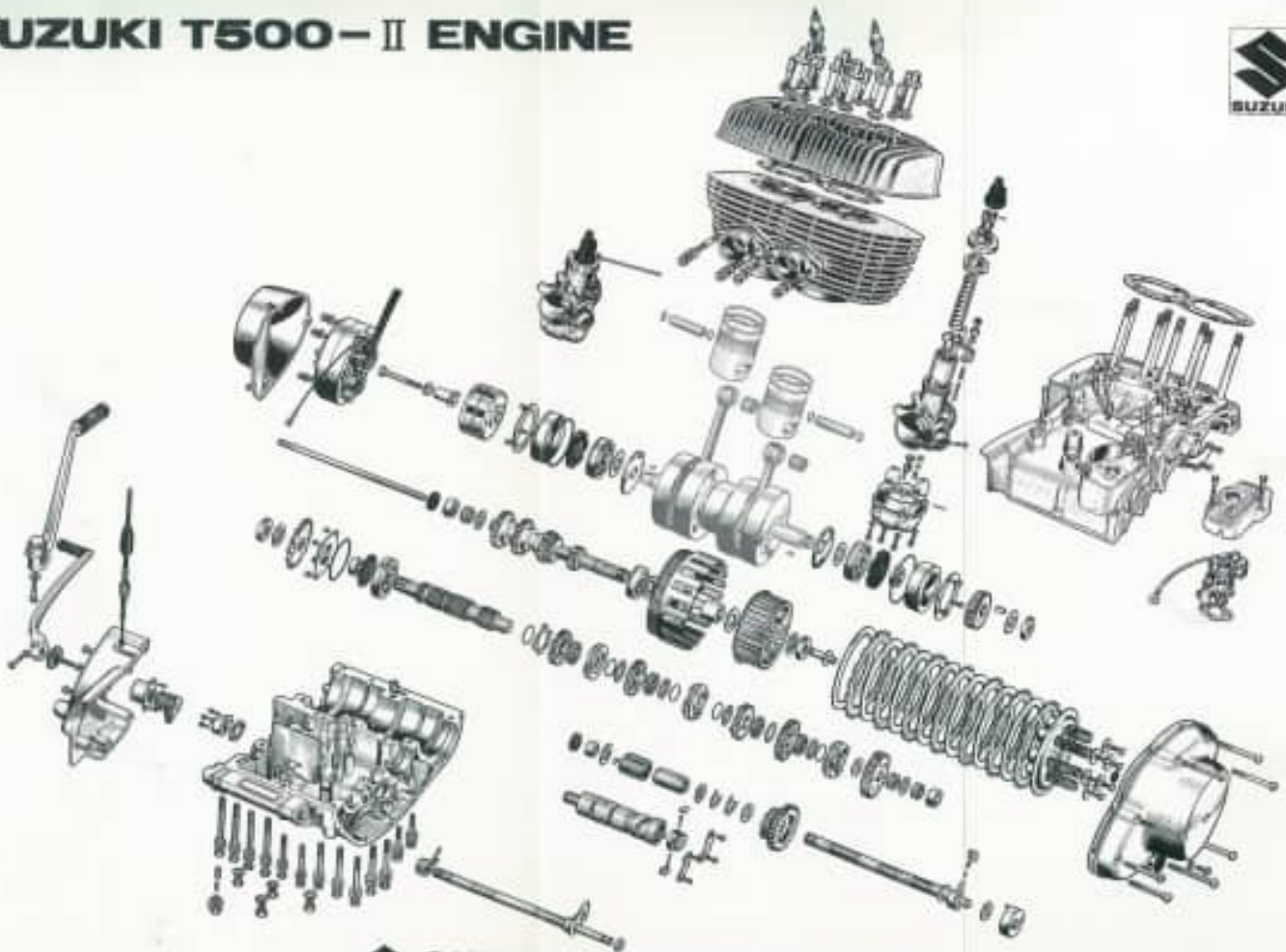
SUZUKI T500－II WIRING DIAGRAM

Dotted line shows special specification



Ignition switch circuit						
Key position / Terminal color	HL	TL	BAT	HO	SE	CI
Off						
On (day)			○	○		
On (night)	○	○	○	○	○	○
Parking		○	○			

SUZUKI T500-Ⅱ ENGINE



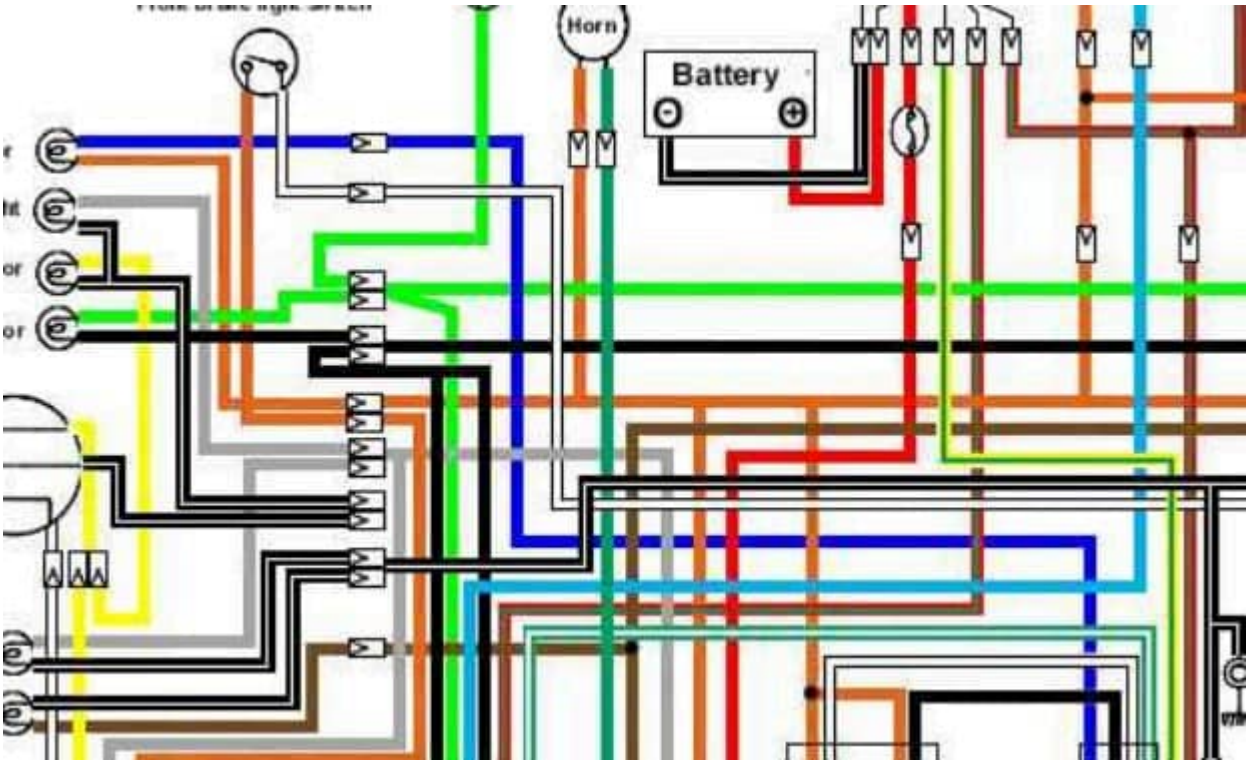
SUZUKI MOTOR CO.,LTD.

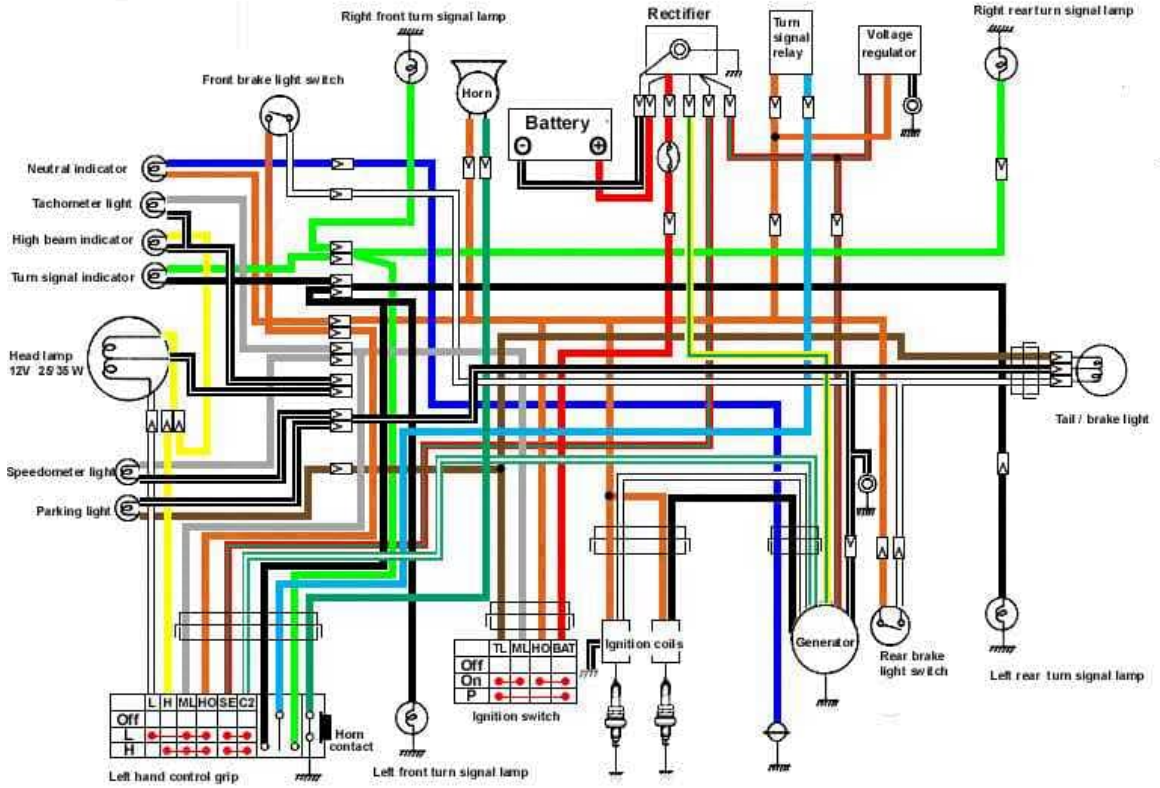
SUZUKI MOTOR CO.,LTD

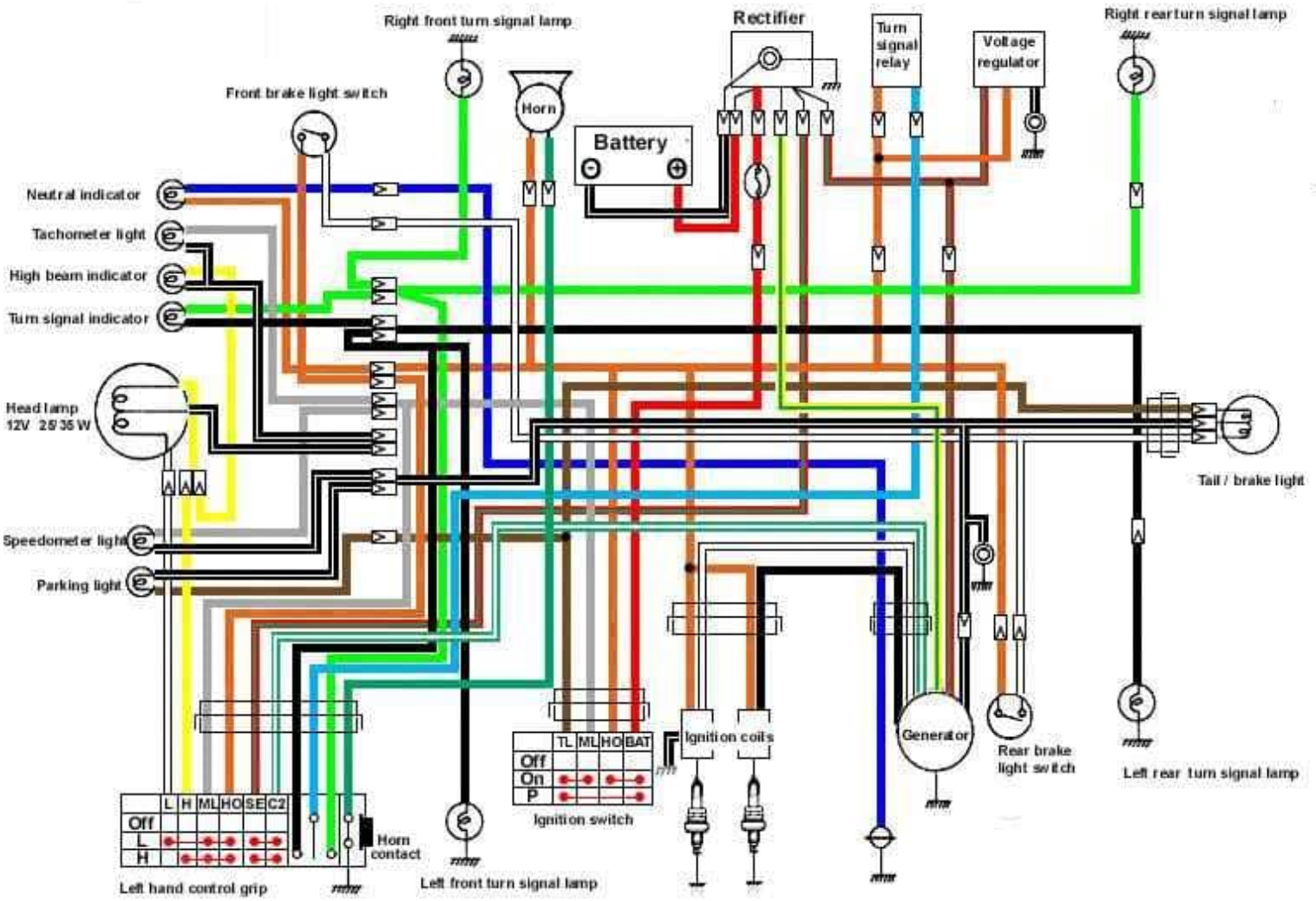
SR-1501

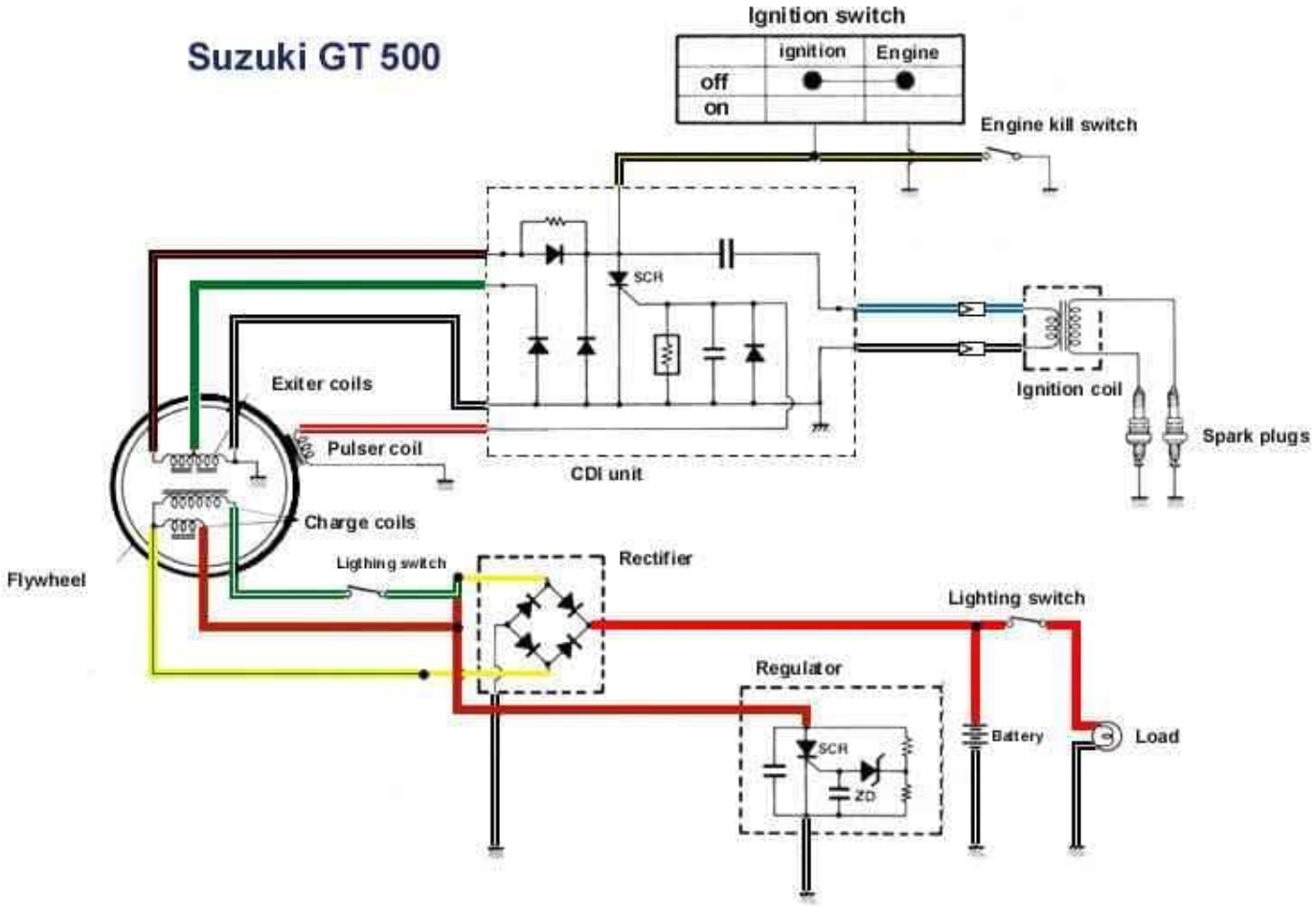
3.'77
8.'77 Printed in Japan

T500 Wiring Diagram





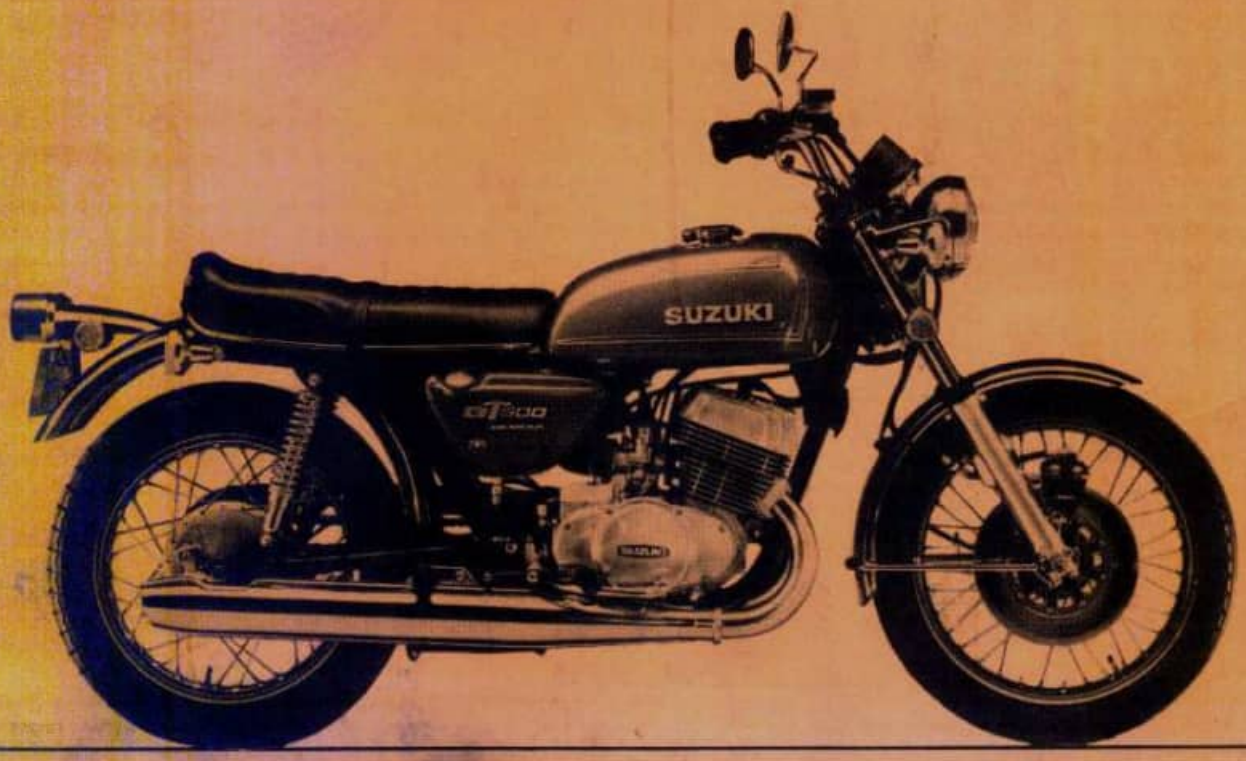

Right front turn signal lamp
Rectifier
Turn signal relay
Voltage regulator
Right rear turn signal lamp
Front brake light switch
Horn
Battery
Neutral indicator
Tachometer light
High beam indicator
Turn signal indicator
Head lamp 12V 25/35 W
Tail / brake light
Speedometer light
Parking light
Ignition coils
Generator
Rear brake light switch
Left rear turn signal lamp
TL ML HO BAT
Off
On
P
Ignition switch
L H ML HO SE C2
Off
L
H
Horn contact
Left hand control grip
Left front turn signal lamp


Suzuki GT 500
Ignition switch
ignition
Engine
off
on
Engine kill switch
SCR
Exiter coils
Pulser coil
CDI unit
Ignition coil
Spark plugs
Charge coils
Flywheel
Lighting switch
Rectifier
Lighting switch
Regulator
SCR
ZD
Battery
Load

NEW MODEL
TECHNICAL BULLETIN

SUZUKI

GT500A



INTRODUCTION

Model GT500—the new 500-cc sport model already introduced in other SUZUKI publications—is described here in greater detail to emphasize its sales points to our SUZUKI salesmen.

The new GT500 has been developed by redesigning Model T500, the 500-cc machine that had thrilled and delighted thousands of speed enthusiasts all over the world, and now comes with improved features in its brakes, suspension, electrical equipment and body to repeat the success with which the old T500 model was met years ago when it made a debut.

Additional information is given in this booklet on interchangeability of parts between Model GT500 and Model T500 and also on maintenance of the new model. This booklet is thus intended not only for salesmen but also for those engaged in servicing work or in control of spare and replacement parts supply.

SUZUKI MOTOR CO., LTD.

Service Department
Overseas Marketing Division

NEW FEATURES ON MODEL GT500

As contrasted to the predecessor Model T500, the new model has these new features:

- DISC BRAKE – *Front wheel is equipped with a disc brake for improved braking performance.*

- NEWLY DESIGNED FRONT FORK – *Outer tubes of the front fork are made of a high-strength aluminum alloy for weight reduction and, hence, increased stability of steering control.*

- LARGE-CAPACITY FUEL TANK – *A 17-litre tank is fitted to Model GT500 to cover a greater mileage with a single filling than was possible with Model T500.*

- LARGE-SIZE TURN SIGNAL LAMPS – *To secure greater safety on the road.*

- SUZUKI "PEI" – *The conventional ignition system is supplanted by the SUZUKI "PEI" system to make available increased ignition energy to the spark plugs.*

SPECIFICATIONS

DIMENSIONS AND WEIGHT

Overall length	2,206 mm (86.9 in)
Overall width	880 mm (34.6 in)
Overall height	1,135 mm (44.7 in)
Wheelbase	1,466 mm (57.7 in)
Ground clearance	160 mm (6.3 in)
Dry weight	179 kg (395 lbs)

ENGINE

Type	Two-stroke cycle, air-cooled gasoline engine
Intake system	Piston valve
Number of cylinders	2
Bore	70.0 mm (2.76 in)
Stroke	64.0 mm (2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.6 : 1
Carburetor	Two, MIKUNI VM32SS
Air cleaner	Wet polyurethane filter
Starter system	Kick
Lubrication system	SUZUKI "CCI"

TRANSMISSION SYSTEM

Clutch	Wet multi-plate type
Transmission	5-speed constant mesh
Gearshift pattern	1-down 4-up
Primary reduction	2.500 (65/26)
Final reduction	2.200 (33/15)
Gear ratios, low	2.500 (30/12)
2nd	1.563 (25/16)
3rd	1.158 (22/19)
4th	0.955 (21/22)
top	0.870 (20/23)
Drive chain, size	DAIDO, #50HDS
number of links	110 links

CHASSIS

Front suspension	Telescopic fork with hydraulic damper
Rear suspension	Swinging arm with hydraulic damper, spring 5-way adjustable
Steering angle	40° (right & left)
Caster	61°
Trail	121 mm (4.76 in)
Turning radius	2.6 m (8.53 ft)
Front brake	Hydraulic operated, caliper disc
Rear brake	Mechanical, internal expanding
Front tire size	3.25S19-4PR
Rear tire size	4.00S18-4PR

ELECTRICAL

Ignition type	SUZUKI "PEI"
Ignition timing	24° B.T.D.C.
Battery	12V 7AH
Generator	Flywheel magneto

CAPACITIES

Fuel tank including reserve	17 lit (4.5/3.7 US/Imp gal)
reserve	3.5 lit (0.9/0.8 US/Imp gal)
Engine oil tank	1.8 lit (3.8/3.2 US/Imp pt)

* The specifications are subject to change without notice.

DETAILS OF NEW FEATURES

Each new feature will be described in detail in contrast to its counterpart in the predecessor Model T500:

CHASSIS

Front Fork

Note the differences, in the illustrations below, between GT500 and T500 in terms of the front fork. Weight reduction is made in GT500 by using aluminum-alloy outer tubes in the fork in order to secure improved damper performance.

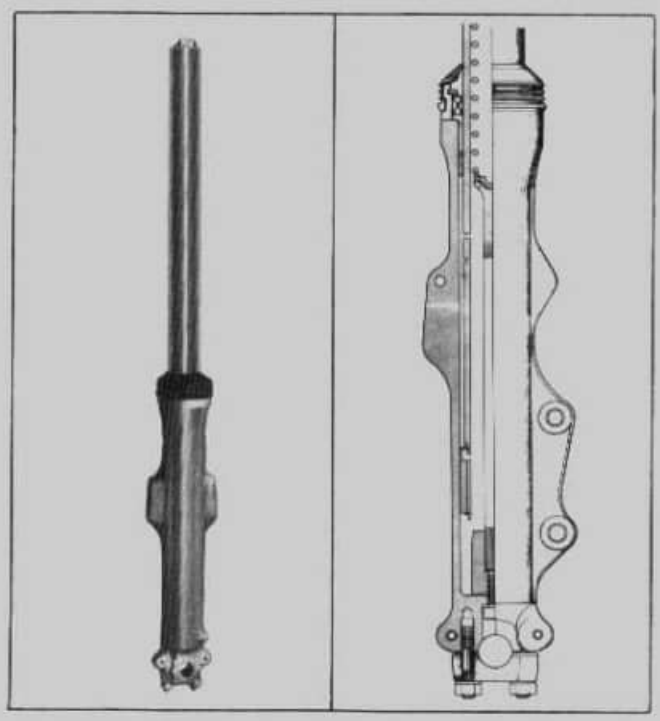


Fig. 1. GT500 Front Fork

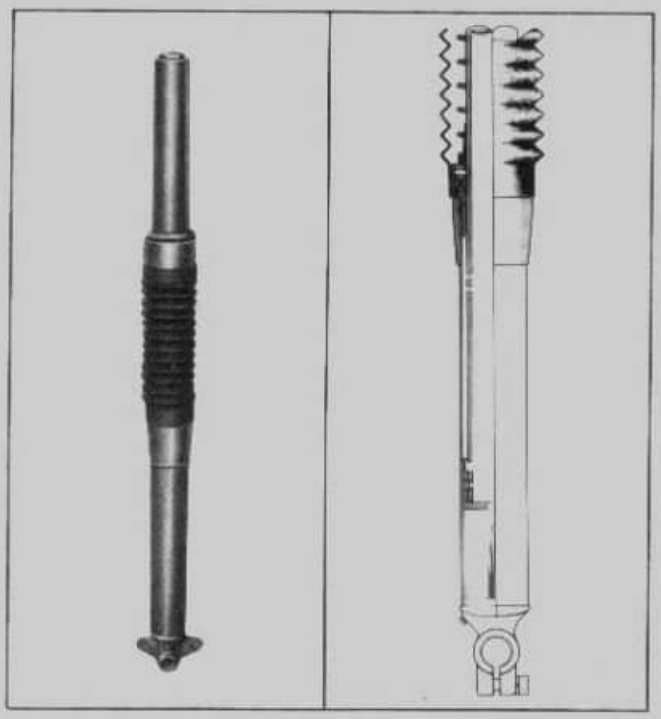


Fig. 2. T500 Front Fork

Front Brake

The unmistakable mark of difference between GT500 and T500 that hits the eyes of the beholder is the front brake: a caliper-type disc brake is incorporated as the front brake in GT500 to provide a braking performance better suited to high-speed cruising.

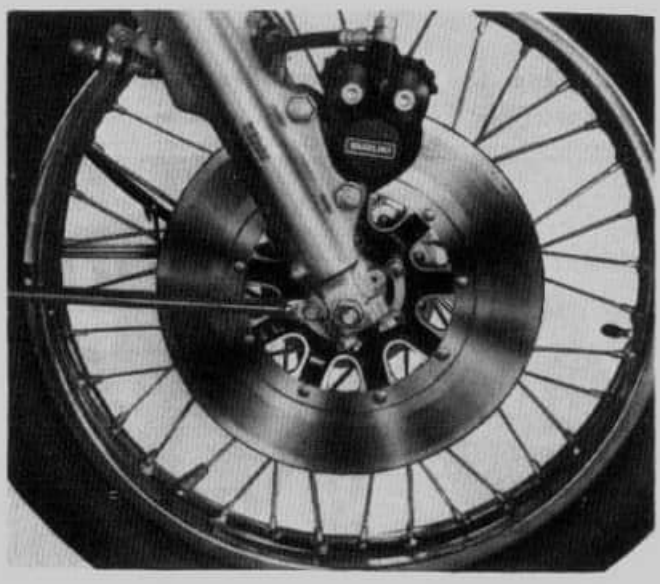


Fig. 3. GT500 Front Brake

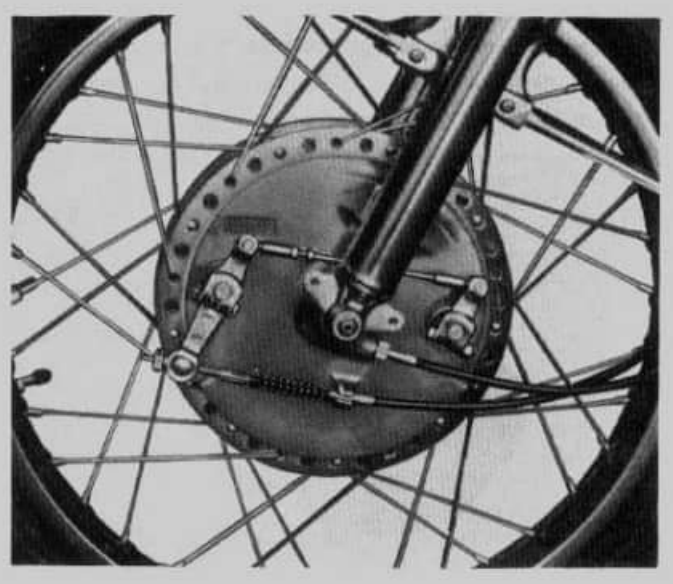


Fig. 4. T500 Front Brake

Front Fender

The brace staying the front fender in T500 is omitted in GT500; instead, the front fender of GT500 is stayed differently to present a sharp, sporty appearance at the front end.

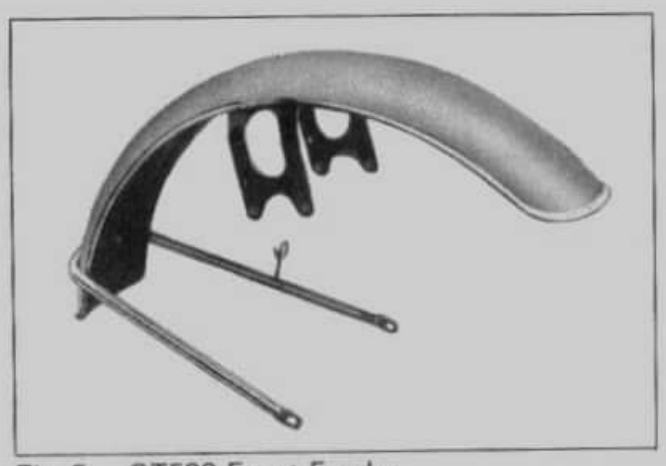


Fig. 5. GT500 Front Fender

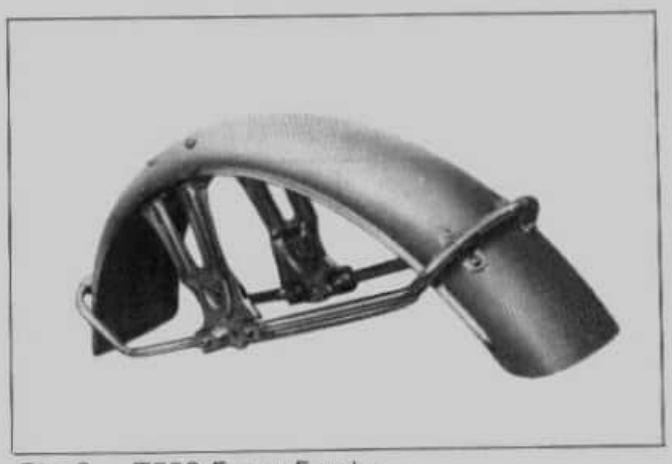


Fig. 6. T500 Front Fender

Turn Signal Lamps

The lamps of GT500 are larger so that they can be recognized at a much greater distance to add to the ability of this machine to avoid accidents.

Fig. 7. GT500 Turn Signal Lamp

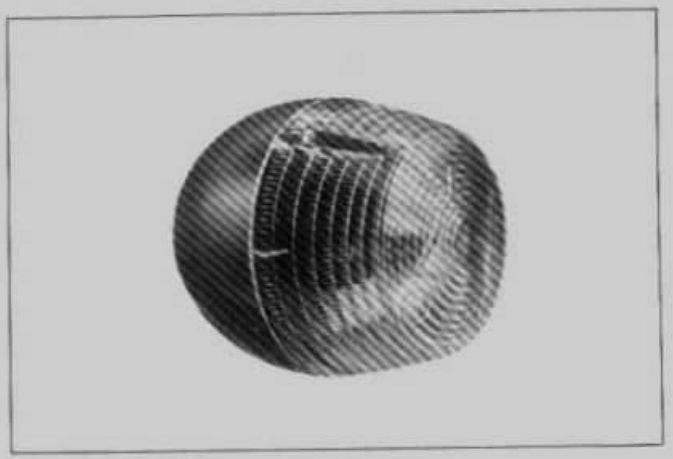


Fig. 8. T500 Turn Signal Lamp

Meter Assembly and Ignition Switch

Sun visors are added, and the ignition switch is relocated. Thus, the meters are easier to read, and the switch is easier to operate.

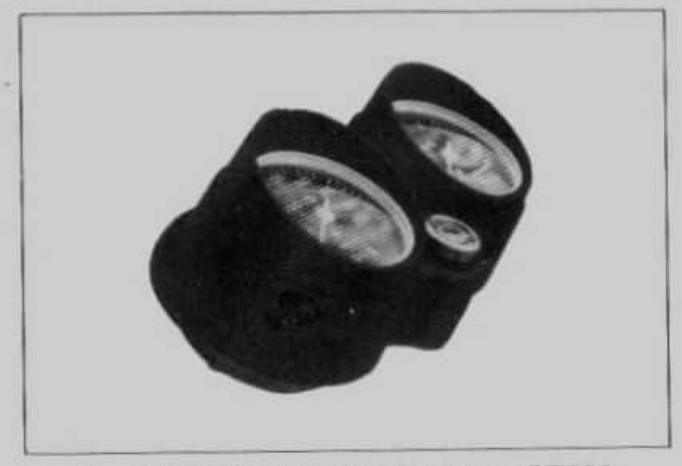


Fig. 9. Meters and Ignition Switch in GT500

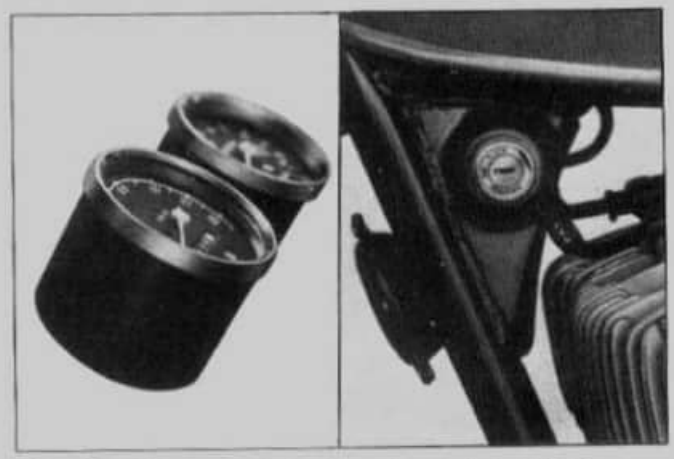


Fig. 10. Meters and Ignition Switch in T500

Fuel Tank

The fuel tank of GT500 holds 3 litres more fuel than that of T500. Note the difference in shape between the two tanks: one holds 14 litres while the other holds 17 litres.

Fig. 11. GT500 Fuel Tank
17 lit. (4.5/3.7 US/Imp gal)

Fig. 12. T500 Fuel Tank
14 lit. (3.7/3.1 US/Imp gal)

Rider's Seat

GT500 has a wider and softer seat.

Fig. 13. GT500 Seat

Fig. 14. T500 Seat

Rear Shock Absorbers

The cover is done away with in GT500 to make the absorber look simplistic and sporty.

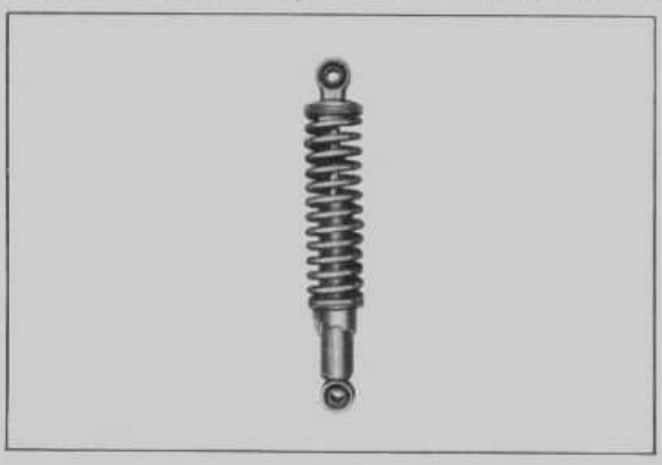


Fig. 15. GT500 Rear Shock Absorber

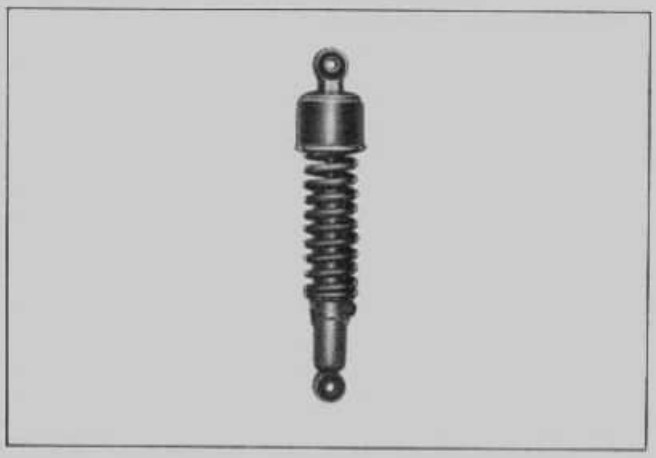


Fig. 16. T500 Rear Shock Absorber

ELECTRICAL

SUZUKI "PEI" System for Greater Ignition Energy

It will be recalled that, in Model T500, the spark plugs receive energy in the conventional manner, that is, through a contact breaker and an ignition coil. The "PEI" system (for Point-less Electronic Ignition system) used in GT500 is a radical departure not only because it replaces the conventional system but also because this "PEI" system includes innovations and thus differs from the "PEI" system that has long been applied to SUZUKI single-cylinder motorcycles.

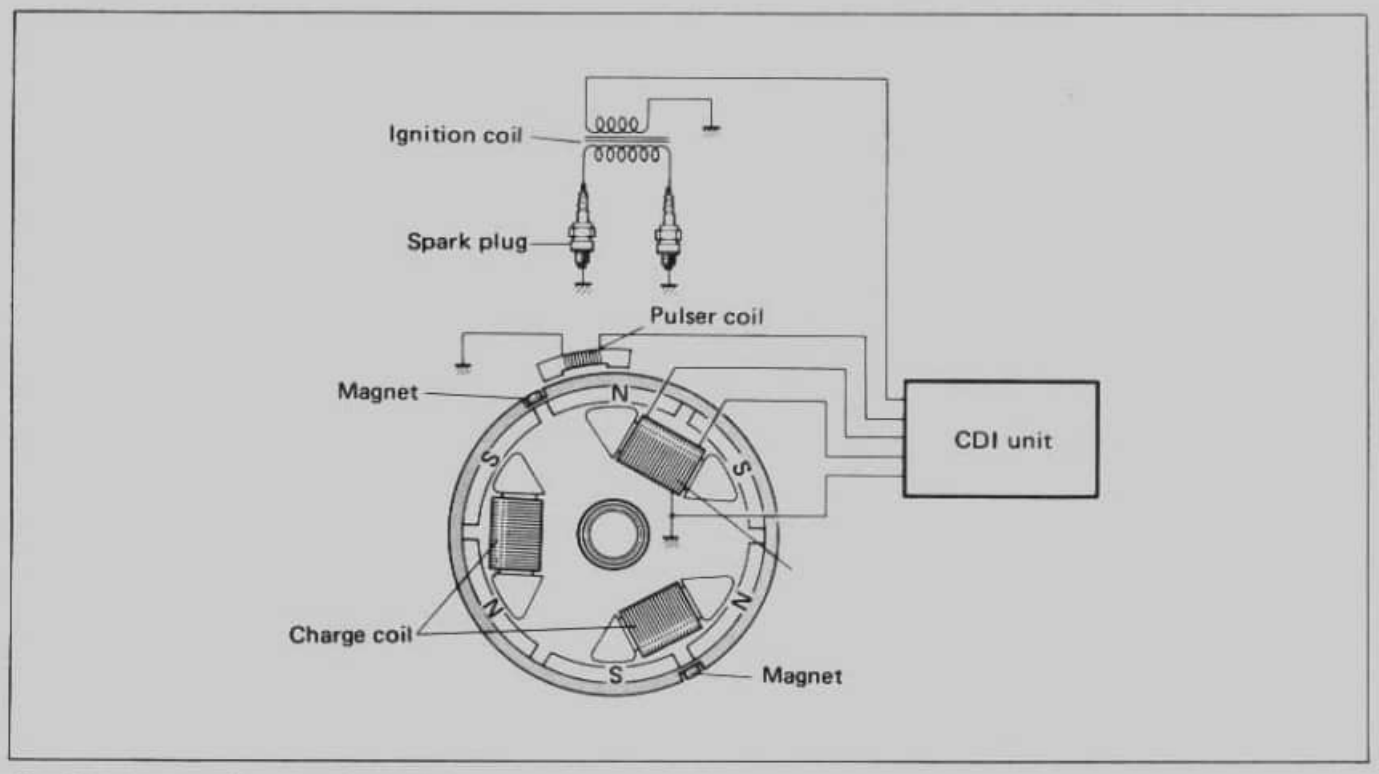


Fig. 17. Ignition System of GT500

Note that the new "PEI" differs from the old one in this regard: the pulser coil for producing signals to trigger the "CDI" unit is located close to the periphery of the flywheel, and is excited by a small magnet imbedded in the flywheel. In operation, as the magnet moves past the pulser coil, a trigger signal is induced in the coil: this intermittent induction corresponds to the contact points separated by the cam in the conventional contact breaker. Actually, there are two such magnets, 180° apart.

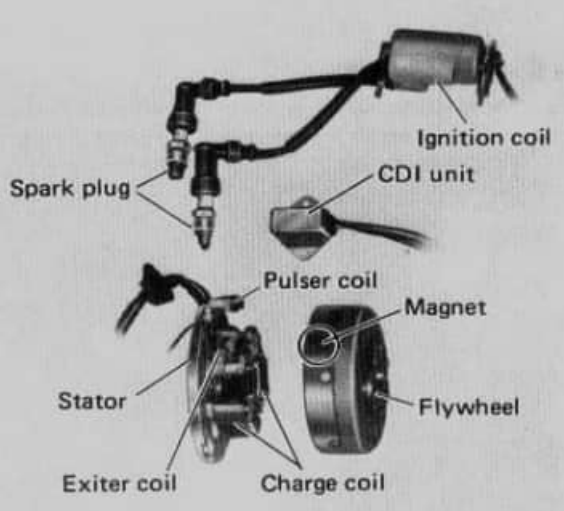


Fig. 18. Components of GT500 Ignition System

For one familiar with the SUZUKI "PEI" system hitherto used in other SUZUKI models, it is obvious that the excitation magnet—the small magnet carried by the flywheel—is discrete from the exciter coil and charge coils and thus represents a new feature of the GT500 "PEI" system. It follows from this feature that the signal-producing action of the pulser coil in terms of timing and signal intensity is not affected at all by the loaded condition of the three coils. Ignition is stable and reliable in Model GT500.

In the "PEI" system hitherto used, the pulser coil is continuously excited to deliver alternating current and its output voltage is devised to intermittently drive the "CDI" unit: in other words, the "CDI" unit is triggered when the pulser coil output voltage rises to a certain level. Although this method permits the ignition timing to be electronically varied for automatic advancing, the merit of the automatic advancing action is canceled off by the fact that the timing becomes disturbed when electrical load on the generator increases, as in night driving or battery charging, to affect the performance of the pulser coil.

The ignition coil used in the "PEI" system of GT500 is slightly different in that each end of its secondary winding is connected through a cord to the spark plug. Thus, the two plugs receive sparking energy at the same time.

MAINTENANCE INFORMATION

Maintenance for GT500 is generally the same as for T500. There are minor differences, however, because of the new features given to GT500. Of those differences relative to inspection, checking and servicing, the ones meriting discussion will be taken up with a view to thoroughly acquainting the servicemen with Model GT500:

Checking and Adjusting Ignition Timing

As long as the screws securing the stator are tight, the ignition timing initially set remains undisturbed to require no re-adjustment. Since engine disassembly involves the removal and installation of the stator, the methods of adjusting and checking the timing will be described:

IGNITION TIMING ADJUSTMENT

Stator has a line mark (shown as "A") and, similarly, crankcase has a line mark (shown as "B"), as will be seen in Fig. 19. Align the two lines by adjusting the stator in place: this sets the timing to the specification. Secure the stator in that position by tightening the screws.

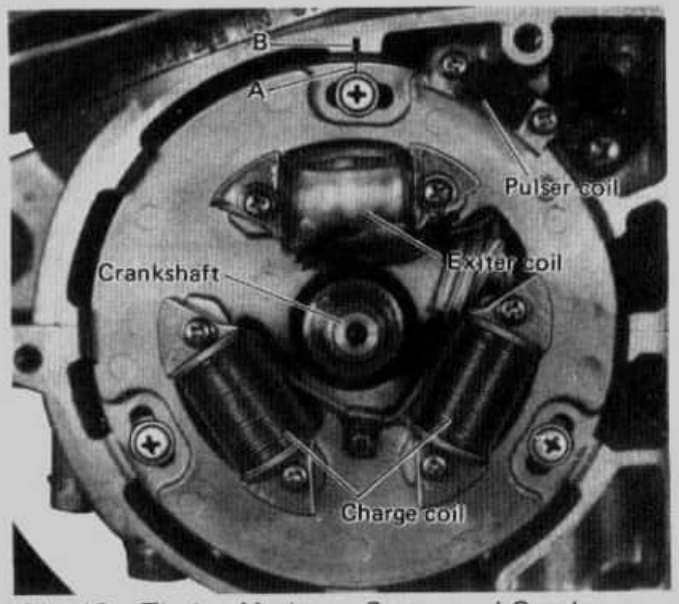


Fig. 19. Timing Marks on Stator and Crankcase

CHECKING THE TIMING

All you have to do is this: check to be sure that lines "A" and "B", mentioned above, are aligned. Remove magneto cover (left cover) to take a look at these lines. There's no need of removing the flywheel.

You may use a timing lamp to check the timing. In this case, run the engine at about 3,000 rpm: if the line on crankcase appears aligned to the line on flywheel, then you may rest assured that ignition is timed correctly.

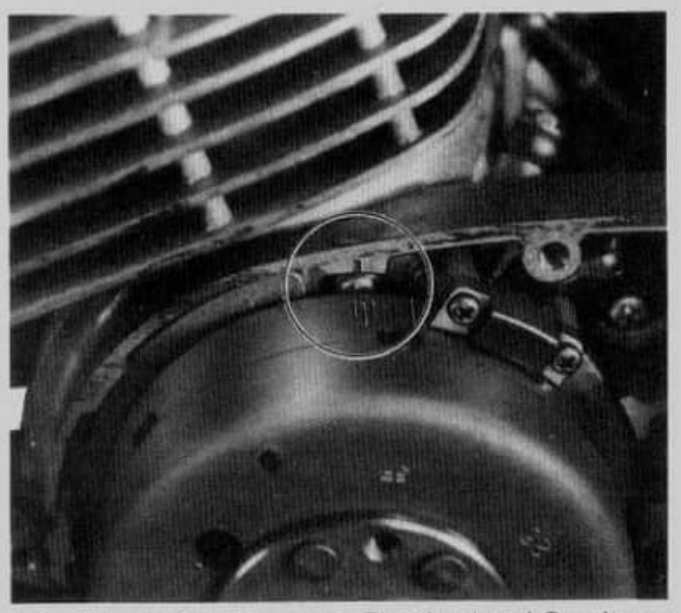


Fig. 20. Timing Marks on Flywheel and Crankcase

Ignition Circuit and Battery Charging Circuit

To check the circuits for malcondition, refer to the circuit diagram, below, covering the ignition and charging circuits:

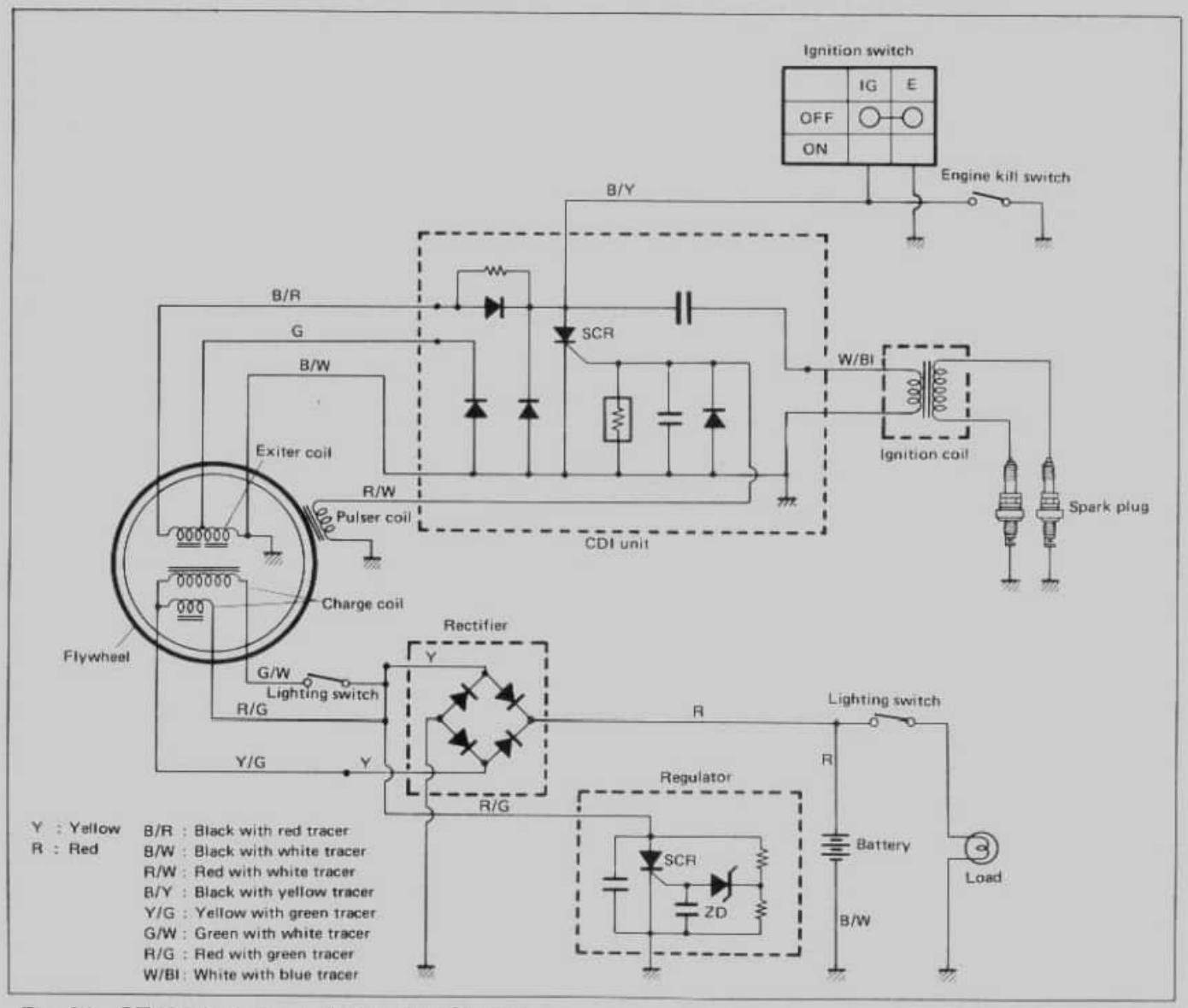


Fig. 21. GT500 Ignition and Charging Circuit

Maintenance information on "CDI" unit, regulator and various coils follow:

CHECKING THE "CDI" UNIT

Use a SUZUKI pocket tester (Special Tool No. 09900-25001) in reference to the chart of Fig. 22, by adhering to these rules:

1) Before starting to check the "CDI" unit, be sure to have all lead-wire couplers unmade.
2) Just before putting your pocket tester to two "CDI" terminals, briefly shortcircuit them with a jumper.
3) Set the tester knob to "RX100" range.

Put negative (−) pin of tester to:	Put positive (+) pin of tester to:						
		B/R	G	B/Y	R/W	W/Bl	B/W
	B/R		off	on	off	con	off
	G	off		off	off	off	off
	B/Y	*off	off		off	con	off
	R/W	*off	on	on		con	on
	W/Bl	con	off	con	off		off
	B/W	*off	on	on	on	con	

Fig. 22. "CDI" Checking Chart

B/R : Black with red tracer
B/Y : Black with yellow tracer
R/W : Red with white tracer
B/W : Black with white tracer
G : Green

This chart presupposes that the "CDI" unit is in sound condition; "on", "off" and "con" in the boxes of the chart refer to what your pocket tester will indicate when its positive and negative pins are put to the indicated terminals of a good "CDI" unit.

1) "on" – Tester should indicate continuity; it means that you are checking a diode for continuity in its normal (forward) direction.
2) "con" – This stands for a condenser. The indicating hand of your tester will momentarily deflect and settles back to indicate infinity, meaning that the condenser being checked is not ruptured.
3) "off" – Tester should indicate infinity, that is, its indicating hand should remain undeflected to mean that the circuit being checked has an infinitely large resistance or, possibly, off as it should be.
4) "*off" – The indicating hand should deflect just a little, indicating a resistance value close to infinity.

CHECKING THE REGULATOR

The purpose of this check is to judge whether or not the charging system is working properly, and is accomplished by checking the battery terminal voltage while the charging system is in operation. Read the voltage at the battery under the conditions enumerated below; if the reading is off the specification, it means that the regulator or, less frequently, rectifier or magneto is in defective condition to demand closer investigation:

1) Run the engine at 4,000 rpm.
2) Make sure that the battery is in fully charged state.
3) Have lamps and other electrical loads turned off.

The specified terminal voltage is 14 ± 0.5 volts. If the reading is off this value, replace the existing regulator by a new one; if this replacement results in a reading of 14 ± 0.5 volts, it means that the existing regulator is out of order.

CHECKING THE COILS

Various coils are used in the ignition and charging system. Using the tester, check each coil for continuity and for ohmic resistance in reference to this table:

Coil	Check at: (Lead wire)	Standard Resistance
Exciter coil	G . . . . . GROUND	185 ohms ±10%
Exciter coil	B/R . . . . . GROUND	214 ohms ±10%
Pulser coil	R/W . . . . . GROUND	67 ohms ±10%
Ignition coil, primary	W/B – B/W	4 ohms ±10%
Ignition coil, secondary	Between plug cords	12 kilohms ±10%
Charge coil	Y/G – R/G	1 ohm ± 10%
Charge coil	Y/G – G/W	1 ohm ±10%

Fig. 23. Coils Checking Chart

B/R	: Black with red tracer	G	: Green
R/W	: Red with white tracer	Y/G	: Yellow with green tracer
W/B	: White with black tracer	R/G	: Red with green tracer
B/W	: Black with white tracer	G/W	: Green with white tracer

Servicing Air Cleaner

At regular intervals, indicated below, clean the air cleaner element (which is a polyurethane element for GT500) in the following manner:

Fill a properly sized pan or pot with gasoline; immerse the element in the gasoline; and wash it gently while examining it for evidence of rupture or fissure. (A ruptured or otherwise damaged element must be replaced.)

After washing, squeeze gasoline off the element; and dry it completely.

Immerse the dried element in a pool of SUZUKI CCI oil or high-grade motor oil of SAE #30, and squeeze oil off the element to make it oil-wet without dripping.

CAUTION:

Do not wring the element to squeeze liquid off. Wringing could damage the element.

Cleaning interval	**3,000 km (2,000 miles)**

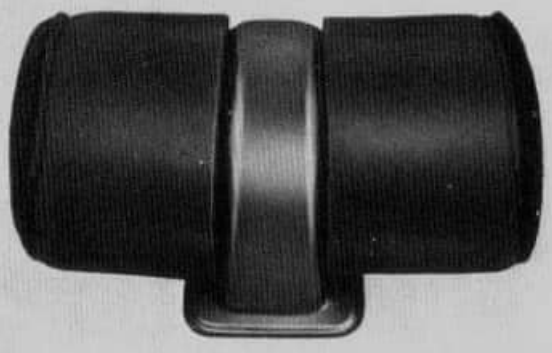


Fig. 24. Air Cleaner Element

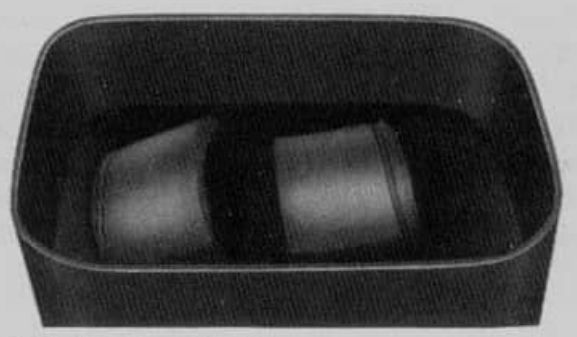


Fig. 25. Washing the Element

Servicing the Front Fork

The front fork of GT500 differs in construction from that of T500, and must be taken care of as follows:

OIL CHANGE

A drain plug is located at the lower section of each fork leg, as shown in Fig. 26. To drain out oil, remove this plug and also the cap bolt. To fill up the leg, pour oil through the hole for the cap bolt.

1) Oil specification: Use SAE 10W/20 motor oil, or automatic transmission fluid.
2) Oil capacity: Each leg needs 266 cc (9.0/9.4 US/Imp oz) of oil, in contrast to 220 cc (7.4/7.7 US/Imp oz) needed by the fork leg in T500.

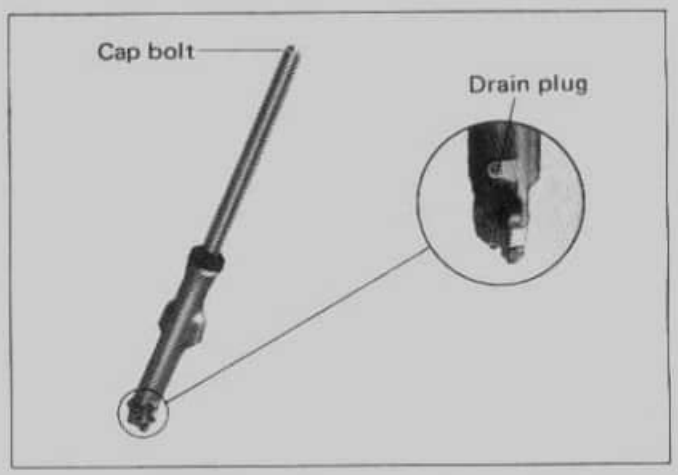


Fig. 26. Drain Plug and Cap Bolt

DISASSEMBLY

First, remove the circlip on each leg. With the circlips removed, the front fork can be disassembled by removing its parts one after another.

Do not attempt to loosen the bolt securing the spring seat in the bottom section of the leg: the seat is centered inside the inner tube by this bolt. Loosening the bolt may result in a mispositioned seat and, hence, in chattering or rattle noise coming from the fork during operation. The front fork disassembly does not require the removal of these bolts.

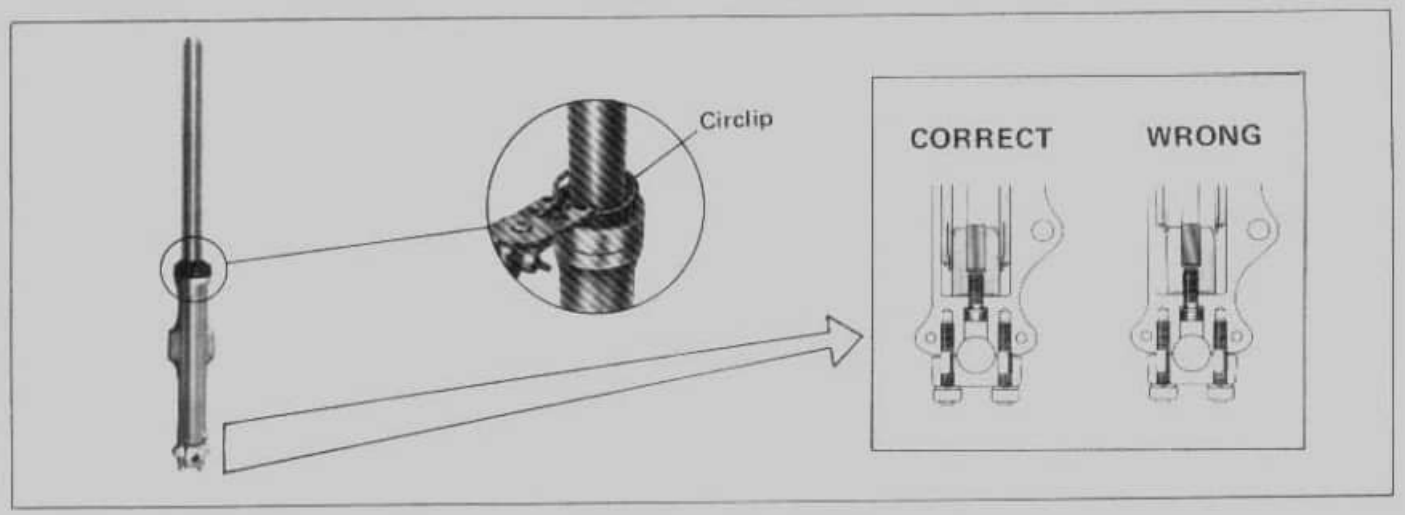


Fig. 27. Front Fork Details

Reassembly is the reverse of disassembly, but must be effected by installing replacement oil seals. Be sure to use the oil seal installing tool (Special Tool No. 09940-53110). Disassembly affords an opportunity for oil change: after reassembling the front fork, be sure to fill up its legs with new oil.

Fig. 28. Oil Seal Installing Tool and Oil Seal

Checking the Disc Brake

BRAKE FLUID

Check to be sure that the brake fluid is up to level between the two limits, UPPER and LOWER, both cast out on the reservoir, as shown. If the fluid in the reservoir is found to be prematurely low, check the brake for oil leakage.

Fig. 29. Brake Fluid Level

Select one brand of brake fluid for GT500 as guided by this chart:

Brake fluid specification	Where
DOT 3 DOT 4	U.S.A.
SAE J 1703a SAE J 1703b SAE J 1703c SAE 70 R 3	Other countries

Fig. 30. Brake Fluid Selection Guide

PAD REPLACEMENT

Each pad has a red line on its periphery. This line is the limit of pad wear. Replace the pad when it is found to have worn down to this line.

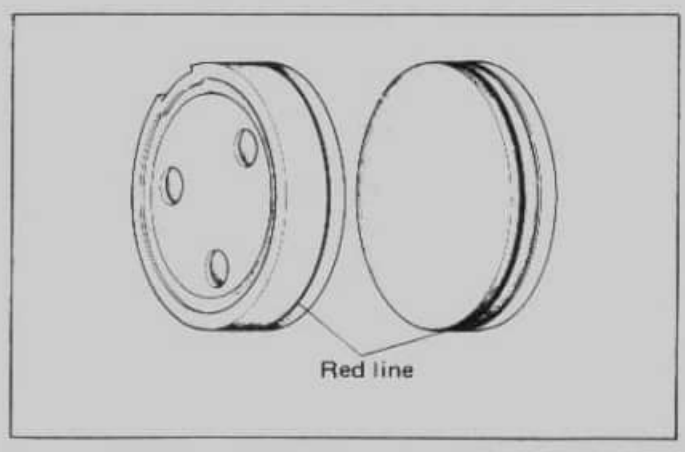


Fig. 31 Disc Brake Pads

BRAKE DISC

The disc too is subject to wear, and needs to be replaced when its wear has progressed to reduce the disc thickness to 6 mm (0.236 in.). Disc thickness refers the middle portion of its friction face coming into contact with the pad; read the thickness there with calipers.

Limit thickness of disc	6 mm (0.236 in)

PARTS INTERCHANGEABILITY

Interchangeability of parts between GT500 and T500 concerning the major differences is as follows:

1) FRONT FORK – Not interchangeable.

2) DISC BRAKE – T500 does not accept the disc brake of GT500.

3) FRONT FENDER – Not interchangeable because of the difference in installing method.

4) TURN SIGNAL LAMPS – Interchangeable.

5) METER ASSEMBLY & IGNITION SWITCH – Not interchangeable.

6) FUEL TANK – Not interchangeable because the stays securing the tank to frame differ between the two models.

7) RIDER'S SEAT – The seat of GT500 is mountable on T500. With this seat mounted on T500, however, a clearance of about 3 cm occurs between seat and fuel tank.

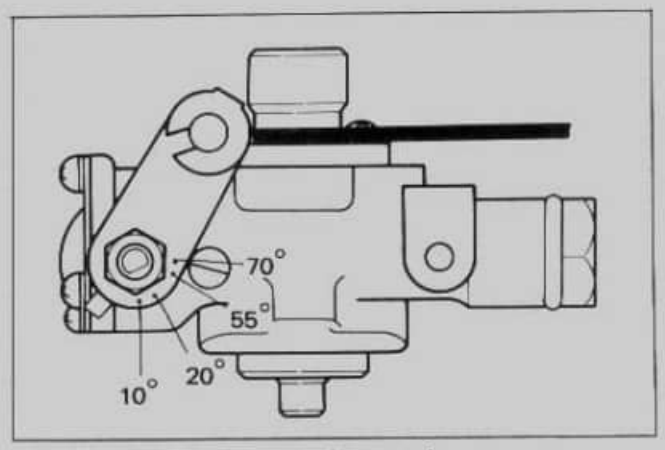
SERVICE DATA

Engine

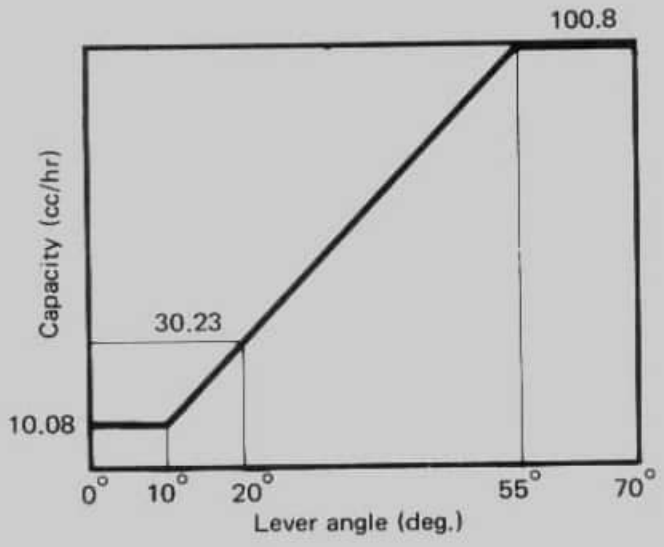
1) Piston-to-cylinder clearance: 0.065 ~ 0.075 mm (0.0026 ~ 0.0030 in), based on piston O.D. reading taken at 32 mm above skirt end.
2) Standard engine idling speed: 1,300 rpm
3) Carburetor jetting:

Main jet	#97.5	Pilot jet	#30
Jet needle	5FP17-3	Air screw setting	1½ turns backed
Needle jet	P-4	Starter jet	#70
Cut-away	2.5	Float level	27.25 mm (1.073 in)

4) Oil pump capacity at 1,000 engine rpm:



Oil pump lever angle



Drive Train

1) Transmission oil capacity: 1,400 cc (3.0/2.4 US/Imp pt), SAE 20W/40 motor oil.
2) Drive chain tension: 15 ~ 20 mm (0.6 ~ 0.8 in) as chain sag between two sprockets without the rider mounted on the machine.

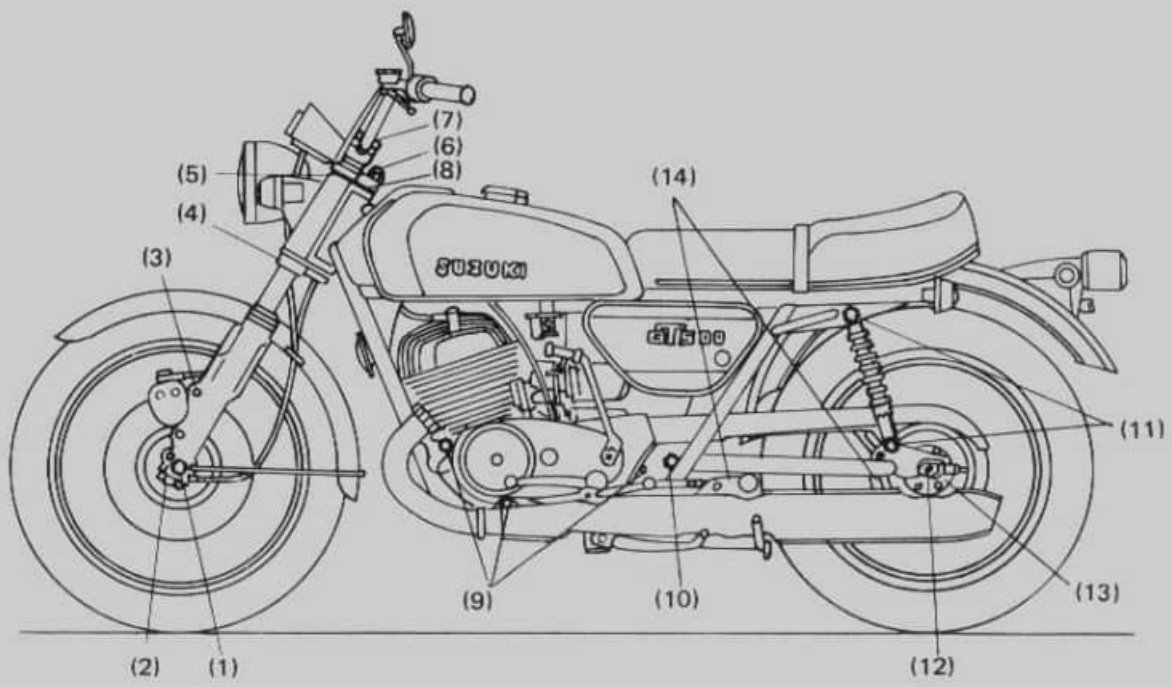
Chassis

1) Front fork oil: SAE 10W/20 motor oil or automatic transmission fluid, 266 cc (9.0/9.4 US/Imp oz) for each leg.
2) Wear limit on front brake disc: 6 mm (0.236 in)

Electrical

1) Standard spark plug: NGK B-7HS, or NIPPON DENSO W22FS
2) Spark plug gap: 0.6 ~ 0.7 mm (0.024 ~ 0.028 in)
3) Battery electrolyte S.G. in fully charged state: 1.280 (as corrected to 20°C)

TIGHTENING TORQUE



		Torque kg-cm			Torque lb-ft		
(1)	Front axle nut	360	-	520	27	-	37
(2)	Front axle holder nut	160	-	240	12	-	17
(3)	Caliper bolt	260	-	390	19	-	28
(4)	Front fork lower bracket	260	-	390	19	-	28
(5)	Front fork upper bracket (right & left)	200	-	300	15	-	21
(6)	Front fork upper bracket (center)	640	-	960	47	-	69
(7)	Handlebar clamp bolt	130	-	190	10	-	13
(8)	Steering stem nut	260	-	390	19	-	28
(9)	Engine mounting nut	260	-	390	19	-	28
(10)	Rear swinging arm shaft nut	500	-	750	37	-	54
(11)	Rear shock absorber nut (upper & lower)	200	-	300	15	-	21
(12)	Rear axle nut	520	-	780	38	-	56
(13)	Rear brake cam lever bolt	55	-	75	4	-	5
(14)	Rear brake torque link nut (front & rear)	200	-	300	15	-	21

SPECIAL TOOLS

SUZUKI motorcycles are easy to service, repair or overhaul because a family of handtools tailored to respective needs are available and because each new model is accompanied by new tools, if necessary, for handling those jobs that cannot be coped with by the existing ones.
The special tools listed here for the new GT500 are among the family of already existing ones. Two tools, marked with asterisk (*), are needed by GT500 but not by T500.

1.	09910-10710	8 mm stud installing tool
2.	09910-11510	10 mm stud installing tool
3.	09910-20113	Piston holder
*4.	09911-71510	8 mm hexagon "L" type wrench
5.	09913-70122	Bearing and oil seal installing tool (ID: 40.5 mm, OD: 50.0 mm)
6.	09913-80111	Bearing and oil seal installing tool (ID: 25.2 mm, OD: 34.0 mm)
7.	09920-53710	Clutch sleeve hub holder
*8	09920-73110	Special circlip opener
9.	09930-30101	Rotor remover shaft set
10.	09930-30190	Rotor remover attachment
11.	09930-40113	Engine sprocket and flywheel holder
12.	09940-10122	Steering stem lock nut wrench
13.	09940-53111	Front fork oil seal installing tool
14.	09940-60112	Spoke nipple wrench
15.	09900-20804	Thickness gauge
16.	09900-09002	Shock driver set
17.	09900-21602	Engine oil measuring tool
18.	09900-25001	Pocket tester
19.	09900-28103	Electro tester (Type SS-II)

SUZUKI

SUZUKI MOTOR CO., LTD.

NT – 1500

Printed in Japan Dec. 1975 1D

Suzuki T500K Owner's Manual

Beware the 1200cc transmission oil advice, oil dam needs modification to take 1400cc

SUZUKI

T500

OWNER'S MANUAL

K

Home of World Champion Motorcycles

SUZUKI MOTOR CO.,LTD.

FOREWORD

We sincerely thank you for choosing this Suzuki motorcycle from the many fine models available. With Suzuki motorcycles you are assured of the latest innovations in high performance and styling which have been the hallmark of Suzuki Motor Co., Ltd. since 1936. Critical engineering techniques and the latest in modern factory equipment and manufacturing know-how have resulted in a product world renowned for excellence. Having won the famous Isle of Man T.T., as well as many world motocross championships, we assure you that the same high standards are attained on each production unit.

However, even the best motorcycle cannot maintain peak performance unless it is serviced properly. So we advise that this Owner's Manual be read carefully and its instructions followed religiously. Treat your motorcycle properly and ride it correctly and you will enjoy the comfort and exhilaration associated with riding a world champion machine.

We thank you for placing your confidence in Suzuki and wish you many miles of happy riding.

SUZUKI MOTOR CO.,LTD.

CONSUMER INFORMATION

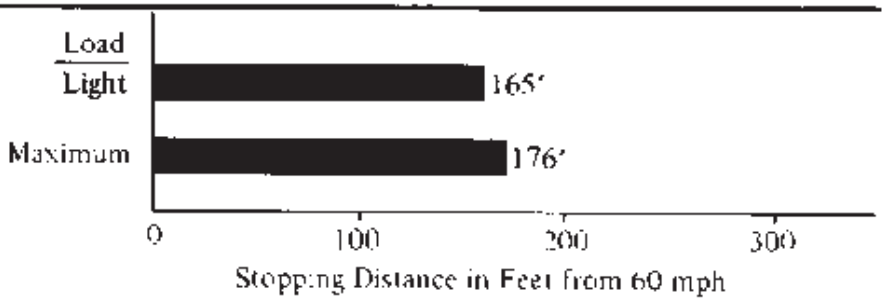
(1) Vehicle Stopping Distance

This figure indicates braking performance that can be met or exceeded by the vehicle to which it applies, without locking the wheels, under different conditions of loading and with partial failures of the braking system.

Notice: The information presented represents results obtainable by skilled driver under controlled road and vehicle conditions, and the information may not be correct under other conditions

Description of vehicle to which this table applies:
Suzuki motorcycle model T500K

Fully Operational Service Brake



(2) Acceleration and Passing Ability

This figure indicates passing times and distances that can be met or exceeded by the vehicle to which it applies, in the situations diagrammed below.

The low-speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph. The high-speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

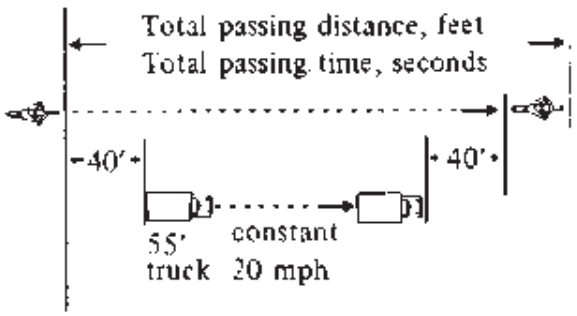
Notice. The information presented represents results obtainable by skilled driver under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicle to which this table applies:
Suzuki motorcycle model T500K

Low-speed pass . . . . . 349 feet, 7.1 seconds
High-speed pass . . . . . 988 feet, 9.9 seconds

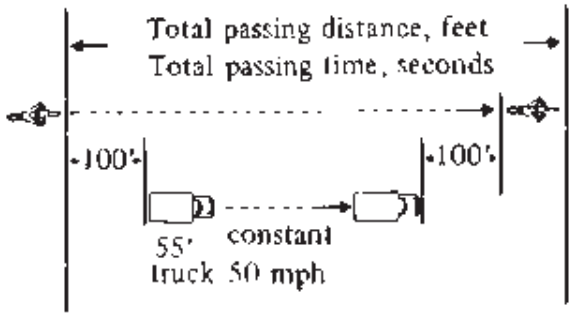
Low-speed

Initial speed: 20 mph Limiting speed: 35 mph



High-speed

Initial speed: 50 mph Limiting speed: 80 mph



" IMPORTANT "

BREAKING-IN

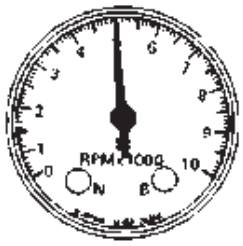
The life of the motorcycle depends on how it is broken in. During this period the engine must be given the best care possible. For careful break-in observe the following instructions:

- DO NOT RACE THE ENGINE.
- KEEP TO THE SPECIFIED BREAKING-IN ENGINE RPM LIMIT.

FIRST 100 MILES (160 KM) . . . . . BELOW 3,500 RPM
UP TO 500 MILES (800 KM) . . . . . BELOW 4,000 RPM
UP TO 1,000 MILES (1,600 KM) . . . . . BELOW 5,000 RPM

First 100 miles (160 km)

Up to 500 miles (800 km)



Up to 1,000 miles (1,600 km)

CONTENTS

		Page
1.	SPECIFICATIONS	6
2.	SUZUKI CCI LUBRICATION SYSTEM	10
3.	CONTROLS	12
4.	INSPECTIONS BEFORE RIDING	24
5.	TIPS ON RIDING	32
6.	INSPECTION AND MAINTENANCE	36
7.	TROUBLE SHOOTING	53
8.	WIRING DIAGRAM	56
9.	INDEX	57

1. SPECIFICATIONS

- **Dimensions, Weight**

Overall length	86.4 in (2,195 mm)
Overall width	34.6 in (880 mm)
Overall height	43.5 in (1,105 mm)
Wheelbase	57.3 in (1,455 mm)
Road clearance	6.3 in (160 mm)
Tires, front	3.25–19, 4PR
rear	4.00–18, 4PR
Dry weight	412 lb (187 kg)

- **Performance**

Maximum speed	105–110 mph (168–176 kph)

- **Engine**

Type	2 stroke, air-cooled aluminum
Piston displacement	492 cc (30.0 cu in)
Bore x stroke	2.76 x 2.52 in (70 x 64 mm)
Number of cylinder	2
Corrected compression ratio	6.6
Maximum horsepower	45 hp at 6,000 rpm
Maximum torque	39.0 ft-lb (5.40 kg-m) at 5,500 rpm
Starter	Kick

♦ Fuel System

Carburetors	Two, VM32SC
Air cleaner	Wet polyurethane filter
Fuel tank capacity	3.7/3.1 US/Imp gal (14 ltr)

♦ Lubrication System

Engine	Suzuki CCI
Transmission	Oil bath, 1,200 cc (2.5/2.1 US/Imp pt)
Oil tank capacity	3.8/3.2 US/Imp pt (1.8 ltr)

♦ Ignition System

Type	Battery ignition
Ignition timing	24° B.T.D.C.
Spark plugs	NGK B-7HC or Nippon Denso W-24FS

♦ Transmission System

Clutch		Multi-plate, wet disc
Gearbox		5-speed, constant mesh
Gear shifting		Left foot, lever operated
Primary reduction ratio		2.500 (65/26)
Final reduction ratio		2.200 (33/15)
Gear ratios	low	2.500 (30/12)
	second	1.562 (25/16)
	third	1.157 (22/19)
	fourth	0.954 (21/22)
	fifth	0.869 (20/23)

Overall reduction ratios	
low	13.75
second	8.59
third	6.36
fourth	5.25
fifth	4.78
Drive chain, size	50HDS
number of links	110

♦ Suspension

Front suspension	Telescopic, oil dampened
Rear suspension	Swinging arm, oil dampened, 5-way adjustable

♦ Steering

Steering angle	40° (right and left)
Castor	61°
Trail	5.1 in (130 mm)
Turning radius	7.5 ft (2.3 m)

♦ Brakes

Front brake	Right hand, internal expanding, double cam
Rear brake	Right foot, internal expanding

♦ Electrical Equipment

Generator	Internal rotating alternator
Battery	12V 7AH
Fuse	15A
Head lamp	12V 35/25W
Tail/Brake lamp	12V 8/23W (3/32 cp)
Neutral indicator lamp	12V 3.4W
Speedometer lamp	12V 3.4W
Tachometer lamp	12V 3.4W
High beam indicator lamp	12V 3.4W
Turn signal indicator lamp	12V 1.7W
Turn signal lamp	12V 23W (32 cp) × 4

*** SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.**

* You may find some slight differences between your motorcycle and this owner's manual. This is because of differences required by traffic regulations in different countries.

2. SUZUKI CCI LUBRICATION SYSTEM

The Suzuki CCI lubrication system is the most advanced system available for two-stroke engines.

In this system oil is stored in an oil tank and a fresh charge of oil is fed by the oil pump to both side of crankshaft bearings, connecting rods and the surface of the piston and cylinder. The middle crankshaft bearing alone is lubricated by transmission oil.

The amount of oil fed to these areas is regulated by the oil pump control lever which is controlled by engine speed and the amount of throttle opening.

Since the engine is constantly lubricated by a fresh charge of oil which is properly regulated to meet all operating conditions, the CCI system assures that proper lubrication is always maintained.

This results in less carbon build-up and less exhaust smoking than was previously possible when troublesome pre-mixing of gasoline and oil was necessary.

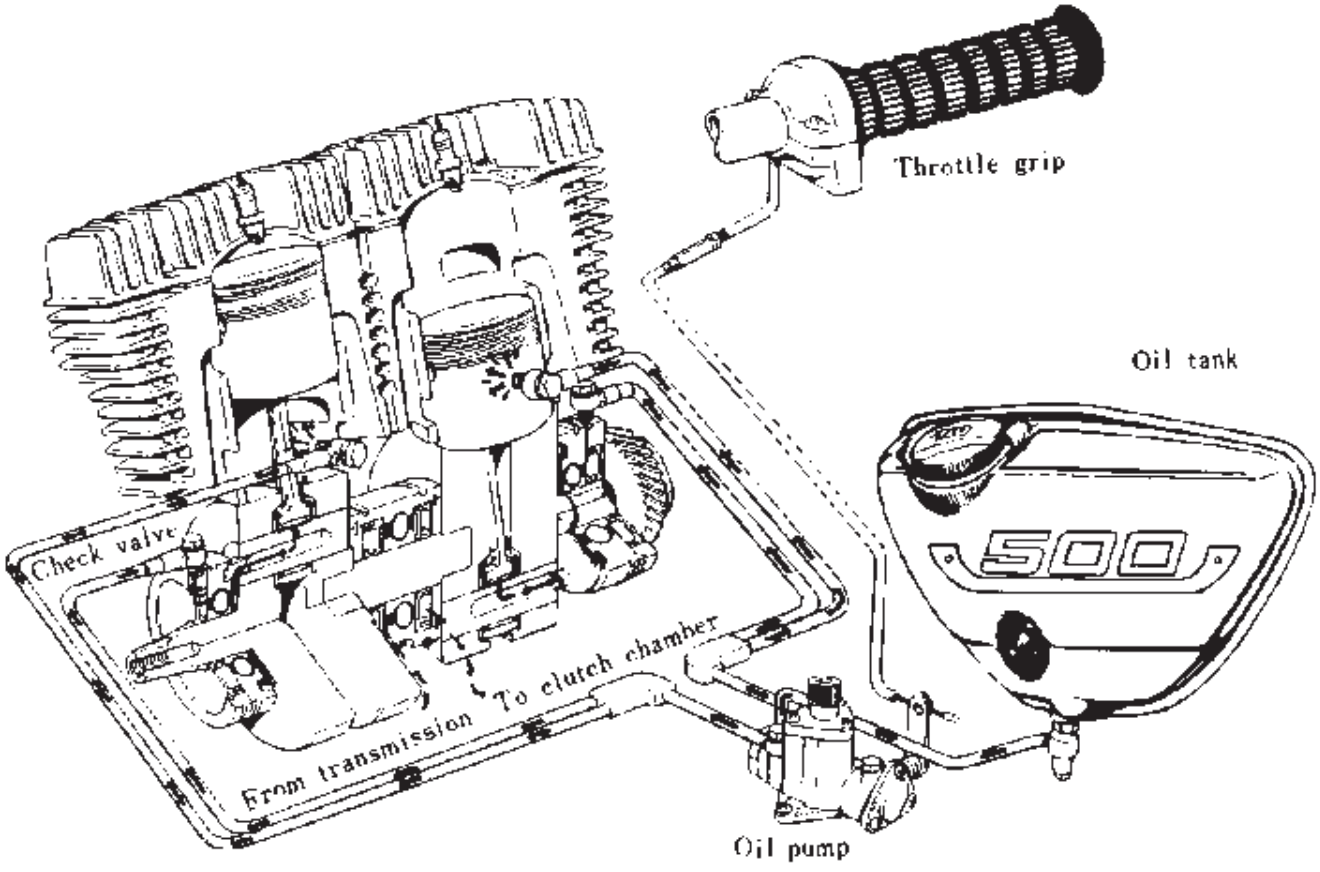


Fig. 1 Suzuki CCI

3. CONTROLS

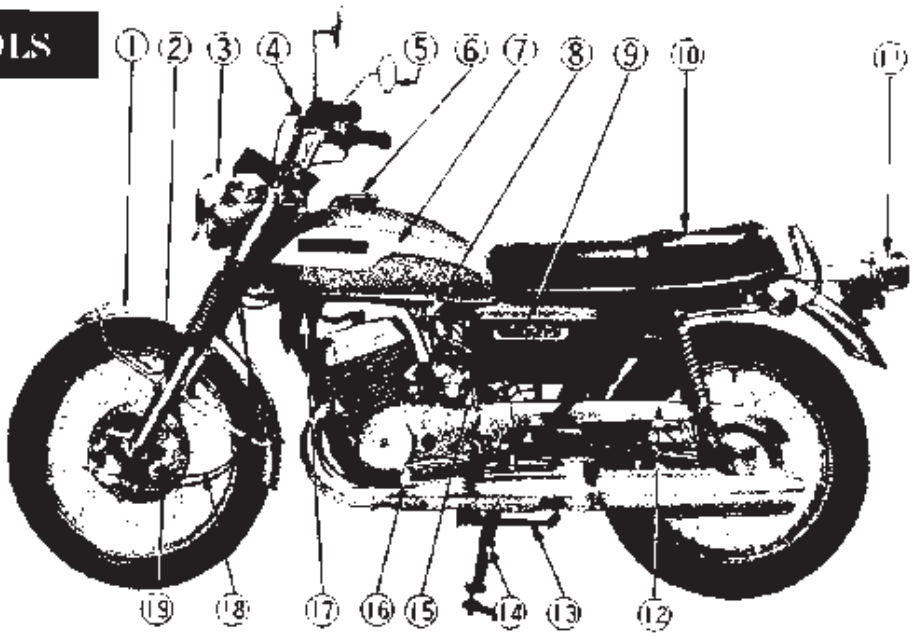


Fig. 2 Left side view

1. Front Fender
2. Front Fork
3. Headlamp
4. Clutch Lever
5. Rear View Mirror
6. Fuel Tank Cap
7. Fuel Tank
8. Fuel Cock
9. Battery & Tool Cover
10. Dual Seat
11. Tail/Brake Lamp
12. Chain Guard
13. Side Stand
14. Center Stand
15. Kick Starter Lever
16. Gear Shifting Lever
17. Ignition Switch
18. Speedometer Cable
19. Front Brake Cable

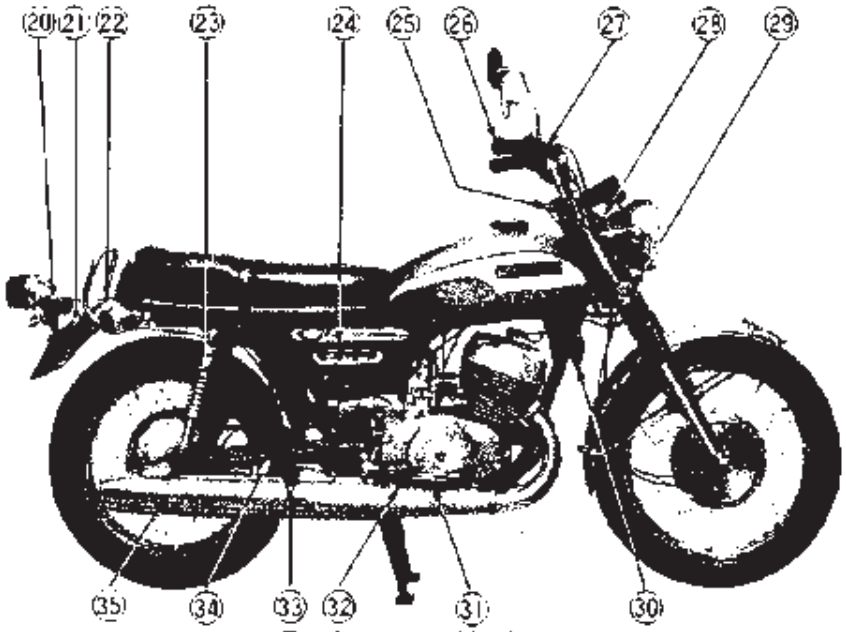


Fig. 3 Right side view

20.	Rear Side Reflector	26.	Throttle Grip	32.	Front Footrest
21.	Rear Fender	27.	Front Brake Lever	33.	Rear Footrest
22.	Rear Turn Signal Lamp	28.	Front Turn Signal Lamp	34.	Swinging Arm
23.	Rear Shock Absorber	29.	Front Side Reflector	35.	Muffler
24.	Oil Tank	30.	Horn		
25.	Steering Damper Knob	31.	Brake Pedal		

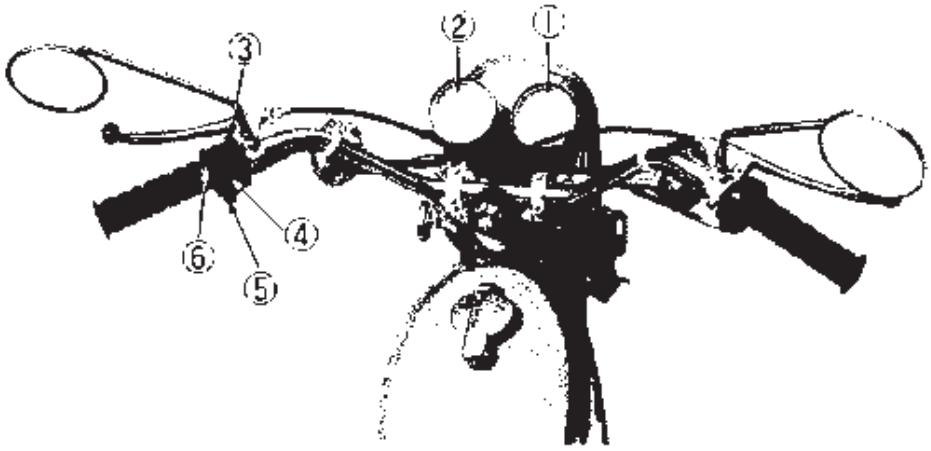


Fig. 4 Combination meter & Switches

1. Tachometer
2. Speedometer
3. Lighting Switch
4. Turn Signal Switch
5. Horn Button
6. Dimmer Switch

♦ Identification & Certification Plate

The engine and frame numbers of your machine are given on the identification plate. These numbers are required especially for registering the machine and ordering spare parts. When writing to your dealer, never fail to mention them as well as the milage reading.

Due to a difference in regulations in other countries some machines may be fitted with a certification plate instead of an identification plate.

Fig. 5 Identification plate/ certification plate

♦ Fuel Tank Cap

The fuel tank cap of this model is of a flip-up type. To open the fuel tank cap, push the knobs on both sides and it can be unlocked. The fuel tank cap can also be locked by using ignition switch key.

Fig. 6 Fuel tank cap

◆ Fuel Cock

The fuel cock on this motorcycle is of diaphragm type and has three positions such as ON, RESERVE and PRIMING.

Before starting the engine, turn the fuel cock lever to the ON position where the fuel flows from the fuel tank into the carburetor as the engine is rotating.

If the fuel in the tank is too low to be fed to the carburetor at the ON position, turn the lever to the RESERVE position, which opens a tap to approximately 4.2/3.5 US/Imp gal (2 ltr) of reserve supply. Only when no fuel is in the carburetor, turn the lever to the PRIMING position, which allows the fuel to flow directly to the carburetor even with the engine at a stop. When the engine has started, be sure to return the lever to the ON position.

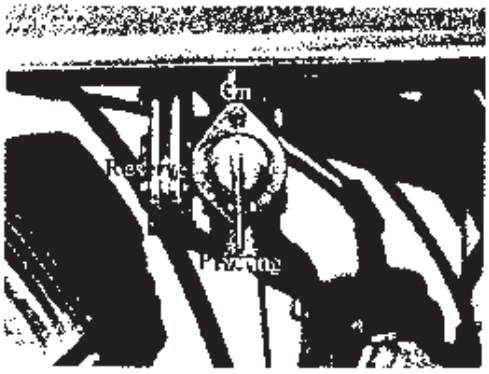


Fig. 7 Fuel cock

◆ Kick Starter Lever

The engine can be started easily by depressing the kick starter lever. Always shift the gears into neutral before depressing the kick starter lever.

Fig. 8 Kick starter lever

• Ignition Switch

The ignition switch has three positions such as OFF, ON and PARKING, it switches the engine ignition system and the electrical equipments on and off.

When the key is in the ON position, the engine can be started and the electrical equipment works as shown in the following table. When parking the motorcycle, turn the key to the PARKING position and the tail lamp lights and the key can be taken from your motorcycle.

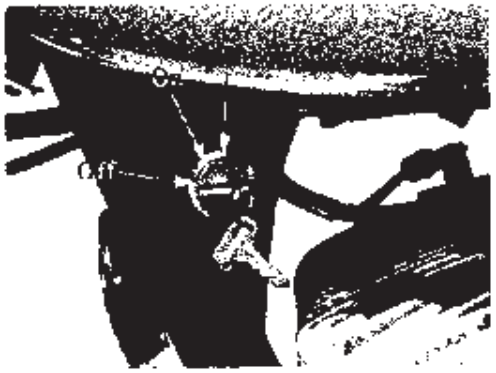


Fig. 9 Ignition switch

Electrical Equipment	OFF	ON	PARKING	
Brake lamp		○		When the brake is applied.
Tail lamp		○		When the lighting switch knob is slid to ON position.
Head lamp		○		When the lighting switch knob is slid to ON position.
Horn		○		When the horn button is pushed.
Neutral indicator lamp		○		When the transmission is in Neutral position.
High beam indicator lamp		○		When the lighting switch knob is in ON position and the dimmer switch knob is slid to H position.
Turn signal indicator lamp		○		When the turn signal lamps are operated.
Tachometer lamp		○		When the lighting switch knob is slid to ON position.
Speedometer lamp		○		When the lighting switch knob is slid to ON position.
Turn signal lamp		○		When the turn signal switch knob is slid to "L" or "R" position.
Tail lamp (for parking)			○	

♦ Brake Lever

Front braking is controlled by pressure applied on the brake lever. When the brake lever is squeezed, braking force is applied to the front wheel.

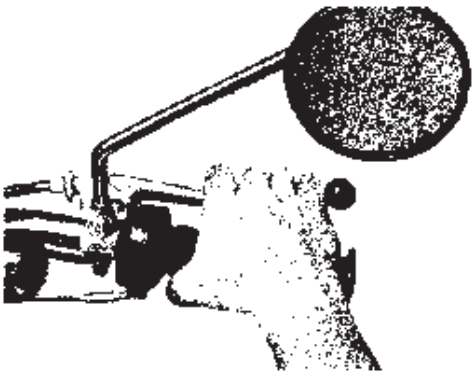


Fig. 10 Brake lever

♦ Brake Pedal

Rear braking is controlled by pressure applied on the brake pedal. When the brake pedal is depressed, braking force is applied to the rear wheel and the brake lamp lights.

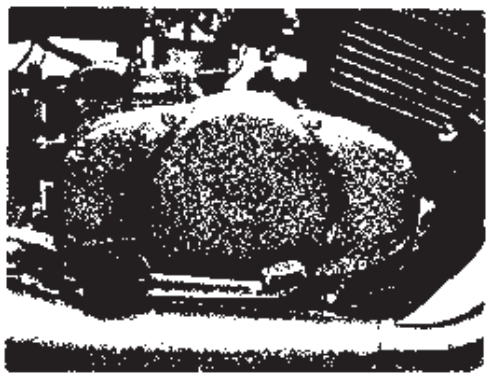


Fig. 11 Brake pedal

♦ Gear Shifting Lever

The T500 is equipped with a 5 speed transmission which operated as shown in figure 13.

Neutral is located between low and 2nd gear. Low gear is engaged by fully depressing the pedal from the neutral position. Shifting into succeedingly higher gears is accomplished by pulling up on the shift lever once for each gear. When shifting from low to 2nd gear, neutral is automatically missed. When neutral is wanted for stopping, depress or raise the lever a half of a stroke between low and 2nd gear.

Fig. 12 Gear shifting lever

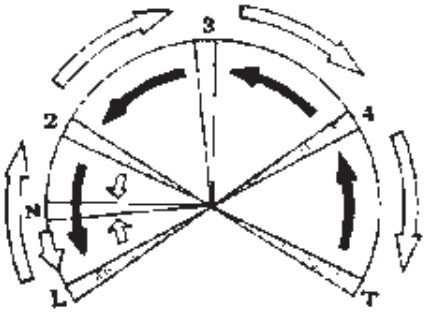


Fig. 13 Gear shifting operation

♦ Carburetor Choke Lever

The carburetor starter system gives easy starts even in cold weather by supplying a rich fuel/air mixture to the engine. When starting a cold engine, push the choke lever.

Be sure to return it to its original position when the engine warms up and the motorcycle is run. Do not open the throttle when this lever is pushed. If the throttle grip is turned even a small amount, the engine becomes hard to start.

When the engine is already warm, operation of carburetor choke lever is not necessary.

Fig. 14 Carburetor choke lever

♦ Clutch Lever

The clutch lever is used to disengage the engine with the rear wheel when starting or shifting the transmission gears. Squeezing the lever disengages the clutch and releasing it connects the engine with the rear wheel.

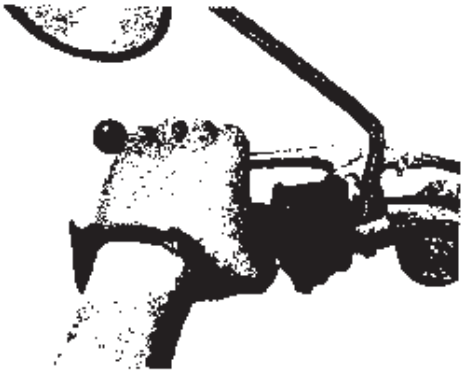


Fig. 15 Clutch lever

♦ Throttle Grip

Engine speed is controlled by the throttle grip. If the throttle grip is twisted inward toward you, engine speed rises.

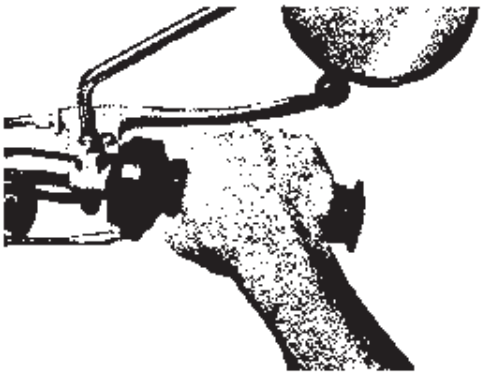


Fig. 16 Throttle grip

♦ Steering Lock

To lock the steering, turn the steering handlebar all the way to the left, insert the ignition switch key in the steering lock and turn clockwise. Don't forget to lock the steering when parking the motorcycle.

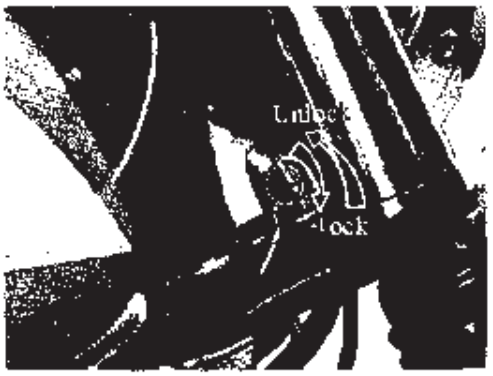


Fig. 17 Steering lock

♦ Lighting/Dimmer Switch

The lighting switch has an ON and OFF position. When the ignition switch key is in the ON position and the lighting switch knob is slid to the ON position, the headlamp and tail lamp light are on and the headlamp beam can be changed both downward and upward by sliding the dimmer switch knob to the "L" or "H" position.

The headlamp cannot be lighted regardless of the ignition switch key position when the lighting switch is in the OFF position.

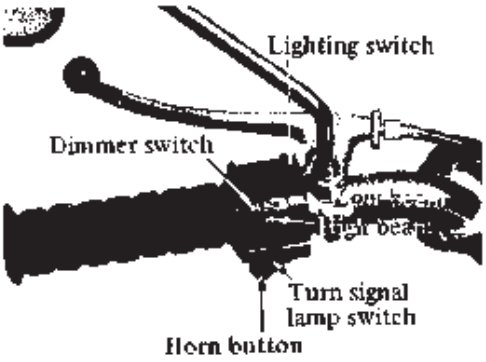


Fig. 18 Lighting/Dimmer switch

♦ Trip Meter

A trip meter is provided in the speedometer. To return the mileage to "0", turn the counter-clockwise.

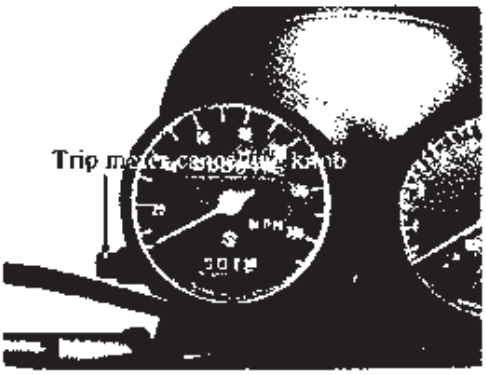


Fig. 19 Trip meter

♦ Indicator Lamps

* Neutral indicator lamp

The green neutral indicator lamp lights when the gears are in Neutral and goes out when another gear is engaged.

* High beam indicator lamp

The red high beam indicator lamp lights when the ignition switch key and lighting switch knob are in the ON position and the dimmer switch knob is slid to the "H" position indicating the headlamp is on high beam.

* Turn signal indicator lamp

The orange turn signal indicator lamp lights when the turn signal switch knob is slid to the right or left activating the turn signal lamps.

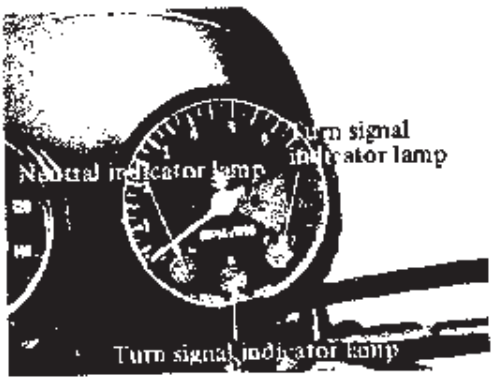


Fig. 20 Indicator lamps

4. INSPECTIONS BEFORE RIDING

Be sure to check the following items before operating the motorcycle.

♦ Fuel

Check to see that fuel is in the fuel tank. The fuel tank capacity is 3.7/3.1 US/Imp gal (14 ltr) including 4.2/3.5 US/Imp pt (2 ltr) of reserve supply.

♦ Engine Oil

Be sure to check the oil level in the oil tank before starting the engine. If the oil level is found below the oil level inspection eye, replenish the oil tank with the recommended oil.

For the Suzuki CCI system, use of Suzuki CCI Oil is highly recommended, but if it is not available, a good quality two-stroke motorcycle injection oil of around SAE 30 should be used.

Fig. 21 Oil level inspection eye

♦ Brakes

Brakes are the most important for safe riding. Always check the brakes before riding the motorcycle.

To adjust the brakes properly: –

* Front Brake

Adjust the brake cable with the front brake adjusting nut so there is 0.8–1.2 in (20–30 mm) of distance between the front brake lever and throttle grip when the brake is operated.

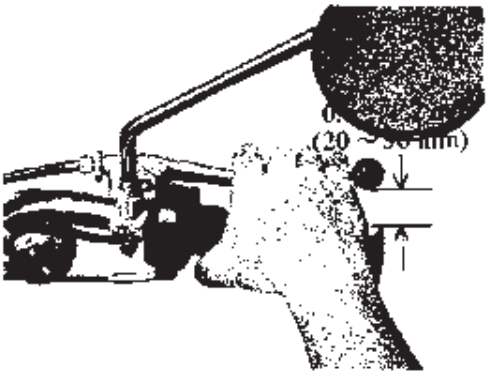


Fig. 22 Brake lever distance

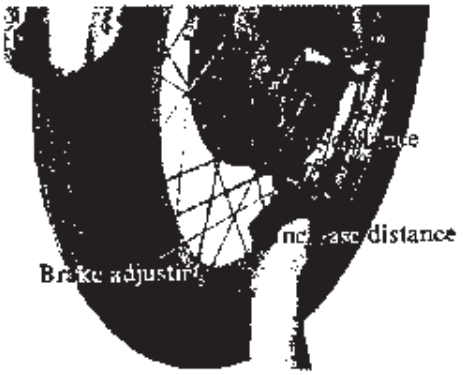


Fig. 23 Adjusting front brake

* Rear Brake

Before adjusting the brake pedal travel, adjust the brake pedal position with the brake pedal adjuster until the most suitable position is obtained for quick operation.

Turning adjuster in . . . . . raises pedal
Turning adjuster out . . . . . lowers pedal

After the adjustment of the brake pedal position is completed, adjust the brake pedal travel with the rear brake adjusting nut to 0.8 ~ 1.2 in (20 ~ 30 mm).

Turning adjusting nut in . . . . . decreases travel
Turning adjusting nut out . . . . . increases travel

Fig. 24 Brake pedal adjuster

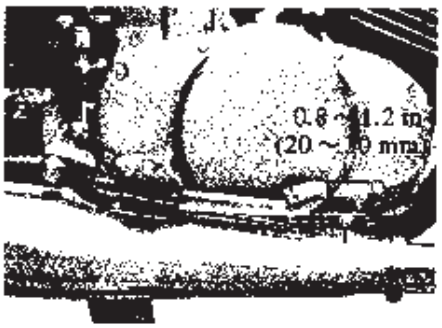


Fig. 25 Brake pedal travel

Fig. 26 Adjusting brake pedal travel

♦ Tire Pressure

Insufficient air pressure in the tires hastens tire wear and increases road resistance which increases fuel consumption and adversely affects the performance and the running stability of the motorcycle.

Soft tires also make smooth cornering difficult. Over inflated tires decrease the amount of tire in contact with the ground and cause skids when the brakes are applied, as well as subjecting the tire to stress, which is bad for it.

Hard tires also tend to throw the motorcycle into slides on corners. Be sure that tire pressure is correct at all times.

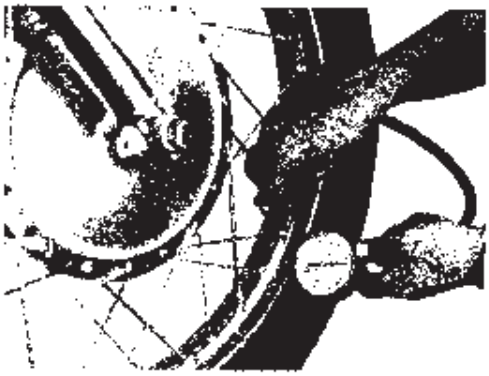


Fig. 27 Checking tire pressure

	FRONT				REAR			
	SOLO RIDING		DUAL RIDING		SOLO RIDING		DUAL RIDING	
	PSI	KG/CM²	PSI	KG/CM²	PSI	KG/CM²	PSI	KG/CM²
NORMAL RIDING	23	1.6	23	1.6	26	1.8	28	2.0
CONTINUOUS HIGH SPEED RIDING	26	1.8	26	1.8	28	2.0	28	2.0

♦ Head Lamp

Check to see if the head lamp lights when the ignition switch key and the lighting switch knob are in the ON position and the head lamp beam can be changed both downward and upward by operating the dimmer switch knob.

♦ Turn Signal Lamp

Check to see if the turn signal lamps flash when the ignition switch is turned to the ON position and the turn signal switch knob is operated.

♦ Tail/Brake Lamp

Under the condition that the ignition switch key is in the ON position, check to see if the tail lamp lights when the lighting switch is slid to the ON position and if the brake lamp lights at about 0.4 in (10 mm) after the brake pedal begins to be depressed.

In case the brake lamp lights at any position other than abovementioned one, adjust the brake lamp switch as follows.

Loosen the switch lock nuts and move the switch up or down to adjust it so that the switch operates and the brake lamp lights at proper position.

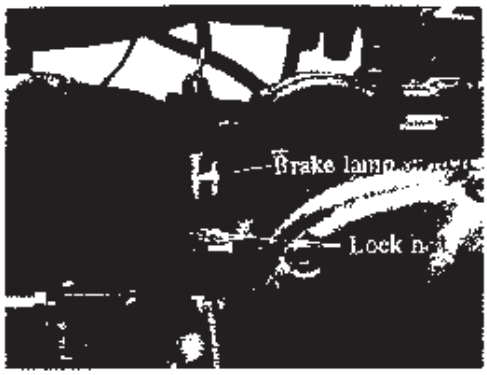


Fig. 28 Brake lamp switch

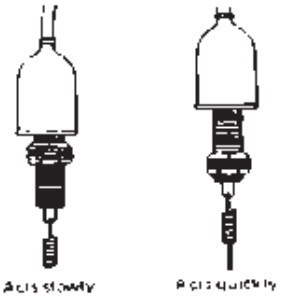


Fig. 29 Switch adjustment

♦ Clutch Lever

Check if the play of clutch lever is about 0.16 in (4 mm) at the clutch lever holder before the clutch begings to disengage. If you find a abnormal play, adjust it by turning the clutch cable adjuster until the proper play is obtained.

Note : The adjustment of the clutch should be made on the release screw and the clutch cable according to the inspection chart on page 36. For the adjustments, refer to page 41.

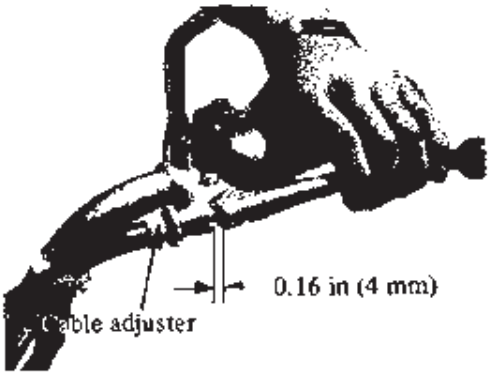


Fig. 30 Checking clutch lever

♦ Horn

Check if the horn sounds properly by pushing the horn button.

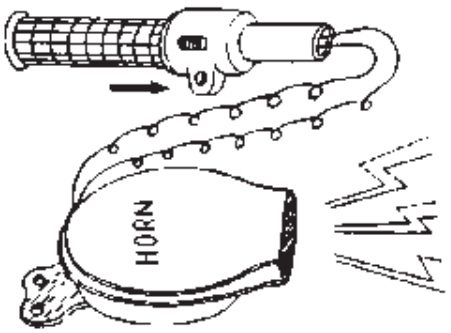


Fig. 31 Checking horn sound

- **Throttle Operation**
  Check that the throttle operates smoothly without binding.

- **Steering Operation**
  Check that the handlebar turns to both left and right smoothly without any play in the steering stem.

◆ Tool Kit

A tool kit which includes all tools needed for daily maintenance is provided inside the battery & tool cover.

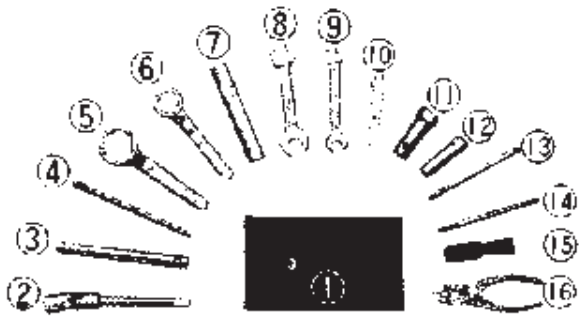


Fig. 32 Tool kit

1. Tool bag
2. Universal box wrench
3. Box wrench handle
4. Box wrench handle bar
5. 32 mm offset wrench
6. 22 mm offset wrench
7. Offset wrench handle
8. 14 x 17 mm open end wrench
9. 10 x 12 mm open end wrench
10. 8 mm open end wrench
11. 21 mm box wrench
12. 14 mm box wrench
13. Cross head screw driver
14. Combination screw driver
15. Screw driver handle
16. Pliers

5. TIPS ON RIDING

♦ How To Start Engine

1. Assure that the fuel cock lever is in the ON position.
2. Insert the key into the ignition switch and turn it clockwise one notch to the ON position, and the Neutral indicator lamp will light if the gears are in Neutral.
   (It is good practice to shift the gears into Neutral before starting engine.)

* When engine is already warm:

3. Open the throttle 1/8 to 1/4 and depress the kick starter lever.
   Operation of carburetor choke lever is not necessary.

* When engine is cold:

3. Pull the carburetor choke lever. Close the throttle completely.
4. Depress the kick starter lever, and the engine will start.
5. After the engine starts, be sure to return it to its original position when engine warms up and the motorcycle is run.

♦ How To Shift Gear

1. Pull the clutch lever to disengage the clutch and depress the gear shifitng lever to shift into Low gear.
2. Twist the throttle grip inward toward you and at the same time let out the clutch lever slowly; the motorcycle will start forward.
   (If the engine is run at too high speed or the clutch lever is released rapidly, the motorcycle will start with jerky spurts or the engine will stall.)
3. When the speed of the motorcycle reaches about 12 mph (20 km/h), twist the throttle grip away from you. At the same time, pull in the clutch lever and then shift up into 2nd gear. Let out the clutch lever and open the throttle again. Follow the same procedure to shift into higher gears.
4. The speed range at which gears should be used is shown below.

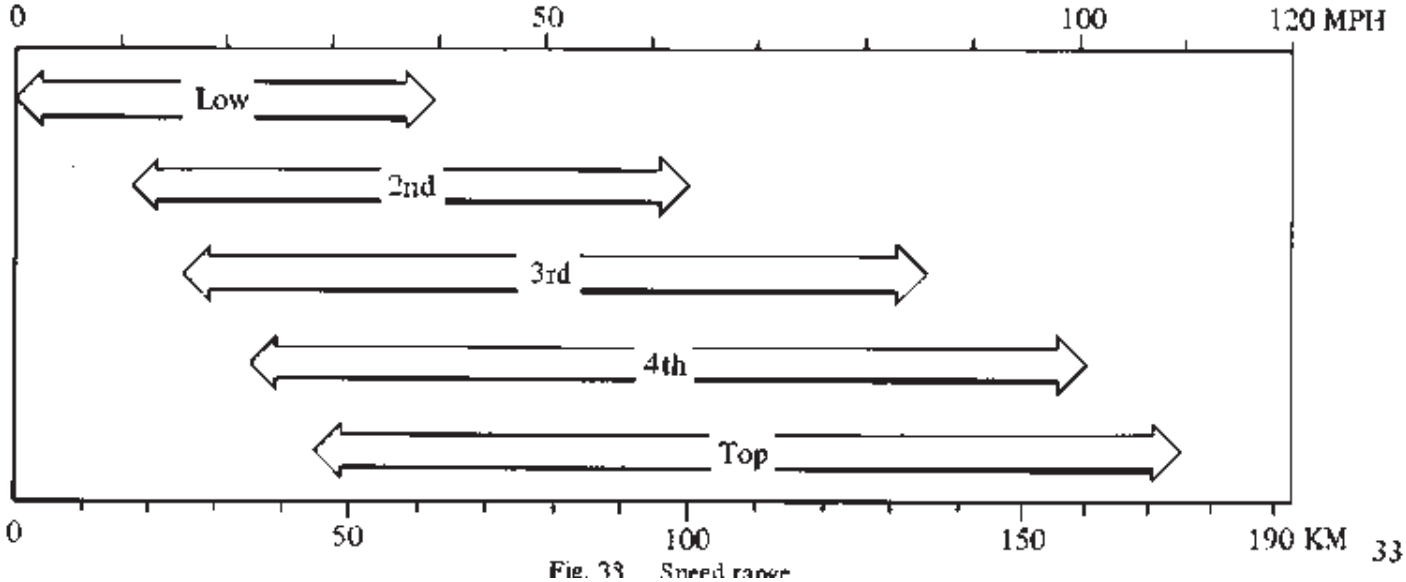


Fig. 33 Speed range

♦ How To Drive

* High speed riding

1. Tire pressure should be increased as described on page 27 before riding the motorcycle.
2. A spark plug with a colder heat range than the standard NGK B-77HC or Nippon Denso W-24FS is recommended for continual high speeds . . . . . NGK B-8HS.
3. The rear shock absorbers spring tension should be adjusted to meet road condition and motorcycle speed.

For example;

Position (1) is for normal riding

Position (2)
Position (3)
Position (4)
Position (5)
} Change the position from (2) to (5) in accordance with increase of running speed and load.

Caution : Be sure to set the adjusting positions on both left and right side identically.

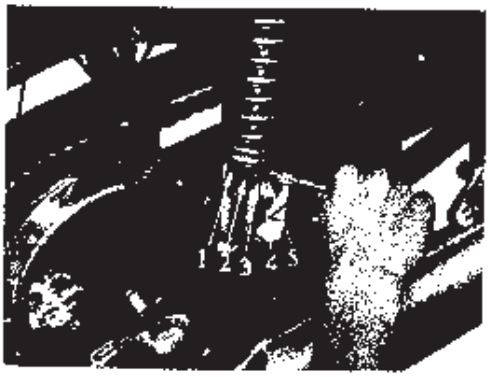


Fig. 34 Adjusting spring tension

* Riding on hills

1. If the speed of the motorcycle decreases when riding up a hill, shift down into a lower gear so that the engine may always operate in its power range. Shift the gears rapidly to prevent the motorcycle from losing momentum.
2. When riding down a hill, the engine can be used for braking, for short intervals, by shifting to a lower gear. Caution should be used, however, in avoiding over-revving with the throttle closed for long periods of time.

* Stopping and parking

1. Turn the throttle grip outward away from you to close the throttle completely.
2. Apply the front and rear brake evenly at the same time and the motorcycle will stop smoothly and safely. Using only the front or rear brake is dangerous and can cause skidding and loss of control. Make it a rule to always apply both brakes simultaneously.
3. Apply the brakes lightly and with great care on wet highway pavement or other slippery surfaces and on corners. Abrupt braking on slippery roads or corner is particularly dangerous.
4. Just before the motorcycle stops, be sure to shift the gears into Neutral. Confirm this by observing the neutral indicator lamp in the tachometer.
5. Turn the ignition switch key to the OFF or PARKING position to stop the engine. When turning the key to the PARKING position, the tail lamp can be lighted, that assures safety on night time parking.
6. Remove the ignition key from the switch.
7. Lock the steering to prevent theft.

6. INSPECTION AND MAINTENANCE

Periodic inspection is the most important thing to prolong the life of the motorcycle and to ensure your safety driving. Take your motorcycle to your Suzuki dealer for these inspections without fail.

Item \ Distance	First 750 Mile / First 1,000 Km	Every 2,000 Mile / Every 3,000 Km	Every 4,000 Mile / Every 6,000 Km	Every 8,000 Mile / Every 12,000 Km	Page
Air Cleaner Element		Wash		Replace	38
Carburetor	Adjust with throttle valve stop screw and pilot air screw	Adjust with throttle valve stop screw and pilot air screw		Overhaul and clean	39
Clutch	Adjust	Adjust			41
Contact Breaker Point	Check contact point gap and ignition timing	Check contact point gap and ignition timing		Replace contact point	42
Cylinder Head and Cylinder	Retighten cylinder head nuts	Retighten cylinder head nuts	Remove carbon		
Drive Chain	Adjust	Adjust	Wash		44
Exhaust Pipe and Muffler	Retighten exhaust pipe fitting nuts	Retighten exhaust pipe fitting nuts	Remove carbon		45
Oil Pump	Check operation, adjust control lever aligning marks	Check operation, adjust control lever aligning marks			46
Spark Plug	Clean	Clean and adjust gap	Replace		47
Transmission Oil	Change	Change			48
Battery	Check and service electrolyte solution	Check and service electrolyte solution			46
Bolts, Nuts and Spokes	Retighten		Retighten		52
Front Brake	Adjust play	Adjust play			25
Fuel Cock	Clean fuel strainer		Clean fuel strainer		49
Rear Brake	Adjust play	Adjust play			26
Tire		Check tire tread condition			49

♦ Lubrication

Moving parts must be lubricated periodically. Insufficient lubrication will cause rapid wear and severe damage.

Lubricate the following parts periodically as follows:—

Distance / Item	Every 2,000 Mile Every 3,000 Km	Every 4,000 Mile Every 6,000 Km
Brake cam shaft	Grease	
Brake cable	Motor oil	
Clutch cable	Motor oil	
Drive chain	Chain lube or motor oil	
Oil pump cable	Motor oil	
Throttle cable	Motor oil	
Clutch release		Grease
Kick starter lever		Grease
Swinging arm pivot shaft		Grease
Throttle grip		Grease

Caution : Be careful not to apply too much grease to the brake cam shafts. If grease gets on the linings, brake slippage will result.

• Cleaning Air Cleaner

If the air cleaner is clogged with dust, intake resistance will be increased with a resultant decrease in output and an increase in fuel consumption. Check and clean every 2,000 mi (3,000 km) according to the following procedure.

1) Remove the battery & tool cover by unscrewing the knob.
2) Remove the air cleaner cover by unscrewing the wing nut and take out the air cleaner element.
3) Take the polyurethane filter out of the element.
4) Wash the filter with gasoline.
5) After wringing gasoline out of the filter, sock it into the Suzuki CCI Oil or engine oil with around SAE No. 30.
6) Wring oil out of the filter and then fit it to the element.

Fig. 35 Air cleaner cover wing nut

Fig. 36 Removing polyurethane filter

◆ Adjusting Carburetor

Carburetion may change during the long time use of the motorcycle and it often becomes necessary to readjust the carburetor.

However as the carburetor adjustment is extremely critical, the adjustment should be performed by an authorized Suzuki dealer only. In an emergency, you may adjust the idle speed and synchronizing the throttle valves by the following procedure.

* Adjusting idle speed

1) Adjust the throttle cable adjuster on each carburetor to obtain 0.08 - 0.12 in (2 - 3 mm) cable play.
2) Screw in the pilot air screw of each carburetor until it bottoms, then screw each one out 1½ turns.
3) Start the engine and allow it to warm up.
4) Adjust the throttle valve screw of each carburetor so that the engine runs at the lowest steady speed.
5) Synchronize the throttle valve and adjust the throttle cable play as following step.

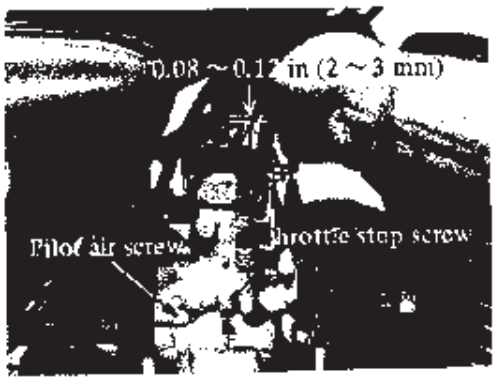


Fig. 37 Carburetor

* Synchronizing the throttle valve

In order to obtain maximum efficiency and throttle response, it is necessary that the throttle valve of each carburetor opens at the same time.

Check to see whether exhaust fumes from the mufflers on both sides are identical in shade and volume when turning the throttle grip very slowly.

If difference is found, adjust with the throttle cable adjusters on each carburetor so that the exhausting gases come out of the mufflers on both sides identically (both the throttle valves begin to lift simultaneously) when turning the throttle grip slowly.

Finally adjust the throttle cable play on the handlebar side to allow 0.04 - 0.08 in (1 - 2 mm) with the throttle cable adjuster of the handlebar side.

This adjustment could affect the oil pump lever adjustment. Therefore, readjust the oil pump lever cable as necessary.

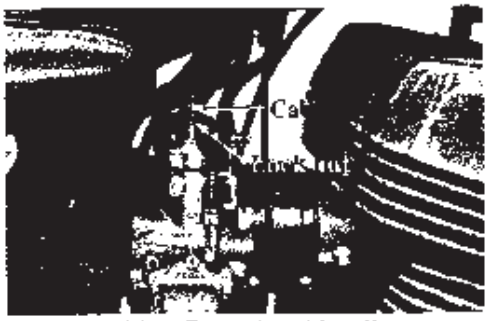


Fig. 38 Throttle cable adjuster

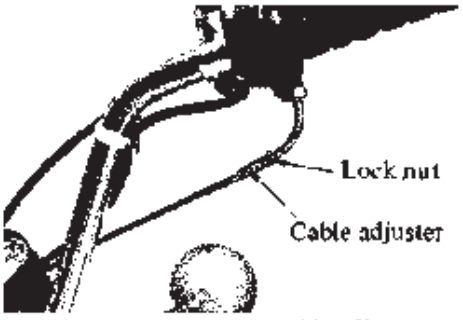


Fig. 39 Throttle cable adjuster

Note : In the event that carburetor adjustment is required due to different altitude or climate conditions, take your motorcycle in to your authorized Suzuki dealer.
Mechanical malfunctions resulting from the owner tampering with carburetion adjustment will normally be invalid from warranty coverage.

♦ Adjusting Clutch

Adjust the clutch with both the clutch cable adjuster and the release adjusting screw. The play of the clutch should be 0.16 in (4 mm) measured at the clutch lever holder before the clutch begins to disengage. If you find the play of the clutch incorrect, adjust it in the following procedure.

1) After loosening the cable adjuster lock nut, screw in the clutch cable adjuster and give sufficient play to the clutch cable.
2) Loosen the lock nut temporarily by using open end wrench to turn the release adjusting screw.
3) Turn in the release adjusting screw until it stops slightly and then back it out ¼ - ½ turn and secure the lock nut.
4) Finally adjust the clutch cable adjuster on the engine left cover and by the clutch lever holder until about 0.16 in (4 mm) of play is left at the clutch lever holder.

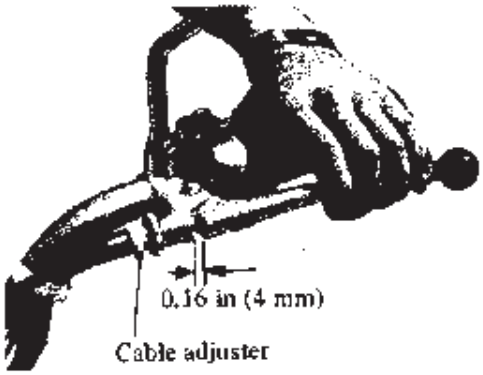


Fig. 40 Clutch lever play

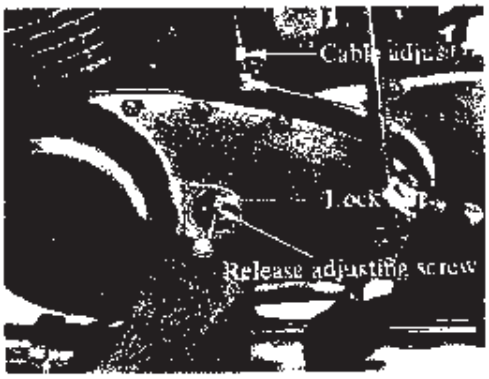


Fig. 41 Adjusting clutch

♦ Adjusting Ignition Timing

Incorrect ignition timing decreases engine performance and shortens the life of the engine. Therefore, it is necessary to check the ignition timing periodically. When adjusting the ignition timing, be sure to adjust the contact breaker point gap first and then adjust the ignition timing.

However as the ignition timing is extremely critical, the adjustment should be performed by an authorized Suzuki dealer only. In emergency, you may adjust the ignition timing by the following procedure.

1) Remove the crankcase left cover by loosening three fitting screws.
2) Check the point gap with the feeler gauge (0.014 in . . . 0.35 mm).
   Standard point gap . . . 0.012 - 0.016 in (0.3 - 0.4 mm)
3) When the gap is too large or too small, loosen screw "A" and adjust the gap to the standard by moving the stationary contact point with a screw driver.
   Retighten screw "A" securely after the adjustment is made.
4) And so to the adjustment of ignition timing. Tune the timing cam shaft counter-clockwise and stop the roration when the contact points just begin to open.

Fig. 42 Checking point gap

5) Check to see if the line "B" on the rotor aligns with the line "C" on the stator. If "B" is on the left side of "C" the ignition timing is retarded. If "B" is on the right side of "C", the igniting timing is advanced.
6) If the ignition timing is found to be retarded, loosen two screws "D" and turn the contact point base with the screw driver put into the notch of the contact point base to clockwise until the points begin to open just when "B" aligns with "C".
7) If the ignition timing is found to be advanced, turn the contact point base to counter-clockwise until the points begin to open just when "B" aligns with "C". After the adjustment is made, tighten screws "D".

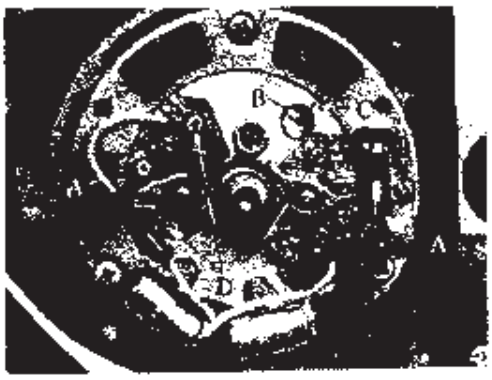


Fig. 43 Timing marks

Note : 1. The above-mentioned procedure should be followed for both the right and left set of contact points.
2. The aforementioned procedure for adjusting engine ignition timing is adequate only as an emergency measure. Correct tuning procedures call for adjustment by your Suzuki dealer using special tools. Any timing adjustments should therefore be made by your dealer, except under emergency conditions.

Caution : Point surfaces which are burnt, pitted or coated with oil cause defective engine operation. Check the points periodically and clean them if they are dirty. Polish the points with sand paper when they are burned. Keep the points clean at all times. Be careful not to let oil get on the points.

♦ Adjusting Drive Chain

Adjust the drive chain by the following procedure until it has 0.6 - 0.8 in (15 - 20 mm) of play at the middle of two sprockets.

1) Loosen the axle nuts after pulling out the cotter pin.
2) Adjust the drive chain by turning the right and left chain adjuster nuts.
   Turning adjuster bolt in . . . . . tightens chain
   Turning adjuster bolt out . . . . . loosens chain
3) Marks on both chain adjusters must indicate the same position to align the front and rear wheels correctly.
4) After the drive chain adjustment is correct, tighten the axle nut securely and never fail to fix with a cotter pin.

Note : When refitting the drive chain, be sure the drive chain joint clip is seated in the right direction.

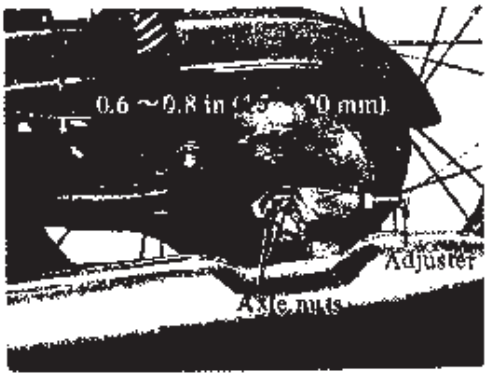


Fig. 44 Drive chain play

Fig. 45 Chain joint clip

♦ Lubricating Drive Chain

Dirt on the drive chain hastens wear of the drive chain itself and also the sprockets, so wash the drive chain in cleaning solvent or gasoline and then lubricate with chain lube oil every 2,000 mi (3,000 km).

If you operate the motorcycle under dusty condition, frequent rapid acceleration or at sustained high speeds, the drive chain should be cleaned and lubricated more often.

♦ Cleaning Muffler

1) Remove the fitting screw at the end of the muffler and pull out the baffle pipe.
2) Remove carbon deposits by gently striking the baffle pipe.
3) Wash the baffle pipe with gasoline or cleaning solvent.

Caution : Do not run your motorcycle with the baffle pipe removed from the muffler as this causes blowby of the fuel mixture, thereby hindering the engine output and possibly damaging your engine. Running the motorcycle engine with the baffle pipe removed voids your warranty.

Fig. 46 Removing baffle pipe

♦ Adjusting Oil Pump

Adjust the oil pump control cable with the cable adjuster so that the marks A & B as shown in figure align when the throttle is twisted inward all the way.

Fig. 47 Adjusting marks

♦ Battery Solution

The solution must be kept above the lower limit line at all times. If the solution level is found below the lower limit line, add pure distilled water up to the upper limit line. Do not add diluted sulphuric acid.

Caution: Check the battery every two weeks. Be careful not to bend the plastic battery vent tubing causing kinks or the battery may explode.

Fig. 48 Battery solution level

♦ Spark Plug

The NGK B-77HC and Nippon Denso W-24FS spark plugs are standard for this motorcycle. If the standard spark plug is unsuitable for your usage, that is, apt to overheat (porcelain shows whitish appearance) or get wet (black appearance), change it as follows.

	NGK	Nippon Denso	Remarks
Hotter type	B-7HS	W-22FS	Apt to get wet
Standard	B-77HC	W-24FS	
Colder type	B-8HS		Apt to overheat

If another brand of spark plug is to be used other than NGK or Nippon Denso, consult your authorized Suzuki dealer.

Note : Indiscriminate experimentation with different brands and heat ranges of spark plugs by the owner can, in some cases, cause engine problems.
Problems resulting from such tampering would not be subject to warranty coverage.

When carbon accumulates on the spark plug, a hot, strong spark will not be produced. Remove carbon deposits with a wire or pin and adjust the spark plug gap to 0.016 - 0.020 in (0.4 - 0.5 mm) for NGK; 0.024 - 0.028 in (0.6 - 0.7 mm) for Nippon Denso by measuring with a thickness gauge.

Caution : When installing the spark plug, screw it in with your fingers, to prevent stripping the threads, then tighten with a torque wrench to 18.0 - 21.6 ft-lb (2.5 - 3.0 kg-m).

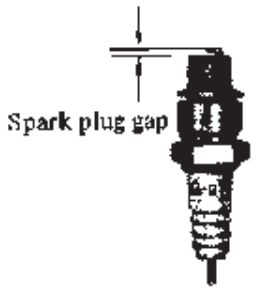


Fig. 49 Spark plug gap

♦ Changing Transmission Oil

Oil in the transmission deteriorates and its lubricating performance decreases if it is used too long. Change oil first at 750 mi (1,000 km) and every 2,000 mi (3,000 km) after the first oil change.

1) Remove the oil filler cap and the oil drain plug located on the bottom of the engine and drain all the used oil.

Caution : To accomplish this completely and quickly, drain the used oil while the engine is warm and the viscosity is low.

2) Reinstall the oil drain plug.

3) Measure 1,200 cc (2.5/2.1 US/Imp pt) of SAE 20W/40 multi-grade motor oil into a beaker and pour it into the transmission slowly. Choose a good brand of oil.

4) Refit the oil filler cap.

Fig. 50 Oil filler cap

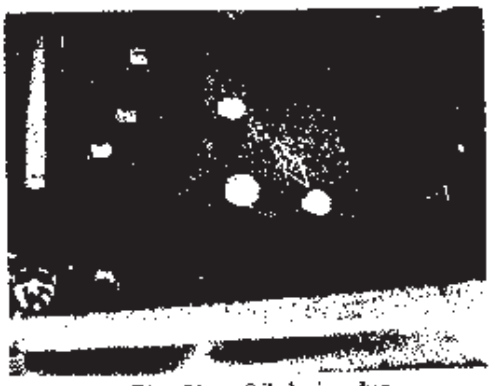


Fig. 51 Oil drain plug

♦ Cleaning Fuel Strainer

If the fuel strainer or strainer cup is dirty with sediment and gasoline will not flow smoothly a loss in engine power may result. Clean both the strainer cup and strainer with gasoline from time to time.

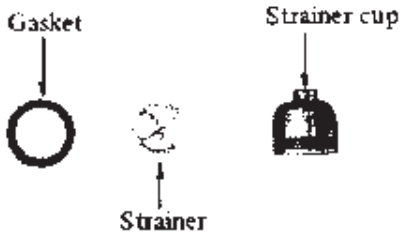


Fig. 52 Fuel strainer

♦ Tire Tread Condition

Operating the motorcycle with the excessively worn tires will decrease riding stability and consequently invite a dangerous situation.

It is highly recommended replace the tire when the remaining depth of tire tread becomes 0.06 in (1.6 mm) in front tire and 0.08 in (2.0 mm) in rear tire.

Note : The standard tire of your motorcycle is 3.25 - 19 for front 4.00 - 18 for rear. The use of tire other than the standard may cause trouble. It is highly recommended to use a Suzuki Genuine Tire or a well-known brand of the specified size.

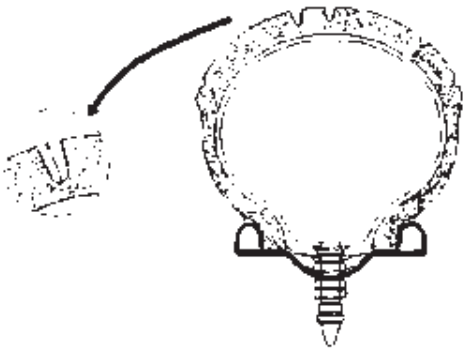


Fig. 53 Tire tread condition

♦ Headlamp Beam

The headlamp beam can be adjusted in the following manner.

* U.S.A. and Canada markets

1. Adjust the beam horizontally by turning the cross head screw located on the left side of the headlamp unit clockwise or counter-clockwise. (Fig. 54)
2. Adjust the beam vertically by loosening the headlamp housing fitting bolts and moving the lamp up and down as required. (Fig. 55)

* Other market than U.S.A. and Canada

Adjust the beam vertically by loosening the headlamp housing fitting bolts and moving the lamp up and down as required. (Fig. 55)

Fig. 54 Adjusting beam horizontally

Fig. 55 Adjusting beam vertically

♦ Changing Front Fork Oil

The front fork is a telescopic type with oil dampers.
When changing the oil in the front fork;–

1) Remove the drain screw at the end of one leg. Press down the front end to force all of the oil out. Refit the drain screw when the oil inside has been completely drained out.
2) Repeat the same procedure on the other leg.
3) Loosen the two fork fitting bolts and pour in SAE 30 motor oil, about 220 cc (7.4/7.7 US/Imp oz) for each leg.

The more oil in the fork the stiffer the suspension becomes, while the less oil in the fork the softer the suspension becomes.
Too little oil, however, causes abnormal noise and wear when running on bad roads.

Fig. 56 Drain plug

Fig. 57 Pouring front fork oil

♦ Tightening Bolts & Nuts

Bolts and nuts on the engine and frame may become loose from vibration during riding. Tightening bolts and nuts is essential to keep your machine in good condition. Items with * mark must be tightened to ensure your safe driving according to the inspection chart of page 36 by your authorized Suzuki dealer using proper torque values.

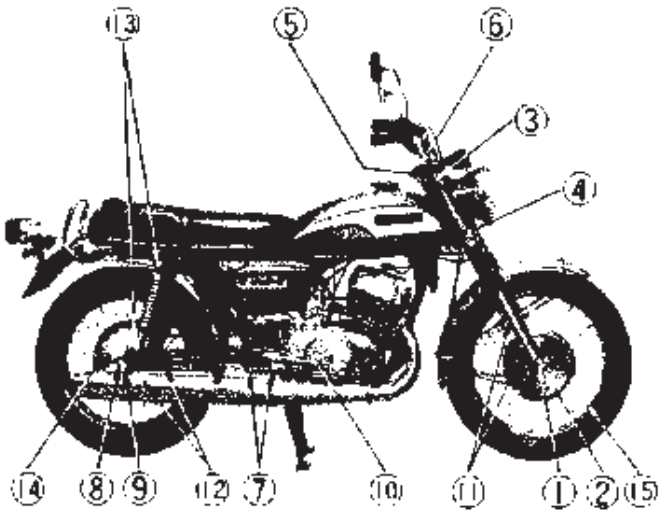


Fig. 58 Points to be tightened

* 1. Front axle
2. Front axle holder bolt
* 3. Front fork upper bracket bolt (R & L)
* 4. Front fork lower bracket bolt (R & L)
* 5. Steering stem nut
* 6. Handlebar clamp bolt
7. Front footrest bolt
* 8. Rear axle nut
9. Rear sprocket mounting shaft nut
*10. Rear swinging arm pivot nut
11. Front torque link nut
12. Rear torque link nut
*13. Rear shock absorber nut
*14. Brake cam lever fitting nut
15. Spoke

7. TROUBLE SHOOTING

Regardless of how excellent the design and manufacture may be, all machinery is subject to wear and occasional breakdowns. The following trouble shooting list will help you find the cause of most troubles.

♦ If Engine Does Not Start

1) Check to see if there is fuel in the tank and that the fuel cock is not clogged.
2) Check to see if the spark plug porcelain and electrodes are wet or dirty with carbon.
   If so, clean the inside of the spark plug.
3) Place the spark plug, with the ignition wire attached on the cylinder head after removing from the spark plug hole. Turn on the ignition switch and check to see that a strong blue spark jumps between the electrodes by turning the engine with the kick starter lever. In case no spark is produced, take your motorcycle to your Suzuki dealer to remedy the trouble.

Fig. 59 Checking ignition

◆ If Engine Fails To Develop Power

1) When the engine fails to develop power and the engine gets excessively dirty, there may be areas which allow compression to leak in the engine.
   Check the areas below.
   * A loose spark plug causes the portion (1) to get dirty.
   * Loose cylinder head nuts cause the portions (2) and (3) to get dirty.

   The cylinder head gasket and/or base gasket must be replaced if compression still leaks after the above-mentioned parts are properly tightened.
2) Holding your palm at about 6 in (15 cm) from the muffler end, check to see if the fumes are exhausted vigorously. If not, carbon may be collected in the muffler baffle pipe. Remove carbon from it.

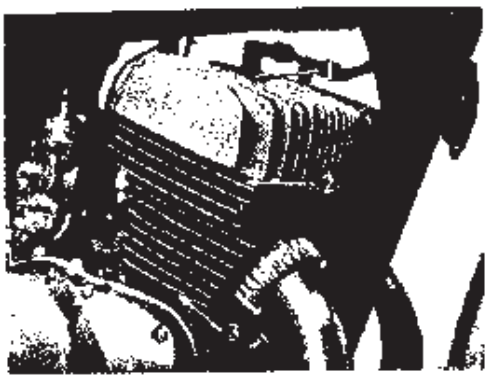


Fig. 60 Deagnosing loose points

Fig. 61 Checking exhaust pressure

♦ If Engine Stops Suddenly

1) Check to see if there is fuel in the tank and fuel cock and fuel tank cap air vent are not clogged.
2) Check to see if the spark plug electrodes are not bridged with carbon.

♦ Bad Stability And Steering

1) Check to see if the front and rear tire pressures are proper.
2) Make sure that there is no play in the front fork fitting.
3) Check to see if the rear axle is fitted squarely in the swinging arm and the front and the rear wheels are perfectly aligned. If not, adjust by using drive chain adjusters.
4) Check the swinging arm pivot nut for looseness.
5) Check the tire tread condition.

Note : Correct wheel alignment is very important on the T500 not only to secure safety driving but to prevent one-side wear of tires while running at a high speed. It is recommended for you to take your motorcycle to your dealer for correct alignment.

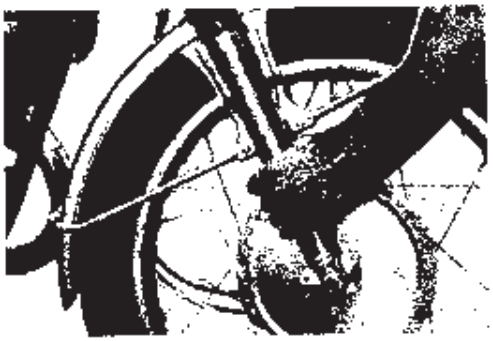
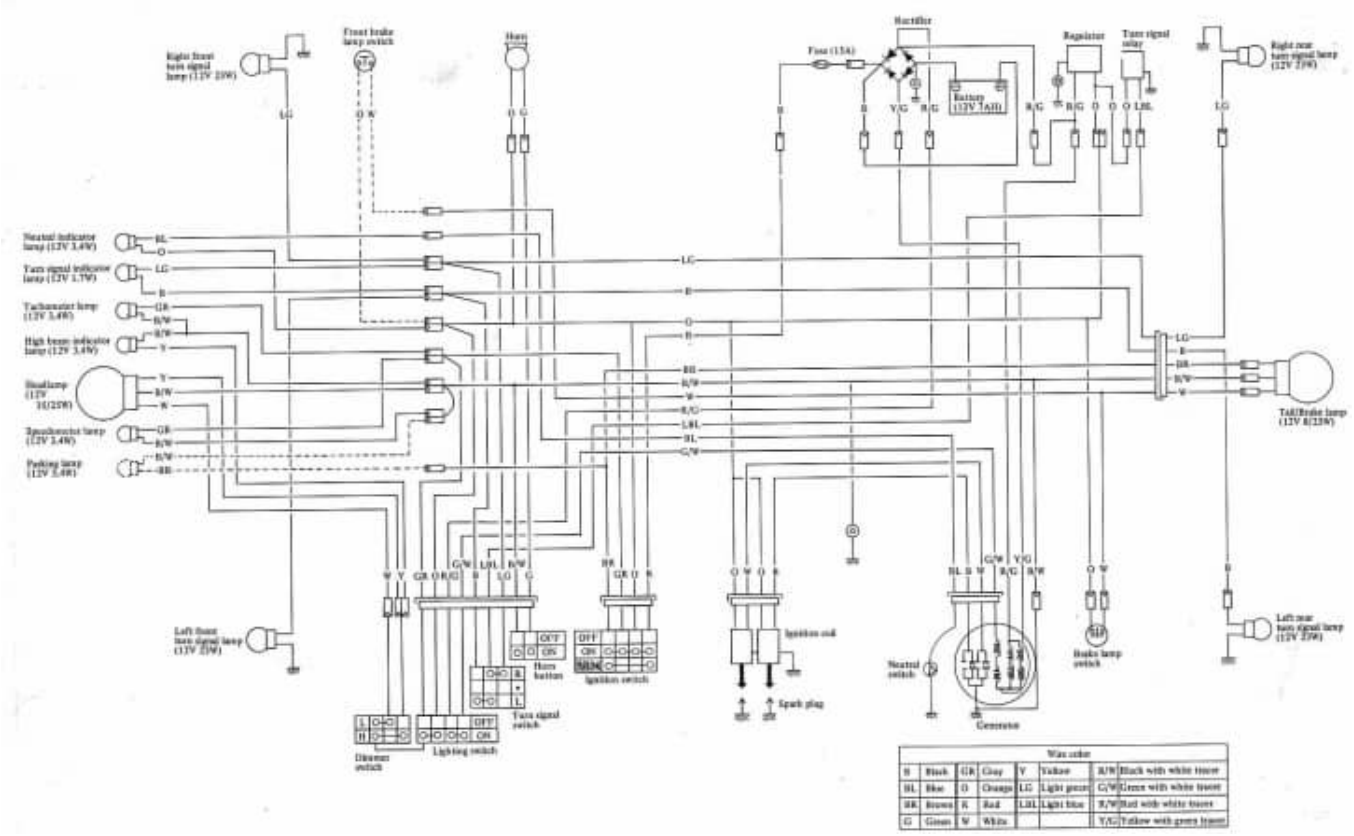


Fig. 62 Checking front fork fitting

Fig. 63 Rear wheel alignment marks

8. WIRING DIAGRAM



9. INDEX

	Page
Air cleaner	38
Battery	46
Brake lever	18
Brake pedal	18
Breaking-in	4
Carburetor	39
Carburetor choke lever	20
CCI lubrication system	10
Clutch lever	20, 29
Clutch	41
Drive chain	44
Engine oil	24
Front brake	25
Front fork	51
Fuel	24
Fuel cock	16
Fuel tank cap	15
Fuel strainer	49
Gear shifting lever	19
Headlamp	28
Headlamp beam	50
Horn	29
Ignition switch	17
Ignition timing	42

Indicator lamps	23
Kick starter lever	16
Lighting/Dimmer switch	22
Lubrication	37
Muffler	45
Oil pump	46
Rear brake	26
Rear shock absorbers	34
Spark plug	47
Specifications	6
Steering lock	21
Tail/Brake lamp	28
Throttle grip	21
Tips on riding	32
Tire	27, 49
Tightening bolts & nuts	52
Tool kit	31
Transmission oil	48
Trip meter	22
Trouble shooting	53
Turn signal lamp	28
Wiring diagram	56

Technical tips

VIBRATION REMEDY:

Remove the engine and counterbore the engine casings to accept the GT750 rubber engine mounts , the mounting lugs on the T500 frame have to be sleeved down with small rings (knurled and hardened bushes) which are then pressed into frame lugs at the 3 frame mounting points to accept the smaller GT750 engine bolts which are 12mm and not 14mm as on the T500 . N.B. rubber bushes cannot be drilled open to suit standard T500 engine bolts, as the bushes are made from (hardened steel) – GT 750 engine bolts have to be used as replacements .

Rubber mounting the standard silencers at mounting rear footrest points by using rubber mounts available from any exhaust muffler shop is also recommended, this is standard mounting practice with expansion chamber exhausts. I estimate the vibration is reduced by 90% , and certainly a cheap and effective modification to overcome the " effects " of the vibration inherent in this engine design.

Regards Philip de Gruchy Johannesburg,South Africa

T500/GT500 Model Indentification Chart

T500 model identification chart - page 1

T500/5 Cobra to T500-II

No prizes for guessing the differences between the Cobra and the T500-II.

Cosmetics	New tank, seat, rear shocks, unvalanced mud-guards,grab rail, oil tank and side-covers, top triple clamp and insrtument mounting
Engine	New pistons, 32 mm carbs and air box

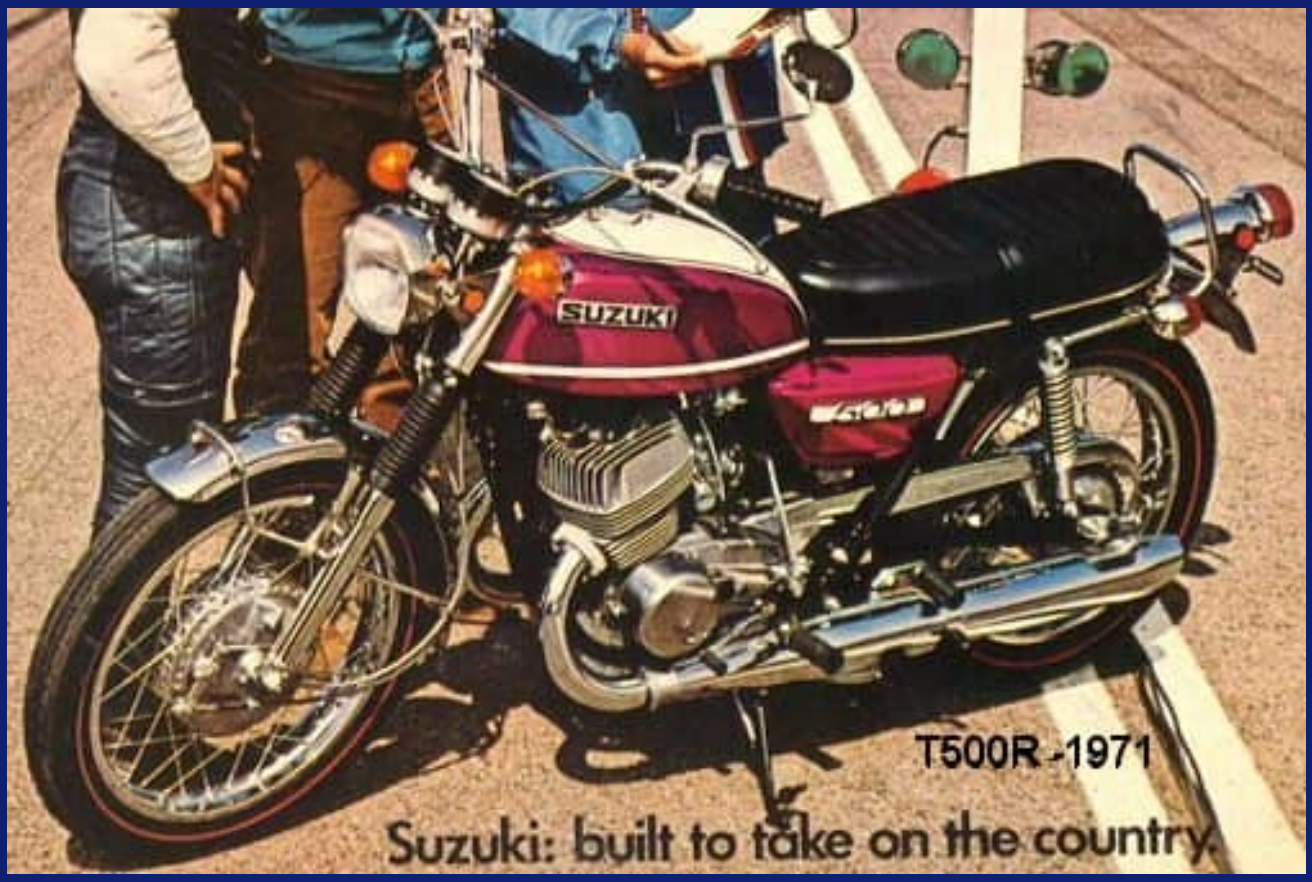
T500 model identification chart - page 2

T500-II to T500-III

Cosmetics	New instruments, tank rack, front mudguard and tank paint job
Engine	None

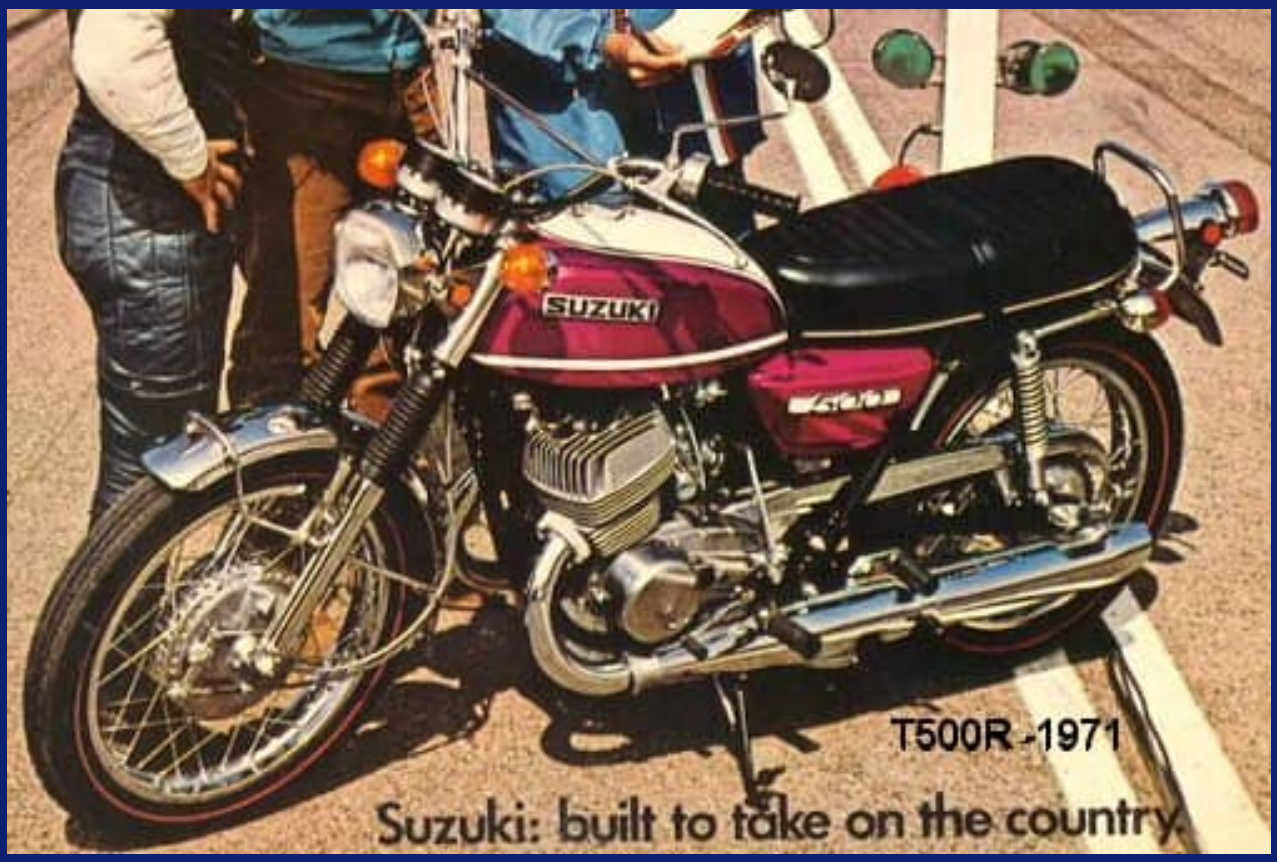
T500 model identification chart - page 3

T500-III to T500R



Cosmetics	No tank rack, new tank paint job, new tank badge, new side cover badge, flip filler cap on petrol tank
Engine	None

T500 model identification chart - page 4



T500R to T500J

Cosmetics	New tank paint job, new tank badge, new plastic chrome side cover badge, new instruments, new tail-light
Engine	None

T500 model identification chart - page 5

T500J to T500K

Cosmetics	New tank paint job, new tank badge, new side cover badge, new round headlight
Engine	Carb intakes lengthened, horsepower reduced as barrel intake port narrowed

T500 model identification chart - page 6

T500JK to T500L

Cosmetics	New tank paint job
Engine	Engine oil capacity increased from 1200cc to 1400cc,

T500 model identification chart - page 7

T500L - T500M

Cosmetics	New tank paint job, tank badge and side cover badge, rear shock absorber shroud
Engine	None

T500 model identification chart - page 8

T500M - GT500A

Cosmetics	New tank, new sidecover badge, front forks, seat, front disk brake, hydraulics, wheel, front mudguard, instruments, indicators and unshrouded rear shock absorber
Engine	CDI ignition, modified crank and pistons

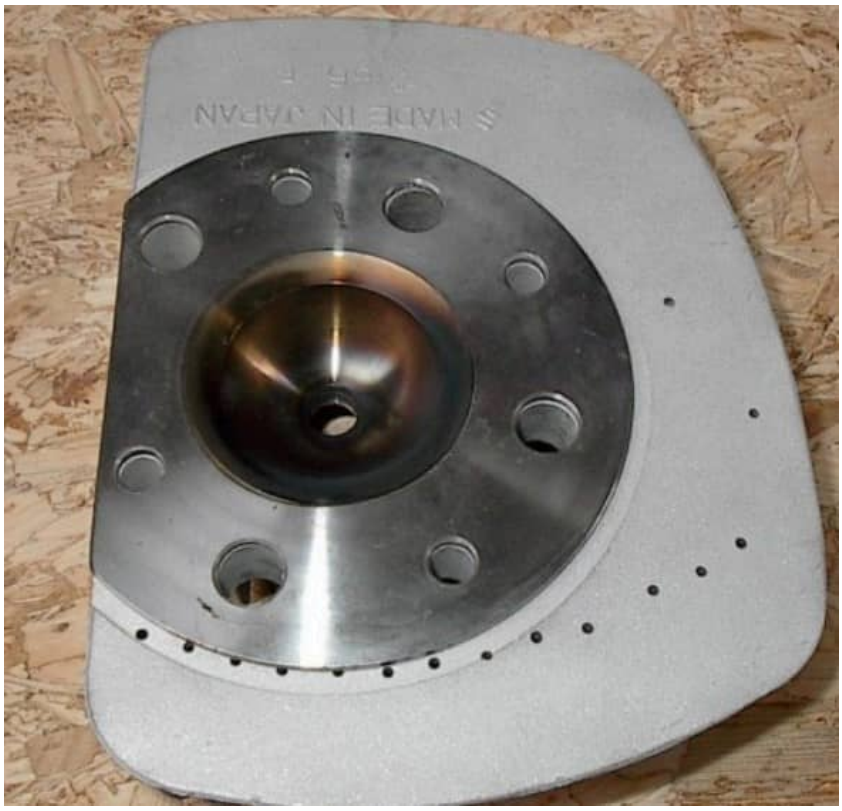
T500 model identification chart - page 9

GT500A to GT500B

End of the road

Cosmetics	New paint scheme
Engine	None

Squish head inserts – Pascal Benoot



Talking heads

some pics of squish heads being manufactured by Pascal Benoot in Belgium

Talking heads again

some pics of steel squish head inserts designed and manufactured by Pascal Benoot in Belgium

A unique and inventive way to deal with the problem of cracked heads and getting squish heads out of a standard head.

"the temperatures are good; but in the beginning I had problems with the cylinder head gasket, the problem was that the original gaskets are in aluminium and the coeficient of tension is not the same of the metal head and the cylinder.

Now I use no gasket but just a copper paste of permatex (copper spray a gasket) and all the problems are gone."

Pascal

Talking heads again

some more pics of steel squish head inserts designed and manufactured by Pascal Benoot in Belgium

The inserts are available for 240euro /set ex transport (as at April 2003)
The buyer just have to mill out his old standard heads. I pay 45 euro/ pc in belgium to do this in an engine overhaul company. Ii give the dimensions and heat paste to mount the inserts in the milled heads. You have to regulate the piston/squish clearance with copper gaskets to 0.8 mm and torque the heads to 3.5 kg/m the system runs with short reach spark plugs. I can say that the result is perfect.
Weight 1.580 kg / set
Very professional looking products and a lot of work by Pascal in getting it right.

Pictures above are the new naked squish chambers .
the other are the same concept but with the old combustion chambers (model Crooks and TR 500)

MADE IN JAPAN
66 R

MADE IN JAPAN
66 R

MADE IN JAPAN
66 R

MADE IN JAPAN

back
Back to Suzuki Fans index page

Suzuki GT/T500 technical guff

Sundial Suzuki's Squish Heads

Howdy Muzza,

Just thought that I would send you a pic of the squish heads I had made about 5 years ago. These use the standard spark plug hole and are slightly configured for optimum combustion with the spark plugs at an angle.

They are welded and then the squish are is machined in. They offer quite a boost in midrange when highend pipes and porting are used. Not as good as TR heads but quite an improvement.

The price is not cheap and are currently $385USD. But it seems nothing is cheap these days.

Eric (Zook-e) Kalamaja

May 2002

----------o----------

SUZUKI PAINT CODES
Model years 1968 through 1977
Copyright © R. W. Best (H2RICK) 2001-2019 **(Revised 04/2019)**

A few words of explanation:

Suzuki part numbers consist of two groups of numbers (referred to as numerics), separated by a hyphen. Each group typically has five numbers in it. If a particular part was painted, then an additional group of three numerics or letters/numerics (referred to as alpha-numerics), separated by an additional hyphen, was added on to the end of that part number to show what paint colour that particular part was painted with at the factory. Thus:
00000-00000 is the designation of a typical part that is **NOT** painted.
And:
00000-00000-000 (or 00A) is the designation of a typical part that **IS** painted.

Notice the addition of the last three numerics (or alpha numerics) which show the paint code designation.
A word of caution: Suzuki, like all other automotive manufacturers, used the same colour over and over again (until it was phased out) e.g. in 1972 a certain colour may have been used on a T250J street bike; in 1974 the same colour may have been used on a TS100L dual purpose (street/off-road) bike. Only two stroke street bike models are listed in the charts below.
To increase the confusion even more, the same colour was sometimes called two completely different names, or the same colour name could refer to two differently numbered paint colours. In addition, late production machines in a particular production run and/or replacement parts could be painted a differently designated colour that was "close enough" to the original colour that had been discontinued. As well, the list contains designations for colours from earlier production machines i.e. S32, T20, T305, etc. However, no matter what name the colour was called by the marketing department, the three digit numeric (or alpha numeric) part number designation **always referred to the same colour**. Note that in the last column, "Unknown/NUSB" means that this colour usage is either not known to the author OR is known, but the colour was "Not Used (on two stroke) Street Bikes".
Also keep in mind that the names shown here were given to the colours mostly as sold in the US/Canadian market. If you are in a different market area, **the colour names could be different or that colour may not have been used in your market at all**.
With no further explanations, here are the codes and their names, with the first name given as the **most** common and/or initially used name of that particular colour.

Designator	Colour name	Alternate name(s)	Model(s) used on
00A	Grey metallic	Jewel grey metallic	GT750M
00F	Gypsy red	None/Unknown	T500-2(late)
00J	Gypsy red	Candy gypsy red #3	GT380A (late), GT750M,A
00N	Pure orange	None/Unknown	GT185A
00P	Spark silver	None/Unknown	GT550B
00T	Calypso red	Candy calypso rose	GT500B,GT250A,GT750A
00U	Candy rose	Targa red	GT500A,A100A,B,GT550A
00X	Forest green	Green metallic	GT550A
00Z	Candy orange	None/Unknown	GT550M(late)
01A	Orange	Flake orange #2	RE5M(late)
01H	Candy gold #5	None/Unknown	GT250A
01J	Daytona blue	Andes blue metallic	GT500A
03D	Metallic blue	Uranos Blue metallic	GT550B
03E	Potomac blue	None/Unknown	Unknown/NUSB
03F	Metallic blue	Jamaica blue met.	GT380B
03G	Rose red metallic	None/Unknown	GT250B,GT750B,GT380B
03H	Marble red	None/Unknown	A100B
03J	Straight blue	None/Unknown	Unknown/NUSB
03K	Marble yellow	None/Unknown	Unknown/NUSB
03T	Ultra blue (tape)	None/Unknown	GT550B
13L	Blue	None/Unknown	Unknown/NUSB
60B	Silver	None/Unknown	Unknown/NUSB
60C	Silver	None/Unknown	Unknown/NUSB
61K	Unknown	None/Unknown	Unknown/NUSB
61R	Unknown	None/Unknown	GT380B (tape)
61T	Unknown	None/Unknown	GT550B (tape)
61U	Unknown	None/Unknown	GT380B, GT550B (tape)
002	Light blue	None/Unknown	M12/Mk II,M15/MkII/D

Designator	Colour name	Alternate name(s)	Model(s) used on
019 (see note)	Black	Gloss black	RE5A,GT550M,GT380A, GT750B,GT500B, T500-I, A100-1, AS100-1
046	Silver metallic	None/Unknown	A100-1, AS100-1
061	Red	Permanent Red	F50R,S32-2,M12 all,M15 all A100-1, AS100-1
064	Pure white	None/Unknown	T500J,S32-2,M12 all,M15 all, A100-1, AS100-1
075	Light permanent blue	None/Unknown	S32-2, M12 all, M15 all, A100-1, AS100-1
078	Candy red	None/Unknown	T500-1, T305, TC305
079	Candy blue	None/Unknown	T500-1, T305, TC305
126	Pearl metallic	None/Unknown	GT750L,M,A,B, RE5M,A (rad grill only),S32-2, T305, TC305, A/AS100-1
137	Daytona blue	None/Unknown	Unknown/NUSB
138	Candy orange	Mojave copper	GT550M(early), T500-2, T250-1,R, T305, TC305, AC100-1, AC50R
141	Candy gold no. 2	None/Unknown	T500-1
153	Caribbean blue	None/Unknown	F50-1
156	Redondo blue	Candy corporate blue	T500-3,GT380L,T250-2, T350-1, AS-50
157	Candy bright red	Jamaica red Roman red	GT250K,GT380J,T250J, T125-1
158	Candy gold no. 3	Colorado gold	T500-2
159	Monterey green	Candy Sophia green	T350-2
161	Pearl ivory	Cape ivory	T350-1
162	Frosted black	None/Unknown	T500-2,T350-1,T250-2
163	Aspen yellow	Phlolina yellow	T125R,T250-2
164	Morro green	Candy lime green	T500-3,T350R, T250-1,T125R
176	Candy yellow	Aztec gold	T125-2, GT380L, T350R,J; GT550J,T250-2,T125-2

Designator	Colour name	Alternate name(s)	Model(s) used on
178	Sunset white	None/Unknown	Unknown/NUSB
183	Safari yellow	None/Unknown	Unknown/NUSB
184	Strip orange	Chrome orange	Unknown/NUSB
185	Ascot red	Medium scarlet	T350-2
186	Pop green	None/Unknown	T125-2, AC50R
187	Frosted gray	None/Unknown	T500-3
189	Egret white	None/Unknown	T500R, T500J, T350R
195	Candy jackal blue	Newport blue	T500R, GT750J, T350 ??
212	Alpine blue	None/Unknown	Unknown/NUSB
215	Hawaii green	Candy turquoise	GT250K,GT550L,T250R, GT380J
216	California burgundy	Candy lavender	T500R, GT750J
253	Candy yellow ochre	None/Unknown	GT750J (Japan only)
262	Laguna blue	Candy Acapulco blue	T250J
263	Cascade green	Verdoro green	T500J
264	Pearl orange	Summit orange, copper	T500J, T350J
278	Grace lime metallic	Lime green	GT550K
279	Coronado blue	Metallic blue, Bright blue metallic	T500K,GT185K,GT250K,L (late),GT380K,GT750A
288	Candy gold no. 4	Nugget gold	GT250M, GT750J
291	Semi-gloss black	None/Unknown	GT185/250/380/500/550/ 750B models
293	Marble scarlet	Laredo red, Marble red	GT550L,GT185M
403	Black	None/Unknown	GT550J,K,L,M,A
516	Blue	None/Unknown	GT550J
522	Green	None/Unknown	Unknown/NUSB
523	Green	None/Unknown	T500J
524	Copper	Orange	T500J,T350J

Designator	Colour name	Alternate name(s)	Model(s) used on
525	Blue	None/Unknown	T250J
527	Red	None/Unknown	GT250K(early)
533	Burgundy	None/Unknown	GT750J
534	Turquoise	None/Unknown	GT750J
539	Green	None/Unknown	GT380J
541	Blue	None/Unknown	T350J
542	Red	None/Unknown	Unknown/NUSB
544	Orange	None/Unknown	Unknown/NUSB
546	Blue	None/Unknown	Unknown/NUSB
564	Green	None/Unknown	Unknown/NUSB
565	Red	None/Unknown	Unknown/NUSB
567	Green	None/Unknown	Unknown/NUSB
571	Gold	None/Unknown	GT550J
572	Green	None/Unknown	Unknown/NUSB
573	Orange	None/Unknown	Unknown/NUSB
575	Green	None/Unknown	T250R
576	Copper	None/Unknown	T250R
577	Blue	None/Unknown	T500R
578	Burgundy	None/Unknown	T500R
584	Yellow	None/Unknown	Unknown/NUSB
585	Blue	None/Unknown	Unknown/NUSB
613	Green	None/Unknown	AC50
616	Red	None/Unknown	T250J,GT380J
649	Orange	Mesa Orange	T500-2 (late), AC100-1
651	Gold	Colorado Gold	T500-2 (late)
676	Black/Pearl Met.	None/Unknown	AC100-1 (tape)
705	Hermosa blue	Purple Blue metallic	GT550K

Designator	Colour name	Alternate name(s)	Model(s) used on
707	Pearl blue	None/Unknown	GT750K
708	Pearl red	None/Unknown	GT750K
709	Pine green	None/Unknown	Unknown/NUSB
711	Bay blue	None/Unknown	Unknown/NUSB
712	Candy gypsy red	None/Unknown	T500L,GT380M(early)
713	Marble yellow	None/Unknown	Unknown/NUSB
714	Sunset orange	Cobalt orange	Unknown/NUSB
715	Candy wine red	None/Unknown	T500K,GT250L
716	Catania red	Canyon red	GT380K
718	Red	None/Unknown	GT750K (tape w/707 tank)
722	Dark green	None/Unknown	GT750K (tape w/707 tank)
724	Sky blue	None/Unknown	GT550B (tape)
737	Stardust silver met.	Dark silver metallic	GT380M, GT250A, T125-2
738	Olive green metallic	None/Unknown	GT750L,M (Japan only)
742	Silver metallic	None/Unknown	GT750L,M,A (tape)
747	Matador red	None/Unknown	Unknown/NUSB
755	Silver grey metallic	None/Unknown	Unknown/NUSB
758	Candy Tahiti orange	None/Unknown	GT185L, GT250L
759	Cerulian blue met.	Rally blue	GT250L(early)
761	Flake blue	Mist blue	GT750L
762	Flake orange	None/Unknown	GT750L, RE5M (early)
764	Gold (tape)	None/Unknown	GT550K,L,M,A
796	Midnight blue	None/Unknown	RE5M
797	Maui blue metallic	None/Unknown	T500M,GT750A,GT380A, GT500B,GT250M,A;A100A
799	Primer grey	None/Unknown	Spare parts to be painted
911	Tan	None/Unknown	GT750K (tape w/708 tank)
926	Green	None/Unknown	GT250K(early)

Designator	Colour name	Alternate name(s)	Model(s) used on
965	Unknown	None/Unknown	GT250L
966	Unknown	None/Unknown	GT250L
997	Orange	None/Unknown	Unknown/NUSB

Note: 019 Black/Gloss Black is the standard non-metallic gloss black paint used for all black painted parts like frames, engine bracket plates, battery boxes, etc., on all models as well as for body parts (tanks, side covers, etc.) on the particular models shown in the "Models Used On" column for this particular colour.

To add a little more confusion, the above list includes colour codes used for the tape stripe colours for fuel tanks for all motorcycles as well as Suzuki's early GS four stroke bikes (400, 550 and 750) and their snowmobiles. Yes, Suzuki did make snowmobiles for the North American market for about three years starting in 1973. This venture was stopped when the well known U.S. snowmobile maker Arctic Cat switched over from Kawasaki engines to Suzuki engines for its 1976 model year.

Another recently discovered anomaly has been noticed on the US Suzuki brochure for the GT750A (1976) which shows two available colours:

Coronado Blue (which is colour #279)

Ontario Orange (which has not been identified after much searching)

It may be that the orange that US Suzuki thought it was getting never materialized on the production bikes, being replaced by colour #00T Calypso Red/Candy Calypso Rose, which is the colour that the production bikes actually came in. It may also be that colour #01A which was previously used on the RE5M was intended to be used on the GT750A. If you have any further information on this, please contact the author.

Many thanks to Murray "Muzza" Barnard for some info from his site and for displaying this chart for all interested Suzuki enthusiasts. Also thanks to Mario "Foxkilo" Fockenbrock for his valuable input on colours from continental Europe.

This 2019 revision has corrected a few errors and has also included new info from my good friend Jim Green who has the largest collection of Suzuki two stroke parts manuals I've ever seen. The colour charts in his manuals are invaluable in clearing up many of the colours used on pre-1973 Suzuki street bikes.

MIKUNI MAIN JETS EXPLAINED
or
HOW I SAVED BIG BUCKS JUST BY LEARNING THIS STUFF

OK folks, here's the full meal deal on Mikuni main jets. This is from various sources gathered over the years. Read this carefully 3 times. It helps to have an example of each style of jet at hand when reading this explanation.

1) the "long (or large) hex" style main jet is known as the "Amal" style in Mikuni-speak. It's also Mikuni type 4/042. This style of jet has its fuel flow calibrated in the "wrong" direction i.e. from the threaded end through the orifice and out what we consider the inlet end. The number stamped on the jet corresponds to the number of cubic centimetres of gasoline which will flow through the jet when poured in the calibration direction from a height of 50 centimetres. Since the direction of flow during calibration is opposite to what the flow is during actual operation when installed in the carb, the OPERATIONAL flow rate does NOT correspond to the number stamped on the jet. The chart below bears this out. No, I don't know why they would do such a thing as having opposite directions for calibration and operational flows. Japanese inscrutability ?? Holdover from the way the Brits calibrated the original Amal jets ?? Take your pick.

2) the "button" or "slot" style main jet is properly known as the "reverse" style in Mikuni-speak. It's Mikuni type N100/604. The fuel calibration flow can be done from either side of the orifice. This also holds true for actual fuel flow volume when in operation in the carb. I assume it's called the "reverse" style because the calibration can be done in the reverse direction compared to the Amal style jet. Regardless of that, although none of the info I have specifically states so, you can PROBABLY ASSUME that the number stamped on the jet is the operational flow volume in cubic centimetres of gasoline as well as the calibration flow volume.

If you look carefully with a magnifying glass at both ends of the orifices in both styles of jets you will see marked differences in how the orifices are machined. You physics majors out there (and also the rest of us who have a less-than-perfect understanding of fluid dynamics) will immediately see that the Amal style jet has the capability of flowing much more liquid in the calibration direction than the reverse style can.

Keep in mind when reading the chart shown on the next page that the numbers for the Amal style are CALIBRATION flow volumes, while the numbers for the reverse style are calibration AND OPERATIONAL flow volumes. One can deduce from this that the flow volume in the OPERATIONAL direction of the Amal jet is FAR LESS than the flow volume in the CALIBRATION direction of that same jet, since both styles of jets are (more/less) exact replacements for each other.

INTERCHANGE CHART FOR MIKUNI MAIN JETS	
N100/604 (Reverse)	4/042 (Amal)
90	95
92.2	100
95	105
97.5	110
100	115
102.5	120
105	125
107.5	135
110	140
112.5	145
115	155
117.5	165
120	170
122.5	175
125	185
127.5	195
130	200
132.5	210
135	215*
137.5	225*
140	230
142.5	245*
145	250
147.5	265*
150	275*
152.5	285*
155	295*
157.5	310
160	320
162.5	335*
165	345*
167.5	360
170	370

The asterisk behind the Amal style jet numbers indicates that you can use 5 numbers higher or lower than the indicated number and still be in the range of its reverse style equivalent in the left hand column. This “adjustment” is necessary because even though the Amal style jet numbers shown are the EXACT FLOW EQUIVALENTS to the reverse style jets shown in the left column, Mikuni does not offer the Amal style jet in “half sizes” (i.e. XX5) above #200.

A Final Word Of Caution

Please note that there are differences in the threads between the two types of main jets. The jets are made with different threads to prevent exactly what you are trying to do....substituting one type of jet for the other type. The reverse (or slot or round style) jet can be screwed partially into a needle jet that is threaded for the Amal (or long hex) style jet but the reverse is not true. In other words, do not attempt to thread an Amal style jet into a needle jet that was originally fitted with a reverse style jet.
If you look carefully at any needle jet that you have, you will see two sets of numbers stamped on the body (assuming it's a genuine Mikuni needle jet):
1) the upper three digit number identifies which type of needle jet it is e.g. 159, 171, etc.
2) the lower two-character alpha-numeric identifies the size of the needle jet e.g. N–5, Q-3, etc.
There are other subtle differences in needle jets such as the overall length of the needle jet body and the length of the bottom shoulder.
Here is another table to help you understand what you can get away with and what you can't:

Needle Jet Type #	Normal Main Jet Style Used	Substitution With Other Style Jet Y/N ?
159	Amal (Long Hex)	Yes (see note below)
166	Amal (Long Hex)	Yes (see note below)
171	Reverse (Round)	No
176	Unknown	Unknown
183	Unknown	Unknown
188	Reverse (Round)	No
196	Reverse (Round)	No
205	Unknown	Unknown
211	Unknown	Unknown
224	Unknown	Unknown

NOTE:
Keep in mind that even though you may be able to partially thread a reverse style jet into the hole that once held the Amal style jet, you may have to shim or otherwise modify the needle jet body to make everything work correctly. Such modification should not be attempted by persons not thoroughly familiar with the complexities/dangers involved.

Copyright © 2001-2004, R. W. Best (H2RICK), Calgary, Canada

GASOLINE OCTANE RATING METHODS
AND OPERATIONAL CONDITIONS IN TWO STROKE ENGINES

© R. W. Best, (H2RICK), 2002

Since so many of you have asked for an interpretation of the numbers posted on the side of the pump where you fill up, I've decided to "distill" this info down to a useable size. I've also come up with another snappy title, as you can see above. LOLOL. As you can imagine, there are volumes and volumes of scholarly works on this subject but I'll try to make it as simple as possible and keep things in layman's terms.

What is an octane rating (or number) anyway ?

The simplest definition is that such rating/number is a measure of a fuel's resistance to detonation during combustion.....or the fuel's anti-knock quality.

What's "detonation" and why should I be concerned about it ?

Detonation, or "spark knock" or "ping", is defined as an uncontrolled and abrupt explosion of the fuel/air mixture in the engine cylinder(s) due to excessive pressure and/or temperature. Normally the fuel/air mixture in an engine's cylinder(s) burns and expands in a controlled and linear fashion, spreading outwards from the spark at the spark plug at the time of ignition. This is considered "normal" combustion. When the fuel/air mixture burns/explodes instantaneously, you get detonation which creates shock pressure waves and thus an audible "knock". If left unchecked, knock can do all kinds of damage to your engine, sometimes quite quickly. Broken pistons are an extreme result of detonation or knock. Detonation is to be devoutly avoided, especially in a two stroke engine where combustion events happen twice as fast as in a four stroke engine.

How do I interpret those numbers on the gas pump ?

Well, here's where I let the experts take over. This next section is lifted bodily from the Esso Canada Fuels and Lubricants Handbook and is copyrighted, so don't steal/use it without giving proper credit to them. My comments are in brackets thus [xxxx].

There are two commonly used methods of determining the octane number of motor gasoline: the Motor Method and the Research Method. Both methods use the same type of laboratory single cylinder engine, which is equipped with a variable [displacement] head and a knock-meter to indicate knock intensity. Using the test sample as fuel, the engine compression ratio and the air/fuel [ratio] are adjusted to develop a specified knock intensity. Two primary standard reference fuels, normal heptane and iso-octane, arbitrarily assigned 0 and 100 octane numbers respectively, are then blended [and run in the test engine] to produce the same knock intensity as the [original] test sample. The percentage of iso-octane in the blend [ed reference fuel] is considered the octane number of the [original] test sample. Thus, if the matching reference blend is made up of 15% n-heptane and 85% iso-octane, the test sample is rated 85 Motor or Research octane, according to the test method used.

The test conditions for the Research Method are less severe than for the Motor Method. Accordingly, commercial gasolines have a higher octane number by the Research Method than by the Motor Method. [If you think about it, a little dishonesty by someone is evident here. The world, until recently, relied upon the Motor Method for octane ratings and the public became used to seeing the M(otor) O(ctane) N(umber) on the side of the pump. Nowadays, in Europe, the results on the pump are the R(esearch) O(ctane) N(umber) and everyone thinks they've suddenly got really great fuel. In reality, the European fuel is the same old stuff, or worse, that we've always been used to. Read on.]
Both ratings are required to predict the performance of the gasoline in actual road usage, but the relative importance depends on the type of engine and operating conditions. In truck and bus applications where the gasoline must perform at high temperatures and under maximum throttle [gosh, just like two stroke motorcycle engines, LOL] the MON is more significant than the RON. Similarly in passenger cars with automatic transmissions under full load and part throttle the MON is more significant, particularly in engines of more recent manufacture. In passenger cars with manual transmissions at full throttle where the engine can be [highly] loaded at low engine speed [like four stoke V twin cruiser bikes] the RON is more significant, while at part throttle, the reverse is true.
Road Octane Number [not to be confused with RON] is the rating of the gasoline, in terms of reference fuels, by a test car under full throttle acceleration from 10 to 50 MPH. However, Road Octane [Number] tests are too expensive for routine testing and are reserved mainly for special octane requirement surveys. An approximation [of the Road Octane Number] may be made by calculation of the average of RON and MON thusly: RON + MON divided by 2. [this rating is now becoming more widely used in North America but you can see, again, how it inflates the number].

What did I learn from all this ?

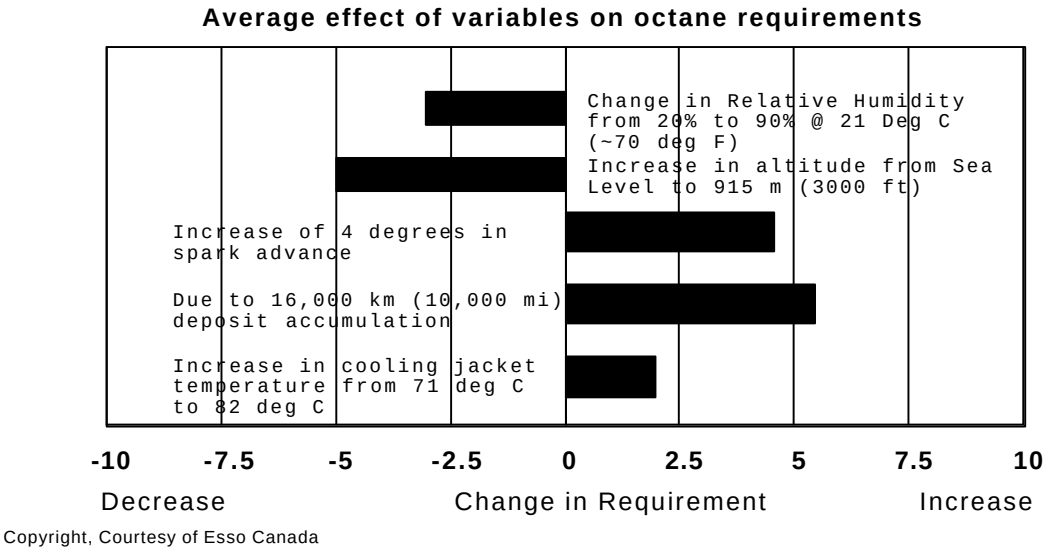
If you currently own and ride a high performance two stroke motorcycle, you may have problems with detonation when you use regular unleaded gasoline. This is especially true if you have increased the compression ratio by shaving the head or reducing head gasket thickness....or have changed the port timing.

What else do I need to know to keep my two stroke happy and healthy, fuel-wise ?

As a matter of comparison, my Suzi GT550A manual calls for fuel of "85 - 95 octane in Research Method" for an engine with a 6.7:1 corrected compression ratio, whereas the manual for my Suzi PE250B (single cylinder) enduro racer/dirt bike calls for "95 Research Octane or higher" for an engine with a 7.0:1 corrected compression ratio. Hmmmm....for the relatively low compression/performance stock 550 under normal conditions, any old gasoline is OK....but for the relatively high compression, high performance 250, you need the "good" stuff. If you are running a ~ 7.0:1, or higher, (corrected) compression ratio engine, you'd better use the "good stuff" or you're probably going to have detonation more often than you'd prefer. This is especially true in conditions of high ambient temperatures when you have an air cooled engine or you've advanced your spark somewhat or you haven't pulled the head(s) for awhile to clean up those nasty deposits off the piston crown and inside the head. See the first chart on the next page for more octane facts.

What other engine operational conditions do I have to watch for ?

Here is a chart that's very instructive regarding octane requirements. Look it over carefully two or three times and you'll see what I mean.



Copyright, Courtesy of Esso Canada

Another chart that compares octane numbers is also very instructive:

Properties of Esso Gasolines

	Esso 2000 Unleaded (Regular)	Esso (Leaded) (what leaded Regular used to be)	Esso Extra Unleaded (Premium)
R. O. N. *	93	94	96
M. O. N. *	84	85	87

* = lower for high altitude areas © Esso Canada, 1983

Keep in mind this chart is from 1983 but the ratio of MON to RON will remain the same even if the absolute numbers change somewhat. Most jurisdictions in North America supply 87 octane fuel but this is mostly a Road Octane number nowadays, so is somewhat of a "cheater" number.

From all of this you should be able to get a fairly accurate idea of what your bike's octane requirements are at any given time. You can see that gasoline has a very complex job to do under many varied operating conditions and still give you the power and performance you expect. Choose the right octane rating and you'll get that power and performance without detonation/pinging.

Suzuki service bulletin - clutch rattle

Courtesy H2Rick

SUZUKI

SERVICE BULLETIN

Bulletin No. 75-39
Date September 15, 1975
Page 1 of 3

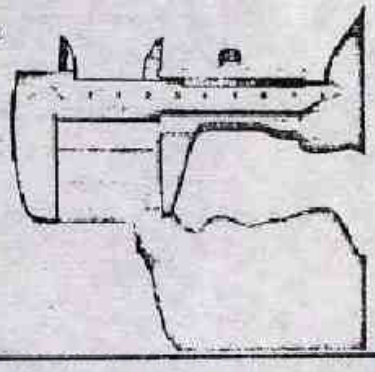
SUBJECT: CLUTCH RATTLE ON TWIN CYLINDER MODELS
Affected Models: ALL TWIN CYLINDER MODELS
Effective Engine No.:
Reference: Page 44, T20 Service Manual

Read & Initial
Manager
Parts
Service

PROBLEM: Distinct rattle in the right primary case when the engine is idling, clutch lever released transmission in neutral. Noise worsens as the engine warms up. Noise disappears when the clutch lever is pulled.

CAUSE: The usual cause of this problem is the clutch housing "walking" on the transmission countershaft. The housing has too much axial play because of normal wear on the thrust side of the clutch hub.

CORRECTION: Disassemble the clutch and measure the difference in length of the spacer and the thickness of the clutch housing. This difference is the amount of clearance that the clutch housing can slide back and forth on the shaft.

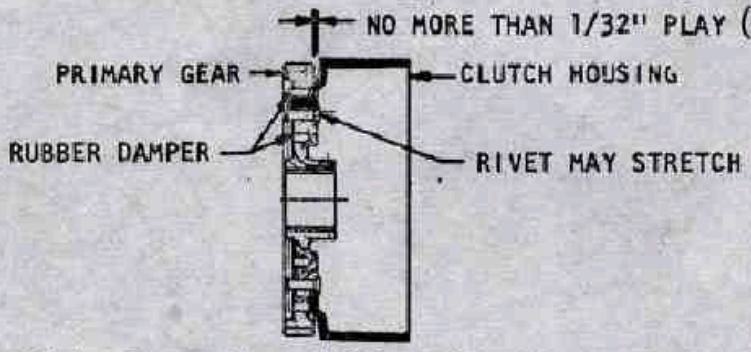


MODEL	AXIAL PLAY	
	MAXIMUM	MINIMUM
X6, TC250, T200, TC200, T250, T350, T305, TC305	.007 inch	.003 inch
S32	.008 inch	.004 inch
T10	.006 inch	.004 inch
T500	.007 inch	.002 inch

If the measurement is more than the maximum, rub one end of the clutch spacer on a honing stone until the difference is near the minimum above. Don't overdo it, or the clutch will not release.

OTHER CHECKPOINTS:

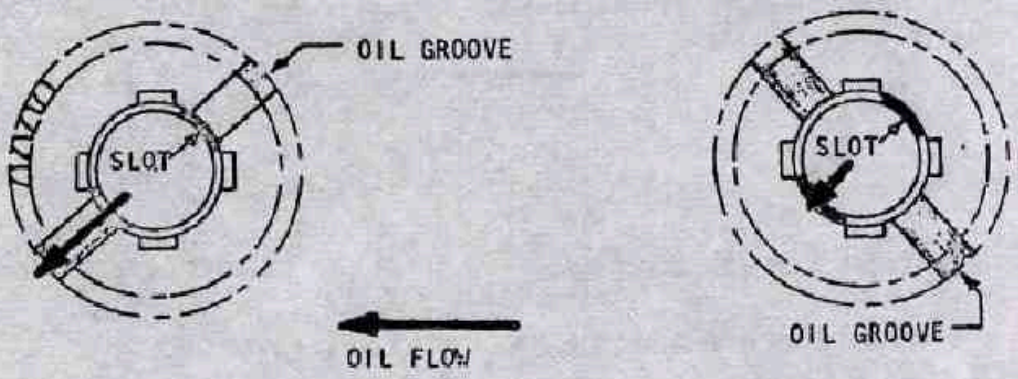
A. The clutch housing/primary gear is a riveted assembly. There are rubber dampers which cushion the drive shock between these two parts. If the rivets stretch or the dampers soften, the clutch housing will wobble and make the same noise. Try to separate the two parts with your hands.



There should be less than 1/32 inch play between the two parts. Don't try to tighten the rivets. Instead, replace the assembly.

B. Check the clutch hub nut and the primary pinion nut for tightness. Use a torque wrench when tightening these critical nuts.

C. The X6, TC250, T200, TC200, T250, T305, TC305, T350, clutch housing is fitted with the kickstart drive gear on its backside. Be sure that the oil grooves in the gear are matched with the slots in the clutch bearing sleeve. Otherwise, the thrust face of the housing will prematurely wear due to lack of oil.

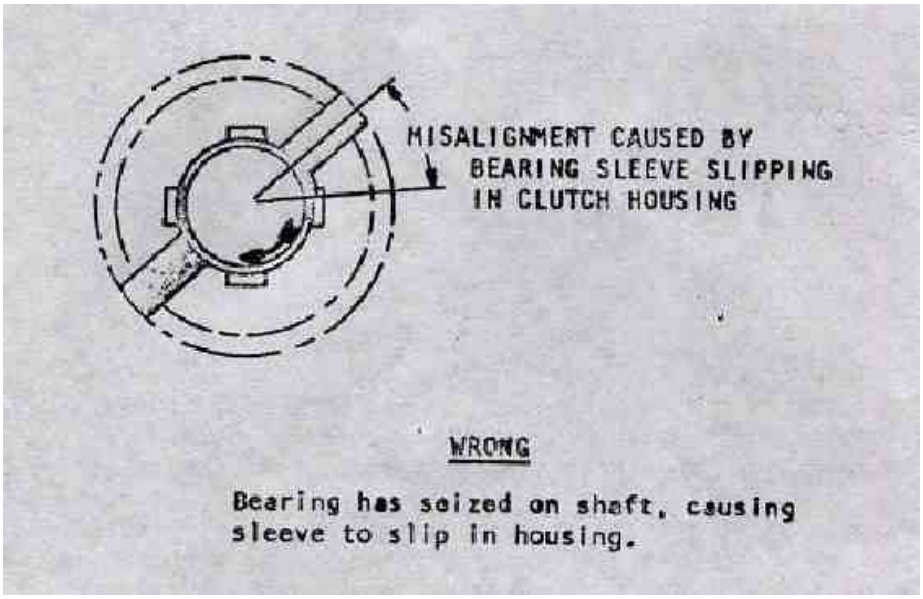


RIGHT

Slots Lined Up

WRONG

Gear Installed 90° off on Splines



WRONG

Bearing has seized on shaft, causing sleeve to slip in housing.

D. If the transmission oil level is too low, or if extreme heat is present in the clutch assembly, the clutch housing bearing will seize on the transmission driveshaft. The engine will stop suddenly, and the inertia of the rolling motorcycle will cause the clutch bearing sleeve, which is pressed into the housing, to spin in the housing. After it frees up, the clutch will work well. However, the thrust surface of the clutch housing will starve for oil and wear too quickly, again causing this "rattling" noise.

E. Another possible cause is transmission oil level too low. Or the transmission oil viscosity is incorrect. The correct type is a 20W-40 multigrade detergent.

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

1. **Simple Ignition System Check**
2. **Ignition Coil Failures**
3. **Contact breaker Sticking Open**
4. **Nylon Plug Modules**
5. **Spark Plugs**
6. **Battery Maintenance**
7. **Checking PEI Ignition Timing**
8. **Adjusting Horns**
9. **Carburetor Main Jet Types**

SUZUKI

2-Stroke

Service Bulletin Index

TWO STROKE

GEN.

GENERAL

NO.	SUBJECT
1	SIMPLE IGNITION SYSTEM CHECK
2	IGNITION COIL FAILURES
3	CONTACT BREAKER STICKING OPEN
4	NYLON PLUG MODULES
5	SPARK PLUGS
6	BATTERY MAINTENANCE
7	CHECKING PEI IGNITION TIMING
8	ADJUSTING HORNS
9	CARBURETOR MAIN JET TYPES
10	AUTOMATIC PETCOCK MISUSE
11	CLEANING CARBURETORS
12	OIL PUMP LEVER STICKING
13	OIL TANK CAP VENT
14	OIL TANK BREATHER OBSTRUCTION
15	CLUTCH RATTLE ON TWIN CYLINDER MODELS
16	SUZUKI LIQUID GASKET NO. 4
17	WHEEL ALIGNMENT
18	COLD WEATHER STORAGE
19	HIGH SPEED STEERING OSCILLATION
20	METRIC-AMERICAN CONVERSIONS
21	MOTORCYCLE ASSEMBLY & PRE-DELIVERY REIMBURSEMENT
22	OIL TANK BREATHER CAPS EXCEPT GT500
23	RECOMMENDED FUEL TYPES
24	GASKET SETS
25	BOLT HEAD SYMBOLS
26	SUZUKI CCI SUPER 2 RECOMMENDATIONS
27	CIRCLIP INSTALLATION

GEN.

GENERAL

NO.	SUBJECT
28	FRONT DISC BRAKE GREASE APPLICATION
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General - 1
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: SIMPLE IGNITION SYSTEM CHECK

The purpose of this Service Bulletin is to present a simple method to check ignition spark when it is not possible to use the Suzuki Electrotester (which has a coil tester, condenser tester, etc.).

The method is as follows:

1. Take a standard NGK spark plug and remove the side electrode altogether. The remaining gap will be 1/8 inch. This is from the center electrode to the body of the spark plug. The idea is to present a wide gap for the ignition system to jump across.

2. You will be able to judge the quality of ignition spark by the color. A good ignition system will have a hot blue spark, while a poor ignition system will have a weak yellow spark. A very poor ignition system will not fire the gap at all, whereas it may fire a standard spark plug.

This type of check is meant to be used only as a preliminary to more extensive diagnosis. As always, the Suzuki Electrotester is the absolute best way to go when checking the motorcycle ignition system.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General -2
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: IGNITION COIL FAILURES

PROBLEM: There have been some instances of coil failure on the twins. Sometimes there is a defect in the internal insulation for the windings of the coil. An internal short develops over a period of operation, and causes the coil to fail.

INSPECTION: There are two methods of inspection:

A. Check each coil on the Electrotester. The coil should fire an 8mm gap steadily and draw no more than 1.0 amp current.

B. When checking the coil in the motorcycle with the Electrotester:
   1. Use a new spark plug.
   2. Don't open the tester gap more than 8.0mm or you will overload and ruin the coil.
   3. Set the gap at zero when starting the engine.
   4. The tester should show a hot blue spark at 6mm gap for 5 minutes. Check the spark at 5000-6000 RPM.

C. Operate the motorcycle for a short period and feel each coil underneath the fuel tank. If one is appreciably hotter than the other, this indicates an internal short.

D. Visually inspect the coil for evidence of external shorting, melted insulation, or arcing. Note whether any of the primary wires are being pinched between the coil body and the bracket.

E. Check the nylon plug module which connects the coil to the main wiring harness. The female connector has been the cause of some electrical problems.

CORRECTION: If the coil is internally shorted, it will be necessary to replace it.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General -3
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: CONTACT BREAKER STICKING OPEN

PROBLEM: Engine stops running after the motorcycle is driven 5-10 miles, i.e. after engine has warmed up. Spark plug appears to be wet-fouled.

CAUSE: The contact breaker is binding on its pivot shaft on the stator plate. This is caused by lack of lubrication on the pivot shaft or by interference between the pivot shaft and the movable breaker arm. This binding does not occur until the crankcases and stator plate heat up from engine operation, and then the shaft expands from this heat.

INSPECTION: Check the axial play and radial play of the contact point arm on the shaft:

AXIAL PLAY

CONTACT	NEW	SERVICE
BREAKER POINT ARM	.008-.010"	If less than .008", take out shim. If more than .014", insert shim.

RADIAL PLAY

CONTACT	NEW	SERVICE
BREAKER POINT ARM	.0005-.0016"	If less than .0005", sand breaker shaft. If more than .003, replace points.

CORRECTION: Pull the circlip and shims from the breaker point pivot shaft. Check the moving contact arm for freeness on the shaft. Wipe the shaft and hole with solvent. Use fine emery cloth to remove any burrs from the shaft. Lubricate the shaft and hole with white grease. When assembling, check the contact point alignment and place shim on either side of the contact arm to center the movable point face on the stationary point face.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General -4
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: NYLON PLUG MODULES

PROBLEM: Mysterious electrical open circuit. These are some of the symptoms of this problem -

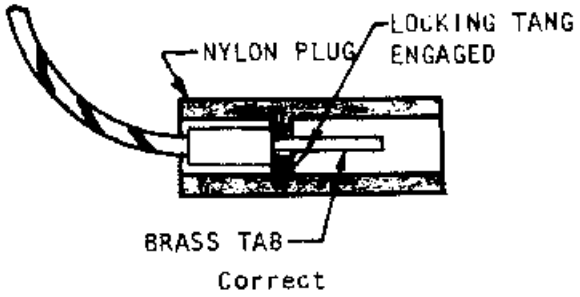
A. Battery does not charge

B. Spark plug fouling.

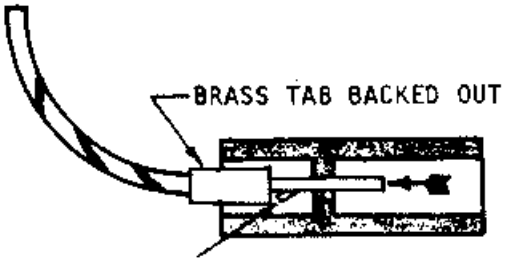
C. Engine misfiring.

D. Lights flicker.

CAUSE: Certain Suzuki models are fitted with quick disconnect electrical plug modules. There are four or five such plugs in the wiring harness, depending on model. The female half of the module incorporates individual brass tabs. When the two plug halves are pressed together, one brass tab may back out of the plug, breaking the circuit.



Correct



CORRECTION: Inspect the plastic plugs in the wiring harness. The brass tabs have locking tangs which secure them in the plug body. Press any loose tab back into the plug body until the locking tang is engaged. After assembling the plug halves, check the back side of the female half to b sure the tab has not backed out.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General-5
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: SPARK PLUGS

1. Suzuki has specified NGK or ND spark plugs of a certain heat range to be used in each of its standard models. There is excellent reason for this. We have found the NGK and ND spark plugs to perform over a wider heat range with each engine, and they are in ready supply at the factory in Japan. We discourage the use of other manufactures' spark plugs for these reasons:

   A. HEAT RANGE: We have no control over the heat range which is used. This can result in either one of two problems depending on the non-standard spark plugs characteristics:

      1. Excessive spark plug fouling - this is an indication of too cold a heat range.

      2. Piston seizure or hole in the top of pistion - this is the result of too hot a heat range.

   B. REACH: Spark plug reach is another area where we have had difficulty with other manufacturers' spark plugs.

      1. If the spark plug reach is too short, the exposed threads in the cylinder head will carbon up over a short period of time. Consequently, when a spark plug of the correct reach is installed, the cylinder threads are stripped or damaged.

      2. If the spark plug reach is too long, the exposed thread of the spark plug will carbon up. When the spark plug is removed the extra 1/8" of the spark plug will tear up the cylinder head spark plug threads.

2. Thus, it is in your own best interest to strongly encourage the Suzuki owner to use only NGK or ND spark plugs of the specified type. It may be necessary in some cases to vary the heat range to suit the usage a motorcycle is getting. A good rule of thumb is: Use as cold a spark plug as possible without fouling. This will give you the best performance.

3. If you feel that you can obtain better performance and longer spark plug life through the use of nonstandard spark plugs, proceed with caution. You should run extensive tests on the type of spark plug you intend to try before you use it in the customer's machine. Don't ask your

customers to do your test riding for you. Additionally, we would like reports on any improvement you may find with nonstandard spark plugs.

4. SPARK PLUG GAP: Our spark plug gap specifications range from .018 inch to .032 inch. We have found that with a narrow spark plug gap, expecially during the break-in period, we have more fouling. Rather than install a hotter spark plug than standard, open the spark plug gap to reduce fouling. These are your basic guidelines for spark plug gap:

   A. Narrow spark plug gap (.018-.022 inch). This spark plug gap is best for high RPM operation. In other words a customer who rides the highway quite often or one who accelerates through the gears taching the engine out before each shift. In other words, he wrings the engine out. This type of driving keeps the spark plug electrodes and insulator very clean and reduces the chance of electrode bridging or spark plug fouling. If fouling is experienced due to the narrow gap, it is recommended to open the spark plug gap up to .022-.024 inch.

   B. Wide spark plug gap - The wider spark plug gap is better for the type of customer who shifts the engine at 4,000 to 5,000 RPM all the time, and who rides the motorcycle on city streets, rarely venturing out on the freeway and making little demand on the engine's maximum output. Low engine speeds mean less turbulence, poor fuel/air distribution and homogenization, and rich fuel/air mixtures. For this reason a wider spark plug gap should be used to clean the insulator and electrodes of possible bridging or fouling compounds. If it is found that high RPM performance suffers, the spark plug gap may be closed to .018-.022 inch to improve high RPM engine performance.

   C. SPARK PLUG CAPS: We have found that when the nonstandard spark plug caps are used in a mechanic's effort to get better high RPM performance, there is a tendency for the spark plug to foul more so than with the standard Suzuki spark plug caps. This is because the resistor in the Suzuki spark plug caps increases the required voltage to fire across the spark plug. Further, radio and TV interference is very poor public relations. A motorcycle with two cylinders and "straight" spark plug caps will wreak havoc with nearby television set and radio reception. Since we have so much legislation afoot these days, isn't it good practice to prevent further "protection" by using a standard Suzuki cap? There is very little performance to be gained, except when a Suzuki cap is faulty; then, replacement with the standard item is recommended. You can check the Suzuki spark plug caps with an ohmeter to see if they are resisting too much. Maximum resistance through the spark plug cap is no more than 10-20 Kilohms.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General-6
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: BATTERY MAINTENANCE
REFERENCE: Construction and Works of Electrical Equipment pgs. 21 - 24

PROBLEM: It has become increasingly apparent that many dealers are running into electrical service problems which are a direct cause or result of poor battery service.

CAUSE: The construction of the lead storage battery is such that its efficiency can be severely reduced for the lifetime of the battery if it is not correctly serviced and maintained.

The initial charging process is the single most important factor determining battery life and dependability. Charging the battery at the time the electrolyte solution is first added determines the ability of the plates to accept and retain current throughout the lifetime of the battery. Subsequent charging, regardless of how often or what charging rate is used, will never restore the current-retaining properties that were lost due to this failure to charge the battery during initial set-up.

SOLUTION: It is extremely important that each Suzuki dealer realize the advantages in both time and money savings to be realized by eliminating this troublesome service problem.

Special care should be taken to service each battery in the following manner at the time the motorcycle is set-up.

1. Cut the closed-end of the battery vent tube. This is very important!!
2. Fill each cell carefully to the top level-line, using electrolyte having a Specific Gravity of 1.260 to 1.280.
3. Charge the battery using a charging rate limited to 1/10 the current-capacity of the battery. Since most motorcycle batteries use a 10 hour rate, a 6 Amp battery should be charged at 0.6 Amps current continuously for 10 hours. It is good practice to leave the cell caps off while this is being done.
4. Replenish the battery solution to the top level-line using distilled water.
5. Never add electrolyte solution after the initial set-up in an attempt to "rejuvenate" the battery.

PARTS: A Hydrometer for measuring Specific Gravity is available from our Parts Department (part # 09900-28401).

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

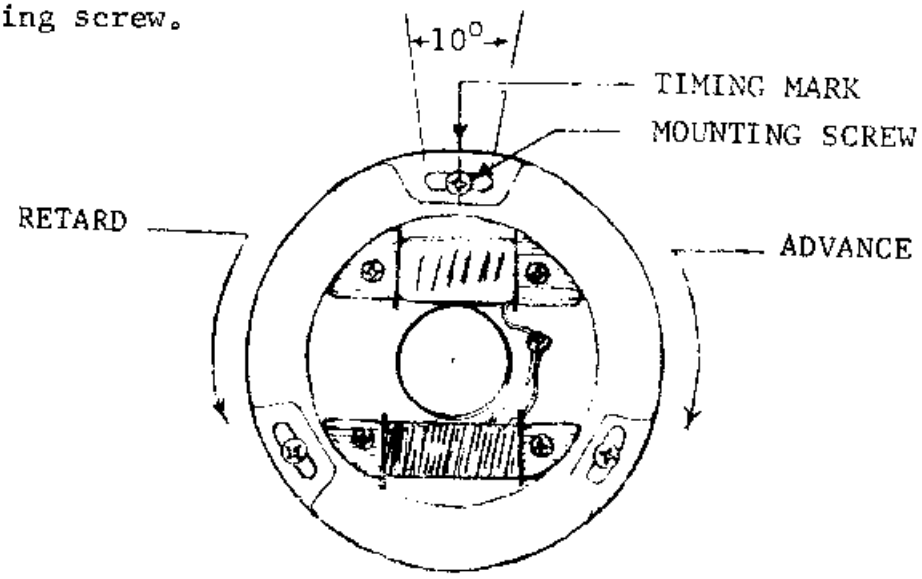
Bulletin No: General-7
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: CHECKING PEI IGNITION TIMING

Some Suzuki dealers have expressed confusion regarding the proper method of adjusting the ignition timing on models equipped with the new Pointless Electronic Ignition system. The timing setting is pre-set at the factory. As a precaution, this setting should be checked by the dealer during initial set-up of the unit. An electronic eng. tach. Part #09900-26001 is available from the Parts Dept. The timing setting is correct when the timing mark stamped on the Stator Plate is aligned with the center of the top mounting screw.



The adjustment slots in the Stator Plate allow for 10 degrees movement overall.

Thus, moving the Stator Plate clockwise will advance ignition timing. Moving the Stator Plate counter-clockwise will retard ignition timing.

NOTE: Positioning of the timing mark on the Stator Plate may vary from unit to unit. Thus, some marks may be off center in the slot. Regardless of this, proper timing is still attained by aligning the mark with the mounting screw.

Automatic advance of ignition timing is built into the circuitry of the PEI "black box". Therefore, any adjustment at the Stator Plate will affect timing throughout the RPM range. The timing specifications given for each bike, such as the TS185R....16° @ 1000 RPM, 24° @ 6000 RPM, refer to timing light settings which indicate whether the black box automatic advance circuitry is functioning properly.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-8
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: ADJUSTING HORNS

PROBLEM: The horn won't operate.

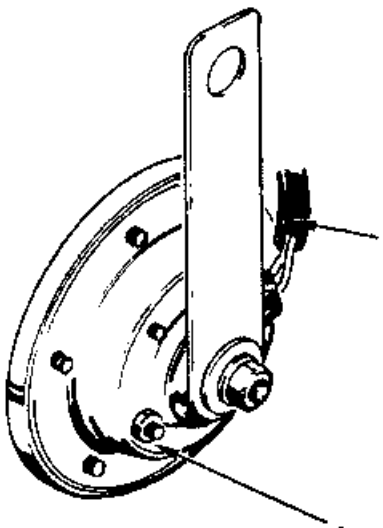
CAUSES:

A. On all units, the horn is battery-operated. Make sure the battery is fully charged.

B. Check the horn button by disconnecting the green wire at the horn and grounding it. The horn should honk. NOTE: Turn the main switch on.

C. The horn is out of adjustment.

CORRECTION: To adjust the horn, turn the small nut on the back or front with a 6 or 8mm wrench. Push the horn buttom while adjusting for greatest volume.



NOTE: Turn the nut clockwise to narrow the vibrating point gap. Turn the nut counterclockwise to widen the vibrating point gap.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-9
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: CARBURETOR MAIN JET TYPES

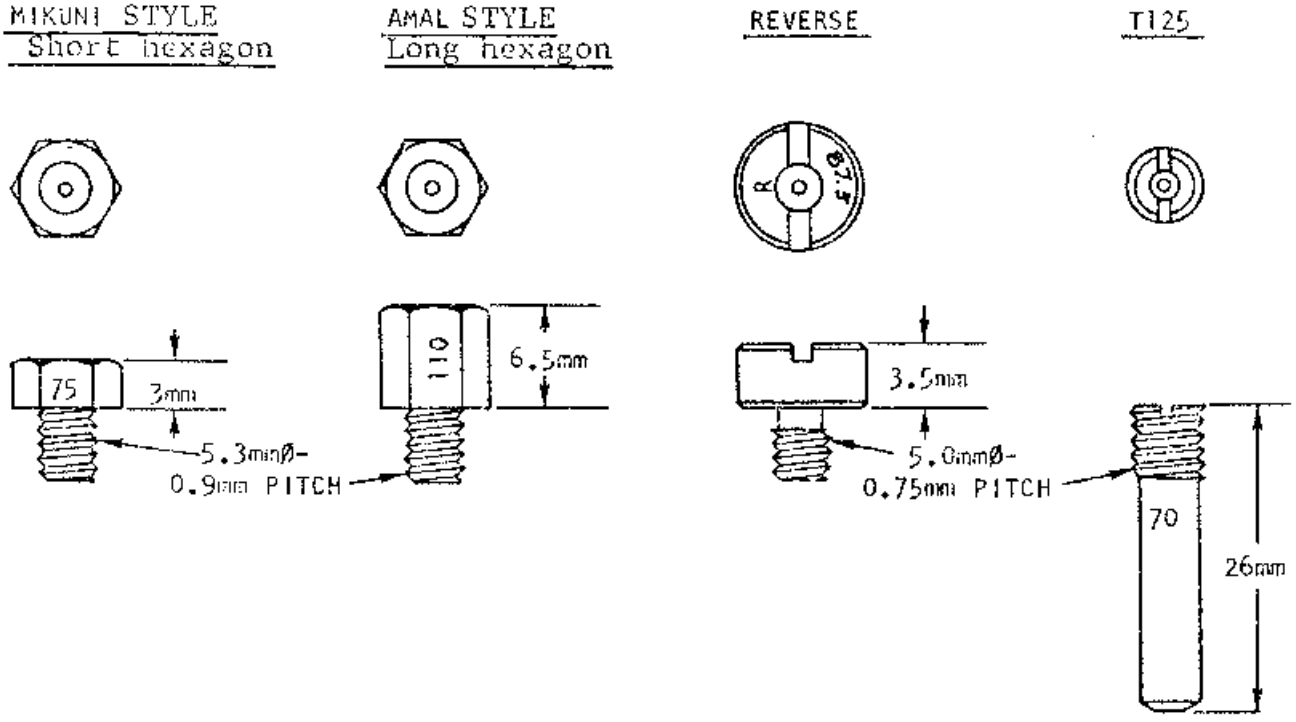
Suzuki carburetors use four different main jet types. The shape, thread, and metering characteristics of the main jet depend on which type it is.

1. The MIKUNI main jet is the short hex type. The number stamped on it indicates the number of cc's which will flow through it from the hex end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Because the direction of flow in calibration is the same as when the jet is installed in the carburetor, the actual flow rate is directly proportional to the main jet marking.

2. The AMAL main jet is the long hex type. The number stamped on it indicates the number of cc's which will flow through it from the threaded end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Since the direction of flow in calibration is opposite to the flow when installed in the carburetor, the actual flow rate does not correspond with the main jet marking.

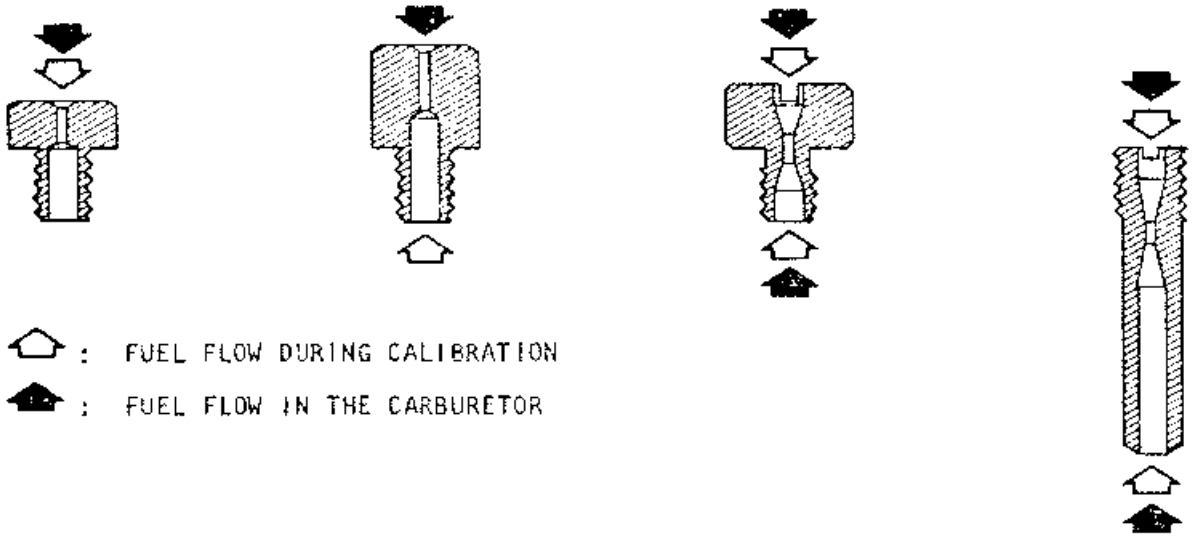
3. The REVERSE main jet has a round head. It is called "reverse" because the metering and flow characteristics are the same in either direction. Therefore, this type permits much more flexibility in the design of a carburetor because the flow rate will be the same whether the fuel is entering from the threaded end or the slotted end.

4. The T125 main jet is similar to the reverse type, but incorporates an integral tube because it is used in the downdraft carburetors.



(cont.)

MIKUNI AMAL REVERSE T125



: FUEL FLOW DURING CALIBRATION

: FUEL FLOW IN THE CARBURETOR

MIKUNI MAIN JET

SIZE	PART NUMBER
#65	09491-65001
#70	-70001
#75	-75001
#80	-80001
#85	-85001
#90	-90001
#95	-95001
#100	-20001
#105	-21002
#110	-22001
#115	-23005
#120	-24001
#130	-26002
#140	-28001
#150	-30001
#160	-32001
#170	-34001
#180	-36002
#190	-38001
#200	-40005

REVERSE MAIN JET

SIZE	PART NUMBER
#62.5	09491-62002
#65	-65003
#67.5	-67001
#70	-70005
#72.5	-72005
#75	-75005
#77.5	-77001
#80	-80005
#82.5	-82002
#85	-85004
#87.5	-87001
#90	-90003
#92.5	-92001
#95	-95003
#97.5	-97001
#100	-20003
#102.5	-20004
#105	-21003
#107.5	-21006
#110	-22004

(cont.)

REVERSE MAIN JET CONT.

SIZE	PART NUMBER
#112.5	09491-22005
#115	-23002
#125	-25001
#127.5	-25003
#130	-26004
#132.5	-26005
#135	-27002
#140	-28005
#142.5	-28006
#145	-29001
#147.5	-28004
#150	-30004

T125 MAIN JET

SIZE	PART NUMBER
#70	09491-70007
#72.5	-72007
#75	-75007

AMAL MAIN JET

SIZE	PART NUMBER
#55	09491-55002
#60	-60002
#65	-65002
#70	-70002
#75	-75002
#80	-80003
#85	-85002
#90	-90002
#95	-95002
#100	-20002
#110	-22003
#115	-23008
#120	-24002
#125	-25004
#130	-26003
#140	-28002
#145	-29002
#150	-30003

AMAL MAIN JET CONT.

SIZE	PART NUMBER
#160	09491-32002
#170	-34002
#180	-36003
#190	N/A
#200	N/A
#210	-42001
#220	-44001
#230	-46001
#240	-48001
#250	-50003
#260	-52001
#270	-54001
#280	-56001
#290	-58001
#300	-60003
#310	-62001
#320	-64001
#330	-66001
#340	-68001
#350	-70001
#360	-72001
#370	-74001
#380	-76001
#390	-78001
#400	-80004
#410	-82001
#420	-84001
#430	-86001
#440	-88001
#450	-90005
#460	-92002
#470	-94001
#480	-96001
#490	-98001
#500	-10001
#530	-16001

Suzuki Technical Bulletins 10 – 18

APRIL 6, 2023
CATEGORIES: TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

10. Automatic Petcock Misuse
11. Cleaning Carburetors
12.Oil Pump Lever Sticking
13. Oil Tank Cap Vent
14. Oil tank Breather Obstruction
15. Clutch rattle on Twin Cylinder Models
16. Suzuki Liquid Gasket No.4
17. Wheel Alignment
18. Cold Weather Storage

SUZUKI
2-Stroke
Service Bulletin

Subject: AUTOMATIC PETCOCK MISUSE

Bulletin No: GENERAL-10
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

PROBLEM:

Motorcycle seems to be locked up after being parked overnight. When kickstarting or pushing is tried, the engine will not turn over. Extreme Case: If engine is forced in this condition, a bent connecting rod, expelled crank seals, or broken piston skirt results.

CAUSE:

The automatic petcock was left in the PRIME position when the motorcycle was parked. This allows fuel to flow into the carburetors when the engine is not running. If the float valve is not perfectly seated, the fuel will then flow into the engine crankcase. This liquid fuel fills the crank chamber. When the owner tries to start the motorcycle, the piston cannot compress this "solid" fluid. This is termed a hydrastatic lock condition.

CORRECTION:

1. Warn new owners to park the motorcycle in the MAIN (#1) or RESERVE (#2) positions.

2. If this condition is present, drain the excess gasoline using the crank chamber drain plugs.

3. Since this type of engine failure is caused by misuse, U. S. Suzuki will not honor any warranty claim for bent connecting rods on these models.

SUZUKI
2-Stroke
Service Bulletin

Subject: CLEANING CARBURETORS

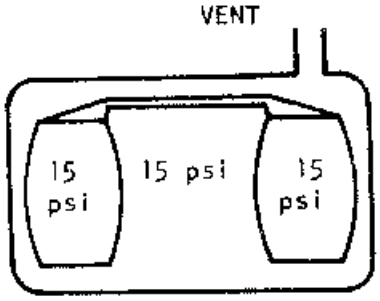
Bulletin No: GENERAL-11
Date: May 1, 1975

Read and Initial

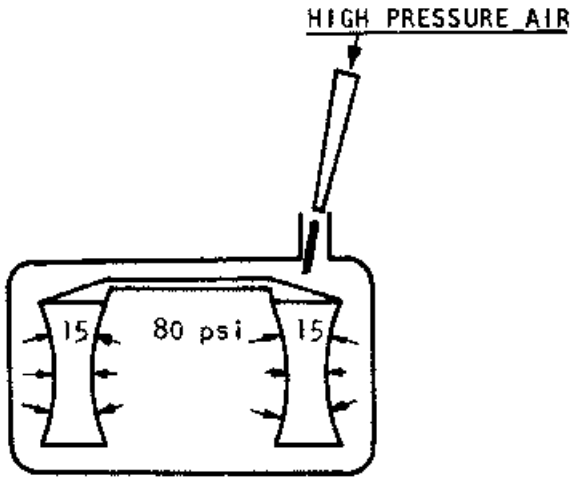
Manager
Parts
Service

PROBLEM: Motorcycle runs very rich at all throttle positions. Jets are standard and air filter is clean. In an extreme case, cylinder and piston will seize, because the lubricating oil has been washed off the cylinder wall by the raw gasoline.

CAUSE: One cause of this problem could be collapsed floats. If high pressure compressed air is used on an assembled carburetor, the float chamber is pressurized. This high pressure will collapse the floats and disrupt the standard fuel level.



FLOAT CHAMBER



COLLAPSED FLOATS

CORRECTION: Don't use compressed air to clean an assembled carburetor. Compressed air is only recommended for blowing out channels and jets in a carburetor that has been disassembled.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921 4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-12
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: OIL PUMP LEVER STICKING

PROBLEM:

We have received reports that the oil pump lever on some units sticks open in the first half of its range of movement while the engine is running and does not return to the idle position when the throttle is closed.

SYMPTOMS:

A. Spark plug fouling on all cylinders.

B. Engine runs rough at low engine speeds.

C. Engine will not idle correctly.

CAUSE:

These oil pumps are designed to eliminate O-ring seal leakage. The O-ring may cause the oil pump lever to stick when the motorcycle is new. With mileage, the problem will disappear.

CORRECTION:

If you have a motorcycle which has this problem -

A. Spray the oil pump shaft with penetrating oil or Dri-Slide. Normally, this will correct the sticking problem.

B. Install a front brake cable spring (cut to appropriate length) on the oil pump cable between the cable adjuster and lever. This spring can be removed after mileage has loosened the O-ring. Or you can loosen the nut holding the lever to the shaft and wrap the existing spring around the lever another 1/3 turn. Don't take the nut off altogether.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-13

Date: May 1, 1975

Read and Initial

Manager

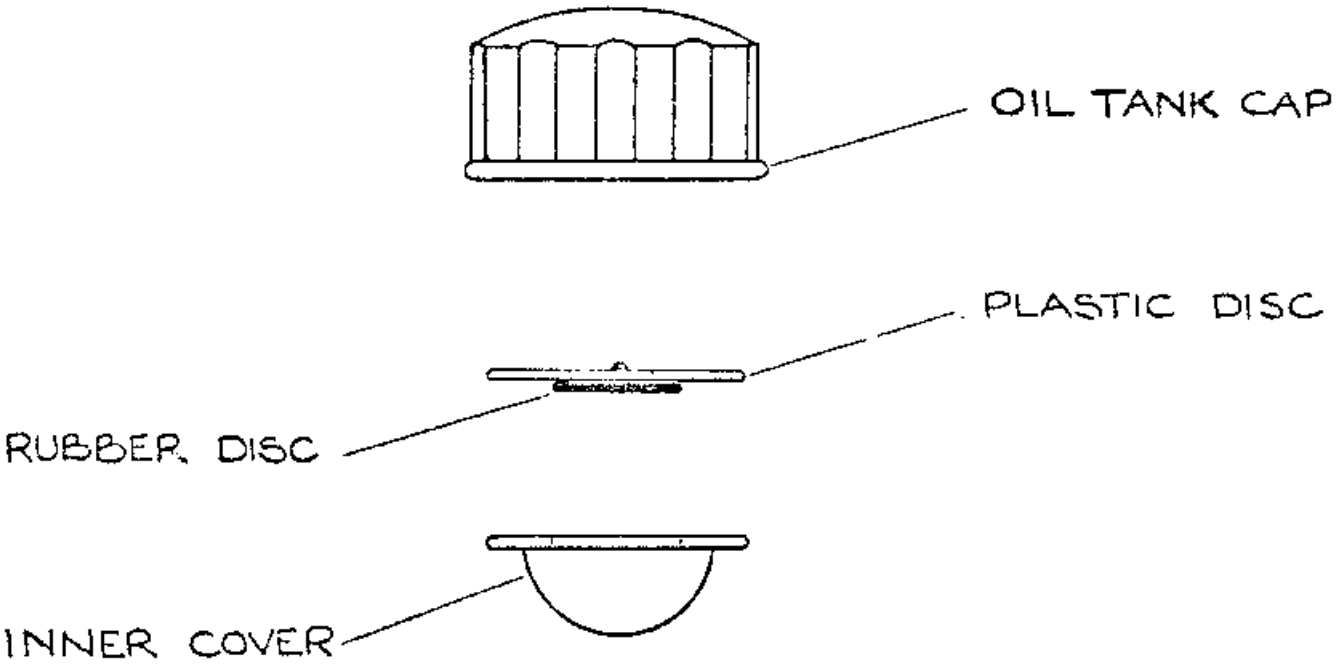
Parts

Service

Subject: OIL TANK CAP VENT

There is a possibility that certain units of earlier models may have the breather valve in the oil tank cap installed incorrectly by the owner.

As illustrated below the flat rubber disc should be on the tank, or lower side, of the white plastic breather plate.



CORRECT INSTALLATION

Please check the installation of this item on all applicable models that you may service. Obviously, failure to correct this problem could result in oil starvation and possible engine seizure.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-14
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: OIL TANK BREATHER OBSTRUCTION

There have been reported instances of engine damage, caused by oil starvation, due to a partial or total obstruction of the breather hole in the oil tank cap.

In each case it was found that the hole was covered by items such as: shop rags, rain gear, owner's manuals, etc, placed under the seat, and over the oil cap, by the individual owners.

Please caution your customers about this possibility since this is not a manufacturers defect and any necessary repairs would therefore not be covered under warranty.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-15
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

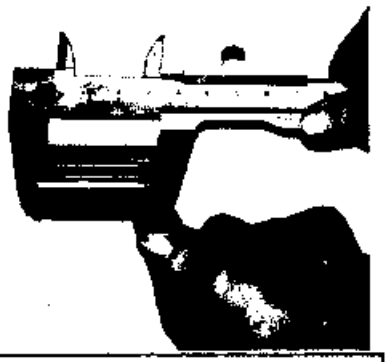
Subject: CLUTCH RATTLE ON TWIN CYLINDER MODELS

REFERENCE: Pg. 44, T20 Service Manual

PROBLEM: Distinct rattle in the right primary case when the engine is idling, clutch lever released transmission in neutral. Noise worsens as the engine warms up. Noise disappears when the clutch lever is pulled.

CAUSE: The usual cause of this problem is the clutch housing "walking" on the transmission countershaft. The housing has too much axial play because of normal wear on the thrust side of the clutch hub.

CORRECTION: Disassemble the clutch and measure the difference in length of the spacer and the thickness of the clutch housing. This difference is the amount of clearance that the clutch housing can slide back and forth on the shaft.



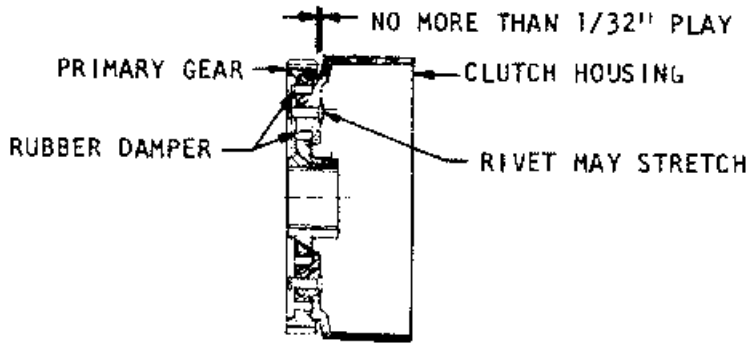
MODEL	AXIAL PLAY	
	MAXIMUM	MINIMUM
X6, TC250, T200, TC200, T250, T350, T305, TC305	.007 inch	.003 inch
S32	.008 inch	.004 inch
T10	.006 inch	.004 inch
T500	.007 inch	.002 inch

If the measurement is more than the maximum, rub one end of the clutch spacer on a honing stone until the difference is near the minimum above. Don't use a file or grinder. Don't overdo it, or the clutch will not release.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

OTHER CHECKPOINTS:

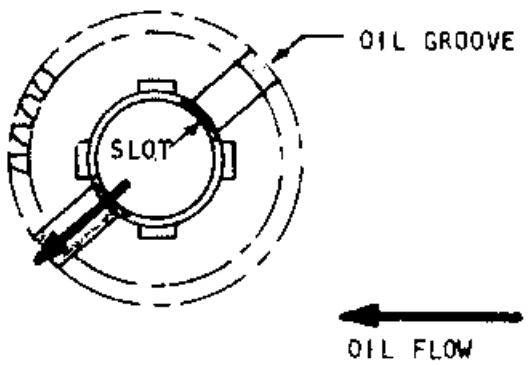
A. The clutch housing/primary gear is a riveted assembly. There are rubber dampers which cushion the drive shock between these two parts. If the rivets stretch or the dampers soften, the clutch housing will wobble and make the same noise. Try to separate the two parts with your hands.



There should be less than 1/32 inch play between the two parts. Don't try to tighten the rivets. Instead, replace the assembly.

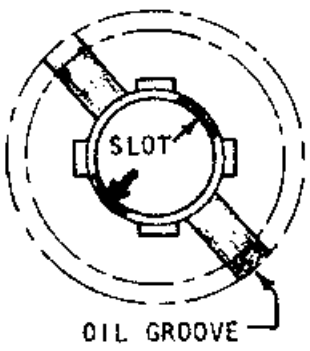
B. Check the clutch hub nut and the primary pinion nut for tightness. Use a torque wrench when tightening these critical nuts.

C. The X6, TC250, T200, TC200, T250, T305, TC305, T350,clutch housing is fitted with the kickstart drive gear on its backside. Be sure that the oil grooves in the gear are matched with the slots in the clutch bearing sleeve. Otherwise, the thrust face of the housing will prematurely wear due to lack of oil.



RIGHT

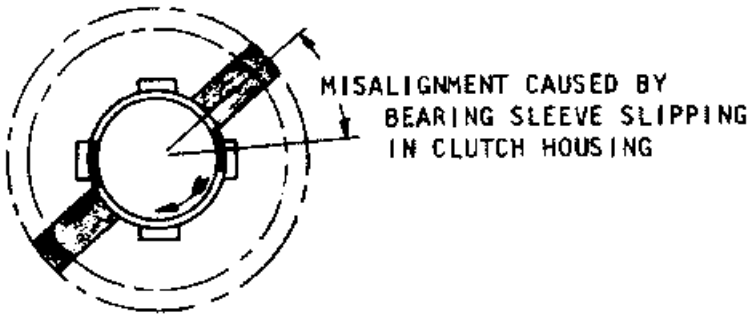
Slots Lined Up



WRONG

Gear Installed
90° off on Splines

(cont.)



WRONG

Bearing has seized on shaft, causing sleeve to slip in housing.

D. If the transmission oil level is too low, or if extreme heat is present in the clutch assembly, the clutch housing bearing will seize on the transmission driveshaft. The engine will stop suddenly, and the inertia of the rolling motorcycle will cause the clutch bearing sleeve, which is pressed into the housing, to spin in the housing. After it frees up, the clutch will work well. However, the thrust surface of the clutch housing will starve for oil and wear too quickly, again causing this "rattling" noise.

E. Another possible cause is transmission oil level too low. Or the transmission oil viscosity is incorrect. The correct type is a 20W-40 multigrade detergent.

SUZUKI
2-Stroke
Service Bulletin

Subject: SUZUKI LIQUID GASKET NO. 4

Bulletin No: GENERAL-16
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

INSTALLATION:

This improved liquid gasket should be used in place of standard "Suzuki Seal" when reassembling the crank halves on all Suzuki models. It is of particular importance on the GT750 model due to the additional possibility of coolant leakage into the transmission space.

For the best results, proceed as follows:

1. Thoroughly clean all old seal, oil, moisture or other foreign materials from crankcase mating surfaces.

2. Carefully apply a thin even layer of Suzuki liquid gasket No. 4 to upper crankcase half only.

3. Wait for at least 10 minutes for the seal to partially dry.

4. Assemble and torque crankcase halves.

5. Caution: Wait three hours before adding coolant, in case of GT750.

PARTS:

Suzuki Liquid Gasket No. 4, Part No. 99000-31030 is available from the U. S. Suzuki Parts Department.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-17
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: WHEEL ALIGNMENT

REFERENCE: T500 II Serv Manual Pg. 98-99

1. For high speed stability, the importance of correct wheel alignment cannot be stressed enough on all models and it is expecially important on the following because of their high speed capabilities: GT380, T500, GT550, and GT750 (Customers who own models equipped with a manual type steering dampener should be advised on its proper use).

2. A method of adjusting wheel alignment, using the special wheel alignment gauge (Part No. 09827-00001), is described in the T500 II Service Manual. This alignment operation is recommended if any of your customers should complain regarding high speed stability. Two other methods of checking wheel alignment are described on Pages 65 and 66 of the GT550 Service Manual.

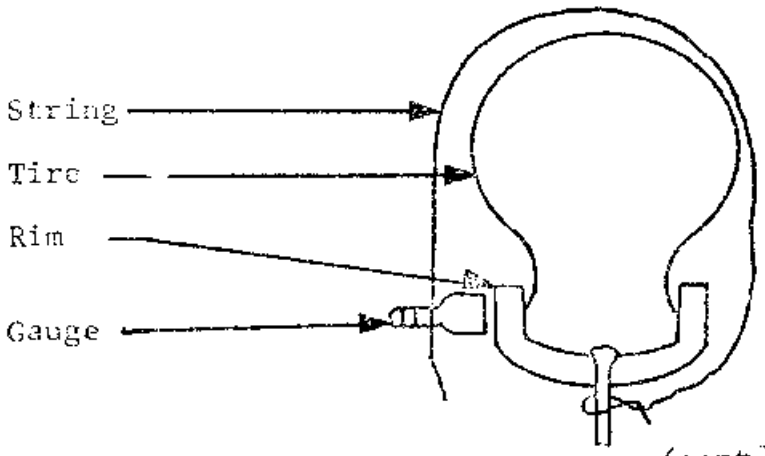
3. The alignment gauge mentioned previously is available now from the Parts Department, and four pieces are required when adjusting the wheel alignment.

ADDITIONAL HINTS:

1. The string should be placed as high as possible without any interference from the chassis.

2. The string should be held firmly and parallel to the front wheel.

3. Tie the string to a spoke or the inner tube valve as shown below.

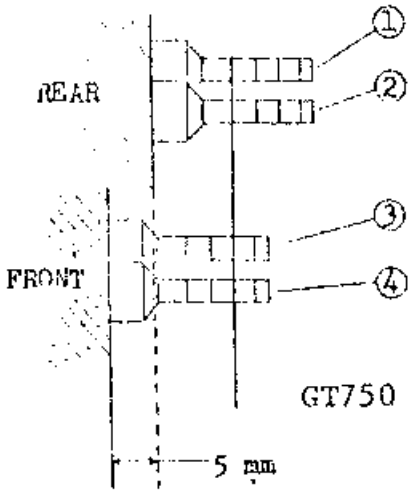


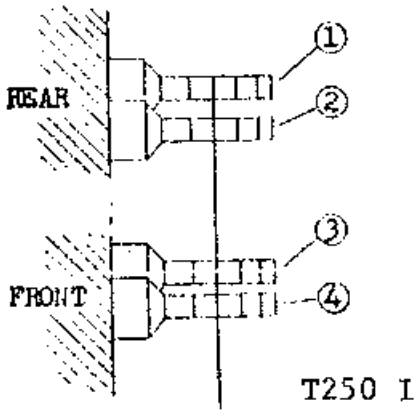
(cont.)

4. On the following models the front wheel is 10 mm smaller in width than the rear wheel.

T250R	T250J	GT550
GT250	T350	GT750
T500	GT380	

The width of the T250 I and T250 II front and rear wheels are the same. When uncertain of the width of the rims of a certain model, measure the difference between the front and rear wheels and apply half of the measurement to the alignment gauge measurement. Each measurement of the gauge is equal to 2.5 mm. For example: The difference between the front and rear wheels of a GT750 is 10 mm. Therefore, 5 mm should be applied to the alignment gauge and the string should cross the gauges as shown below if the wheels are properly aligned.





5. Instead of using string to align the gauges, a piece of elastic rubber band or thin piece of elastic material may be used. This is stretched across the tread of the rear wheel and the ends joined across the tread of the front wheel. Use of an elastic band will make the wheel alignment easier for one person to perform.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-18
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: COLD WEATHER STORAGE

1. We have noted a number of customer letters reporting damage to Suzuki motorcycle engines from disuse during the cold winter months. One common note is the statement: "I carefully stored the motorcycle in my heated garage for the entire winter. When I took it out in the spring, the crankshaft bearings, cylinder walls, and piston rings were corroded. Is this covered under warranty?"

2. The general inclination is to store the motorcycle in a warm shelter. Surprisingly, this is the worst place a bike could be stored for any length of time. The warm temperatures accelerate corrosion and condensation, the two major causes of engine damage in storage. It is preferable to keep the motorcycle in a cold shelter to arrest these two damaging processes.

3. There are four benefits a motorcycle dealer can anticipate when considering initiation of storage services:

   A. Added income through the relatively weak winter months. There is a small investment in manpower at the beginning and end of the storage process, but the major problem is acquirement of sufficient storage space.

   B. His customer will have a machine in optimum condition at the start of the riding season. Word-of-mouth advertising is valuable, and even better is the exposure of a Suzuki motorcycle running in top condition during the most enthusiastic buying period of the year.

   C. The dealer has the owner in his shop at the peak buying period of the year. He has had the customer's machine in his shop and has a definite idea of the machine's trade-in value. This is the time to propose trading up to the owner when he comes to pick up his machine. The customer is already sold on the Suzuki concept, and he is ripe for a more exciting, larger machine for the coming season.

   D. This will give your shop the opportunity to schedule repair, modifications, or installation of accessories on the stored machine. When the owner brings in his motorcycle, ask him if he would like any work performed on his machine while in storage. You should be able to estimate the repair at a reduced price, because this work will fill your service shop's dead time in the winter. It is also suggested that you help the owner pay for the job by offering monthly payments so that the machine will be paid off when spring arrives.

4. The suggested procedure for preparing motorcycles for storage is as follows:

MATERIALS

5:1 Mixture Gasoline/Oil
Commercial rust preventive (Aerosol)
10W oil
Kerosene and spraying apparatus

A. Fill the fuel tank with a 5:1 mixture of gasoline/oil. Run the engine until the exhaust turns white, indicating that the mixture has run through the carburetors. Push the cold-start lever and open the throttle to soak the engine with this rich oil mixture. Shut the engine off.

B. Turn the fuel off. Refill the fuel tank to prevent rust.

C. Use the drain plug on the carburetor to drain all the gasoline from the float bowl and fuel line. This prevents shellac from clogging the jets.

D. Remove the spark plugs and spray inside the cylinder with a commercial rust preventive. WD-40, Zip corrosion preventive, or other compounds are available at auto parts supply houses. Kick the engine over to coat the cylinder walls and piston rings. Replace the spark plugs.

E. Remove the battery and store in a cool area off of the floor. A wooden shelf is the best place. If the battery will be stored at freezing temperatures, recharge once a month to keep the electrolyte from freezing. Otherwise, charge the battery every two months.

F. Drain the transmission completely and fill to overflowing with 10W oil.

G. Fill oil tank to the top with a good 2-cycle oil.

H. Spray the entire motorcycle with kerosene to arrest corrosion.

5. DURING STORAGE

Once a week, kick the engine over a few times to free the piston rings and keep the crank seals flexible. In humid, warm localities it is advisable to pull the spark plugs and spray the inside of the cylinder with rust preventive. Spin the rear wheel to move the transmission gears and keep them from "locking" due to corrosion.

(cont.)

RESTORATION

A. Drain the gas tank completely. Pull the petcock and check for sediment around the pipe inside the fuel tank and on top of the petcock. Replace the petcock, fill the fuel tank with clean gasoline, and turn the petcock on.

B. Install the new spark plugs.

C. Drain the transmission and refill with 20W-40 oil to proper level.

D. Charge the battery and install in frame.

E. Wash motorcycle with soap and water to remove kerosene. Lubricate the chain.

F. Test ride.

6. Be prepared for the spring rush with Suzuki touchup paint accessories, and the inevitable tune up items; contact points, condenser, spark plugs, air cleaner elements, tires, chains, and sprockets. DO NOT WAIT UNTIL THE SEASON STARTS! U. S. Suzuki's Parts Department is flooded every spring with rush orders for high volume items. Many orders are delayed because of the large volume of parts required. Anticipate your requirements. Your additional profits will reflect your wisdom.

7. A good dealer will maintain a customer mailing list. In some states, it is possible to obtain motor vehicle registration lists for a specific make of motorcycle. From this data, you can determine the potential for storage customers.

Suzuki Technical Bulletins 19 – 30

APRIL 6, 2023
CATEGORIES: TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

19. High Speed Steering Oscillation
20. Metric-American Conversions
21. Motorcycle Assembly and Pre-Delivery Reimbursement
22. Oil Tank Breather caps Except GT500
23. Recommended Fuel types
24. Gasket Sets
25. Bolt head Symbols
26. Suzuki CCI Super 2 Recommendations
27. Circlip Installation
28. Front Disk Grease Application
29. ————
30. Dealer Obligations for Pre-delivery

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-19
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

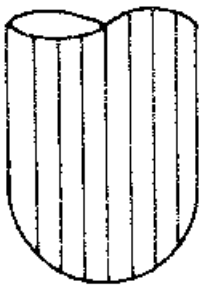
Subject: HIGH SPEED STEERING OSCILLATION

PROBLEM:

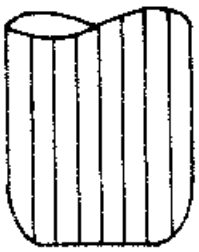
High speed steering oscillation.

CAUSE:

A. Rear Tire: The Suzuki's capable of high speed operation are equipped with wide tread tires to insure long tire life and excellent high speed cornering. The rear tire has a tendency to wear flat if the motorcycle is driven mostly at high speeds on relatively straight highways. Under these operating conditions, there is very little cornering. Therefore, the rear tire tends to wear flat with definite corners where the tread meets the pavement.



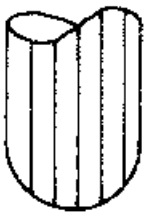
EVEN WEAR



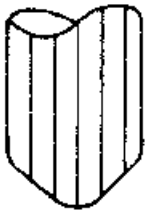
CENTER TREAD WEAR

If the tire is overinflated, tire wear will be confined to the center tread, causing the same condition.

B. Front Tire: The front tire will cause steering wobble if wear has been confined primarily to the outer section of the tread from under-inflation.



EVEN WEAR

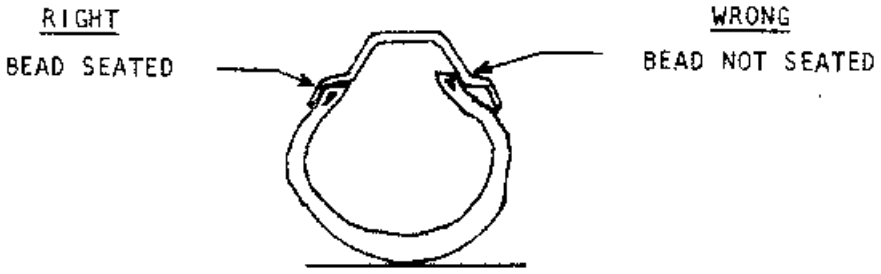


SIDEWALL WEAR

(cont.)

C. Wheel Alignment: If the frame is bent or the rear wheel is cocked in the frame, tire wear and handling will be affected.

D. Tire Fitting: If the tire bead is not completely seated on the wheel rim, an unstable condition allows the tire to "walk" on the rim.



CORRECTION: A. Replace worn tire.

B. Break the rear tire from the wheel rim. It should not be necessary to take the wheel off the motorcycle. Use plenty of rubber lubricant and inflate the tire with 60-70 psi pressure. Let all of the air out and reinflate the tire using 60-70 psi. Finally, deflate the tire to 24-27 psi.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-21

Date: Sept. 26, 1975

Read and Initial

Manager_____

Parts_____

Service_____

Subject: MOTORCYCLE ASSEMBLY AND PRE-DELIVERY REIMBURSEMENT

U. S. Suzuki Dealer Sales Bulletin #1-76 announces a policy, effective October 1, 1975, regarding reimbursement to Suzuki dealers for performing the assembly and pre-delivery service on Suzuki motorcycles invoiced to your dealership.

You are requested to carefully follow the procedures for assembly and pre-delivery set forth in your "Suzuki Assembly and Pre-Delivery Guide". We will continue to mail revisions, and new model additions as necessary. Please be sure your Manual is kept up to date as you receive such revisions and additions.

Attached is a motorcycle assembly and pre-delivery reimbursement schedule.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

MOTORCYCLE
ASSEMBLY AND PRE-DELIVERY
REIMBURSEMENT SCHEDULE

YEAR	MODEL	VALUE ($) EACH UNIT	YEAR	MODEL	VALUE ($) EACH UNIT
1976	RM250A	$15.00	1975	TC100M	$19.00
1976	RM370A	15.00	1975	TC125M	19.00
			1975	TC185M	19.00
1975	TM75M	12.00	1975	GT185M	25.00
1975	TM100M	12.00	1975	GT250M	25.00
1975	TM125M	12.00	1975	T500M	24.00
1975	TM250M	13.00	1975	GT380M	28.00
1975	TM400M	12.00	1975	GT550M	28.00
1975	RM125M	15.00	1975	GT750M	28.00
1975	RL250M	12.00	1975	RE5M	28.00
1975	RV90M	16.00			
1975	RV125M	18.00	1974	RL250L	12.00
1975	TS75M	18.00			
1975	TS100M	18.00			
1975	TS125M	18.00			
1975	TS185M	18.00			
1975	TS250M	19.00			
1975	TS400M	18.00			

SUZUKI
(2-Stroke)
Service Bulletin

Subject: OIL TANK BREATHER CAPS (EXCEPT GT500)

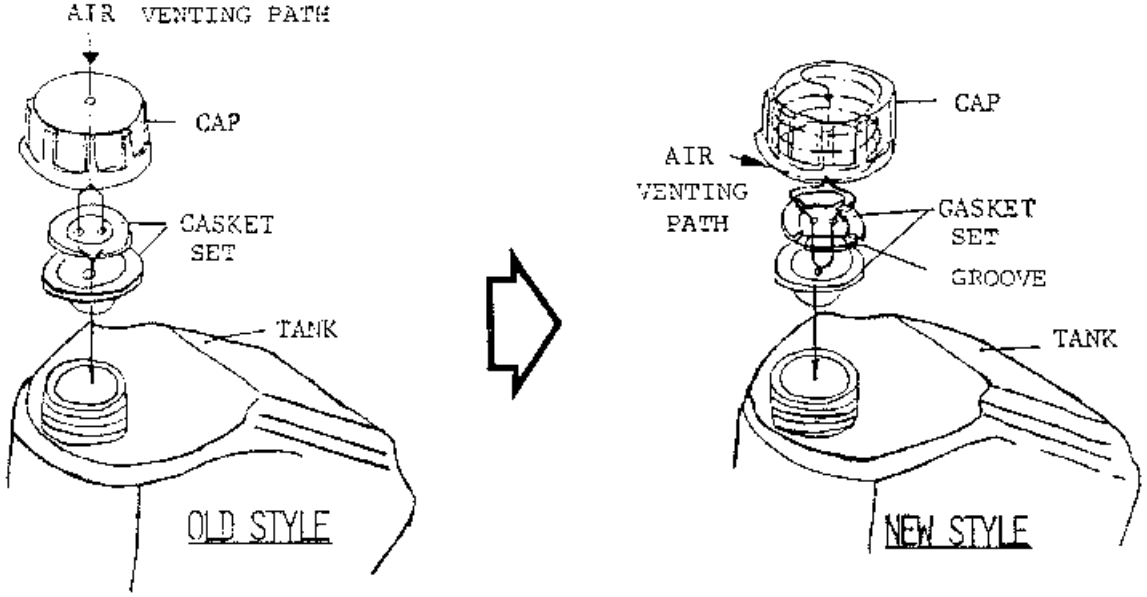
Bulletin No: General-22
Date: January 28, 1977

Read and Initial

Manager
Parts
Service

NOTICE: All 1977 "3" model motorcycles (except the GT500) have a new style oil tank cap installed. Previous to 1977, oil tank caps were vented through a single hole drilled in the top of the cap, and its gasket.

The new style oil tank cap uses a different method of ventilation. It is vented through a new style gasket, which has four grooves through which air passes from the oil tank up through a hole in the gasket and out four grooves in the face of the gasket and out four grooves in the face of the gasket. From there, the air travels around the threads of the cap and oil tank to the outside atmosphere.



This change will prevent any possibility of water entering the oil tank.

PARTS AND INTERCHANGEABILITY:

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
Cap	44651-05000	←——o——→	44651-05002
Gasket Set	44600-35821	←——x——→	44600-30830

Whenever replacing an old style cap with a new style, be certain to replace the old style gasket set with a new style set.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Subject RECOMMENDED FUEL TYPES

General-23
Bulletin No.
Date: March 18, 1977

Read and Initial

Manager
Parts
Service

NOTICE:

U.S. Suzuki's Technical Service Department has been receiving an increasing number of inquiries regarding the recommended type of fuel to be used in the different models Suzuki Motor Company manufactures. This information is usually contained in the Suzuki owner's manuals, however, listed below for quick reference are the different model series and their recommended fuel types.

GS SERIES - Unleaded or low lead fuel.

GT SERIES - Unleaded or low lead fuel.

TC/TS SERIES - Unleaded or low lead fuel.

RE5 - Unleaded or low lead fuel.

RV SERIES - Unleaded or low lead fuel.

RM & TM SERIES MOTORCYCLES (EXCLUDING TM75) - Premium fuel.

TM75 - Unleaded or low lead fuel.

PE - Premium fuel.

The above recommendations should be suggested to all customers whether they are new or old Suzuki owners. If the recommendations are followed, they will aid in the overall performance of Suzuki motorcycles.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
(2-Stroke)
Service Bulletin

Bulletin No: General-25
Date: June 24, 1977

Read and Initial

Manager_____
Parts_____
Service_____

Subject: BOLT HEAD SYMBOLS

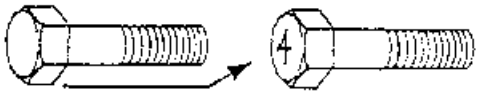
NOTICE:

In the past, hex head bolts used in Suzuki motorcycles were either an ordinary style bolt (plain head), or a special bolt ("S" head). The "S" symbol indicates that a special heat treatment had been applied to the bolt and its tensile strength is much higher than that of an ordinary bolt (plain hex head).

The "S" symbol is now being changed to a "7" symbol embossed on the top of the head. The ordinary strength bolt now has a "4" embossed on its head.

Listed below is a general guide for torque values by bolt size.

TORQUE SPECIFICATIONS

BOLT DIA. (MM)	ORDINARY STRENGTH BOLT 		HIGH STRENGTH BOLT	
	KG-CM	LB-FT	KG-CM	LB-FT
5	20- 30	1.4- 2.2	30- 50	2.2- 3.6
6	40- 60	2.9- 4.3	60- 90	4.3- 6.5
8	90-120	6.5- 8.7	150-200	10.8-14.5
10	200-250	14.5-18.1	300-370	21.7-26.8
12	350-400	25.3-29.0	500-650	36.2-47.0

The part number prefixs of the new style bolts are; "01000" series for the ordinary bolt, and "09000" series for the special bolt.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No: General 26
Date: May 19, 1978
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr. _____
Mechanics _____

SUZUKI CCI SUPER 2 RECOMMENDATIONS

CCI Super 2 is recommended for use in ALL Suzuki 2-stroke engines. It is important to note that this especially includes 1978 TS models manufactured under the emission control regulations which came into effect January 1, 1978.

With the advent of these regulations, lubricant selection for emission control 2-strokes must be considered very carefully. Three important reasons why lubricant selection is critical for emission control TS models are:

1. The carburetor jetting is leaner and the resulting heat factor demands more from the lubricant.

2. An unsatisfactory lubricant will leave excessive deposits on engine components.

3. Excessive deposits can adversely affect hydrocarbon and carbon monoxide emissions.

Suzuki has developed a high quality synthetic base lubricant, CCI Super 2, which performs at a wide range of temperatures, is clean burning, and assists in controlling emissions.

CCI Super 2 is also an excellent lubricant for Suzuki RM and PE models. When mixed to the recommended 20:1 fuel/lubricant ratio, Super 2 offers superior lubrication under all conditions and minimizes performance reducing deposits.

NOTE: Use of CCI Super 2 is strongly recommended in the Owner's Manual for Suzuki emission control TS model motorcycles.

The Owner's Manual for the RM 50C, 80C, 100C, 125C, 250C2, 400C; PE175C, 250C; and JR50C also advocate the use of CCI Super 2.

REMEMBER: CCI Super 2 will perform superbly in ALL Suzuki 2-stroke engines. This includes, but is not limited to:

DS, RV, RL, TM, TC, A, T, and GT Model Suzuki Motorcycles.

(continued)

ORDER INFORMATION

PART NUMBER	WAREHOUSE LOCATION	DEALER COST
99950-00001-CA	California	$20.75 per case
99950-00001-IL	Illinois	$20.75 per case
99950-00001-NJ	New Jersey	$20.75 per case
99950-00001-WA	Washington	$20.75 per case
99950-00001-TX	Texas	$20.75 per case
99950-00001-GA	Georgia	$20.75 per case

One case contains 24, 1 quart cans.

Stock is available in all warehouses.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin
CIRCLIP INSTALLATION

Bulletin No: General - 27
Date: June 28, 1978
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr. _____
Mechanics _____

Two types of circlips used on Suzuki motorcycles are machined circlips and stamped circlips. The machined circlips can be installed in either direction because both faces of the circlip are machined, creating two sharp edges. The stamped circlips require directional installation because a sharp edge and a rounded edge are formed during the manufacturing process.

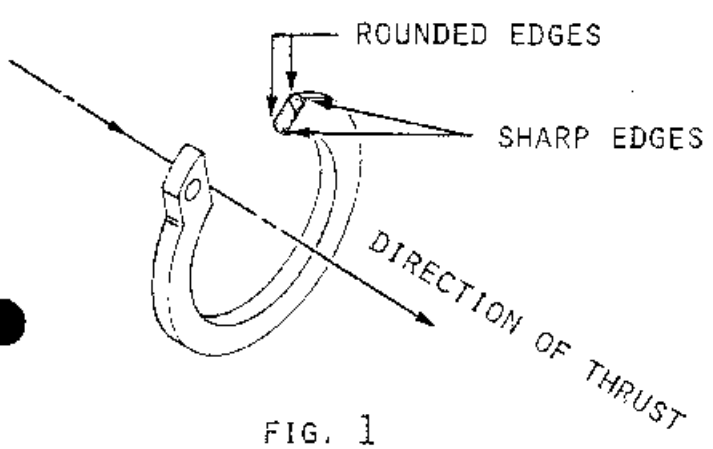


FIG. 1

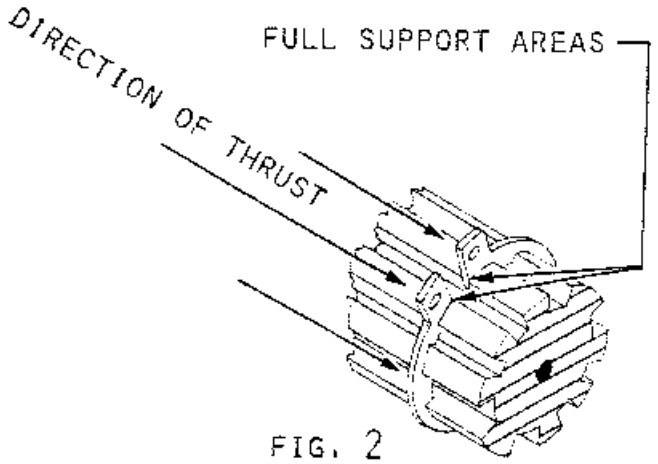


FIG. 2

Some important points on circlip installation are:

1. When installing the stamped circlips in a thrust situation (transmission shafts, fork tube caps, etc.) install the circlip in its groove with the sharp edge facing away from the part producing the thrust. (See figs. 1 and 2)

2. When installing circlips on splined shafts, have the open ends of the circlip supported by the circlip groove. (See fig. 2)

3. After the circlip is installed, double check to be sure that the circlip is completely seated in its groove.

If the above points are not followed, it is possible for the circlip to be pushed out of its groove which would cause damage that could have been prevented by having installed the circlip correctly.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT
U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California 90670 • (213) 921-4461

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No: General - 28
Date: July 14, 1978
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr. _____
Mechanics _____ _____ _____

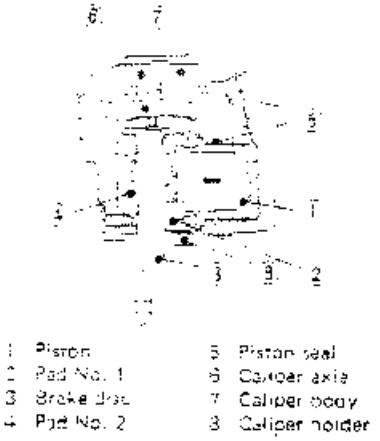
SUBJECT: FRONT DISC BRAKE GREASE APPLICATION

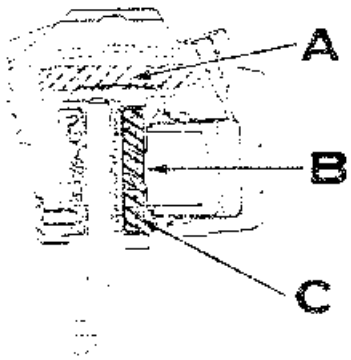
There are two types of heat-resistant greases supplied by U. S. Suzuki for use on disc brake calipers. One is a colorless silicon base grease and the other is a copper-colored PBC base grease. The application of these greases have had the following changes:

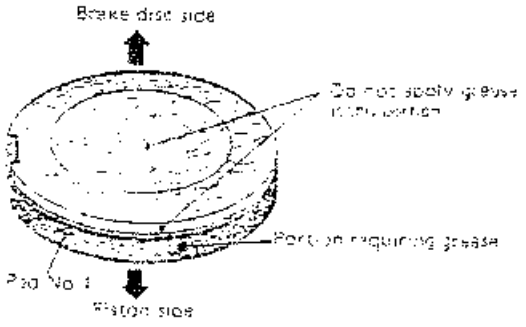
PRODUCTION LINE APPLICATION

SURFACE	BEFORE APRIL, '78	APRIL, '78-JAN, '79	AFTER JAN, '79
*A *B *C	PBC SILICON SILICON	PBC SILICON PBC	SILICON SILICON PBC

*A: CALIPER AXLE
*B: PAD NO. 1, BETWEEN PAD AND PISTON
*C: PAD NO. 1, CIRCUMFERENCE







SERVICING APPLICATION

Use the application listed above for "AFTER JAN, '79" when servicing disc brakes on Suzuki motorcycles of any year.

(continued)

SERVICING INFORMATION

The Caliper Axle Grease and the Brake Pad Grease are instrumental in providing proper caliper operation and preventing brake "squeal". Moderate application of the two greases is recommended. Insufficient or excessive grease application can cause the following:

Insufficient Grease

Area A: Brake drag can result from irregular movement of the caliper axle in the caliper holder.

Area B: Brake "squeal" can result from metal-on-metal contact. In this area, the grease acts as a "cushion" between the caliper piston and the brake pad.

Area C: Brake drag and squeal can result from irregular movement of the brake pad in the caliper holder.

Excessive Grease

Excessive grease in Areas A, B and C will cause the brake pad and disc to become contaminated with the grease. This contamination will result in reduced braking performance. The grease on the brake pads and disc will also pick up dirt and grit kicked up from the road surface. This will accelerate brake pad wear and cause scoring of the brake disc.

PARTS INFORMATION

As of May 1979, the names of the two greases have been switched so that they are in agreement with their current application. Please disregard grease container label information if it conflicts with the information contained in this Service Bulletin.

PART NUMBER	OLD NAME	BASE	NEW NAME
99000-25100	BRAKE PAD GREASE	SILICON	CALIPER AXLE GREASE
99000-25110	CALIPER AXLE GREASE	PBC	BRAKE PAD GREASE

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No.: GENERAL #30
Date: May 23, 1980
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr. _____
Mechanics _____

ALL MODELS

SUBJECT: SUZUKI DEALERS' ASSEMBLY & PRE-DELIVERY SERVICE OBLIGATIONS

IMPORTANT - REVISED

Proper assembly and servicing of new motorcycles is vitally important to ensure customer satisfaction and safety.

An error or oversight during assembly or service of a new motorcycle can result in faulty operation, damage to the machine, or even in injury to the rider.

For these reasons, it is mandatory that each and every new Suzuki motorcycle in your dealership be assembled and serviced in accordance with the instructions in the Suzuki Assembly and Pre-Delivery Service Guides, Assembly Bulletins, and Service Bulletins and that a Certification of Vehicle Pre-Delivery form be properly completed and put in your files BEFORE any new Suzuki motorcycle is displayed for sale. This includes RM and PE models.

These procedures are designed to protect you against product liability claims and ensures each Suzuki customer of a safe, reliable, properly operating motorcycle. You cannot safely assume that uncompleted or improperly completed set-up work will be corrected when a motorcycle is sold. Work initially omitted, tends to be omitted upon delivery to a retail customer.

Proper assembly, pre-delivery servicing and completion of the pre-delivery form is so important that Suzuki policy requires your compliance in these matters. Warranty consideration can be denied on a set-up related failure for which a Certification of Vehicle Pre-Delivery form has not been completed and filed. Your set-up obligations are the same for motorcycles prepared by a set-up company.

This form can be used as a service sales tool and can prevent customer "come-backs." The customer and dealer signatures, as well as proper explanation of each item on the form, are extremely important. The form shows completeness of motorcycle preparation and can serve as a means of identifying errors and dealing with, or even preventing, customer complaints.

The attached Certification of Vehicle Pre-Delivery form is designed for general application to all models. Refer to the assembly guide and service bulletins for detailed information for each individual model.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California 90670 • (213) 921-4461

NOTE: With the exception of battery, fuel, oil, and tool kit, no item shown on the Certification of Vehicle Pre-Delivery may be deferred.

All batteries should be serviced and charged according to the manufacturer's instructions and installed at the time of sale.

Adherance to these requirements will help ensure customer satisfaction and safety.

TECHNICAL SERVICE DEPARTMENT
U. S. SUZUKI MOTOR CORPORATION

(TM)

Suzuki Technical Bulletins 30 revised – 33

APRIL 6, 2023
CATEGORIES: TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

30. Revised – Dealer Obligations for Pre-delivery

31. ————————-

32. New Sealant Suzuki Bond 1201

33. Disk brake Grease Application

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No.: GENERAL #30
Date: May 23, 1980
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr _____
Mechanics _____

ALL MODELS

SUBJECT: SUZUKI DEALERS' ASSEMBLY & PRE-DELIVERY SERVICE OBLIGATIONS

IMPORTANT - REVISED

Proper assembly and servicing of new motorcycles is vitally important to ensure customer satisfaction and safety.

An error or oversight during assembly or service of a new motorcycle can result in faulty operation, damage to the machine, or even in injury to the rider.

For these reasons, it is mandatory that each and every new Suzuki motorcycle in your dealership be assembled and serviced in accordance with the instructions in the Suzuki Assembly and Pre-Delivery Service Guides, Assembly Bulletins, and Service Bulletins and that a Certification of Vehicle Pre-Delivery form be properly completed and put in your files BEFORE any new Suzuki motorcycle is displayed for sale. This includes RM and PE models.

These procedures are designed to protect you against product liability claims and ensures each Suzuki customer of a safe, reliable, properly operating motorcycle. You cannot safely assume that uncompleted or improperly completed set-up work will be corrected when a motorcycle is sold. Work initially omitted, tends to be omitted upon delivery to a retail customer.

Proper assembly, pre-delivery servicing and completion of the pre-delivery form is so important that Suzuki policy requires your compliance in these matters. Warranty consideration can be denied on a set-up related failure for which a Certification of Vehicle Pre-Delivery form has not been completed and filed. Your set-up obligations are the same for motorcycles prepared by a set-up company.

This form can be used as a service sales tool and can prevent customer "come-backs." The customer and dealer signatures, as well as proper explanation of each item on the form, are extremely important. The form shows completeness of motorcycle preparation and can serve as a means of identifying errors and dealing with, or even preventing, customer complaints.

The attached Certification of Vehicle Pre-Delivery form is designed for general application to all models. Refer to the assembly guide and service bulletins for detailed information for each individual model.

NOTE: With the exception of battery, fuel, oil, and tool kit, no item shown on the Certification of Vehicle Pre-Delivery may be deferred.

All batteries should be serviced and charged according to the manufacturer's instructions and installed at the time of sale.

Adherance to these requirements will help ensure customer satisfaction and safety.

TECHNICAL SERVICE DEPARTMENT
U. S. SUZUKI MOTOR CORPORATION

T.M

Certification Of Vehicle Pre-Delivery

NEW AND USED MOTORCYCLES

SUZUKI

YEAR _____ FRAME NO _____ KEY NUMBER _____

MODEL _____ ENGINE NO _____ MILEAGE _____

ENGINE AND TRANSMISSION

- *☐ Injection Oil Level Fill/Check Vent
- *☐ Transmission Oil Level Drain/Refill
- *☐ Engine Sump Oil Level Drain/Refill
- *☐ Secondary Drive Gearbox Oil Level Drain/Refill
- *☐ Final Drive Oil Level Drain/Refill
- *☐ Injector Oil Pump Prime/Adjust
- *☐ Fuel/Oil Premix Ratio Oil Type
- ☐ Gas Tank Drain/Refill
- ☐ Spark Plug Type/Gap/Torque
- *☐ Points Clean/Adjust
- ☐ Ignition Timing Check/Adjust
- ☐ Ignition Timing Advance/Retard
- ☐ Carburetor Cable(s) Check/Adjust
- *☐ Choke Cable(s) Check/Adjust
- *☐ Carburetor Idle Mixture Check/Adjust (Pre-Emission Controlled Models Only)
- *☐ Compression Release Check/Adjust
- ☐ Idle RPM Check/Adjust

CHASSIS

- ☐ Clutch Cable Check/Adjust
- *☐ Disc Brake(s) Clean/Bleed
- ☐ Brake(s) Front/Rear Adjust
- ☐ Tire Pressure Check/Adjust
- *☐ Spokes Check/Adjust
- *☐ Drive Chain Lubricate/Adjust
- ☐ Lubrication All Necessary Points
- *☐ Battery Open Vent/Fill/Charge Vent Tube Location & Attachment
- ☐ Wiring and Cable Routing/Retainers
- ☐ Wiring Connectors Clean/Tight
- *☐ Front Fork Air Pressure/Spring Preload Damping Position
- *☐ Shocks Spring Preload/ Damping Position
- ☐ Tighten All Nuts and Bolts (Torque those listed in pre-delivery manual)
- ☐ Cotter Pins, Fasteners Check
- ☐ Wash & Polish

INSPECTIONS

- *☐ Coolant Level
- *☐ Brake Fluid Level Front/Rear
- ☐ Paint & Chrome
- ☐ Upholstery
- ☐ Electrical System
- *☐ Tail and Stop Light Front/Rear
- *☐ Turn Signals and Indicator Light (Buzzer, Auto Canceller)
- *☐ Headlight High/Low Beam Adjust
- *☐ Instrument Lights
- *☐ Gear Position Indicator
- *☐ Oil Pressure Light
- *☐ Check Panel
- *☐ High Beam Indicator Light
- *☐ Neutral Light
- *☐ Horn(s)
- *☐ Starter
- *☐ Starter Clutch Safety Switch
- *☐ Fuel Gauge Operation
- ☐ Engine Stop Switch Operation

ROAD TEST INSPECTION

- ☐ Engine Starting/Acceleration/Smoothness/Noise
- ☐ Transmission Operation/Noise
- *☐ Driveline/Driveshaft Operation/Noise
- ☐ Clutch Operation/Noise
- ☐ Brake Operation Front/Rear Operation/Noise
- ☐ Steering Stability/Tracking/Bearing Smoothness
- ☐ Suspension Operation Front/Rear
- ☐ Control Cables Operation/Proper Return
- ☐ Leakage Fuel/Oil/Exhaust
- *☐ Speedometer and Odometer Operation
- *☐ Temperature Gauge Operation
- *☐ Turn Signal Buzzer/Auto Canceller

CUSTOMER DELIVERY

- *☐ Owners Manual Explanation/Periodic Maintenance Responsibilities Pre-ride Inspection
- *☐ Warranty Policy Explanation/Limits/Requirements
- *☐ Emission System Warranty Policy Explanation/Limits
- ☐ Fuse Spares/Location of Fuse Block
- ☐ Tool Kit Location *Air Fork Pressure Gauge
- *☐ Mirrors Install/Position
- ☐ Controls Location/Function/Adjust to Rider
- ☐ Road Test
- ☐ Visual Inspection
- *☐ Keys
- ☐ Sales Registration Card
- *☐ Temporary Warranty Card or Imprint on Warranty Policy

I certify that pre-delivery inspection and service have been performed on this vehicle in accordance with the instructions issued by U.S. Suzuki Motor Corporation, detailed in the Assembly and Pre-Delivery Service Guide and Emission Control Program Manual.

☐ I have reviewed and understand the Suzuki warranty policy (ies). I have visually inspected the motorcycle and it meets with my satisfaction.

☐ I have road tested the motorcycle and it meets with my satisfaction.

☐ I choose not to test ride the motorcycle before accepting delivery.

_____ DEALERSHIP NAME

_____ DEALER NUMBER

_____ SERVICED BY _____ DATE 19____

_____ SELLING DEALER'S SIGNATURE

_____ CUSTOMER NAME

_____ ADDRESS

_____ CUSTOMER SIGNATURE _____ DATE 19____

_____ COMMENTS

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No.: GEN #32
Date: 4/3/80

Read and Initial
Manager .....
Parts Mgr. .....
Service Mgr. .....
Mechanics .....

MODEL: ALL MODELS

SUBJECT: NEW SEALANT, SUZUKI BOND NO. 1201

This bulletin is to notify your service and parts personnel of a new, improved sealant.

The new sealant is of the silicone type and is highly resistant to extreme heat and cold, thus providing a superior sealing capability over a wide range of temperature (-60° to +260° C).

PARTS INFORMATION:

The new sealant is Suzuki Bond #1201, P/N #99104-31100. This new sealant replaces Suzuki Bond #4, P/N #99000-31030, which is no longer available.

If your dealership currently has Suzuki Bond #4 on order, you will be shipped Suzuki Bond #1201 automatically. The cost of Suzuki Bond #1201 is $7.28 dealer net per 100 gram tube.

NOTE: This is the same size tube as Suzuki Bond #4.

APPLICATION:

Suzuki Bond #1201 can be used in applications where Suzuki Bond #4 was formerly used, i.e., crankcase mating surface of all models except SP/DR370/400, which are painted black and utilize Suzuki Bond #1211 as a sealant. Suzuki Bond #1201 should be used on [illegible]400 engines which are not painted.

When using Bond #1201, thoroughly clean all mating surfaces being sure they are free of all moisture, grease, etc. and apply an even coat of the sealant. Curing time is approximately 10 minutes after contact with the air.

Please notify your service and parts personnel of this new sealant.

TECHNICAL SERVICE DEPARTMENT
U. S. SUZUKI MOTOR CORPORATION

T.M.

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No.: GEN-33
Date: 5-1-81
Read and Initial
Manager
Parts Mgr.
Service Mgr.
Mechanics

SUBJECT: DISC BRAKE GREASE APPLICATION

Since the original introduction of the two types of Suzuki disc brake grease, there has been a change in their names and the recommended application. Both types of grease are totally different, and each should be utilized as specified in this bulletin.

Listed below are the two types of disc brake grease and their recommended application.

PARTS INFORMATION:

DESCRIPTION	PART NUMBER
Suzuki Silicone Grease	99000-25100
Suzuki P. B. C. Grease	99000-25110

1. Suzuki Silicone Grease: (P/N 99000-25100) For use on the disc brake caliper axles to maintain free and smooth movement of the caliper.

2. Suzuki P. B. C. Grease: (P/N 99000-25110) For use on the back of the disc brake pads to insulate the brake pad from the caliper piston. This grease helps to eliminate the squealing noise sometimes associated with disc brakes.

   NOTE: This grease application pertains to the round brake pads only. The rectangular pads found on the rear disc brakes of GS motorcycles DO NOT require the use of this grease.

Please insure that your service and parts personnel are familiar with this information.

TECHNICAL SERVICE DEPARTMENT
U. S. SUZUKI MOTOR CORPORATION

Suzuki T Model Technical Bulletins

APRIL 6, 2023
CATEGORIES: T500, GT500, TECHNICAL, T305, T250, T350, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

1. **T500- Transmission Repair**
2. **T250/305/350 – Drive shaft/top gear**
3. **T500 – Increased transmission oil capacity** (ie. the infamous gearbox oil issue – long kept under wraps)
4. **T500 – Swingarm pivot shaft**
5. **T/GT500 – Shift cam guide bolt location**

TWO STROKE

SUZUKI

2-Stroke

Service Bulletin Index

T

NO.	MODEL	SUBJECT
1	T500	TRANSMISSION REPAIR
2	T250/305/350	DRIVE SHAFT/TOP GEAR
3	T500	INCREASED TRANSMISSION OIL CAPACITY
4	T500	SWING ARM PIVOT SHAFT
5	T/GT500	SHIFT CAM GUIDE BOLT LOCATION
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

T

NO.	MODEL	SUBJECT
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		

SUZUKI
2-Stroke
Service Bulletin

Subject: T500 TRANSMISSION REPAIR

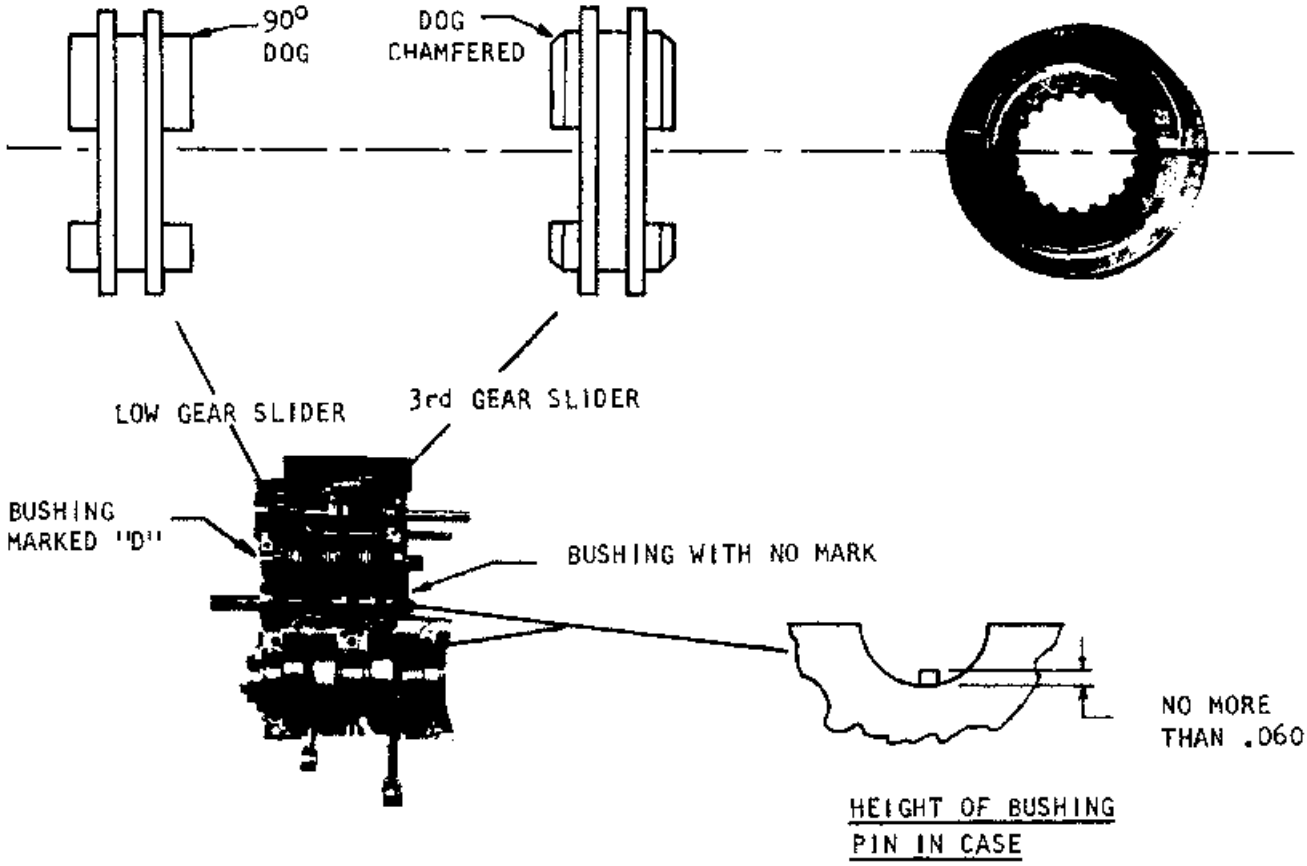
Bulletin No: T-1
Date: May 1, 1975

Read and Initial

Manager
Parts
Service Mgr

We would like to caution our service mechanics of the following problem areas when reassembling T500 transmissions:

A. Do not interchange low gear slider wheel with 3rd gear slider wheel. If the transmission is assembled this way, the bike will jump out of first gear under any load. The difference between the two wheels is shown below:



HEIGHT OF BUSHING PIN IN CASE

B. Do not switch the small needle bearing bushings on the ends of the transmission shafts. One is marked with a "D", this should be installed on the driveshaft (shaft with sprocket). The height of the two bushing pins in the case should not be more than 1.5mm (.060"). File off any excess height.

T500 Transmission Repair

C. Be absolutely sure that all bushings and bearings are properly located over the pins in the lower crankcase. We have had ruined crankcases from failure to follow this simple step. This is not a factory defect and we expect the servicing dealer to bear the expense of repair for this type of damage.

D. Use new snap rings when assembling gear locating rings to transmission shaft.

E. Locate the gap in the snap ring away from the notches in the gear. This keeps the snap ring from popping loose if the tabs move over. Be sure that the ends of the snap rings do not butt. If they do, cut off until there is at least a 1/16" gap.

RIGHT
RING GAP CENTERED
BETWEEN GEAR NOTCHES

WRONG
GEAR LOCATING RING
TABS CAN POP OUT

F. In event of transmission problems, inspect:

1. Pin in shift forks which rides in shift cam for galling. Remember that a little wear is inevitable.
2. Shift cam grooves.
3. Shift cam ratchet stop plate in right case for damage from hard shifting.
4. Shift ratchet pawls and springs for wear or weak tension.
5. Engagement of dogs and slots for wear or "rounding - off."
6. Bent shift fork rod.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-2
Date: May 1, 1975

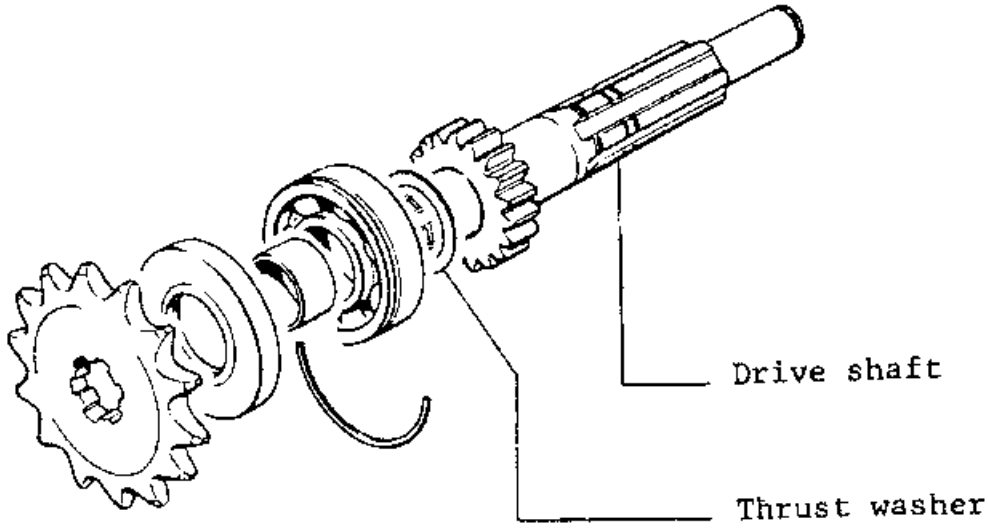
Read and Initial

Manager
Parts
Service

Subject: T250, T305, T350 DRIVE SHAFT/TOP GEAR

NOTICE:

Top gear, driven, on the subject models has been increased in thickness and strength.



INTERCHANGEABILITY:

When using the new style driveshaft #24131-18002 with old style crankcases, the thrust washer #08211-22341 must be eliminated.

In the event that new cases are fitted and the old driveshaft re-used, washer #08211-22341 must be retained.

PARTS:

PART DESCRIPTION	OLD PART NO.	NEW PART NO.	QTY
Drive shaft	24131-18001	24131-18002	1
Thrust washer	08211-22341		1

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-3
Date: May 1, 1975

Read and Initial

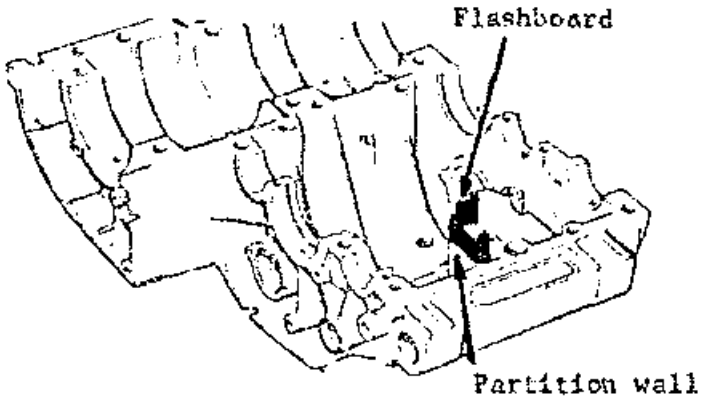
Manager_____
Parts_____
Service_____

Subject: T500 INCREASED TRANSMISSION OIL CAPACITY

To effectively increase the durability of the T500 4th and 5th gears, the transmission oil capacity has been increased from 1200cc to 1400cc. The increased oil capacity has been applied to the T500 since the beginning of the 1974 "L" model production.

A rubber flashboard applied to the primary oil transfer chamber in the lower crankcase half is used to accommodate the increased oil capacity. The flashboard keeps the additional oil from entering the primary case, and therefore protects the clutch from excessive drag.

The flashboard in position is illustrated below.



The T500's manufactured after December 1973 production will have the primary oil transfer partition cast 10mm higher instead of using the rubber flashboard.

The rubber flashboard is now available from the U. S. Suzuki Parts Department for T500's prior to the 1974 "L" model. Its application is strongly recommended whenever the crankcases are disassembled.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

The flashboard's PART NUMBER is: 99104-08800

To install the flashboard:

1. Clean the surface on which the flashboard is to be applied.
2. Apply a quick setting adhesive (such as Suzuki Thread Lock,etc.) on the mating surfaces of the flashboard and the chamber wall.
3. A metallic adhesive tape with 1400cc printed on it is supplied with the flashboard and should be placed over the embossed 1200cc on the upper crankcase half.
4. When the crankcases are re-assembled pour 1400cc of Suzuki Transmission Oil or a high quality 20W-40 motor oil.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-4
Date: Oct. 24, 1975

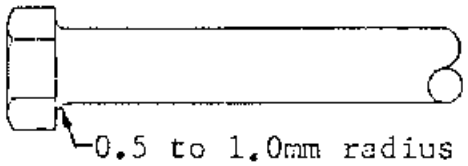
Read and Initial

Manager
Parts
Service

Subject: T500 SWING ARM PIVOT SHAFT
REFERENCE: Service Bulletin #TC/TS-17

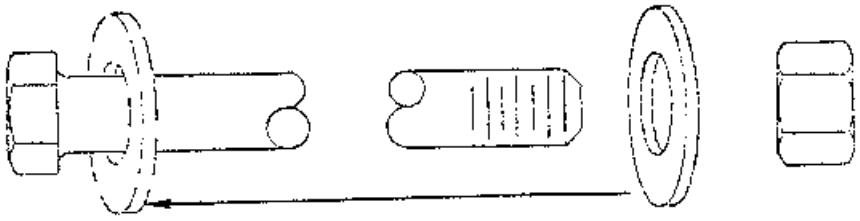
NOTICE:

The shoulder radius of the T500 swing arm pivot shaft has been increased from 0.5mm to 1.0mm.



To accept the new type pivot shaft, the frame boss chamfer has also been increased 0.5mm.

NOTE: Should it be necessary to install a new type pivot shaft through an old type frame boss, simply move the washer from the nut side to the head side of the swing arm pivot shaft. The washer will conform to the shoulder radius of the pivot shaft.



PARTS:

The new type pivot shaft is now available from U. S. Suzuki's Parts Department. The part number is listed below:

DESCRIPTION	PART NUMBER
T500 swing arm pivot shaft	61211-15006

APPLICATION:

The new type swing arm pivot shaft has been installed on and from the following Frame Number:

T500-84046

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-5
Date: Mar. 19, 1976

Read and Initial

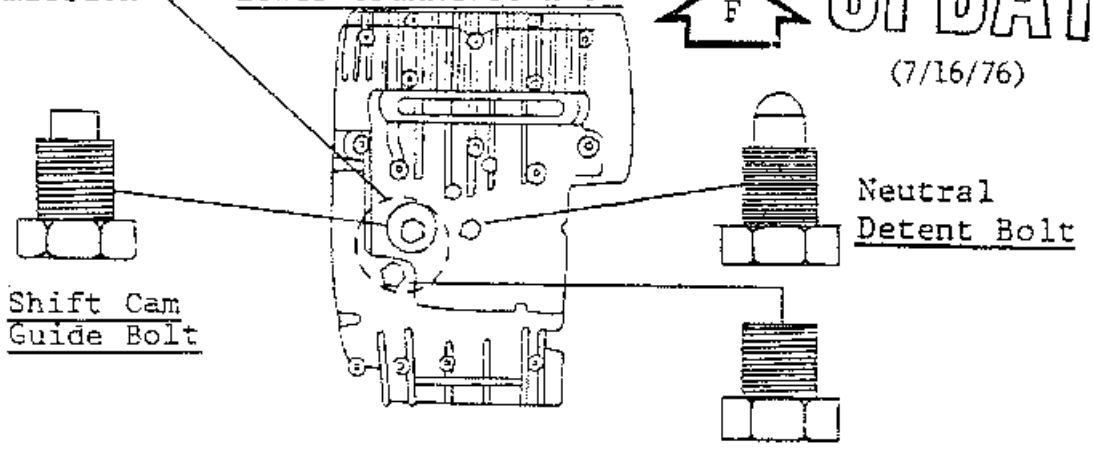
Manager
Parts
Service DHC

Subject: T500 AND GT500 SHIFTING CAM GUIDE BOLT LOCATION

NOTICE: REVISED: July 16, 1976

We have received occasional reports of T500 transmission failure immediately after an engine or transmission overhaul. Upon disassembling and inspecting the transmission, two situations have been found. The first reason a transmission would fail was that an oil drain plug bolt from another model Suzuki (Example TS185/250) had been interchanged with the shift cam guide bolt during the overhaul. The second reason for the transmission failure was due to a magnetic oil drain plug that had been substituted instead of the shift cam guide bolt.

Note: Remove both bolts to drain transmission oil.



REVISED (7/16/76)

In both situations the bolt did not extend into the locating groove of the shift cam drum far enough to restrict the shift drum from sliding from side to side in the crankcases. When this happens the shifting forks slide with the shift cam, allowing two sets of gears to become engaged at the time. This results in severe damage to the gears, and requires their replacement.

Therefore, whenever a T500 is overhauled, or the transmission oil changed by your service department, the final inspection after reassembly should be the proper placement of the shift cam guide bolt.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

Suzuki GT Technical Bulletins 1-6

APRIL 6, 2023
CATEGORIES: GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

1. **GT750 – Cooling System**
2. **GT750 – Oil Starvation**
3. **GT750 – Crankshaft and Gear Replacement**
4. **GT750 – Starter Clutch Modification**
5. **GT750 – New Style Cylinder Head Bolt Washer**
6. **GT750 – Crankshaft Modifications**

TWO STROKE

SUZUKI

2-Stroke

Service Bulletin Index

GT

NO.	MODEL	SUBJECT
1	GT750	COOLING SYSTEM
2	GT750	OIL STARVATION
3	GT750	CRANKCASE AND GEAR REPLACEMENT
4	GT750	STARTER CLUTCH MODIFICATION
5	GT750	NEW STYLE CYLINDER HEAD BOLT WASHER
6	GT750	CRANK SHAFT MODIFICATIONS
7	GT750	INCREASED PERFORMANCE
8	GT550J	PRIMARY GEAR NOISE
9	GT380	KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION
10	GT380	INCREASED TRANSMISSION OIL CAPACITY
11	GT250	DRIVE SHAFT/TOP GEAR
12	GT185	DISC BRAKE MANUAL ADDENDUM
13	GT550/750	EXHAUST COUPLER SEALANT
14	GT380/550/750	BATTERY BREATHER LOCATION
15	GT380/550/750	AIR CLEANER SERVICING
16	GT380/550/750	OPTIONAL SPROCKETS AND CHAIN
17	GT380/550/750	CONTACT BREAKER CAMS
18	GT380/550/750K	SRIS OIL STRAINER
19	GT250/380/550/750	DISC BRAKE MODIFICATION
20	GT250/380/550	NEW STYLE SPARK PLUG CAP BOOT
21	GT380/550/750L	FUEL STARVATION AT HIGH RPM
22	GT380/550/750	INSTRUCTIONS FOR USING CARBURETOR SYNCHRONIZATION TOOL
23	GT380/550	WIRING HARNESS TEMPORARY COLOR CODE CHANGES
24	GT250	BURNED OUT HEADLIGHT BULB
25	GT750	CYLINDER PULLER TOOL SET
26	GT550	STARTER CLUTCH CHANGE
27	GT185/250/380 550	SPARK PLUG CAPS

GT

NO.	MODEL	SUBJECT
28	GT500	PEI INSPECTION
29	GT550/750	2ND DRIVE AND DRIVEN GEARS
30	GT250A	IGNITION TIMING MARKS
31	ALL GT'S	CONSTANT ON HEADLIGHT
32	GT250	CHANGES FROM 1975 TO 1976
33	GT550	IMPROVED REAR BRAKE PERFORMANCE
34	GT500	SHIFT CAM GUIDE BOLT LOCATION
35	GT250	CYLINDER HEAD, SPARK PLUG, AND CARBURETION CHANGES
36	GT750	SURGING
37	GT380/550/750	FUEL COCK SEEPAGE
38	GT380/550/750	GEAR SHIFTING SWITCH
39	GT500 A, B	FRONT FENDER MOUNT
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-1
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject GT750 COOLING SYSTEM

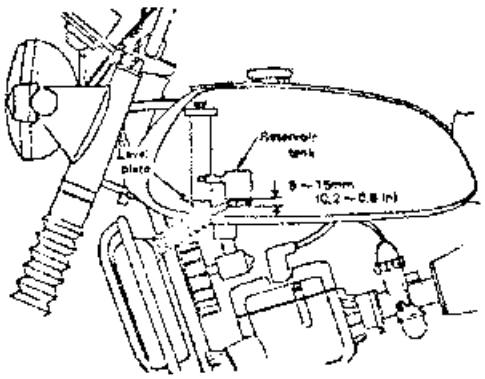
Due to the specialized knowledge required to correctly service the liquid cooling system on the new GT750, the following information has been compiled as a ready reference.

Coolant: "Suzuki CCI Antifreeze and Summer Coolant" is recommended exclusively by the factory for use in the GT750. Tests have shown that no other brand of coolant manufactured in the United States meets the specialized requirements of this motorcycle cooling system.

Suzuki CCI Coolant.....Part No. 99000-24120 is available in 2 liter cans (2.1 U. S. quarts).*

Set-Up: Each machine is serviced with a 50/50 mixture of distilled water and Suzuki CCI Coolant at the factory. This protects the cooling system to a temperature of -24° Fahrenheit. (-31°C). This mixture will probably last for two years or 20,000 miles under normal use. Do not exceed a cooling mixture ratio of 60% Antifreeze as its anti-freezing effectiveness does not increase beyond this ratio. Conversely, do not go below a cooling mixture ratio of 30% Antifreeze in summer weather. This amount is required at all times for anti-corrosion and cooling. Use distilled water only for mixing.

Cooling System Capacity: The specified cooling system capacity is 4.5 liters or 4.75 U. S. quarts. The cooling mixture should be maintained 5-15mm from the bottom of the radiator resevoir tank. To facilitate daily inspection of this level, a white level plate is located inside the radiator refill pipe. The cooling solution should be maintained near this plate at all times. A daily inspection should be made of the cooling mixture level before starting the engine.



Cooling solution level

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

Maintenance: Although the cooling solution capacity is 4.5 liters, approximately 500 cc will remain trapped after draining or flushing; unless the engine is disassembled. Therefore, after normal draining or flushing, the refill capacity will be 4 liters (4.22 U. S. quarts).

To flush the cooling system, remove all engine water plugs and let drain. With the engine cold, flush with a water hose through the radiator opening. Replace the water plugs and run the engine for ten minutes with a flushing agent. Drain and flush again with water. Refill with the proper cooling mixture.

When refilling the system it will be necessary to run the engine until the thermostat opens, before the system can be filled to capacity. Running the engine at idle for ten minutes should accomplish this.

A container with a pre-mixed solution of the correct distilled water/anti-freeze ratio should be kept on hand to replenish whatever normal cooling mixture loss occurs during use. Refilling with water only will result in diluting the cooling mixture after a while.

The radiator cap pressure is rated at 13 p.s.i. J and K models: A cooling fan is installed behind the radiator and is controlled by a thermostat switch set to activate at a water temperature of 220°F. The fan will then operate until the cooling mixture temperature drops to 212°F. If for some reason you wish to activate the fan to run before a temperature of 220° F is reached, disconnect the brown wire from the thermo-switch and the fan will operate.

Anti-leak Chemicals: At the factory 14 grams (½ oz.) of "Bars-Leaks" brand anti-leak chemical is installed in the cooling system of each GT750. NO ADDITIONAL ANTI-LEAK should be added, except after completely flushing the system and replenishing with new cooling solution. The inner diameter of the radiator tubing is only 1.5mm. Consequently radiator blockage can become critical. "Bars-leak" is capable of plugging a hole 1mm in diameter.
This fact, plus any incidental corrosion which might occur if a proper cooling mixture is not maintained, could result in clogging of the radiator leading to engine failure. Use of any other brand anti-leak is not recommended.

Storage: It is not advisable to drain the cooling system when the motorcycle is to be stored, since this would initiate corrosion in the aluminum radiator, cylinder and cylinder head.

(cont.)

WATER PUMP IMPELLER CIRCLIP:

We have had several reports of water pump damage on the GT-750. This has been due to the impeller circlip, coming off the water pump shaft.

Therefor, whenever the water pump is disassembled, a new impeller circlip, Suzuki Part No. 08331-11109, should always be installed upon reassembly.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

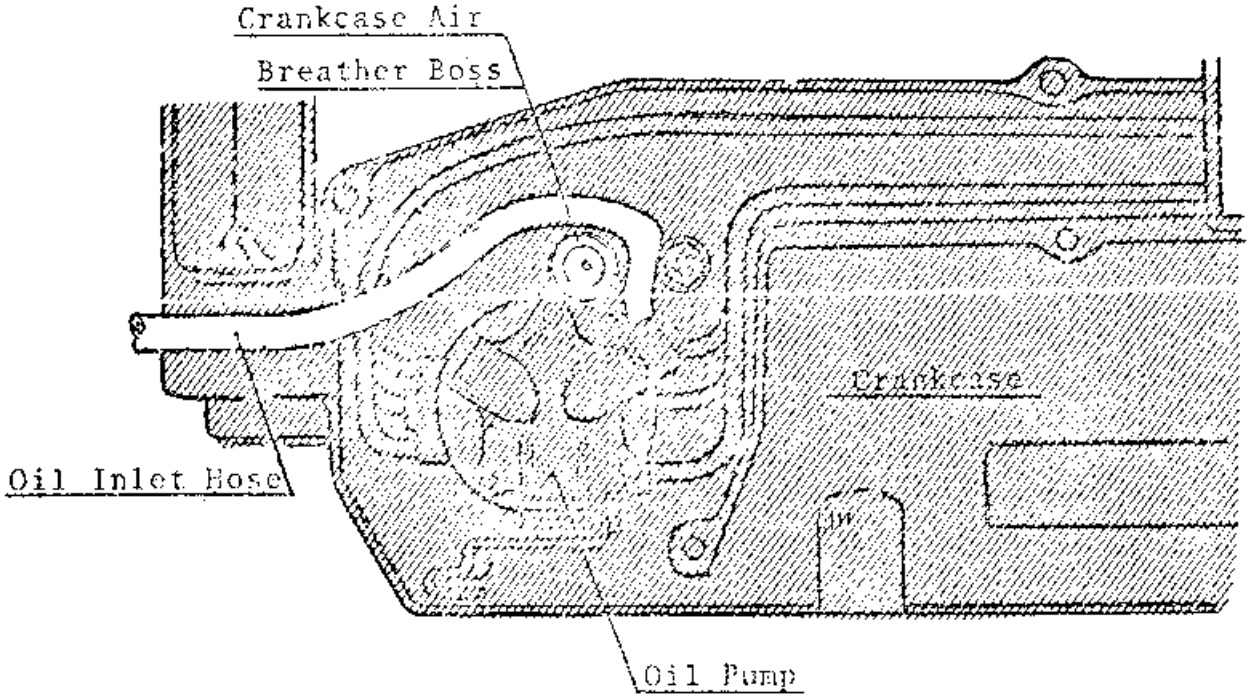
Subject: GT750 OIL STARVATION

Bulletin No: GT-2
Date: May 1, 1975

Read and Initial

Manager
Parts
Service MAC

PROBLEM: If care is not taken it is possible to pinch the inlet line from the oil tank to the oil pump when installing the oil pump cover. Pinching this line closed will result in no oil getting to the oil pump, or to the engine. Naturally this can cause a multitude of problems due to lack of lubrication.



CORRECTION:

1. Take special care that the oil pump inlet hose is routed around the crankcase air breather boss before installing the oil pump cover.
2. Before tightening down the screws holding the cover, check that the cover seats flush against the crankcase, without any gaps. If there is a gap, this would indicate that the hose might be pinched between the breather boss and the cover.
3. After tightening the screws, start the engine and check at the lines for any evidence of oil starving.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-3
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT750 CRANKCASE AND GEAR REPLACEMENT
(Revised December 19, 1975)
REFERENCE: Service Bulletin #GT-29

The crankcase, 1st driven, 2nd driven and kick starter drive gears of the GT750 will be selection-assembled to obtain the optimum backlash of the gears for less noise from the transmission. Install the most suitable gears according to the following instructions when replacing these parts.

A. Installation of parts

1. When replacing the CRANKASE ASSEMBLY:

   a. The crankcase assembly is supplied with the 1st driven, 2nd driven and kick starter drive gears with which the optimum backlash is obtained. Therefore, install these gears when replacing the crankcase assembly.

   *b. Second drive gear is not supplied with the crankcase assembly, but for engines prior to number GT750-73059 it must be replaced in conjunction with second driven gear which is supplied with the crankcase assembly.

2. When replacing 1ST DRIVEN GEAR AND/OR 2ND DRIVEN GEAR:

   a. In this package of spare parts, there are two gears classified by size, one is painted yellow and the other is painted white. When replacing this gear with a new one, check the paint color indicated on the crankcase originally fitted to the machine, then choose the most suitable gear in accordance with the chart on Page 2.

      EXAMPLE: Fit the white painted gear if the crankcase is painted blue, green or white.

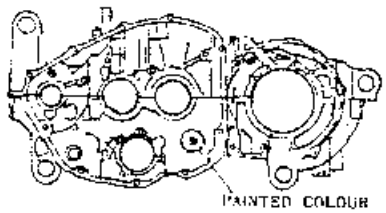
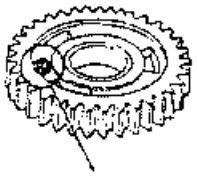
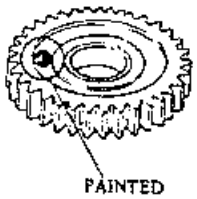
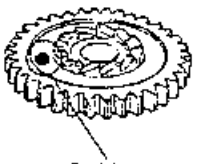
   b. For engine numbers prior to GT750-73059 second drive gear must be replaced at the same time second driven gear is installed.

*Revised: December 19, 1975

3. When replacing the KICK STARTER DRIVE GEAR:

   a. Again there are two gears in the package, one is painted brown and the other is painted yellow. Choose the most suitable gear shown on the chart according to the paint color indicated on the crankcase.

      EXAMPLE: Fit the brown painted gear if the crankcase is painted brown, black, red or yellow.

CRANKCASE COLOUR	1ST DRIVEN GEAR	2ND DRIVEN GEAR	KICK START DRIVE GEAR
B R O W N	YELLOW	YELLOW	BROWN
B L A C K			
R E D			
Y E L L O W			
B L U E	WHITE	WHITE	YELLOW
G R E E N			
W H I T E			
			

B. Change of part numbers

The part numbers of the relative parts have been changed as follows on page 3:

(cont.)

PART NAME	OLD PART NO.	NEW PART NO.	REMARKS
*Crankcase Ass'y.	11300-31851	11300-31852	includes crankcase ass'y., 1st driven, 2nd driven & kick starter drive gears. For engines up to number GT750-73059. Second drive gear must also be installed. However, it is not supplied with crankcase assembly, and must be ordered separately.
Gear Comp, 1st Driven	24310-31000	24310-31821	includes two gears classified by size.
*Gear Comp, 2nd Driven	24321-31822	24300-37810	includes two gears classified by size. For engines up to number GT750-73059 second drive gear must also be installed at the same time.
Gear Comp, Kick Starter Drive	26240-31000	26240-31823	includes two gears classified by size.
*Second Drive Gear	24221-31000	24221-37000	Up to engine #GT750-73059 install second driven gear at the same time.

NOTE: For further details refer to Service Bulletin Number GT-29 of November 21, 1975.

*Revised: December 19, 1975

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 STARTER CLUTCH MODIFICATION

Bulletin No: GT-4
Date: May 1, 1975

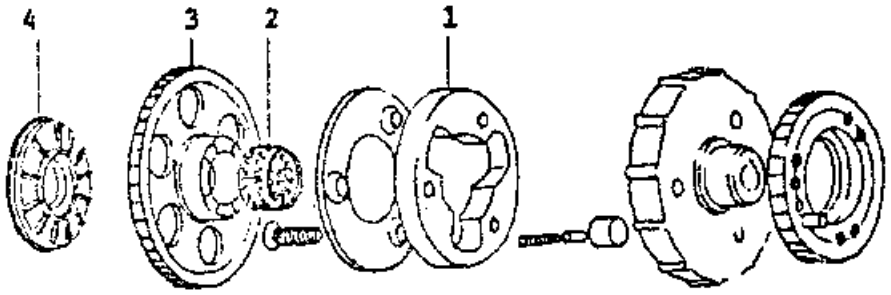
Read and Initial

Manager
Parts
Service

NOTICE:

Reports have been received of starter clutch failures on the subject models. While the symptoms are similar, there have been various contributory factors involved. Therefore, several modifications have been made to effect a total cure, as the following illustrations show.

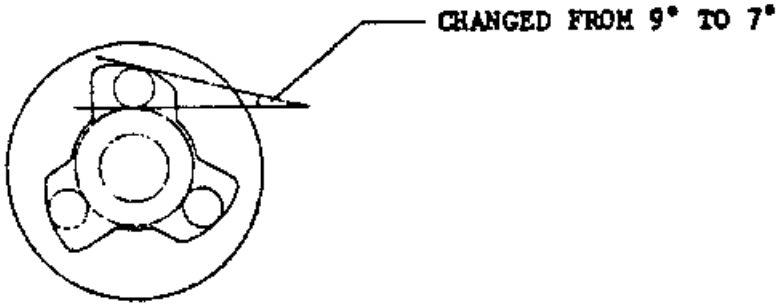
DETAILS OF MODIFICATIONS



STARTER CLUTCH ASSEMBLY

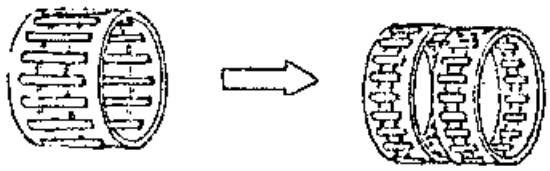
1. STARTER CLUTCH HOUSING

The wedge has been altered as shown in the illustration.



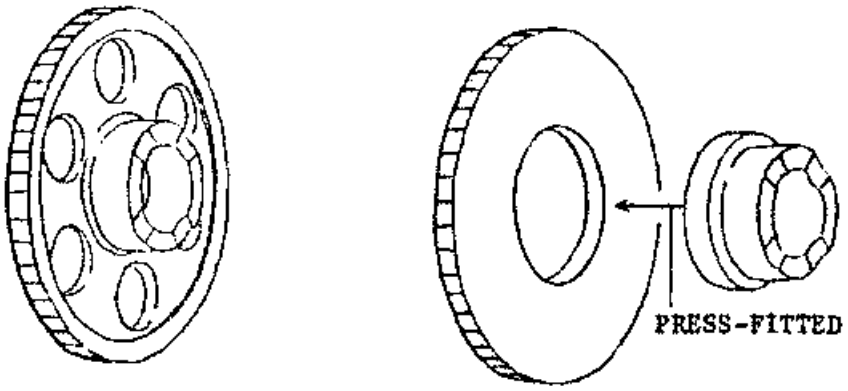
2. NEEDLE BEARING

The width of the needle roller bearing has been narrowed so that a pair may be installed in place of the old type wider bearing.



3. STARTER CLUTCH GEAR

The hub on the starter clutch gear on which the starter clutch rollers run has been changed from a solid type to a press-fitted type as shown below.

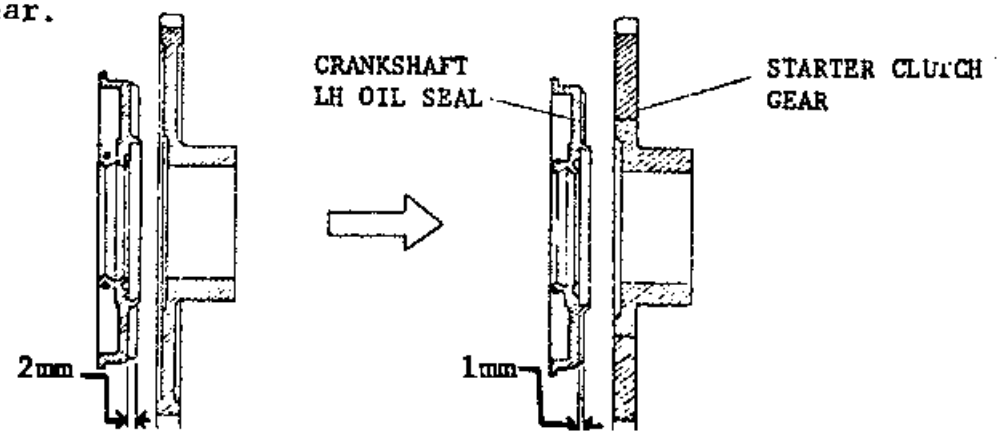


SOLID PRESS FITTED

4. CRANKSHAFT LH OIL SEAL

In connection with the modification of the starter clutch gear the thickness of the gear is evened so as to have enough contact surface around the hub being press-fitted.

In addition, the height of the ribs on the crankshaft oil seal have been lowered by 1 mm in order to clear the starter clutch gear.



5. INTERCHANGEABILITY

UPDATED

The parts, except the crankshaft oil seal, may be interchanged. However, it is still highly recommended to use only the modified parts in order to thoroughly avoid a possible problem.

PART NUMBER:

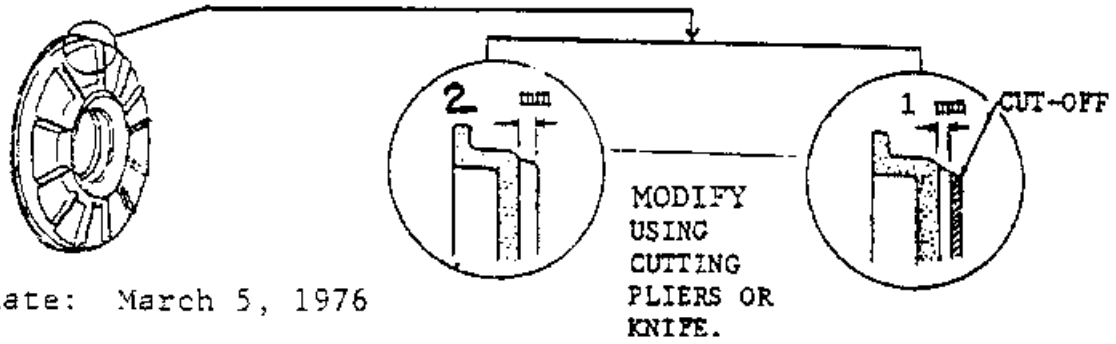
DESCRIPTION	OLD NO.	NEW NO.
Starter Clutch Assembly	12603-31832	*12600-31832
Starter Clutch Gear	12620-31003	*12620-31004
Starter Clutch Gear Bearing	09263-25011	09263-25011
Crankshaft LH Oil Seal	09289-30001	*09263-30001

APPLICABILITY:

DESCRIPTION	PRODUCTION MONTH	ENGINE NO.
Starter Clutch Housing	From April, 1972	From #27667
Starter Clutch Gear Bearing	From April, 1972	From #26030
Starter Clutch Gear	1. April and May production	1. #26030-#29045
Crankshaft LH Oil Seal	2. After old stock is exhausted	2. --

Note:

On future parts orders only the new type starter clutch parts will be supplied. However, the old type LH crankshaft oil seal will still be supplied until such time as the existing stock is exhausted. Therefore, when the old oil seal is retained in the unit and the starter clutch is modified or replaced, it is necessary to check the rib height of the oil seal and modify the same as shown.



*Update: March 5, 1976

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-5
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: NEW STYLE GT750 CYL. HEAD BOLT WASHER

NOTICE

A new style washer has been designed for the cylinder head bolt of the GT750. The new style washer has a rubber seal molded around its inside surface as shown below.

OLD STYLE WASHER
(08322-11148)

NEW STYLE WASHER
(09168-14008)

The rubber seal will prevent any possibility of coolant leaking past the washer and also prevent water from outside (rain or washing) passing in past the washer and rusting the bolt.

APPLICABILITY

GT750's on and after Engine Number GT750-51822 and Frame Number GT750-45213 have had the new style washers installed.

RECOMMENDATION

For units prior to the above Engine and Frame Numbers, it is recommended that the old style washers be replaced with new style washers whenever the cylinder head is removed from the GT750.

PARTS

The new style washer is now available from the U. S. Suzuki Parts Department, and the Part Number is: 09168-14008.

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 CRANKSHAFT MODIFICATIONS

Bulletin No: GT-6
Date: May 1, 1975

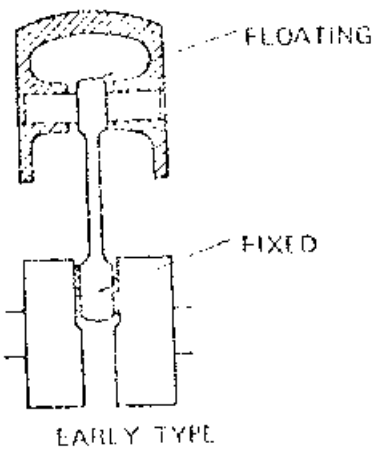
Read and Initial
Manager
Parts
Service

NOTICE:

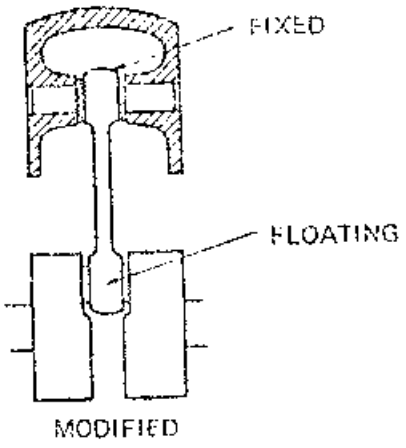
The GT750 crankshaft assembly, has been modified in several ways to further increase its durability.

DETAILS OF MODIFICATIONS:

Side movement of the connecting rod is restricted on the small end, and the big end has been changed to a floating type as shown in the illustration below.



EARLY TYPE

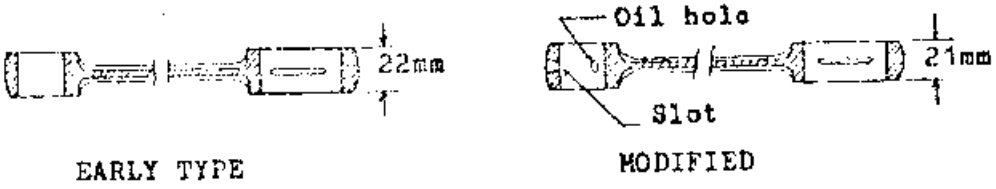


MODIFIED

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

This has been accomplished by the following individual modifications.

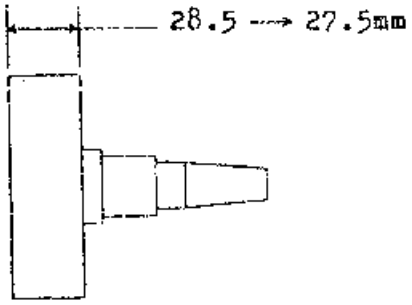
1) Connecting rod:
The big end width has been reduced and a slot and a hole have been provided on the small end for better lubrication.



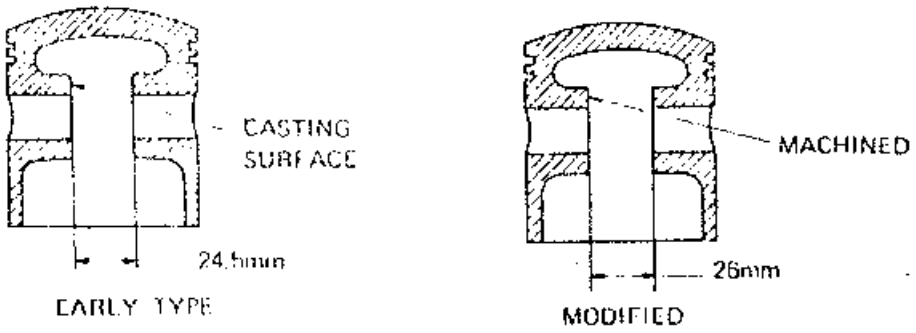
EARLY TYPE MODIFIED

2) Crankshaft components:

A) Crank Wheels:
The width of the crank wheels has been reduced from 28.5mm to 27.5mm.



B) Pistons:
The pistons inside surface has been changed from a casting surface to that of a machined surface. The inside dimension between the wrist pin bosses has also been changed.



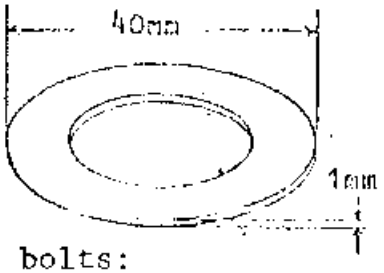
EARLY TYPE MODIFIED

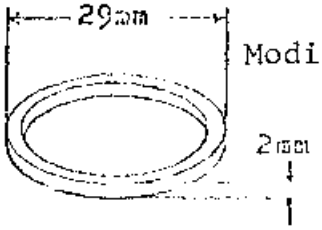
(cont.)

C.) **Thrust** washer, connecting rod small end:
This thrust washer has been provided for the non-floating small end of the connecting rod. Two of these are used for each piston.

D.) Thrust washer, crank pin bearing:
In order to have the connecting rod floating on the crank pin, this thrust washer has been modified as shown below.

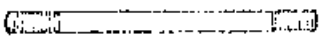
Early Type



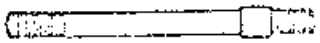


Modified

E.) Stud bolts:
Two of the twelve stud bolts on the crankcase assembly have been replaced with a new type shouldered bolt.

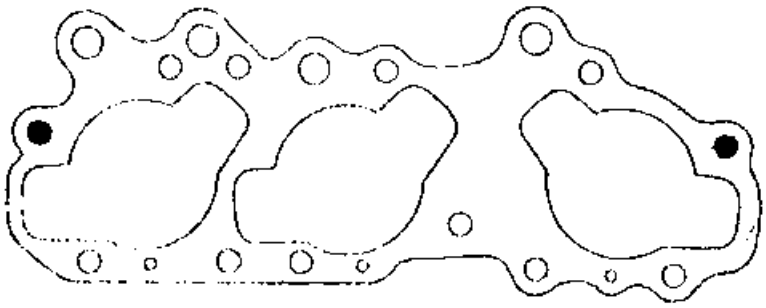


EARLY TYPE



MODIFIED

F.) Cylinder gasket:
Two holes in the gasket have been enlarged from 11mm to 12.5mm in diameter to match the new type stud bolts.



● : ENLARGED

(cont.)

PART NUMBERS AND AVAILABILITY:

For assembly convenience, the new style crankshaft assembly consists of the following parts.

1. Pistons (3)

2. Thrust washers, connecting rod small end. (6)

3. Stud bolts. (2)

4. Crankshaft assembly.

The above crankshaft set does not include the cylinder base gasket, although it has been modified as explained in paragraph #2 (F). Consequently, when using the old style gasket, the necessary two holes should be enlarged before assembly.

PART NAME	OLD PART NO.	NEW PART NO.	AVAILABILITY
CRANKSHAFT SET	12003-31803	12200-31835	NEW ONLY
(CONNECTING ROD)	12161-31000	12161-31001	OLD & NEW
(CRANKSHAFT, R)	12221-31000	12221-31001	NEW ONLY
(CRANKSHAFT, MIDDLE)	12231-31000	12231-31001	NEW ONLY
(CRANKSHAFT, L)	12241-31002	12241-31003	NEW ONLY
(CRANK WEB, L)	12242-31000	12242-31001	NEW ONLY
(THRUST WASHER, CRANK PIN BEARING)	09160-24012	09160-24014	OLD & NEW
PISTON, R	12110-31000	12110-31001	OLD & NEW
PISTON, L	12120-31000	12120-31001	OLD & NEW
THRUST WASHER, CON-ROD SMALL END	NOT EXIST	09169-18001	AVAILABLE
STUD BOLT, CYLINDER	09108-10006	09108-10012	OLD & NEW
CYLINDER GASKET	11241-31000	SAME AS OLD	NEW ONLY

(cont.)

*The parts shown in parentheses are the modified components of the crankshaft.

PARTS STOCK:

Since the old style piston cannot be used on the new style crankshaft assembly, some of which are already in the field, it is recommended that you add the new style pistons to your parts inventory as soon as possible.

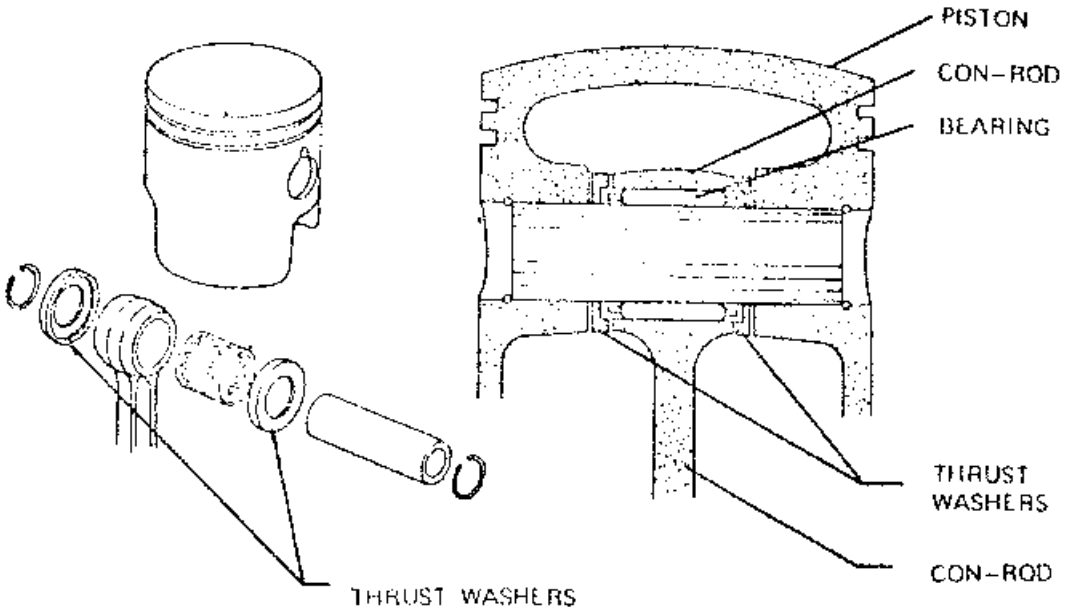
APPLICABILITY:

The crankshaft modification has been applied, on and from Engine Number 38060.

ASSEMBLING PROCEDURE:

If the new style crankshaft is to be used on the early type engine, the following procedure should be noted.

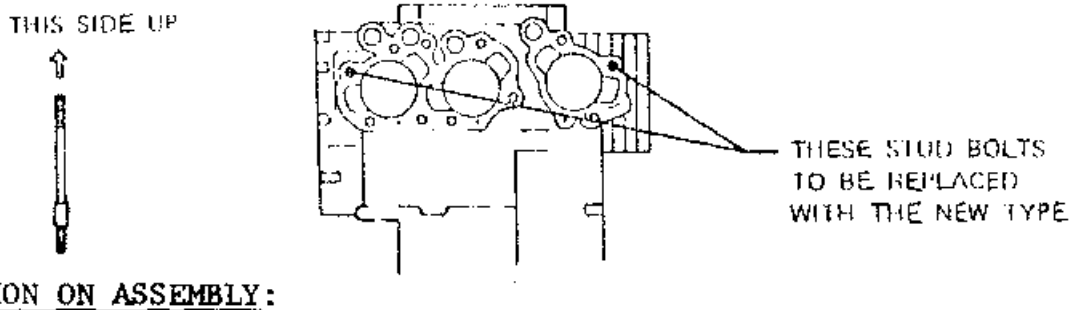
1) The pistons and thrust washers should be assembled as shown below.



NOTE: Two different pistons are used in the GT750 engine, and they are marked "R" and "L" on top of the piston crown. The "R" piston is for the right cylinder and the "L" pistons are for the left and middle cylinders.

(cont.)

2) In order to achieve proper alignment of the connecting rod with the center of the cylinder bore, the necessary stud bolts should be replaced with the new style as shown below.



CAUTION ON ASSEMBLY:

1) To prevent transmission oil leaking into the crankcase, care should be taken when placing the crankshaft assembly into the lower crankcase half. There should not be any clearance allowed between the crankshaft oil seals and crankshaft bearings and oil seal retainer.

2) Be certain to apply Suzuki bond #4 (99000-33030) to the crankcase around the water by-pass hole to avoid water leakage into the transmission.

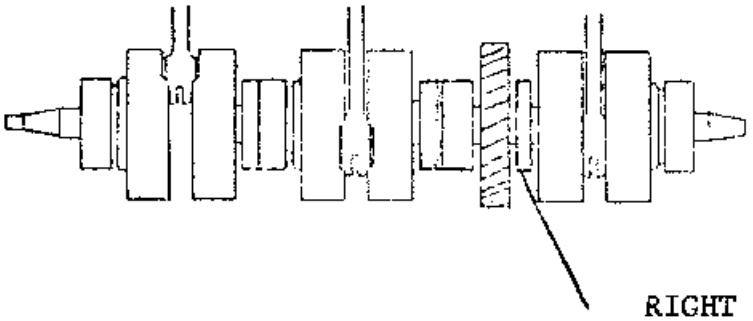
3) When installing the starter clutch unit to the crankshaft, apply Thread Lock Cement (Part No. 99000-32010) to the threads of the crankshaft and torque the fitting nut to 50 lb-ft.

ADDENDUM

We have received occasional reports of GT750's smoking excessively from the right exhaust pipe.

CAUSE:

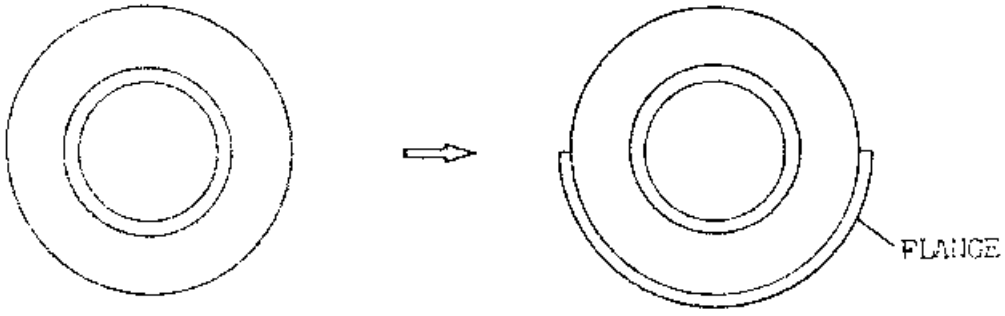
The excessive smoking was attributed to the right inboard crankshaft oil seal becoming displaced, allowing transmission oil to pass into the right cylinders crankcase.



(cont.)

MODIFICATION:

To provide a more positive method of positioning the right inboard oil seal, a metal flange has been added to the seal.



OLD STYLE NEW STYLE

The new style seal's flange eliminates the old style seals positioning "C"-ring (Part No. 09390-78003). The flange of the oil seal should be placed in the "C"-rings crankcase groove when positioning the crankshaft assembly in the lower crankcase half.

PARTS:

The new style parts are now available from the U. S. Suzuki Parts Department.

DESCRIPTION	OLD PART NO.	NEW PART NO.
Oil Seal, R. H. Inboard	09289-38003	09289-38008
Crankshaft Assembly	12200-31834	12200-31835
"C" Ring	09390-78003	----------

APPLICATION:

The new style oil seal has been installed on and after the following Engine and Frame Number.

Engine Number: GT750-54214 Frame Number: GT750-49895

INTERCHANGEABILITY:

The old and new style oil seals are interchangeable.

When using the old style seal (without the flange) the "C" ring must also be used.

When installing a new style oil seal in an engine prior to No. GT750-54214, the "C" ring is not needed.

Suzuki GTTechnical Bulletins 7-13

APRIL 6, 2023
CATEGORIES: GT185, GT250, GT380, GT550, GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

7. **GT750 – Increased performance**
8. **GT550 – Primary gear noise**
9. **GT380 – Kick starter drive gear and oil pump driven gear modification**
10. **GT380 – Increased transmission oil capacity** (oh dear the 380 too!)
11. **GT250 – Drive shaft/top gear**
12. **GT185 – Disk brake manual addendum**
13. **GT550/750 – Exhaust coupler sealant**

SUZUKI
2-Stroke
Service Bulletin

Subject: INCREASED PERFORMANCE OF GT750

Bulletin No: GT-7
Date: May 1, 1975

Read and Initial

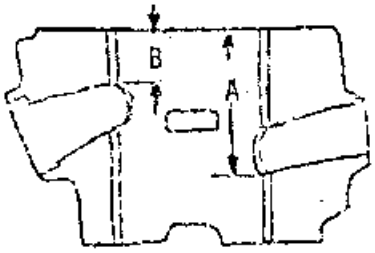
Manager _____
Parts _____
Service _____

The maximum horsepower and top speed of the 1975 GT750 "Le Mans" has been increased. This bulletin explains the modifications and changes made to achieve the additional output.

MODIFICATIONS

I. Cylinder:

The cylinders intake and exhaust port timing have been changed as indicated.



EXHAUST INTAKE

A: 101.5 ⟶ 106.5mm

B: 42.5 ⟶ 40.0mm

II. Cylinder Head:

a. To decrease the combustion chamber volume from 30.6cc to 29.7cc, 0.2mm has been removed from the cylinder head surface.

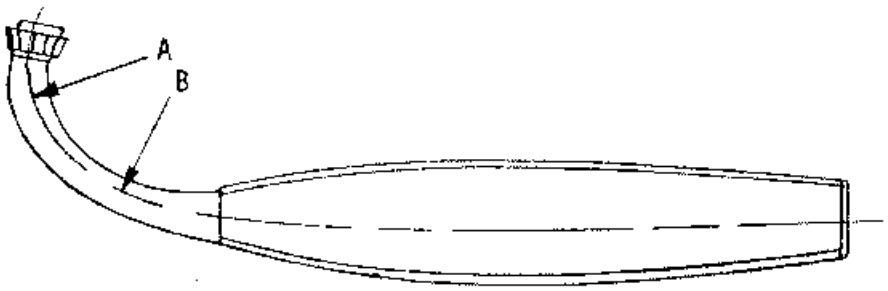
b. At the same time, the cylinder head gaskets thickness has been decreased from 1.5mm to 0.8mm.

The above changes (a & b) have increased the compression ratio from 6.7 to 6.9:1.

III. Exhaust System:

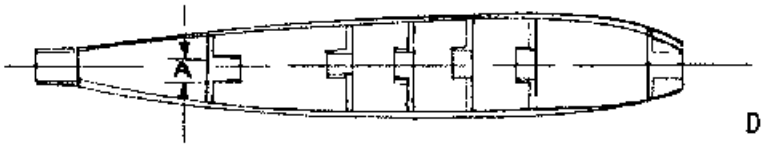
The exhaust coupler tube system has been eliminated and the dimensions of the mufflers has been changed as indicated.

a. Right and Left Outer Mufflers



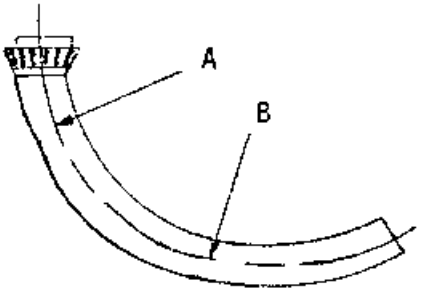
RADIUS A: 100→90 mm
RADIUS B: 140→165mm

b. Right and Left, Center Mufflers



DIAMETER A: 29→20mm

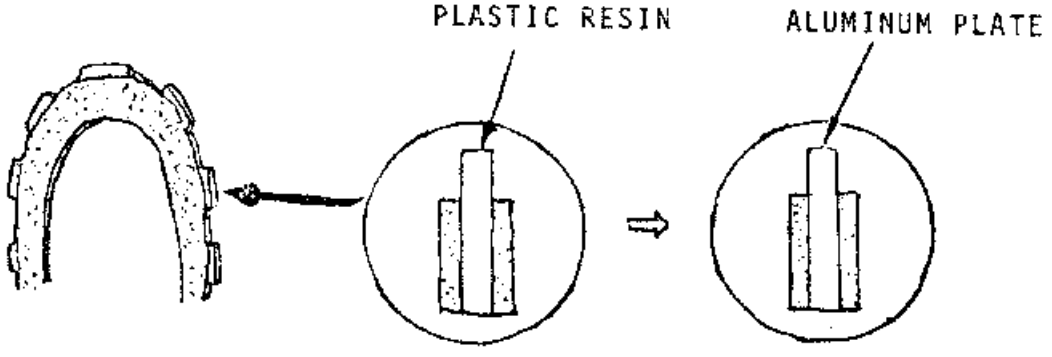
c. Center Exhaust Pipe



RADIUS A: 100→90mm
RADIUS B: 140→165mm

IV. Clutch Cork Plates:

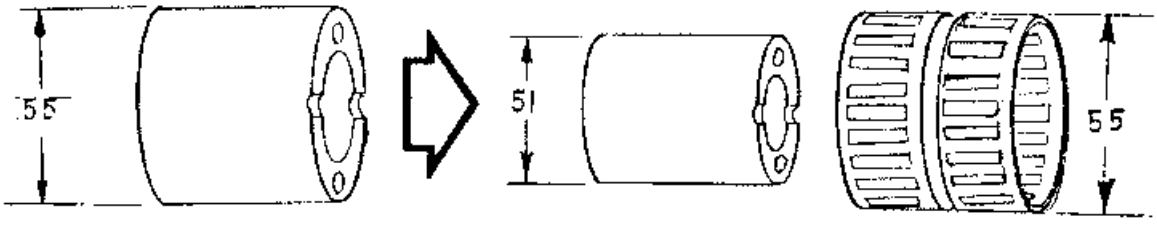
The clutch cork plate's base material has been changed from plastic resin to aluminum.



(cont.)

V. Primary Driven Gear Bushing:

The primary driven gear bushing outer diameter has been reduced from 55mm (2.16in.) to 51mm (2.00 in.) to accompany a new needle bearing now being used.



OLD STYLE NEW STYLE

VI. Carburetion:

The carburetor jetting has been adjusted to accompany the engine and muffler modifications. The changes made are as follows:

DESCRIPTION	PREVIOUS JETTING	NEW JETTING
Throttle Valve:	#120	#110
Pilot Jet:	#47.5	# 45
Pilot Screw:	1/4	3/4
Jet Needle:	4DN18-3	4DN18-4

VII. Spark Plug:

The spark plug heat range has also been changed.

	OLD	NEW
NGK	B6ES	B8ES
Nippon Denso	W20ES	W24ES

VIII. 5th Driven Gear:

The 5th driven gear's number of teeth has been increased from 24 to 25.

This lowers the 5th gear ratio from 0.923 to 0.962:1.

(cont.)

IX. Final Drive:

The final drive ratio has been changed from 3.133 to 2.688:1 by changing the following:

a. The engine sprocket's number of teeth has been changed from 15 to 16.

b. The rear drive sprocket's number of teeth has been changed from 47 to 43.

X. Drive Chain:

The number of drive chain links has been decreased from 108 to 106 links.

The 1975 GT750's drive chain strength has been increased and its new designation is: D1D50HDSS.

PART NUMBERS & AVAILABILITY

DESCRIPTION	OLD PART NO.	NEW PART NO.	AVAILABILITY
1. Cylinder head	11111-31001	11111-31003	New only
2. Cylinder	11210-31003	11210-31600	New only
3. Cylinder head gasket	11141-31002	11141-31680	Old & New
4. Right muffler ass'y.	14301-31201	14301-31620	Old & New
5. Left muffler ass'y.	14302-31201	14302-31620	Old & New
6. Center right muffler ass'y.	14303-31200	14303-31620	Old & New
7. Center left muffler ass'y.	14304-31200	14304-31620	Old & New
8. Center exhaust pipe	14170-31000	14170-31620	Old & New
9. Needle bearing	-	09263-51001	Available
10. Primary driven gear bush	21250-31000	21251-31600	Old & New
11. Clutch drive plate	21441-31000	21441-31600	New only
12. Engine sprocket	27511-33600	27511-34000	Old & New
13. Drive chain	27600-31013	27600-31014	Old & New
14. Rear sprocket	64511-31731	64511-31700	Old & New
15. Carburetor ass'y.	13200-31210	13200-31621	Old & New
16. Pilot jet	09492-47005	09492-45012	Old & New
17. Throttle valve	13551-31210	13551-31600	Old & New
18. Right carburetor ass'y.	13201-31210	13201-31621	Old & New
19. Center carburetor ass'y.	13202-31210	13202-31621	Old & New
20. Left carburetor ass'y.	13203-31210	13203-31621	Old & New
21. 5th drive gear	24351-31000	24351-31200	Old & New

INTERCHANGEBILITY

The parts listed as "Old & New" being available are not interchangeable. Those listed as "New only" are interchangeable with the old parts.

Whenever replacing the cylinder, the new cylinder head gasket should also be installed.

APPLICABILITY

The modifications and changes described in this bulletin were effective at the beginning of 1975 production.

Engine Number: GT750 - 57533

Frame Number: GT750 - 52823

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-8
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT550J PRIMARY GEAR NOISE

PROBLEM:

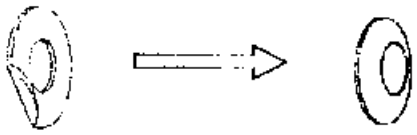
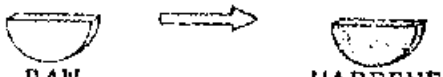
We have received reports of certain GT550J's developing a rattle in the right side primary case. This is caused by loosening of the primary drive gear nut.

MODIFICATION:

In order to remove this possibility, a new style lock washer has been employed. The crankshaft woodruff key has been heat treated and the tightening torque of the primary gear nut increased from 29-40 ft/lb to 94-108 ft/lb.

APPLICATION:

The modifications are already incorporated as per the following chart:

ITEM	MODIFICATION	APPLICABILITY
WASHER	 TONGUED → SPRING	From July production engine number: from 24552
TIGHTENING TORQUE	400 - 550 kg-cm(29 - 40 lb-ft) ⇩ 1,300 - 1,500 kg-cm(94 - 108 lb-ft)	
KEY	 RAW → HARDENED	From July production engine number: from 25054

SUZUKI
2-Stroke
Service Bulletin

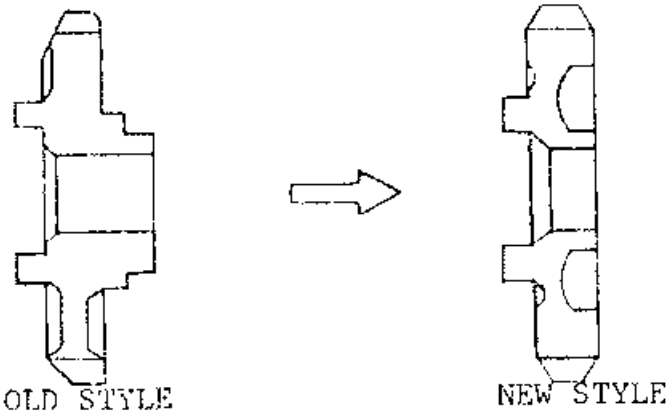
Bulletin No: GT-9
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT380 KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION

MODIFICATION:

The GT380 kick starter drive gear has been increased in strength. Its shape also has been changed as shown below.



In accordance with this modification the oil pump driven gear shape has also been changed.

APPLICABILITY:

The modified gears have been installed on and from Frame No. GT380-45336.

PART NUMBERS AND AVAILABILITY:

The old style gears will no longer be available.

The new style gears are now available from the U. S. Suzuki Parts Department, and the part numbers are listed below:

DESCRIPTION	OLD PART NO.	INTER-CHANGE	NEW PART NO.
Kick Starter Drive Gear	26240-33002	X → ← O	26241-33002
Oil Pump Driven Gear	16321-33001	X → ← O	16321-33002

X: NOT INTERCHANGEABLE O: INTERCHANGEABLE

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-10
Date: May 1, 1975

Read and Initial

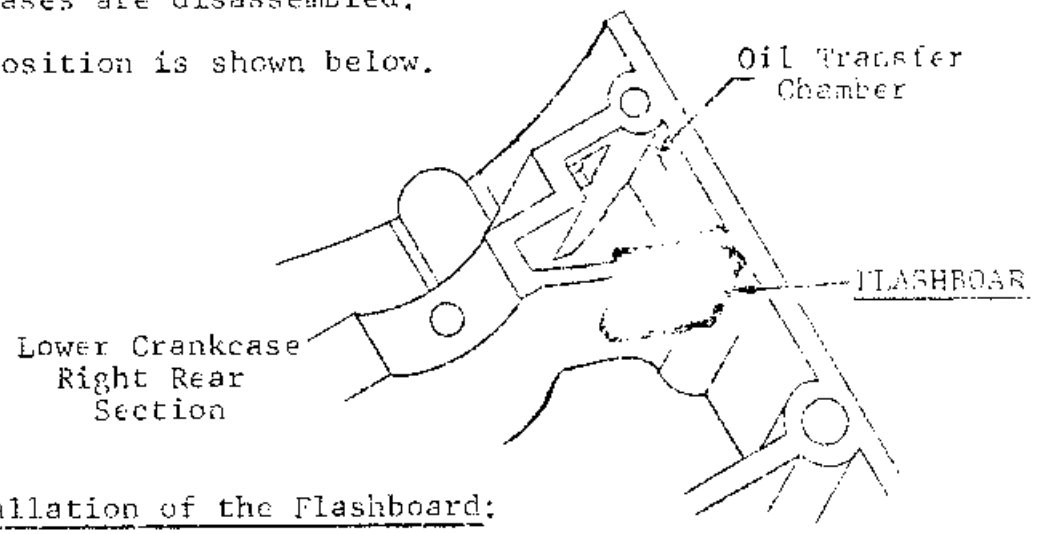
Manager _____
Parts _____
Service _____

Subject: GT380 INCREASED TRANSMISSION OIL CAPACITY

To effectively increase the durability of the GT380 5th drive gear, the transmission oil capacity has been increased from 1400cc to 1500cc. The increased oil capacity has been applied to the GT380 since the begining of the 1974 "L" model production.

To increase the transmission oil capacity of GT380's prior to the 1974 "L" model to 1500cc, a rubber flashboard must be applied to the primary oil transfer chamber located near the right rear of the lower crankcase half. The flashboard is now available from U. S. Suzuki's Parts Department and its use is strongly recommended whenever the crankcases are disassembled.

The flashboard in position is shown below.



Procedure for Installation of the Flashboard:

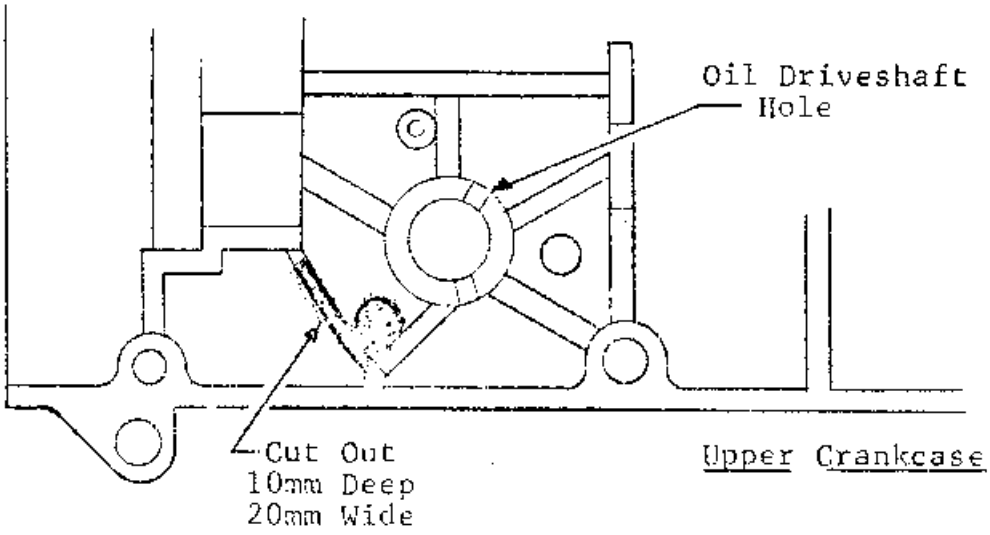
The following parts are required when installing the flashboard and are now available from U. S. Suzuki's Parts Department with the exception of the 7/32" steel ball.

Part Description	Part Number	Qty.
Flashboard	99104-08700	1
Breather Plug (For new breather location)	24821-09000	1
Breather cap (For above)	24822-26000	1
7/32" Steel Ball (For blocking transmission breather hole)	Must be purchased locally.	1

1. Clean the surface on which the flashboard is to be applied.

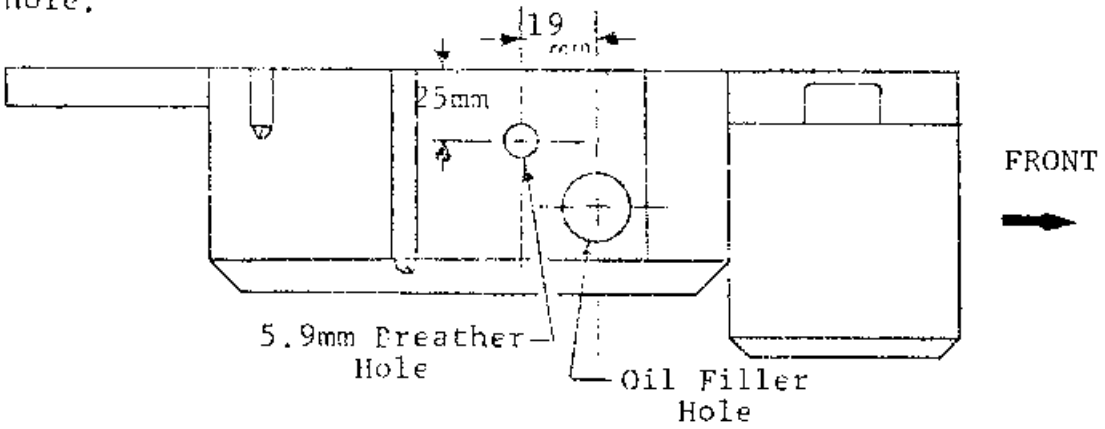
2. Apply a quick setting adhesive (such as Suzuki Thread Lock, Loctite, etc.) on the mating surfaces of the flashboard and the chamber wall.

3. To assure that oil reaches the primary case you must cut the adjacent rib of the upper crankcase as illustrated below.



4. Engines prior to Engine Number GT380-37400 must have the transmission breather hole blocked before re-assembling the crankcases. The breather hole is located between the two left drive shaft upper crankcase bearing surfaces. Block the transmission breather by pressing a 7/32 in. steel ball into the hole.

5. Relocate the transmission breather hole by drilling one 5.9mm (.2301 in.) diameter hole on top of the clutch cover in the location shown below. To avoid cracking the clutch cover, care should be used when using a center punch prior to drilling the hole.

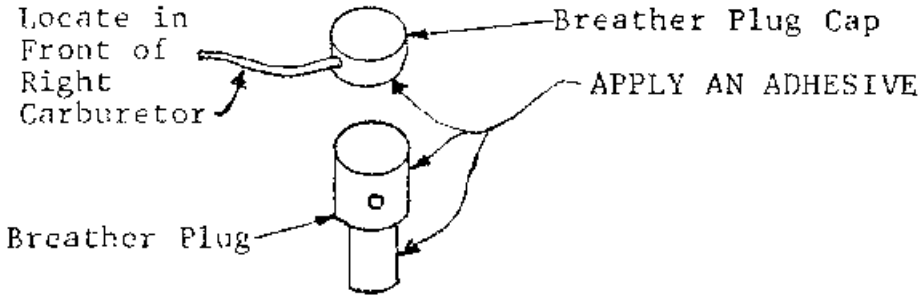


CLUTCH COVER

(cont.)

6. Press the breather plug (Part No. 24821-09000) into the hole which was drilled in Step 5, after applying an adhesive.

7. Apply an adhesive to the inside of the breather cap before pressing it onto the breather plug. Take care not to block the hole of the breather plug with the adhesive applied to the breather cap.



8. A metallic adhesive tape with 1500cc printed on it is supplied with the flashboard and should be placed over the embossed 1400cc on the clutch cover.

9. When the crankcase is re-assembled, pour 1500cc of Suzuki Transmission oil or a high quality 20W-40 motor oil into the transmission.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

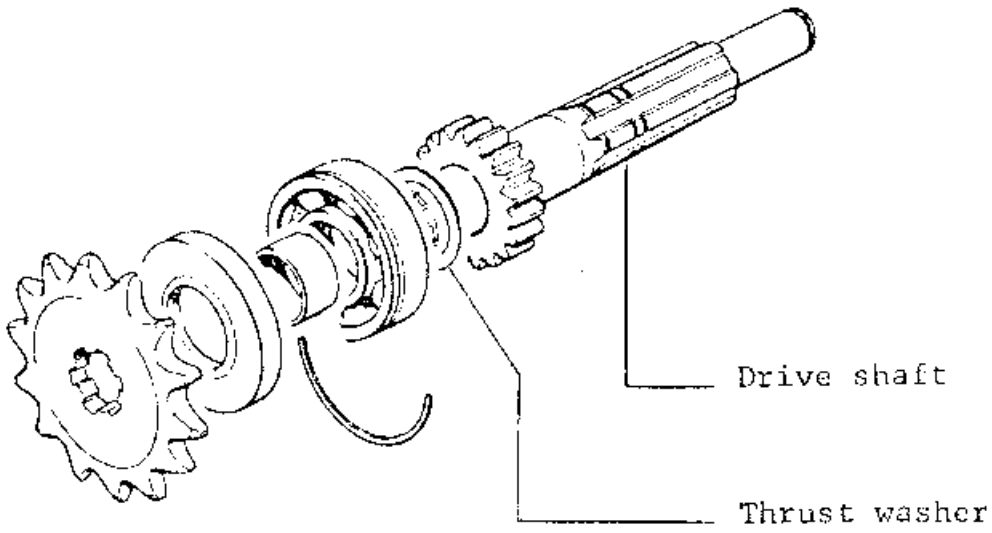
Subject: GT250 DRIVE SHAFT/TOP GEAR

Bulletin No GT-11
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

NOTICE:

Top gear, driven, on the subject models has been increased in thickness and strength.



INTERCHANGEABILITY:

When using the new style driveshaft #24131-18002 with old style crankcases, the thrust washer #08211-22341 must be eliminated.

In the event that new cases are fitted and the old driveshaft re-used, washer #08211-22341 must be retained.

PARTS:

PART DESCRIPTION	OLD PART NO.	NEW PART NO.	QTY
Drive shaft	24131-18001	24131-18002	1
Thrust washer	08211-22341		1

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-12
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: DISC BRAKE MANUAL ADDENDUM:
GT185 DISC BRAKE SPECIFICATIONS

NOTICE:

The GT185 is equipped with a hydraulic front disc brake. The GT185 disc brake will operate similar to the disc brakes equipped on the larger models, and should be serviced according to the GT250, GT380, GT550, and GT750 Disc Brake Service Manual.

Listed below are the GT185 Disc Brake Service Specifications.

	STD	LIMIT
Disc Thickness	5.00mm (.197 in.)	4.00mm (.157 in.)
Disc Runout	Max. 0.1mm (.004 in)	0.3mm (.012 in.)
Disc Outer Diameter	250mm (9.84 in.)	14.05mm (.553 in.)
Master Cylinder Inner Diameter	14.00mm - 14.04mm (.551 - .553 in.)	13.94mm (.549 in.)
Master Cylinder Piston Diameter	13.96mm - 13.98mm (.550 - .551 in.)	38.22mm (1.504 in.)
Caliper Cylinder Inner Diameter	38.18mm - 38.20mm (1.503 - 1.504 in.)	38.10mm (1.500 in.)
Caliper Cylinder Piston Diameter	38.15mm - 38.18mm (1.502 - 1.503 in.)	
Disc Effective Diameter	199mm (7.835 in.)	
Effective Brake Lining Area	19 cm^2 x 2 pcs. (2.95 $in.^2$ x 2 pcs.)	

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-13
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT550//750 EXHAUST COUPLER SEALANT

INSTALLATION: Special attention should be paid to the exhaust coupler pipes on the GT750 and GT550 to assure an airtight seal. For best results, the following procedure should be used when reassembling the exhaust system on these bikes.

1. Thoroughly remove any old muffler seal left on the coupler pipes.
2. Cut four (4) pieces of muffler seal, each piece 5 inches long. Because the seal is too thick in its original form, stretch each piece to 6.3 inches. This will make each piece the correct length and thickness for proper installation.
3. Check the rubber O-rings for nicks or defects.
4. Install the coupler pipes in the center exhaust header, then install the left and right header pipes on the engine and join the coupler pipes.
5. Check the coupler joints to assure that a good seal is obtained.
6. Tighten all muffler nuts and bolts.
7. Run the engine at low rpm for 10 to 15 minutes until the coupler seal melts and seals the connection.

PARTS: Exhaust Coupler Seal (Part #99000-31020) is available from the U. S. Suzuki Parts Department. One package contains enough coupler seal for four strips, each five inches long, for ten motorcycles. This makes a total "rope" of seal 200 inches long.

Suzuki GT Technical Bulletins 22-26

APRIL 6, 2023
CATEGORIES: GT250, GT380, GT550, GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

SUZUKI
2-Stroke
Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

22. GT380/550/750 – Instructions for using carburetor synchronisation tool

23. GT380/550 – Wiring harness temporary colour code changes

24. GT250 – Burned out headlight bulb

25. GT750 – Cylinder puller tool set

26. GT550 – Starter clutch change

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-22
Date: May 1, 1975
Read and Initial
Manager
Parts
Service AHC

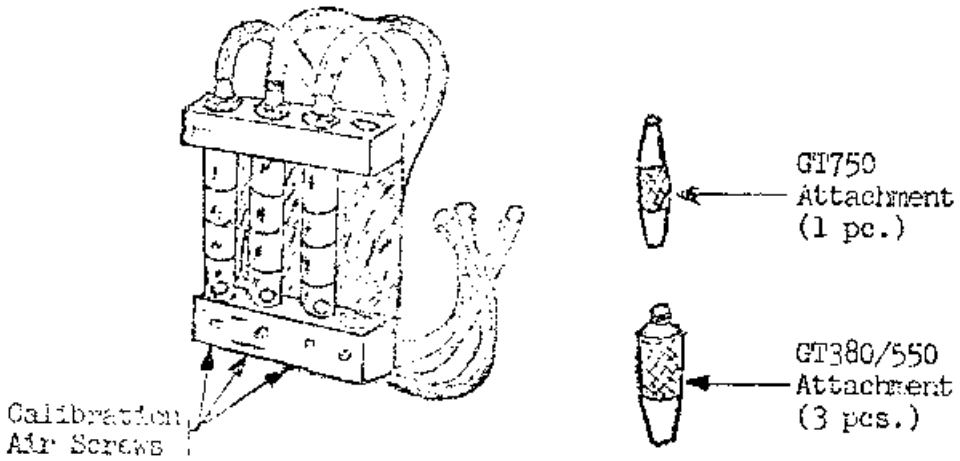
Subject: INSTRUCTIONS FOR USING GT380/550/750 CARBURETOR SYNCHRONIZATION TOOL

NOTICE

Beginning with the 1974 model year, the three cylinder models were equipped with new type carburetors. These carburetors have a feature which allows the use of a carburetor balancer to be connected, enabling very accurate carburetor synchronization.

PARTS

The U. S. Suzuki Parts Department now has a special three cylinder carburetor balancer available. This new tool is illustrated below.



The Carburetor Balancer Part Number is: 09913-13120.

INSTRUCTIONS

Prior to performing carburetor synchronization the following items should be checked and adjusted to specifications.

A. Point Gap
B. Ignition Timing
C. Spark Plug Gap
D. Throttle Cable Play at Pulley
E. GT380/550 Pilot Air Screws
F. GT750 Fuel-Air Mixture

Following are instructions for calibrating the tool and for adjusting the engine idle speed and carburetor synchronization, using the new carburetor balancer, (09913-13120).

Calibration of Tool:

1. Start the engine and allow it to run until normal operating temperature is obtained.

2. Stop engine. Attach one balancer tube hose to one carburetors vacuum outlet. (Locations of the vacuum outlets are listed at end of these instructions.) Start engine and note position of check ball.

3. Stop engine. Attach the second balancer tube hose to the same carburetor. Start engine and adjust the position of check ball to that noted of the first check ball in Step 2, by turning the appropriate air adjusting screw, in the bottom of the balancer tubes base.

4. Repeat Step Number 3. for the remaining balancer tube.

NOTE: The tools calibration should be checked and adjusted each time it is used.

Carburetor Synchronization:

1. Start the engine and allow it to run until normal operating temperature is obtained.

2. Stop engine. Connect a balancer tube hose to each carburetors vacuum outlet. (Locations of the vacuum outlets are listed at the end of these instructions.) IMPORTANT - FINGER TIGHTEN ONLY TO SEAT "O" RING. If a wrench is used to tighten the connector, the carburetor threads can be damaged.

(cont.)

3. Start engine. Bring all three check balls to the same level, using the carburetor throttle valve adjusters. (See New Type Carburetor Service Manual For Models GT380, GT550, GT750.)

4. When all three check balls are at the same level, turn the throttle stop screw so the engine will idle smoothly at the lowest possible RPM. (Approximately 1,000 to 1,300 RPM depending on each individual motorcycle.)

NOTE: GT750 carburetor synchronization must be performed in the following order: RIGHT - CENTER - LEFT.

Location of Carburetor Vacuum Outlets:

Right and Left Carburetors - The vacuum outlets for the right and left carburetors are foward of the throttle slide, on the carburetor body. Phillips head screws (5mm) are threaded into the vacuum outlets on GT380/550 models, and face towards the outside of the motorcycle. The GT750's vacuum outlets are not threaded and the hose should be placed over the outlets without the threaded adapters.

Middle Carburetor - The GT380/550 middle carburetor's vacuum outlets are located in the throttle valve shafts left support bracket, near the fuel petcock vacuum hose connection. A 5mm Phillips head screw is also threaded into this outlet.

The GT750 middle carburetor does not have a special vacuum outlet and the fuel petcock's vacuum hose must be disconnected from the petcock. A special adapter is included with the Carburetor Balancer for inserting into the petcocks vacuum hose. After the GT750 engine is started for adjustment, the fuel petcock should be placed in the "PRIME" position.

WARNING: When the engine is stopped be sure the petcock is returned to the "ON" or "RES" position. Failure to comply with this warning can result in serious damage to the engine.

NOTE: Some early 1974 GT750's with new type carburetors were not equipped with vacuum outlets, and the new tool cannot be used to synchronize those units carburetors.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

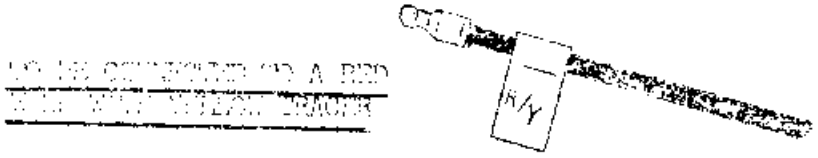
Bulletin No: GT-23
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT380/750 WIRING HARNESS
TEMPORARY COLOR CODE CHANGES

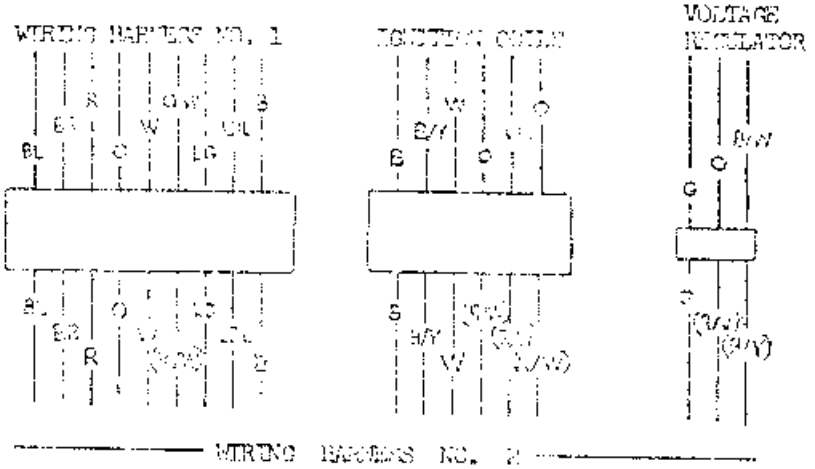
Sufficient amounts of the standard color coded wire insulation used in Suzuki electrical systems were unavailable at the beginning of the 1974 "L" model production. Therefore, temporarily non-standard wiring colors have been substituted whenever necessary.

Units manufactured during and after the month of February 1974 will have white tape with a color code printed on it attached near the end of the connector of the substitute wires. This will indicate the color of the wire it is to be connected to. Example:



Listed below are the basic color code changes which have been necessary. Variations of the color codes listed below may occur, while some units may be equipped with the standard color codes.

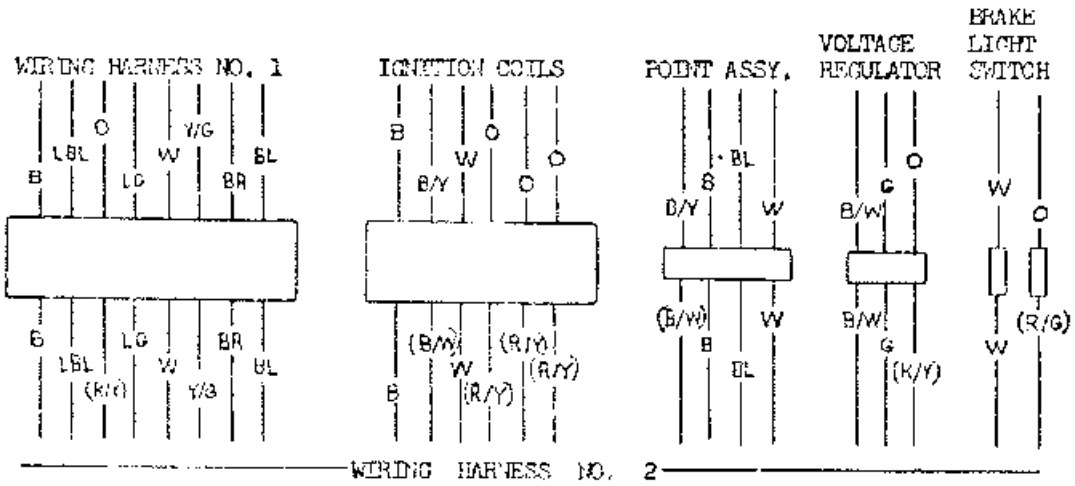
GT380



GT380

( ): INDICATES THE SUBSTITUTE COLORS

GT750



GT750

( ): INDICATES THE SUBSTITUTE COLORS

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-24
Date: May 1, 1975

Read and Initial
Manager ____
Parts ____
Service AHW

Subject: BURNED OUT GT250 HEADLIGHT BULB

PROBLEM:

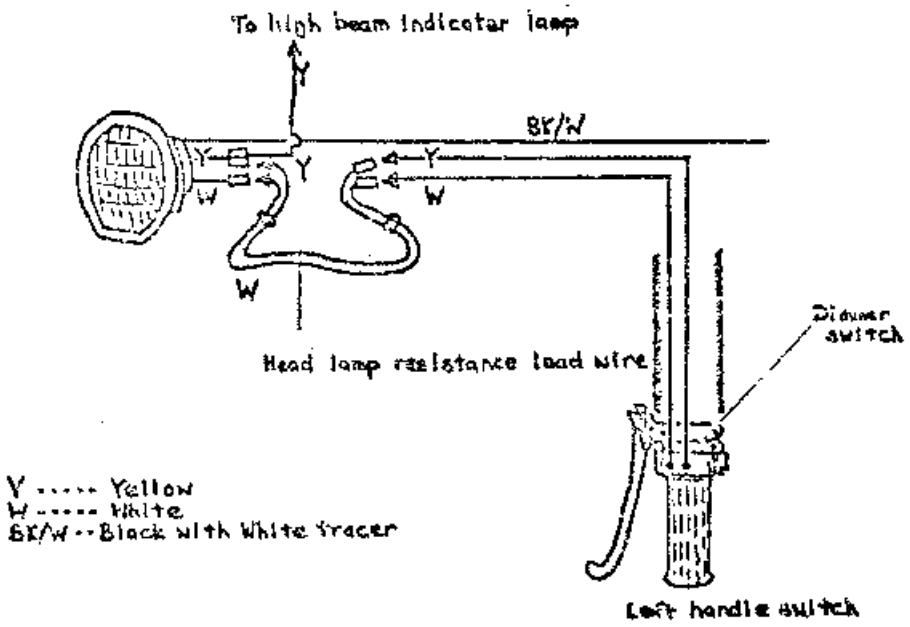
Routine reports indicate that certain units of the subject models have experienced premature headlight bulb failure. The usual cause is excessive voltage combined with high r.p.m. vibrations.

INSPECTION:

Check all the usual ground connections within the system, paying particular attention to such items as the high beam indicator bulb, neutral indicator bulb and taillight bulb. These must all be firmly connected, in working order and of the correct values, as listed in your service data manual.

CORRECTION:

Should the condition still exist, install the resistance lead wires, according to the following instructions.



GT250

Disconnect the white and yellow wire couplers inside the headlight shell. Install the resistance leads, in series, as shown in the illustration.

PART NUMBER AND AVAILABILITY:

The resistance leads are available from U. S. Suzuki's Parts department. The part number is 37131-18999.

For further information, refer to Service Bulletin No. TS-11.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-25
Date: August 15, 1975

Read and Initial

Manager
Parts
Service

Subject: GT750 CYLINDER PULLER TOOL SET

NOTICE:

We have received occassional reports of some GT750 cylinders being difficult to remove. Especially those with high mileage. In extreme cases the crankcase and/or cylinder has been damaged during removal attempts.

To easily remove the cylinder from a GT750, a Cylinder Puller Tool Set is now available from U. S. Suzuki's Parts Department.

INSTRUCTIONS:

Instructions for using the GT750 Cylinder Removal Tool Set are listed below. Read them thoroughly prior to use. Pay special attention to CAUTIONS to prevent cylinder and crankcase damage.

1. Using compressed air, blow loose residue out of all eleven cylinder stud holes.

CAUTION: Always wear safety goggles whenever performing an operation of this type.

2. Using the 5/8 NF tap (#99104-03140), thread all eleven holes until tap lightly bottoms on the cylinder studs.

CAUTION: Do not force tap further as damage to the cylinder will result.

3. Using compressed air, blow all the aluminum chips out of the stud holes and install puller body (99104-03110) using the installation bolt until body lightly bottoms in the threaded hole. The puller bodies internal threads should face down, towards cylinder studs. Shop towels should be placed in cylinders to prevent aluminum chips from entering.

CAUTION: Always wear safety goggles whenever performing an operation of this type.

NOTE: Do not use installation bolt to remove puller bodies after cylinder is removed. To do so will result in thread damage to it and the puller body.

4. Using a good grade of penetrating oil, fill all eleven cylinder stud holes. Then install eleven starter bolts (#99104-03120) until they bottom on the studs.

CAUTION: The following procedures must be adhered to or damage to the cylinder and engine cases will result.

5. Using the appropriate allen wrench, tighten all bolts ½ turn at a time using the same pattern as you would to torque the cylinder head. Continue tightening ½ turn at a time until the eleven starter bolts bottom in puller bodies. Uneven insertion of puller bodies must be allowed for. Therefore, when first bolt bottoms do not tighten any remaining bolts further if they break the tightening sequence pattern.

CAUTION: Under no circumstance should you tighten the starter bolts more than ½ turn at a time, to do so will probably cause damage to cylinder and cases, due to uneven pulling of cylinder.

6. Remove all starter bolts and install the eleven extension bolts (#99104-03130) until they bottom on the studs. Use the same tightening procedure one (1) turn at a time in sequence until the cylinder is completely removed.

SUMMARY:

It can not be stressed strongly enough, the importance of the above instructions and cautions. Failure to follow these will result in destroying the cylinder and/or the crankcase ass'y. All corrosion should be cleaned from cylinder studs and cylinder holes before re-assembling.

NOTE: After the above procedure is used to remove the cylinder, it is strongly recommended that the new cylinder washer with the rubber seal be used, part (#09168-14008). Please refer to Service Bulletin #GT-5, May 1, 1975.

PARTS:

The following is a list of parts that make-up the Puller Kit (#99104-03100). All listed parts are available from U. S. Suzuki in quantities of one, with the exception of the Installation Bolt.

(cont.)

PART NUMBER	DESCRIPTION	Q'TY PER KIT	DLR. COST
99104-03100	Puller Set	———	$46.88
99104-03110	Puller Body	11	$1.82 ea.
99104-03120	Starter Bolt	11	$0.28 ea.
99104-03130	5 1/4" Extension Bolt	11	$1.75 ea.
99104-03140	5/8" x 24 Tap	1	$4.57
N/A	3/8" x 1 ½" Installation Bolt	1	N/A

NOTE: The 3/8" x 1 ½" Installation Bolt can be easily obtained from any hardware store.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

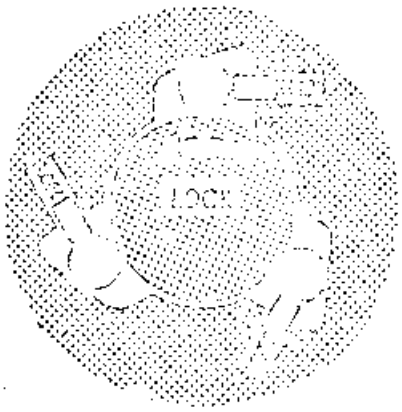
Bulletin No: GT-26
Date: August 15, 1975

Read and Initial
Manager
Parts
Service

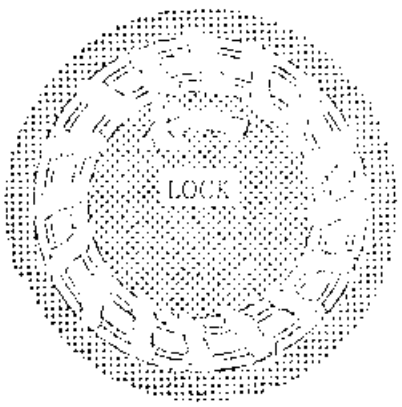
Subject: GT550 STARTER CLUTCH CHANGE

NOTICE:

To increase the durability of the GT550 starter clutch assembly, its design has been changed from a 3-roller to a "Borg Warner" type clutch.



OLD TYPE (3-roller)



NEW TYPE ("Borg Warner")

INTERCHANGEABILITY:

The old and new type starter clutches are interchangeable as an assembly only. Individual components are not interchangeable.

PARTS AND AVAILABILITY:

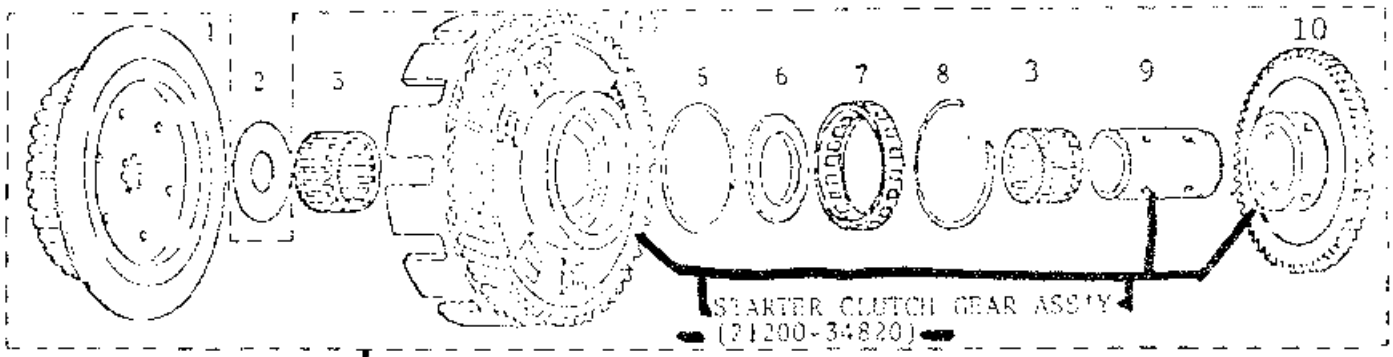
The 3-roller type starter clutch assembly is no longer available from U. S. Suzuki's Parts Department. Only those component parts still used in other models shall remain available. These are listed below:

DESCRIPTION	PART NUMBER
Starter clutch hub screw	02121-08258
Primary driven gear thrust washer	08211-22423
Starter clutch roller	09261-15001
Starter clutch spring	09440-04015
Starter clutch roller push piece	12633-31000
*Clutch sleeve hub	21411-34000

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

*The old style clutch sleeve hub will remain available until the current stock is depleted.

The new "Borg Warner" type starter clutch assembly is now available from the Parts Department. Its Part Number is 21200-34830. Its individual components are also available as listed below:



REF. NO	DESCRIPTION	PART NUMBER
	"Borg Warner" starter clutch ass'y.	21200-34831
1.	Clutch sleeve hub	21411-34001
2.	Thrust washer	08211-22503
3.	Needle bearing	09263-38005
*4.	Primary driven gear ass'y.	21200-34821
5.	Thrust washer	09160-64001
6.	Thrust bearing	09263-38003
7.	One-way clutch ass'y.	12650-34020
8.	One-way clutch circlip	09381-71001
*9.	Primary driven gear spacer	21200-34821
*10.	Starter clutch gear	21200-34821

(cont.)

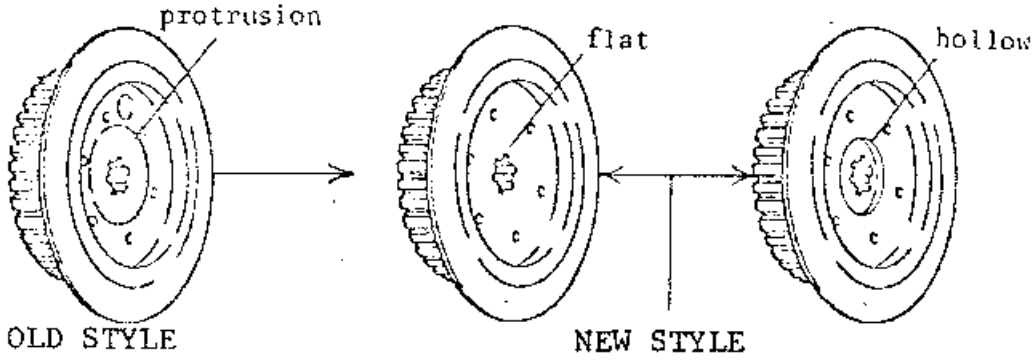
REVISED

Note: Item 2 is not supplied with the new starter clutch assembly. It is the same washer as in the old style assembly. Be sure to install it with the new assembly.

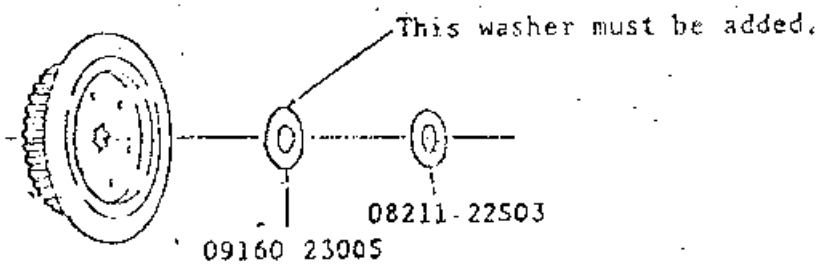
Items 4, 9, and 10 are supplied as a matched set. This is explained under Assembly Notes III.

COMPONENT PART CHANGES:

Changes to the individual component parts are explained below:



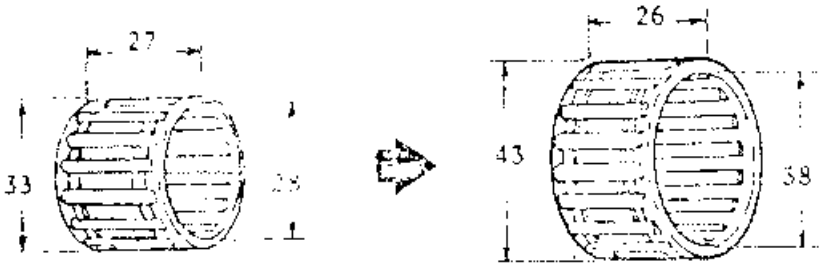
*The new style clutch sleeve hub, either the flat or hollowed out type as shown above, can be used with the old style primary driven gear, as long as a 3mm washer (09160-23005) is used between the standard thrust washer and hub as shown below.



*REVISED

Needle Bearing:

The dimensions of the needle bearing have been changed as shown.



OLD TYPE NEW TYPE

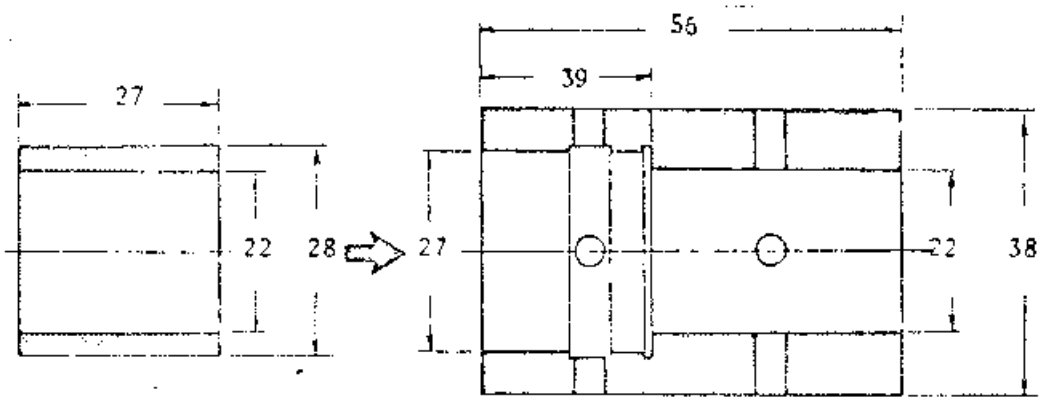
unit: mm

Two needle bearings are used in the new type starter clutch assembly; one for the primary driven gear and one for the starter clutch gear.

The old type starter clutch used one needle bearing, and it was for the primary driven gear.

Primary Driven Gear Spacer:

The dimensions and shape of the primary driven gear spacer have been changed as shown.



OLD TYPE NEW TYPE

unit: mm

(cont.)

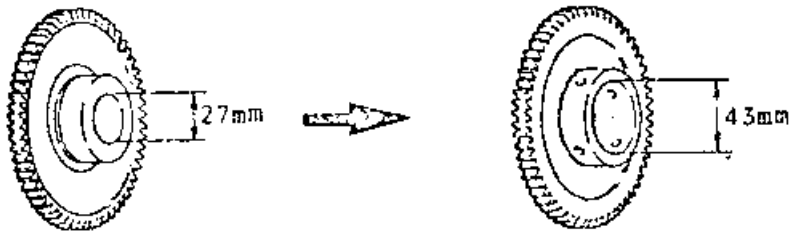
Primary Driven Gear Assembly:

The primary driven gear assembly has been changed to incorporat the new one-way starter clutch.

OLD TYPE NEW TYPE

Starter Clutch Gear:

The shape and inside diameter of the starter clutch gear has been changed as shown.



OLD TYPE NEW TYPE

Any component parts not shown have been either discontinued, or newly added to the new type starter clutch assembly.

APPLICATION:

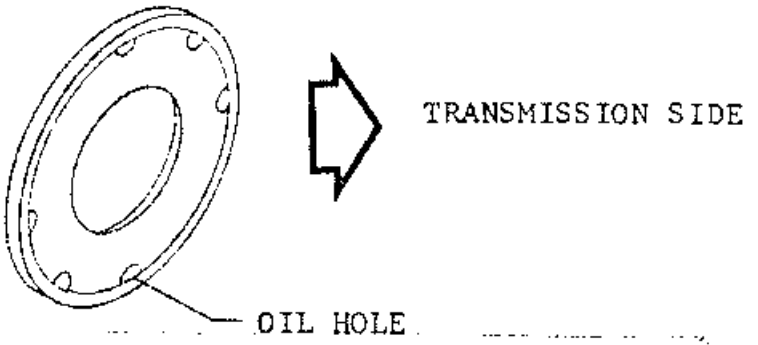
The new type starter clutch assembly has been installed in GT550's on and from Engine Number: GT550-63692.

ASSEMBLY NOTES:

Whenever replacing new type starter clutch individual components, refer to the following notes.

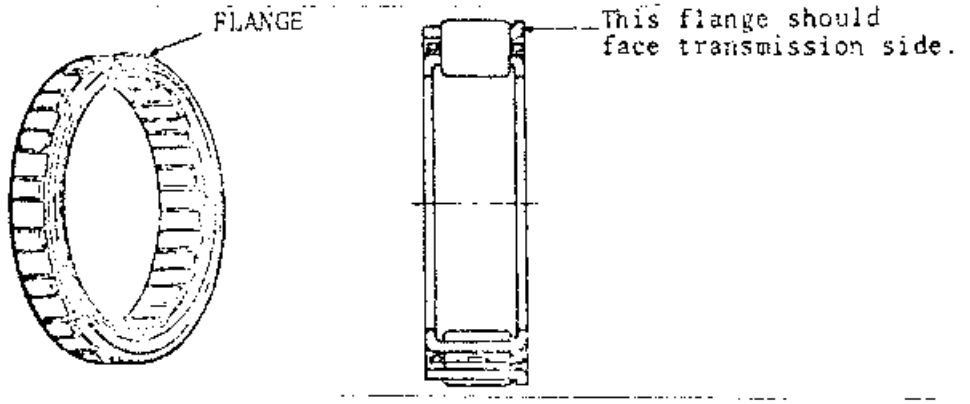
I. Primary driven gear thrust bearing:

When installing the thrust bearing, be certain the side with the oil holes is positioned towards the transmission when the primary driven gear is installed on the countershaft.



II. One-way clutch assembly:

Installation of the one-way clutch assembly should be with the flanged side facing the transmission when the primary driven gear is installed on the countershaft.



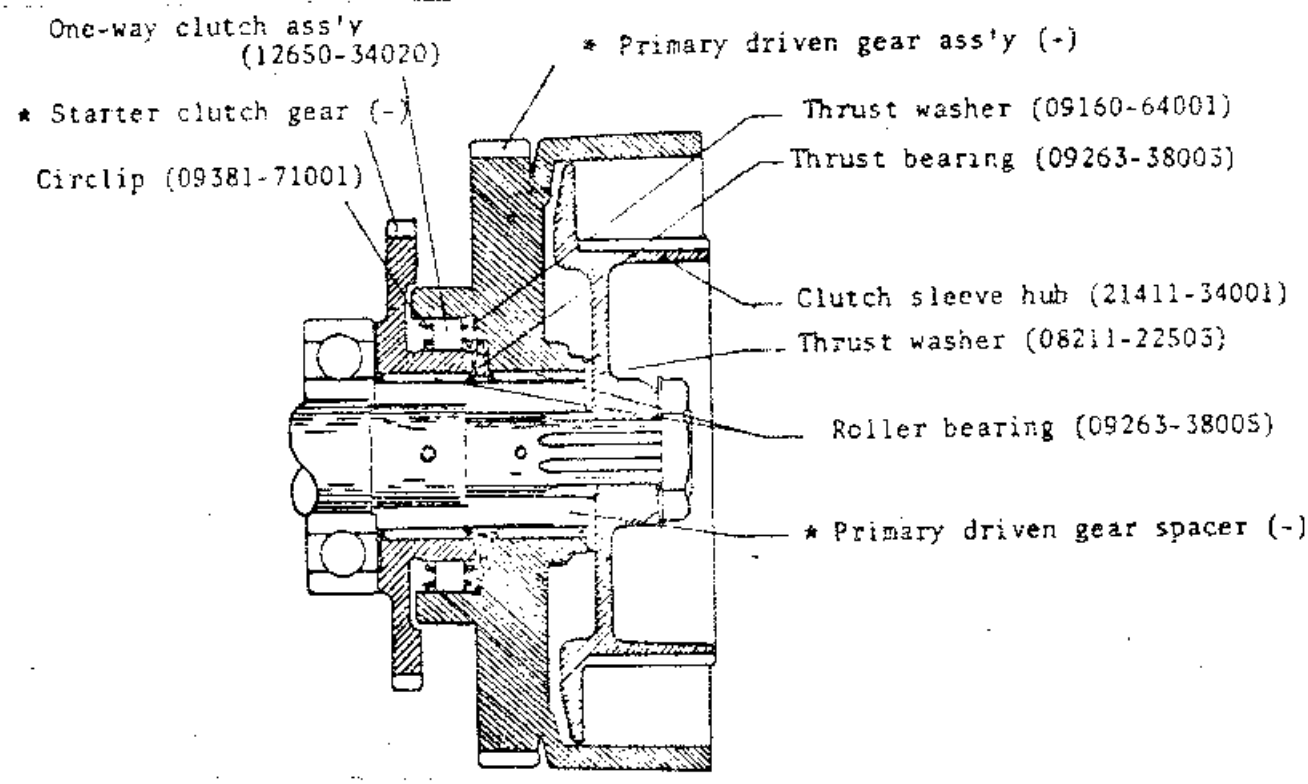
If the one-way clutch is installed inversely, the clutch will not engage when the electric starter is used. If the engine is then started with the kick starter, damage to the starter motor will occur.

III. Starter clutch gear assembly:

The primary driven gear, primary driven gear spacer, and starter clutch gear are supplied as a matched set (21200-34820). These

individual components require replacement the entire matched set must be replaced. To mix the component parts of different starter clutch sets can cause difficult assembly or will cause premature starter failure.

IV. Below is a sectional illustration of the starter clutch assembled and installed.



*See Assembly Note III.

MICELLANEOUS NOTES:

1. Since the clutch sleeve hub thrust washer (08211-22503) is not included with the starter clutch assembly, be certain that it is installed. This washer is used in both new and old style clutches.

2. The starter one-way clutch is susceptible to foreign particles in the transmission oil. Therefore, transmission oil changes at regular intervals of 2,000 miles are strongly recommended. At the same time, the transmission should be flushed with cleaning solvent.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Suzuki GT Technical Bulletins 34-39

APRIL 6, 2023
CATEGORIES: GT250, GT500, GT380, GT550, GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

34. GT500 – Shift cam guide bolt location

35. GT250 – Cylinder head, spark plug and carburetion changes

36. GT75- – Fuel surging

37. GT380/550/750 – Fuel cock seepage

38. GT380/550/750 – Gear shifting switch

39. GT500A & B – Front fender mount

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-34
Date: Mar. 26, 1976

Read and Initial

Manager_____
Parts_____
Service AAF

Subject: GT500 SHIFTING CAM GUIDE BOLT LOCATION
REFERENCE: Service Bulletin #T-5

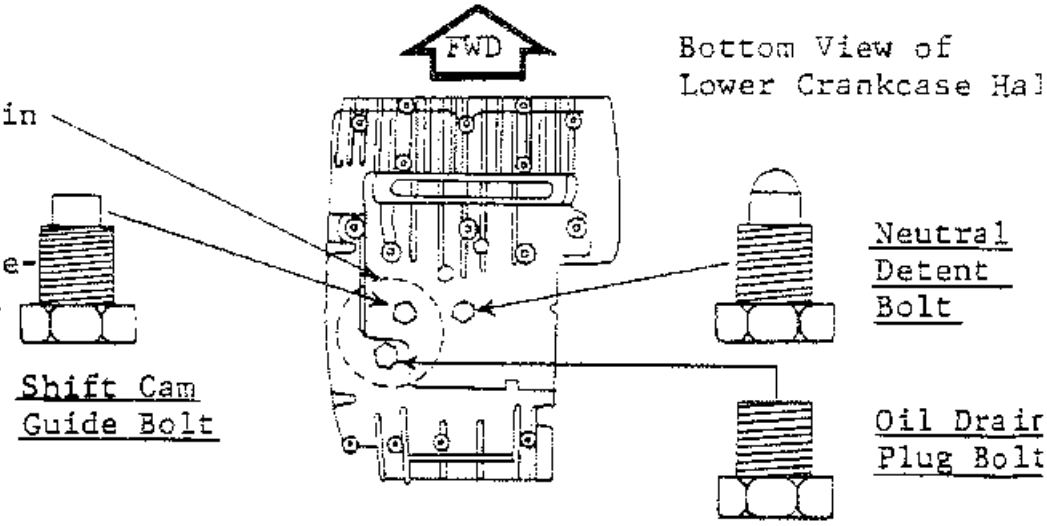
NOTICE:

We have received occasional reports of GT500 transmission failure immediately after an engine or transmission overhaul. Upon disassembling and inspecting the transmission, it was found that the transmission oil drain plug and the shift cam guide bolt had been mistakenly interchanged during the overhaul.

REVISED
(7/16/76)

UPDATED
(7/16/76)

NOTE: Remove both bolts to drain oil. After draining oil make sure of correct placement of both bolts.



The shift cam guide bolt restricts the shift cam drum from sliding from side to side inside the crankcase assembly. When these two bolts are interchanged, the oil drain plug does not extend into the locating groove of the shift cam drum, allowing the drum to slide from side to side. When this happens the shifting forks slide with the shift cam, allowing two sets of gears to become engaged at the same time. This results in severe damage to the gears, and requires their replacement.

Therefore, whenever a GT500 is overhauled, or the transmission oil changed by your service department the final inspection after reassembly should be the proper placement of the shift cam guide bolt and oil drain plug.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-35
Date: April 2, 1976
Read and Initial
Manager
Parts
Service

Subject: GT250 CYLINDER HEAD, SPARK PLUG AND CARBURETION CHANGES
REFERENCE: Service Bulletin #GT-32 January 2, 1976

NOTICE:

For improved engine efficiency at all operating speeds, the carburetion, compression ratio, and spark plug heat range have been changed. These changes are as follows:

I. Cylinder Head

The cylinder head has been redesigned to lower the compression ratio from 7.2:1 to 6.8:1.

II. Spark Plug

The spark plug heat range has been changed from a B-8ES (NGK) - W24ES (ND) to B-9ES (NGK) - W27ES (ND).

III. Carburetion

The right and left main and needle jets have been changed as indicated.

A. The main jet specification has been increased in size from 92.5 to 95.

B. The needle jet specification has been decreased in size from 0-2 to 0-0.

APPLICABILITY:

The new style parts have been applied to GT250's on and after the engine numbers shown below. These are mid 1976 GT250A production line engine numbers.

NEW TYPE	ENGINE NUMBER
Cylinder Head	87498
Carburetors	87498
Spark Plug	86479

(cont.

INTERCHANGEABILITY:

The old and new style parts are interchangeable. However, the use of old style parts in place of the new style parts is not recommended.

PARTS:

DESCRIPTION	OLD PART NUMBER	NEW PART NUMBER
Cylinder Head	11111-18631	11111-18632
Spark Plug	09482-00091 (B8ES)	09482-00066 (B9ES)
Carburetor Assy. (R)	13201-18660	13201-18661
Carburetor Assy. (L)	13202-18660	13202-18661
Main Jet	09491-92001	09491-95003
Needle Jet	09494-00168	09494-00167

Only the new style cylinder head and carburetor assemblies are available from U. S. Suzuki's Parts Department.

NOTE: It is recommended to install a B-9ES spark plug in earlier machines which are primarily intended for high speed use.

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 "SURGING"

Bulletin No: GT-36
Date: March 11, 1977

Read and Initial

Manager _____
Parts _____
Service DAF

NOTICE:

Certain GT750's equipped with Constant Velocity (C.V.) carburetors may experience a "surging" or "bucking" problem on deceleration or part throttle cruising conditions.

Extensive carburetion testing has shown that by reducing the pilot air jet size, these characteristics can be minimized or eliminated.

Important: The factors listed below can also contribute to this situation and should be checked carefully before reducing the pilot air jet size:

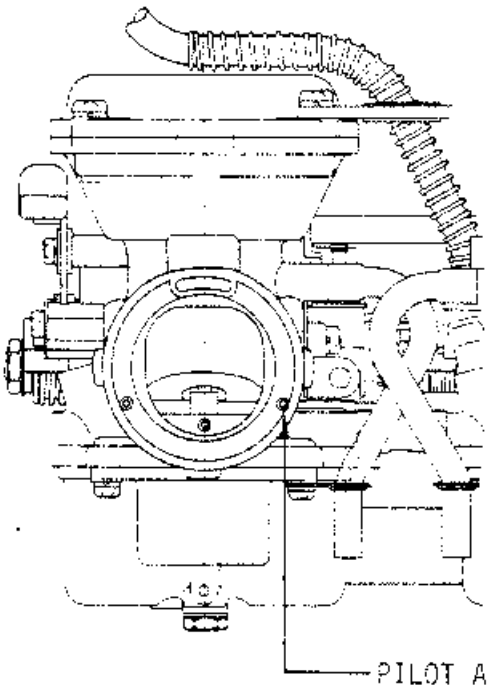
Carburetion Adjustments/Synchronization
Gasoline Type/Octane
Ignition Timing
Drive Chain and Sprocket Condition
Piston Ring Seat Condition (Compression)
Spark Plug Type and Condition
General Engine Condition
Muffler Baffle Condition

GT750 pilot air jets are pressed into position and cannot be removed. Therefore, an additional reduction air jet must be installed in the pilot air circuit. Reduction air jets are now available and come in the two sizes listed below:

REDUCTION PILOT AIR JET	
#80	0.80 mm DIA.
#90	0.90 mm DIA.

(continued)

The #80 reduction jet would normally be used in the 1975M, 1976A, and 1977B models. The #90 reduction jet would normally be used in the 1974L model. These are the suggested applications and depending on geographical area and engine conditions, it may be necessary to select the alternate jet.



The installation of these reduction air jets will richen the idle mixture considerably. On certain machines, it may be necessary to adjust the jet needle position one step leaner to eliminate an "off idle" hesitation. Before the needle position is altered, the pilot air screw's adjustment and carburetor synchronization should be carefully adjusted.

NOTE: The Suzuki vacuum carburetor balancer (09913-13121) should be used to synchronize the carburetors properly.

Unleaded or low-lead gasoline is recommended for the GT750 for maximum spark plug life and proper engine operation. If the unit has been operated on leaded gasoline, 2 or 3 tanks of unleaded or low lead fuel will remove the lead build up in the engine. New spark plugs are recommended after this cleaning action is finished.

New GT750's should have approximately 1,000 miles of break-in miles on them and all adjustments re-checked before determining whether this jetting modification is required.

If it is determined that a reduction in air jet size is necessary, the following directions and precautions should be carefully studied before installing them.

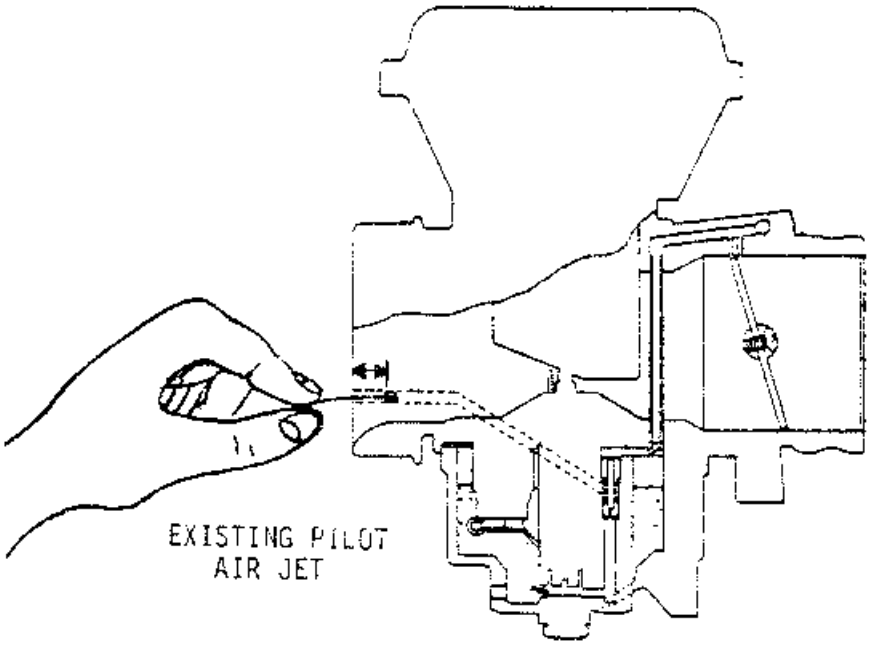
(continued)

INSTALLATION:

1. Remove the carburetor assembly.

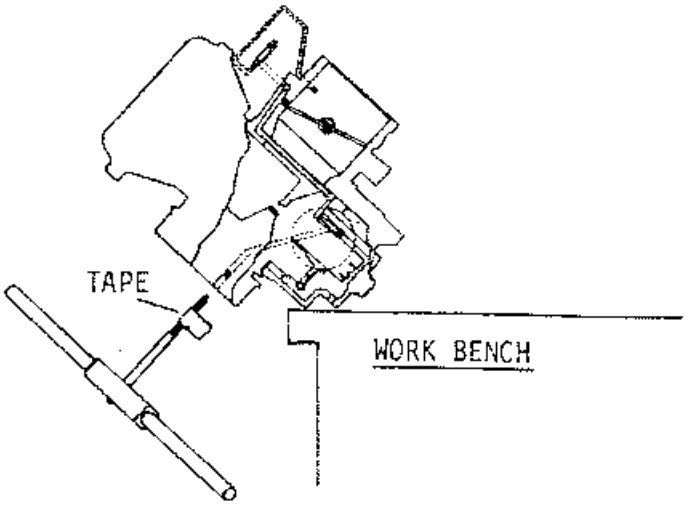
2. Place the carburetor assembly on a clean work surface.

3. Using a fine piece of wire, measure the distance that the existing pilot air jet has been inserted into the pilot air intake tract, as illustrated below:



4. Place a piece of tape (to be used as a reference point) on a 4 x 0.7mm tap, 1mm less than the total distance measured with the piece of wire. This will prevent the tap from damaging the existing air jet.

5. Tilt the carburetor assembly so that the mouth of the venturi is tilted in a downward position. This step must be done to eliminate the possibility of aluminum shavings entering the existing pilot air jet.



NOTE: Before performing the threading operation, clean the tap of any oil or grease deposits. Any oil or grease deposits left in the air jet bore will prevent the easy removal of the aluminum cuttings from the threading operation. If any aluminum cuttings pass through the existing air jet, the carburetor may have to be replaced due to the difficulty of cleaning this particular circuit.

6. Insert the tap until the tape reaches the flange of the pilot air intake opening. Remove the tap. Lightly knock the carburetor assembly against the work bench to remove all aluminum shavings.

7. Using Suzuki Thread Lock Cement, place one small drop on the threads of the new pilot air jet. Screw the new jet into the pilot air jets' bore until the head of the jet lightly seals against the flange of the bore.

8. Reinstall the carburetor assembly, adjust and sychronize the carburetors.

9. Test ride the machine to determine if the jet needle position must be changed as described earlier.

PARTS:

DESCRIPTION	PART NUMBER	DEALER COST	QTY.
Pilot Air Jet - 0.8mm DIA.	09493-31330	$.92 ea.	3
Pilot Air Jet - 0.9mm DIA.	09493-18001	$.92 ea.	3

Both pilot reduction air jets are now available from U.S. Suzuki's Parts Department.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
(2-Stroke)
Service Bulletin

Bulletin No: GT-37

Date: March 11, 1977

Read and Initial

Manager

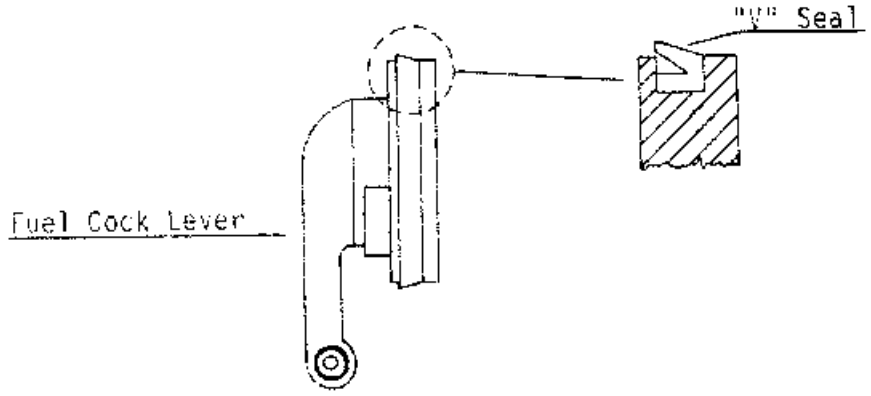
Parts

Service

Subject: GT380/550/750 FUEL COCK SEEPAGE

NOTICE:

To prevent fuel cock seepage, a "V" seal has been installed around the fuel cock lever, to seal the lever to the fuel cock body, as illustrated below.



PARTS AND INTERCHANGEABILITY:

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
Fuel Cock	44300-33153	← 0 →	44300-33154
"V" Seal		→	44353-33154

After the existing supply of the old style parts are exhausted, only the new style will be available.

APPLICABILITY:

GT model motorcycles will have the new style parts installed on and after the Frame Numbers listed below:

GT380-89108

GT550-64337

GT750-67962

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921 4461

(T-4)

SUZUKI
(2-Stroke)
Service Bulletin

GT380/550/750
Subject: GEAR SHIFTING SWITCH

Bulletin No: GT-38
Date: April 29, 1977

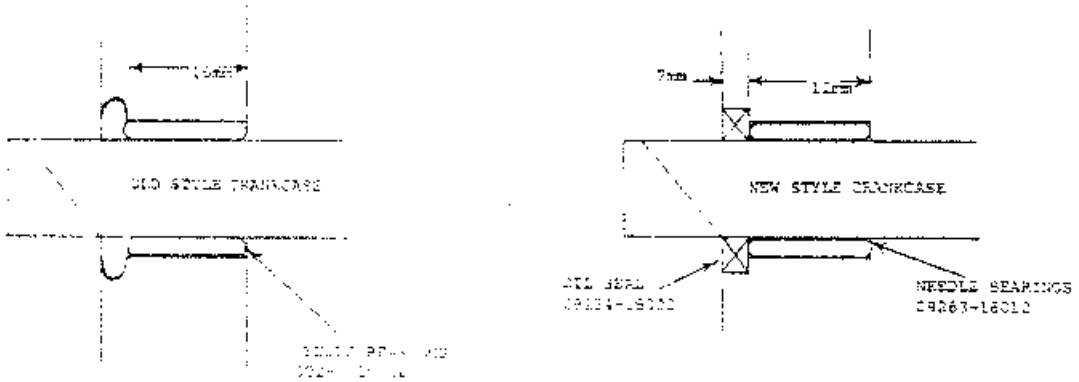
Read and Initial

Manager
Parts
Service

NOTICE:

To strengthen the GT380/550/750's gear shift indicator switch's body, its material has been changed from phenolic to metal, and its shape changed.

At the same time, the crankcase has been changed to accept an oil seal for the gear shifting camshaft. This will prevent metal particles in the transmission oil from damaging the switches' "O" rings, thus allowing oil to seep past. The crankcase modifications are listed below.



PARTS AND INTERCHANGEABILITY:

USA CRANKCASE AND RELATED COMPONENT'S PART NO.S.

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
GT380 Crankcase	11300-33820		11300-33822
GT550 Crankcase	11300-34860	* See Below	11300-34861
GT750 Crankcase	11300-31850		11300-31852
Oil Seal	———		09284-16002
Needle Bearings	09263-16006	←—×—→	09263-16012

KEY: O - Interchangeable X - Not Interchangeable

*Interchangeability between old and new style crankcases is possible, if, when installing a new style crankcase the new style needle bearings and oil seal are used.

*After the existing stock of the old style crankcases are exhausted, only the new style will be available.

NOTE: When installing the oil seal on a new style crankcase, the lip of the oil seal must face the internal components of the transmission.

(continued)

SHIFTING SWITCH BODY

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
GT750	37710-31211	← 0 →	37710-31212
GT380/550	37710-33111	← 0 →	37710-33112

FINAL DRIVE COMPONENTS

The GT750 final drive components have been changed to increase the distance between the engine's drive sprocket and switch body to prevent a loose chain from hitting the switch body. The GT380/550 final drive components will remain unchanged.

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
Drive Sprocket	27511-31000 16 Teeth	} ← 0 → {	27511-33600 15 Teeth
Driven Sprocket	64511-31700 43 Teeth		64511-31770 40 Teeth
Drive Chain	27600-31014 106 Links		27600-31016 104 Links

*Interchangeability is possible, only if all three components are replaced as a set.

Both the old and new style final drive components are available from U.S. Suzuki's Parts Department.

APPLICABILITY:

These modifications have been made on and after the Engine Numbers listed below:

GT380-99412

GT550-66724

GT750-74377

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

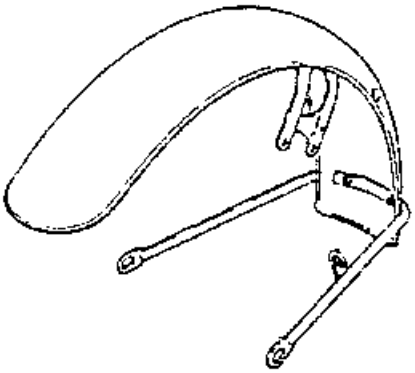
Subject: GT500A,B FRONT FENDER MOUNTING METHOD

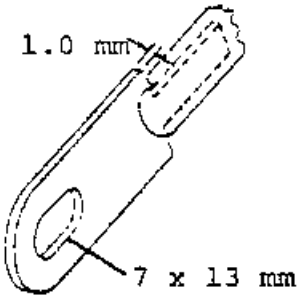
Bulletin No: GT-39
Date: December 2, 1977

Read and Initial

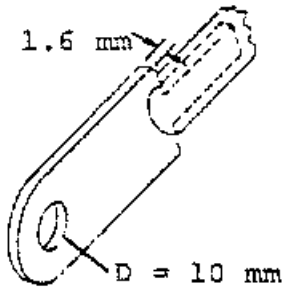
Manager
Parts
Service

There are presently three ways to mount the A and B model GT500 front fender brace to the front fork outer tube. To distinguish the different mounting methods from each other, they are labeled the Original method, the Type 1 method, and the Type 2 method. If any original or Type 1 front fender has to be replaced, it must be updated to the Type 2 fender.





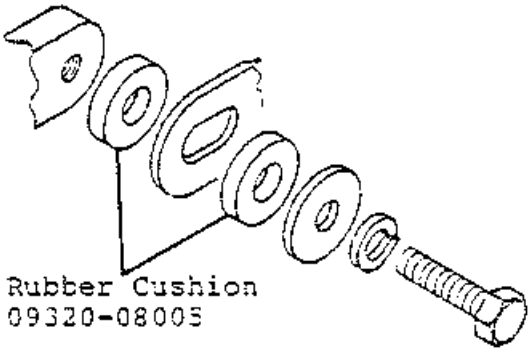
TYPE 1



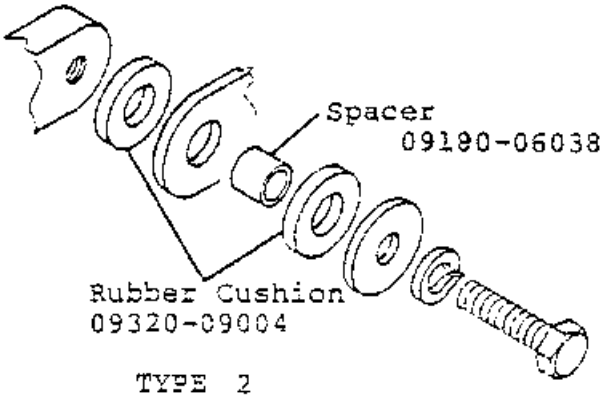
TYPE 2

The Original method is a "rigid"mount with the fender brace bolted directly to the fork tube.

The Type 1 method is a "semi-floating" mount. A rubber cushion is used with the original type fender to provide a small amount of flexibility. With this type of mount, the mounting bolt must be secured with thread lock cement.



TYPE 1



TYPE 2

The Type 2 method is a "floating" mount. The front fender brace has been changed and it is mounted by a rubber cushion and a spacer. This mounting method will provide a secure yet flexible mount for the front fender.

(continued)

INTERCHANGE INFORMATION:

DESCRIPTION	ORIGINAL PART NO.	INTRCHG.	TYPE 1 PART NO.	INTRCHG.	TYPE 2 PART NO.
Front Fender	53100-31703	←YES→	53100-31703	NO	53100-31704
Cushion	———	NO	09320-08005	NO	09320-09004

PARTS AVAILABILITY INFORMATION:

Component parts for Type 1 and Type 2 mounting methods that are available from U. S. SUZUKI'S PARTS DEPARTMENT are:

QTY. NEEDED	DESCRIPTION	TYPE 1 PART NO.	TYPE 2 PART NO.
1	Front Fender	Discontinued	53100-31704
2	Bolt	01107-06208	01107-06208
2	Lockwasher	08321-21068	08321-21068
2	Flatwasher	09160-06020	09160-06020
4	Cushion	09320-08005	09320-09004
2	Spacer	———	09180-06038

APPLICABLE FRAME NUMBERS:

Before and on	F# 106185	-----	Original Type
From	F# 106186 to 106460	-----	Type 1
On and after	F# 106461	-----	Type 2

Suzuki GT Technical Bulletins 27-33

APRIL 6, 2023
CATEGORIES: GT185, GT250, GT380, GT500, GT550, GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

27. GT185/250/380/550 – Spark plug caps

28. GT500 – PEI Inspection

29. GT550/750 – 2nd drive and driven gears

30. GT250A – Ignition timing marks

31. All GTs – Constant on headlight

32. GT250 – Changes from 1975 to 1976

33. GT550 – Improved rear brake performance

SUZUKI
2-Stroke
Service Bulletin

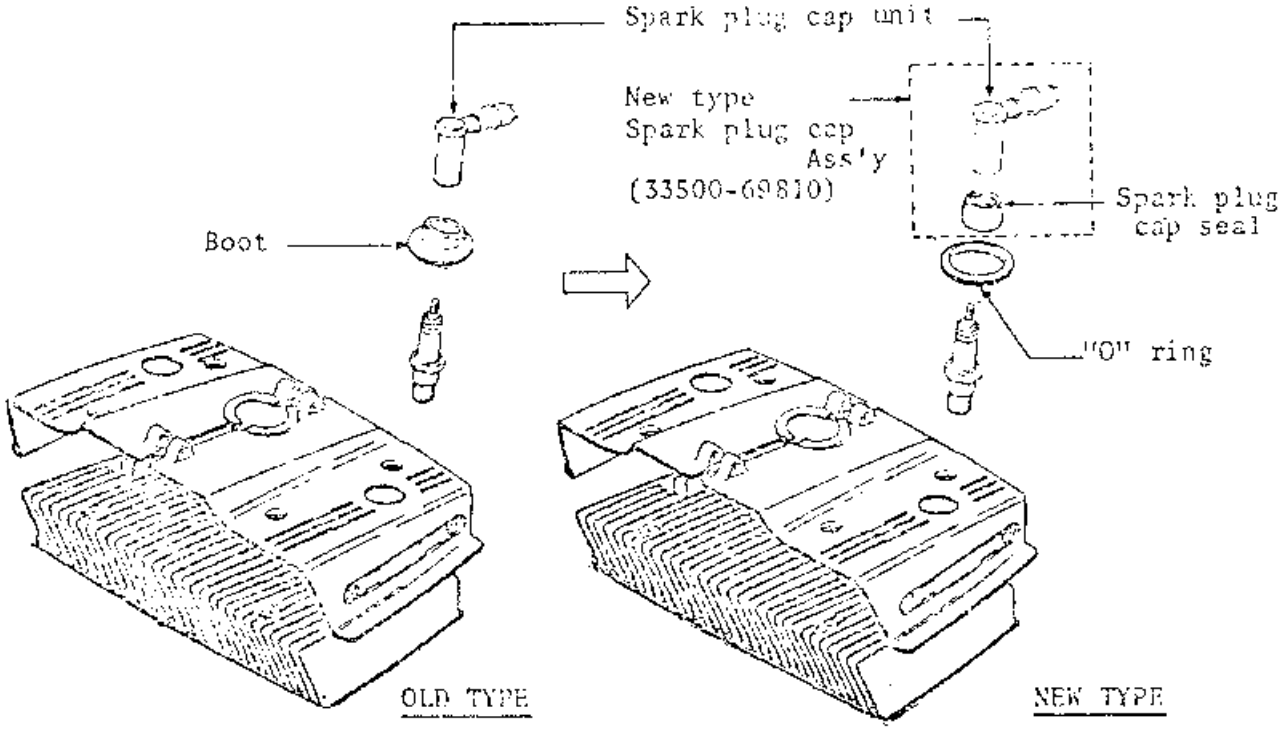
Bulletin No: GT-27
Date: Nov. 14, 1975

Read and Initial
Manager
Parts
Service AA

Subject: GT SERIES SPARK PLUG CAPS

NOTICE:

Use of the rubber spark plug cap boot on the GT ram air covers has been discontinued. To take the place of the boot, a spark plug cap seal (also used for other models) and a rubber 'O' ring are now used as shown below.



Whenever a GT model equipped with spark plug cap boots is misfiring, inspect the inside of the spark plug cap unit for "tracking". If it is tracking, replace the spark plug caps and discard the boots, replacing them with the new 'O' rings.

PARTS:

DESCRIPTION	OLD PART No.	NEW PART NO.	AVAILABILITY
GT250/380/550 Middle Spark Plug Cap Boot	33543-33010	-------	No
GT380 Right & Left Spark Plug Cap Boot	33543-33110	-------	No

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-28
Date: Nov. 14, 1975

Read and Initial

Manager
Parts
Service

Subject: GT500 PEI INSPECTION

NOTICE:

A feature of the GT500 is a Pointless Electronic Ignition system. This bulletin provides the necessary information required to thoroughly inspect the GT500 PEI system.

INSPECTIONS:

A: Coil Resistance

The resistance readings below are made on a Suzuki pocket tester (R x 1 scale) and have a tolerance of plus or minus 10%. The ignition coil secondary inspection is an exception, it should be measured on the RX100 scale.

1.	Exciter Coil	G to B/W:	185 ohms
		B/R to B/W:	214 ohms
2.	Pulser Coil	R/W to B/W:	67 ohms
3.	Charging Coil	Y/G to R/G:	1.0 ohms
		Y/G to G/W:	1.0 ohms
4.	Ignition Coil (primary)	W/BL to B/W:	1 - 5 ohms
	(secondary)	:	10 - 14k ohms

B: PEI Unit

Turn the Suzuki pocket tester selector to the RX100 scale when inspecting the PEI unit according to the chart on the next page.

CONNECT TO TESTER (-) TERMINAL	CONNECT TO TESTER (+) TERMINAL					
	B/R	G	B/Y	R/W	W/BL	B/W
B/R		B	A	B	C	B
G	B		B	B	B	B
B/Y	B	B		B	C	B
R/W	B	A	A		B	A
W/BL	*C	B	C	B		B
B/W	B	A	A	A	C	

A: Continuity
B: No Continuity
C: Needle should deflect once and return immediately

* Needle deflection is very small.

Note: When checking a wire combination which should give a meter reading designated by 'C', the battery in the ohmmeter is charging the condenser in the PEI box. Before any further test are performed the condenser must be discharged by connecting a jump wire between the White/Blue and Black/Yellow wires for at least ½ minute.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-29
Date: Nov. 21, 1975

Read and Initial

Manager
Parts
Service HW

Subject: GT550 & GT750 SECOND DRIVE & DRIVEN GEARS
REFERENCE: Service Bulletin #RE-13

NOTICE:

To increase durability of the GT550 and GT750 second drive gear, the second drive and driven gears have been strengthened by decreasing their number of teeth by one. At the same time, third drive and driven gears have been strengthened using the same method.

	NUMBER OF TEETH	
	OLD STYLE	NEW STYLE
2nd drive gear	19	18
2nd driven gear	33	32
3rd drive gear	22	21
3rd driven gear	30	29

PARTS:

The new style 2nd drive and driven gears must be replaced as a set. The same applies for 3rd drive and driven gears. The new style parts are used according to the following table:

DESCRIPTION	OLD PART NO.	NEW PART NO.	APPLICABLE MODEL	RELATED PARTS WHICH MUST ALSO BE ORDERED AND REPLACED WHEN THE NEW STYLE PART IS USED.	
2nd drive gear	24221-31000	24221-37000	GT550 GT750	*2nd driven gear 24300-37810 (GT750)	2nd driven gear 24320-37000 (GT550)
2nd driven gear	24321-31822	24300-37810	GT750	2nd drive gear 24221-37000	
2nd driven gear	24321-31000	24320-37000	GT550	2nd drive gear 24221-37000	
3rd drive gear	24231-31000	24231-37000	GT550 GT750	3rd driven gear 24330-37000	
3rd driven gear	24331-31000	24330-37000	GT550 GT750	3rd drive gear 24231-37000	
Countershaft Ass'y.	24120-31001	24120-31002	GT750	*2nd driven gear 24300-37810	3rd driven gear 24330-37000
Countershaft Ass'y.	24120-34001	24120-34002	GT550	2nd driven gear 24320-37000	3rd driven gear 24330-37000
Crankcase Ass'y	11300-31851	11300-31852	GT750	2nd drive gear 24221-37000	

*Revised November 26, 1975 REVISED

(cont.)

Only, the new style parts are now available from U. S. Suzuki's Parts Department.

Although it is not absolutely necessary, we strongly recommend that if new style 2nd gears are being installed, new style 3rd gears should also be installed at the same time, and vice-versa.

APPLICABILITY:

The new style parts have been installed in GT750's on and from the following frame and engine numbers:

FRAME NO.: GT750-66220

ENGINE NO.: GT750-73059

GT550's will continue to have the old style parts installed, until the current supply is depleted.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-30
Date: Nov. 26, 1975

Read and Initial

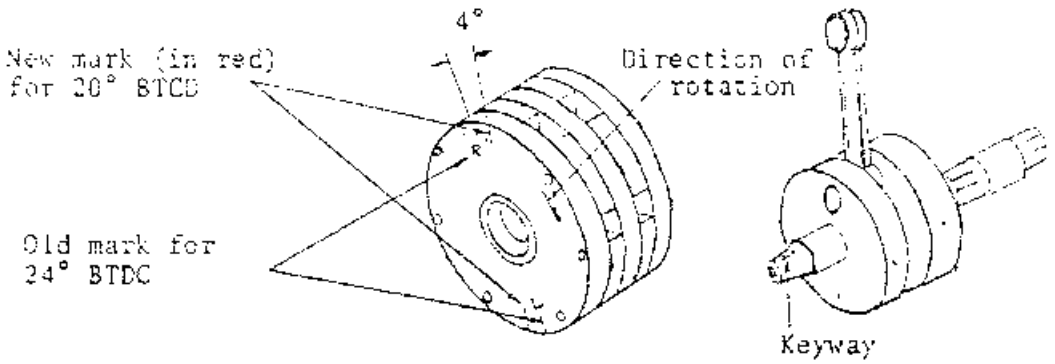
Manager
Parts
Service

Subject: 1976 GT250 IGNITION TIMING MARKS

NOTICE:

In conjunction with other engine design changes, the ignition timing for the 1976 GT250 has been retarded 4° from the 1975 specification of 24° (2.88mm) to 20° (2.05mm).

In order to have the timing marks on the roter align with the stationary mark on the crankcase, it is intended to relocate the crankshaft's rotor keyway. However, some initial 1976 production units are equipped with crankshafts without the keyway being relocated. Therefore, another timing mark has been stamped on the rotor and is distinguished by red paint.



ROTOR CRANKSHAFT

APPLICABILITY:

Affected units which are equipped with the unrelocated keyway crankshaft; are as follows:

Frame No. GT250-80001 through *approximately Frame No. GT250-83000.

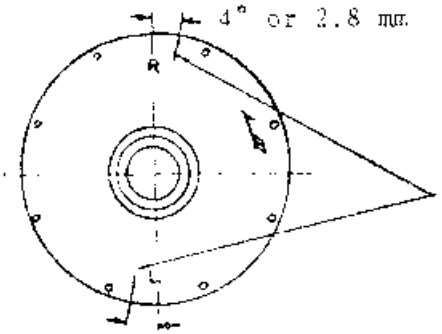
It is expected that 1976 model GT250's will be produced with the keyway relocated on the crankshaft shortly after Frame No. GT250-83000. At that time the additional rotor timing marks will be discontinued.

*When exact frame numbers become available a bulletin will be issued.

PARTS:

I. Rotor

Should it become necessary to replace a rotor on an affected 1976 GT250 (Frame Nos. 80001-83000), be sure to punch the 20° timing marks as illustrated.



Be sure to paint the punched marks in red.

II. Crankshaft

When replacing a crankshaft assembly or left crankshaft journal on a 1976 GT250 refer to the guide table below:

1976 GT250 EQUIPPED WITH	ROTOR REMARKS
Crankshaft with 24° keyway (12200-18861)	Be sure rotor has 20° punch marks
Crankshaft with 20° keyway (12200-18401)	Use rotors standard marks
Crankshaft LH Journal with 24° keyway (12261-18001)	Be sure rotor has 20° punch marks
Crankshaft LH Journal with 20° keyway (12261-18002)	Use rotors standard marks

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No GT-31
Date: Dec. 12, 1975

Read and Initial

Manager
Parts
Service

Subject: GT SERIES CONSTANT ON HEADLIGHT

NOTICE:

All 1976 GT model Suzuki motorcycles now incorporate a headlight on feature when the ignition system is turned on.

This has been accomplished on the Suzuki GT models by locking the headlight switch in the 'on' position. In conjunction with this, the headlight wattage has been increased on the GT185, GT250, GT380, and GT500 models.

PARTS:

The above requirement has made the modification of certain parts and their related components necessary. These parts by model are as follows:

GT185

DESCRIPTION	REMARKS
L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 40/30w
Headlight Ass'y.	
Headlight Housing	

GT250

L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 30/30w
Headlight Ass'y	
Voltage Regulator	

GT380

L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 40/30w
Headlight Ass'y.	
Headlight Housing	

DESCRIPTION	REMARKS
GT500	
L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to
Headlight Ass'y.	30/30w
GT550	
L. H. Handle Switch Ass'y.	
Light Switch Knob	
GT750	
L. H. Handle Switch Ass'y.	
Light Switch Knob	

The new component part numbers are listed on the 1976 model micro fiche.

APPLICABILITY:

The afore mentioned changes have been made on and from the following Frame Numbers:

GT185 - 39375	GT500 - 90729
GT250 - 80001	GT550 - 56555
GT380 - 81738	GT750 - 61050

SUZUKI
2-Stroke
Service Bulletin

Subject: GT250 CHANGES FROM 1975 TO 1976

Bulletin No: GT-32
Date: Jan. 2, 1976

Read and Initial

Manager
Parts
Service

NOTICE:

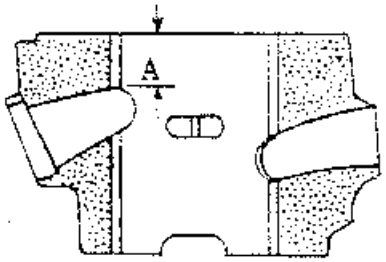
This bulletin is issued to inform you of changes that have been applied to the GT250 beginning with 1976 model production.

MODIFICATIONS:

I. Cylinder

a. The cylinders exhaust port has been raised 2.5mm for increased performance.

EXHAUST



A: 32mm ⟶ 29.5mm

b. Also, for increased performance the number of transfer ports has been increased from two to four.

II. Crankcase

a. In conjunction with the increased number of cylinder transfer ports, the crankcase transfer ports have been enlarged.

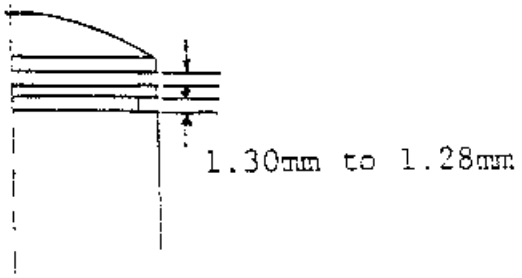
b. The lubrication system of the center crankshaft bearings has been changed from transmission oil to CCI oil.

c. The right crankshaft bearing lubrication has been changed from CCI to transmission oil.

III. Piston

a. In conjunction with cylinder port modifications, the piston ring locating pin positions have been changed.

b. For improved piston ring gas sealing, the piston ring groove height has been narrowed from 1.30 to 1.28mm.



IV. Carburetion

a. The bore size of the carburetor has been increased from 26 to 28mm, and the internal specifications changed as indicated below:

	1975	1976
Type	VM26SH	VM28SS
Bore Size	26mm	28mm
Pilot Jet	25	30
Cut-Away	2.5	2.5
Jet Needle	5CN3-2	5CN3-3
Needle Jet	0-2	0-2
Main Jet	112.5	92.5

b. The carburetor mounting type has also been changed from a flange mount to a spigot mount.

V. Ignition Timing

In conjunction with engine modifications the ignition timing has been retarded from 2.93 (24^{o}) to 2.05mm(20^{o}) BTDC.

VI. Crankshaft

To correspond with the above ignition timing change, the keyway for the generator rotor has been relocated 4^{o}. Refer to Service Bulletin No. GT-30 for further information.

VII. Cylinder Heads

a. The right and left cylinder heads have been changed to a one piece casting to reduce its noise level. To further reduce cylinder head fin vibration noise level, the fins have been interconnected during the manufacturing casting process.

b. At the same time, the Ram Air System cover has been discontinued to reduce overall weight.

VIII. Mufflers

To reduce the exhaust noise level and still maintain the GT250's standard of performance, the mufflers have been modified as listed below.

a. The number of holes in the baffle have been increased.

b. At the same time the number of muffler internal baffle plates has been increased by two.

IX. Transmission

To more evenly match the new power band of the 1976 GT250, the second and third gear transmission ratios have been changed as shown:

DESCRIPTION	1975	1976
2nd drive gear number of teeth	16	17
2nd driven gear number of teeth	24	23
3rd drive gear number of teeth	19	20
2nd gear ratio	1.50	1.35
3rd gear ratio	1.15	1.05

Third driven gear retains the same number of teeth (22), however the gears profile has been changed to match the new 3rd drive gears,

X. Drive Chain

To increase its dependability the drive chain has been changed to an endless type, thus eliminating the master link.

XI. Headlight

The headlight of the GT250 now operates when the ignition key is turned on. See Service Bulletin No. GT-31 for further information.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-33
Date: Jan. 30, 1976

Read and Initial

Manager:
Parts:
Service: AHC

Subject: IMPROVED GT550 REAR BRAKE PERFORMANCE

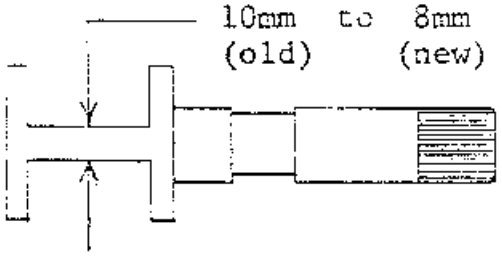
NOTICE: To improve the rear wheel braking performance of the GT550, the brake shoe, brake cam, and brake cam lever have been redesigned. The rear brake panel has also been changed to accept the new style parts.
These changes are explained below.

I. Rear Brake Shoe

The width has been increased from 28mm to 33mm.

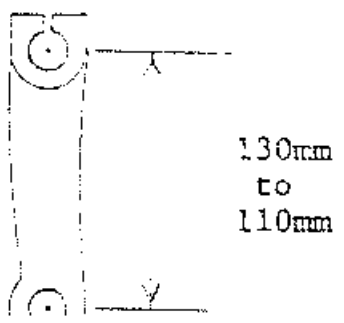
II. Brake Cam

The thickness of the brake cam has been decreased from 10mm to 8mm as shown.



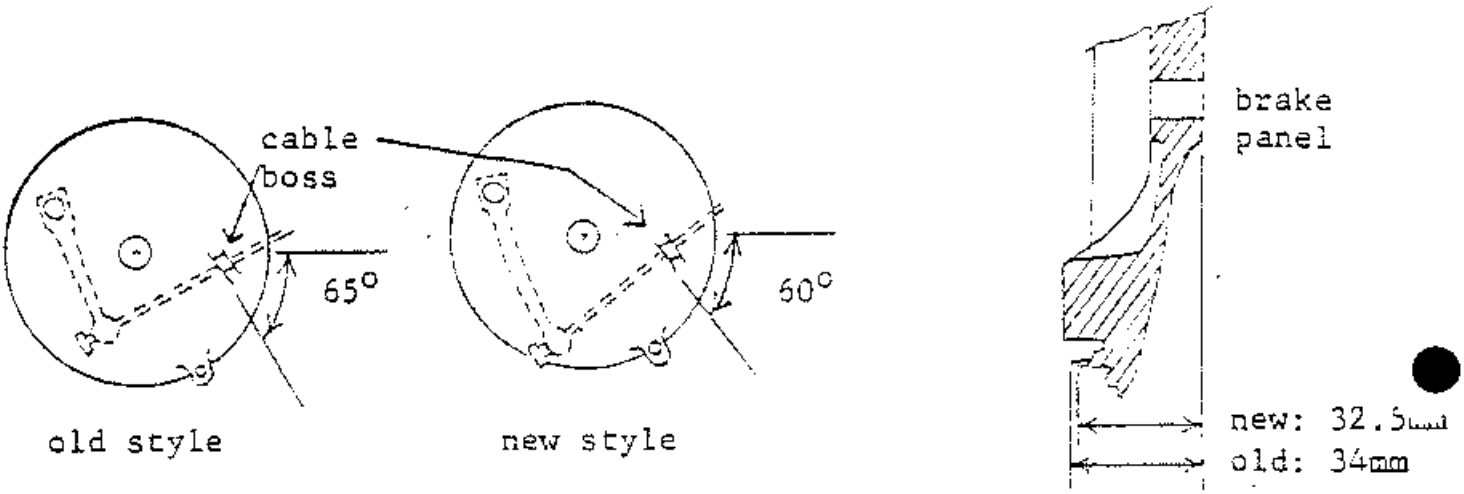
III. Rear Brake Cam Lever

The overall length of the cam lever has been increased from 110mm to 130mm, for more leverage.



IV. Rear Brake Panel

In compliance with changes I, II, III, the rear brake panel (brake backing plate) has undergone two changes: the first change is the angle of the cable boss in conjunction with the increased length of the cam lever. Secondly, at the same time the width of the panel has been decreased 1.5mm, as shown.



APPLICATION:

The changes discribed above have been in effect since the beginning of the 1976 model production on, and from Frame No. GT550-60904.

PARTS:

The old style parts shall remain available. The new style parts are also now available.

INTERCHANGEABILITY:

The new and old style parts are not interchangeable individually. The exception is that the old style brake

(con't)

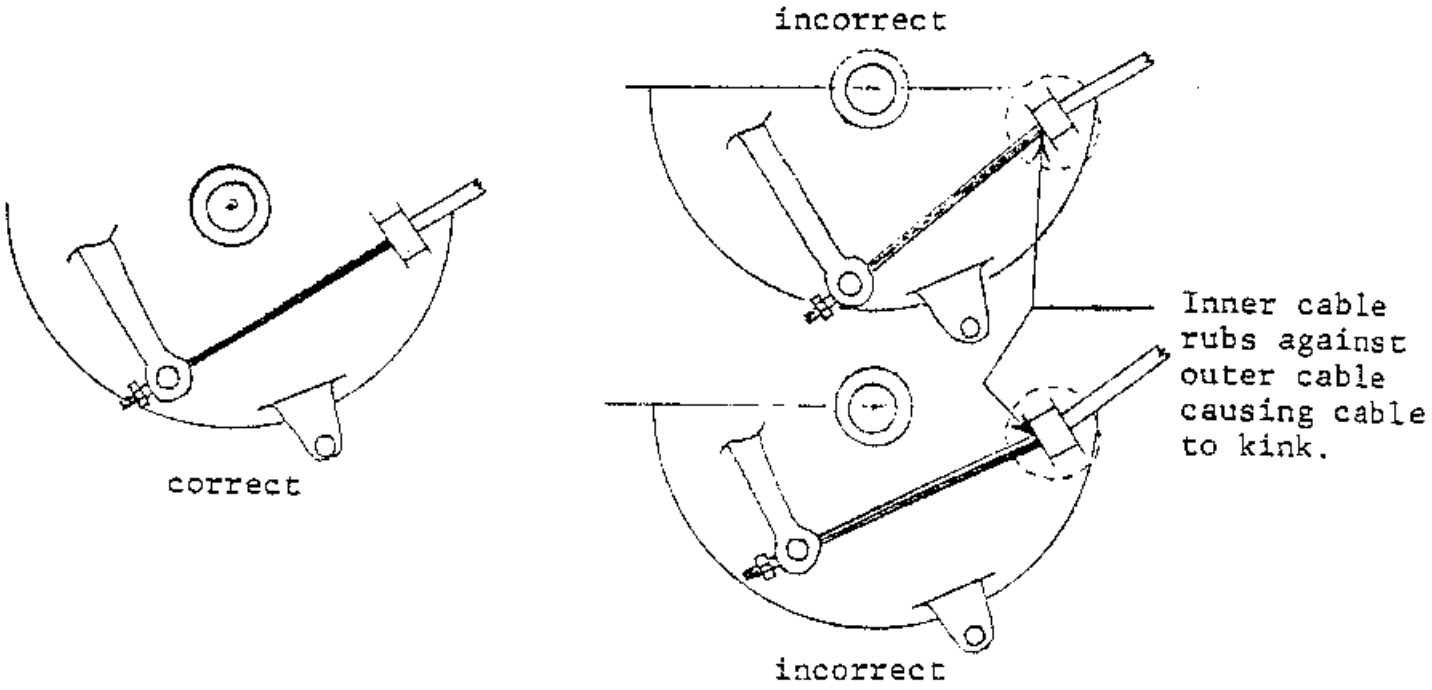
shoes may be used with the new style brake assembly. However, the new style brake shoes cannot be used with the old style brake assembly because of their increased width. When changed as a set, the new and the old parts are interchangeable.

OLD	NEW
Brake Panel,	Brake Panel,
Cam Lever, Shoes	Cam Lever, Shoes

CAUTION:

1. Be sure to use the OLD brake shoe (28mm wide) if the brake panel is the older style. The new style shoes mounted on the old style brake panel will not have the proper side clearance.

2. Damage to the brake cable will occur if the incorrect brake cam lever is used with either brake panel. This is due to the lengths of the cam levers and corresponding angle of the brake panel cable boss. This is illustrated below.



U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Suzuki GT Technical Bulletins 14-21

APRIL 6, 2023
CATEGORIES: GT250, GT380, GT550, GT750, TECHNICAL, SUZUKI SERVICE BULLETINS

14. GT380/550/750 – Battery breather location

15. GT380/550/750 – Air cleaner servicing

16. GT380/550/750 – Optional sprockets and chain

17. GT380/550/750 – Contact breaker cams

18. GT380/550/750 – SRIS oil strainer

19. GT250/380/550/750 – Disk brake modification

20. GT250/380/550 – New style spark plug cap boot

21. GT380/550/750 – Fuel starvation at high rpm

SUZUKI
2-Stroke
Service Bulletin

Bulletin No. GT-14
Date: May 1, 1975

Read and Initial
Manager
Parts
Service AWP

Subject: GT380/550/750 BATTERY BREATHER LOCATION

Extreme care should be taken in locating the battery breather tube on these and all other Suzuki models.

The breather must be located in such a manner as to avoid any possibility of overflow from the battery coming in contact with the drive chain. At the same time ensuring that there are no kinks or obstructions in the tube.

Failure to observe these cautions could result in cracked side plates in the drive chain, caused by the chemical action of sulphuric acid which may be splashed on them.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-15
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT380/550/750 AIR CLEANER SERVICING

NOTICE:

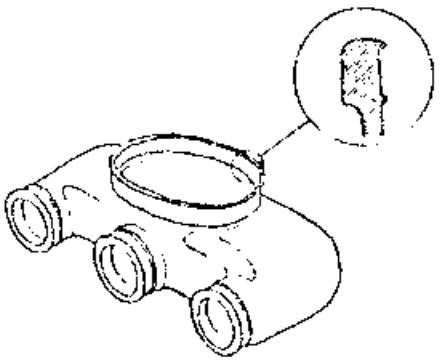
During assembly of the GT380, GT550, and GT750, the carburetor air inlet hose is sealed with "Suzuki Bond No. 4."

Therefore, whenever the carburetor air inlet hose is removed from the air filter body on the subject units, it should be re-sealed with "Suzuki Bond No. 4" (Part No. 99000-31030). Failure to reseal the carburetor air inlet hose correctly, may result in damage to the internal engine components.

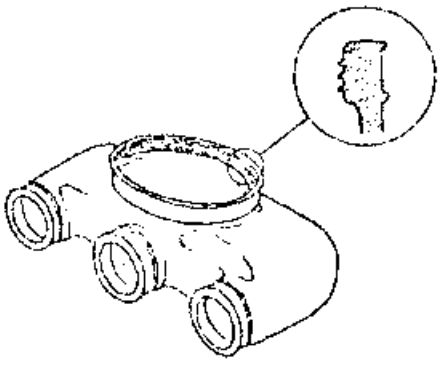
The proper sealing procedure for the GT380, GT550 and GT750 carburetor air inlet hose is shown below.

SEALING PROCEDURES:

The sealing procedure depends on the type of the carburetor air inlet hose as shown below.

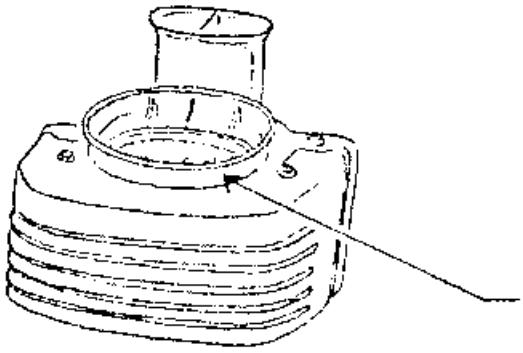


OLD TYPE



NEW TYPE

1. OLD TYPE

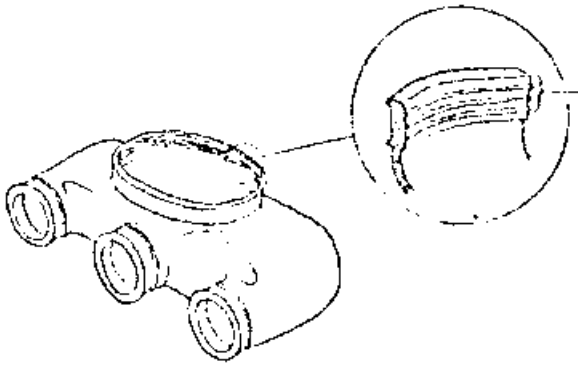


CAUTION:

DO NOT APPLY SUZUKI BOND NO. 4 ON AIR INLET HOSE, OTHERWISE IT MAY CAUSE CLOGGING OF THE CARBURETOR.

COAT WITH "SUZUKI BOND NO. 4" ALL AROUND.

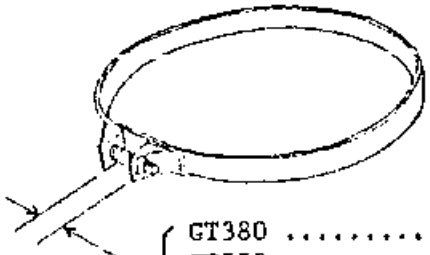
2. NEW TYPE



COAT WITH "SUZUKI BOND NO. 4" ALL AROUND.

NOTES:

1. The sealant should be dried for about 3-6 minutes before installation.
2. The clamp should be tightened as explained below.



348

GT380 ..... LESS THAN 4 mm (0.16 in)
GT550 ..... LESS THAN 4 mm (0.16 in)
GT750 ..... LESS THAN 5 mm (0.20 in)

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-16
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT380/550/750 OPTIONAL SPROCKETS AND CHAIN

ENGINE SPROCKET: The standard engine sprockets fitted on the Suzuki GT series are interchangeable as per the following chart:

GT380	GT550	GT750
Part Number	Part Number	Part Number
14 tooth 27511-33000	15 tooth 27511-33600	15 tooth 27511-33600
15 tooth 27511-33600	16 tooth 27511-34000	16 tooth 27511-34000

The 16 tooth sprocket should not be fitted to the GT380, since the insufficient clearance available will cause serious damage to the engine cases.

REAR SPROCKETS: Optional rear sprockets are also available as per the following chart:

GT380	GT550	GT750
Part Number	Part Number	Part Number
38 tooth 64511-33760	38 tooth 64511-33760	43 tooth 64511-31700
40 tooth 64511-33751	40 tooth 64511-33751	45 tooth 64511-31000
42 tooth 64511-33741	42 tooth 64511-33741	47 tooth 64511-31731
44 tooth 64511-33770	44 tooth 64511-33770	49 tooth 64511-31740
46 tooth 64511-33001	46 tooth 64511-33001	51 tooth 64511-31750

CHAIN: Extreme caution should be exercised when fitting new sprockets and/or chain. As chain wear and stretch increases, the sprockets tend to wear proportionately. It is therefore essential that if any perceptible wear has taken place on either the chain or sprocket, both items should be replaced at the same time, otherwise serious damage is possible.

When fitting larger than standard sprockets, additional chain links and rivet links are usually necessary. These are now available as per the following chart and Part Numbers.

Description	GT380	GT550	GT750
Drive chain #50 Endless	104 links DID 50 HDS (DAIDO Part #27600-33012	102 links DID 50 HDS (DAIDO) Part #27600-34010	108 links (1972-1974 DID 50 HDS (DAIDO) Part #27600-31015 106 links (1975-) DID 50 HDSS (DAIDO) Part #27600-31014
Extension	4 links Part #27600-31700	4 links Part #27600-31700	4 links Part #27600-31700
Rivet link	Part #27620-31012	Part #27620-31012	Part #27620-31012

Note:
Before the chain breaking and riveting tool was made available, it was intended that the swing-arm be removed to replace a chain. For this reason new chains do not come with a spare rivet link. It should be noted therefore that to replace a chain, one new rivet link will be necessary, and to insert an extension for a larger sprocket two new rivet links will be required. Under NO circumstances, other than "get-you-home" emergencies, should horse-shoe type masterlinks be used.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-17
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

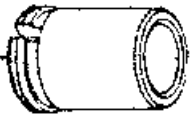
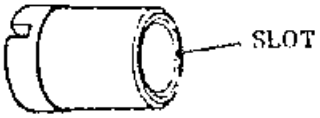
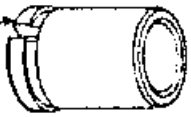
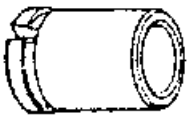
Subject: GT380/550/750 CONTACT BREAKER CAMS

NOTICE:

In the above three models, five different contact breaker cams are provided. While these cams are very similar in appearance and will in fact physically fit each machine, there is only one correct cam for each model. Any deviation from the correct installation will cause incorrect ignition timing, poor performance and possible engine damage.

IDENTIFICATION:

Since the July 1972 production, the different cams are identified as per the following chart.

	DENSO MAKE	KOKUSAN MAKE
GT380	SLOT 	 SLOT
GT550	PUNCH MARK 	NO MARKING
GT750	NO MARKING 	

Prior to this date however, the only identification was by part number. Therefore it is of the utmost importance that any breaker cams in your current parts stock, be kept carefully separated by part number and correctly identified when put into use.

SUZUKI
2-Stroke
Service Bulletin

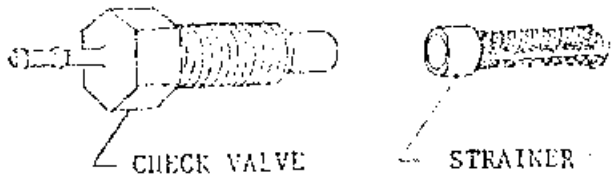
Bulletin No: GT-18
Date: May 1, 1975

Read and Initial
Manager_____
Parts_____
Service Mg?

Subject: 1973 GT380/550/750 SRIS OIL STRAINER

NOTICE:

As you may be aware, the K series GT models have had an oil strainer added to the SRIS check valve in order to prevent clogging of the valve and consequently excessive smoking of the motorcycle. Also the valve has been changed from a press fitted type to that of a threaded type. However, the original strainer being constructed of a plastic material, has been found unable to withstand the high speed riding. Therefore, the plastic oil strainer material has been changed to metal.



APPLICATION:

This has been applied to the production units of the three models assembled since November 1972, or from and on the following engine numbers:

GT380K	#44325
GT550K	#32854
GT750K	#39084

PART DESCRIPTION	OLD PART NO.	NEW PART NO.
Strainer	16521-31080	16521-31010

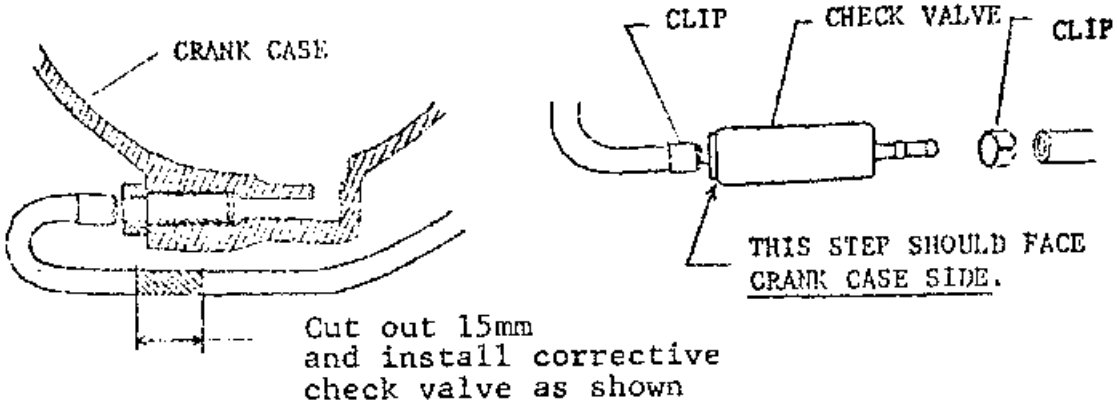
Only the new parts will be supplied and they are available from the Parts Department now.

INTERCHANGEABILITY:

The old and new type strainers are interchangeable, however the old type should be avoided, since the new type is available.

PREVENTIVE MEASURE FOR J MODEL ENGINES:

In order to prevent any J model SRIS valves from clogging, the following modification can be performed as shown below:



The parts needed for this modification will be available immediately and herafter as spare parts from the Parts Department. These parts are listed below:

PART DESCRIPTION	PART NUMBER	QUANTITY
Check Valve	16710-31990	1

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-19
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

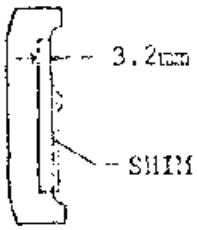
Subject: GT250/380/550/750 DISC BRAKE MODIFICATION

MODIFICATION:

To eliminate any possible squeaking noise from the disc brakes, the caliper piston and the moving pad have been modified as shown below.

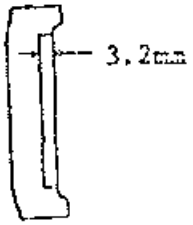
(MOVING PAD)

OLD STYLE
GT250,380,550



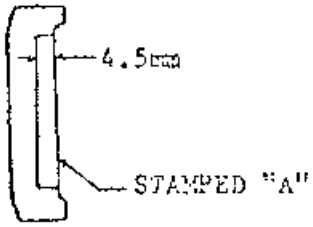
(59100-18826)

OLD STYLE
GT750



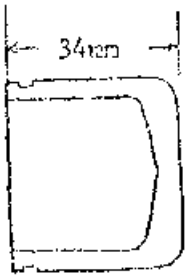
(59100-31830)
INTERCHANGES
WITH
(59100-18826)

NEW STYLE
GT250,380,550,750

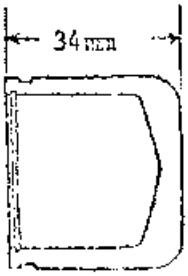


(59100-18840)

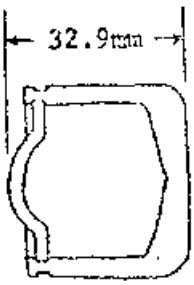
(PISTON)



OLD STYLE
GT250,380,550



OLD STYLE
GT750

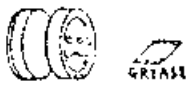
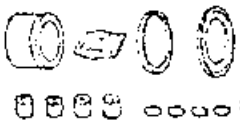


(59100-18831)
NEW STYLE
GT250,380,550,750

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

PARTS AVAILABILITY:

Only the new parts are available now from the parts department. The table below lists the parts. The new part numbers should be inserted in the parts books.

	OLD PARTS NO LONGER SUPPLIED	NEW PARTS ONLY SUPPLIED HEREAFTER	
PAD SET	 (59100-18826)	(59100-31830)	(59100-18840)
CALIPER PISTON SEAL SET PAD & CALIPER PISTON SET	 CALIPER PISTON SEAL SET (59000-18825)	PAD & CALIPER PISTON SET (59100-18831)	
RH CALIPER	(59100-18410) or (59100-18411)	NEW PISTON ASSEMBLED (59100-33111)	
LH CALIPER	(59300-31010) or (59300-31011)	NEW PISTON ASSEMBLED (59300-31211)	

(cont.)

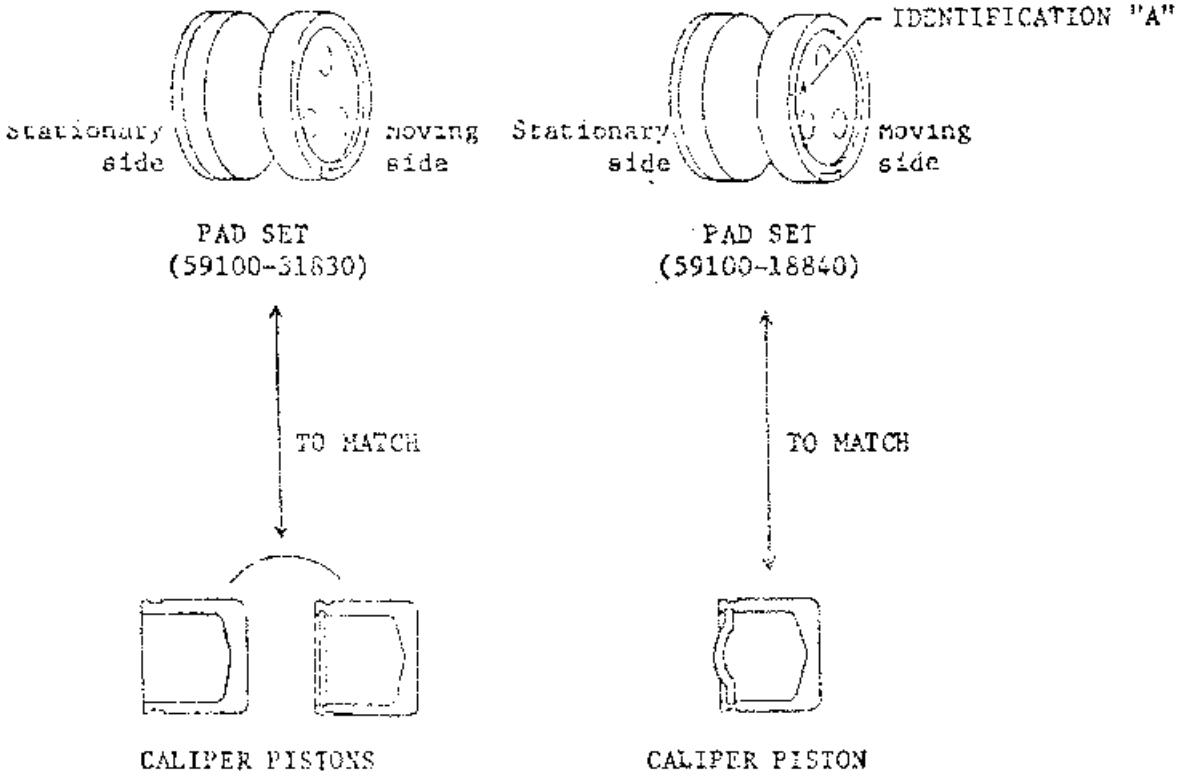
The special Suzuki disc brake pad grease and caliper axle grease are now available separately from the Parts Department. The part numbers are listed below.

	Part Number
SUZUKI BRAKE PAD GREASE.....	99000-25100
SUZUKI CALIPER AXLE GREASE.....	99000-25110

For the correct application of these special greases, see pages 11 and 20 of the DISC BRAKE MANUAL.

PARTS INTERCHANGEABILITY:

Two pad sets are supplied. Part Number 59100-31830 is for use with the old style pistons. Part Number 59100-18840 is for use with the new style piston. This is illustrated below.



(cont.)

Failure to correctly match these parts could cause the pads to crack or the disc wheel to drag severely.

NOTE: The modified moving brake pad is identified by an "A" stamped on its metal back.

APPLICABILITY:

The modified components of the disc brake piston caliper assembly have been applied to the units listed below.

GT550..... On and from Frame No. 32292

GT750..... On and from Frame No. 38591

ADDITIONAL HINTS ON DISC BRAKES:

1. New units equipped with disc brakes may have a protective cosmoline coating on the disc wheel. Therefore, the disc wheel should be cleaned with alcohol on set-up before the motorcycle is ever moved to prevent contamination of the brake pads.

2. Only brake fluid specified as DOT 3 or 4 and SAE J1703 and 70R3 should be used. This is a heavy duty brake fluid designed for use with disc brakes. Mixing ordinary brake fluid with disc brake fluid will lower its boiling point, which could cause serious braking problems.

   Whenever cleaning the internal brake parts, wash the parts in disc brake fluid or alcohol only. Never wash the parts in gasoline or solvent as it will damage the rubber parts.

   Brake fluid should never be left open as it will absorb moisture from the atmosphere.

3. The diaphragm located in the master cylinder is installed to prevent the atmosphere from directly contacting the disc brake fluid. Therefore, it is very important that it is not damaged or cracked or possible contamination by moisture or dirt to the disc brake fluid may result.

(cont.)

4. When removing the reservoir cap, the motorcycle should be on the center stand with its wheels in line to avoid spilling the fluid.

   Care must be taken when servicing the disc brake system to avoid the disc brake fluid from contacting any painted surfaces or plastic components. If the disc brake fluid should contact a painted or plastic surface, discoloration or possible removal of the finish will result.

5. Your customers should be advised to have only authorized Suzuki dealers service their disc brakes. The customer should not attempt to service the disc brake himself.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-20
Date: May 1, 1975

Read and Initial
Manager____
Parts____
Service____

Subject: GT250/380/550 NEW STYLE SPARK PLUG CAP BOOT

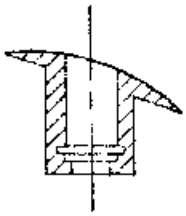
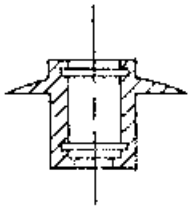
We have received occasional reports of electrical leakage from the GT250, GT380, and GT550 spark plug cap boots.

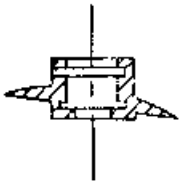
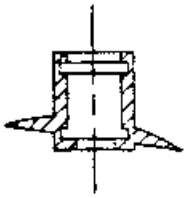
To prevent electrical leakage on future units, the spark plug cap boots shape and material have been changed.

The new style boots have been installed on "L" models on and from the following Frame Numbers:

GT250 - 35700
GT380 - 48934
GT550 - 36783

Units prior to these frame numbers which have experienced electrical leakage problems can have the new style boots installed. Listed below are the new style boots and their application.

BOOT	PART NO.	APPLICATION
	33544-33010	GT250 (Right & Left): Standard on and after F.# 35700. Right and Left replacement for all units prior to F.# 35700. GT380 (Right & Left): Replacement for all units prior to F.# 48934.
	33543-33010	GT380 (Middle): Standard on and after F.# 48934. Middle replacement for all units prior to F.# 48934. GT550 (Middle): Standard on and after F.# 36783. Replacement for Right, Middle, & Left on all units prior to F.# 36783.

BOOT	PART NO.	APPLICATION
	33543-33110	GT380 (Right & Left): Standard on and after F.# 48934.
	33543-34110	GT550 (Right & Left): Standard on and after F.# 36783.

An adhesive sealer (Suzuki Thread Lock, Silicone Seal, Locktite, etc.) should be applied to the inner surface of the new style boot when it is installed onto the spark plug cap.

Only the new style spark plug cap boots are now available from the U. S. Suzuki Parts Department.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI SERVICE BULLETIN

Bulletin No. GT-21
Date May 1, 1975

SUBJECT: 1974 GT380/550/750 FUEL STARVATION AT HIGH RPM

Read & Initial
Manager
Parts
Service DHP

PROBLEM:

We have received reports of some 1974 GT380L, GT550L, and GT750L's starving for fuel at high RPM's.

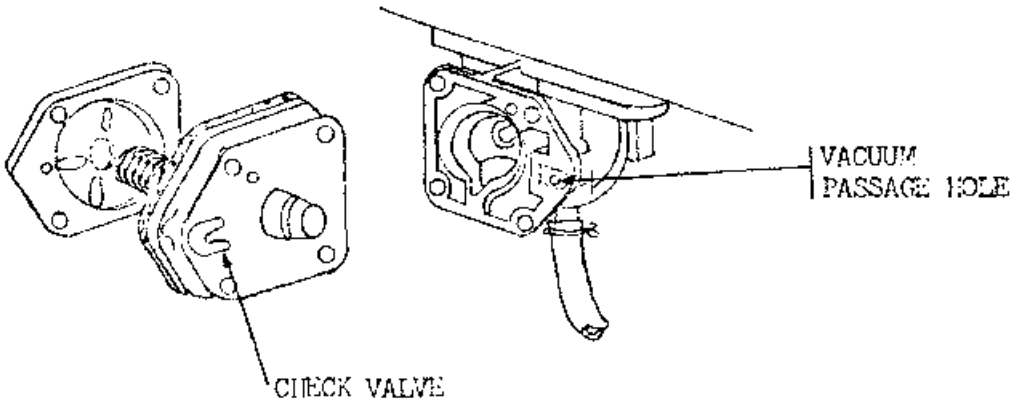
CAUSE:

During factory testing, it was found that the new style fuel cock's vacuum passage was being partially blocked by the diaphram check valve.

CORRECTION:

As a preventive measure, it is strongly recommended that your Service Department perform the following steps during assembly or pre-delivery service of any affected units in your stock.

1. Remove the fuel tank from the affected unit and empty its contents.
2. Using a #1 Phillips head screw driver, remove the diaphram cover and diaphram assembly from the fuel cock's body.
3. Using a 6mm (15/64 in.) bit and drill, chamfer the vacuum passage hole as much as possible without removing any material from the bodies diaphram mating surface. The vacuum passage hole is shown below.



(cont.)

U. S. SUZUKI motor corporation
13767 Freeway Drive • Santa Fe Springs, California 90670 • Phone: (213) 921-4461

4. After completing the previous step, use an air hose to remove the aluminum shavings in the vacuum passage.

5. Reassemble the fuel cock, taking care not to damage the diaphrams thin rubber parts and to tighten the diaphrams cover securely.

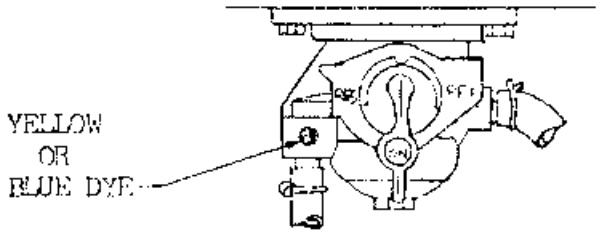
The aforementioned steps should also be performed whenever any of the affected units presently sold are brought in for routine service.

APPLICATION:

Units having fuel cock assemblies with yellow dye on the vacuum intake side of the body have been corrected at the factory. May be installed on units prior to the Frame Numbers listed below.

GT380 - 53506 GT550 - 39304

GT750 - 43778



All fuel cock assemblies on units after the above Frame Numbers have been corrected and have a blue dye on the vacuum intake side of the body.

PARTS:

All replacement fuel cock assemblies in U. S. Suzuki Parts Department Stock have been corrected.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

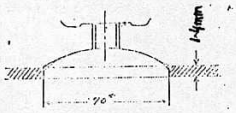
Suzuki TR750 Specs

SUZUKI MOTOR CO., LTD. - 2 - 18th July, 1972.

HOW TO TUNE-UP GT750 FOR ROAD RACER

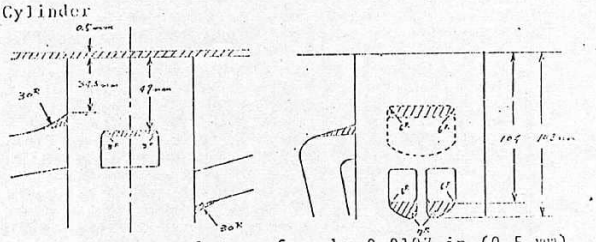
Modification on engine

1. Cylinder Head



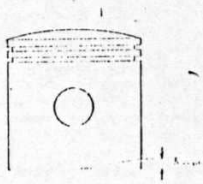
Cut off the gasket surface on the cylinder head evenly by 0.055 in (1.4 mm) and after that finish the corner as illustrated in the figure by hand-work.

2. Cylinder



Cut off upper gasket surface by 0.0197 in (0.5 mm) and finish the oblique-lined part ///// with a hand glinder.

3. Piston



Cut off the piston skirt on the intake side by 0.197 in (5 mm) in order to advance the intake timing.
Use aluminum alloy piston containing 15 - 20% of silicon its, and the top thickness should be at least 0.27~0.35 in (7-9 mm) for prevention of crack and hole created on the top of the piston.

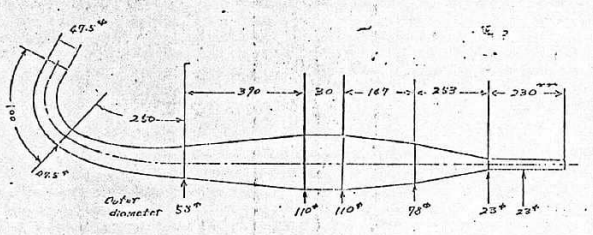
4. Cylinder gasket

Use two (2) gaskets.

5. Carburetor

The same carburetor as STD is applicable, but the carburetor settings should be determined according to racing conditions.

6. Muffler



7. Spark plug

NGK B-10EP B-10.5EP
Champion N59G or N57G

8. Clutch

A big modification must be made on STD clutch because (of that) the wet type clutch has no capacity enough to transmit such a largely souped-up power and clutch chamber also has no space to put additional plates for increased torque.
Therefore, the system should be modified into dry type which will enable the capacity to increase 3 times as much as wet type.
In this instance, a special clutch cover should be provided so as not to circulate the transmission oil from gear box into clutch chamber.

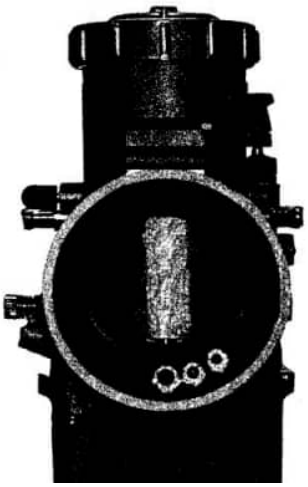
9. Ignition timing

BTDC 23°

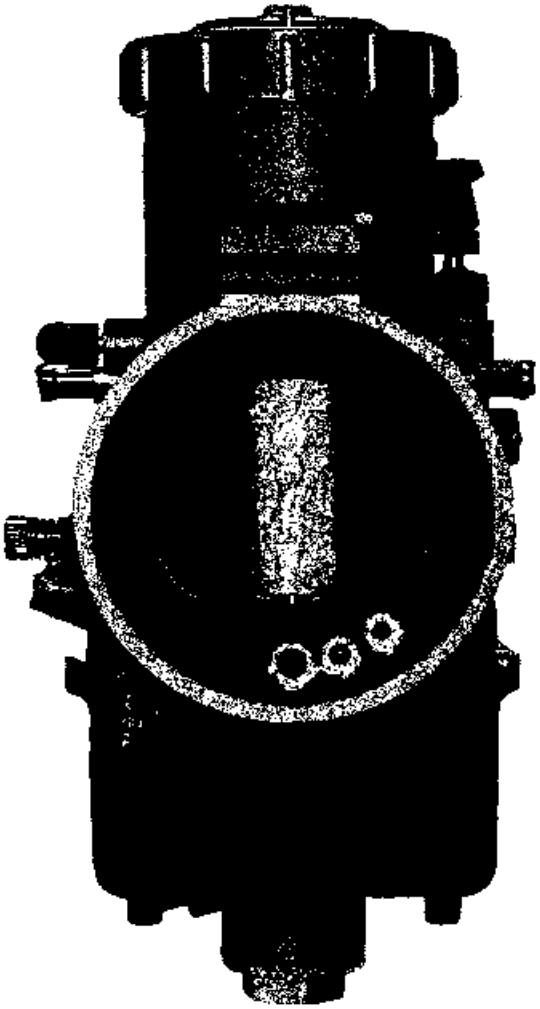
ozebook.com

VM Mikunis explained

MIKUNI VM CARBURETOR
SUPER TUNING MANUAL

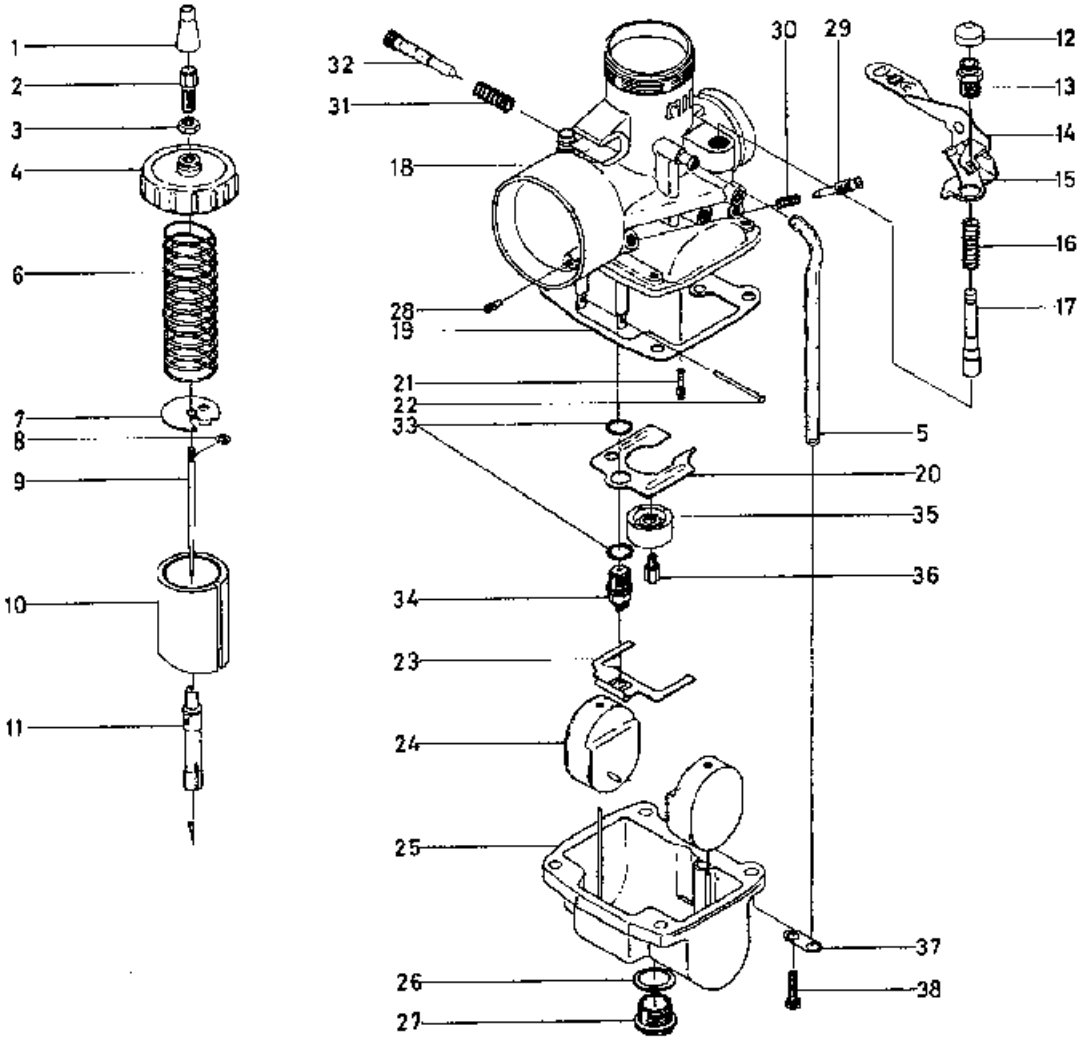


MIKUNI VM CARBURETOR
SUPER TUNING MANUAL



MIC MIKUNI AMERICAN CORPORATION
8910 MIKUNI AVENUE NORTHRIDGE,
CALIFORNIA 91324 U.S.A.

EXPLODED VIEW



1. Rubber Cap, Throttle Cable
2. Cable Adjuster
3. Locknut, Cable Adjuster
4. Top, Mixing Chamber
5. Tube, Air Vent
6. Spring, Piston Valve
7. Plate, Needle Retainer
8. "E" Ring
9. Jet Needle
10. Piston Valve
11. Needle Jet
12. Rubber Cap, Starting System
13. Cap, Starter Plunger
14. Lever Assy, Starting System
15. Leaf Spring, Lever Positioning
16. Spring, Starter Plunger
17. Plunger, Starting System
18. Body, Mixing Chamber
19. Gasket, Float Chamber
20. Baffle Plate, Float Chamber
21. Pilot Jet
22. Pin, Float Arm Hinge
23. Float Arm
24. Float
25. Float Chamber
26. Washer, Float Chamber Plug
27. Plug, Float Chamber
28. Air Jet
29. Air Screw
30. Spring, Air Adjusting Screw
31. Spring, Idle Adjusting Screw
32. Screw, Idle Adjusting
33. Washer, Needle & Seat Assy
34. Needle & Seat Assy
35. Cup, Fuel Retaining
36. Main Jet
37. Plate, Vent Tube Retaining
38. Screw, Float Chamber

PARTS LIST

	VM26-49	VM30-44	VM32-33	VM34-20	VM36-4	VM38-3	VM40-4	VM44-3
1.	VM26/46	VM26/46	VM26/46	VM26/46	VM26/46	VM26/46	VM26/46	VM26/46
2.	M21/14	M21/14	M21/14	M21/14	M21/14	M21/14	M21/14	M21/14
3.	B30/247	B30/247	B30/247	B30/247	B30/247	B30/247	B30/247	B30/247
4.	VM26/56	VM34/27	VM34/27	VM34/27	VM36/45	VM36/45	VM44/05	VM44/05
5.	VM17/173	VM28/78	VM28/78	VM28/78	VM28/78	VM28/78	VM28/78	VM28/78
6.	VM24/193	VM34/50	VM34/50	VM34/55	VM34/55	VM36/55	VM44/13	VM44/13
7.	VM28/132	VM34/31	VM34/31	VM34/31	VM35/09	VM35/09	VM44/09	VM44/09
8.	VM20/369	VM20/369	VM20/369	VM20/369	VM20/369	VM20/369	BS32/126	BS32/126
9.	JB-5P21	JB-6P5	JB-6DP3	JB-6DP3	JB-6PJ6	JB-6DP1	JB-7P6	JB-7P6
10.	VM28/56	VM34/113	VM34/110	VM34/110	VM36/36	VM38/24a	VM40/02	VM40/02
11.	VM30/38	VM34/05	VM34/05	VM34/05	VM34/05	VM34/17	VM44/10	VM44/10
12.	VM20/455	VM20/455	VM20/455	VM20/455	VM20/455	VM20/455	VM20/455	VM20/455
13.	M016/30	VM20/456	VM20/456	VM20/456	VM20/456	VM20/456	VM20/456	VM20/456
14.	VM28/497	VM28/126	VM28/126	VM28/126	VM36/58	VM36/58	VM36/58	VM26/58
15.	VM26/09	VM32/17	VM32/17	VM32/17	VM26/09	VM26/09	VM26/09	VM26/09
16.	VM16/42	VM16/42	VM16/42	VM16/42	VM16/42	VM16/42	VM16/42	VM16/42
17.	VM26/126	VM18/144	VM18/144	VM18/144	VM18/144	VM18/144	VM28/104	VM18/144
18.	VM28SS	VM30SS	VM32SS	VM34SS	VM36SS	VM38SS	VM40SS	VM44SS
19.	VM28/129	VM34/86	VM34/86	VM34/86	VM36/20	VM36/20	VM36/20	VM36/20

	VM26-49	VM30-44	VM32-33	VM34-20	VM36-4	VM38-3	VM40-4	VM44-3
20.	VM28/227	VM34/114	VM34/114	VM34/114	VM36/40	VM36/40	VM44/20	VM44/20
21.	VM22/210	VM22/210	VM22/210	VM22/210	VM22/210	VM22/210	VM22/210	VM22/210
22.	BV26/22	BV26/22	BV26/22	BV26/22	BV26/22	BV26/22	BV26/22	BV26/22
23.	VM28/166	VM34/73	VM34/73	VM34/73	VM36/13	VM36/13	VM36/13	VM36/13
24.	VM26/164	VM34/61	VM34/61	VM34/61	VM24/236	VM24/236	VM24/236	VM24/236
25.	VM26/130	VM36/68	VM34/68	VM34/68	VM36/33	VM36/33	VM44/04	VM44/04
26.	VM26/134	VM28/254	VM28/254	VM28/254	VM28/254	VM28/254	VM28/134	VM28/134
27.	VM26/133	VM28/253	VM28/253	VM28/253	VM28/253	VM28/253	VM28/133	VM28/133
28.	BS30/97	BS30/97	BS30/97	BS30/97	BS30/97	BS30/97	BS30/97	BS30/97
29.	VM20/214	VM20/214	VM20/214	VM20/214	VM20/214	VM20/214	VM20/214	VM20/214
30.	M12F/46	M12F/46	M12F/46	M12F/46	M12F/46	M12F/46	M12F/46	M12F/46
31.	M20/11	M20/11	M20/11	M20/11	M20/11	M20/11	M20/11	M20/11
32.	VM24/224	VM28/142	VM24/390	VM24/224	VM22/171	VM22/171	VM28/224	VM22/171
33.	VM26/25	B34/52	B34/52	B34/52	B34/52	B34/52	B34/52	B34/52
34.	VM26/26	VM34/39	VM34/39	VM34/39	VM34/39	VM34/39	VM34/39	VM34/39
35.	VM28/228	VM36/17	VM36/17	VM36/17	VM36/17	VM38/09	VM28/228	VM28/228
36.	4/042	4/042	4/042	4/042	4/042	4/042	4/042	4/042
37.	VM15/164	VM28/79	VM28/79	VM28/79	VM28/79	VM28/79	VM28/79	VM28/79
38.	GM2-0416	GM2-0516	GM2-0516	GM2-0516	GM2-0516	GM2-0516	GM2-0516	GM2-0516

Foreword

This manual is intended as a guide for users of Mikuni carburetors who want to learn the adjusting method to the best performance from our products. In motorcycles, special tuning of the engine is now considered a routine practice. The arrows that appear in the drawings in this text show the direction in which air, fuel and an air-fuel mixture flows, respectively.

⇦ Air ⇦ Fuel ⬅ Mixture

Mounting angle fore and aft inclination of the carb should not exceed approx 20 degrees from horizontal.

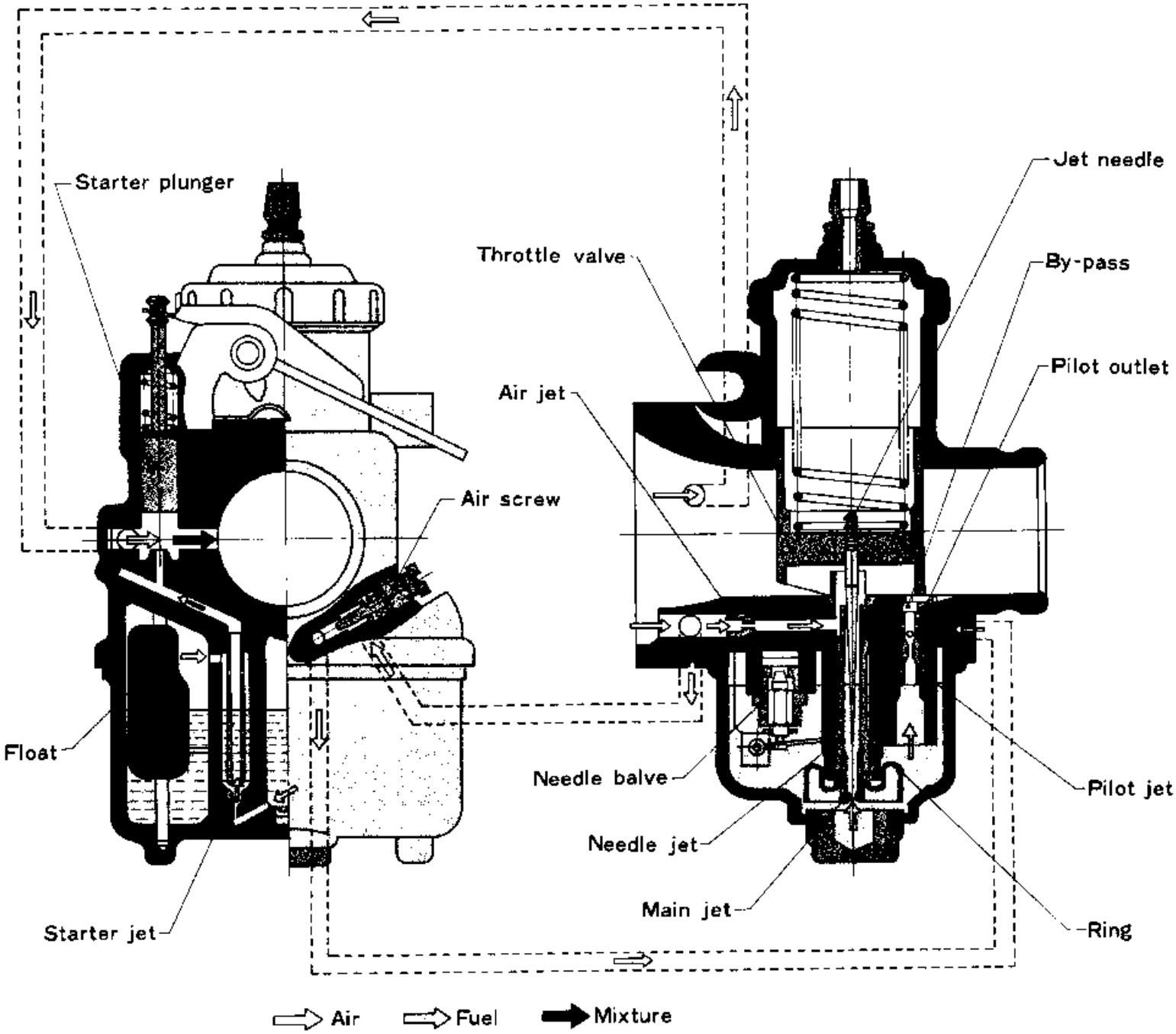


TABLE OF CONTENTS

1. What is a carburetor ? 1
2. Air-fuel mixture ratio 1
3. Function and construction 1
   - 3-1. Low-speed fuel system (pilot system) . . . . . 2~3
   - 3-2. Main fuel system (main system) 3
     - 3-2-1. Primary type 4
     - 3-2-2. Bleed type 4
   - 3-3. Float system 5
   - 3-4. Starting device (starter system) . . . . . 5~6
4. Tuning up of engine and selection of aperture of carburetor 6
   - 4-1. Selection of aperture of carburetor . . . . . 6~7
   - 4-2. Sizes of Mikuni carburetors 7
5. Carburetor setting 7
   - 5-1. Selection of main jet 8
   - 5-2. Selection of needle jet and jet needle . . . . . 9~10
   - 5-3. Pilot jet and the slow system . . . . . 10~11
   - 5-4. The cutaway size of throttle valve 11
6. Maintenance 12
7. Tuning up of carburetor for racing 13
   - 7-1. The amount of incoming air in relation to meteorological conditions 13

1. Function of a carburetor

The function of a carburetor is to produce combustible air-fuel mixture, by breaking fuel into tiny particles (in the form of vapor) and by mixing the fuel with air in a proper ratio, and to deliver the mixture to the engine. A proper ratio (mixture ratio or air-fuel ratio) means an ideal air-fuel mixture that can burn without leaving an excess of fuel or air. Whether the proper mixture ratio is maintained or not holds the key to the efficient engine operation.

2. Air-fuel mixture required by the engine (Fig. 1)

The ratio of a mixture of fuel and air is called the mixture ratio or the air-fuel ratio and is generally expressed by the weight proportion. Theoretically, the amount of air required for complete combustion of 1 gram of fuel under normal conditions is:

$$\text{Mixture ratio} = \frac{15 \text{ grams of air}}{1 \text{ gram of fuel}} \quad \cdots\cdots\cdots \text{ theoretical mixture ratio}$$

In reality, varying mixture ratios are required for the engine, depending on operating conditions. Although the required mixture ratio varies more or less with the type, the cooling efficiency, etc. of the engine, the mixture ratio shown in Fig. 1 is required for ordinary engines. In the high speed range, the ratio of about 12 to 13 grams of air for 1 gram of fuel produces the maximum output. However, in the case of an engine with low cooling efficiency, a somewhat richer mixture (10 to 12 grams of air against 1 gram of fuel) may be required to prevent seizure of the engine.

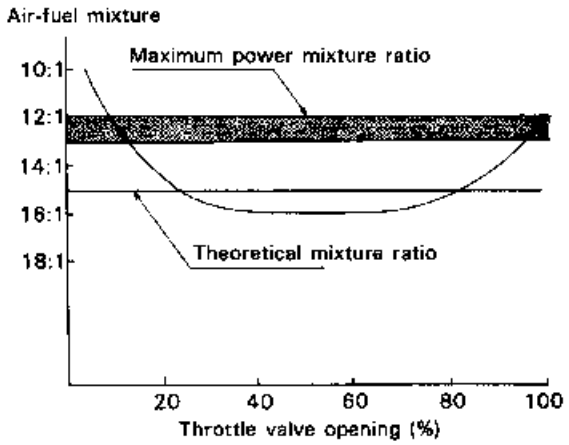


Fig. 1

3. Functions and construction

The engine of a vehicle is operated under a wide range of conditions, from idling with the throttle valve (1) remaining almost closed to the full load (the maximum output) with the throttle valve fully opened. In order to meet the requirements for the proper mixture ratio under these varying conditions, a low-speed fuel system (the pilot system) and a main fuel system (the main system) are provided in Mikuni VM-type carburetors.

3-1. Low-speed fuel system (the pilot system) . . . Fig. 2 and Fig. 3

Since the engine is operated with the throttle valve almost closed at idling or in the low speed range, the velocity of air flowing through the needle jet (2) is slow. Consequently, a negative pressure strong enough to draw fuel from the needle jet in the main fuel system is not created. The fuel supply during this low speed operation is controlled by means of the pilot outlet (3) and the bypass (4) that are provided close to the engine. When the degree of the throttle valve opening is small at idling, fuel metered with the pilot jet (5) is mixed with air adjusted in a proper amount by the air screw (6) and is broken into fine particles.

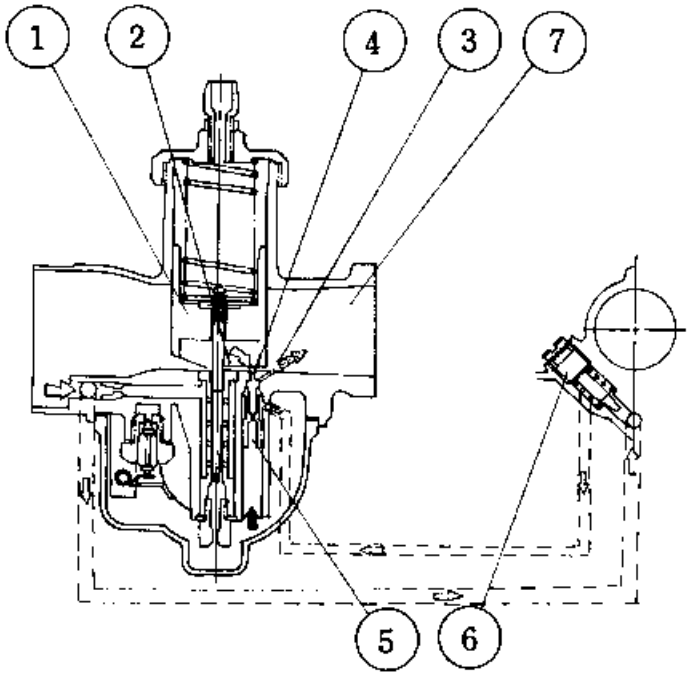


Fig. 2

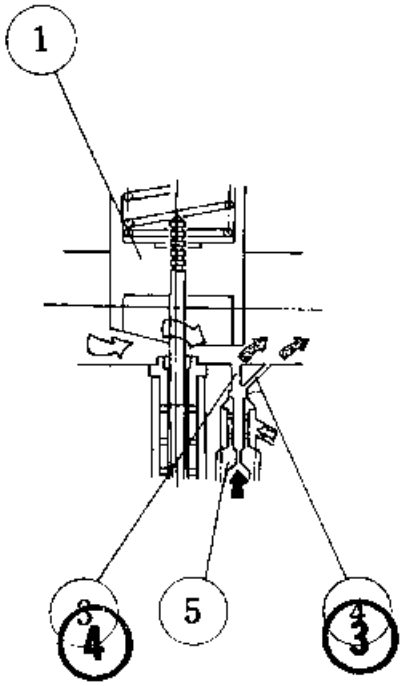


Fig. 3

The mixture is again mixed with air coming from the bypass and is drawn into the pilot outlet to mix with air flowing through the main bore (7). The fuel mixed with air in the optimum ratio at this stage then goes into the engine. When the throttle valve opening gets wider for low speed operation, the pilot outlet alone cannot supply the required fuel and the shortage has to be made up with fuel injected from the bypass. The adjustment of the mixture ratio during this stage is made by the pilot jet and the air screw, in the case of a two-hole type fuel system. There is also a one-hole type low speed fuel system

mainly used for carburetors having a small main bore. The process of producing the air-fuel mixture and of adjusting the mixture ratio are the same as in a two-hole type low speed system.

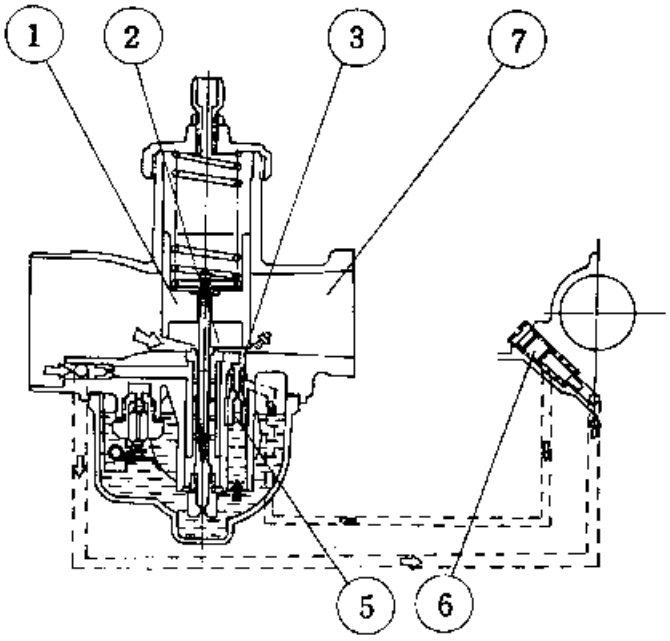


Fig. 4

3-2. On Mikuni VM-type carburetors, the pilot system and the main system are of independent construction.

The fuel flow in these two systems is shown in Fig. 5. There are two types of the main fuel system; one is a primary type used widely for 2-cycle engines and the other is a bleed type which may be used for 4-cycle engines as well as for rotary valve type 2-cycle engines.

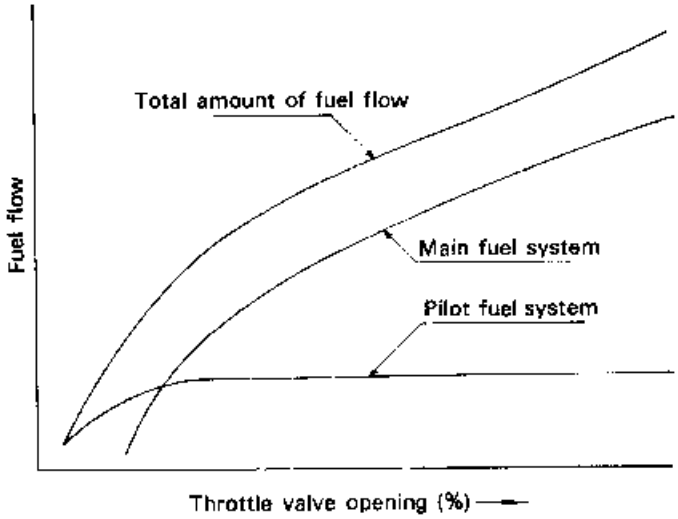


Fig. 5

3-2-1. Primary type

When the throttle valve is opened about 1/4 or more, the velocity of air flowing through the needle jet increases and also the negative pressure increases to the point where fuel can be sucked in. When the opening of throttle valve is between about a quarter and three quarters, fuel passes through the main jet and, after being metered in the clearance between the needle jet and the jet needle, it is mixed with air that is metered in the air jet and atomization of the fuel is accelerated.

The mixture is then injected, after mixing with air flowing through the main bore, to the engine in the optimum air-fuel ratio. During this process of operation, the cutaway of the throttle valve serves to control the negative pressure on the needle jet, thereby regulating the amount of fuel that is injected to the engine. When the throttle valve is opened more than three quarters for high speed operation, fuel is chiefly metered with the main jet.

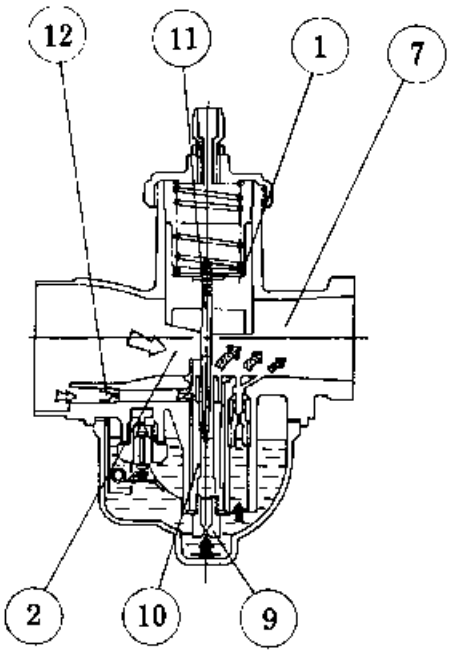


Fig. 6

3-2-2. Bleed type (Fig. 7)

The construction of the bleed-type main fuel system is the same as that of the primary type, except for the bleed hole that is provided in the needle jet (Fig. 7).

In the case of the primary type, air that comes from the air jet is mixed with fuel that is metered with the needle jet and the jet needle. The bleed type, on the other hand, is designed to hold air in the body section of the needle jet and then to have the air and fuel metered.

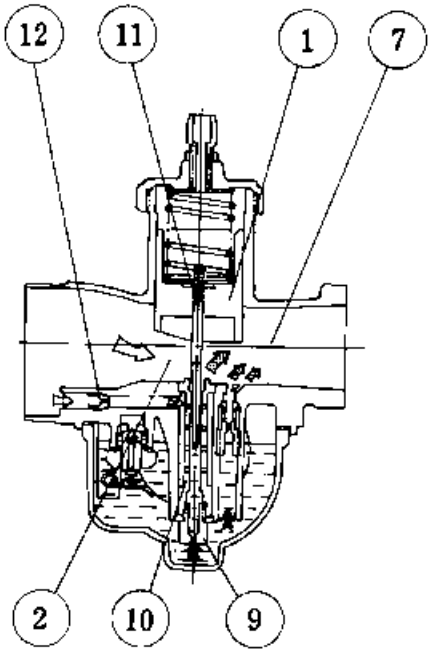


Fig. 7

3-3. Float system (Fig. 8)

The float system serves to maintain a constant level of fuel in the bowl. Fuel flows between the needle valve and the valve seat and enters the float chamber. As the fuel enters the float chamber, the float moves upward to the pre-determined level because of the action of buoyancy. When the buoyancy and the fuel pressure balance, the needle valve and the valve draw close to each other, shutting off the supply of fuel from the pump.

The fuel level in the bowl controls the amount of fuel in the fuel mixture. Too high a level allows more fuel than necessary to leave the nozzle, enriching the mixture. Too low a level results in a leaner mixture, as not enough fuel leaves the nozzle. Therefore, the pre-determined fuel level should not be changed arbitrarily.

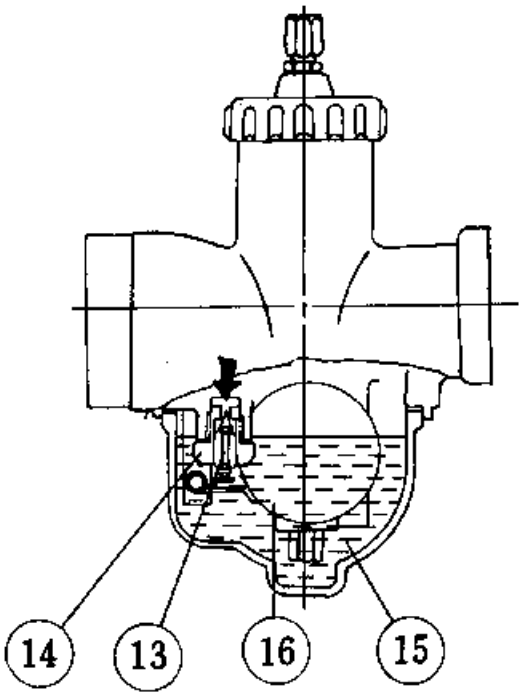


Fig. 8

3-4. Starting device (starter system) (Fig. 9)

In place of the choke, the starter system is employed for Mikuni carburetors. In the starter type, fuel and air for starting the engine are metered with entirely independent jets. The fuel metered in the starter jet is mixed with air and is broken into tiny particles in the emulsion tube. The mixture then flows into the plunger area, mixes again with air coming from the air intake port for starting and is delivered to the engine in the optimum air-fuel ratio through the fuel discharge nozzle. The starter is opened and closed by means of the starter plunger. Since the starter type is constructed so as to utilize the negative pressure of the inlet pipe, it is important that the throttle valve is closed,

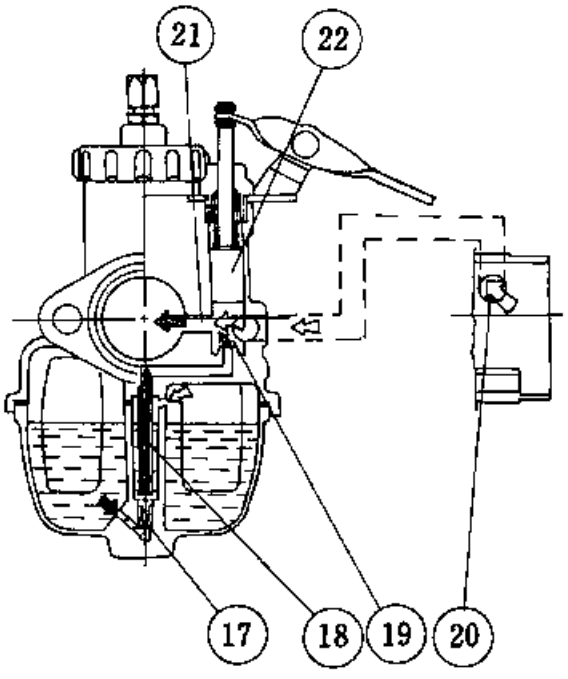


Fig. 9

when starting the engine. At high temperatures (approx. above 68°F), the engine can be started without using the starter.

4. Tuning up of the engine and selection of the aperture of carburetor

Tuning up normally means a process of accurate and careful adjustment to obtain maximum engine performance, although it means in a broad sense an economical improvement in fuel consumption. Improvement of power output of the engine depends on the amount of air drawn into the cylinder per unit time. A practice generally followed for engine tune-up includes:

(1) To improve suction efficiency and exhaust efficiency by remodelling the intake and exhaust system

(2) To improve combustion efficiency by raising the compression ratio

(3) To increase the number of revolutions by adjusting the ignition timing

Just as we need to take balanced meals of high calories in our daily life, the engine cylinders need to take sufficient air and fuel mixed in proper amounts. The function of a carburetor is to prepare and supply a mixture of fuel vapor and air to the engine cylinders in proper proportion for efficient combustion.

4-1. Selection of the aperture of carburetor

One of the prerequisites for improving the output is to use a carburetor with as large an aperture as possible. However, a large aperture alone does not improve the output necessarily. As shown in Fig. 10, it is true that a large aperture improves the power output in the high speed range. In the slow speed range, on the other hand, the output rather drops. The aperture of a carburetor is determined by various factors. These factors include (1) whether the vehicle is intended for racing, (2) the design of the engine, (3) driving technique of the driver, (4) the driver's preference, etc. In addition, the maximum output, the maximum torque and the minimum number of revolutions for stable engine operation must also be taken into account. Fig. 11 shows the values which we have obtained through our experience over the years. Since the engine comes in a wide variety of types, the values given in Fig.11 should be taken only as reference values.

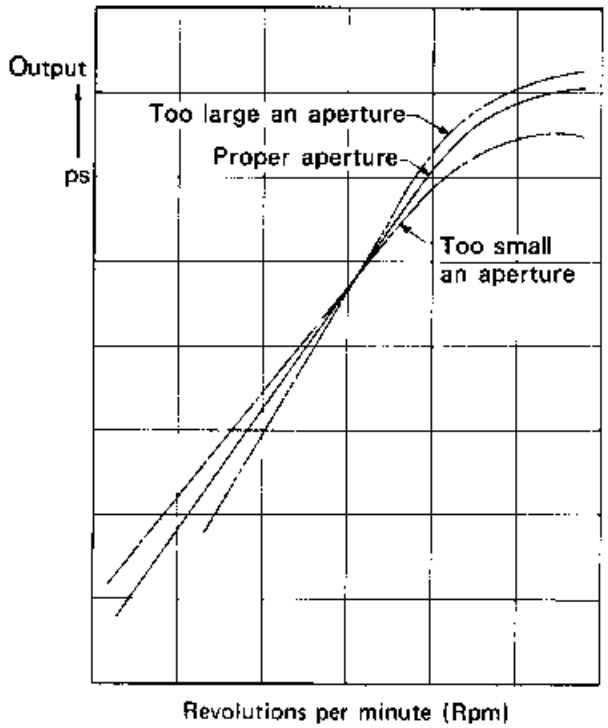


Fig. 10

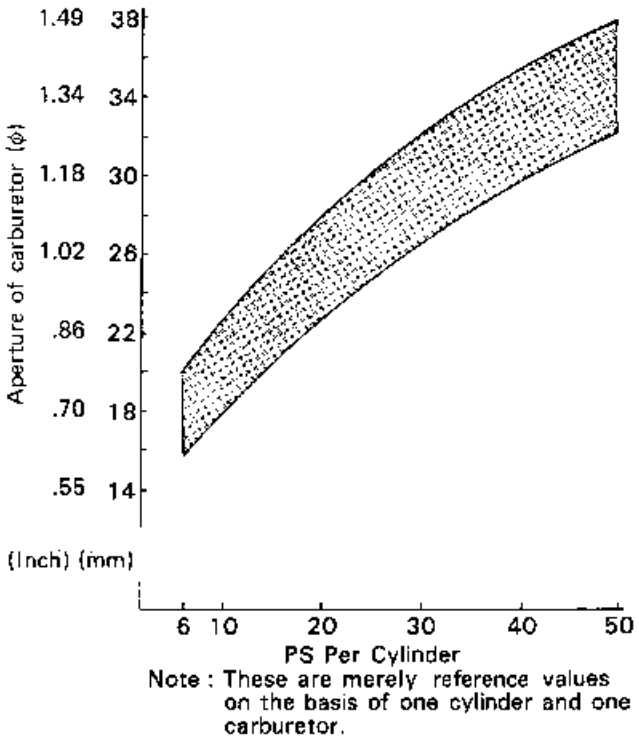


Fig. 11

4-2. Sizes of Mikuni carburetors

Mikuni VM-type carburetors come in various sizes, with the main bore ranging from 39"(10) to 1.73"(44) (in even numbers for the most part). The body of carburetors is made of aluminum or zinc. In some carburetors, the main jet is installed in such a manner as to permit quick and easy replacement from the outside by merely removing the jet holder. For further information, see our catalog.

5. Carburetor setting

Once the aperture of the carburetor is determined, a test (normally referred to as setting or matching) to select the proper jet or setting part should be made. The size of the jet is determined by measuring the output in a bench or in a chassis dynamo test. For racing, it is best to determine the proper size of the jet on the racing course, because the following points must be taken into account.

a. The altitude (atmospheric pressure), temperature and humidity of the racing course

b. The operation of the engine based on the topography of the racing course

5-1. Selection of the main jet

First, do the following on a flat road.

(1) Select the largest main jet (the limit of a rich mixture) which affords the maximum revolutions per minute (the maximum speed). In this case, select the engine speed according to the dimensions of the test course.

(2) Compare the gain in speed that you can obtain by quick acceleration from a constant speed of 25—30 M·P·H (40—50 km/h), by using different sizes of main jets.

(3) Check the exhaust fumes and read the spark plug (Selection of the spark plug should be made based on the thermal value that would best suit power output of the engine).

Next, compare, on the racing course, the test results you obtained from the above. The points to be checked, among others, are:

(1) Smooth and steady operation of the engine at as high a speed as possible under varying operating conditions such as shifting of the gear, change in road conditions,ascending and descending slopes, etc.

(2) Sustained operation at low speeds and at heavy engine load

(3) Sustained operation at high speeds (without knocking or seizure)

As shown in Photo 1, there are three types of main jet, Model A, B and C. These models come in the following sizes.

Model A & B

No. 50, 55, 60 . . . . . up to No. 95 (in multiples of 5)

No. 100, 110, 120 . . . . . up to No. 500 (in multiples of 10)

Model C

No. 50, 55, 60 . . . . . up to No. 195 (in multiples of 5)

No. 200, 210, 220 . . . . . up to No. 300 (in multiples of 10)

Fig. 12 shows comparison of fuel flow curves. The straight line is for Model C main jet and the dotted line for Model A and B main jets. In each model of main jet, different sizes within the range of ± 10% were tried.

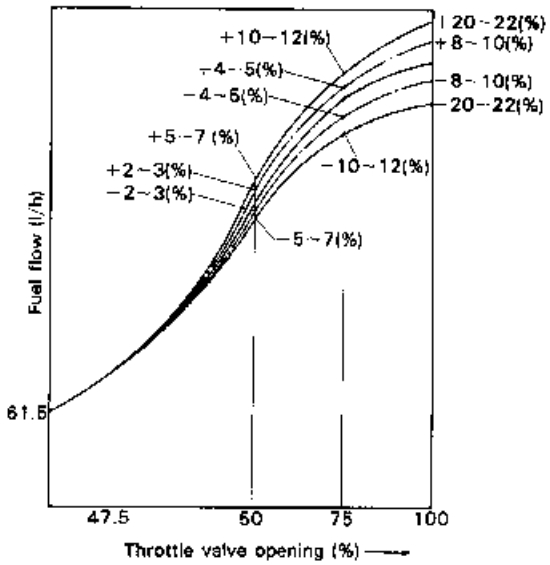
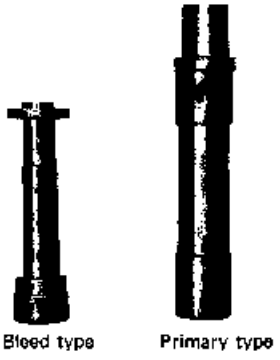


Fig. 12

5-2. Selection of the needle jet and the jet needle

A carburetor with a piston-type throttle valve is also called a variable venturi-type carburetor. In this type of carburetor, the needle jet and the jet needle serve to control a proper air-fuel mixture ratio



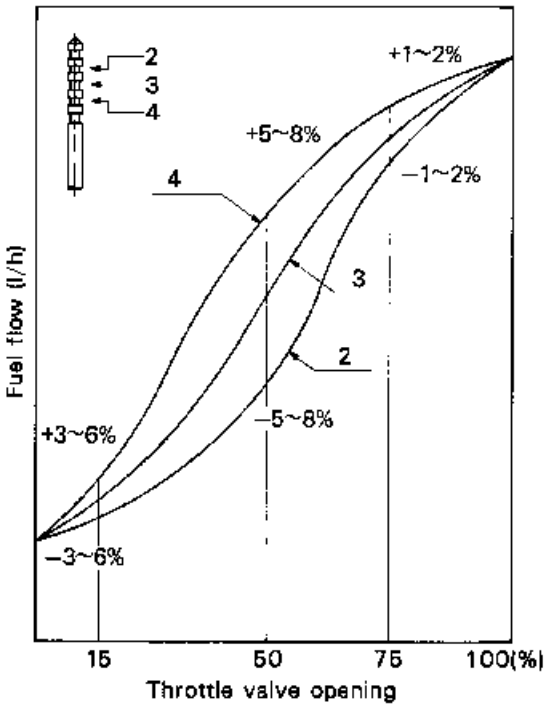


Fig. 13

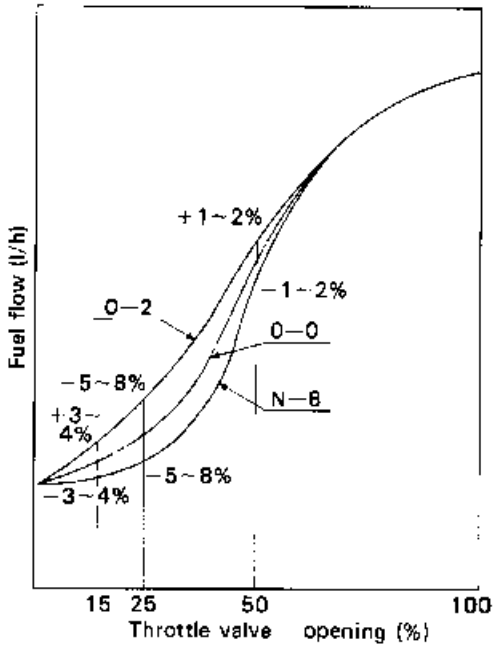


Fig. 14

during the so-called medium throttle valve opening (between 1/4 and 3/4 opening). Whether or not the right size of these parts is used gives a big bearing on the engine performance at partial load. The jet needle tapers off at one end and the clearance between the jet needle and the needle jet increases as the throttle valve opening gets wider. The air-fuel mixture ratio is controlled by the height of "E" ring that is inserted into one of the five slots provided in the head of the jet needle. The variation of fuel flow based on the height of "E" ring is shown in Fig. 13.

5-3. Pilot jet and the slow fuel system (Fig. 15 & 16)

In the slow system of the carburetor, the pilot outlet and the bypass have holes whose size matches the aperture provided to the body. Hence, the selection of the opening of the pilot jet and the air screw is important. Turn the grip a little at no-load operation and see if the engine revolution increases smoothly. If the pilot jet is too small, increase in the engine speed is slow and irregular. Too big a pilot jet, on the other hand, would give rise to heavy exhaust smoke as well as a dull exhaust noise. If you cannot maintain the speed in the range of 12~25 M·P·H (30~40 km/h) with the grip held constant, the pilot jet is too small.

Selection of the opening of the air screw should be made in the following manner. First, warm up the engine adequately and set the throttle stop screw so that the engine revolution at idling will be about 10—20% higher than the number of revolutions you are aiming at. Then, turn the air screw left and right (between 1/4 and 1/2 turn) and select the position where the engine revolution reaches the maximum. Adjust the throttle stop screw to bring down the engine revolution to your target speed for idling. After this adjustment of the throttle stop screw is made, select once more the position where the engine

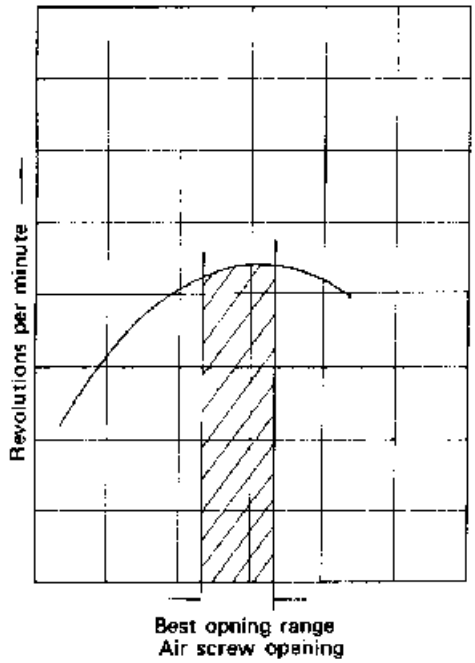


Fig. 15

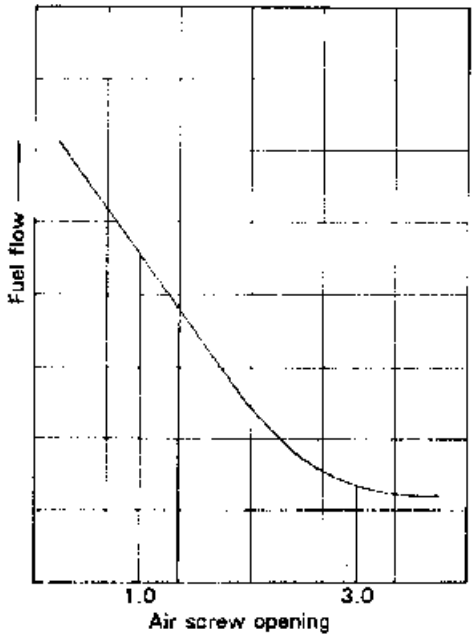


Fig. 16

revolution reaches the maximum, by turning the air screw left and right (between 1/4 and 1/2 alternately). At this point, attention should be paid to the following points.

(1) If there is a certain range in the opening of the air screw where the fast engine revolution can be obtained (for instance, the number of revolutions does not change in the range of 1-1/2 to 2.0 turn), it would be better for acceleration to select 1-1/2 turn.

(2) To determine the "fully closed" position of the air screw, turn the air screw slightly. Excessive tightening of the air screw would damage the seat. The position where the air screw comes to a stop should be considered the "fully closed" position. The maximum number of turns in the opening of the air screw must be limited to 3.0. If the air screw is opened over 3.0 turn, the spring will not work and the air screw can come off during operation of the vehicle. Fig. 16 shows the fuel flow curve in relation to the opening of the air screw.

5-4. The cutaway size of the throttle valve (Fig. 17)

The size of the cutaway of the throttle valve affects the air-fuel mixture ratio when the degree of the throttle valve opening is between 1/8 and 1/2, especially in the range of 1/8 and 1/4 opening. As the cutaway gets larger in size, with the throttle valve opening kept unchanged, air inflow resistance is reduced and causes the amount of air intake to increase, resulting in a lean mixture. On the other hand, the smaller the size of the cutaway, the richer the air-fuel mixture will become. Interchange of the cutaway is made, when the low speed fuel system is out of balance with the main fuel system.

Fig. 17 shows the fuel flow curve in relation to the size of the cutaway.

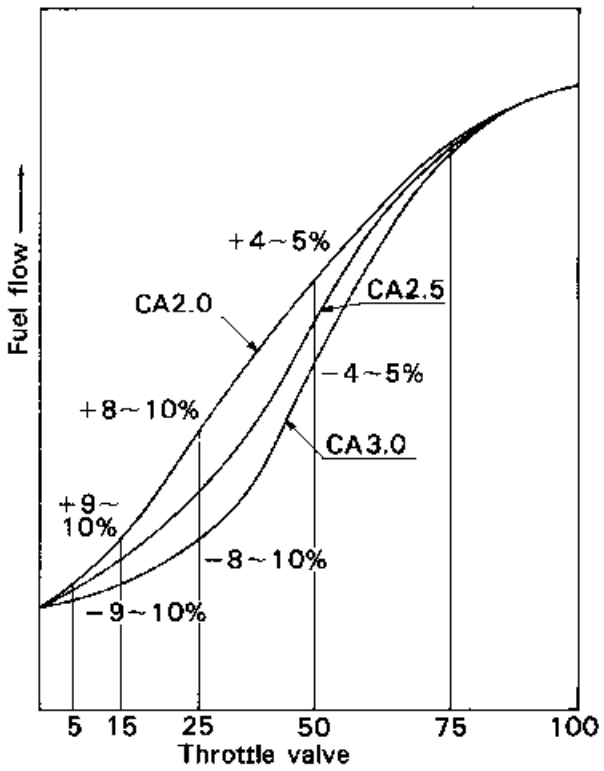


Fig. 17

6. Maintenance

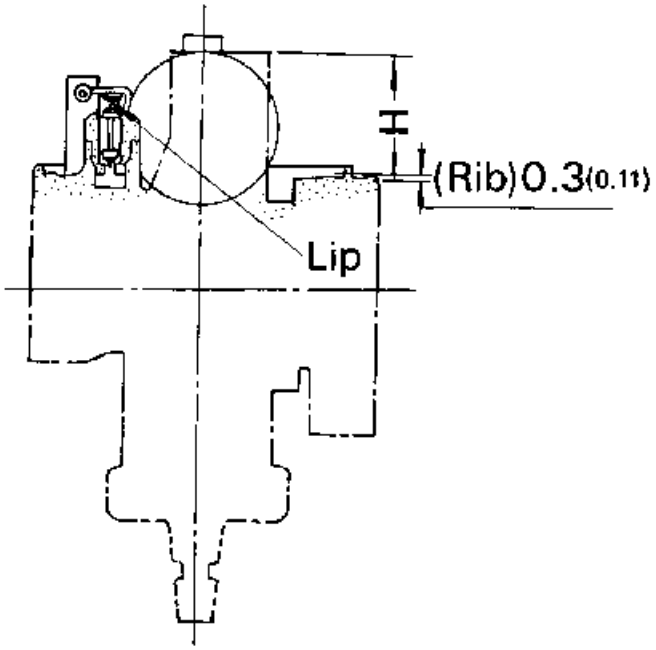
A carburetor consists of various precision-machined parts such as jets. Therefore, care should be exercised, when removing jets or disassembling the carburetor for cleaning.

(1) Proper tools should be used for disassembling and reassembling of jets. Handle each part carefully to avoid scratches, bending, etc.

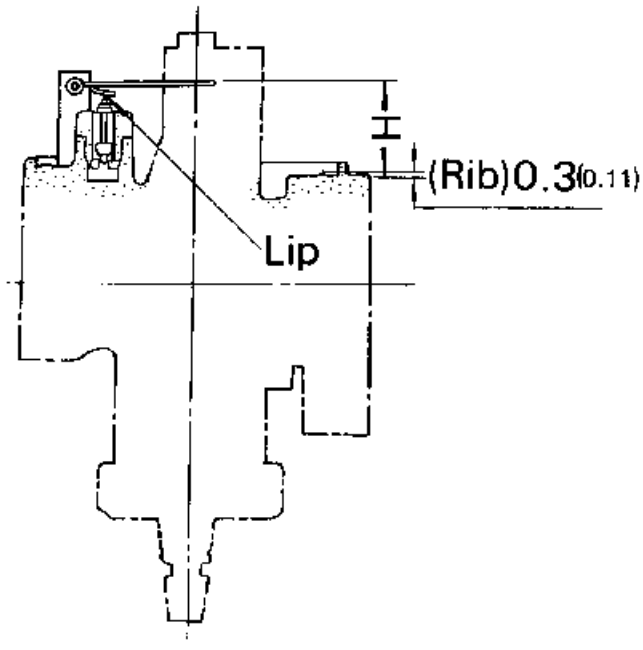
(2) Wash the jets and the carburetor proper in solvent and blow them out with compressed air.

(3) For carburetors whose main jet can be replaced from the outside, an "O" ring is used to prevent leakage of fuel. When you fit the "O" ring, apply a little lubricant or fuel to the "O" ring.

(4) It is important to maintain the fuel level in the carburetor. Do not touch the float arm, when disassembling the carburetor. If the float arm is bent accidentally, adjust the height of rib to the specified measurement (refer to Fig. 18)



Twin float type



Independent float type

Model	VM26 −74	VM28 −49	VM30 −44	VM32 −33	VM34 −20	VM36 −4	VM38 −3	VM40 −1	VM44 −1
H (Inch)	.59~.66	.59~.66	.86~.94	.86~.94	.86~.94	.66~.74	.66~.74	.66~.74	.66~.74
(mm)	15~17	15~17	22~24	22~24	22~24	17~19	17~19	17~19	17~19

Fig. 18

7. Tuning up of carburetor for racing

The maximum output of the engine depends on:

(1) The amount of air drawn into the cylinders

(2) Whether an air-fuel mixture is delivered to the cylinders in a proper ratio

Since the amount of air that is drawn into the carburetor varies with the temperature, the atmospheric pressure, humidity, etc., the mixture ratio is also changed. It is important, therefore, that the fuel flow be adjusted in accordance with the altitude of the racing course and meteorological conditions prevailing at a given time.

7-1. The amount of the incoming air in relation to meteorological conditions

The amount of air drawn into the cylinders is influenced by such factors as the altitude, the temperature, the humidity, etc. Suppose that the amount of air sucked into the cylinders at an elevation of zero is taken as 100 (The temperature and humidity in this case are considered constant). The amount of air in question decreases in proportion to a rise in elevation as shown in Fig. 19. Reduction in the amount of air drawn into the cylinders changes the air-fuel mixture ratio, with the result that the power output drops markedly. Fig. 20 shows the relations between a rise in temperature and the amount of air drawn into the cylinders (In this case, the atmospheric pressure (elevation) and the humidity are considered unchanged and the amount of air going into the cylinders at 32°F (0°C) is taken as 100). In the case of the engine for racing where the maximum output is constantly called for, it is best to tune up the engine by making a matching test of the carburetor in accordance with the temperature and other conditions on the racing course.

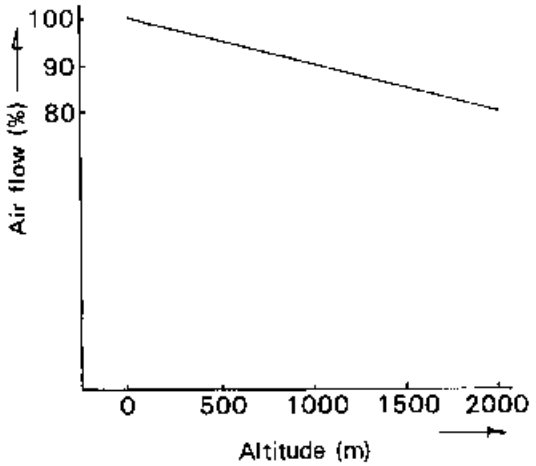


Fig. 19

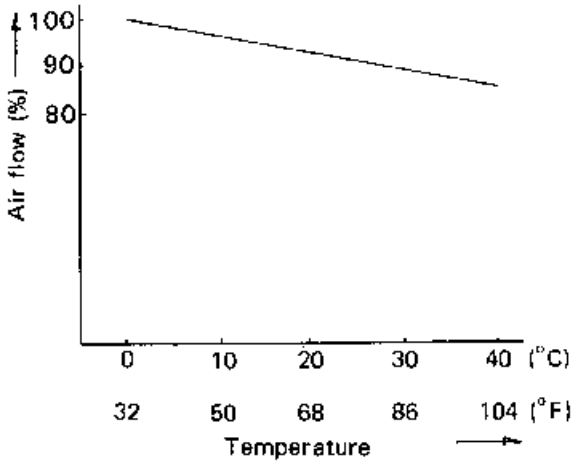


Fig. 20

Engine Trouble-shooting

When the carburetor setting is not correct for the engine, various irregularities are noticed. These can be traced to two causes as a whole.

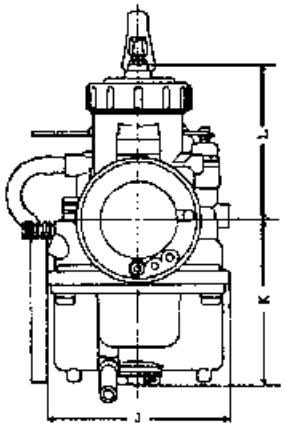
(1) When an air-fuel mixture is too rich:

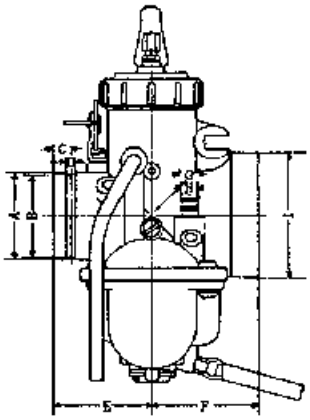
- (a) The engine noise is dull and intermittent.
- (b) The condition grows worse, when the starter is opened.
- (c) The condition grows worse, when the engine gets hot.
- (d) Removal of the air cleaner will improve the condition somewhat.
- (e) Exhaust gases are heavy.
- (f) Spark plug is fouled.

(2) When an air-fuel mixture is too lean:

- (a) The engine gets overheated.
- (b) The condition improves, when the starter is opened.
- (c) Acceleration is poor.
- (d) Spark plug burns.
- (e) The revolution of the engine fluctuates and lack of power is noticed.

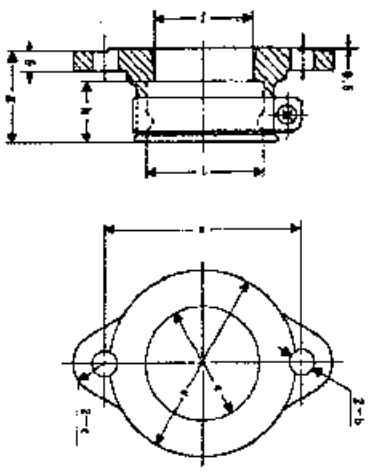
CARBURETOR DIMENSIONS





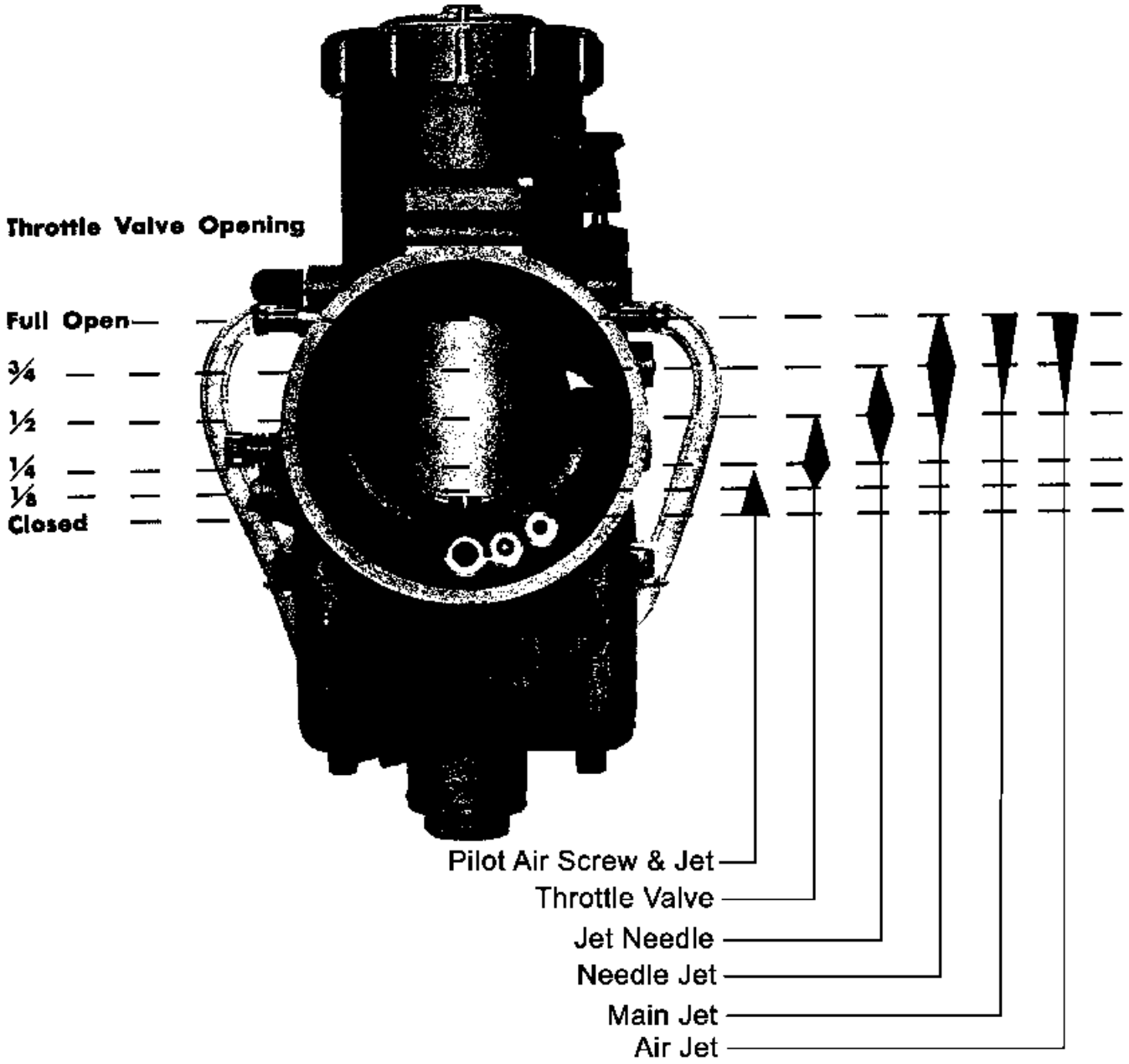
	Model	VM28-49	VM30-44	VM32-33	VM34-20	VM36-4	VM38-3	VM40-4	VM44-3
Dimension (mm)	A	35	40	40	40	43	43	52	52
	B	33	38	38	41	41	41	50	50
	C	10	8	8	8	8	8	8	8
	D	4	4	4	4	4	4	4	4
	E	49	44.5	44.2	44.5	49	49	49	49
	F	44	48	57.8	48	67	67	67	67
	G	9	9	9	9	9	9	9	9
	H	8	8	8	8	8	8	8	8
	I	44	57.5	57.5	57.5	62	62	70	70
	J	72	83.4	83.4	83.4	80.4	80.4	79.4	79.4
	K	66.5	76	76	76	79	81	94	94
	L	54	67	69	69	73	73	86	88
Position of Throttle adjuster and Air screw	Throttle adjuster	Left	Left	Left	Left	Left	Right	Left	Left
	Air screw	Right	Right	Right	Right	Right	Right	Right	Right
Weight (gr)		550	800	770	750	850	830	1020	980
Material		Al	Al	Al	Al	Al	Al	Al	Al

RUBBER FLANGE DIMENSIONS (Millimeters)



Model	a	b	c	d	e	f	g	h	i	Remarks
I-VM28-200-1	60	8.5	10	54	31	29.5	27.5	17.5	35	VM26·28
I-VM30-200-1	57.2	8.5	10	58	31	30	23	15	37	VM26·28
I-VM32-200-1	74.6	8.5	10	60	35	34	32	18	40	VM30~34
I-VM34-200-1	60	8.5	10	54	37	35.5	25.0	15	40	VM30~34
I-VM36-200-1	70	8.5	10	54	39.5	38.5	25.0	15	43	VM36·38
I-VM38-200-1	74.6	8.5	10	60	38	38	28	15	43	VM36·38
I-VM40-200-1	74.6	8.5	10.5	68	47	46	32	15	52	VM40·44
I-VM44-200-1	84	8.5	10.5	67	47	46	25.5	15	52	VM40·44

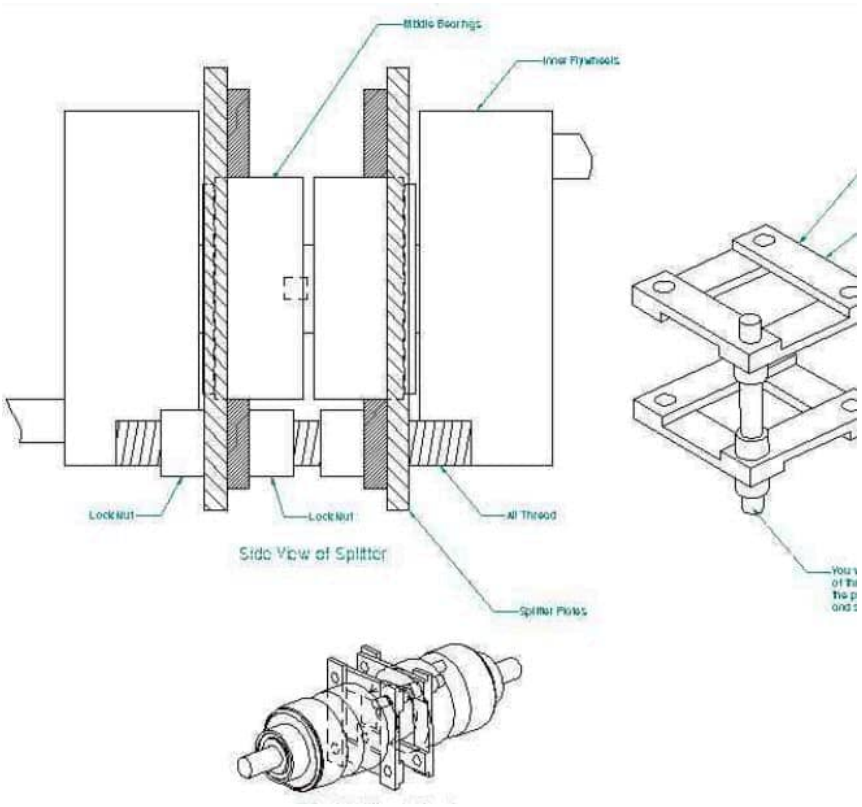
Functional Range Effectiveness of Tuning Parts in relation to the Throttle Valve Opening (Approximation)



MIC MIKUNI AMERICAN CORPORATION
ADDRESS : 8910 MIKUNI AVENUE NORTHRIDGE,
CALIFORNIA 91324 U.S.A.

Crank Splitting

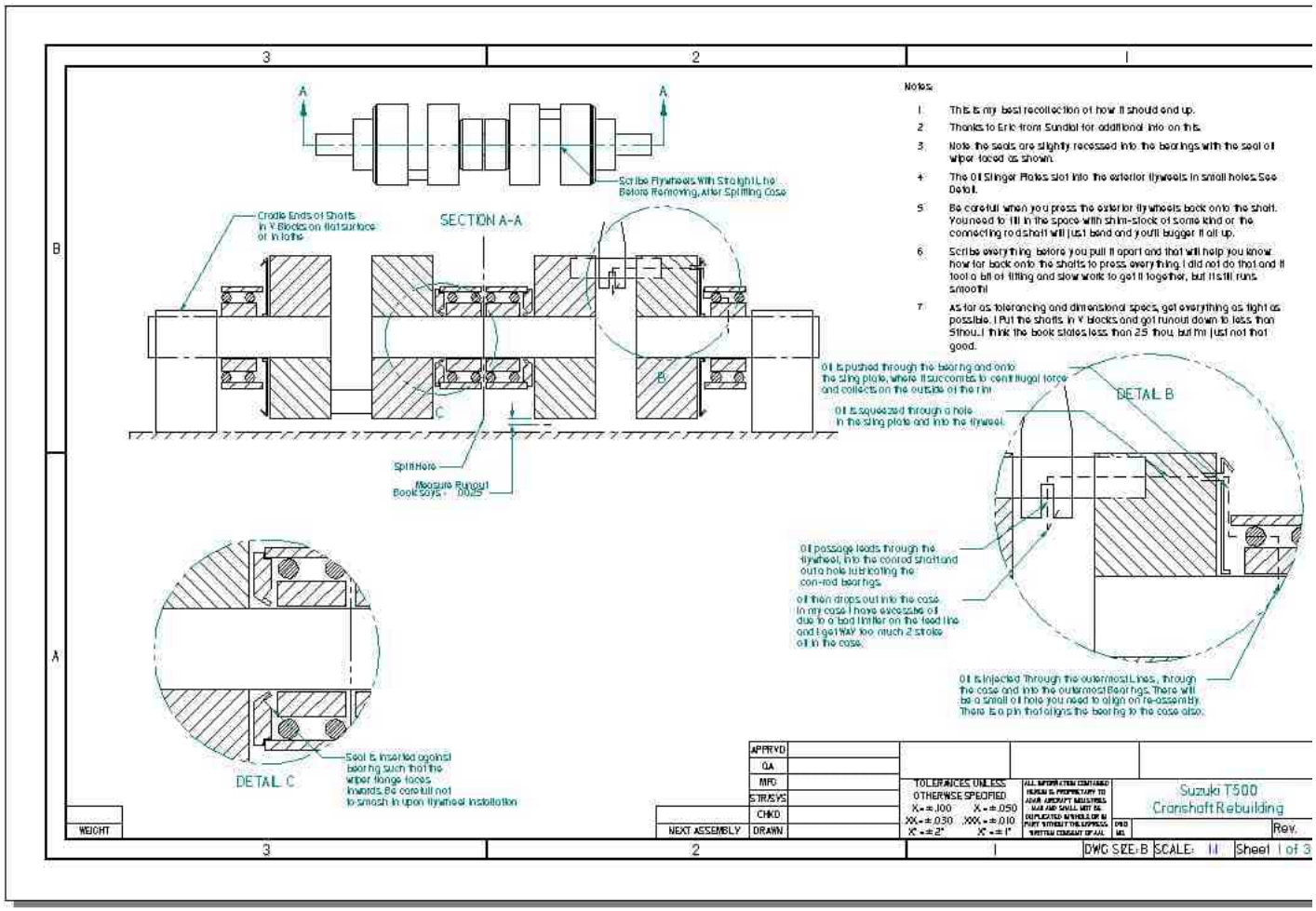
APRIL 6, 2023
CATEGORIES: CRANK REBUILD

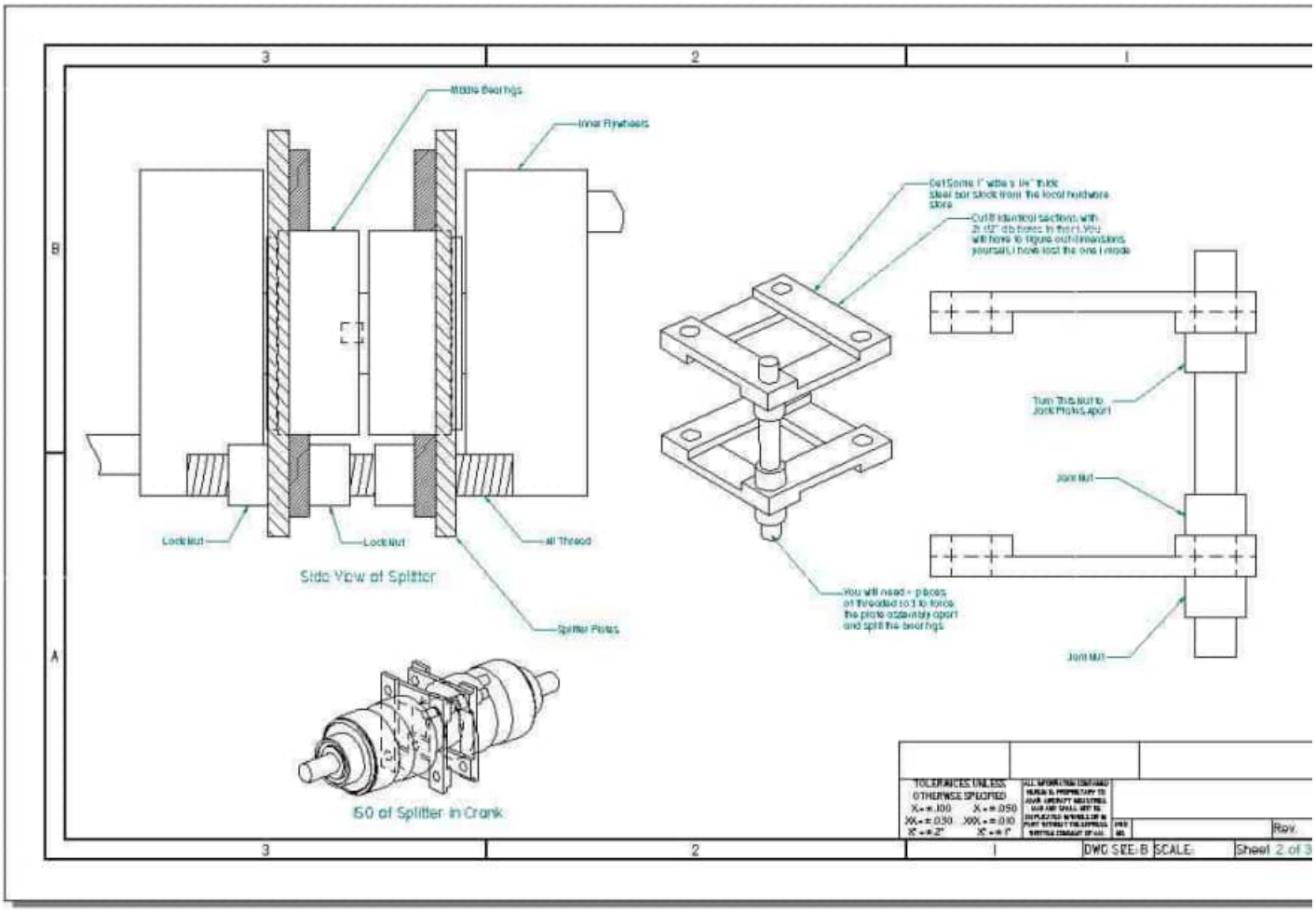


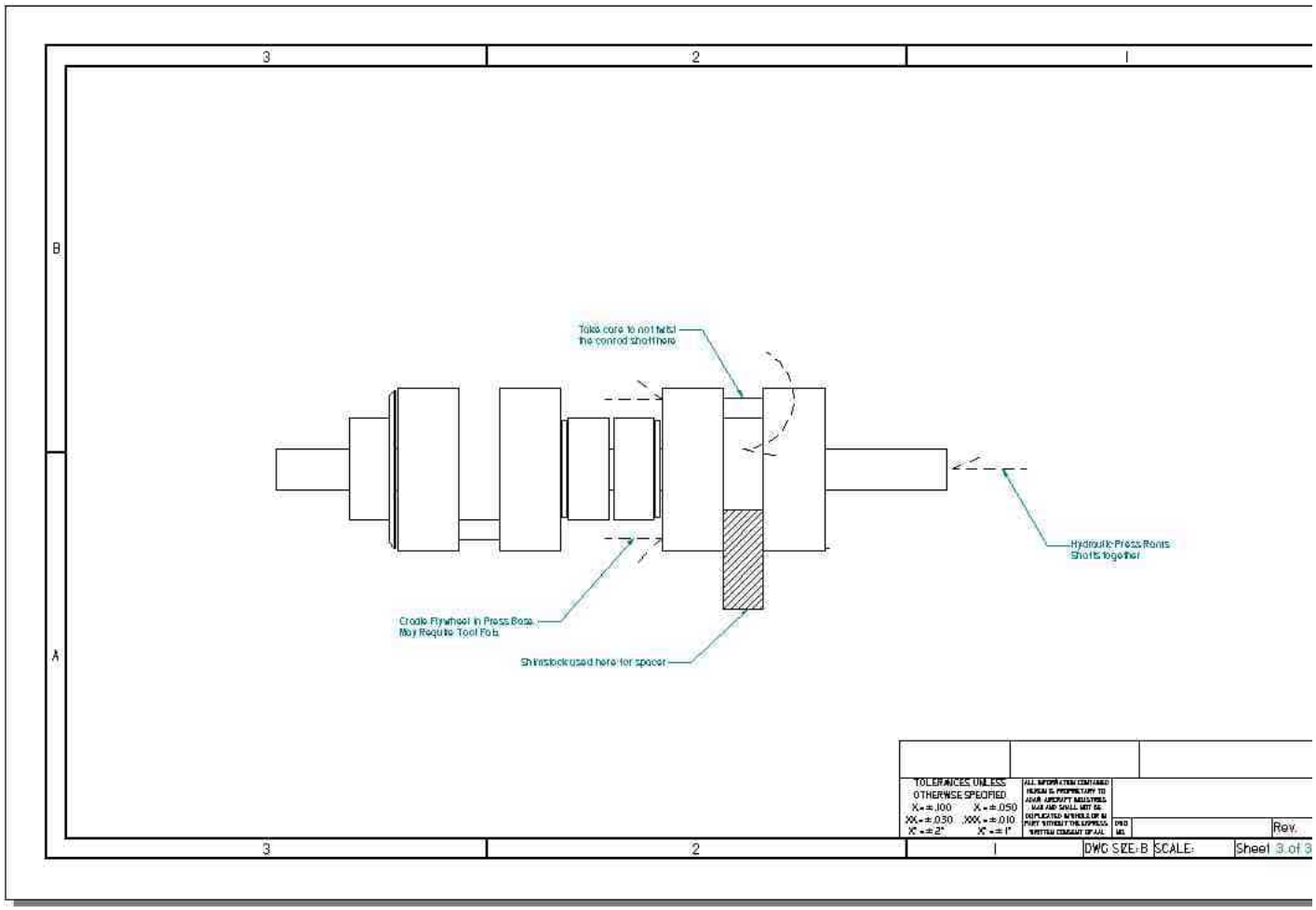
Suzuki Crank Splitter

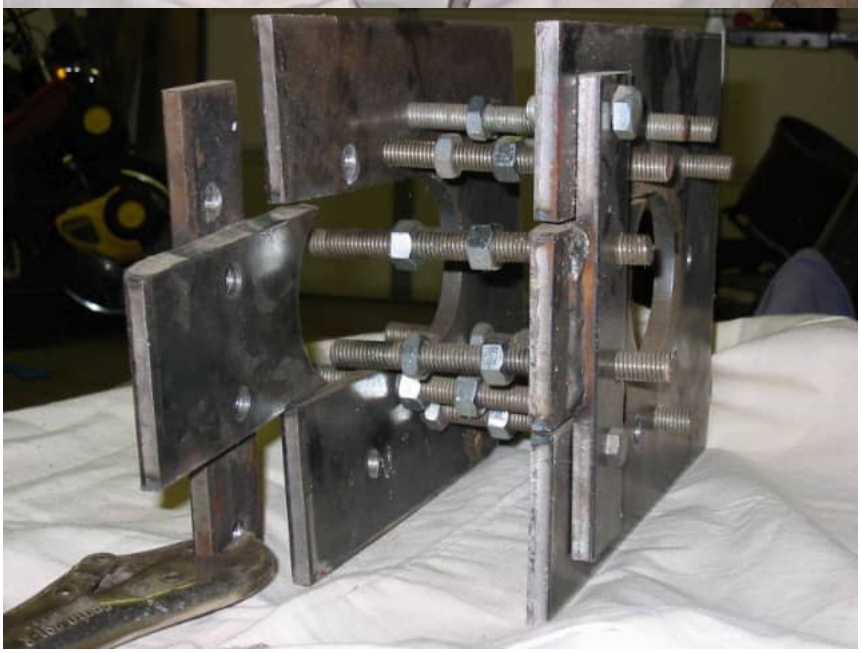
Kickstart has kindly provided details of his crank splitter.....

HERE ARE THE THREE PAGES IF INFO I HAVE ON THE CRANKSHAFT RESEALING.
I CENTERED MY SHAFT IN A LATHE AND SCRIBED A LINE ACROSS THE CRANK JOURNALS. THIS HELPED WITH REASSEMBLY.
I THEN MAKE TWO SPACERS ,FROM METAL, THAT FIT SNUGLY BELOW THE CON-RODS. THIS KEPT ME FROM SMASHING THE CON-RODS WHEN REASSEMBLING.
THE INSTRUCTION SHEET SHOW HOW TO FABRICATE A CRANK SHAFT SPLITTER.
I MADE TWO OF THEM THAT JUST WOULD NOT TAKE STRAIN AND BENT DOUBLE. I AM SENDING PIXS OF THE THIRD ONE AND IT "WILL" WORK.
THE SPLITTER HAS REMOVABLE END PIECES SO YOU CAN GET THE CRANK ASSEMBLY IN IT.
YOU THEN BOLT IT BACK TOGETHER AND START SPREADING THE CRANK SHAFT FROM THE CENTER.
SEAL REPLACEMENT IS EASY BUT BE CAREFUL HOW YOU INSTALL THE SEAL.
THERE ARE NO SPLINES OR KEY WAYS FOR ALIGNMENT WHEN GOING BACK TOGETHER.
USE YOUR SCRIBED LINE AS A REFERENCE. PUT THE SPACERS BELOW THE CON-RODS AND PRESS TOGETHER.
CHECK THE RUN-OUT AND TAP THE CRANK SHAFT TOO GET THE RUN-OUT TO A MIN. MY INFO SAYS .025 " OR LESS RUN OUT.




Middle Bearings
Inner Flywheels
Lock Nut
Lock Nut
All Thread
Spliter Plates
Side View of Splitter
Get Some 1" wide x 1/4" thick steel bar stock from the local hardware store
Cut 8 identical sections with 2 1/2" drill holes in them. You will have to figure out dimensions yourself, I have lost the one I made
Turn This Nut to Jack Plates apart
Jam Nut
You will need 4 pieces of threaded rod to force the plate assembly apart and split the bearings
Jam Nut
60 of Splitter in Crank
TOLERANCES UNLESS OTHERWISE SPECIFIED
X = ±.100 X = ±.050
XX = ±.030 XXX = ±.010
X° = ±2° X° = ±1°
DWG SIZE: B
SCALE:
Rev.
Sheet 2 of 3


3
2
1
B
A
Take care to not twist the control shaft here
Hydraulic Press Ram Shaft is together
Cradle Flywheel in Press Base. May Require Tool Pats
Shim stock used here for spacer
TOLERANCES UNLESS OTHERWISE SPECIFIED
X = ±.100 X = ±.050
XX = ±.030 .XXX = ±.010
X° = ±2° X° = 1°
ALL INFORMATION CONTAINED HEREIN IS PROPRIETARY TO ADAM AIRCRAFT INDUSTRIES, INC AND SHALL NOT BE DUPLICATED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN CONSENT OF AAI.
DWG NO.
Rev.
DWG SIZE: B
SCALE:
Sheet 3 of 3



Tool Kits

The early kits included with the T500 models , up to the 1973 K models (to be confirmed) included a box wrench having a universal joint and a removable handle.which were items 2 and 3 in the left photo below. These were definitely no longer included by the 1975 M series tool kits. The contact points file (part 09813-00001) appears to have been included up until the R series in 1971, and as an option in 1972 - beyond that the parts manuals I have do not list them . The points wrench (09930-20111) appears to have been included up to the J models (to be confirmed) and then as an option beginning with the K in 1973.

Early kit supplied with K models - included item 2 and 3 for total of 16 pieces.

◆ **Tool Kit**

A tool kit which includes all tools needed for daily maintenance is provided inside the battery & tool cover.

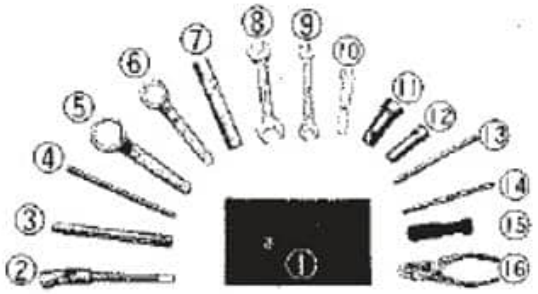


Fig. 32 Tool kit

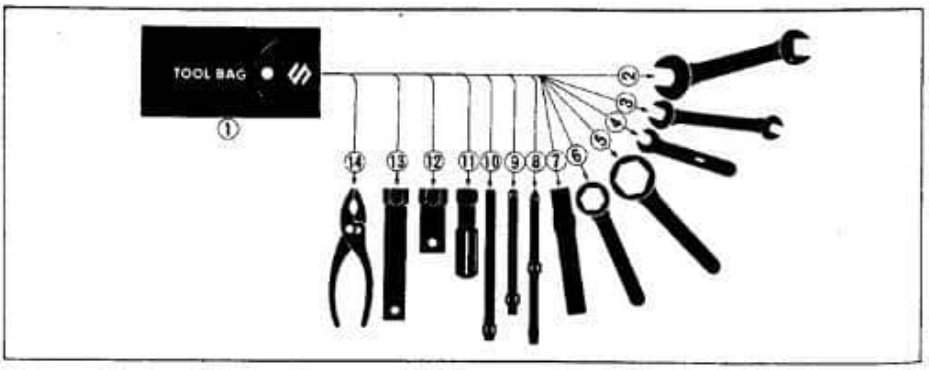
1. Tool bag
2. Universal box wrench
3. Box wrench handle
4. Box wrench handle bar
5. 32 mm offset wrench
6. 22 mm offset wrench
7. Offset wrench handle
8. 14 x 17 mm open end wrench
9. 10 x 12 mm open end wrench
10. 8 mm open end wrench
11. 21 mm box wrench
12. 14 mm box wrench
13. Cross head screw driver
14. Combination screw driver
15. Screw driver handle
16. Pliers

Kit supplied with the M model Titan and GT's - 14 pieces.

TOOL KIT

A tool kit which includes all tools needed for daily maintenance is provided inside the left frame cover.

1. *Tool bag*
2. *14 x 17 mm open end wrench*
3. *10 x 12 mm open end wrench*
4. *8 mm open end wrench*
5. *32 mm offset wrench*
6. *22 mm offset wrench*
7. *Offset wrench handle*
8. *Combination screw driver*
9. *Cross head screw driver*
10. *Box wrench handle bar*
11. *Screw driver handle*
12. *21 mm box wrench*
13. *14 mm box wrench*
14. *Pliers*



Below are photos of the tools from an early tool kit.
On the right I have included a photo of two of the universal box wrenches (part number 09816-00018) as they differ. One has a longer shank, and as well the shoulder where the shank meets the universal fitting is smaller. There are no visible manufacturer's marks on the ones I have - presumably different suppliers were used, or it may be that one is an earlier one than the other.

ozebook.com

Tire Pumps

There were at least two style of tire pump fitted to the early T500's - the one at the top of the photo has 'Made in Japan' printed length ways on the pump handle and came from a first year T500, and the one in the lower part of the photo has 'Made in Japan' printed on the end of the handle, wrapped around where the nozzle is stored. Both pumps are the same length of 20 cm, uncompressed with the nozzle protruding another 1 cm. The pump casings were made of aluminium.

The pumps were both about 45 cm when fully extended. Below are close-ups of the printing on the handles of the two types - 1st is early, 2nd is later.

MADE IN JAPAN

MADE IN JAPAN

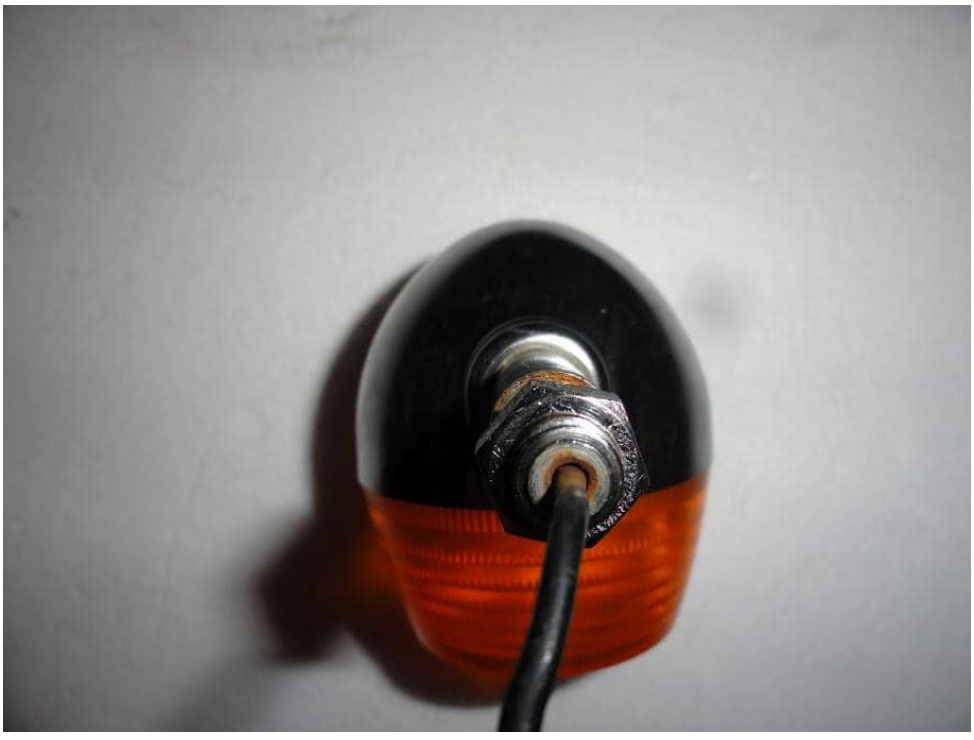
A photo of the nozzle removed from the pump end - relative to a bicycle tire pump, the nozzle is quite long.

Early T500 Turn Signals

Four types are shown - the very early style having a stem clamp and flattened rear housing, no stem clamp but with flattened rear housing, round back and no stem clamp, and then the ones commonly sold as NOS having long stems and incorrect wire routing.

The photo below is of the front signal from a 1969 T500-II. Notice that the back of the signal housing is flat, there is no stem clamp, and that the stem is quite short - about 1 inch long, excluding the threads.

A similar front signal, but with a rounded end. The stem is about the same length as the one having the flat end, an no stem clamp.



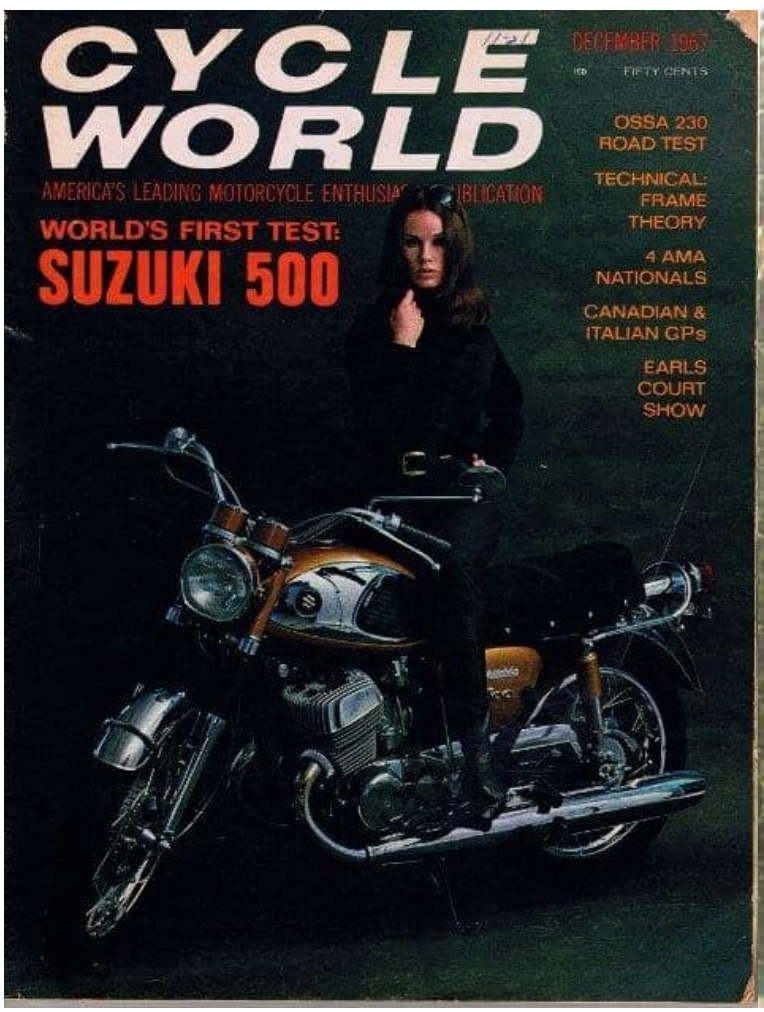
In the photos below, on the left is what is commonly sold as NOS and has a long stem - about 2.25 inches long - and no stem clamp.
Below that is the correct signal for the early T500's having the short stem, stem clamp and flat end.

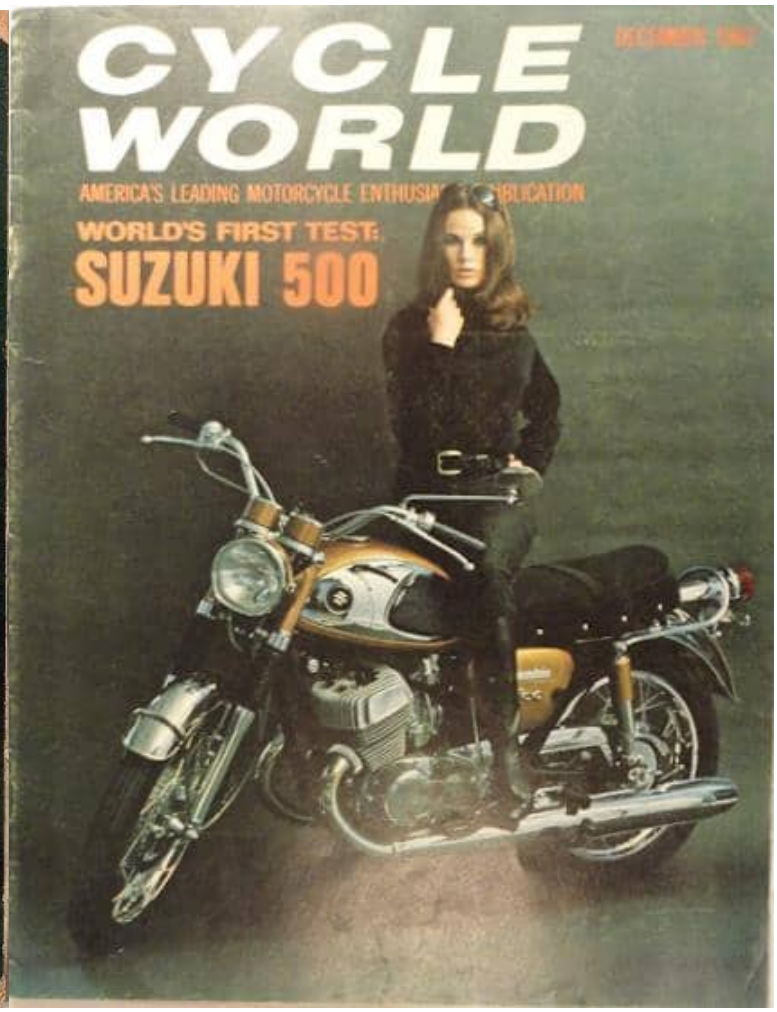
Likewise for the rear signals - the photo on the lower left is of what is commonly sold as NOS and has the long 2.25 inch stem with the wire on the outside, rear of housing is round, and no stem clamp. Below that is a photo of the correct signal for the early T500's with the wire threaded inside the stem and the external stem clamp

The 500/5 and T500 Question - Material contributed by Eric from North Virginia

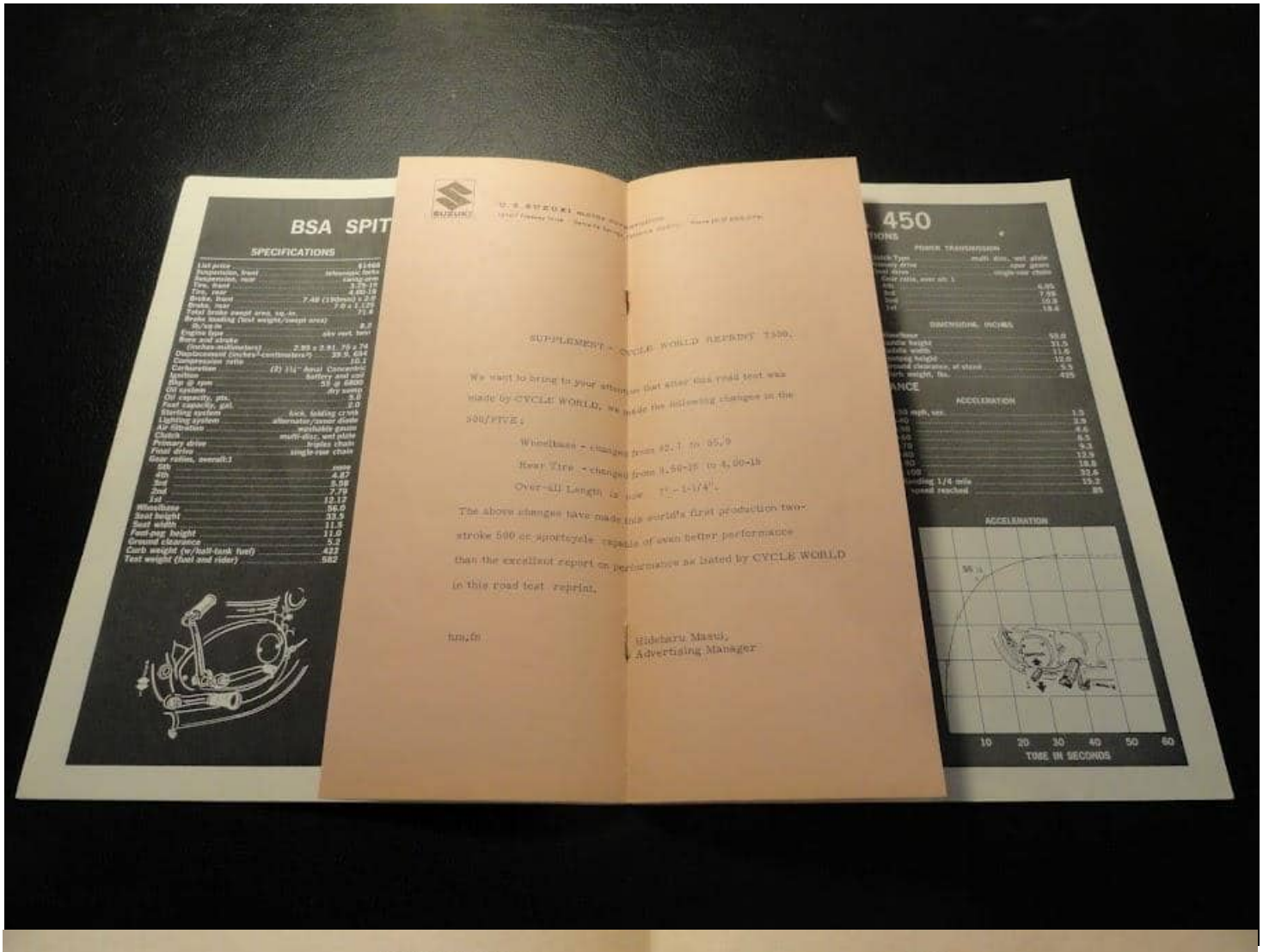
The December 1967 issue of Cycle World, presented the new 500/5 model and listed its specifications . A collection of Cycle World road tests were gathered together and re-published by Suzuki as an advertising handout, also with a December 1967 cover date, that included a letter from Suzuki detailing the changes made to the design since the original road test had been done.

Here are scans of the two covers - the Cycle World December 1967 magazine on the left, and the Suzuki advertising brochure on the right.





That letter included in the brochure appears below, and a close-up of it below that.



SUPPLEMENT - CYCLE WORLD REPRINT T500.

We want to bring to your attention that after this road test was made by CYCLE WORLD, we made the following changes in the 500/FIVE:

Wheelbase - changed from 52.7 to 55.9

Rear Tire - changed from 3.50-18 to 4.00-18

Over-all Length is now 7' - 1-1/4".

The above changes have made this world's first production two-stroke 500 cc sportcycle capable of even better performance than the excellent report on performance as listed by CYCLE WORLD in this road test reprint.

hm;fn

Hideharu Masui,
Advertising Manager

These then are the specifications for the T500 Mk I. What is unclear is the length of elapsed time between the original Cycle World article appearing, and the release of the reprint as both carry the same date of December 1967. If they were published close together, then it raises the question of whether 500/5's actually were ever 'officially' sold .

Not mentioned in the letter are what other changes were also made - one obvious one is that the exhausts were now longer to accommodate the change in length of the swing arm. Looking at the parts listings, it is interesting (at least to anoraks like myself !) to note that the first part number listed for the mufflers are 14301-15002 and 14302-15002 for the right and left on the Mk I which changed to 14301-15003 and 14302-15003 for the right and left at engine number 11520, or part the way through the Mk I production. Normal Suzuki practice was to change the last digit of a part number if it was a version change so presumably there were two previous muffler styles prior to the first one (the 15002's) listed for the Mk I. Possibly more documentation and/or original examples will surface over time.

With help from many other owners, I am recording 'starting' and 'ending' frame numbers - not to create a registry, but to try and nail down actual production numbers. The list is available at this link. At the moment we have yet to confirm a 500/5, and as well there appears to be a gap in production between the Mk I and the Mk II models of about 4000 units. If you have in your possession a bike with a higher or lower frame number than we have recorded so far, ideally with a photo, I would like to hear from you!

A persistent urban myth, which is regularly repeated in the press, is that the 500/5 had a 10 fin barrel. None of the early news p hotos or photos in the Suzuki shop manuals show this - they all clearly show 11 fins. A possible explanation for the origin of the myth may be the ad that also ran in the December 1967 Cycle World issue showing the 500/5 - the fin just even with the top of the exhaust collar is in shadow, and so not clearly visible unless the photo is enlarged and so gives the appearance of being a 10 fin barrel . It is also possible that some reporter just couldn't count!

Note: Shorter swingarm, different exhaust cut-out for the axle and different rear shock mounting points.

Suzuki T500 and GT500 Eng/Frame #s from owner's records

Suzuki T500 and GT500 Frame Record
Only showing details from known machines from owner's records

Suzuki
T/GT500

	Engine	Frame	Total Production
500/5	T500-10001	T500-10001	
		T500-10014	
	T500-10020		
1968 Mark	T500-10204	T500-10204	5,795 ?
	T500-13233	T500-13233	
	T500-15044	T500-15044	
	T500-15170	T500-15170	
	T500-16038	T500-16038	
1969 Mark	T500-20064	T500-20064	3,999 ?
	T500-20909	T500-20909	
	T500-20938	T500-20938	
	T500-22298	T500-22298	
	T500-23937	T500-23937	
1970 Mark	T500-23938	T500-23938	6,846 ?
	T500-24993	T500-24993	
	T500-27691	T500-27691	
	T500-29227	T500-29227	
	T500-30608	T500-30608	
	T500-30785	T500-30785	
	T500-31294	T500-31294	
1971 R	T500-30846	T500-30848	15616 ?
	T500-30846	T500-30846	
	T500-30936	T500-30936	
	T500-31295	T500-31295	
	T500-34084	T500-34084	
1972 J	T500-46463	T500-46463	13316 ?
	T500-48732	T500-48732	
	T500-55683	T500-55683	
	T500-58513	T500-58513	
1973 K	T500-59779	T500-59779	
	T500-60819	T500-60819	
	T500-68082	T500-68082	8304 ?
1974 L	T500-68083	T500-68083	6080 ?
	T500-74161	T500-74161	
1975 M	T500-74162	T500-74198	16,566 ?

		T500-74162	
	T500-76297		
		T500-90540	
1976 A	T500-90729	T500-90729	13,692 ?
	T500-102015	T500-101952	
	T500-103393	(not original engine)	
1977 B	T500-104422	T500-104426	unknown
		T500-104422	
	T500-106943	T500-106765	
		T500-106884	
	T500-108082		

ROCCA Suzuki wins 1970 Bol d'Or

See this T500 SUZUKI, it's the first and last "BOL D'OR' she has won. It was in 1970 at Montlhery with CHEMARIN and DECOMBEIX. The kit was from Jacques ROCA and the only things to do was fill with Oil and Gas ! The only one on start line against 15 triple Kawa H1, but the first one after 24 hours see the picture. Thanks for your fabulous site.
clauderichard@infonie.fr

Chemarin on the T500 Endurance Racer

won by Decombeix and Chemarin in 500 with a Suzuki T500 in front of 15 Kawasaki 500 H1s! The first Bol D'Or for Jean-Claude Chemarin & he wins on a T500!

64

Raunchy Suzuki Ads

APRIL 7, 2023
CATEGORIES: GT380, GT550, GT750

Suzuki Two Stroke Enthusiasts

Donne e moto sono tutte uguali. Ma qualcuna è "più" uguale.

Per esempio nel temperamento.

Zelda:
Un po' maliarda e un po' innocente, gattina e cigno bianco, hippy del village o casta diva... Ma un ricciolo, un sorriso, una carezza la rendono sempre inconfondibilmente "lei". Donna su cui appuntare sguardi sogni emozioni. È amore.

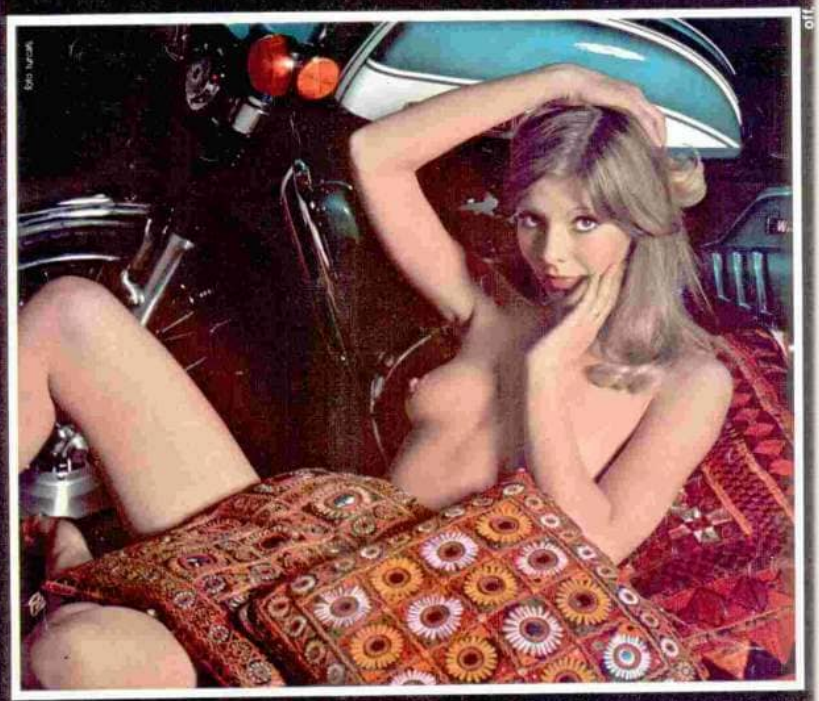
Suzuki GT 550:
Tre cilindri raffreddati ad aria (brevetto Suzuki RAS).
Potenza max: CV 50/6500 giri min.
Cambio a 5 velocità sempre in presa.
Velocità max: Kmh. 188
Accelerazione (1/4 miglio): 13,5 sec.
Cioè: le altre hanno delle caratteristiche. Ma Suzuki GT 550 ha del carattere.

l'impronta dei Nuovi Samurai.

SUZUKI

Esclusivista per la distribuzione in Italia: SAIAD s.r.l. - Via Cassini 89bis - 10129 Torino.

Donne e moto sono tutte uguali. Ma qualcuna è "più" uguale.



Per esempio nel confort.

Cristina:
Un abbraccio morbido, rotondo come un ritorno nel grembo. Capelli lievi, per intrecciarvi i pensieri di un giorno lungo. Occhi di mare, dove affonda il piacere della fantasia.

Suzuki GT 750:
Sospensioni perfettamente adeguabili alle condizioni di strada e di carico.
Telaio ad altissima affidabilità.
Totale assenza di vibrazioni (raffreddamento ad acqua + cilindri ravvicinati + albero motore corto).
Avviamento elettrico e a pedale.
Cioè: Milano-Roma senza respiro, e ancora in forma per una notte brava.

l'impronta dei Nuovi Samurai.

SUZUKI

Esclusivista per la distribuzione in Italia: SAIAD s.r.l. - Via Cassini 89bis - 10129 Torino.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General -2
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: IGNITION COIL FAILURES

PROBLEM: There have been some instances of coil failure on the twins. Sometimes there is a defect in the internal insulation for the windings of the coil. An internal short develops over a period of operation, and causes the coil to fail.

INSPECTION: There are two methods of inspection:

A. Check each coil on the Electrotester. The coil should fire an 8mm gap steadily and draw no more than 1.0 amp current.

B. When checking the coil in the motorcycle with the Electrotester:
   1. Use a new spark plug.
   2. Don't open the tester gap more than 8.0mm or you will overload and ruin the coil.
   3. Set the gap at zero when starting the engine.
   4. The tester should show a hot blue spark at 6mm gap for 5 minutes. Check the spark at 5000-6000 RPM.

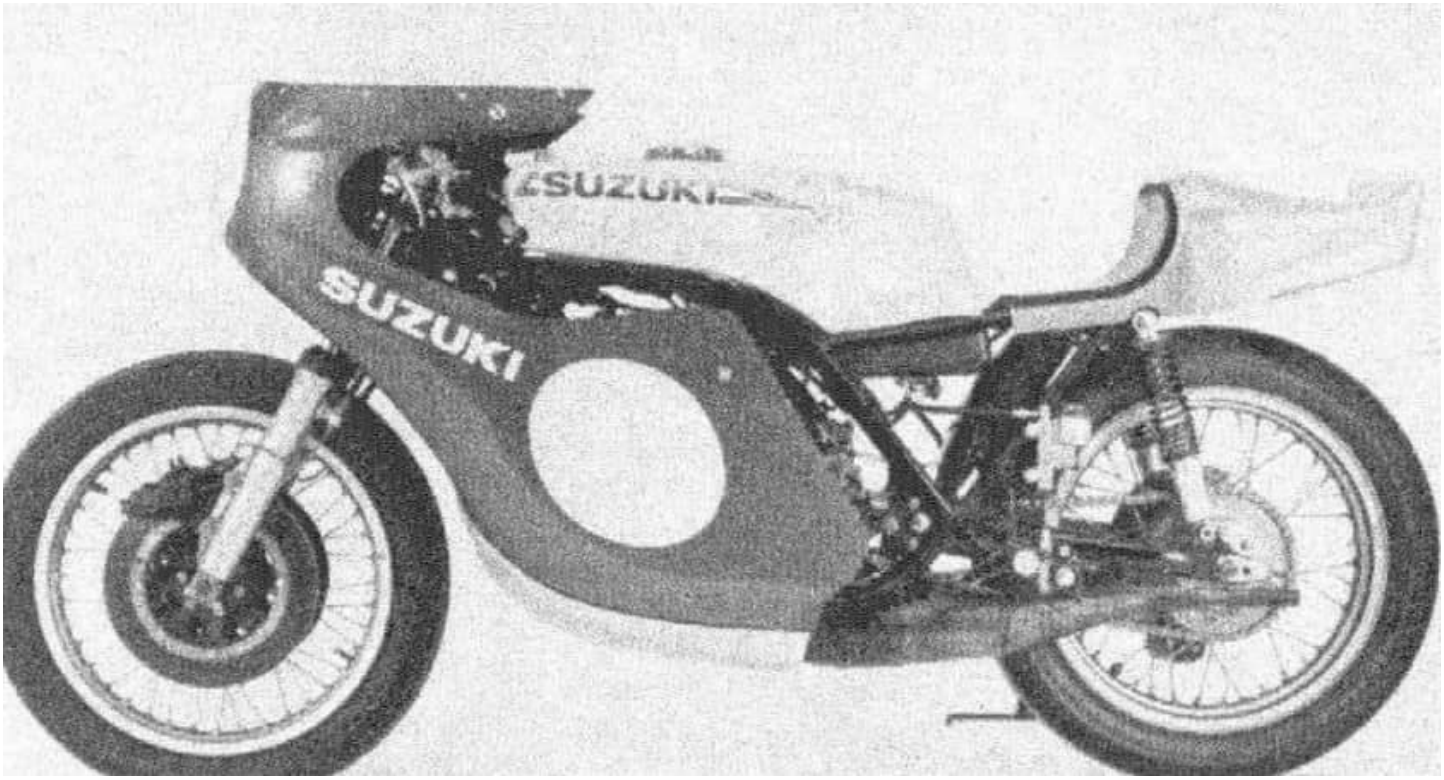
C. Operate the motorcycle for a short period and feel each coil underneath the fuel tank. If one is appreciably hotter than the other, this indicates an internal short.

D. Visually inspect the coil for evidence of external shorting, melted insulation, or arcing. Note whether any of the primary wires are being pinched between the coil body and the bracket.

E. Check the nylon plug module which connects the coil to the main wiring harness. The female connector has been the cause of some electrical problems.

CORRECTION: If the coil is internally shorted, it will be necessary to replace it.

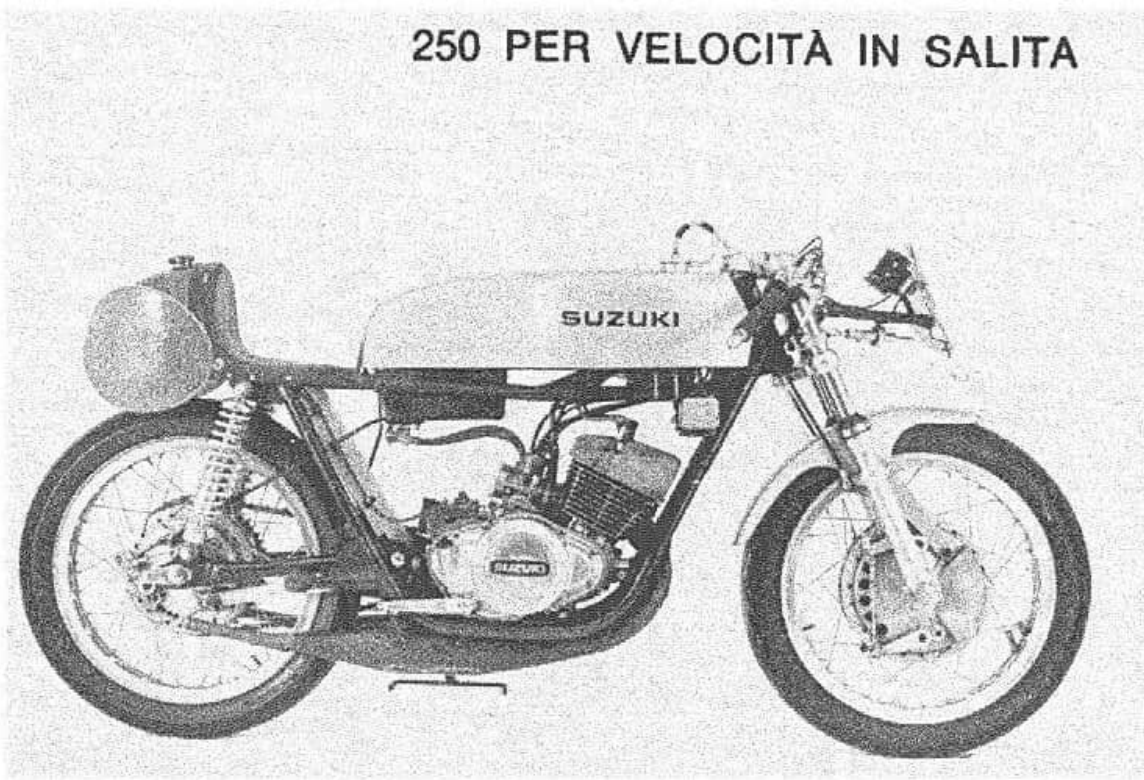
Saiad Suzuki 1973



ozebook.com

Italian DIstributor Saiad Suzuki Racers from 1973

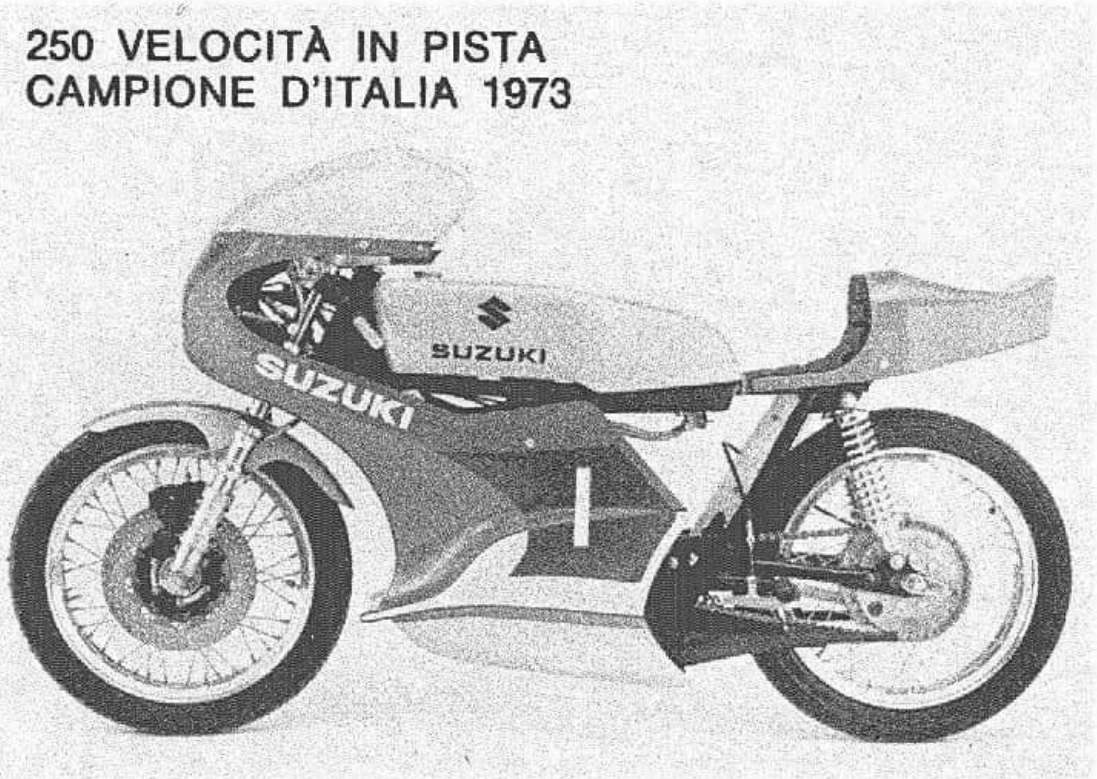
250 PER VELOCITÀ IN SALITA



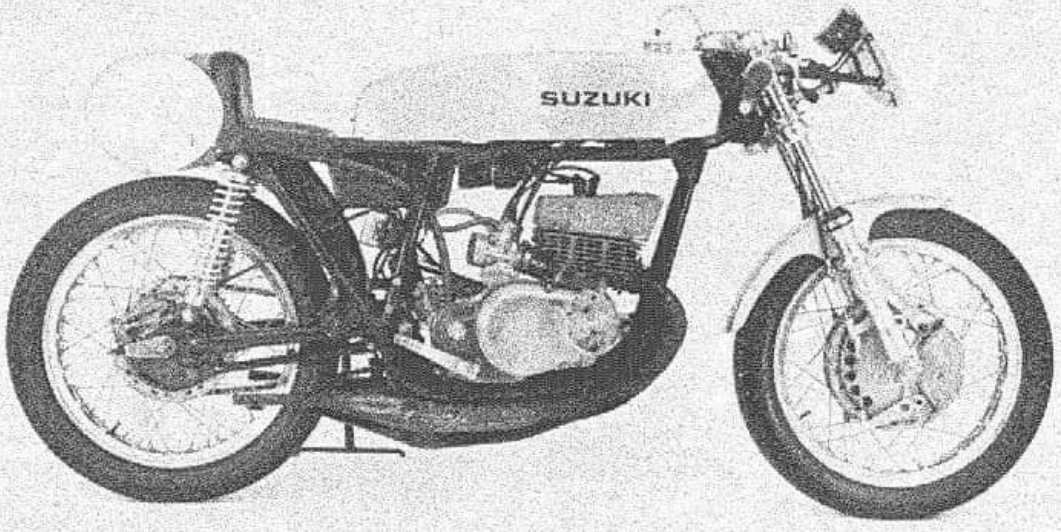
Alesaggio e corsa
54 x 54 x 2
Cilindrata 247,22
Giri motore 11.200
Cambio a 6
rapporti ravvicinati
Accensione
elettronica Krober
Contagiri
elettronico Krober
Sospensioni Ceriani
Freno ant.
Fontana ∅ 210
Freno post.
tamburo Fontana ∅ 180
Gomme Michelin
3.00-18 ant. 3.25-18 post.
tipo PZ2
Serbatoio - Sella
in fibroresina

Alessaggio e corsa
54 x 54 x 2
Cilindrata 247,22
Giri 11.200
Cambio a 6
rapporti ravvicinati
Accensione
elettronica Krober
Contagiri
elettronico Krober
Sospensioni Ceriani
Freno ant.
monodisco Brembo
Freno post.
tamburo Fontana ∅ 180
Gomme Michelin
3.00-18 ant. 3.25-18 post.
tipo PZ2
Serbatoio - Sella
Carenatura in fibroresina
Per le gare di velocità
in salita il freno anteriore
è a tamburo Fontana ∅ 210

250 VELOCITÀ IN PISTA
CAMPIONE D'ITALIA 1973

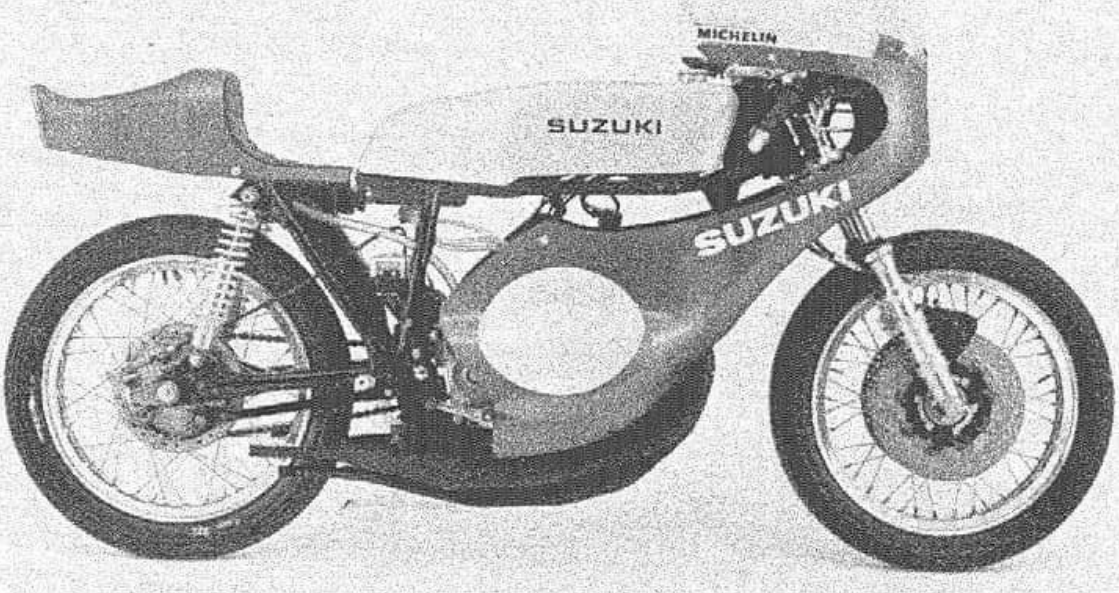


380 PER VELOCITÀ IN SALITA MOTO VINCITRICE DEL CAMPIONATO ITALIANO 1974 DELLA MONTAGNA



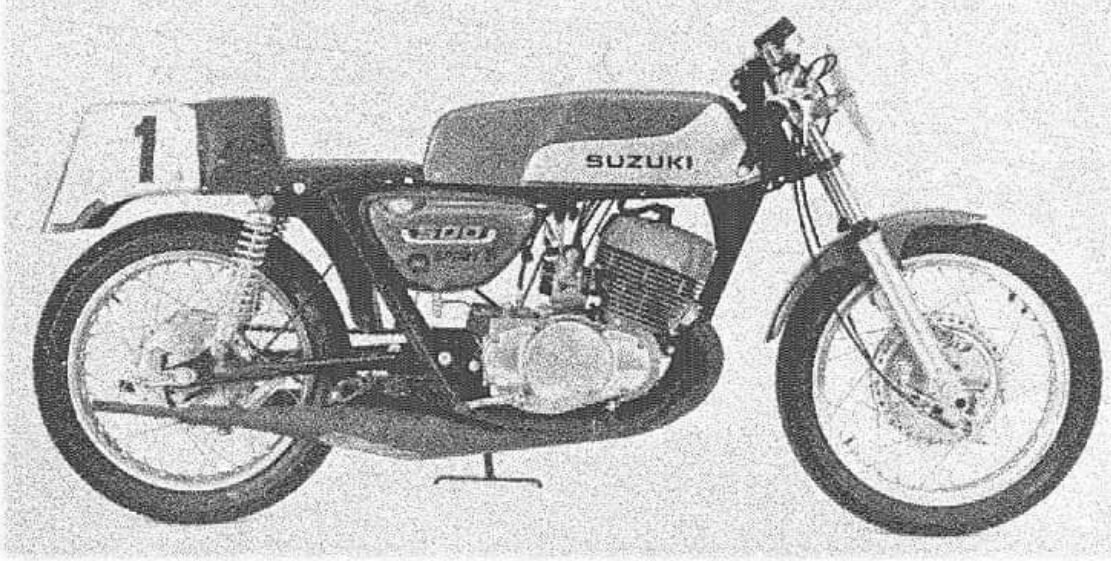
Alesaggio e corsa
54 x 54 x 3
Cilindrata 384
Giri Motore 11.000
Cambio
a 6 rapporti ravvicinati
Accensione
elettronica Krober
Contagiri elettronico Krober
Sospensioni Ceriani
Freno ant.
tamburo Fontana ∅ 210
Freno post.
tamburo Fontana ∅ 180
Gomme Michelin
3.25-18 ant. 3.50-18 post.
tipo PZ2
Serbatoio - Sella in fibroresina

380 VELOCITÀ JUNIORES



Alesaggio e corsa
54 x 54 x 3
Cilindrata 384
Giri motore 11.000
Cambio
a 6 rapporti ravvicinati
Accensione
elettronica Krober
Contagiri
elettronico Krober
Sospensioni Ceriani
Freno ant.
doppio disco Brembo
Freno post.
tamburo Fontana ∅ 180
Gomme Michelin
3.25-18 ant. 3.50 post.
tipo PZ2
Serbatoio - Sella -
Carenatura in fibroresina
Per le gare di velocità
in salita il freno
anteriore è a tamburo
Fontana ∅ 210

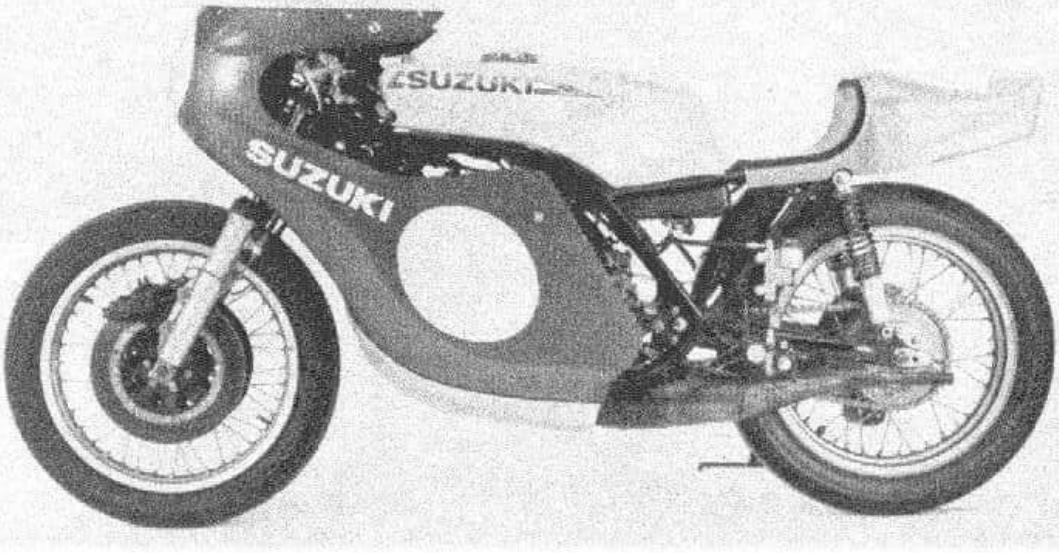
500 TT
PER GARE DI SERIE E DURATA



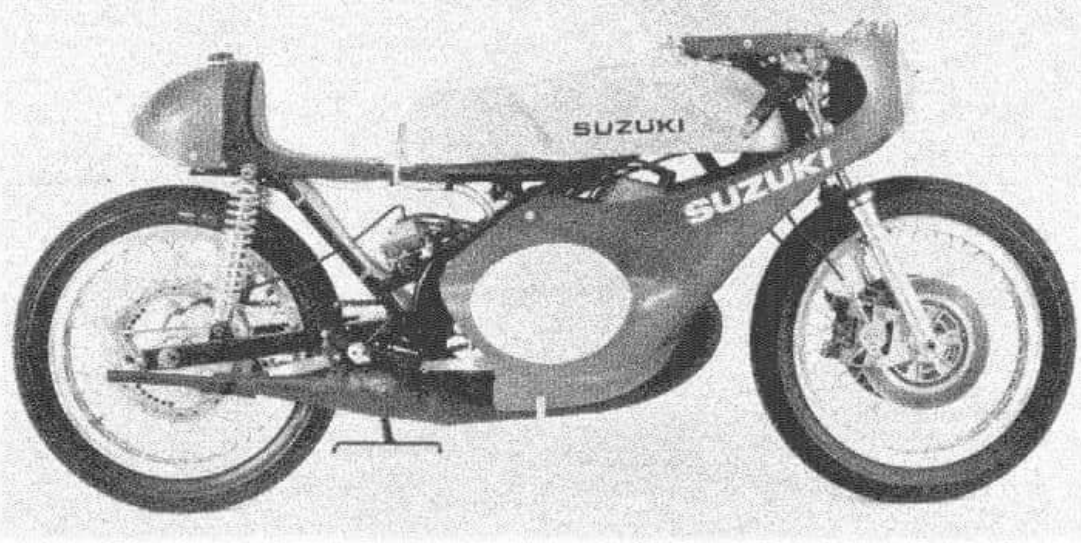
Alesaggio e corsa
70 x 64 x 2
Cilindrata 492,35
Giri motore 8.500
Cambio a 5 rapporti ravvicinati
Forcella ant. Suzuki special
Ammortizzatori post. Ceriani
Freno ant. Suzuki special a 4 ganasce
Freno post. Tamburo di serie
Gomme Michelin 3,25-19 ant. 4.00-18 post. tipo PZ?
Serbatoio - Sella - Parafanghi in fibroresina

Alesaggio e corsa
70 x 64 x 2
Cilindrata 492,35
Giri motore 9.000
Cambio a 6 rapporti ravvicinati
Accensione elettronica
Frizione a secco
Freni a disco
Gomme Michelin 3.50-18 Ant. 4.25-18 Post. tipo PZ 2
Carenatura-Sella in fibroresina
Serbatoio in alluminio

500 VELOCITÀ SENIOR
RAFFREDDAMENTO AD ACQUA



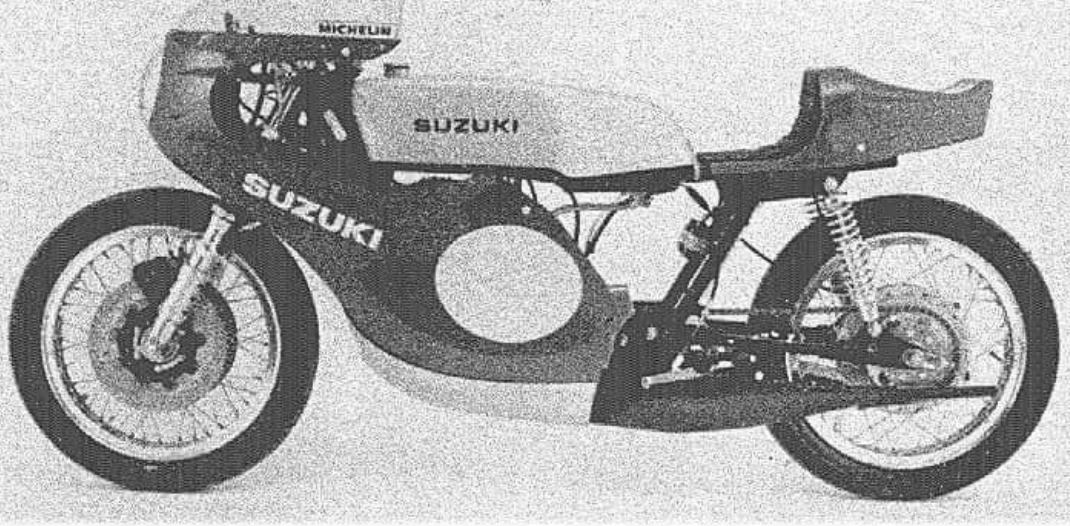
500 VELOCITÀ SENIOR
RAFFREDDAMENTO AD ARIA



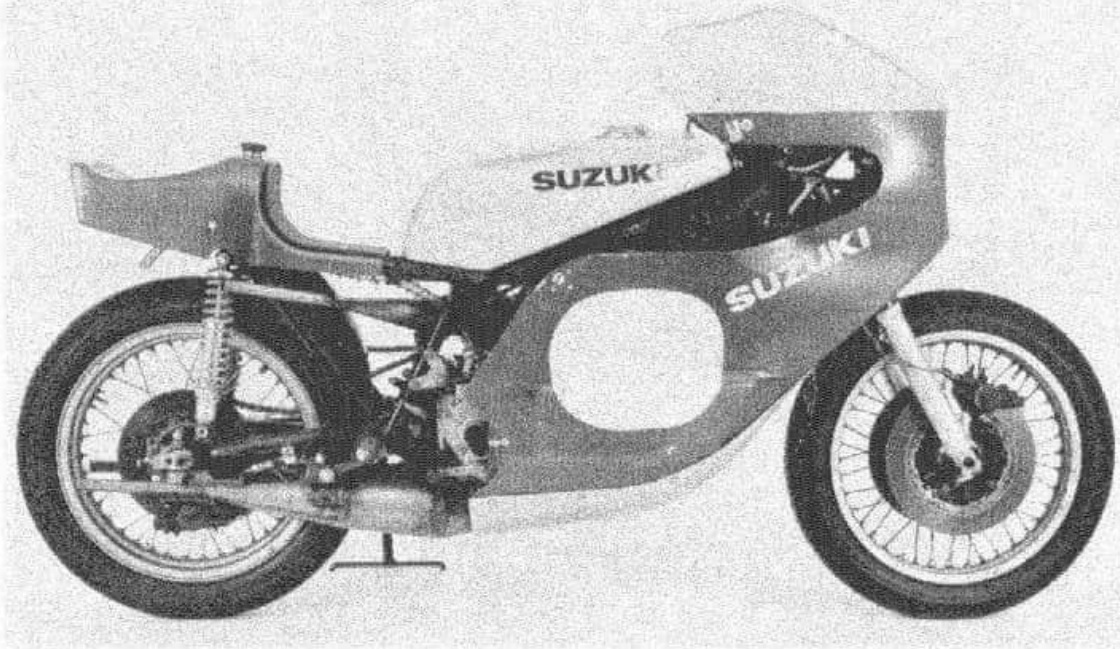
Alesaggio e corsa
70 x 64 x 2
Cilindrata 492,35
Giri motore 9.200
Cambio a 5 rapporti ravvicinati
Sospensioni Ceriani
Accensione elettronica. Krober
Testa Daytona
Cilindri Daytona
Freno ant. Doppio disco Fontana
Freno post. Tamburo ∅ 210
Gomme Michelin
3.50-18 Ant. 4.25 Post. tipo PZ 2
Serbatoio - Sella - Carenatura in fibroresina

Alesaggio e corsa
70 x 64 x 2
Cilindrata 492,35
Giri motore 8.800
Cambio
a 5 rapporti ravvicinati
Accensione
elettronica Krober
Sospensioni Ceriani
Freno ant.
Doppio disco Brembo
Freno post.
Tamburo Fontana ∅ 210
Gomme Michelin
3.25-18 ant. 3.50-18 post.
tipo PZ2
Serbatoio - Sella -
Carenatura in fibroresina

500 VELOCITÀ JUNIORES
MOTO CAMPIONE D'ITALIA 1972 - '73 - '74



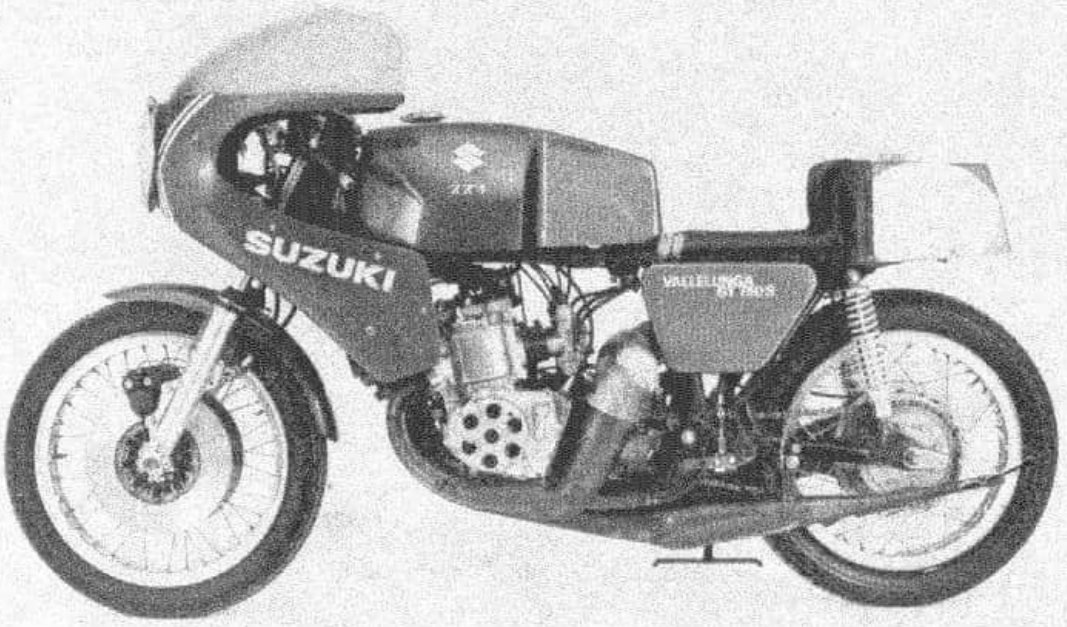
750 DAYTONA



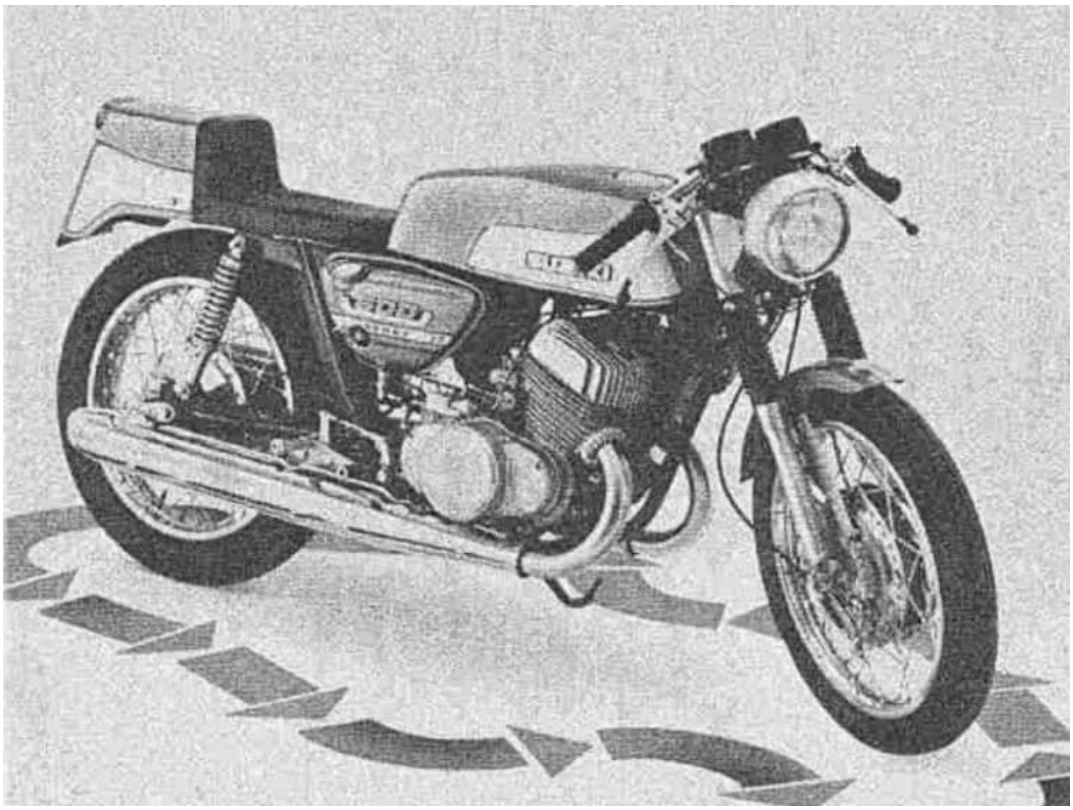
Alesaggio e corsa
70 x 64 x 3
Cilindrata 738,53
Giri motore 8.300
Potenza HP 118
Cambio a 5 rapporti ravvicinati
Accensione elettronica
Frizione a secco
Freni a disco
Gomme Michelin
3.50-18 ant. 4.25-18 post. tipo PZ 2
Sella-Carenatura in fibroresina
Serbatoio in alluminio

750 VALLELUNGA
PER GARE DI SERIE E DURATA

Alesaggio e corsa
70 x 64 x 3
Cilindrata 738,53
Giri motore 8.000
Cambio a 5 rapporti ravvicinati
Forcella Suzuki
Ammortizzatori Ceriani
Gomme Michelin
3.25-19 ant. 4.25-18 post. tipo PZ 2
Serbatoio-Sella-Semicarenatura in fibroresina
OPTIONAL
Freno post. Fontana Ø 210 Omologato
Accensione elettronica Omologata

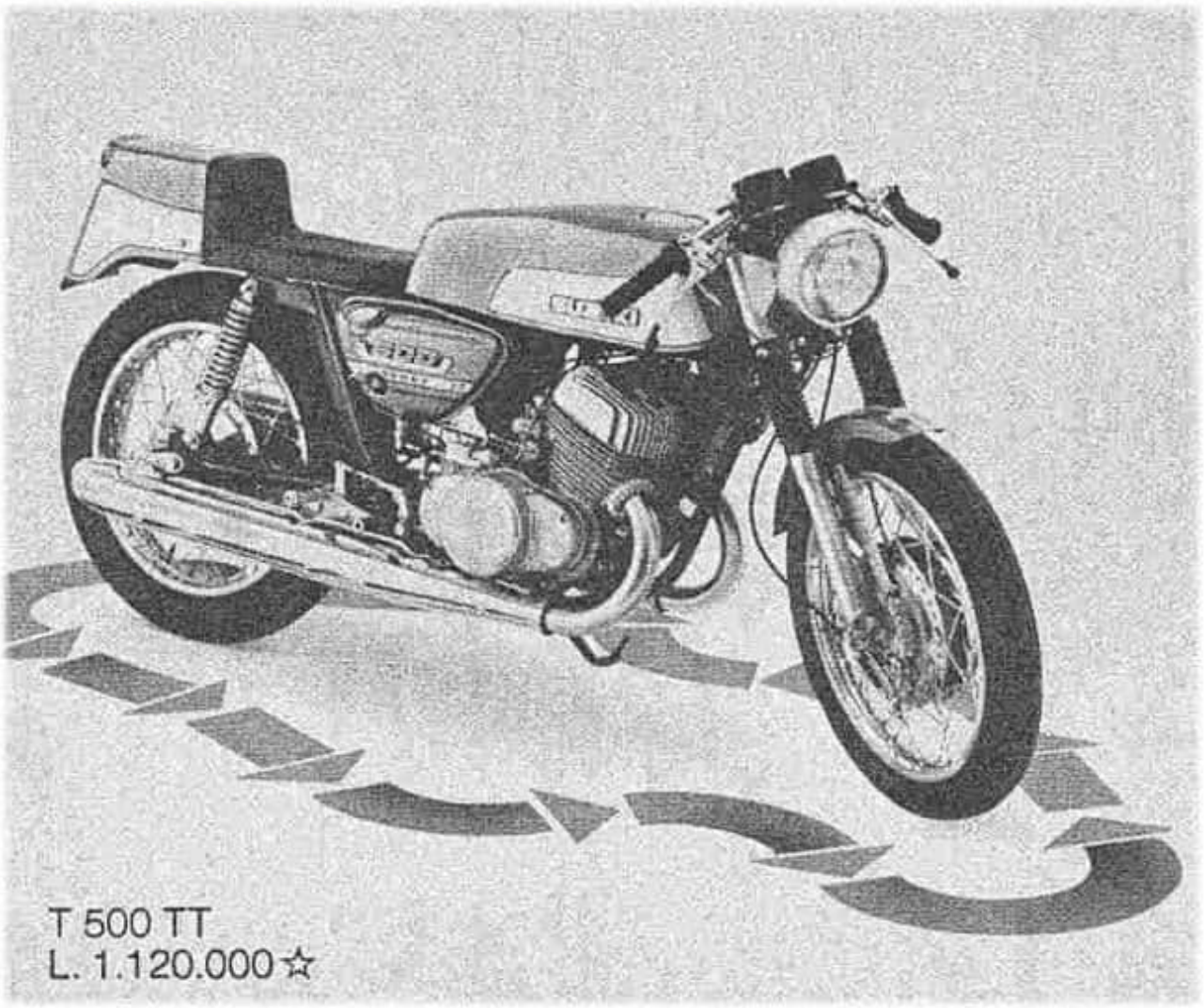


Saiad Suzuki 1974

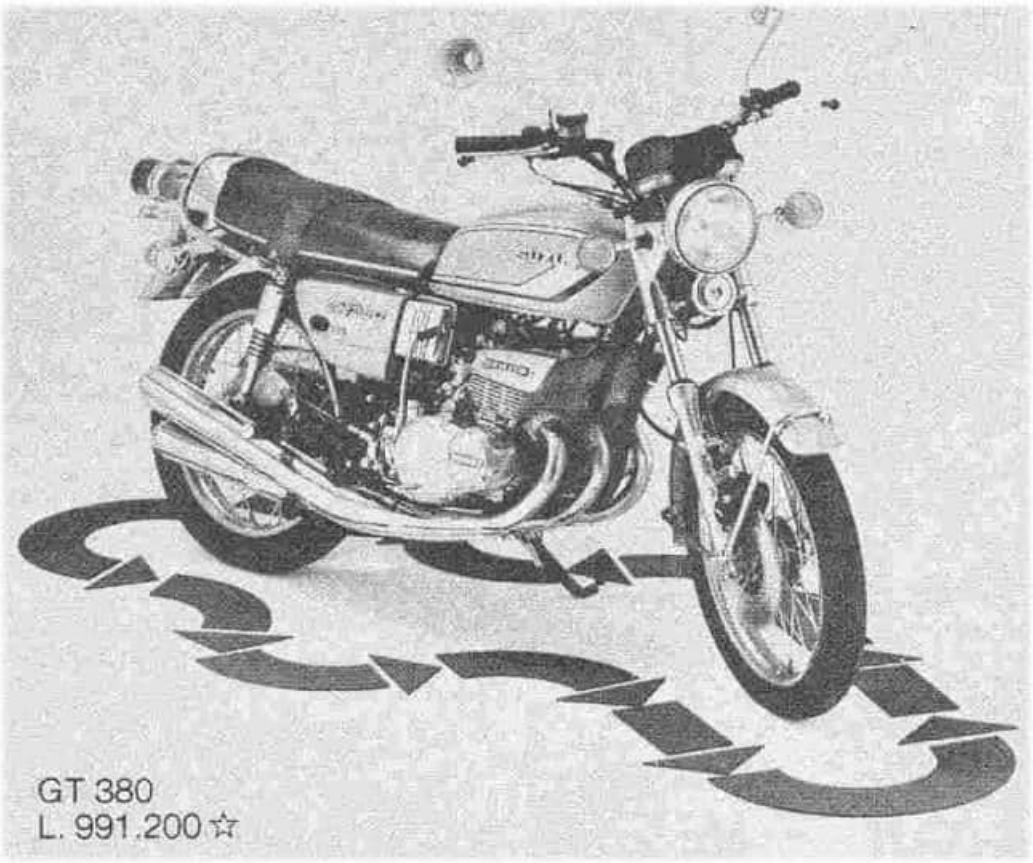


ozebook.com

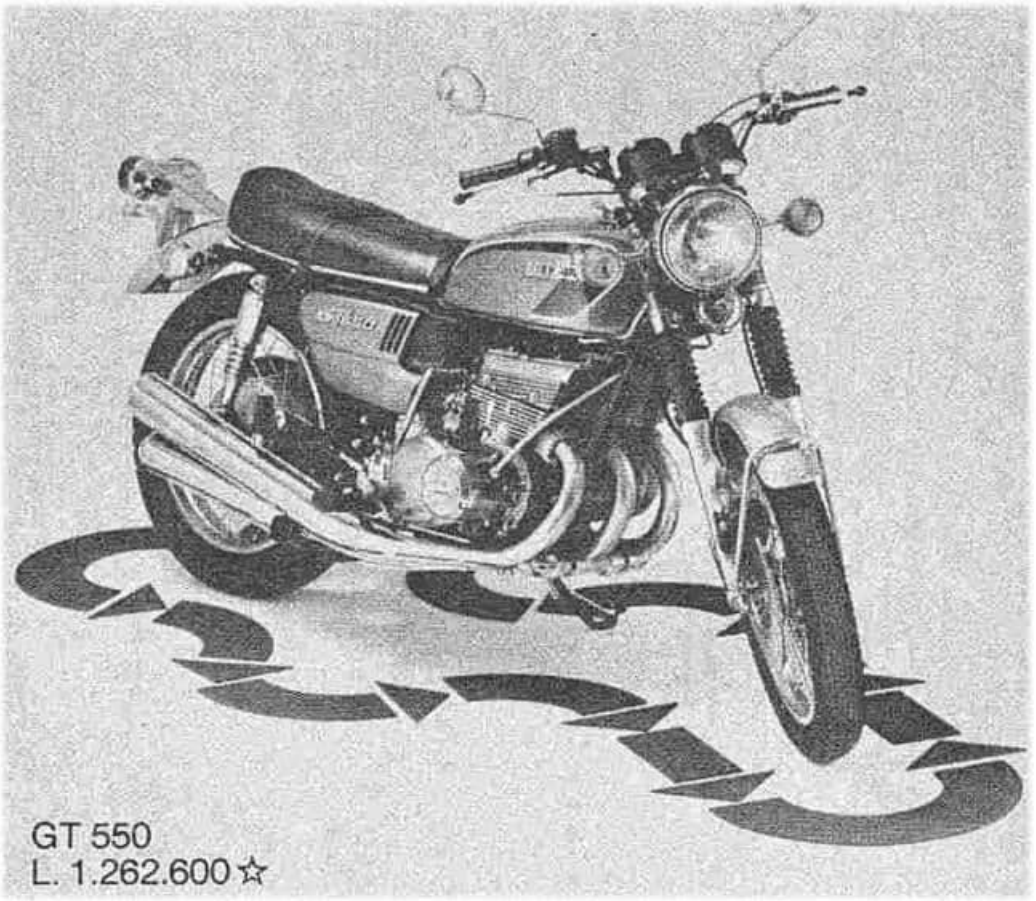
SAIAD SUZUKI CATALOGUE 1974



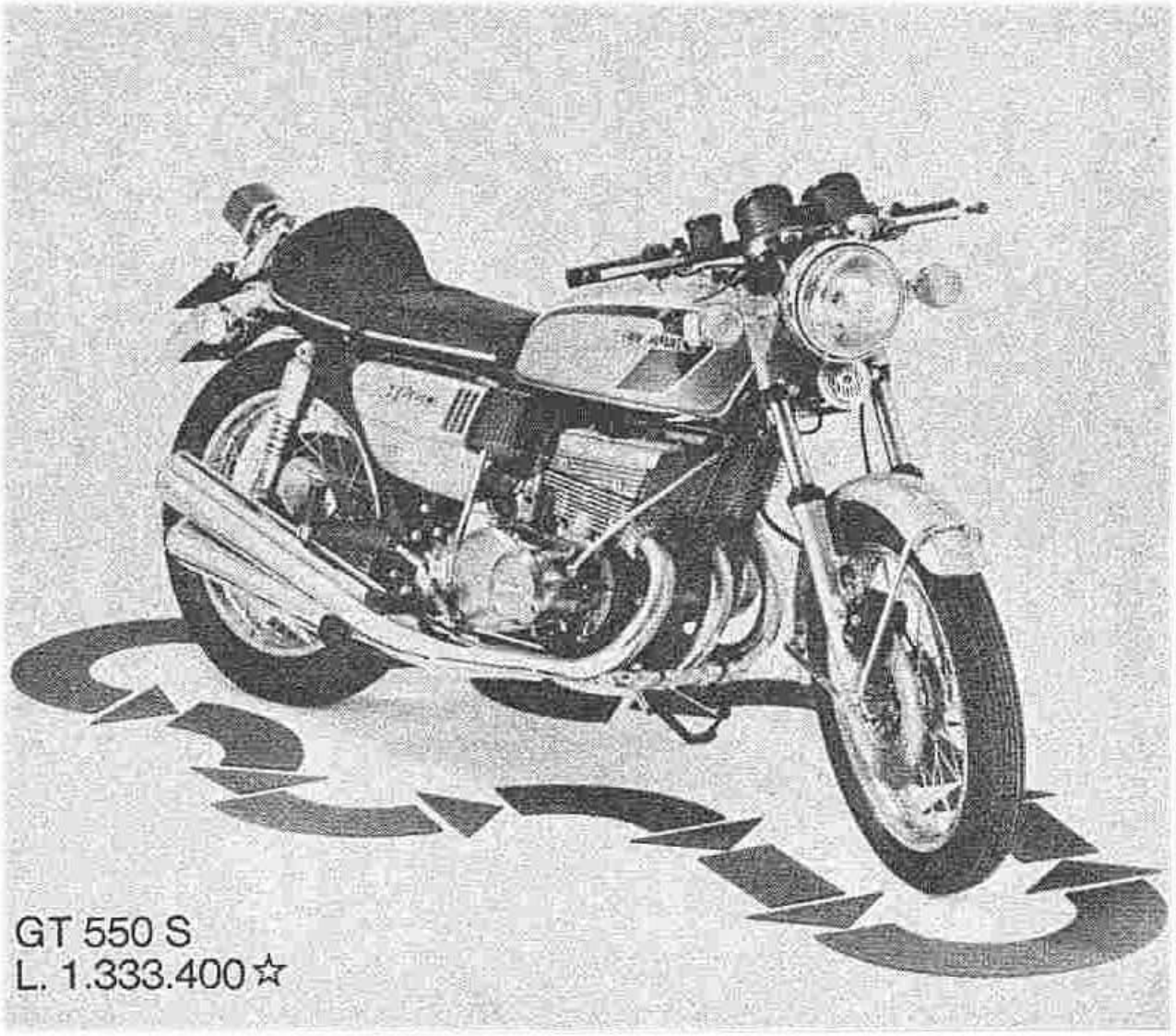
T 500 TT
L. 1.120.000☆



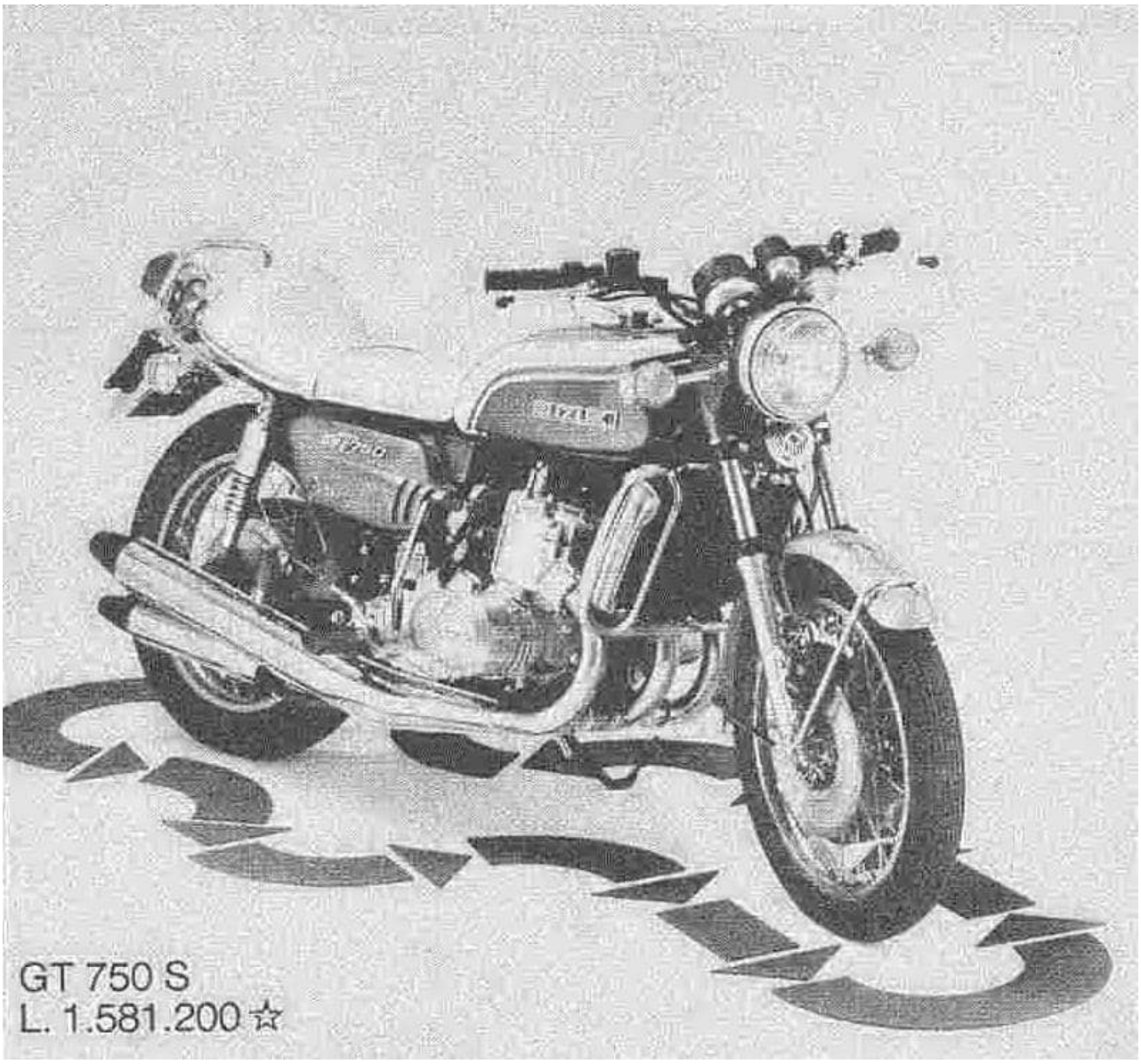
GT 380
L. 991.200☆



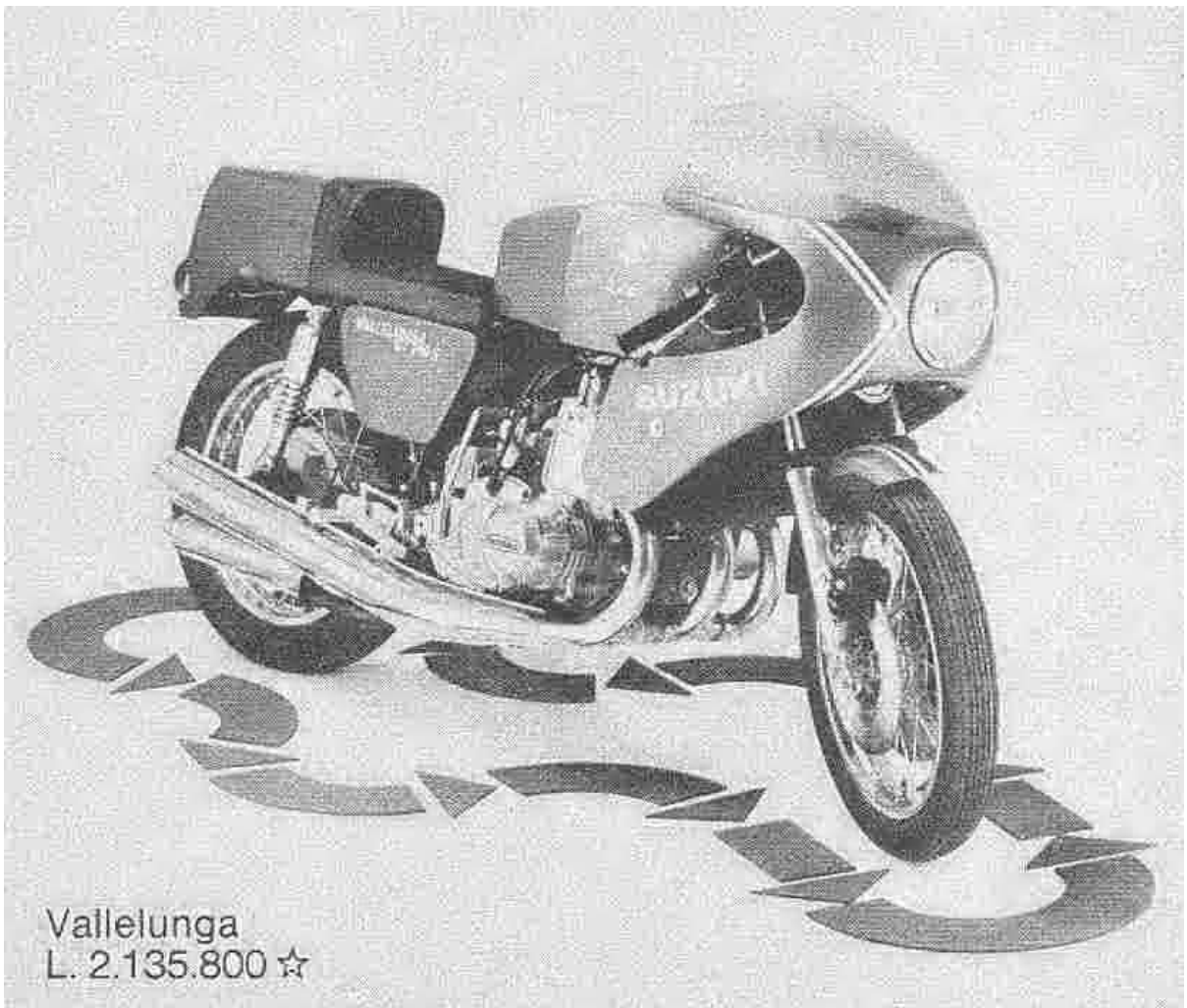
GT 550
L. 1.262.600 ☆



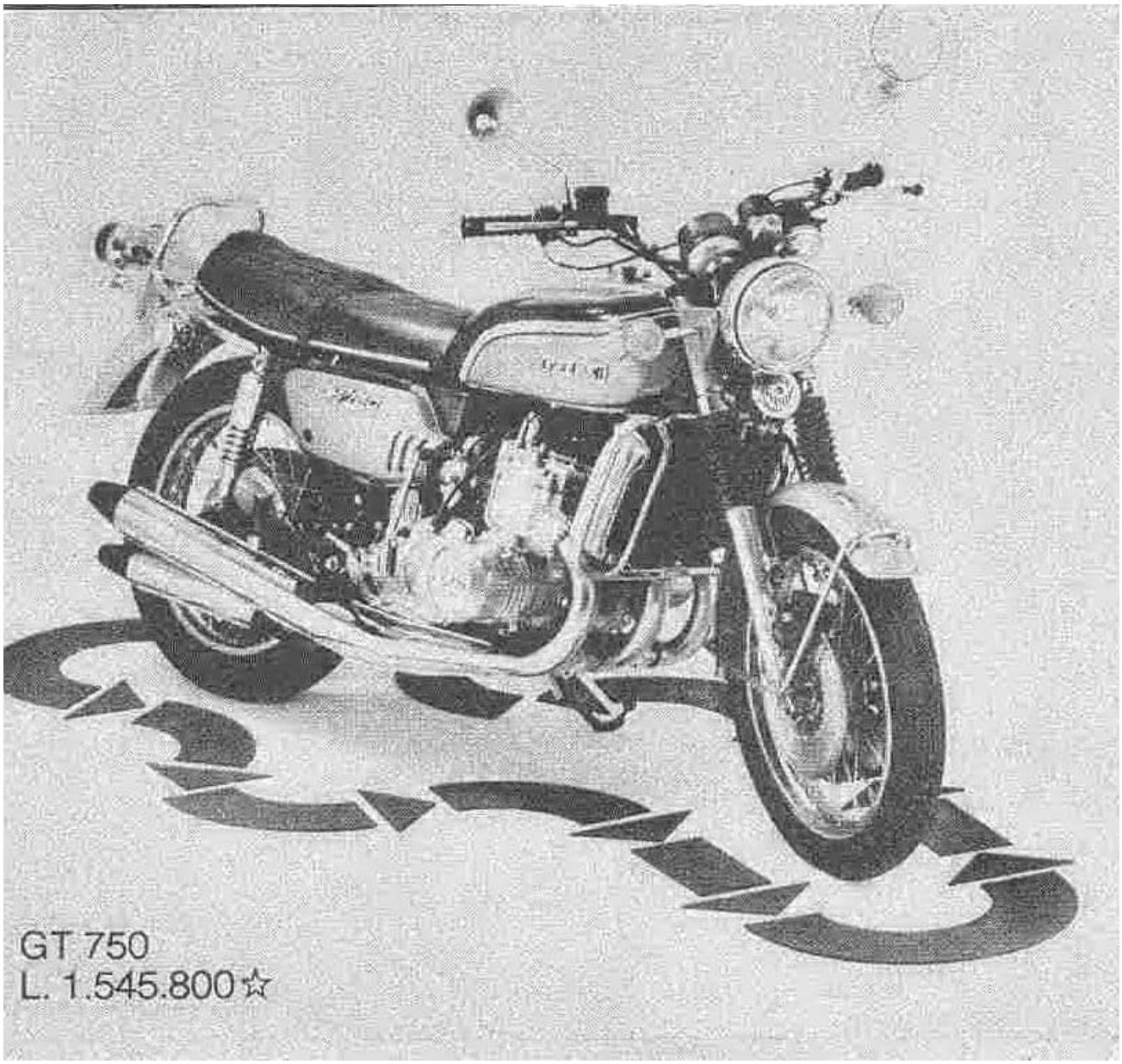
GT 550 S
L. 1.333.400 ☆



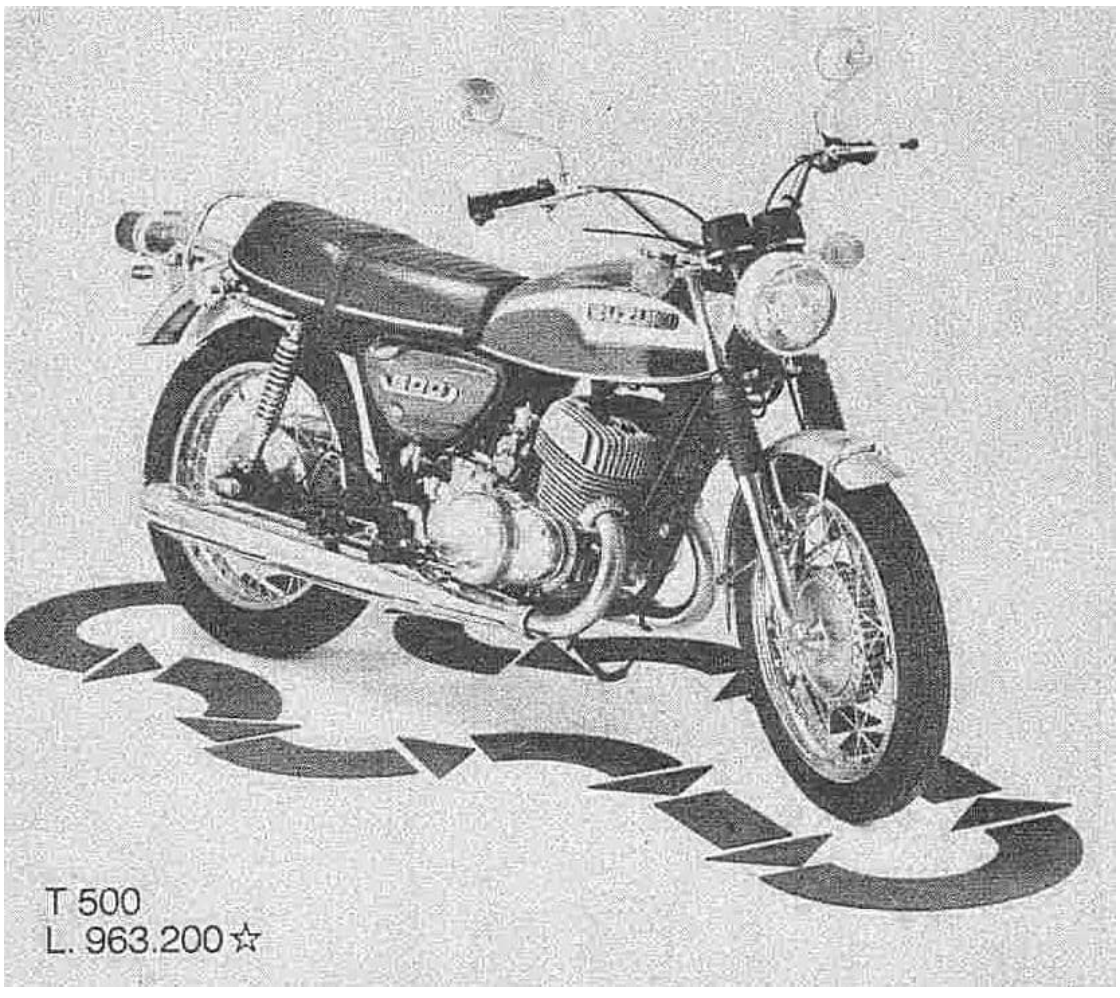
GT 750 S
L. 1.581.200 ☆



Vallelunga
L. 2.135.800 ☆



GT 750
L. 1.545.800☆



T 500
L. 963.200☆

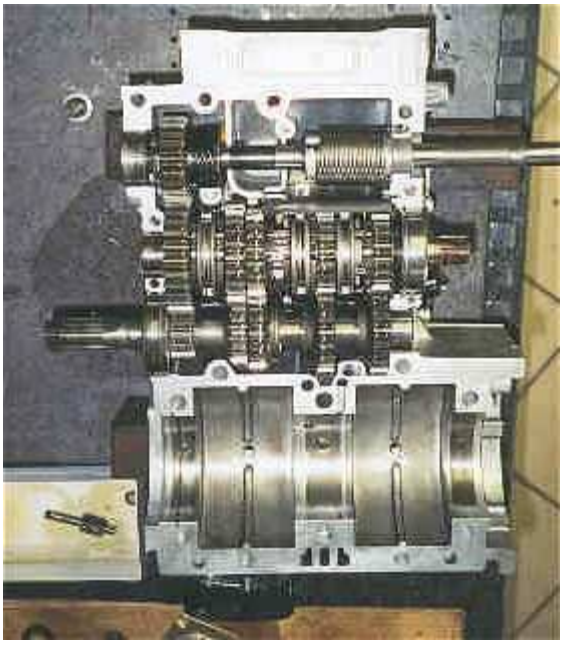
Saiad Suzuki

Pictures by Maurizio

Suzuki 750 Vallelunga

Suzuki 500TT

Cast iron disks



500 gearbox

500 transfer ports, top crankcase

500 squish heads

ozebook.com

Suzuki Engine and Frame Numbers Serial numbers for all Suzuki models over the period 1971-1994

ozebook.com

Suzuki Engine and Frame Numbers

Serial numbers for all Suzuki models over the period 1971-1994 from Suzuki Service Bulletins

1971 "R" MODEL

MODEL	FRAME	ENGINE
FA50	200250	200786
T125R	114992	115148
T250R	25403	25453
T350R	20746	20627
T500R	30846	30848
MT500R	10001	10001
TC90R	61379	21387
TC120R	28133	16439
TS50R	10001	10001
TS90R	38884	38917
TS125R	10001	10001
TS185R	10001	10001
TS250R	10001	10001
TM400R	10001	10001

1972 "J" MODEL

MODEL	FRAME	ENGINE
GT380J	10001	10001
GT550J	10001	10001
GT750J	10001	10001
TS250J	45411	45512
T350J	31493	31493
MT50J	29014	28456
RV90J	10001	10001
TC90J	79379	N/A
TC125J	10001	10001
TS50J	33048	33070
TS90J	208147	N/A
TS125J	37829	27857
TS185J	24292	24309
TS250J	27153	27192
TS400J	10001	10001
TM250J	10001	10001
TM400J	16600	16600

1973 "K" MODEL

MODEL	FRAME	ENGINE
GT185K	10001	10001
GT250K	10001	10001
GT380K	10919	32894
GT550K	21780	23036
GT750K	31253	31357
TS500K	59779	59779
MT50K	47830	47922
RV90K	36501	36393
RV125K	10001	10001
TC100K	10001	10001
TC125K	30925	30943
TS50K	43847	45089
TS100K	10001	10001
TS125K	58493	58544
TS185K	52592	52618
TS250K	48350	48387
TS400K	19019	19059
TM125K	10001	10001
TM250K	34739	34750
TM400K	30001	30006

1974 "L" MODEL

MODEL	FRAME	ENGINE
GT185L	19784	20228
GT250L	25966	26160
GT380L	48732	53952
GT550L	36266	37851
GT750L	40247	43047
T500L	68083	68083
RV90L	47055	57927
RV125L	23435	23678
TC100L	21892	22711
TC125L	39065	39501
TC185L	10001	10001
TS50L	62870	62891
TS100L	22334	22675
TS125L	74802	75343
TS185L	84664	84783
TS250L	66063	66133
TS400L	10001	10001
RL250L	10001	10001
RM75L	10001	10001
TM100L	10001	10001
TM125L	20579	20604
TM250L	41777	41824
TM400L	33482	33501

1975 "M" MODEL

MODEL	FRAME	ENGINE
RE5	10053	10118
GT185M	31693	35070
GT250M	47326	48553
GT380M	65984	73764
GT550M	47119	49314
GT750M	52823	57537
T500M	74162	74198
RV90M	70823	71552
RV125M	34030	34244
TC100M	37259	37365
TC125M	49552	49906
TC185M	15995	16353
TS75M	N/A	N/A
TS100M	38593	43661
TS125M	98283	98388
TS185M	115944	116104
TS250M	86770	86869
TS400M	15956	16013
RL250M	18199	18223
TM75M	20705	20875
TM100M	79711	79746

(NOTE: ON SOME MODELS THE 9TH & 11TH DIGITS ARE DETERMINED AT THE TIME OF MANUFACTURE)

TM125M	43176	43256
TM250M	49511	49589
TM400M	47918	45957

1976 "A" MODEL

MODEL	FRAME	ENGINE
A100A	168308	255726
GT185A	45095	53453
GT250A	80001	80025
GT380A	86754	97353
GT500A	90729	90729
GT550A	61315	64464
GT750A	61729	67558
RE5	N/A	N/A
RV90A	85970	86738
RV125A	43112	43125
TC100A	44182	44180
TC125A	54895	54928
TC185A	21645	21650
TS75A	19483	27313
TS100A	57213	57288
TS125A	116376	117485
TS185A	142743	142791
TS250A	102989	102612
TS400A	24254	24256

1976 "A" MODEL

MODEL	FRAME	ENGINE
RM100A	10001	10001
RM125A	30001	N/A
RM125M	10001	10001
RM250A	10001	10001
RM370A	10002	10002
TM75A	27488	27778

1977 "B" MODEL

MODEL	FRAME	ENGINE
A100B	218676	313991
GS400B	10001	10001
GS400XB	10001	10001
GS550B	100001	100001
GS750B	10001	10001
GT185B	61543	69902
GT250B	97426	97528
GT380B	95063	108577
GT500B	104422	104426
GT550B	70364	73451
GT750B	75739	82605
RB90B	90674	91633
RV125B	46526	46538
TC100B	48727	48717
TC125B	58658	58665
TC185B	24074	24059
TS75B	23322	288082
TS100B	63728	69712
TS125B	145379	147370
TS185B	10001	10001
TS250B	10001	10001
TS400B	30145	30154
PE250B	10001	10001
RM80B	10001	10001
RM100B	16022	16024
RM125B	43983	44045
RM250B	20995	21013
RM370B	17939	17946

1978 "C" MODEL

MODEL	FRAME	ENGINE
GS400C	30706	30772
GS400XC	013043	13043
GS550C	110354	13610
GS550EC	100018	114487
GS750C	32604	42761
GS750EC	10019	44144
GS1000C	100001	100001
GS1000EC	500001	100001
SP370C	100001	100001
TS100C	100001	100001
TS125C	100001	100001
TS185C	22789	22790
TS250C	20123	20123
PE175C	100001	100001
PE250C	18647	18666
RM50C	100001	10001
RM80C	23187	23193
RM100C	23120	23134
RM125C	61851	62013
RM250C	26795	N/A
RM250C2	30642	30700
RM400C	100001	100009
DR370C	100001	100001
DS80C	100001	100001
DS100C	100001	100001
DS185C	10000	500001
JR50C	100001	10001

1979 "N" MODEL

MODEL	FRAME	ENGINE
FZ50N	120118	120121
GS425M	100038	100016
GS425EN	500032	100016
GS425LN	700005	100016
GS550EN	115731	139272
GS550N	119862	139272
GS550LN	700020	139272
GS750EN	29475	74016
GS750LN	700016	74016
GS750N	44361	74016
GS850GN	100370	100393

(NOTE: ON SOME MODELS THE 9TH & 11TH DIGITS ARE DETERMINED AT THE TIME OF MANUFACTURE)

GS1000EN	515728	121074
GS1000LN	700016	121074
GS1000N	106722	121074
GS1000SN	521285	121074
OR50N	143322	143365
SP370N	109645	109446
TS100N	119992	132991
TS125N	144190	146509
TS185N	39295	39548
TS250N	33581	33592
PE175N	107290	107298
PE250N	23045	22632
RM50N	107414	107453
RM60N	100024	100024
RM80N	39433	39470
RM100N	28312	28328
RM125N	84328	84645
RM250N	38834	39103
RM400N	105660	105681
DR370N	105460	105486
DS80N	119924	116895
DS100N	109768	109832
DS125N	100661	100698
DS185N	107722	507722
JR50N	110285	110406
JR50C	100001	10001

1980 "T" MODEL

MODEL	FRAME	ENGINE
FA50T	100047	100049
FS50T	100052	100053
FZ50T	142998	143001
GN400T	500028	100051
GN400XT	100022	100051
GS250TT	106427	700020
GS450ET	500049	100096
GS450LT	700018	109969
GS450ST	500421	100096
GS550ET	125125	159165
GS550LT	705236	159165
GS750ET	500030	100097
GS750LT	700016	100097
GS850GLT	700025	116520
GS850GT	116457	116520
GS1000ET	528511	145969
GS1000GLT	700017	100040
GS1000GT	100046	100031
GS1000ST	528511	145969
GS1100ET	500037	100166
GS1100LT	700016	100166
OR50T	163309	163361
SP400T	100034	100036
TS100T	301267	149748
TS125T	307475	164154
TS185T	102185	48283
TS250T	100841	38344
PE175T	200030	200039
PE250T	200030	200037
PE400T	100033	100034
RM50T	110854	110894
RM60T	102731	102731
RM80T	200010	200068
RM100T	33044	27822
RM125T	102503	83087
RM250T	43892	44025
RM400T	109717	109785
DR400T	100042	100043
DS80T	126125	126165
DS100T	117307	117312
DS125T	104361	104361
DS185T	111300	511300
DS250T	100009	500009
JR50T	121204	121238
RS175T	100013	100013
RS250T	100011	100011

1981 "X" MODEL

MODEL	FRAME
FA50X	JS1FZ11A_B_100001
FA50MX	JS1FZ12A_B_100001
FS50X	JS1FA12A_B_100001
FZ50X	JS1FA11A_B_100001
GN400TX	JS1NK41A_B_100001
GN400XX	JS1NK41A_B_100001
GS250TX	JS1GJ51A_B_100001
GS450EX	JS1GL51A_B_100001
GS450SX	JS1GL51A_B_100001
GS450LX	JS1GL51L_B_100001
GS450TX	JS1GL52A_B_100001
GS550LX	JS1GN71L_B_100001
GS550TX	JS1GN71A_B_100001
GS650EX	JS1GP71A_B_100001
GS650GX	JS1GP71G_B_100001
GS650GLX	JS1GP71L_B_100001
GS750EX	JS1GR71A_B_100001
GS750LX	JS1GR71L_B_100001
GS850GX	JS1GS71G_B_100001
GS850GLX	JS1GS71L_B_100001
GS1000GX	JS1GT71G_B_100001
GS1000GLX	JS1GT71L_B_100001
GS1100EX	JS1GU71A_B_100001
TS100X	JS1SE11A_B_100001
TS125X	JS1SF11A_B_100001
TS185X	JS1SG11A_B_100001
TS250X	JS1SJ11A_B_100001
SP500X	JS1SM41A_B_100001
RM60X	JS1RB11A_B_100001
RM80X	JS1RD11A_B_100001
RM100X	JS1RE11A_B_100001
RM125X	JS1RF11A_B_100001
RM250X	JS1RJ11A_B_100001

(NOTE: ON SOME MODELS THE 9TH & 11TH DIGITS ARE DETERMINED AT THE TIME OF MANUFACTURE)

RM465X	JS1RM11A_B_100001
PE175X	JS1PG11A_B_100001
PE250X	JS1PJ11A_B_100001
PE400X	JS1PK11A_B_100001
DR500Z	JS1DM41A_B_100001
DS80X	JS1DC11A_B_100001
DS100X	JS1DE11A_B_100001
DS125X	JS1DF11A_B_100001
JR50X	LN1JA11A_B_100001
RS175X	JS1DG11A_B_100001
RS250X	JS1DJ11A_B_100001

1982 "Z" MODEL

MODEL	FRAME
FA50Z	JS1FZ11A_C_100001
FZ50Z	JS1FA11A_C_100001
GN125Z	JS1NF41A_C_100001
GN250Z	JS1NJ41A_C_100001
GN400Z	JS1GK52L_C_100001
GS450EZ	JS1GL51A_C_100001
GS450TXZ	JS1GL52A_C_100001
GS450TZ	JS1GL52A_C_100001
GS450LZ	JS1GL51L_C 100001
GS450GAZ	JS1GL51K_C_100001
GS550MZ	JS1GN73A_C_100001
GS550LZ	JS1GN71L_C_100001
GS650EZ	JS1GP71A_C_100001
GS650GZ	JS1GP71G_C_100001
GS650GLZ	JS1GP71L_C_100001
GS750EZ	JS1GR71A_C_100001
GS750TZ	JS1GR73A_C_100001
GS850GZ	JS1GS72G_C_100001
GS850GLZ	JS1GS71L_C_100001
GS1000SZ	JS1GT72A_C_100001
GS1100EZ	JS1GU73A_C_100001
GS1100GZ	JS1GU71G_C_100001
GS1100GLZ	JS1GU71L_C_100001
GS1100GKZ	JS1GU72G_C_100001
SP125Z	JS1SF41A_C_100001
SP250Z	JS1SJ41A_C_100001
SP500Z	JS1SM41A_C_100001
PE175Z	JS1PG12A_C_100001
RM60Z	JS1RB11A_C_100001
RM80Z	JS1RD12A_C_100001
RM125Z	JS1RF11A_C_100001
RM250Z	JS1RJ12A_C_100001
RM465Z	JS1RM11A_C_100001
DR125Z	JS1DF41A_C_100001
DR250Z	JS1DJ41A_C_100001
DR500X	JS1DM41A_B_100001
JR50Z	LN1JA11A_C_100001
RS175Z	JS1DG11A_C_100001

1983 "D" MODEL

MODEL	FRAME
FA50D	JS1FZ11A_D_100001
FZ50D	JS1FA11A_D_100001
GN125D	JS1NF41A_D_100001
GN250D	JS1NJ41A_D_100001
GR650D	JS1GP51A_D_100001
GR650XD	JS1GP51A_D_100001
GS300LD	JS1GK521_D_100001
GS450ED	JS1GL53A_D_100001
GS450TXD	JS1GL52A_D_100001
GS450LD	JS1GL51L_D_100001
GS450GAD	JS1GL51K_D_100001
GS550ED	JS1GN74A_D_100001
GS550ESD	JS1GN74A_D_100001
GS550LD	JS1GN71L_D_100001
GS650GD	JS1GP71G_D_100001
GS650GLD	JS1GP71L_D_100001
GS650MD	JS1GP72G_D_100001
GS750ED	JS1GR74A_D_100001
GS750ESD	JS1GR74A_D_100001
GS750TD	JS1GR73A_D_100001
GS750SD	JS1GR72A_D_100001
GS850GD	JS1GS72G_D_100001
GS850GLD	JS1GS71L_D_100001
GS1100ED	JS1GU73A_D_100001
GS1100ESD	JS1GU73A_D_100001
GS1100GD	JS1GU71G_D_100001
GS1100GLD	JS1GU71L_D_100001
GS1100GKD	JS1GU72G_D_100001
GS1100SD	JS1GU72A_D_100001
GS1100GK2	JS1GU72G_D_100001
XN85D	JS1GP71T_D_100001
SP100D	JA1SE41A_D_100001
SP125D	JA1SF41A_D_100001
SP250D	JS1SJ41A_D_100001
SP500D	JS1SM41A_D_100001
PE175D	JS1PG12A_D_100001
RM50D	JS1RB11A_D_100001
RM80D	JS1RD13A_D_100001
RM125D	JS1RF11A_D_100001
RM250D	JS1RJ12A_D_100001
RM500D	JS1RM12A_D_100001
ALT50D	KM1TA11A_D_100001
ALT125D	LM1TF41A_D_100001
DS80D	JS1DC13A_D_100001
DR100D	JS1DE41A_D_100001
DR125D	JS1DF41A_D_100001
DR250D	JS1DJ41A_D_100001
DR500D	JS1DM41A_D_100001
JR50RD	LN1JA13A_D_100001
LT125D	JSATF41A_D_100001

1984 "E" MODEL

MODEL	FRAME
FA50E	JS1FZ11A_E_100001
GS550ESE	JS1GN74A_E_100001
GS1100GKE	JS1GU72G_E_100001
GS1150ESE	JS1GV71A_E_100001
PE175E	JS1PG12A_E_100001
RM80E	JS1RD13A_E_100001
RM125E	JS1RF12A_E_100001
RM250E	JS1RJ12A_E_100001
RM500E	JS1RM12A_E_100001
ALT50E	KM1TA11A_E_100001
ALT125E	LM1TF41A_E_100001
DR100E	JS1DE41A_E_100001
DR125E	JS1DF41A_E_100001
LT50E	KM4AA11A_E_100001
LT125E	JSAAF41A_E_100001
LT185E	JSAAG41A_E_100001

1985 "F" MODEL

MODEL	FRAME
FA50F	JS1FZ11A_F_100001
GN250F	JS1NJ41A_F_100001
GS300LF	JS1GK52L_F_100001
GS450LF	JS1GL51L_F_100001
GS450GAF	JS1GL51K_F_100001
GS550EF/ESF	JS1GN74A_F_100001
GS550LF	JS1GN72L F_100001
GS700EF/ESF	JS1GP72A_F_100001
GS1150EF/ESF	JS1GV71A_F_100001
GV700GLF	JS1VP71L_F_100001
GV1200GLF	JS1VV71L_F_100001
SP250F	JS1SJ41A_F_100001
SP600F	JS1SN41A_F_100001
RM80F	JS1RD13A_F_100001
RM125F	JS1RF12A_F_100001
RM250G	JS1RJ13A_F_100001
ALT125F	LM1TF41A F_10001
ALT185F	LM1TG41A_F_100001
JR50F	LN1JA13A_F_100001
DR100F	JS1DE41A_F_100001

1986 "G" MODEL

MODEL	FRAME	ENG # PREFIX
FA50G	JS1FZ11A_G3100001	FA50
GS450LG	JS1GL51L_GS100001	L501
GS550LG	JS1GN72L_G2100001	N702
GS550ESG	JS1GN74A_G2100001	N702
LS650G	JS1NP41A_G2100001	P401
VS700GLG /GLEG	JS1VP51A_G2100001	P502
GSX-R750G	JS1GR75A_G2100001	R705
GSX-R750RG	JS1GR75A_G2100001	R705
GSX-R1100G	JS1GU74A_G2100001	U703
GS1150EG	JS1GV71A_G2100001	V701
GV1200GLG	JS1VV71L_G2100001	V705
GV1400GTG /GDG/GCG	JS1VX71A_G2100001	X701
SP125G	JS1SF43A_G2100001	F413
SP200G	JS1SH41A_G2100001	H401
RM80G	JS1RD14A_G2100001	D104
RM125G	JS1RF13A_G2100001	F113
RM250G	JS1RJ13A_G2100001	J106
JR50G	LN1JA13A_G1100001	A102
DS80G	JS1DC13A_G2100001	C106
DR100G	JS1DE41A_G2100001	E403
DR125G	JS1DF42A_G2100001	F413
DR200G	JS1DH41A_G2100001	H401
ALT125G	LM1TF41A_G1100001	F410
LT50G	KM4AA11A_G1100001	A110
LT125G	JSCAF41A_G2100001	F410
LT185G	JSAAG41A_G2100001	G401
LT230GEG	JSAAJ42A_G2100001	J410
LT-F230G	JSAAJ44A_G2100001	J412
LT230SG	JSAAJ43A_G2100001	J411
LT250EFG	JSAAJ41A_G2100001	J409
LT250RTG	JSAAJ11A_G2100001	J104

1987 "H" MODEL

MODEL	FRAME	ENG # PREFIX
FA50H	JS1FZ11A_H3100001	FA50
GS450LH	JS1GL51L_H2100001	L501
LT650PH/FH	JS1NP41A_H2100001	P401
VS700GLH /GLEH	JS1VP51A_H2100001	P502
GSX-R750H	JS1GR75A_H2100001	R705
GSX-R1100H	JS1GU74A_H2100001	U703
GV1400GDH /GCH	JS1VX71A_H2100001	X701
VS1400GLFH /PH	JS1VX51L_H2100001	X501
SP125H	JS1SF43A_H2100001	F413
SP200H	JS1SH41A_H2100001	H401
RM80H	JS1RD14A_H2100001	D104
RM125H	JS1RF13A_H2100001	F113
RM250H	JS1RJ13A_H2100001	J106
RB50H	JS1JA41A_H2100001	A403
JR50H	LN1JA13A_H1100001	A102
DS80H	JS1DC13A_H2100001	C106
DR100H	JS1DE41A_H2100001	E403
DR125H	JS1DF42A_H2100001	F413
DR200H	JS1DH41A_H2100001	H401
LT50H	KM4AA11A_H2100001	A110
LT80H	LM4AC11A_H1100001	C113
LT125H	JSAAF41A_H2100001	F410
LT185H	JSAAG41A_H2100001	G401
LT230EH	JSAAJ46A H2100001	J416
LT230SH	JSAAJ43A_H2100001	J411
LT250RH	JSAAJ12A_H2100001	J109
LT4WDH	JSAAJ45A_H2100001	J413

LT300EH	JSAAK41A_H2100001	K401
LT-F230H	JSAAJ44A_H2100001	J412
LT500RH	JSAAM11A_H2100001	M102

1988 "J" MODEL

MODEL	FRAME	ENG # PREFIX
FA50J	JS1FZ11A_J3100001	FA50
GN250J	JS1NJ41A_J2100001	J403
GS450LJ	JS1GL51L_J2100001	L501
LS650J	JS1NP41A_J2100001	P401
VS750GLJ	JS1VR51A_J2100001	R501
VS1400GLJ	JS1VX51L_J2100001	X501
GSX700FJ	JS1GN72A_J2100001	N705
GSX1100FJ	JS1GV72A_J2100001	V706
GSX-R750J	JS1GR77A_J2100001	R708
GSX-R1100J	JS1GU74A_J2100001	U703
GV1400GDJ	JS1VX71A_J2100001	X701
SP125J	JS1SF43A_J2100001	F413
SP200J	JS1SH41A_J2100001	H401
RM80J	JS1RD14A_J3100001	D104
RM125J	JS1RF13A_J2100001	F113
RM250J	JS1RJ14A_J2100001	J106
JR50J	LN1JA13A_J1100001	A102
DS80J	JS1DC13A_J3100001	C106
DR100J	JS1DE41A_J3100001	E403
DR125J	JS1DF42A_J2100001	F413
DR200J	JS1DH41A_J2100001	H401
LT80J	LM4AC11A_J2100001	C113
LT230EJ	JSAAJ46A_J2100001	J416
LT230SJ	JSAAJ43A_J2100001	J411
LT-F250J	JSAAJ47A_J2100001	J417
LT300EJ	JSAAK41A_J2100001	K401
LT-4WDJ	JSAAJ45A_J2100001	J413
LT250RJ	JSAAJ12A_J2100001	J109
LT500RJ	JSAAM11A_J2100001	M102

1989 "K" MODEL

MODEL	FRAME	ENG # PREFIX
FA50K	JS1FZ11A_K2100001	FA50
GS500EK	JS1GM51A_K2100001	M501
VS750GLK	JS1VR51A_K2100001	R501
GSX600FK	JS1GN72A_K2100001	N705
GSX750FK	JS1GR78A_K2100001	R712
GSX1100FK	JS1GV72A_K2100001	V706
GSX-R750K	JS1GR77A_K2100001	R708
GSX-R1100K	JS1GV73A_K2100001	V710
RM80K	JS1RD14A_K2100001	D106
RM125K	JS1RF14A_K2100001	F114
RM250K	JS1RJ15A_K2100001	J110
JR50K	LN1JA13A_K1100001	A102
DS80K	JS1DC13A_K2100001	C106
DR100K	JS1DE41A_K2100001	E403
RMX250K	JS1PJ11A_K2100001	J111
LT80K	LM4AC11A_K1100001	C113
LT250SK	JSAAJ48A_K2100001	J418
LT-F250K	JSAAJ47A_K2100001	J417
LT300EK	JSAAK41A_K2100001	K401
LT-4WDK	JSAAJ45A_K2100001	J413
LT250RK	JSAAJ45A_K2100001	J413
LT500RK	JSAAM11A_K2100001	M103

1990 "L" MODEL

MODEL	FRAME	ENG # PREFIX
FA50L	JSAFZ11A L2100001	M501
VS750GLPL	JS1VR51A_L2100001	4501
VS1400GLPL	JS1VX51L_L2100001	X501
VX800L	JS1VS51A_L2100001	S501
GSX600FL	JS1GN72A_L2100001	N705
GSX750FL	JS1GR78A_L2100001	R712
GSX1100FL	JS1GV72A_L2100001	V706
GSX-R750L	JS1GR7AA_L2100001	R716
GSX-R1100L	JS1GV73A_L2100001	V710
DR250SL	JS1SJ44A_L2100001	J419
DR350SL	JS1SK42A_L2100001	K404
DR650SL	JS1SP41A_L2100001	P403
RM80L	JS1RD14A_L2100001	D106
RM125L	JS1RF14A_L2100001	F114
RM250L	JS1RJ15A_L2100001	J110
JR50L	LN1JA13A_L1100001	A102
DS80L	JS1DC13A_L2100001	C106
DR100L	JS1DE41A_L2100001	E403
DR250L	JS1DJ42A_L2100001	J111
DR350L	JS1DK41A_L2100001	K404
LT80L	LM4AC11A_L1100001	C113
LT160EL	KM4G42A_L1100001	G402
LT230EL	JSAAJ46A_L2100001	J416
LT250SL	JSAAJ48A_L2100001	J418
LT-F250L	JSAAJ47A_L2100001	J417
LT-4WDL	JSAAJ45A_L2100001	J413
LT250RL	JSAAJ12A_L2100001	J109
LT500RL	JSAAM11A_L2100001	M103

1991 "M" MODEL

MODEL	FRAME	ENG# PREFIX
FA50M	JS11FZ11A_M2100001	Z101
JR50M	LN1JA13A_M2100001	A102
DS80M	JS1DC13A_M2100001	C106
DR250M	JS1DJ42A_M2100001	J419
DR250SM	JS1SJ44A_M2100001	J419
DR350M	JS1DK41A_M2100001	K404
DR350SM	JS1SK42A_M2100001	K404
DR650SM	JS1SP41A_M2100001	P403
RM80M	JS1RD14A_M2100001	K106
RM125M	JS1RF14A_M2100001	F114
RM250M	JS1RJ15A_M2100001	J110
RMX250M	JS1PJ11A_M2100001	J111
VS750GLPM	JS1VR51A_M2100001	R501
VS1400GLPM	JS1VX51L_M2100001	X501
VX800M	JS1VS51A_M2100001	S501

GN125EM	JS1NF41A_M2100001	F401
GSF400M	JS1GK75A_M2100001	K707
GS500EM	JS1GM51A_M2100001	M501
GSX600FM	JS1GN72A_M2100001	N705
GSX750FM	JS1GR78A_M2100001	R712
GSX1100FM	JS1GV72A_M2100001	V706
GSX1100GM	JS1GV74G_M2100001	V718
GSX-R750M	JS1GR7AA_M2100001	R716
GSX-R1100M	JS1GV73A_M2100001	V710
LT80M	LM4AC11A_M1100001	C113
LT160EM	KM4AG42A_M1100001	G402
LT-F160EM	KM4AG43A_M1100001	G402
LT230EM	JSAAJ46A_M2100001	J416
LT-F250M	JSAAJ47A_M2100001	J417
LT-4WDM	JSAAJ45A_M2100001	J413
LT-F4WDXM	JSAAK42A_M2100001	K403
LT250RM	JSAAJ12A_M2100001	J109

1992 "N" MODEL

MODEL	FRAME	ENG# PREFIX
JR50N	LN1JA13A_N1100001	A102
DS80N	JS1DC13A_N2100001	C106
DR250N	JS1DJ42A_N2100001	J419
DR250SN	JS1SJ44A_N2100001	J419
DR350N	JS1DK41A_N2100001	K404
DR350SN	JS1SK42A_N2100001	K404
DR650SN	JS1SP44A_N2100001	P407
RM80N	JS1RD14A_N2100001	D106
RM125N	JS1RF14A_N2100001	F114
RM250N	JS1RJ15A_N2100001	J110
RMX250N	JS1PJ11A_N2100001	J111
VS800GLN	JS1VS52A_N2100001	S503
VS1400GLN	JS1VX51L_N2100001	X501
VX800N	JS1VS51A_N2100001	S501
GN125EN	JS1NF41A_N2100001	F401
GSF400N	JS1GK75A_N2100001	K707
GS500EN	JS1GM51A_N2100001	M501
GSX600FN	JS1GN72A_N2100001	N705
GSX750FN	JS1GR78A_N2100001	R712
GSX1100FN	JS1GV72A_N2100001	V706
GSX1100GN	JS1GV74G_N2100001	V718
GSX-R600WN	JS1GN75A_N2100001	N707
GSX-R750N	JS1GR7AA_N2100001	R716
GSX-R1100N	JS1GV73A_N2100001	V710
LT80N	LM4AC11A_N1100001	C113
LT160EN	KM4AG42A_N1100001	G402
LT-F160N	KM4AG43A_N1100001	G402
LT230EN	JSAAJ46A_N2100001	J416
LT-F250N	JSAAJ47A_N2100001	J417
LT-4WDN	JSAAJ45A_N2100001	J413
LT-F4WDXN	JSAAK42A_N2100001	K403
LT250RN	JSAAJ12A_N2100001	J109

1993 "P" MODEL

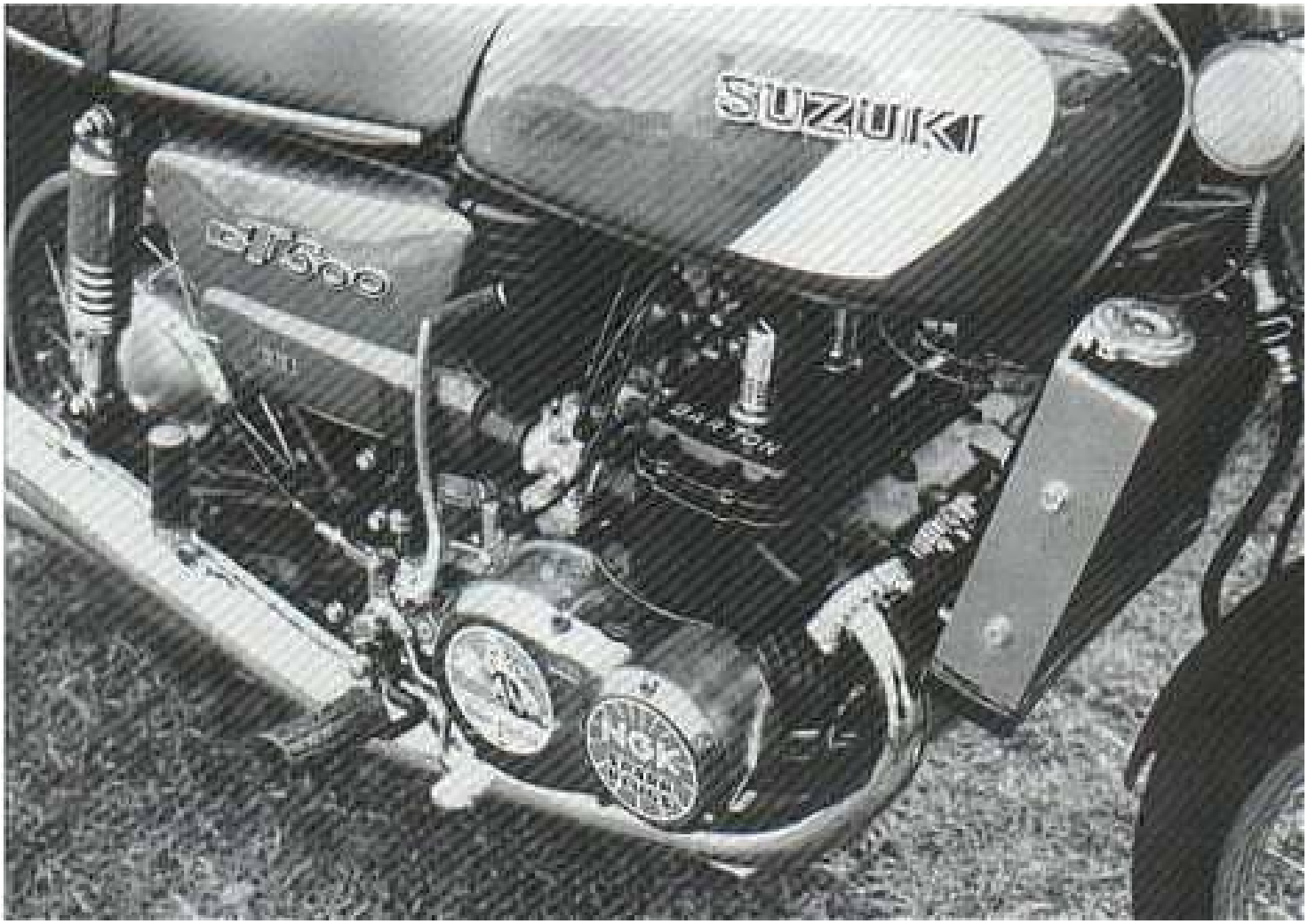
MODEL	FRAME	ENG# PREFIX
JR50P	LN1JA13A_P1100001	A102
DS80P	JS1DC13A_P2100001	C106
DR250P	JS1DJ42A_P2100001	J419
DR250SEP	JS1SJ44A_P2100001	J419
DR350P	JS1DK41A_P2100001	K404
DR350SP	JS1SK42A_P2100001	K404
DR650SP	JS1SP44A_P2100001	P407
RM80P	JS1RD14A_P2100001	D106
RM125P	JS1RF14A_P2100001	F114
RM250P	JS1RJ15A_P2100001	J110
RMX250P	JS1PJ11A_P2100001	J112
VS800GLP	JS1VS52A_P2100001	S503
VS1400GLP	JS1VX51L_P2100001	X501
VX800P	JS1VS51A_P2100001	S501
GN125EP	JS1NF41A_P2100001	F401
GSF400P	JS1GK75A_P2100001	K707
GS500EP	JS1GM51A_P2100001	M501
GSX600FP	JS1GN72A_P2100001	N705
GSX750FP	JS1GR78A_P2100001	R712
GSX1100FP	JS1GV72A_P2100001	V706
GSX1100GP	JS1GV74G_P2100001	V718
GSX-R600WP	JS1GN75A_P2100001	N707
GSX-R750WP	JS1GR78A_P2100001	R720
GSX-R1100WP	JS1GU75A_P2100001	U707
LT80P	LM4AC11A_P1100001	C113
LT-F160P	KM4AG43A_P1100001	G402
LT230EP	JSAAJ46A_P2100001	J416
LT-F250P	JSAAJ47A_P2100001	J417
LT-4WDP	JSAAJ45A_P2100001	J413
LT-F4WDXP	JSAAK42A_P2100001	K403

1994 "R" MODEL

MODEL	FRAME	ENG# PREFIX
JR50R	LN1JA13A_R1100001	A102
DS80R	JS1DC13A_R2100001	C106
DR125SER	JS1SF44A_R2100001	F417
DR250SER	JS1SJ44A_R2100001	J419
DR350R	JS1DK41A_R2100001	K404
DR350SER	JS1SK42A_R2100001	K404
DR650SER	JS1SP45A_R2100001	P407
RM80R	JS1RD14A_R2100001	D106
RM125R	JS1RF14A_R2100001	F114
RM250R	JS1RJ16A_R2100001	J110
RMX250R	JS1PJ11A_R2100001	J112
VS800GLR	JS1VS52A_R2100001	S503
VS1400GLR	JS1VX51L_R2100001	X501
RF600RR	JS1GN76A_R2100001	N708
RF900RR	JS1GT73A_R2100001	T703
GN125ER	JS1NF41A_R2100001	F401
GS500ER	JS1GM51A_R2100001	M501
GSX600FR	JS1GN72A_R2100001	N705

Barton Suzuki 500

GT380 conversion



Above: An eye-catcher at the 1974 Isle of Man TT was this Suzuki — a watercooled 500. But this was no factory prototype — it had been made by Barton Motors, of South Wales.

Terry Hart, the man behind the project, rode the machine from Caernarvon to Liverpool and used the TT period to get in some miles on the bike, which was completed only hours before his departure for the island. Basically the machine was a 380 Suzuki triple. But the cylinder block was replaced by a Barton watercooled block with larger cylinder bores (61 instead of 52mm) which, using the standard 54mm stroke, gave a capacity of 472cc. Carburettors were 28mm Mikunis and compression ratio was 6.8:1. It would have cost very little more than the standard aircooled GT550 of the time, but with the advantages of a six-speed gearbox and watercooling.

Sadly, the factory never adopted Hart's design — it was very much a case of a good idea going to waste. Later, Hart became the chief engine designer for Armstrong, who built several race-winning 250cc track mounts in the early 1980s.

ozebook.com

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General - 1
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: SIMPLE IGNITION SYSTEM CHECK

The purpose of this Service Bulletin is to present a simple method to check ignition spark when it is not possible to use the Suzuki Electrotester (which has a coil tester, condenser tester, etc.).

The method is as follows:

1. Take a standard NGK spark plug and remove the side electrode altogether. The remaining gap will be 1/8 inch. This is from the center electrode to the body of the spark plug. The idea is to present a wide gap for the ignition system to jump across.

2. You will be able to judge the quality of ignition spark by the color. A good ignition system will have a hot blue spark, while a poor ignition system will have a weak yellow spark. A very poor ignition system will not fire the gap at all, whereas it may fire a standard spark plug.

This type of check is meant to be used only as a preliminary to more extensive diagnosis. As always, the Suzuki Electrotester is the absolute best way to go when checking the motorcycle ignition system.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

Nylon Plugs & Open Circuits – Suzuki Service Bulletin - General 4: 1975

APRIL 8, 2023

CATEGORIES: ELECTRICS, OPEN CIRCUIT

Loading...

Taking too long?

Reload document | Open in new tab

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General -4
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: NYLON PLUG MODULES

PROBLEM: Mysterious electrical open circuit. These are some of the symptoms of this problem -

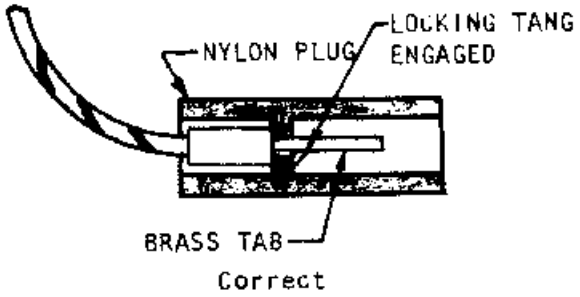
A. Battery does not charge

B. Spark plug fouling.

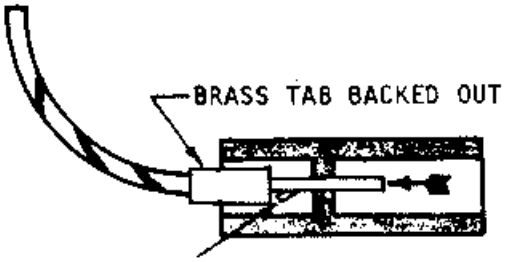
C. Engine misfiring.

D. Lights flicker.

CAUSE: Certain Suzuki models are fitted with quick disconnect electrical plug modules. There are four or five such plugs in the wiring harness, depending on model. The female half of the module incorporates individual brass tabs. When the two plug halves are pressed together, one brass tab may back out of the plug, breaking the circuit.



Correct



CORRECTION: Inspect the plastic plugs in the wiring harness. The brass tabs have locking tangs which secure them in the plug body. Press any loose tab back into the plug body until the locking tang is engaged. After assembling the plug halves, check the back side of the female half to b sure the tab has not backed out.

How to setup a twin-leading-shoe brake

APRIL 9, 2023
CATEGORIES: BRAKES

Borrowed from classicbike.com.uk – Not Suzuki but concept the same.

HOW TO: SET UP A TWIN-LEADING-SHOE BRAKE

Rick shoes the best procedure. As well as spanners, you'll need one handy tool - an assistant.

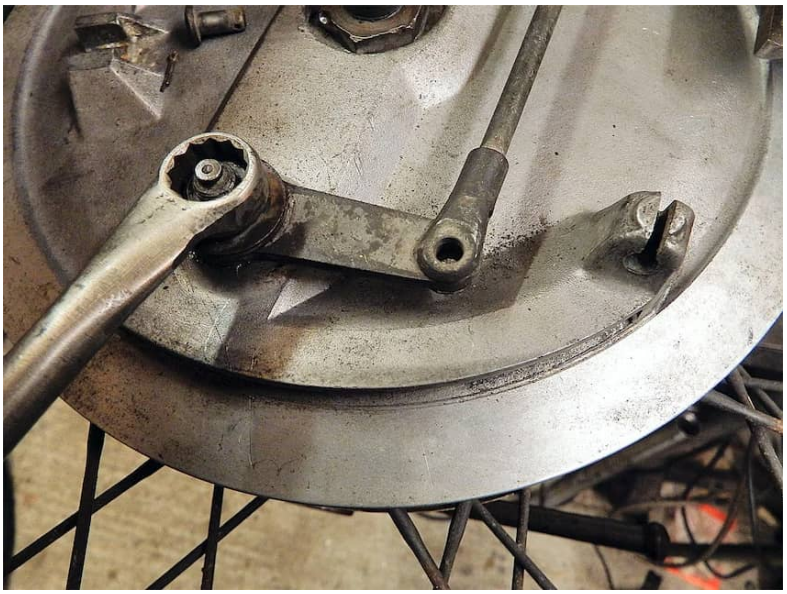
BY RICK PARKINGTON | POSTED ON 28 05 2018

1: With the cable attached to just one arm, transferring force to the other arm and shoe, the link rod has to be adjusted so that both shoes contact together, otherwise operation will be spongy.

2: Ideally the wheel should be on the bike and an assistant engaged. Disconnect one end of the rod and loosen the locknut. Spin the wheel and stop it with a spanner on each arm at once.

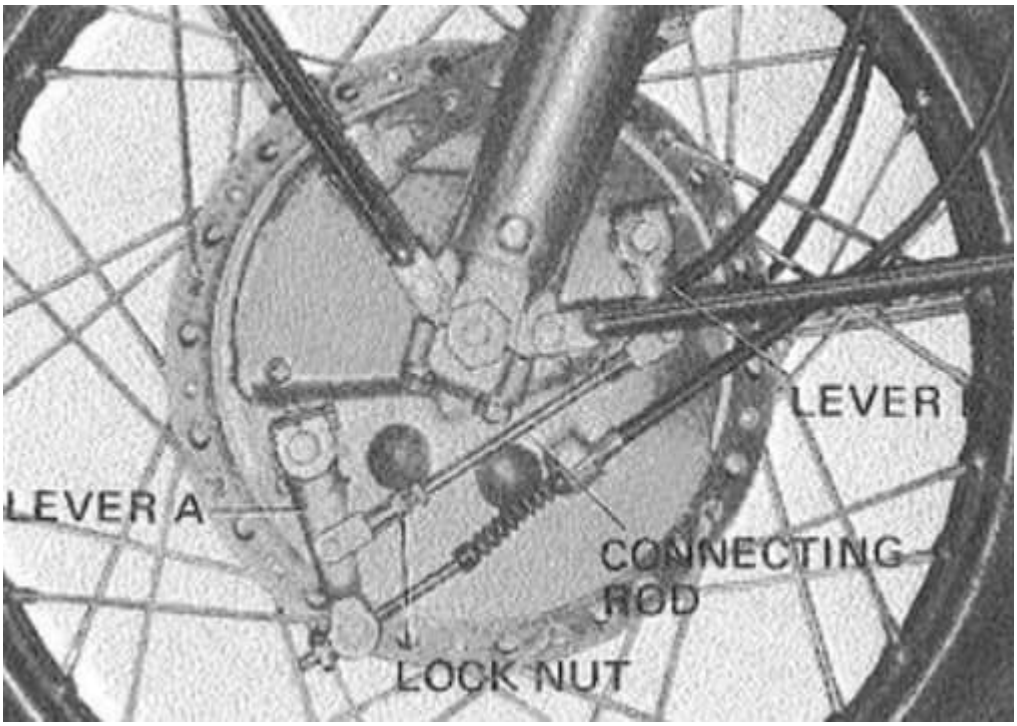
3: With your assistant still holding the spanners, check that the clevis aligns with the hole in the arm. If it's misaligned (as here), one shoe will be doing most of the work, giving poor braking performance.

4: Adjusting the rod length so that the holes line up should firm up operation, although you may need to repeat the process for final adjustment. The brake may also need to bed in again.



GT750 brake adjustment

APRIL 9, 2023
CATEGORIES: BRAKES, GT750, TECHNICAL



8–3. BRAKES

8–3–1. FRONT BRAKE

I. ADJUSTMENT

1) After loosening the lock nut, shorten the distance between two levers linked by the connecting rod so that the brake shoe operated by the lever "A" touches with the brake drum before the other brake shoe operated by the lever "B" touches with the drum as the cable is stretched.

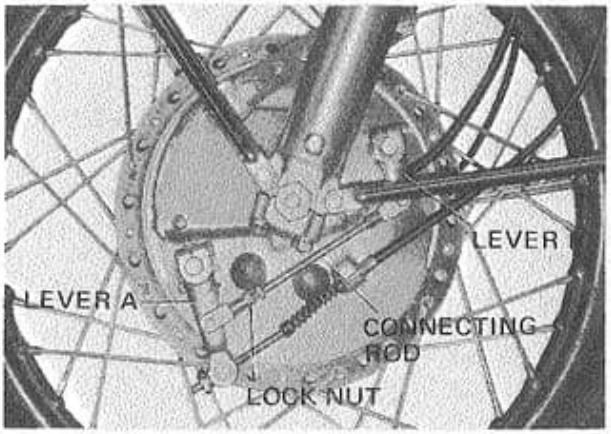


Fig. 8-3-1 Adjusting connecting rod

2) Keeping the lever "A" pushed fully toward the lever "B", extend the distance between the levers "A" and "B" by turning the connecting rod and stop turning the rod just when the lever "B" does not move any more.

3) Tighten the lock nut.

4) Adjust the other side connecting rod of the front brake in the same procedure described above.

5) Adjust the cables for both the right and left side brake pannels so that the gap between the brake lever and the throttle grip may be 20 – 30 mm (around 1 inch) and also that the equalizer may position perpendicularly to the brake lever when it is fully pulled.

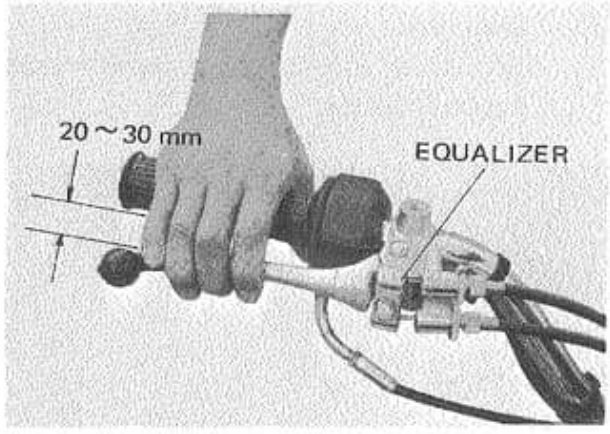


Fig. 8-3-2 Adjusting brake cable

II. INSPECTION

1) Brake shoe
Check the outside diameter of the brake shoes as shown in Fig. 8-3-3. If the measurement is less than 194 mm (7.64 in), replace both the brake shoes.

2) Brake drum
If the inside diameter of the brake drum exceeds 200.7 mm (7.90 in) due to the wear, replace with new brake drum.

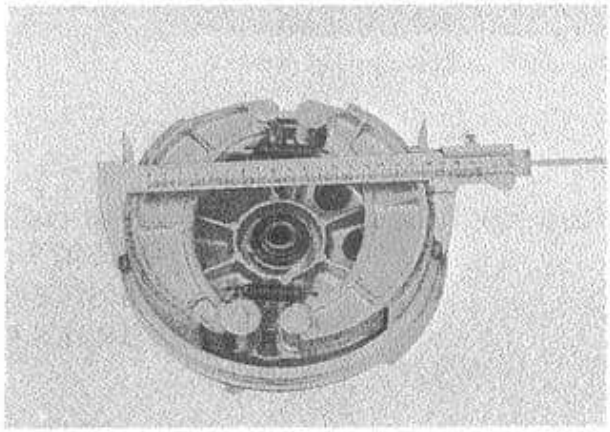
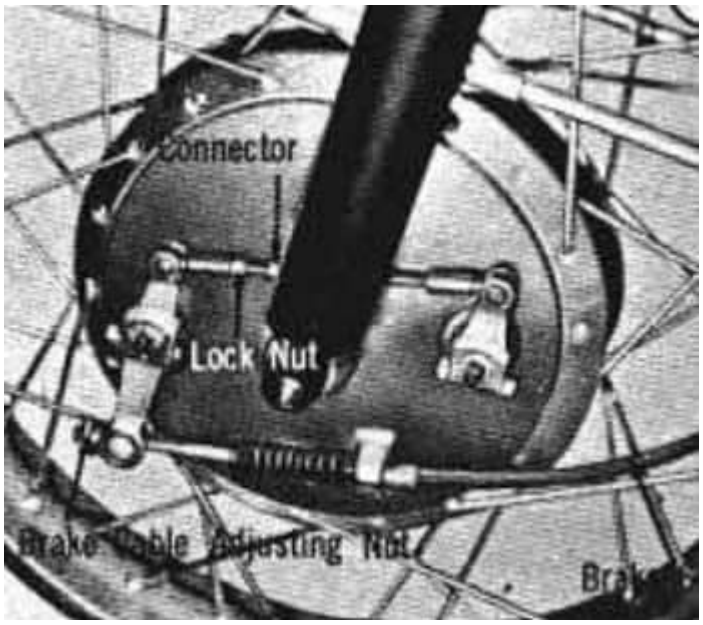


Fig. 8-3-3 Checking wear

T500 2LS brake set-up

APRIL 9, 2023
CATEGORIES: BRAKES, T500, COBRA, TITAN, TECHNICAL



It is imperative that the leading edge of each brake shoe comes into contact with the brake drum simultaneously, if maximum braking efficiency is to be achieved. Check by detaching the clevis pin from the eye of one end of the threaded rod, so that the brake operating arms can be applied independently. Operate each arm at a time and note when the brake shoe first commences to touch the brake drum, with the wheel spinning. Make a mark to show the exact position of each operating arm when this initial contact is made. Replace the clevis pin and check that the marks correspond when the brake is applied in similar fashion. If they do not, withdraw ihe clevis pin and use the adjuster to either increase or decrease the length of the rod until the marks correspond exactly. Replace the clevis pin and do not omit the split pin through the end which retains it in position. Recheck the brake lever adjustment before the machine is tried on the road.

Fuel lock – petrol tap left on “Prime” or leaking

APRIL 9, 2023
CATEGORIES: T500, TECHNICAL

SUZUKI
2-Stroke
Service Bulletin

Subject: AUTOMATIC PETCOCK MISUSE

Bulletin No: GENERAL-10
Date: May 1, 1975
Read and Initial
Manager
Parts
Service

PROBLEM:

Motorcycle seems to be locked up after being parked overnight. When kickstarting or pushing is tried, the engine will not turn over. Extreme Case: If engine is forced in this condition, a bent connecting rod, expelled crank seals, or broken piston skirt results.

CAUSE:

The automatic petcock was left in the PRIME position when the motorcycle was parked. This allows fuel to flow into the carburetors when the engine is not running. If the float valve is not perfectly seated, the fuel will then flow into the engine crankcase. This liquid fuel fills the crank chamber. When the owner tries to start the motorcycle, the piston cannot compress this "solid" fluid. This is termed a hydrastatic lock condition.

CORRECTION:

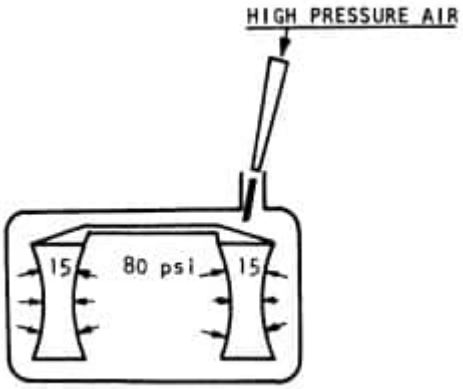
1. Warn new owners to park the motorcycle in the MAIN (#1) or RESERVE (#2) positions.

2. If this condition is present, drain the excess gasoline using the crank chamber drain plugs.

3. Since this type of engine failure is caused by misuse, U. S. Suzuki will not honor any warranty claim for bent connecting rods on these models.

Cleaning carburetors – collapsed floats

APRIL 9, 2023
CATEGORIES: CARBURETORS



COLLAPSED FLOATS

SUZUKI
2-Stroke
Service Bulletin

Subject: CLEANING CARBURETORS

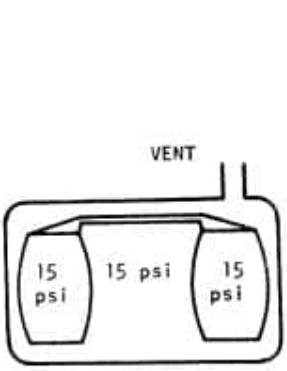
Bulletin No: GENERAL-11
Date: May 1, 1975

Read and Initial

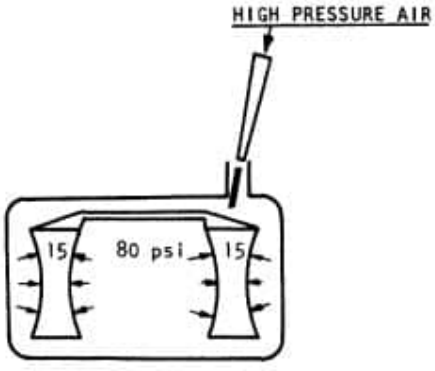
Manager_____
Parts_____
Service_____

PROBLEM: Motorcycle runs very rich at all throttle positions. Jets are standard and air filter is clean. In an extreme case, cylinder and piston will seize, because the lubricating oil has been washed off the cylinder wall by the raw gasoline.

CAUSE: One cause of this problem could be collapsed floats. If high pressure compressed air is used on an assembled carburetor, the float chamber is pressurized. This high pressure will collapse the floats and disrupt the standard fuel level.



FLOAT CHAMBER



COLLAPSED FLOATS

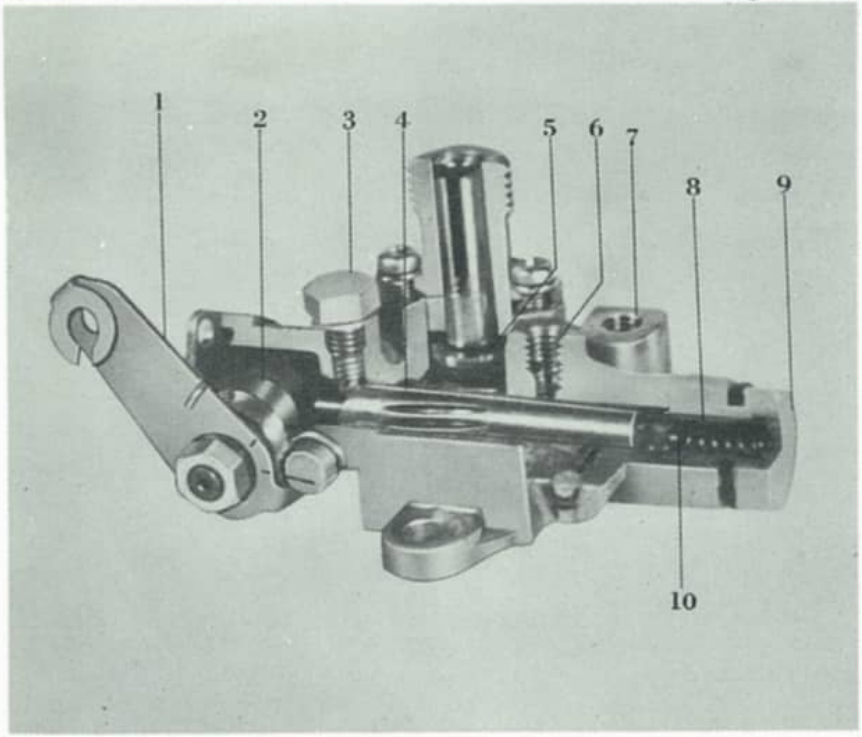
CORRECTION: Don't use compressed air to clean an assembled carburetor. Compressed air is only recommended for blowing out channels and jets in a carburetor that has been disassembled.

Oil pump lever sticking

APRIL 9, 2023
CATEGORIES: TECHNICAL, OIL PUMP

8-16. Oil Pump

Fig. 8-15-3 Tightening retainer



1 Control lever
2 Cam
3 Plunger guide
4 Plunger
5 Driving worm
6 Intake port
7 Discharge port
8 Plunger spring
9 Differential plunger housing
10 Differential plunger

Fig. 8-16-1 Oil pump mechanism

SUZUKI
2-Stroke
Service Bulletin

Subject: OIL PUMP LEVER STICKING

Bulletin No: GENERAL-12
Date: May 1, 1975
Read and Initial
Manager
Parts
Service

PROBLEM:

We have received reports that the oil pump lever on some units sticks open in the first half of its range of movement while the engine is running and does not return to the idle position when the throttle is closed.

SYMPTOMS:

A. Spark plug fouling on all cylinders.

B. Engine runs rough at low engine speeds.

C. Engine will not idle correctly.

CAUSE:

These oil pumps are designed to eliminate O-ring seal leakage. The O-ring may cause the oil pump lever to stick when the motorcycle is new. With mileage, the problem will disappear.

CORRECTION:

If you have a motorcycle which has this problem -

A. Spray the oil pump shaft with penetrating oil or Dri-Slide. Normally, this will correct the sticking problem.

B. Install a front brake cable spring (cut to appropriate length) on the oil pump cable between the cable adjuster and lever. This spring can be removed after mileage has loosened the O-ring. Or you can loosen the nut holding the lever to the shaft and wrap the existing spring around the lever another 1/3 turn. Don't take the nut off altogether.

Cold weather storage

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-18
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: COLD WEATHER STORAGE

1. We have noted a number of customer letters reporting damage to Suzuki motorcycle engines from disuse during the cold winter months. One common note is the statement: "I carefully stored the motorcycle in my heated garage for the entire winter. When I took it out in the spring, the crankshaft bearings, cylinder walls, and piston rings were corroded. Is this covered under warranty?"

2. The general inclination is to store the motorcycle in a warm shelter. Surprisingly, this is the worst place a bike could be stored for any length of time. The warm temperatures accelerate corrosion and condensation, the two major causes of engine damage in storage. It is preferable to keep the motorcycle in a cold shelter to arrest these two damaging processes.

3. There are four benefits a motorcycle dealer can anticipate when considering initiation of storage services:

   A. Added income through the relatively weak winter months. There is a small investment in manpower at the beginning and end of the storage process, but the major problem is acquirement of sufficient storage space.

   B. His customer will have a machine in optimum condition at the start of the riding season. Word-of-mouth advertising is valuable, and even better is the exposure of a Suzuki motorcycle running in top condition during the most enthusiastic buying period of the year.

   C. The dealer has the owner in his shop at the peak buying period of the year. He has had the customer's machine in his shop and has a definite idea of the machine's trade-in value. This is the time to propose trading up to the owner when he comes to pick up his machine. The customer is already sold on the Suzuki concept, and he is ripe for a more exciting, larger machine for the coming season.

   D. This will give your shop the opportunity to schedule repair, modifications, or installation of accessories on the stored machine. When the owner brings in his motorcycle, ask him if he would like any work performed on his machine while in storage. You should be able to estimate the repair at a reduced price, because this work will fill your service shop's dead time in the winter. It is also suggested that you help the owner pay for the job by offering monthly payments so that the machine will be paid off when spring arrives.

4. The suggested procedure for preparing motorcycles for storage is as follows:

MATERIALS

5:1 Mixture Gasoline/Oil
Commercial rust preventive (Aerosol)
10W oil
Kerosene and spraying apparatus

A. Fill the fuel tank with a 5:1 mixture of gasoline/oil. Run the engine until the exhaust turns white, indicating that the mixture has run through the carburetors. Push the cold-start lever and open the throttle to soak the engine with this rich oil mixture. Shut the engine off.

B. Turn the fuel off. Refill the fuel tank to prevent rust.

C. Use the drain plug on the carburetor to drain all the gasoline from the float bowl and fuel line. This prevents shellac from clogging the jets.

D. Remove the spark plugs and spray inside the cylinder with a commercial rust preventive. WD-40, Zip corrosion preventive, or other compounds are available at auto parts supply houses. Kick the engine over to coat the cylinder walls and piston rings. Replace the spark plugs.

E. Remove the battery and store in a cool area off of the floor. A wooden shelf is the best place. If the battery will be stored at freezing temperatures, recharge once a month to keep the electrolyte from freezing. Otherwise, charge the battery every two months.

F. Drain the transmission completely and fill to overflowing with 10W oil.

G. Fill oil tank to the top with a good 2-cycle oil.

H. Spray the entire motorcycle with kerosene to arrest corrosion.

5. DURING STORAGE

Once a week, kick the engine over a few times to free the piston rings and keep the crank seals flexible. In humid, warm localities it is advisable to pull the spark plugs and spray the inside of the cylinder with rust preventive. Spin the rear wheel to move the transmission gears and keep them from "locking" due to corrosion.

(cont.)

RESTORATION

A. Drain the gas tank completely. Pull the petcock and check for sediment around the pipe inside the fuel tank and on top of the petcock. Replace the petcock, fill the fuel tank with clean gasoline, and turn the petcock on.

B. Install the new spark plugs.

C. Drain the transmission and refill with 20W-40 oil to proper level.

D. Charge the battery and install in frame.

E. Wash motorcycle with soap and water to remove kerosene. Lubricate the chain.

F. Test ride.

6. Be prepared for the spring rush with Suzuki touchup paint accessories, and the inevitable tune up items; contact points, condenser, spark plugs, air cleaner elements, tires, chains, and sprockets. DO NOT WAIT UNTIL THE SEASON STARTS! U. S. Suzuki's Parts Department is flooded every spring with rush orders for high volume items. Many orders are delayed because of the large volume of parts required. Anticipate your requirements. Your additional profits will reflect your wisdom.

7. A good dealer will maintain a customer mailing list. In some states, it is possible to obtain motor vehicle registration lists for a specific make of motorcycle. From this data, you can determine the potential for storage customers.

High Speed Steering Oscillations (Tyre/tire wear) – Suzuki Service Bulletin General 19

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-19
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

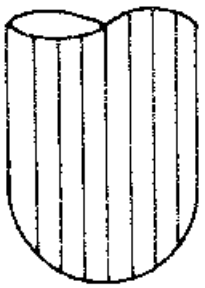
Subject: HIGH SPEED STEERING OSCILLATION

PROBLEM:

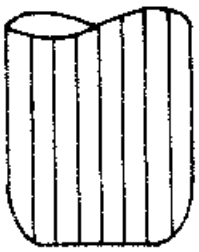
High speed steering oscillation.

CAUSE:

A. Rear Tire: The Suzuki's capable of high speed operation are equipped with wide tread tires to insure long tire life and excellent high speed cornering. The rear tire has a tendency to wear flat if the motorcycle is driven mostly at high speeds on relatively straight highways. Under these operating conditions, there is very little cornering. Therefore, the rear tire tends to wear flat with definite corners where the tread meets the pavement.



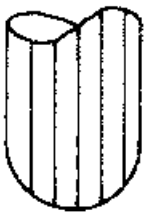
EVEN WEAR



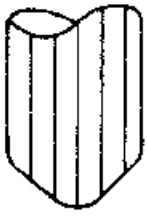
CENTER TREAD WEAR

If the tire is overinflated, tire wear will be confined to the center tread, causing the same condition.

B. Front Tire: The front tire will cause steering wobble if wear has been confined primarily to the outer section of the tread from under-inflation.



EVEN WEAR

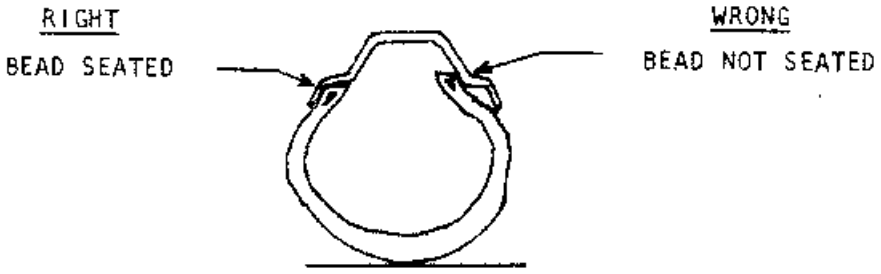


SIDEWALL WEAR

(cont.)

C. Wheel Alignment: If the frame is bent or the rear wheel is cocked in the frame, tire wear and handling will be affected.

D. Tire Fitting: If the tire bead is not completely seated on the wheel rim, an unstable condition allows the tire to "walk" on the rim.



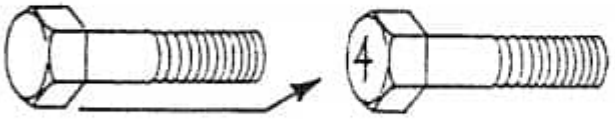
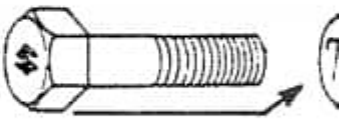
CORRECTION: A. Replace worn tire.

B. Break the rear tire from the wheel rim. It should not be necessary to take the wheel off the motorcycle. Use plenty of rubber lubricant and inflate the tire with 60-70 psi pressure. Let all of the air out and reinflate the tire using 60-70 psi. Finally, deflate the tire to 24-27 psi.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Bolt torque

TORQUE SPECIFICATIONS

	ORDINARY STRENGTH BOLT		HIGH STRENGT
			
	KG-CM	LB-FT	KG-CM
	20- 30	1.4- 2.2	30- 50

SUZUKI
(2-Stroke)
Service Bulletin

Bulletin No: General-25
Date: June 24, 1977

Read and Initial

Manager_____
Parts_____
Service_____

Subject: BOLT HEAD SYMBOLS

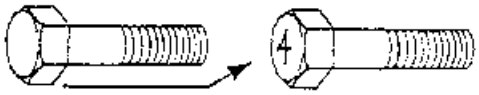
NOTICE:

In the past, hex head bolts used in Suzuki motorcycles were either an ordinary style bolt (plain head), or a special bolt ("S" head). The "S" symbol indicates that a special heat treatment had been applied to the bolt and its tensile strength is much higher than that of an ordinary bolt (plain hex head).

The "S" symbol is now being changed to a "7" symbol embossed on the top of the head. The ordinary strength bolt now has a "4" embossed on its head.

Listed below is a general guide for torque values by bolt size.

TORQUE SPECIFICATIONS

BOLT DIA. (MM)	ORDINARY STRENGTH BOLT 		HIGH STRENGTH BOLT	
	KG-CM	LB-FT	KG-CM	LB-FT
5	20- 30	1.4- 2.2	30- 50	2.2- 3.6
6	40- 60	2.9- 4.3	60- 90	4.3- 6.5
8	90-120	6.5- 8.7	150-200	10.8-14.5
10	200-250	14.5-18.1	300-370	21.7-26.8
12	350-400	25.3-29.0	500-650	36.2-47.0

The part number prefixs of the new style bolts are; "01000" series for the ordinary bolt, and "09000" series for the special bolt.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Circlip mounting

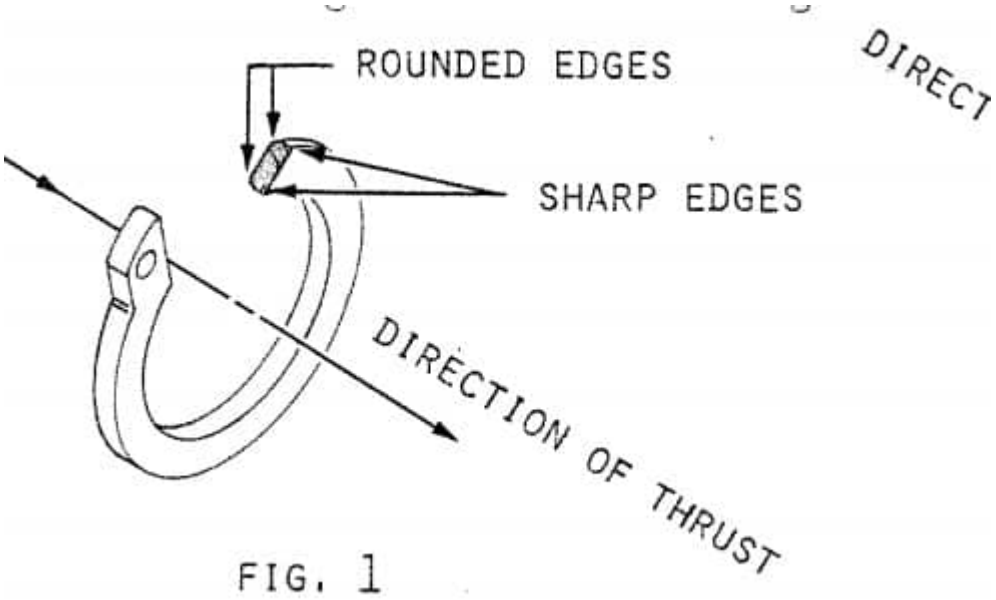


FIG. 1

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin
CIRCLIP INSTALLATION

Bulletin No: General - 27
Date: June 28, 1978
Read and Initial
Manager _____
Parts Mgr. _____
Service Mgr. _____
Mechanics _____

Two types of circlips used on Suzuki motorcycles are machined circlips and stamped circlips. The machined circlips can be installed in either direction because both faces of the circlip are machined, creating two sharp edges. The stamped circlips require directional installation because a sharp edge and a rounded edge are formed during the manufacturing process.

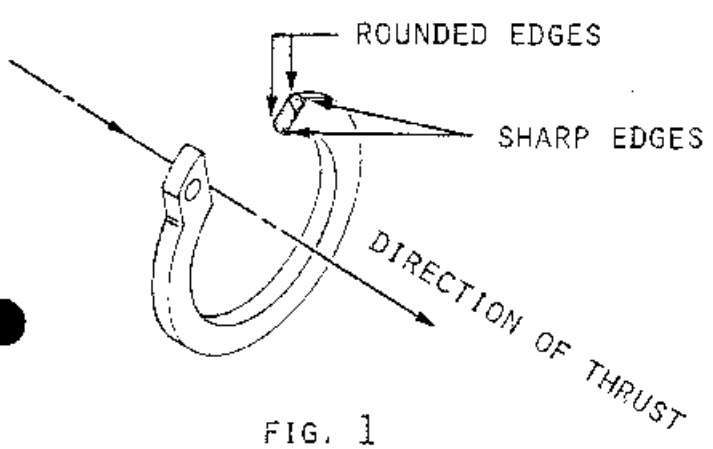


FIG. 1

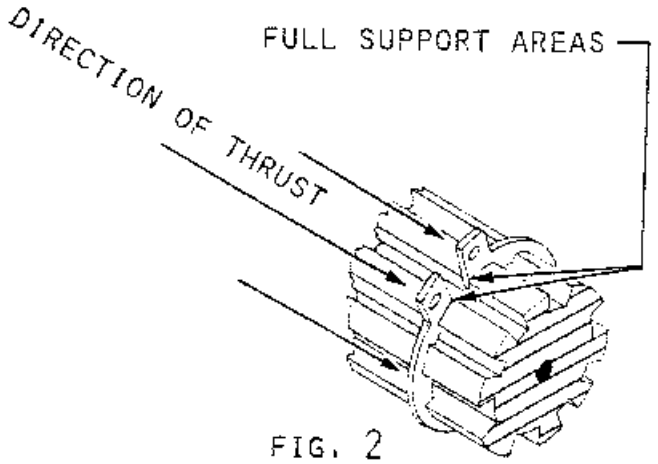


FIG. 2

Some important points on circlip installation are:

1. When installing the stamped circlips in a thrust situation (transmission shafts, fork tube caps, etc.) install the circlip in its groove with the sharp edge facing away from the part producing the thrust. (See figs. 1 and 2)

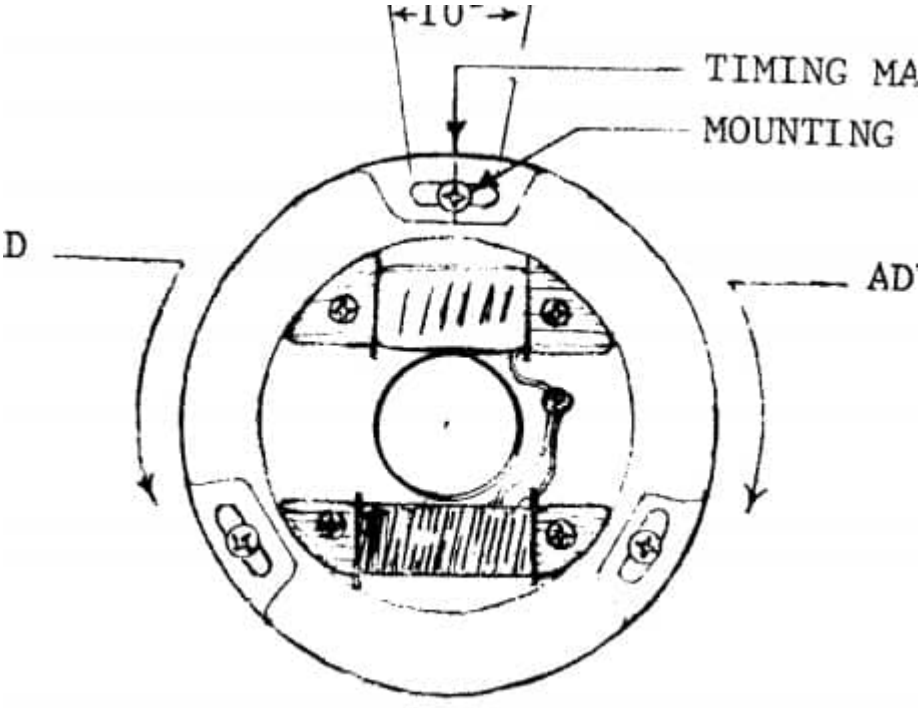
2. When installing circlips on splined shafts, have the open ends of the circlip supported by the circlip groove. (See fig. 2)

3. After the circlip is installed, double check to be sure that the circlip is completely seated in its groove.

If the above points are not followed, it is possible for the circlip to be pushed out of its groove which would cause damage that could have been prevented by having installed the circlip correctly.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT
U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California 90670 • (213) 921-4461

PEI Ignition Timing



SUZUKI
2-Stroke
Service Bulletin

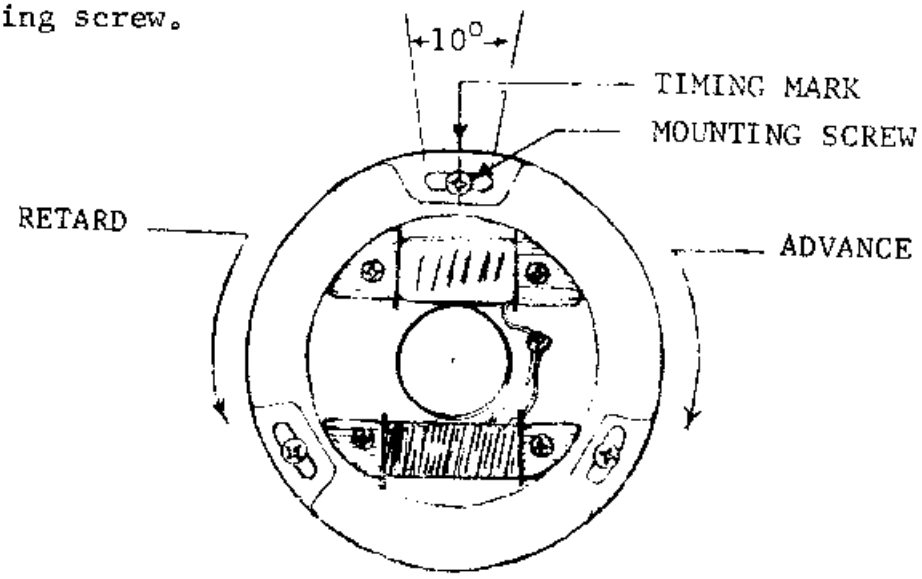
Bulletin No: General-7
Date: May 1, 1975

Read and Initial

Manager _____
Parts _____
Service _____

Subject: CHECKING PEI IGNITION TIMING

Some Suzuki dealers have expressed confusion regarding the proper method of adjusting the ignition timing on models equipped with the new Pointless Electronic Ignition system. The timing setting is pre-set at the factory. As a precaution, this setting should be checked by the dealer during initial set-up of the unit. An electronic eng. tach. Part #09900-26001 is available from the Parts Dept. The timing setting is correct when the timing mark stamped on the Stator Plate is aligned with the center of the top mounting screw.



The adjustment slots in the Stator Plate allow for 10 degrees movement overall.

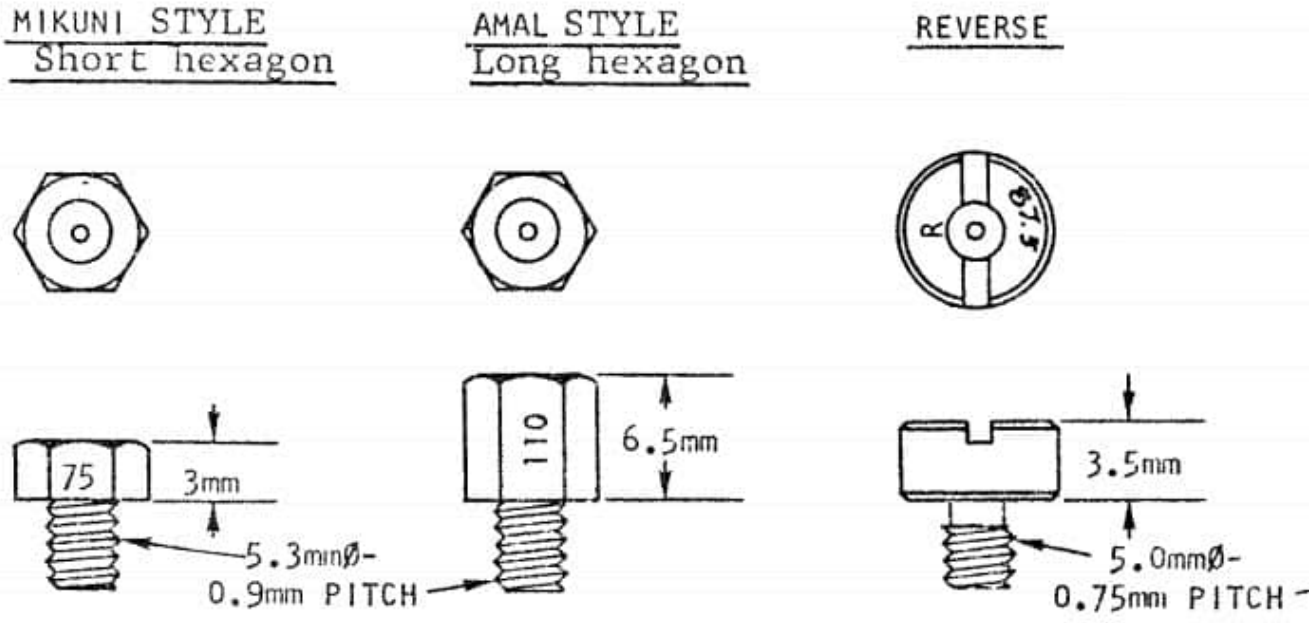
Thus, moving the Stator Plate clockwise will advance ignition timing. Moving the Stator Plate counter-clockwise will retard ignition timing.

NOTE: Positioning of the timing mark on the Stator Plate may vary from unit to unit. Thus, some marks may be off center in the slot. Regardless of this, proper timing is still attained by aligning the mark with the mounting screw.

Automatic advance of ignition timing is built into the circuitry of the PEI "black box". Therefore, any adjustment at the Stator Plate will affect timing throughout the RPM range. The timing specifications given for each bike, such as the TS185R....16° @ 1000 RPM, 24° @ 6000 RPM, refer to timing light settings which indicate whether the black box automatic advance circuitry is functioning properly.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

Carburetor Main Jet Types



SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GENERAL-9
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

Subject: CARBURETOR MAIN JET TYPES

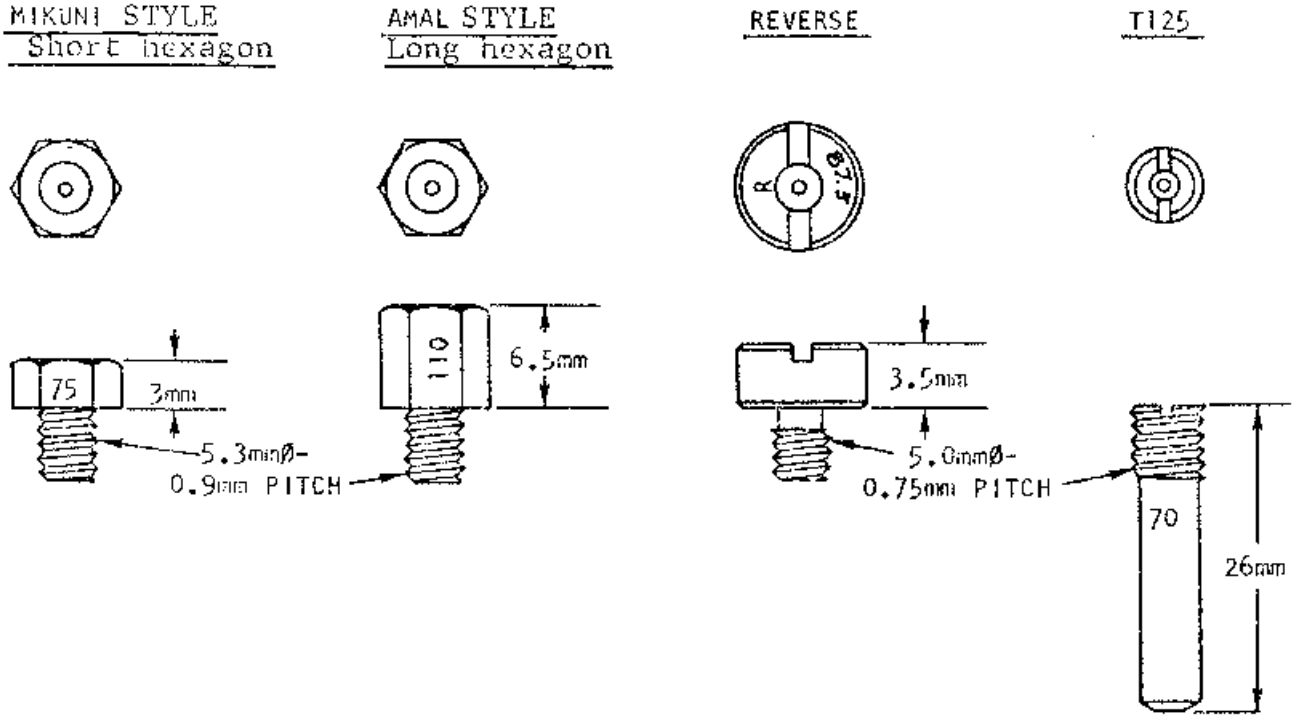
Suzuki carburetors use four different main jet types. The shape, thread, and metering characteristics of the main jet depend on which type it is.

1. The MIKUNI main jet is the short hex type. The number stamped on it indicates the number of cc's which will flow through it from the hex end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Because the direction of flow in calibration is the same as when the jet is installed in the carburetor, the actual flow rate is directly proportional to the main jet marking.

2. The AMAL main jet is the long hex type. The number stamped on it indicates the number of cc's which will flow through it from the threaded end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Since the direction of flow in calibration is opposite to the flow when installed in the carburetor, the actual flow rate does not correspond with the main jet marking.

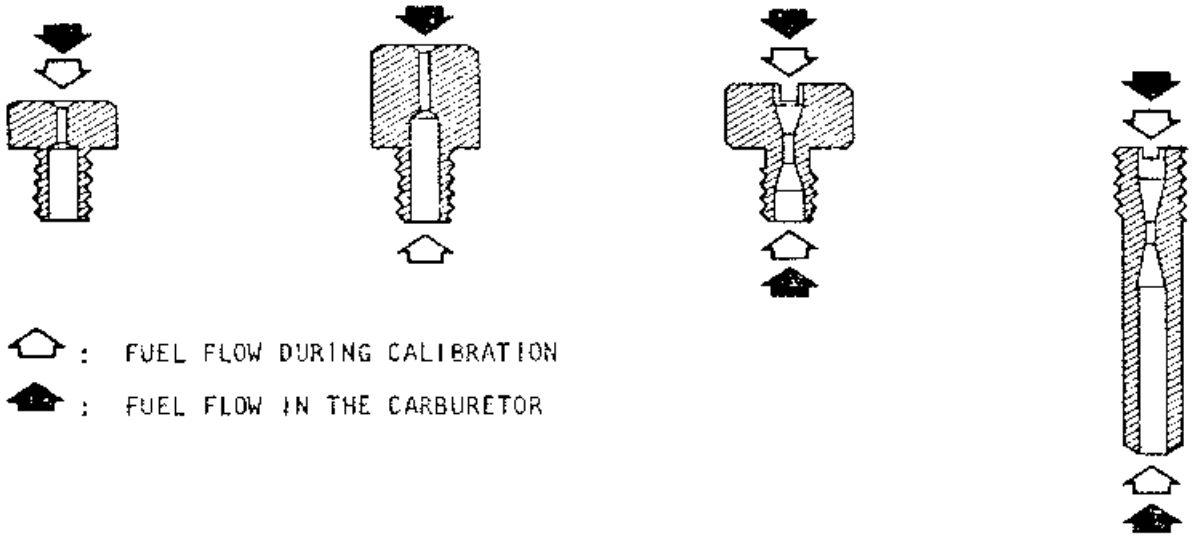
3. The REVERSE main jet has a round head. It is called "reverse" because the metering and flow characteristics are the same in either direction. Therefore, this type permits much more flexibility in the design of a carburetor because the flow rate will be the same whether the fuel is entering from the threaded end or the slotted end.

4. The T125 main jet is similar to the reverse type, but incorporates an integral tube because it is used in the downdraft carburetors.



(cont.)

MIKUNI AMAL REVERSE T125



: FUEL FLOW DURING CALIBRATION

: FUEL FLOW IN THE CARBURETOR

MIKUNI MAIN JET

SIZE	PART NUMBER
#65	09491-65001
#70	-70001
#75	-75001
#80	-80001
#85	-85001
#90	-90001
#95	-95001
#100	-20001
#105	-21002
#110	-22001
#115	-23005
#120	-24001
#130	-26002
#140	-28001
#150	-30001
#160	-32001
#170	-34001
#180	-36002
#190	-38001
#200	-40005

REVERSE MAIN JET

SIZE	PART NUMBER
#62.5	09491-62002
#65	-65003
#67.5	-67001
#70	-70005
#72.5	-72005
#75	-75005
#77.5	-77001
#80	-80005
#82.5	-82002
#85	-85004
#87.5	-87001
#90	-90003
#92.5	-92001
#95	-95003
#97.5	-97001
#100	-20003
#102.5	-20004
#105	-21003
#107.5	-21006
#110	-22004

(cont.)

REVERSE MAIN JET CONT.

SIZE	PART NUMBER
#112.5	09491-22005
#115	-23002
#125	-25001
#127.5	-25003
#130	-26004
#132.5	-26005
#135	-27002
#140	-28005
#142.5	-28006
#145	-29001
#147.5	-28004
#150	-30004

T125 MAIN JET

SIZE	PART NUMBER
#70	09491-70007
#72.5	-72007
#75	-75007

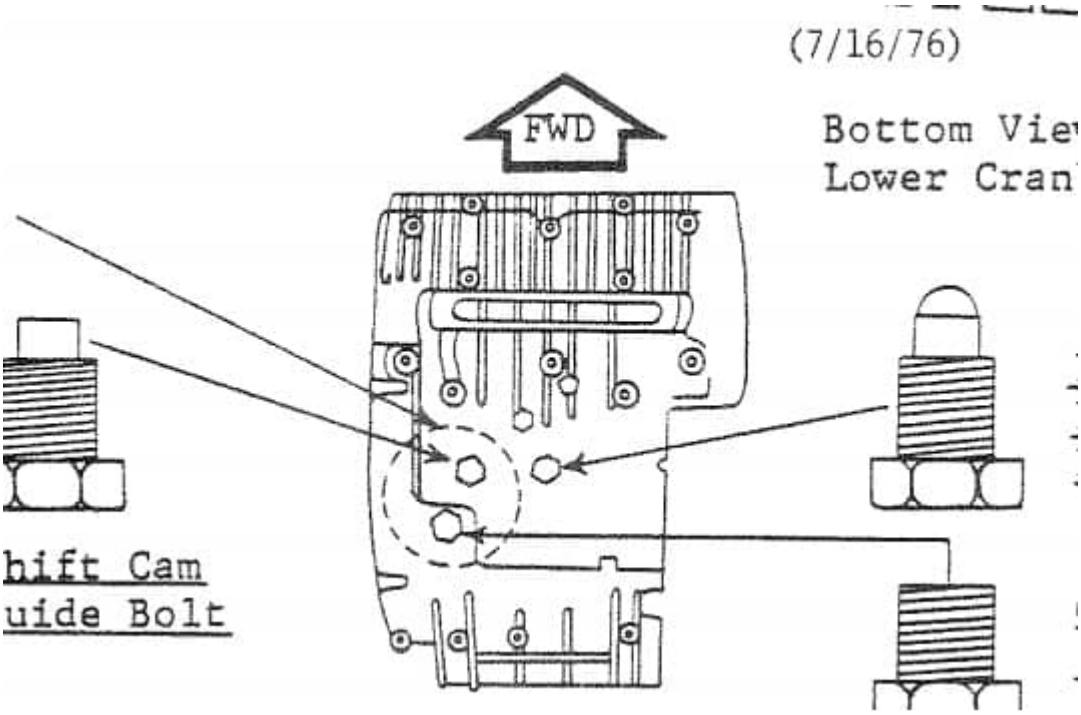
AMAL MAIN JET

SIZE	PART NUMBER
#55	09491-55002
#60	-60002
#65	-65002
#70	-70002
#75	-75002
#80	-80003
#85	-85002
#90	-90002
#95	-95002
#100	-20002
#110	-22003
#115	-23008
#120	-24002
#125	-25004
#130	-26003
#140	-28002
#145	-29002
#150	-30003

AMAL MAIN JET CONT.

SIZE	PART NUMBER
#160	09491-32002
#170	-34002
#180	-36003
#190	N/A
#200	N/A
#210	-42001
#220	-44001
#230	-46001
#240	-48001
#250	-50003
#260	-52001
#270	-54001
#280	-56001
#290	-58001
#300	-60003
#310	-62001
#320	-64001
#330	-66001
#340	-68001
#350	-70001
#360	-72001
#370	-74001
#380	-76001
#390	-78001
#400	-80004
#410	-82001
#420	-84001
#430	-86001
#440	-88001
#450	-90005
#460	-92002
#470	-94001
#480	-96001
#490	-98001
#500	-10001
#530	-16001

Shifting Cam Bolt



SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-34
Date: Mar. 26, 1976

Read and Initial

Manager_____
Parts_____
Service AAF

Subject: GT500 SHIFTING CAM GUIDE BOLT LOCATION
REFERENCE: Service Bulletin #T-5

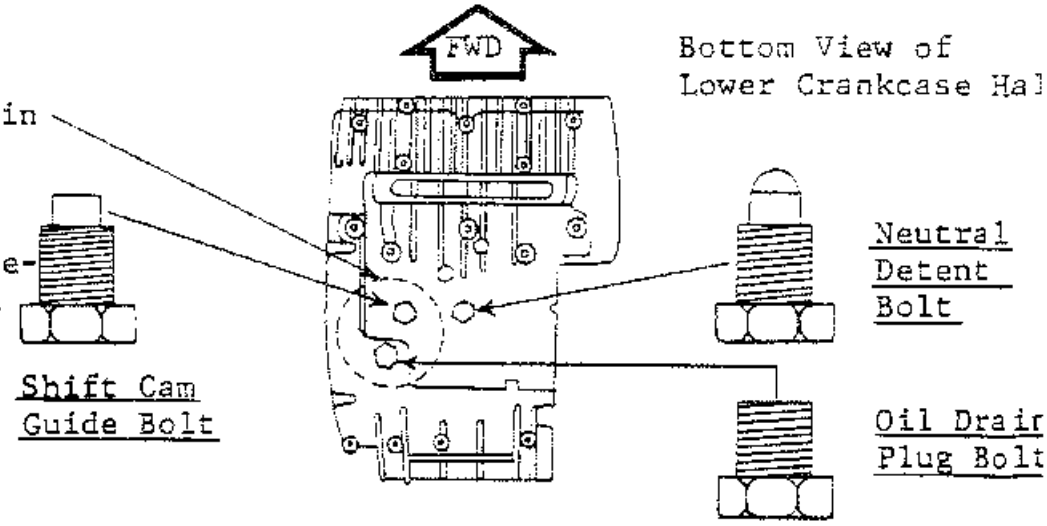
NOTICE:

We have received occasional reports of GT500 transmission failure immediately after an engine or transmission overhaul. Upon disassembling and inspecting the transmission, it was found that the transmission oil drain plug and the shift cam guide bolt had been mistakenly interchanged during the overhaul.

REVISED
(7/16/76)

UPDATED
(7/16/76)

NOTE: Remove both bolts to drain oil. After draining oil make sure of correct placement of both bolts.



The shift cam guide bolt restricts the shift cam drum from sliding from side to side inside the crankcase assembly. When these two bolts are interchanged, the oil drain plug does not extend into the locating groove of the shift cam drum, allowing the drum to slide from side to side. When this happens the shifting forks slide with the shift cam, allowing two sets of gears to become engaged at the same time. This results in severe damage to the gears, and requires their replacement.

Therefore, whenever a GT500 is overhauled, or the transmission oil changed by your service department the final inspection after reassembly should be the proper placement of the shift cam guide bolt and oil drain plug.

TWIN LEADING SHOE BRAKES: A step by step guide to a super stopper.

TWIN LEADING SHOE BRAKES
A step by step guide to a super stopper.

1. Assemble all new parts likely to be needed before doing anything – usually shoes and cable.

2. Remove wheel and note relationship of cams, levers and springs before stripping back plate completely. If cam ends are not stamped with an alignment mark, it helps to refit the levers in the right place to pencil one on before stripping out.

3. Clean all parts of dust and old hard grease. Note the warnings about Asbestos these days – wipe drum out with damp rag and then seal rag in a plastic bag, not use the airline on it!

4. Decide which parts to replace wheel bearings, shoes, springs, cable etc.

5. Assembly – lightly grease cams, and check smooth rotation in back plate. Fit levers and any return springs in correct position using marks on end of cams and recheck for smooth rotation. Pit shoes, ensuring leading edge of linings has a chamfer to prevent grabbing.

6. Fit back plate to wheel, ensure speedo drive aligns with hub. Replace wheel in forks leaving all fasteners finger tight.

7. Inspect cable. It cannot be emphasised enough how important the cable is to a good brake. It must be the correct length, with smooth flowing bends. Ferrules must fit tightly and nipples and levers fit snuggly. The tighter a cable has to bend, the more the outer sheath opens out. This gives a spongy feel when applied as the outer concertinas under pressure.

8. Push on short arm of the double ended brake lever to apply one brake shoe. Hold arm in this position by adjusting cable wingnut.

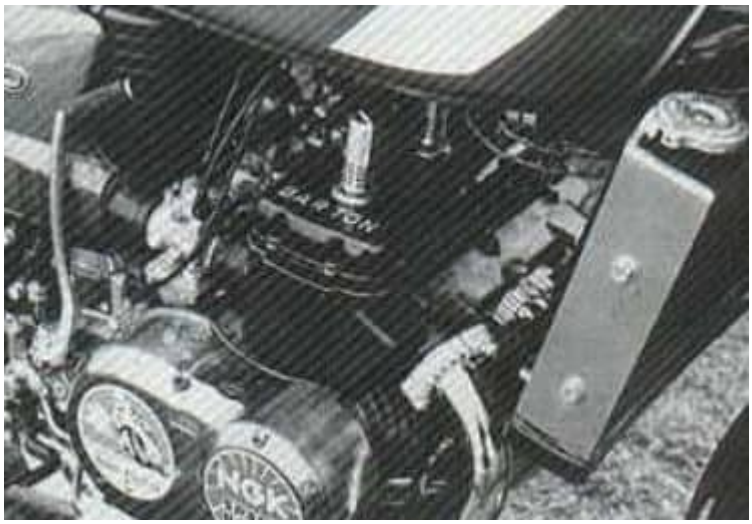
9. Fit balance rod to double ended brake lever. Slacken lock-nut to allow adjustment of the clevis ends – note one end will have a left-hand thread.

10. Push on other brake lever with equal force as in (·8) to apply other brake shoe. Adjust length of balance rod so clevis pin can be inserted whilst maintaining equal pressure on both shoes. The cams are now synchronised. Tighten balance rod locknut(s).

11. With brake dragging, rotate wheel to ensure lost motion taken out of brake anchorage. Apply brake hard to centralise linings and tighten all axle nuts and clamps. Check all nuts, remember to replace split pins in clevis pins, axle nut and brake cable end.

12. Adjust brake cable so shoes are not binding, carefully roadtest and recheck everything for tightness. Now that you can stop – how about making the bike go faster?
CLIVE LEESON

Barton Motors



Found at http://yorkshireferret.blogspot.co.uk/2012/02/barton-motors-sparton-phoenix-and-more.html

Barton Motors was started by Barry Hart and Tony Ryan. The Barton name is derived from the first name of the two company founders. Barry and Tony started the company by investing £15 each, in order to set up a barn with two lathes. Early business concentrated on producing racing gearboxes for Japanese bikes, then went on to clutches, cylinder barrels and heads.

One of Barton's first breaks was when they were approached by Rex White of Suzuki GB. Rex wanted a 350cc Suzuki for Barry Sheene to race, and enquired with Barton whether they could do something with the Suzuki GT380. What Barton came up with was a water-cooled engine which still utilised the GT380 crankcases and crank. At a practice session at Brands Hatch, Barry Sheene was able to lap inside the existing lap record. However, the Barton 350cc was never raced. The official line was that Suzuki Japan heard of the 350cc, and put a stop to it as Sheene was contracted to race in the 500 and 750cc classes only. In reality the Barton 350cc although promising, needed further development.

The 350cc three cylinder became the ancestor of the 500cc Sparton motorcycle. The Sparton name comes from Barton engine coupled to a Spondon rolling chassis. During the development of the Sparton, Tony Ryan left the business as he was less interested in motorcycles. Barry Hart and his wife Marilyn moved from Surrey to Caernarvon with the business. Graham Dyson (now of Nova transmissions) joined Barton Motors soon after they moved to the chapel at Pontrug.

It was 1974 when the 350cc three cylinder Sparton was starting to get off the ground. The engine had a 52 x 54mm bore and stroke, and utilised a Suzuki bottom end with special gear ratios. The initial 350cc Sparton was a little heavy compared to a Yamaha twin, so for 1975 a special lightweight unit with magnesium cylinder block and chromed aluminium liners was produced. Due to the chromed bore, Barton Motors spent much of 1975 waiting for the special piston rings which were necessary. Barry Hart therefore decided to concentrate on the 500cc class. The 350cc Sparton was sold to Monster Car Hire at Thames Ditton for Peter Dalby to ride.

The initial Sparton 500s were actually 458cc engines using Omega pistons with a bore and stroke of 60 x 54mm. The Suzuki GT380 crankcases still formed the basis of the engine. The standard Suzuki is a 120 degree triple with six main bearings, geared primary drive and a six speed gearbox. The cylinders on the standard

Suzuki are quite widely spaced apart to allow good airflow around the barrels. This made it easy to make space for water jackets for the water-cooled Sparton. One of the most obvious differences between the Sparton and standard Suzuki, is the use of a gear driven water pump on the drive side of the Barton and the Krober electronic ignition which is driven directly from the other side of the crankshaft. Inside the crankcases there were further differences, for example an extra bearing was added on the Sparton due to the small supporting area on the timing side of the crankshaft.

The 460cc Sparton produced 95bhp compared to the standard Suzuki GT380's 37bhp. A special 525cc Sparton which used Yamaha pistons produced 100bhp. The 500 Sparton shot to prominence at the 1975 TT when Martin Sharpe reached 146mph at the speed trap – fastest in its class jointly with the Works Kawasakis. In 1976 things got better for the Sparton with a 1-2 victory For Martin Sharpe followed by Big Frank Kennedy at the North West 200.

Graham Wood raced the latest version of the Sparton, which utilised a short-stroke 497cc engine to produce an estimated 105-110bhp. This Sparton was capable if over 160mph. In 1977 Graham Wood scored 12 firsts as a privateer on the Sparton 500. The Sparton engine cost £1300 on exchange (£1450 complete) whereas a Suzuki RG500 would cost more than double. Reliability of the engine was always an issue due to the use of Suzuki 380cc crankcases. A Sparton 500 engine weighed 92lb complete, which was 30lb lighter than an RG500 unit. However, due to the cycle parts utilised the Sparton actually weighed more as a complete machine than the Suzuki.

Barton Motors didn't just make their own engines. They also modified many types of racing engines. Barton Motors offered mods to private owners for the Suzuki GT 750 which had established itself in F750 racing. Barton Motors offered four different stages of tune which resulted in the engine producing up to 115bhp. The conversion was extensive and included, keying the crankshaft to prevent twisting, the insertion of spacers on the crank in place of oil thrower plates so that petroil could reach the main bearings, while big-end bearings were made fully floating to prevent seizure. A dry clutch mates the engine to a six speed gearbox and ignition is by Krober or the cheaper Femsa alternative. Barrels were re-worked and could be sleeved for ease of repair, heads were modified, and a floating exhaust system with expansion boxes was allowed to resonate on flexible stubs. The 750 development brought Barton Motors closer to Suzuki and they re-sleeved barrels for the Works racers and also manufactured replacement parts.

The Barton aim was not merely to cater for clubmen racers, so they went head-to-head with the Japenese. The Barton Phoenix was their attempt to make a machine to rival the Japanese is the large capacity classes. The Phoenix was to be produced in 500cc and 750cc sizes.

The Phoenix project started in 1976. The Phoenix was a square four two-stroke which followed the Suzuki RG500 concept. Barry Hart choose not to use reed valves (like the Yamaha 750 utilised) as they restrict performance at the top end. The Phoenix used disc valves like the RG500, as they permit the use of asymmetrical inlet timing.

Although the Phoenix followed RG500 principles, there were some improvements to increase the internal strength of the engine. The Phoenix crankcases have more reinforcement and water passages do not cross joint faces as in the Suzuki. The internal crankshaft coupling was improved (an area of weakness on early RG500s), the gearbox is stronger and the clutch is lighter by using Yamaha 750 clutch plates with improved pressure plate bearings and a less complicated release mechanism. In several places the bearing support and lubrication was also improved over the RG500.

The Phoenix engine was entirely of Barton manufacture apart from RG500 bearings and Yamaha pistons – OW31 for the 750cc and Yamaha 250 pistons for the 500cc. For cylinder liners, the Phoenix engines used aluminium sleeves with chrome bores which drop into the pot from the top where they are located in the block and held by the head. The porting of the Phoenix 500cc was like a 250 Yamaha, whilst the 750cc used OW31 porting but with disc valve induction.

By 1979 approximately ten Phoenix engines had been manufactured (two of which were 500cc). The Barton team were honest by suggesting they "wish to sell these engines to people who are prepared to work with us to solve any problems that may occur". In 1978 Graham Wood aboard a Phoenix beat Ron Haslam on an OW31 at Donington in a heat. He nearly did the same in the final, until a plug oiled due to an overly rich mixture. By 1979 Barry Hart still regarded the Sparton 500 as a more suitable engine for 500cc GP racing due to its reduced weight than the Phoenix unit.

Tragic loss of Cal Rayborn

Some discussion online:

There was an element of trying to get any chance he could to get on a Suzuki and get cracking. I felt that his supposed signing for Suzuki indicated that he intended to specialise in roadracing rather than pursuing the Grand National AMA series, so there was no longer any need to be hamstrung on a roadrace Harley, which were great handlers but woefully slow compared to the Japanese two-stroke 750s. I think his amazing showing in the Transatlantic Series confirmed his self-belief, and that he'd pulled the right rein, so couldn't miss the opportunity to open the year with not only some racing, but a chance to get his head around racing a two-stroke again…remember, he'd had plenty of success before on the Don Vesco 250 Yamaha .
The problems began when the bike,(which I don't really think was ex-Geoff Perry, rather just one of a number of TR500 variants from Colemans, which had been ridden by Joe Lett among others) proved after practice to be a bit of a slug. Whatever the set of circumstances was, they decided to convert it to run on methanol ON THE DAY, surely an improbable task. The bike was worked on by Joe Lett, Cal himself and another older chap who I believe was Cal's stepfather. Cal did look tired and strained at this time, and was certainly up against it.
He came round at the end of the first lap in around seventh spot, and as he shut off for the long, sweeping Champion Curve, the bike seized and stepped out sideways, straightened briefly, and then stepped out again, firing Cal off. Without going into the specifics of the crash, those who saw it instantly feared the worst, and repeated calls over the PA for the assistance of a doctor to assist the ambulance staff only heightened the dread.
So, for many reasons, this is one crash which need never have happened. But like Stu, I think Cal just couldn't miss a chance of getting out and going racing. The question of what he hoped to achieve with a Lola T190 in the Tasman series for F5000 cars is entirely another matter, but I rather suspect it was a combination holiday and toe-in-the-water excercise for a possible alternative career after racing bikes. All very sad, even all these ears later.

Posted by “aquarius” on the MCN forum on July 16th, 2009

Nostro, there is a lot of incorrect info on the web and circulating in people’s memories. I was there, before, during and after – giving evidence at the Coroner’s inquest too. Here is the real story 4U and others interested in how this great talent bought the farm. That he was to ride Geoff Perry’s old bike is rubbish. Rayborn came to NZ to drive a Lola Formula A car (rear-mounted 5 L V8 and gearbox) in the new version of the old Tasman Series. But his car was still out stuck on a ship someplace. Just after Xmas 1973, I was talking to Alan Franklin and Len Perry (Geoff”s Dad & legend, 48 Natl Titles, IOM etc) at his bike shop in Greenlane when in walks Cal Rayborn. He rocks up and starts talking to me. Gobsmacked ! – as I was when accidentally bumping into Mike Hailwood and beautiful wife, Pauline just B4 he left NZ for the comeback at IOM. Spoke for some 15 mins – fabulous guy, warm, open & gracious – just as Rayborn was. Both absolute Champions. Rayborn was looking to ” learn ” Pukekohe and when he found there was a major Meet at ‘Puke on Dec 29th he was hot to trot and started looking for a bike to ride in it.. Len got Colemans involved and Cal ended up with a good, proven reliable and FAST Suzuki TR500 that belonged to Coleman Whanganui’s workshop manager, Joe Lett. Then the trouble started as there was only a couple of days to go. Cals Father-In-Law was some sort of ace tuner, or so he and Cal claimed. He set about pulling off the barrels and pistons and boring and jetting so all looked like sewer pipes! They were converting it to Methanol. All the Kiwi mechanics considered what they were doing radical and unsafe and walked away and left them to it. Come Race Day and Cal practised fitfully, the bike not running properly as they struggled to get the jetting right. When it did go, he looked ultra-smooth and FAST. First big race of the Meet. Rayborn very slow off the grid and half way down the back straight in about 10th but visibly gaining. Down round the hairpin, through the esses and up and over Rothmans and onto the Pit straight to complete Lap 1, he is up the lead group like a rat up a drainpipe, into 5th and gaining fast. Sits up and changes down for Champion Curve – it seizes. Honest to God, he stood up on the pegs and actually “motocrossed ” it, wrestling to get it back for about 30m before veering left and smashing into the solid wooden guard rail and low concrete wall in front of where the main grandstand is now @ approx 200 kph. The impact saw the bike destruct at the side of the track, and threw Cal back almost onto the racing line where he lay on the seal not moving, bikes braking and swerving all round him. Then followed one of NZ road racings lowest points. None of the flag marshalls saw this happen or could see him where he lay. The race continued for almost 5 LAPS !!! After 3 an ambulance nosed out of the pits and crossed onto the track, almost causing a massive multi-bike pile-up. No red flags no white flags,(service vehicle on the circuit) nothing! I was standing just some 50m past the pits on the inside and waving and screaming my tits off and set to vault the barrier and get out on the track and wave my shirt or ANYTHING. They red-flagged it and by this time some people had jumped the barrier where Cal lay and were bending over him. You know the rest. This piss-poor race management rates with Neville Landrebe’s fatality when he hit 44 gallon drums filled with water and rocks at Stables some 80m past Rayborn’s crash site but some years before. In fact, expatriate Brit racer, Ron Grant walked Rayborn around the track and pointed this out to Cal as he had met Landrebe in the US. There was no ambulance or qualified medical aid at Puke that day (unbelievable isn’t it ?) and some poor bastard was tasked with taking Landrebe’s corpse around to Dr Howes house in Puke township in the back of a Holden ute ! The Doc pointed out there was nothing he could do and they really needed an undertaker. This appalling, deadly amateur hour stuff was NEVER repeated after the Rayborn incident caused it to really hit the fan bigtime (….)I had to tell poor, young Scott Brelsford who was wandering around Puke in a daze, wondering what the hell was happening after they carted poor Cal off to Middlemore Hospital (…..). December 29th 1973 was a major bummer. As was July 1973 when we lost Geoff Perry. He had just secured a works Suzuki contract to race AMA in the US. Geoff was an apprentice aircraft engineer with Air NZ and ALWAYS flew with Air NZ. His machanic, Mike Sinclair, I think – couldn’t get a seat on the same aircraft so booked with PanAm (later called PrangAm – they lost so many aircraft around the Pacific) to arrive the same day. As fate would have it, Geoff decided to swap flights and experience another airline for a change. His PanAm 707 plunged into 35,000 feet of water coming out of Tahiti. Again, reports and the history

are wrong. They said there were no survivors. There was one – a Canadian bloke found totally unharmed and floating around still strapped in his seat! No bodies were ever recovered and poor Len went up there and hired a big launch and looked for Geoff for bloody weeks B4 giving it away. Sad, sad, sad. Some people are miraculously lucky – others are fated to be the opposite. In one of those strange twists – the following year Randy Mamola turned up to compete and was so young (14 or 15) and small his bike was modified so he could sit and reach the pegs. His mentor/sponsor was a guy called Jim Doyle. His occupation? Pan Am jumbo pilot. Hope this was all of interest and set the record straight

Yeah the Suzuki T500, apparently his father-in-law who was mechanicing for him at the time, decided after practice that he wasn't going fast enough. The bike was derived from a road going engine, and part of the mods was to put a polyester filler in some of the ports, so his father-in-law took it upon himself to run the bike on alcohol, which had never been tested.
In the race, just starting the second lap, the filler had deteriated and come loose, causing too much air and leaning the mix off too much and seizing the engine. This resulted in Cal tragically having a high speed colision with the barriers at the first turn.

http://forums.autosport.com/topic/109584-cal-rayborn/

We now know that the extra mechanic working on the TR500 was Lou Kaiser, who was neither Cal's stepfather, nor his father-in-law. He was a family friend who'd taken Cal in as a youngster and raised him, as Cal had been in an unhealthy environment since childhood with a mother and stepfather, both of whom drank heavily.

These details came to light in Norm DeWitt's very good Rayborn article in Classic Racer #142. The other thing that grinds my gears about the coverage of this most unfortunate event is that Dean Adams and other writers continue to allege that it occurred at a meaningless, insignificant club event in New Zealand, whereas in reality it was probably the most significant day in NZ's roadracing history, judging by the outcome of the Marlboro Series in terms of the subsequent exposure to the northern hemisphere of the likes of Hansford, Crosby, the Sayle brothers, Graeme McGregor, Kenny Blake and a mob of others.

The race at which Cal was killed was the inaugural round of the Marlboro Series

Building a Water Buffalo Rocket

Building a Water Buffalo Rocket

Forward
These modifications of the Suzuki GT-750 water-cooled two-stroke represent 5 years of research and development, and cover numerous engine and chassis modifications. It must be remembered that in order to acquire speed and handling, all facets must be examined. Some may choose not to completely modify their bike and therefore we cannot guarantee total performance. Careful assembly and good judgment will assure that your machine will perform as well as ours. It will be necessary to obtain a Suzuki GT-750 shop manual in order to insure proper assembly and proper torque settings. These dimensions will remain the same as on the standard machine unless otherwise instructed. All of the modifications have been track and dynomometer tested and should give you the same results. Again we emphasize careful assembly and accurate modification.

PART 1: Engine
A. Barrels

There are three different types of barrels made for the GT-750. The 1972 “J” with flange mounted carburetors, the late “J” thru “L”, 1972 through 1974, spigot mounted, and “M” through “B”, 1975 through 1977 spigot barrel with higher exhaust timing. The early ’72 flange mounted is the easiest of the lot to modify. The others require some welding and machining. The ’76 and ’77 barrels are also favorable since they have more metal around the water jacket and are therefore least likely to be damaged if an error is made.
Alignment, welding and machining should be done first and porting last. (SEE BARREL DIAGRAMS) The porting scheme has slightly more timing than the factory road racers of several years ago, and is the best combination for all around performance. The modifications we will be dealing with will result in 88bhp at the rear wheel and 105 at the crankshaft. Further modifications will only entail more work on the intake port and carburetor size (from 32mm to 38mm). The 38mm modifications will also require the use of a close ratio gearbox and a more sophisticated ignition system. All other modifications for the engine are the same. The 38mm modifications with Lectron carburetors have given up to 138hp at the crank shaft and 109bhp sustained at the rear wheel.

Porting should follow diagram height in with. We shall begin with the exhaust port. Finished height of 32mm (1 1/4″) should be measured with the position at B.D.C. Caution must be exercised when reaching maximum height so that one does not break through the water jacket (see barrel diagram). This problem can best be avoided by raising the port at about a 30° angle. The width of port is limited somewhat by the battle holes, but primarily by ring flutter. The maximum width that will avoid premature ring wear, is 52mm. We recommend a 50mm oval with a good chamfer around the edges. The volume of the port should be increased until the other edge. As a bit of caution, be certain to leave enough shoulder on the exit side of the port so the stock exhaust gasket has sufficient support.

Transfer ports are to be raised to a height of 16mm, and are to be well chamfer. Accuracy cannot be stressed enough and this point. The new top of the port must be flat across and at 90° with the bore of the cylinder. Make certain that whoever does the transfer ports is very, very good board is very good and has a machining setup that will mechanically and rigidly cut the roof of the port. It is essential that the difference between the heights of the transfer ports and the exhaust port be within the range out of 16 ±.5 mm. There can be no variation from this narrow range because the expansion chambers are tuned to this split and any deviation from port heights will alter the effective tuning speed of the engine, either cutting power slightly with a great increase in peakiness if the split is narrow, or cutting powder considerably but with greater tractability in the split is increased. Do it right the first time.

The intake port should also be sized as in the porting diagram. Widening of the port is not necessary. If it is widened by enough to be significant, the piston skirt will no longer be wide enough to seal off the port. The result would be increased blowback and a loss of bottom-end the power. The floor of the port should be lowered until the port is 30mm high. The edges of the piston should be chamfer to improve flow.

For AMA superbike, the volume of the intake ports will receive little increase because stock carburetors will have to be used. Be careful not to take meat out of the sides of the port to such an extent that the port exceeds the width of the piston skirt, as mentioned previously. This is very important. Also, be certain that the correct piston is fitted to the correct cylinder, or the transfer ports passageways will be shrouded, blowback will be greatly increased, and power will drop by at least one-third. The window rib will be retained but its length should be shortened to 3/4″ to 7/8″ and blended to the cylinder liner. The intake opening should be matched to the carburetor mounting spigots.

For maximal output, the port should be the same as described above at the piston. The volume should be opened up considerably going out to a 38mm opening at the carburetor mount. The back of the cylinder block where the carbs are attached must be milled until it is flush with the back of the block. Then it should be milled again in order to tilt the big carburetors up about 15° and out of the way of the top of the crankcase. With the early ’72 flanged block this is a simple operation. With a later spigoted blocks, the spigots must be cut off and the face that is left must be filled in with aluminum welding. Then milling can be done and the new, tilted face can be tapped to accept a set of 38mm Mikuni mounted manifolds. These are available through most Suzuki dealers from Rocky Cycle Supply. Match the Manifolds to the cylinder block. Either 38mm Mikuni or Lectron carburetors will fit the rubber manifolds without modifications. With some modifications, a set of 40mm Dellortos can be mounted. We have never tried them, but we may future. Expect 109bhp.

Back to the AMA superbike. The carb mount spigot is to be fitted as shown in the appropriate diagram. It must be fitted as closely as possible and must clear the clutch hump of the crankcase. The G.P. bike avoids this by having its face tilted up some 15°. If the bike is to compete in AMA superbike, the standard carbs must be used and modified. If the bike is to be street ridden or is to compete in event to other than G.P. or drags, 32 or 34mm Mikuni VM racing carburetors or 34mm Lectron’s can be fitted. Our machine has 32mm stock carbs (72 J thru

74 L model only). CV carbs 1975 and on are totally useless. Carbs will be discussed later. After all welding, porting, boring if necessary is done, the barrel is to be faced off to make sure that all surfaces are straight. The bottom first, .005″ to .010″ and then the top, .020″ to .030″. Barrel's may very from the factory, so be sure that when the top is faced off that not too much metal is removed. When the Pistons are fitted they should have at least .020″ clearance to the top of the cylinder block. Finally, all port edges are to be chamfered at .020″-.030″ radius to avoid ring damage. All SRIS tubes must be removed. The intake ports are to remain free from obstruction, so remove the brass tubes. The transfer tubes are to be removed and plugged. We used 1/2-20×1/2 set screws. The barrel is now finished and ready for its Pistons.

It is advised that '73 on pistons be used. If yours are within tolerance, they will need to be modified. If new, the same modifications will apply. The '76 and ' 77 piston are thicker and heavier and will withstand more heat, so they are favorable. Modifying '72 pistons has proven to be somewhat tricky and since the engine will have to be dismantled anyway, the '72 crankshaft should be modified to accept later pistons. The '72 crankshaft in standard form will not withstand high rpm. Stock street Suzuki's in 1972 had the same problems and were later modified. 1973 and on are acceptable.

The piston skirts are to be cut 3.0mm as shown in the appropriate diagram, and the entire piston should be micro shot-peened or glass beaded. This will eliminate surface fracture and hold oil, reduced friction and increase cooling. Piston clearance should be .0005″ over stock when fitted for racing. Honing of the bores is recommended, and standard rings may be used. It is and a blind recommended that only the top ring the new. The old one may be left in the bottom groove since only the top one does any work. Do not leave the bottom groove empty. If using new pistons, old rings of the same size can be used on the second ring land. The pistons are now ready.

B. Cylinder head

The cylinder head should be left totally stock. Raising compression ratios to beyond sanity has caused more problems among two-stroke tuners then any other modification. Among these problems are detonation leading to holed pistons, blown gaskets, and warped heads. Remember we are dealing with a stock engine whose actual compression ratio is 11.5-1 uncorrected, and we have already removed .030″ to .040″ from the block. You will need to use the late style head gasket part #11121.31600 which will give about 6.1-1 corrected. Any effort to use a higher compression ratio for sustained running will result in a loss of power due to overheating which results in a less dense fuel mixture. The previously mentioned problems usually follow overheating. Cylinder head bolts can be modified as shown in a diagram to help in sealing and in weight reduction (1 3/4 lbs. removed). Torque on larger bolts should be 35 ft. lb. and on small bolts, standard as described in the GT-750 manual. The bottom water bypass below the thermostat is to be blocked off since it is unnecessary. An automotive (Chrysler Corp.) thermostat of 180° is used. It's outer diameter is to be cut down to fit the Suzuki housing. (Suzuki O.D. is 52mm Chrysler O.D. is 53mm). The head is ready.

C. Crankcase

The crankcases need little modification, except for 1972. Water bypass hole between cases does not have O-rings as in later models, so care must be taken when fitting the engine. SRIS valve in front of lower cases are to be removed and sealed. Remove the starter, the water bypass should be sealed off, as should be all unnecessary covers and bolts. It will also be necessary to fabricator a plug for the starter mounting hole. The sure to clean all mating surfaces and used Suzuki No. 4 sealer when closing the cases.

D. Crankshaft

Those with 1972 or early 1973 crankshaft will do best to modify the crank or get a new, later one. The old style crank can be identified by the thrust washers between the rod on the crank cheek. Side movement is only .020″

or .030″. The late style crank has no washers and about rods move up to 1/8″ sideways. The a rod is held in place by the wrist pin thrust washers. Give ’72 cranks are to be modified, be sure that rods have lubrication holes on the small and enlarged. Also as in any modification of a high-performance engine, if the crankshaft has 3000 or more miles on it, seals should be replaced or the entire crank assembly should be renewed. The balancing factor can be left stock. Our G.P. engine was lightened and re-balanced, but nothing was gained by it. We have, however, found rods to differ as much as 15 grams since Suzuki uses four different manufacturers to make rods. It therefore will become necessary to carry out only this portion of balancing, which is to even out the rod weight by determining the lightest one, and then taking off enough material from the other two to bring them down to the correct weight. Next, checkout crankshaft alignment. New cranks are often as much as .007″ off, while only .001″ to .002″ is acceptable for racing.

If you have installed new crank that was perfectly aligned and your engine vibrates, you may be one of the unfortunate ones with the 15 gram difference in rod weight. If your low mileage crank was smooth, trueing may be all you need. Poor balance along with excessive crankshaft runout can result in a loss of as much as 10bhp, so spend the money to do the job right. When fitting the crank into the cases, locktiting of the bearing support or spreading a thread lock on the supports will help eliminate pounding on the crankcases at high rpm’s. When rebuilding and old-style crank, the #3 inner seal must be replaced with a late style #09263-38008 seal. The old seal will have a plate associated with it that should be discarded.

E. Carburetion

We have tried three different types of carburetors and have had good results with all three. The question becomes one of money. To begin with, if the standard carbs are to be used, they will require extensive modification and can be made to work well. J, K, or L, ’72 through ’74 carbs only can be used. The ’75 and on CV carbs as mentioned earlier are useless, responsive and flow being inadequate. The other choice are VM type Mikuni racing carbs and Lectron carbs. It must be remembered that AMA rules require stock carbs, but can be modified. All other associations have no limits. Begin with, all carbs will be mounted to the barrel with a Mikuni rubber flange VM 30-34 (38 in the case of a G.P. engine). All three types of carbs will fit. Mikuni intake tracks are not straight. A 32mm carbon is actually 30mm in effectiveness, so it is necessary to bore them so they are straight. This should be done by reaming followed by hand honing. Be sure not to exceed 1.25mm (.050″), as further boring would break through some lines and render the carbs useless. Modify as follows: (1) stock carbs bore an modify intake mouth as shown in diagram, 2.5 slide fitted with 6DP1 needles in top or 2nd notch, 159-R-O ? (bad type, posibly 159-R-C) needle jets, 45 to 50 pilot, increase flow needle to 3 or 3.3, adjust floats on the high extreme, air screws from 1 1/2 to 3 turns, made jets vary from 160 to 200 depending on where or when. (2) VM Mikuni’s, bore and modify intake mouth as shown, all other components to be the same as stock carbs including removing air jets, if any. Lectron’s will be left as they found except that road race carbs are to be specified, 34mm can be used. Needles vary from 5 series to 7 series depending on what the engine requires. To the Lectron is more difficult, but more rewarding. They have shown better performance throughout the entire range with better acceleration, however, cost is also a factor. They are not cheap.

The components that are to be used inside carburetors may vary from engine to engine depending upon usage. Since out engine is used in competition, no air filters are used. Those who drive on the street will find it necessary to fit filters. Dry K&M’s are recommended, as large as can be fitted.

F. Ignition

The ignition chosen in our engine is a Lucas Rita LR105. It can be used as a total loss, but it is recommended that the charging system be retained in order to keep spark and maximum intensity. The LR105 bolts on to wall

GT-750's; timing should be set at 2.5mm instead of 3.0mm as indicated on the LR105 instructions.

Standard points can be used and modified if limited to street and occasional drags, but since ignition plays and important part in the role of horsepower, an electronic system is essential for serious work. Points are subject to wear and cause is timing changes. Springs can lose tension and float points, causing erratic spark and since they are operated at the crankshaft speed and are mounted on the end of the crank, they g subject to excessive wear and crank vibration. All of these symptoms will cause some form of engine failure, from overheating to detonation and finally, seizure. The LR105 is an electronic trigger not affected by any points problem. Furthermore, all three plugs fire at the same time, which keeps them clean. Timing is changed to 2.5mm for racing and develops the widest power band and insurers safe engine operation.

Any form electronic system can be used, and the results will be the same, accurate firing of the plugs. The LR105 also introduces some 30,000 volts or about twice is much as a stock system. The standard spark plug connectors in should be discarded since these have resisters and should be substituted with a racing type or the ones from RM series Suzuki's. For spark plugs we followed the following to be adequate and best performing; Bosch 290S2S, 310S2S; NGK B8EV, B9EV; Autolite AG701, AG 901. Champions were used, however they must be checked carefully for open circuits. KLG FE220 or FE265 were found to be satisfactory, although not as good as the first three.

As for modifying points, although our tests showed constant weakening, it was advised that an automotive heavy-duty condenser be substituted for the standard ones g. that the stock plug gaps be replaced as previously mentioned. One must also constantly watch for timing changes. Better still, it makes no sense to spend considerable money on developing a superior motor only to have it destroyed by points.

G. Transmission

hence transmission is inadequate for street use or racing. Although robust, its ratios are totally inadequate, hence our choice of engine modifications. Although desirable, a close ratio gearbox is not essential. Our best inexpensive move is to change top gear. First, check all gears and shaft forks as indicated in the Suzuki shop manual. 1974 and earlier transmissions can be modified by installing the later fifth gear. The ratio will be changed by exchanging the 24-26 gears for the newer 25-26, #24351-31201 and #24250-31001. This will make the jump from forth to fifth gear smaller and less painful. Lastly, the proper final ratios as indicated in the gear ratio chart should be referred to for proper gearing depending on what the application will be. As for lubrication, the standard 20w-40 recommended is a adequate for all around use. For drag racers, ATF Dextron is better.

H. Clutch

The GT-750 has one of the best clutches and in the business, but can be improved upon. The old-style cork plates will show signs of strain. They can be easily replaced by the Barnett clutch plates or by GS-750 plates parts #21441-45000. Heftier Suzuki plates are heftier, the Barnett's grabbier. Either way, they are better than the all fiber plates. The old-style spacer which is supported by a bushing should be replaced with the '75 and later model roller bearing #09263-51001 and #21251-31600. The stock springs should be replaced by Barnett MT-23 springs. Of course all other clutch related parts should be inspected as per the shop manual.

I. Exhaust System

The expansion chambers outlined in the diagrams have been tested to give the best all-around results. They will work with various size carburetors from 32mm through 39mm, will tolerate minor port timing changes and

compression changes. With them our engines have developed as much as 109bhp sustained at I. D. rear wheel. To fabricate them we chose .032″ chrome moly sheet metal available at aircraft supply houses. Header pipes for made for stock exhaust pipe U-bends of 2.0″ O.D., 1 7/8″ I.D. welded to Suzuki T. 500 header pipes that are 1 7/8″ O.D., 1 3/4″ I.D. If the U-bend tubing cannot be found, one can get away with using the T-500 header alone.

Mounting should be made with springs and the use of the exhaust mount as shown in the diagram. The rear or of the chambers can be supported by using Suzuki MX mounts and welding adjoining tabs to the frame. Silencers can be made oil shown or purchased as weld on's from J&R, Skyway, or Torque Eng. We used Caslers and found them to be the best but also loudest. They cannot be used on the street. For the street rider and drag racer, chambers can be routed in the stock configuration, but for road racing this method does not give adequate ground clearance. All three pipes must be mounted under the framing between the floor rails. The sure to allow clearance of frame, chain, tire, whenever.

J. Lubrication

There is much room for argument here, but we will state what has worked for us. For street use we used Suzuki CCI, Castrol injection oil, R Full Bore injection oil, pump set stock. Drags, Castrol R-30 in the injector, pump set stock. Road racing, Castrol R-30 in the injector, 32:1 in tank and pump set stock. We found synthetics to be extremely poor, showing the most wear and the least heat control. The injection oils for street use were better and Castrol "R", although messy, was the best even after a solid 8 hours of dyno work. Castrol "R" ONLY is recommended for road racing. We have used it for 15 years and have not yet found anything better. One should be cautious against using mix that is more than 12 hours old. It begins to breakdown and reduces the octane rating of the gasoline as well.

K. Cooling System

The Suzuki cooling system needs little attention, but it will need some modification. Remove the water by-pass from case to head. Replaced the water pump if it has seen more than 3000 miles, and also pre-1975 pumps with pump Kit #17400-31830. Use water only with water pump lubricant, about 4 oz. Water pump lubricant can be purchased in any auto supply house. Suitable oil can also be used in the same proportion. Suzuki Bars Leak can also be used if any minute leaks occur, but care should be taken because if repeated often, it may clog the radiator. To save weight, the radiator filler can be welded directly atop the right side of the radiator and all extra plumbing can be removed.

Part II: Chassis

We have now completed the engine, and now are ready to install 100bhp into a chassis designed for 60bhp. We have enough power to reach 150 mph without streamlining, again for which the chassis was not design. In order to make riding a little less frightening without the cost of a sophisticated and expensive chassis, we have made the following modifications to make the standard chassis as liveable and safe as possible. Keep in mind that those who plan to compete in AMA superbike must use a standard frame which can be modified.

A. Frame

On our machine we chose an earlier frame, but all are adequate. The earlier frame needs only one brace located across the front down tubes just above the lower radiator mount. Newer frames already have this. Remove all unnecessary brackets and mounts that will not be used in an effort to decrease weight. Excessive weight full effect handling, acceleration, stability and breaking. Suzuki's have approximately 9 pounds of wire. One-half can

be eliminated along with a lot of decorative junk, such as around radiator hoses, for example. For street used use and drags remove the center stand and keep the side stand. For road racing remove both stands and brackets so that chambers will clear. Since the starter has been removed, when necessary we can use a battery from a T250 for other small bike and save 1/2 the weight of the GT-750 battery. The tail lamp can be replaced by an earlier T-20, K10, K11, S32, etc. to save another pound. The headlight can be changed to an accessory 5″ type along with clip on brackets. The front fender can be replaced by a fiberglass or aluminum one. (Try Dick's Cycle West). Finally and most important, the steering head bearing should be replaced with tapered rollers. The standard steering bearings of the same as on the MT50 mini-bike and will cause high-speed wobbles due to lack of thrust pressure. Steering head bearings from the GS1000 can be modified to fit. The rigidity of the tapered roller bearings cannot be over emphasized for high-speed use. Of course, check for cracks and signs of stress, although such is unlikely with the GT-750 frame. This 52 lb. frame can shed 10 pounds. The front portion of the rift fender on the late '75 and later models can be replaced with the earlier plastic type to save an additional two pounds. It may seem like nit-picking, but if you save a pound or two here and there, after fifteen spots are covered and analyzed, you may have saved twenty-five pounds.

B. Forks

Suzuki forks are adequate. We use '73 and later forks since these have disc brakes which we will discuss later. The '72 forks can be used with the light weight drum for street and drag racing with little change, but for road racing 1973 and later discs are better. The drum will fade road racing. '76 and later forks with rubber top covers are more difficult to service, but are adequate and can be used. The best forks are '73 and '74 since the dampers are of Ceriani design. Since much weight has been shed at this point, '72 through '74 springs can be changed with comparable springs from the GT-550 of the same year. 1975 and on forks must remain the same. Do not increase spring tension by using spacers since this will cause early spring bind, but instead choose a heavier spring TZ will allow the entire travel of the fork to be used and will permit proper dampening. S&W will supply fork springs. Damper action and spring weight must be carefully chosen. A lot of people make the mistake of stiffening the spring when they should " stiffened the dampening, or vice-versa. Many also attribute fork bottoming to weak springs when the fault is poor dampers, frame mounted fairings and other types of overloading should be considered.

A. GT-750 fork on a stock weight machine has approximately 4″ of travel. When the bike is resting on two wheels, up to 2″ is lost. As one sits on the bike, another inch is taken up, and when the bike reaches higher speeds, 1/2 inch of heaviness is gained back. This leaves the rider with only 1 1/2″ to work with, so at 150 mph, a small ripple will bottom the forks resulting in what is called taken slapper. Lightness is important.

As was indicated before, the frame is only adequate. It was only 26° fork rake to make up for the heaviness of the bike in an attempt to make its steer easier at low speed, but who's going to drive it at 5 mph? The earlier Yamaha TZ-700's and 750's have the same problem. 28° is recommended and better, but to do this we must make extensive modifications that would require much work, expense, and five pages of instructions. It is not worth it. The next best thing is remove all excess weight from the bike, choose the correct spring, (stock is inadequate in most cases), and experiment with oils so that the dampers work properly. Later on we will see what else affects the front end. As for oils, we have try to ATF, and recommended 10-W40, 20W and 30W racing fork oil, and mixtures of 10W and 25% STP, all at the recommended amount. All work for different applications; trial and error is the only way. A last note. When re-filling, the tubes must be entirely emptied and left to empty for at least one hour.

C. Shocks

Shock absorbers play an extremely important part in handling and stability. We shall start first by taking the stock units and making book ends out of them. For street and drag racing, we found Konis to be the best. Konis have adjustable dampers and can be ordered with matching springs. Girling shocks have also been tried with excellent results along with Girling adjustable gas shocks. The Konis, however, allow the dampening rate to be adjusted for street and drag. This will be discussed later.

For road racing the founder the best to be Girling gas MX medium dampening shocks with dual springs, not progressive. Before we go further, do not use progressive wound springs. Girling MX shocks have extra travel, approximately 5″ and the rate can be controlled from start to finish. With the bite of road race tires along with 88 horses at the real, we need all of the dampening we can get. The object here is to get constant dampening throughout the travel during compression and rebound. This will, of course, help control the front end.

Confused? Here is an example situation. This particular bike has correct springs but the wrong dampers. It accelerates hard out of a corner, the rear ends compressed making it the equivalent of a rigid frame and leaves the front end to do all of the work. The bike is finally and speed and the rear spring shoots the tail end up but the shocks do not dampen the spring reaction causing the front end to drop, losing some of that critical travel. This nose dive also causes the fork angle to change to 25° or 24°, causing the front wheel to want to turn in under the bike. Conditions are now perfect for a speed wobble (commonly called a tank slapper). Now the rear end is bouncing and hopping wildly with 88 horses twisting the frame, and if the rider is lucky, he will get off with only a few bruises, but he most certainly will get off. It is essential that the spring rate and dampening rate are closely matched. This is the main ingredient to stability. The rules of thumb are: adequate and matched travel, front and rear, spring rate to be as soft as possible, (too stiff a spring will override a good shock), and dampening that is constant throughout the entire travel.

On our bike we use GT-550 springs with ATF, and in the rear we use Girling gas MX shock #(un-readable) and spring #(un-readable) and (un-readable). Ours is used for road racing and has a modified swing arm. If the swing arm is not to be modified, shock #(un-readable) with spring #(un-readable) can be used. The combination with modified swing arm was stable without streamlining at speeds up to 152 mph.

E. Wheels

There seems to be a fallacy that cast wheels are better than spoked wheels. First of all, let us examined the development of cast wheels. The reason was for light weight. For this we must use magnesium such as used in aircraft. Magnesium is soft, expensive and light. Magnesium is also weak. Load factors in drag or road racing are much less violent than in street driving as there are few potholes to worry about. Therefore a racer does not need a strong wheel nearly as much as he needs a light one. Weight, as we mentioned earlier, is very important for acceleration in handling. Since we're dealing with unsprung weight (weight located between shock absorbing device and the road), light weight is essential. An average magnesium wheel with bearings and no tire set up for discs weighs around 7 lbs. and cost about $250. A street type "mag" aluminum wheel weighs about 14 lbs. and costs about $120. A stock Suzuki steel wheel weighs about 131 lbs. and costs nothing as the rider already has it. Last but not least, the spoked wheel with an alloy rim weighs about 8 1/2 pounds and costs about $45. This alloy wheel can also be used on the street. Since we are dealing with dynamic load, (load around the circumference), we find that at any measured point a spoked wheel will withstand some 20,000 lbs. of weight. The cast wheel, magnesium or aluminum, will withstand about the same AT THE POINTS OF ATTACHMENT. These cast wheels have an area of some 5″ to 7″ of empty space with no support. These areas have less than half the strength of the supported areas. On the racetrack one is not faced with the problem, but if a street rider hits a bad pothole or bump and bends his magesium wheel, he will be out $250. An aluminum wheel would cost him $120, an alloy rim about $45, and a steel rim about $28.

For our money, the best all around buy is the aluminum alloy rim on a spoked wheel. We can buy a lot of shock absorbers to control 1 1/2 lb. of unsprung weight and we can certainly afford to check spoked's. On one application or spoked rear wheel weighed 1/2 lb. more than the magnesium wheel at 1/4 the cost. $90 vs. $360. T-ring the rim and checking spokes is far cheaper. So if money is no object, go magnesium. If you are thrifty and wise, you will use aluminum alloy rim's.

F. Brakes

In road racing, stopping is at LEAST as important as going like a bat out of hell. Two-stroke engines offer no breaking force, so all of the stopping force (minus body wind resistance) must come from the breaks. As was mentioned earlier, the 1972 drum breaks should be limited to drag racing and street use. The '73 through '77 double discs are more adequate if the bike has been lightened considerably. If you are into road racing, and are an above average rider, even the double discs are inadequate without considerable modification. We will discuss only maximum or road race use. We are attempting to give you the best stopping power for the money.

Breaking also plays a part in unsprung weight, which help suspension. To begin with, do not mount these calipers on the rear of the forks as they were not designed to perform properly when so mounted. Suzuki brake discs weight 8 lbs. each and are useless. They are stainless steel which has a low coefficient of friction, poor heat dissipation, and great weight. Even so, they can be made to work. We do not like them, but we must think of the expenditure level as well as how well they can be made to work, and this is the best combination. To begin with, we will lightened them by drilling as shown in magazines. This will cut weight to about 5 3/4 lbs., and help throw off heat. The standard calipers were found to be in adequate for road racing (they are adequate for everything else). They flex too much under extreme usage and give a spongy, erratic feel. They should be replaced by GS-1000EC calipers and hoses. Fit to the standard junction.

Caution: calipers on the GS-1000 are mounted in the rear, but on the GT-750, they must be mounted in the front. They have been tried bold ways, and they work best in the stock position. GS-1000 calipers are one pound each heavier, but more than two pounds each have been lost on the discs, and stopping power has been improved.

The let us consider the rear brake. To begin with, the street bike in dragger can get along with the stock unit, but the road racer should change to disk in the rear. Stock breaks would require constant maintenance, for example, some sort of cooling must be provided by fitting an air scoop and providing exhaust holes. Brake shoes would have to be replaced often. Stock units are better and more reliable than metallic shoes. The rubber damper may get destroyed, so carry an extra one and last, the extreme heat generated will cause spokes to loosen, so one must constantly check them.

A disk should be fitted. A GS-750 unit can be modified to fit which would probably be the easiest, but the best and the lightest is the one we have made up in our diagram from stock parts. We also use one of the discarded front calipers in order to save more money. This combination of front and rear brake has been used successfully and is by far the best when all factors are considered: weight, stopping power, and money.

H. Tires

This is an extremely touchy subject since all riders have different preferences. We argue among ourselves on this one. We will only discuss our superbike. First, we will have to back up a bit and discuss rim and tire size. Street and drag racers do not have much of a problem. To save money, one can retain the 19″ front wheel and replace only the rim. Use of 18″ rim will require an expenditure for spokes. The 19″ size will work on road racing, but it will severely limit the selection of tires. You should fit the 2.15 or WM-3 rim. In the rear, one should fit at

least a 3.0″ or WM-5. This combination is good for street and drags. The WM-5 rim will all use of most tires. We recommend a Michelin M45 3.50 x 18″ at the front and a Michelin M45 4.25/85v18 at the rear. Michelin PZ2 compound can be used on the street but life is very short (about 500 miles). On our bike we use a WM-3 x 18″ rim at the front and a 3.5″ WM-6 x 18″ at the rear. S41PZ2 and PZ4 slicks have been used at the front, while a PZ4 4.00/5.60×18 has been used on the rear. We are limited to using only road racing slick tires. With 88bhp it becomes a necessity for all out competition, especially the rider is good. Without the wide back rim, the bike will burn a normal tire.

Tubeless tires should be mentioned. We have seen too many accidents in road racing that were a result of their use. We always use tubes, and recommended that all do likewise.

As one increased tire size, rim width, and the resulting bite, handling will become more accurate since traction becomes greater. The more traction, the more likely the flame will flex, and the more critical the suspension will have to be. When our bike was conceived, flexing and bending from horsepower were taken into account. The combinations we have outlined work the best.

D. Swing arm

In an effort to reduce unsprung weight and to increase rigidity, we have modified ours as shown in the diagrams. The stock arm weighs about 21 lbs., ours about 17 lbs.. The 4 lb. lost aids in controlling unsprung weight. Our modification will also aid rigidity. We also found the stock iron and plastic bushing of the stock Suzuki to be inadequate and replace them with Webco #2429 bronze bushes in order to minimize play. On earlier Suzukis ’72 and ’73, the thread on the swing arm shaft is too short, so when the nut is tightened, only the shaft is tightened, not the swing arm. This can be cured by adding washers to take up the slack, and torque to 45 ft. lbs. The welding around the reinforcement web will have to be ground away to allow for tire clearance. It must then be re-welded.

III General

Here we will discuss some general problems in building the superbike. In porting the barrel we found that a smooth rather than mirror finish is more effective. Old parts to be reused should be carefully inspected and discarded if in doubt. Stock carb cables can be used with stock choke cables on Mikuni stock and VM racing carburetors. Lectron carburetors will require some modification. Those with ’75 and later engines will have to modify the oil pump arm to fit the standard early style cable, also a fitting must be added on the crankcase to accommodate the pump cable adjusting screw. Pumps run in fixed positions will consume more oil and tend to load up at low speeds.

Check crankcase support bushes for wear and replace if necessary. Loosen bushes will cause whipping and twitchy handling with premature chain wear.

Extra strength Denselube chain was used to transmite power to the rear wheel. Chain play should not be less than 1 1/2″. Denselube’s need no oil. Check all sprockets for wear. Use new countershaft sprockets and alloy rear sprockets. Don’t use nylon sprockets, as they are not strong enough.

The neutral indicator switch can be replaced by plate #(un-readable) from the TM-400. This will eliminate the possibility of a loose chain wrecking the neutral indicator switch and will also allow the use of a 17 tooth countershaft sprocket. Rear sprockets can be replaced with alloy types and can be purchased from most dealers. This is in keeping with trimming weighed down to reduce unsprung weight. For those who must use the stock fuel tank (AMA superbike rule), it will be necessary to fashion a petcock with ample volume to feed 3

carburetors. We may ours from old petcocks and made one with three outlets. Keep in mind that the stock petcock is vacuum operated and should not be used in a racing engine because it does not flow enough fuel and the vacuum diaphragms could fail if the engine should backfire.

Since our sheen is used in AMA superbike and WERA superbike classes, we had to conform to both association rules. The only difference between the two is that AMA allows for use of total loss ignition and total removal of all starting mechanism. WERA says it wants a fully operative electrical system and an operating starter system (kick or electric), so he chose WERA rules on these points. The AMA wants handlebars at least 3″ high to fit stock mounts. WERA allows any bar but it must fit stock mount; AMA says the footrests must be in front of the swing arm pivot, while the WERA says any type of footrest can be used. We chose AMA on this point. In short we build the machine to comply with both sets of rules. These modifications will also comply with most drag rules.

One note on the footrest. We chose AMA rules. We use stock petals, however, the footrests were modified to accept folding types and relocated some 3″ higher to accommodate cornering. We also made them as narrow is possible.

The cooling system of the GT-750 is over design. It is too good. Although we left the radiator alone, size wise, on our superbike, we did cut down on our G.P. machine. Operating temperature of the engine must be around 185° to 190°, but the system will keep it at 180° to 185° so we upped the thermostat. Next season we will make the radiator as small as it is on the G.P. bike, thus losing weight and providing proper engine temperature. We will then go back to the 180° thermostat. Although a thermostat may be labeled to open at, say, 180°, it may vary to such an extent that may open as early as 176° or as late as 189°, so if you have the same error at 185°, your high level may be 194° bringing you closer to disaster should the thermostat fail, and sometimes they do.

At this point you will have completed your rocket and should have your 545 lb. buffalo down to 397 lbs., 60 crankshaft hp up to 105 hp, and streetable. Major engine modifications can be used to boost power to exceed 135 hp, but remember that this will require more exotic ignition, transmission, carburetor and more internal lightening along with extensive chassis work. If you wish to pursue it, contact us for details. As of now you have built an extremely rapid and competitive motorcycle. The machine should be capable of top speeds of as high as 152 mph (honest ones), 1/4 mile speeds of high 10's, and it should be competitive in at least four classes combined in AMA WERA and two or three drag classes not to mention a real rocketship on the street that is comparable to nothing now available.

Cobra Carburetor Tuning Technical Bulletin

SERVICE BULLETIN

U. S. SUZUKI TECHNICAL SERVICE

Bulletin No. 26
Date January 27, 1969
Page 1 of 3

SUBJECT: Carburetor Tuning
Affected Models: T500
Effective Engine No.: #T500-14385
Reference:

Read & Initial
Manager
Parts
Service

PROBLEM: T500 fouls spark plugs, lacks performance, excessive fuel consumption.

CAUSE: Previous to E#T500-14385, the carburetors were jetted too rich for best performance.

CORRECTION: After E#T500-14385, the new carburetor specifications listed below are incorporated. All units previous to this engine number were changed at the dealer level under warranty.

CARBURETOR SETTINGS

	Old	New
Main Jet	#440	#410
Pilot Jet	#35	#25
Jet Needle Position (from top)	3rd Groove	2nd Groove
Air Screw Turns Out	1½	1½

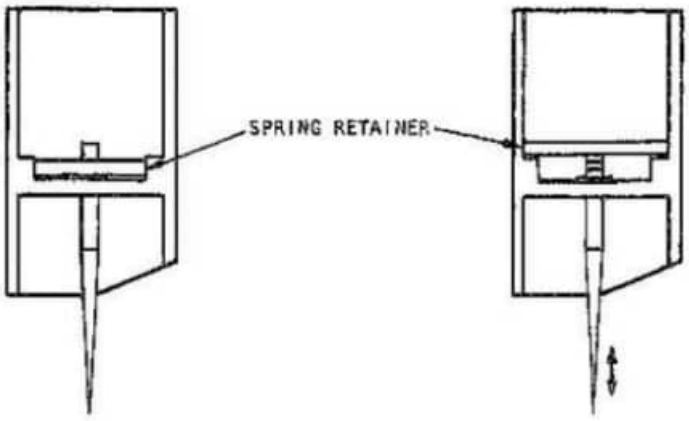
The part numbers for the new jets are as follows:

SIZE	DESCRIPTION	PART NUMBER
#25	Pilot Jet	09492-25002
#410	Main Jet	09491-82001

- continued -

U. S. SUZUKI motor corporation
13767 Freeway Drive · Santa Fe Springs, California 90670 · Phone (213) 921-4461

NOTE: When changing needle position, be sure retainer spring is forced into its recess in slide. Otherwise, the needle will jump up and down in the needle jet, causing rough engine operation.



CORRECT INCORRECT

Be sure that the throttle cables and oil pump cable are synchronized at wide open throttle. Refer to set-up instructions for procedure.

It is wise to check the float level while the carburetor is disassembled. The black floats are correct at 30mm, brass floats are 29mm.

TROUBLESHOOTING

If there are indications that the carburetor requires variation from the standard settings, check other engine components for malfunction before changing the carburetor.

A. Float level incorrect.

B. Worn float valve needle.

C. Float valve seat loose in carburetor.

D. Vacuum line for automatic petcock leaking fuel or air into left carburetor.

E. Oil pump cable adjustment incorrect.

F. Spark plug heat range incorrect.

G. Spark plug gap too narrow (.018-.020 inch).

- continued -

Torque Specifications – Service Bulletin

SUZUKI
2-Stroke
Service Bulletin

Subject: TORQUE SPECIFICATIONS

Bulletin No: SPECIFICATION-3
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Suzuki engines are manufactured from aluminum and alloy castings. These materials are subject to uneven torque stresses if all assembly nuts and bolts are not tightened to correct specifications. This means that an accurate torque wrench is an absolute necessity. Warped cylinder heads, leaking crankcases and premature failure of bearings and seals can result from unevenly tightened critical bolts.

Bolts used on Suzuki motorcycles should be torqued to the specifications listed below, unless otherwise specified.

STANDARD BOLTS

SUZUKI
2-Stroke
Service Bulletin

Subject: TORQUE SPECIFICATIONS

Bulletin No: SPECIFICATION-3
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Suzuki engines are manufactured from aluminum and alloy castings. These materials are subject to uneven torque stresses if all assembly nuts and bolts are not tightened to correct specifications. This means that an accurate torque wrench is an absolute necessity. Warped cylinder heads, leaking crankcases and premature failure of bearings and seals can result from unevenly tightened critical bolts.

Bolts used on Suzuki motorcycles should be torqued to the specifications listed below, unless otherwise specified.

STANDARD BOLTS

DIAMETER	Kg-cm	Ft.-Lbs.
5mm	20-40	1.5-2.7
6mm	40-70	2.9-5.1
8mm	90-140	6.5-10.1
10mm	180-280	13.0-20.2

EXTRA STRENGTH BOLTS ("S" stamped on head)

DIAMETER	Kg-Cm	Ft.-Lbs.
5mm	30-60	2.2-4.3
6mm	60-100	4.3-7.2
8mm	130-230	9.5-17.0
10mm	250-400	18.3-29.3

Note: Cadmium plated bolts should be torqued 30% less than Standard bolts unless otherwise specified.

Spark plugs should be torqued to the correct specifications to assure proper heat transfer at the cylinder head. A loose spark plug can make an engine run hotter and cause preignition.

All spark plugs in Suzuki motorcycles should be torqued to 14 ft-lbs.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

H. Air leak in carburetor float chamber. This cancels the leaning effect of the homopressure carburetor and enriches the mixture throughout the operating range, especially below 1/2 throttle.

I. Defective coil.

J. Air leak at carburetor flange.

K. Air filter wet or dirty.

HIGH ALTITUDE JETTING:

Because of the homopressure design of the T500 carburetor, changes in atmospheric pressure from variation in altitude don't affect T500 performance to a great degree. However, above 4,000 feet altitude, the following settings have been found to produce best performance.

CARBURETOR SETTINGS

	Standard	Above 4,000 Feet
Main Jet	#410	#400
Jet Needle Position (from top)	2nd Groove	1st Groove
Air Screw (turn out)	1-$\frac{1}{4}$	1-$\frac{1}{2}$ to 1-3/4

SUGGESTED CARD

(Insert in Owner's Manual)

Welcome to the exciting world of Suzuki. Your motorcycle has been custom tuned for our altitude.

If you plan to make an extensive trip to a location of any appreciable change in altitude, we highly recommend you bring your Suzuki to our shop for the proper carburetor jetting.

Custom rejetting is a factory authorized modification to assure maximum performance from your Suzuki. This modification will not affect your warranty if you notify us prior to leaving the area.

Our service charge for rejetting is as follows:

Single cylinder models.....$

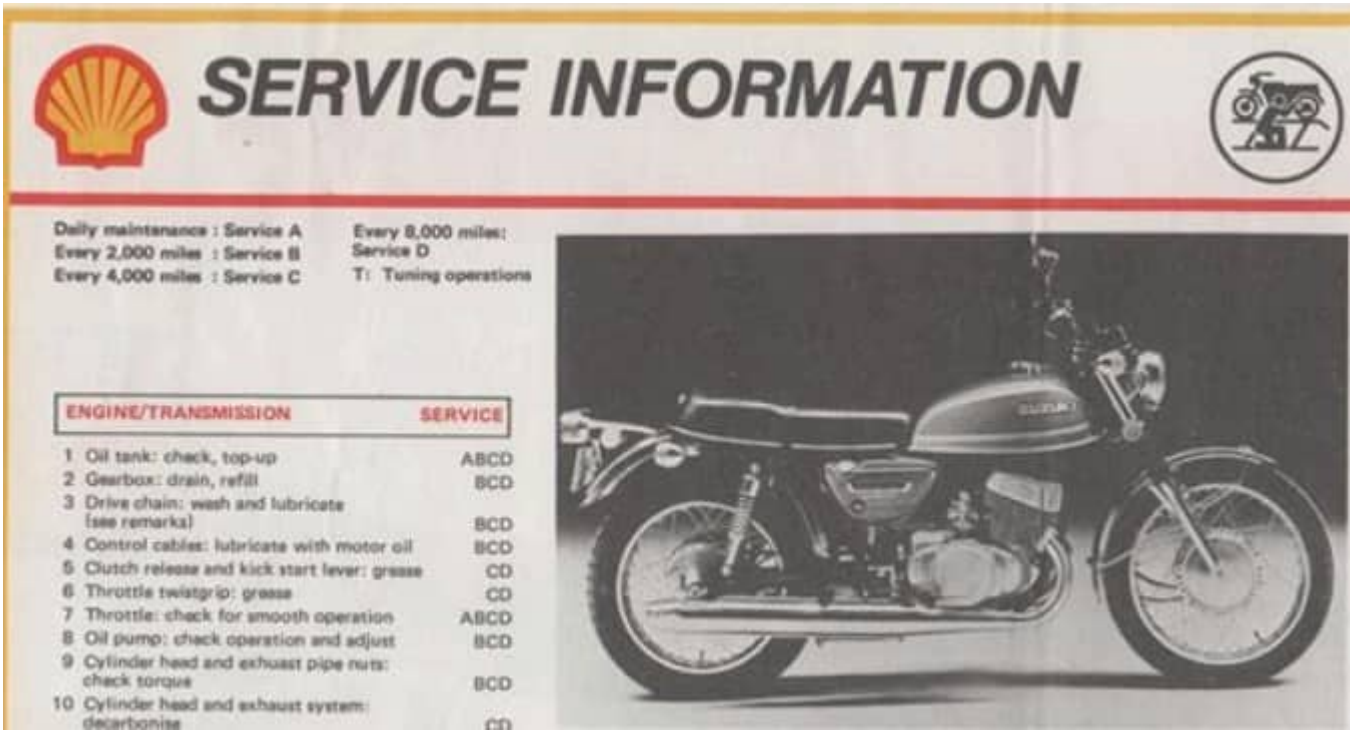
Twin cylinder models.....$

Yours for better service,

_____
(Dealer)

Shell Service Guide – T500

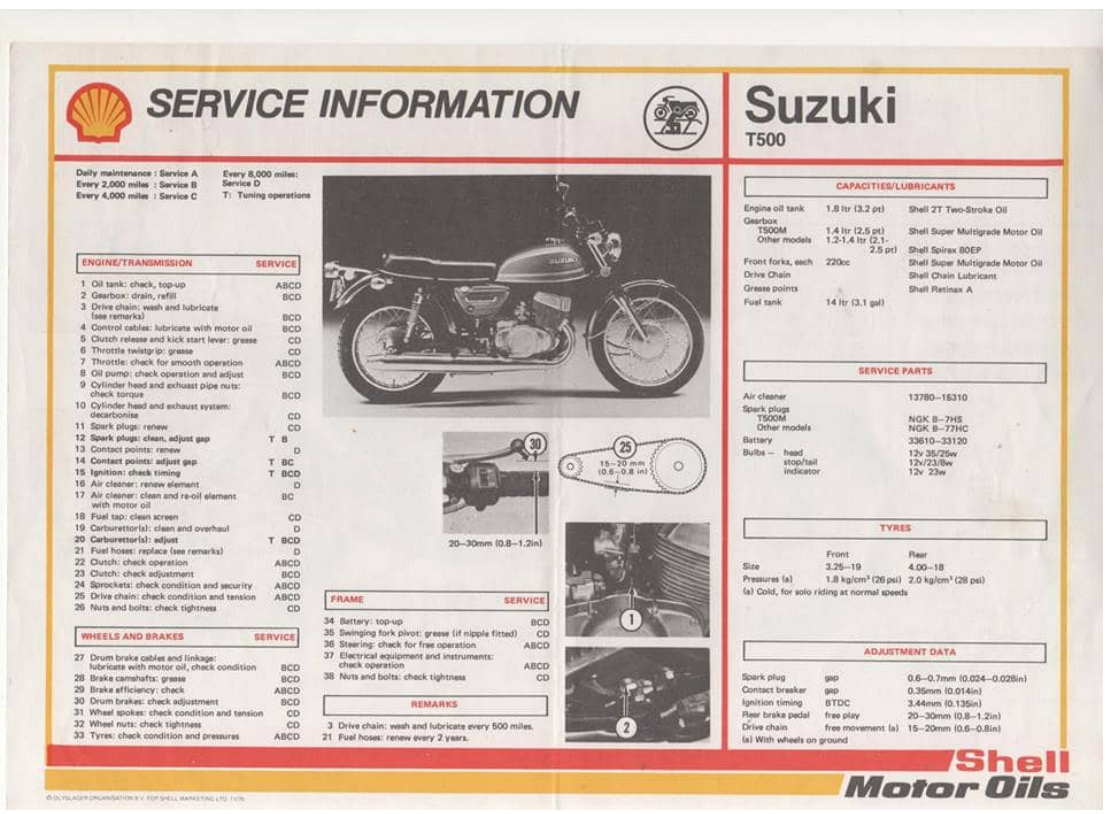
APRIL 9, 2023
CATEGORIES: T500



SERVICE INFORMATION

Daily maintenance : Service A
Every 2,000 miles : Service B
Every 4,000 miles : Service C
Every 8,000 miles: Service D
T: Tuning operations

ENGINE/TRANSMISSION	SERVICE
1 Oil tank: check, top-up	ABCD
2 Gearbox: drain, refill	BCD
3 Drive chain: wash and lubricate (see remarks)	BCD
4 Control cables: lubricate with motor oil	BCD
5 Clutch release and kick start lever: grease	CD
6 Throttle twistgrip: grease	CD
7 Throttle: check for smooth operation	ABCD
8 Oil pump: check operation and adjust	BCD
9 Cylinder head and exhaust pipe nuts: check torque	BCD
10 Cylinder head and exhaust system: decarbonise	CD



SERVICE INFORMATION

Suzuki
T500

Daily maintenance : Service A
Every 2,000 miles : Service B
Every 4,000 miles : Service C
Every 8,000 miles: Service D
T: Tuning operations

ENGINE/TRANSMISSION	SERVICE
1 Oil tank: check, top-up	ABCD
2 Gearbox: drain, refill	BCD
3 Drive chain: wash and lubricate (see remarks)	BCD
4 Control cables: lubricate with motor oil	BCD
5 Clutch release and kick start lever: grease	CD
6 Throttle twistgrip: grease	CD
7 Throttle: check for smooth operation	ABCD
8 Oil pump: check operation and adjust	BCD
9 Cylinder head and exhaust pipe nuts: check torque	BCD
10 Cylinder head and exhaust system: decarbonise	CD
11 Spark plugs: renew	CD
12 Spark plugs: clean, adjust gap	T B
13 Contact points: renew	D
14 Contact points: adjust gap	T BC
15 Ignition: check timing	T BCD
16 Air cleaner: renew element	D
17 Air cleaner: clean and re-oil element with motor oil	BC
18 Fuel tap: clean screen	CD
19 Carburettor(s): clean and overhaul	D
20 Carburettor(s): adjust	T BCD
21 Fuel hoses: replace (see remarks)	D
22 Clutch: check operation	ABCD
23 Clutch: check adjustment	BCD
24 Sprockets: check condition and security	ABCD
25 Drive chain: check condition and tension	ABCD
26 Nuts and bolts: check tightness	CD

WHEELS AND BRAKES	SERVICE
27 Drum brake cables and linkage: lubricate with motor oil, check condition	BCD
28 Brake camshafts: grease	BCD
29 Brake efficiency: check	ABCD
30 Drum brakes: check adjustment	BCD
31 Wheel spokes: check condition and tension	CD
32 Wheel nuts: check tightness	CD
33 Tyres: check condition and pressures	ABCD

FRAME	SERVICE
34 Battery: top-up	BCD
35 Swinging fork pivot: grease (if nipple fitted)	CD
36 Steering: check for free operation	ABCD
37 Electrical equipment and instruments: check operation	ABCD
38 Nuts and bolts: check tightness	CD

REMARKS

3 Drive chain: wash and lubricate every 500 miles.
21 Fuel hoses: renew every 2 years.

20–30mm (0.8–1.2in)

CAPACITIES/LUBRICANTS

Engine oil tank	1.8 ltr (3.2 pt)	Shell 2T Two-Stroke Oil
Gearbox		
T500M	1.4 ltr (2.5 pt)	Shell Super Multigrade Motor Oil
Other models	1.2-1.4 ltr (2.1-2.5 pt)	Shell Spirax 80EP
Front forks, each	220cc	Shell Super Multigrade Motor Oil
Drive Chain		Shell Chain Lubricant
Grease points		Shell Retinax A
Fuel tank	14 ltr (3.1 gal)	

SERVICE PARTS

Air cleaner	13780–16310
Spark plugs	
T500M	NGK B–7HS
Other models	NGK B–7HC
Battery	33610–33120
Bulbs — head	12v 35/25w
stop/tail	12v/23/8w
indicator	12v 23w

TYRES

	Front	Rear
Size	3.25–19	4.00–18
Pressures (a)	1.8 kg/cm² (26 psi)	2.0 kg/cm² (28 psi)

(a) Cold, for solo riding at normal speeds

ADJUSTMENT DATA

Spark plug	gap	0.6–0.7mm (0.024–0.028in)
Contact breaker	gap	0.35mm (0.014in)
Ignition timing	BTDC	3.44mm (0.135in)
Rear brake pedal	free play	20–30mm (0.8–1.2in)
Drive chain	free movement (a)	15–20mm (0.6–0.8in)

(a) With wheels on ground

Shell Motor Oils

© OYLSLAGER ORGANISATION B.V. FOR SHELL MARKETING LTD. 11/76

Shell Service Guide

Ride Shell

Shell recommend the complete range of their lubricants for all these machines

Honda
C50, C70, C90
SS50Z
CB125S
SL125, XL250
CD175
CB200, CB250
CB360, CB400F
CB500 Four
CB500 Twin
CB750 Four
GL1000 Gold Wing

Kawasaki
G7T 100cc
KS125
S1 250cc, S3 400cc
H1 500cc, H2 750cc
KZ400
Z1 900cc

Puch
M50
Maxi

Suzuki
FR50, FR70
A50, A100, B120
GT125, GT185, GT250
TS100, TS125, TS250
T500
GT380, GT550
GT750

Yamaha
FS1E
V50, V70A, V90
RS100, RS125
YG1F, YB100
RD125, RD200, RD250, RD350
DT125, DT175, DT250
XS500, XS650

Norton/Triumph
Triumph twins
500cc, 650cc, 750cc
Norton twins 850cc
Triumph Tridents 750cc

Shell Spirax 90 EP – Gear Oil

Shell Retinax A – General Purpose Grease

Shell Chain Lubricant – Chain Oil

Shell Donax T7 – Oil for Forks

Shell Super Multigrade – 4 Stroke Engine Oil

Shell 2T – 2 Stroke Engine Oil

Shell Motor Oils

Shell Motor Cycle Service Guides

Remember Shell's new DIY service guides, which are free. These new guides are simple to follow, have clear, numbered diagrams and contain all essential technical data.
The Shell motor cycle service guides are available for all the following models:

1. Honda. C50, C70, C90
2. Honda. SS50Z
3. Honda. CB125S
4. Honda. SL125, XL250
5. Honda. CD175
6. Honda. CB200, CB250, CB360
7. Honda. CB400F, CB500 Four
8. Honda. CB500 Twin
9. Honda. CB750 Four
10. Honda. GL1000 Gold Wing
11. Kawasaki. G7T 100cc
12. Kawasaki. KS125
13. Kawasaki. S1 250cc, S3 400cc
14. Kawasaki. H1 500cc, H2 750cc
15. Kawasaki. KZ 400cc
16. Kawasaki. Z1 900cc
17. Suzuki. FR50, FR70
18. Suzuki. A50, A100, B120
19. Suzuki. GT125, GT185, GT250
20. Suzuki. TS100, TS125, TS250
21. Suzuki. T500
22. Suzuki. GT380, GT550
23. Suzuki. GT750
24. Yamaha. FS1E
25. Yamaha. V50, V70A, V90
26. Yamaha. RS100, RS125
27. Yamaha. YG1F, YB100
28. Yamaha. RD125, RD200, RD250, RD350
29. Yamaha. DT125, DT175, DT250
30. Yamaha. XS500, XS650
31. Triumph Twins 500cc, 650cc, 750cc
32. Triumph Tridents 750cc
33. Norton. Twins 850cc
34. Puch. M50
35. Puch. Maxi

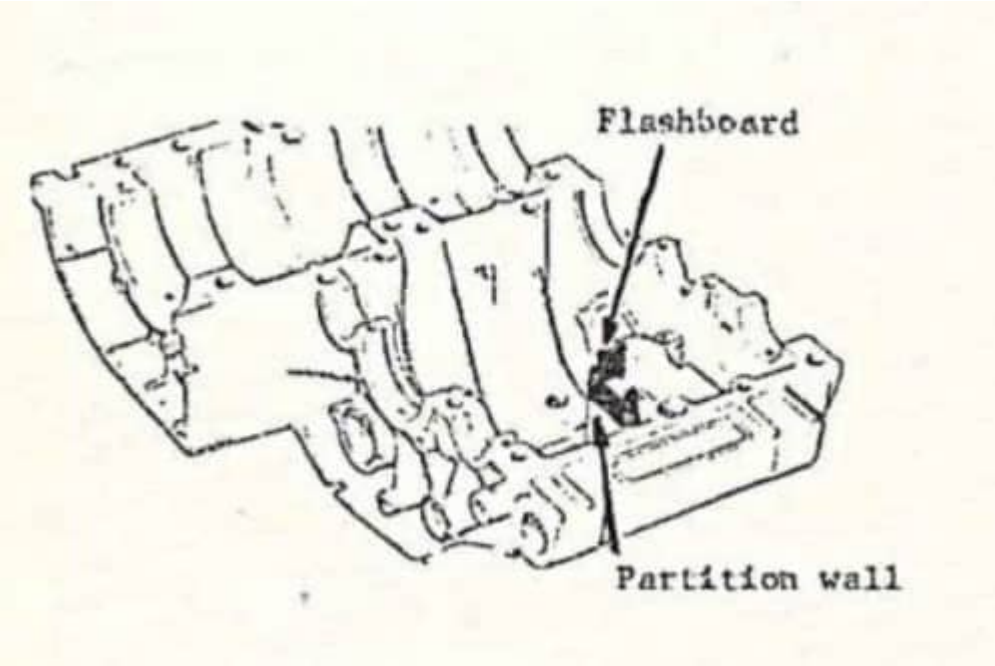
Fill in the coupon below then cut it out and send it to:
Shell U.K. Limited, Barton Central Store/Ref Motor Cycle Guides,
P.O. Box 23, Ashburton Road, Trafford Park,
Manchester M17 1SJ.

Name (Block letters)

Address (Block letters)

Please send me the free Shell M.C. Service Guide No.

T500: Increased Oil Capacity – Suzuki Service Bulletin



SUZUKI SERVICE BULLETIN

Bulletin No. T-3
Date May 1, 1975

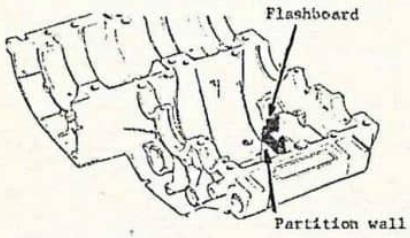
Read & Initial
Manager
Parts
Service

SUBJECT: T500 INCREASED TRANSMISSION OIL CAPACITY

To effectively increase the durability of the T500 4th and 5th gears, the transmission oil capacity has been increased from 1200cc to 1400cc. The increased oil capacity has been applied to the T500 since the beginning of the 1974 "L" model production.

A rubber flashboard applied to the primary oil transfer chamber in the lower crankcase half is used to accommodate the increased oil capacity. The flashboard keeps the additional oil from entering the primary case, and therefore protects the clutch from excessive drag.

The flashboard in position is illustrated below.



The T500's manufactured after December 1973 production will have the primary oil transfer partition cast 10mm higher instead of using the rubber flashboard.

The rubber flashboard is now available from the U. S. Suzuki Parts Department for T500's prior to the 1974 "L" model. Its application is strongly recommended whenever the crankcases are disassembled.

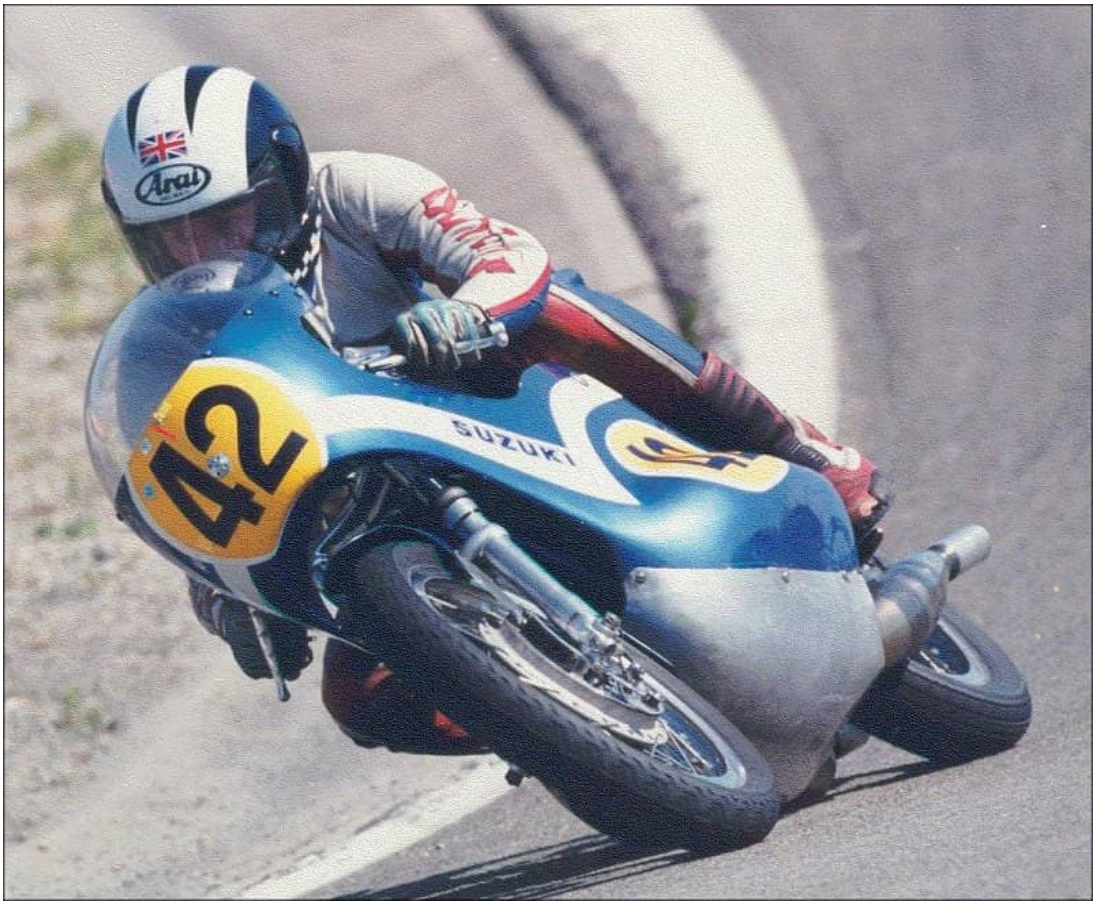
U. S. SUZUKI motor corporation
13767 Freeway Drive • Santa Fe Springs, California 90670 • Phone: (213) 921-4461

SUZUKI

Eric Kerkhof's racing Suzuki T500

Pictures from Holland

by Sakia van den Ham



The rider is Eric Kerkhof, my neighbour from Holland. Last year he won the championship for classic street races in Belgium.
The bike on the picture is a Susuki TR500 Replica from 1970 with 60 PK. (or is it HP for you?)

Suzuki Snapshots

Eric Kerkhoff

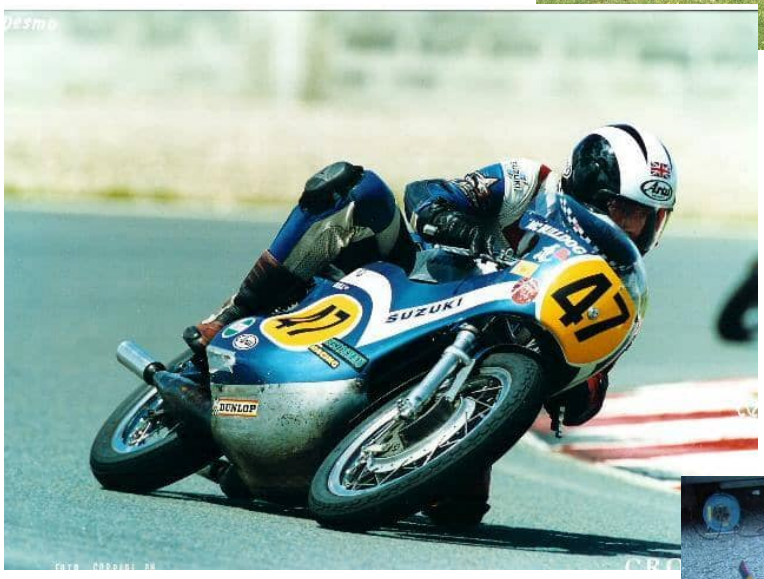
"Hereby a picture of a Suzuki TR500 ridden by Erik Kerkhoff from Holland, who really races this converted T500 in Classic races in Belgium , France, Germany and Holland. He scored a 2nd place in Chimay 2001 (Belgium) a real road track , behind the snake Bill Swallow and scored a victory in another race in Belgium. The bike has a converted standard frame, Ceriani 35 mm forks, front brake:I'm not sure ,either a Ceriani or Oldani or converted standard Grimeca with self-made anchor plates. The fuel tank , dry clutch and exhaust pipes are really home-made ! Carburettors are Mikuni VM38 with Powerjet from a TZ350F/G. Ignition is converted PVL .Barrels , pistons and gear box are little changed for racing purpose. He raced it also in the international classic meetings, we organise in France and Germany.

With regards.....Guus ten Tije "

Bike looks great with the mock Suzuki factory paint job from the 60s on the frame and tank. Exhaust pipes also look long and lean and not too wild. Nice job indeed.

Dry clutch modification is pretty neat.

Thanks for sharing the info and pics with us Guuss. Guus is from the Netherlands.



There are some picture´s of me and my bike on this site. (sent to you by some others!) I learned some about computers now so I can send you some updated pictures myself.

First picture is made just before I crashed my bike, like it was until 2002 (pict. croix 2002). I had to restore the bike but decide to make a new frame instead of use the modified standard frame.

I made a exact copy of the original tr frame including a new alloy tank. (pictures suzuki tr500)(got the old damaged seat on it but going to make a new one when I have some more time !!)

only raced Chimay (belgium) in 2003 . 1st race didn´t finish, piston broke last round in 2nd place, put in a new piston and finished 2nd the next race. (pict. chimay 2003), may by 75 hp on the wheel is to much for the original suzuki pistons !! (pict. piston) - this is it - maybe you can make something nice out of this.

Regards, Erik Kerkhoff Netherlands

PEI Troubleshooting – various models – 1976: Suzuki Service Bulletins

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: SPECIFICATIONS
Date: May 28, 1976

Read and Initial

Manager
Parts
Service

Subject: PEI TROUBLESHOOTING

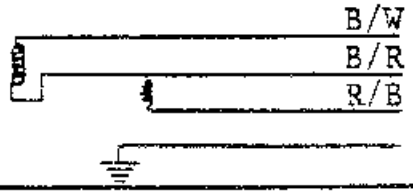
NOTICE:

The Suzuki P.E.I. boxes can be tested dynamically on the Suzuki SSII Electro Tester or statically with a Suzuki Pocket Tester (09900-25001).

The magneto coils must be tested with a Suzuki pocket tester set on the RX1 scale, and the P.E.I. box on the RX100 scale. The following charts outline the correct ohmmeter specifications for the P.E.I. boxes, P.E.I. coils, and Suzuki ignition coils.

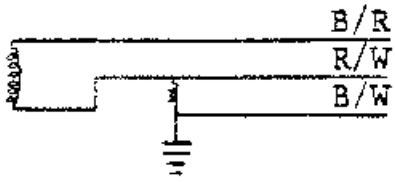
MAGNETO COIL TESTING:

TM100 (1974-1975), TM125 (1975) NIPPON DENSO



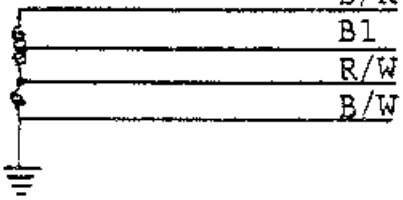
B/W-B/R	20 ohms - 50 ohms
B/W-R/B	300 ohms - 500 ohms
B/R-R/B	250 ohms - 500 ohms

TM100 (1974-1975), TM125 (1973-1975), RM100 (1976), RM125 (1975) (KOKUSAN)



B/W-B/R	200 ohms - 400 ohms
B/W-R/W	120 ohms - 250 ohms
R/W-B/R	80 ohms - 150 ohms

RM125A (KOKUSAN)

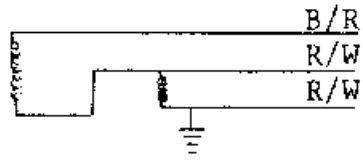


B/R-R/W	10 ohms - 90 ohms
R/W-B/W	200 ohms - 300 ohms
Blue-B/W	10 ohms - 90 ohms

TS185 & TS250 (1971-1972) (KOKUSAN)

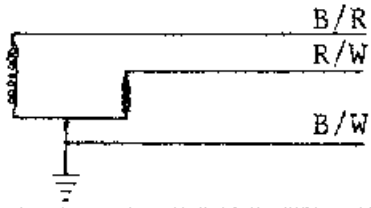
B/W-B/R	140 ohms - 250 ohms
B/W-R/W	50 ohms - 70 ohms
B/R-R/W	180 ohms - 400 ohms

TS185 & TS250 (1973-), RL250 (1974-1975) (KOKUSAN)



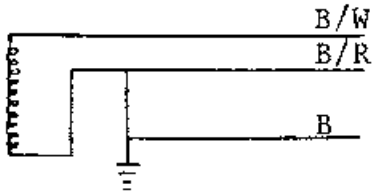
B/W-B/R	160 ohms - 300 ohms
B/W-R/W	140 ohms - 250 ohms
B/R-R/W	20 ohms - 50 ohms

TM250/400 A11



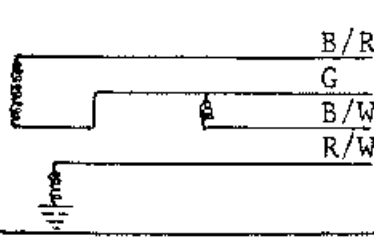
B/W-B/R	200 ohms - 400 ohms
B/W-R/W	60 ohms - 100 ohms
B/R-R/W	300 ohms - 500 ohms

RM250 & RM370 (1976-) NIPPON DENSO



B -B/W	300 ohms - 500 ohms
B -B/R	300 ohms - 500 ohms
B/W-B/R	20 ohms - 50 ohms

GT500A (1976-) (KOKUSAN)



B/W-B/R	140 ohms - 300 ohms
B/W-G	120 ohms - 250 ohms
B/R-G	30 ohms - 50 ohms
B/W-R/W	50 ohms - 80 ohms

(cont.)

P.E.I. UNIT TESTING:

KEY: A - Continuity
B - No Continuity
C - Pointer deflects and returns immediately

P.E.I. TEST CHART FOR ALL KOKUSAN UNITS EXCEPT GT500A, TM100/125 and RM100/125M

		POSITIVE TERMINAL				
NEGATIVE TERMINAL		Black/Y or Black	Black/ White	Black/ Red	Red/ White	White/ Blue
	Black/Yellow		B	B	B	C
	Black/White	A		B	A	C
	Black/Red	A	B		B	C
	Red/White	B	B	B		B
	White/Blue	C	B	B	B	

RM100/125M KOKUSAN & TM100/125

		POSITIVE TERMINAL				
NEGATIVE TERMINAL		Black	Black/ White	Black/ Red	Red/ White	White/ Blue
	Black		C	B	C	C
	Black/White	A		B	A	C
	Black/Red	A	C		C	C
	Red/White	A	A	B		C
	White/Blue	A	A	B	A	

TM100/125 NIPPON DENSO

NEGATIVE TERMINAL \ POSITIVE TERMINAL	Black	Red/ Black	Black/ Red	Black/ White	Black/ Yellow	White/ Blue
Black		A	A	B	B	B
Red/Black	B		A	B	B	B
Black/Red	B	B		B	B	B
Black/White	C	C	C		A	C
Black/Yellow	C	C	C	A		C
White/Blue	A	A	A	B	B	

RM250/370 NIPPON DENSO

NEGATIVE TERMINAL \ POSITIVE TERMINAL	Black/White or Black/Yellow	Black/Red	Black	White/Blue
Black/White or Black/ Yellow		B	B	C
Black/Red	B		B	B
Black	A	A		C
White/Blue	A	A	A	

(cont.)

GT500 KOKUSAN

NEGATIVE TERMINAL \ POSITIVE TERMINAL	Black/ Red	Green	Black/ Yellow	Red/ White	White/ Blue	Black/ White
Black/Red		B	A	B	C	B
Green	B		B	B	B	B
Black/Yellow	B	B		B	C	B
Red/White	B	A	A		B	A
White/Blue	B	B	C	B		B
Black/White	B	A	A	A	C	

RM125A KOKUSAN

NEGATIVE TERMINAL \ POSITIVE TERMINAL	Black/ Yellow	Black/ White	Black/ Red	Red/ White	Blue	White/ Blue
Black/Yellow		C	B	C	C	C
Black/White	A		B	A	A	C
Black/Red	A	C		C	C	C
Red/White	B	B	B		B	B
Blue	C	C	B	C		C
White/Blue	A	A	B	A	A	

(cont.)

NOTE:

When checking a wire combination which should give a meter reading designated as "C", the battery in the pocket tester (ohmmeter) is charging the condenser in the P.E.I. unit. Before any further tests can be perfomed the condenser must be discharged. This is done by connecting a jump wire across the B/R (Kokusan) or B/W (Nippon Denso) and W/Blue. The Kokusan type requires a discharge time of approximately 1/2 minute while the Nippon Denso type requires at least 15 minutes to completely discharge.

IGNITION COIL RESISTANCE:

MODEL	PRIMARY	SECONDARY
TM100	0 - 2	8 - 14K
RM100	0 - 2	8 - 14K
TM125	0 - 2	8 - 14K
RM125	0 - 2	7 - 13K
TS185	0 - 2	8 - 14K
TS250	0 - 2	8 - 14K
TM250	0 - 2	8 - 14K
RL250	0 - 2	8 - 14K
RM250	0 - 2	10 - 15K
RM370	0 - 2	10 - 15K
TS400	0 - 2	8 - 14K
TM400	0 - 2	10 - 16K
GT500	2 - 6	8 - 16K

The Suzuki ignition coils can be checked by using the Suzuki Pocket Tester. The primary coil resistance can be checked on the RXI ohm scale. The secondary coil resistance can be tested by using the RX100 scale.

All specifications are in ohms.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Pascal Benoot’s racebike

Pascal Benoot

Pictures of a race in Jehonville (Belgium). Now I am busy to building new cylinder heads with special combustion chambers, new pipes, and a larger fuel tank with seat of polyester. I have also mounted a new fork with double disk brakes.

Pascal Benoot lives in Belgium

June 2000

Pascal Benoot - Suzi T500 racebike

Pascal has just been to Perth, Western Australia, from his hometown in Belgium and likes it so much he is coming back for another holiday along our spectacular West Coast.

In the meantime he is building his new T500 racebike and has shared the following pics with us....
"it was a unfogettable holiday in Australia and we come back in 2004 to do the West Coast. Now I be very busy to make a new t500 race bike. My old bike go very hard for the last race. I buy the Swarbrick pipes and I made the cylinder heads with the special combustion chambers (I made 5 pair so I have some for sale). The big problem with the bike was that the frame is complete standard. First I cut my swingarm by 7.5 cm and make a bridge (see picture). I have made also my own fuel tank and seat in fiberglass (see picture) - now I am busy to reform my T frame to a "TR" frame as good as possible (see picture)."

Shortened and strengthened swingarm

Braced T500 frame

Fibreglass seat and tank under development

Suzuki Snapshots

Pascal Benoot

I worked 5 months to make the bike ready.
Thess are the thing I've done and changed about the original T500 bike.

- shortning the wheel base from 1.52 meter to 1.37 meter so the bike is 15 cm shorter.
- bring the front fork angle from 25° to 23°.
- build my own tank and seat in fibreglass.
- reinforce the frame.
- mount 18 inches aluminium rims on the front and rear wheel .
- mount a GT 750 fork with double disk brakes.
- assemble a transistor ignition which works with the(old) contact points.
- assemble my own tachometer.with LEDs
- make my own heads
- mount and assemble the Swarbrick pipes.
- mount a M-Toby steering damper

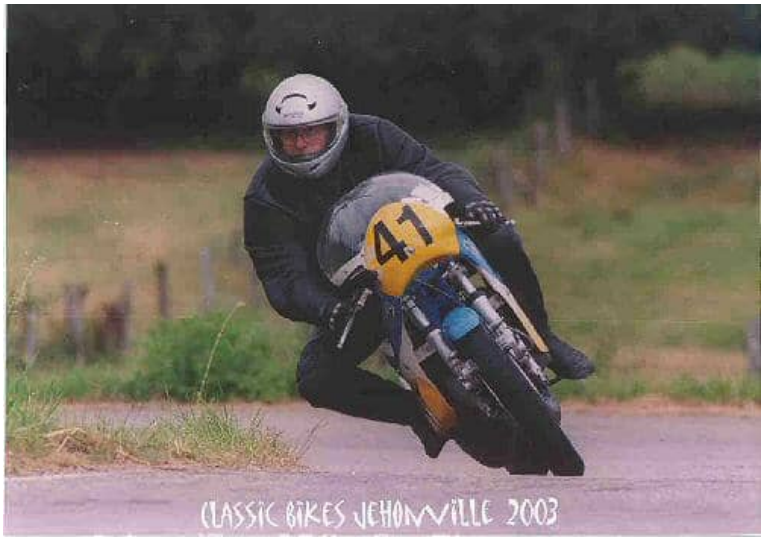
I have driven two times at the circuit with this new bike and i can tell that the concept is very good. The frame is very strong.also in the curves. The next step is tuning a engine to +/- 65 hp. The engine I tuned past year is a total loss at the moment so now i have an original engine in the bike with my own heads.

regards
Pascal Benoot

Suzuki Snapshots

Pascal Benoot - Suzi T500 racebike

Pascal has been busy building a completely new T500 racebike, and achieving good performance from it as well...first some shots of the old bike in action.....



and now the new bike....

---

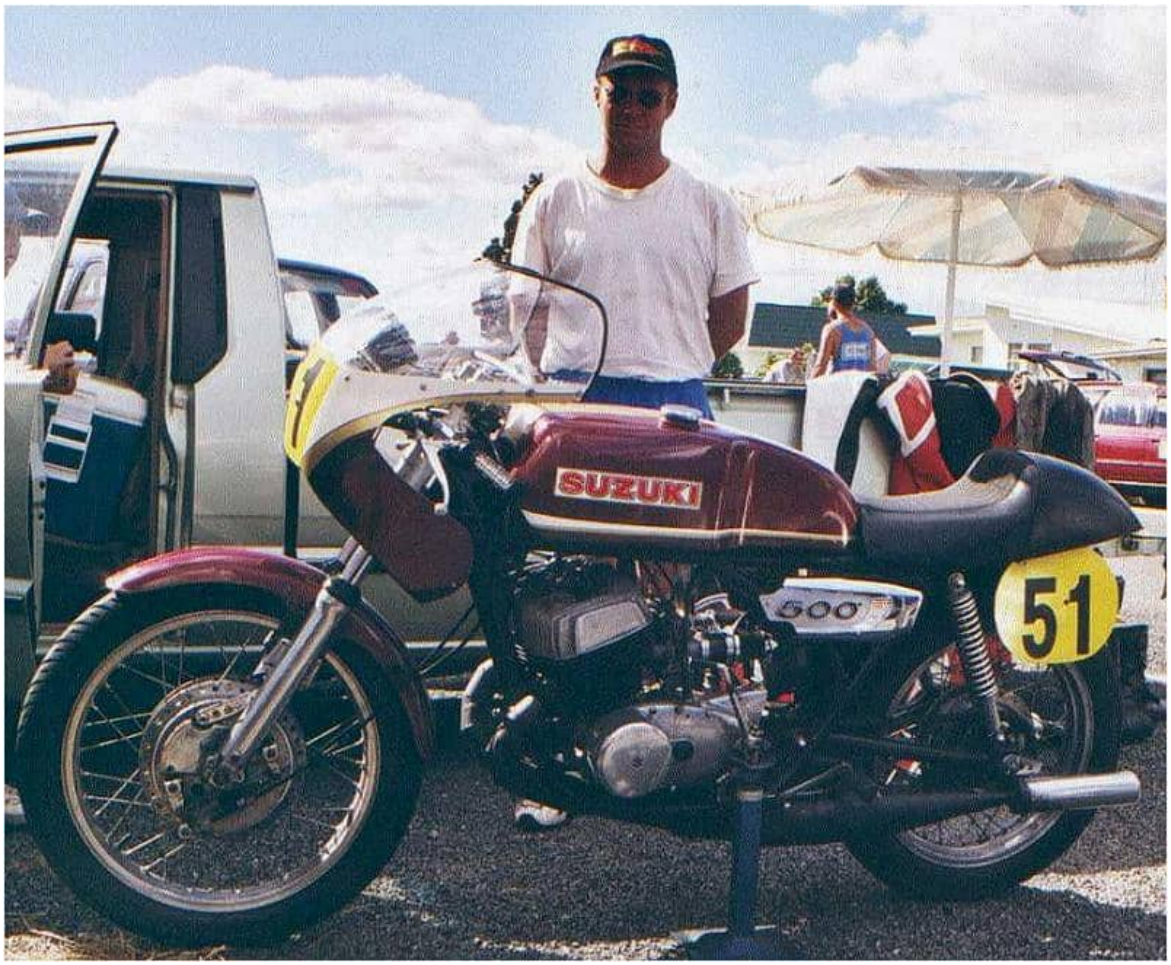
and the new bike under construction.....

Muzza - 2001

Graham Moorehead – NZ – racebike

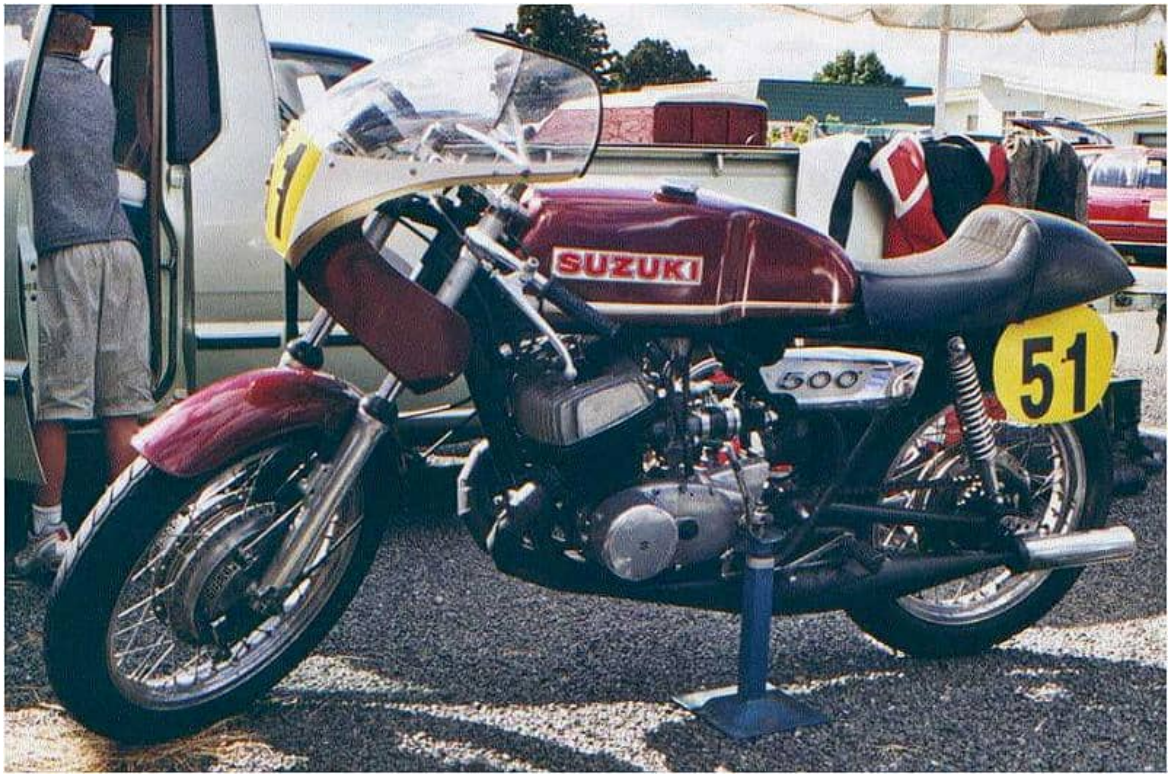
Graham Moorhead's Suzuki T500 from New Zealand

by Glen Morgan



I went to the Paeroa Street Races about a month ago. Bloody spectacular. It's a round of the NZ Battle of the Streets so the top riders were all there: Tony Rees, Shaun Harris, Brian Bernard, Craig Shirrifs et al. I used to do a bit of street racing in the South Island, but this was a step up and a bit - with Formula Extreme and Superbikes whistling up the main street of a country shopping centre, doing the best part of 300ks, about two meters from the crowd.

Anyhow, I went to meet up with Graham Moorhead and have a look at his T500 race bike. He's still sorting it, but it was showing plenty of speed, and he's one of those riders who goes fast without fuss. I took a couple of pictures in the pits but didn't get any good moving shots. You are too damn close to the action at Paeroa - too close for my reaction time with a camera anyhow!
I asked Graham if it was OK to forward the pics of him and his bike to you, and he said that was fine as he hadn't sent you any yet. Graham is the guy standing with the bike, and a very tidy one it is too.


SUZUKI
500
51

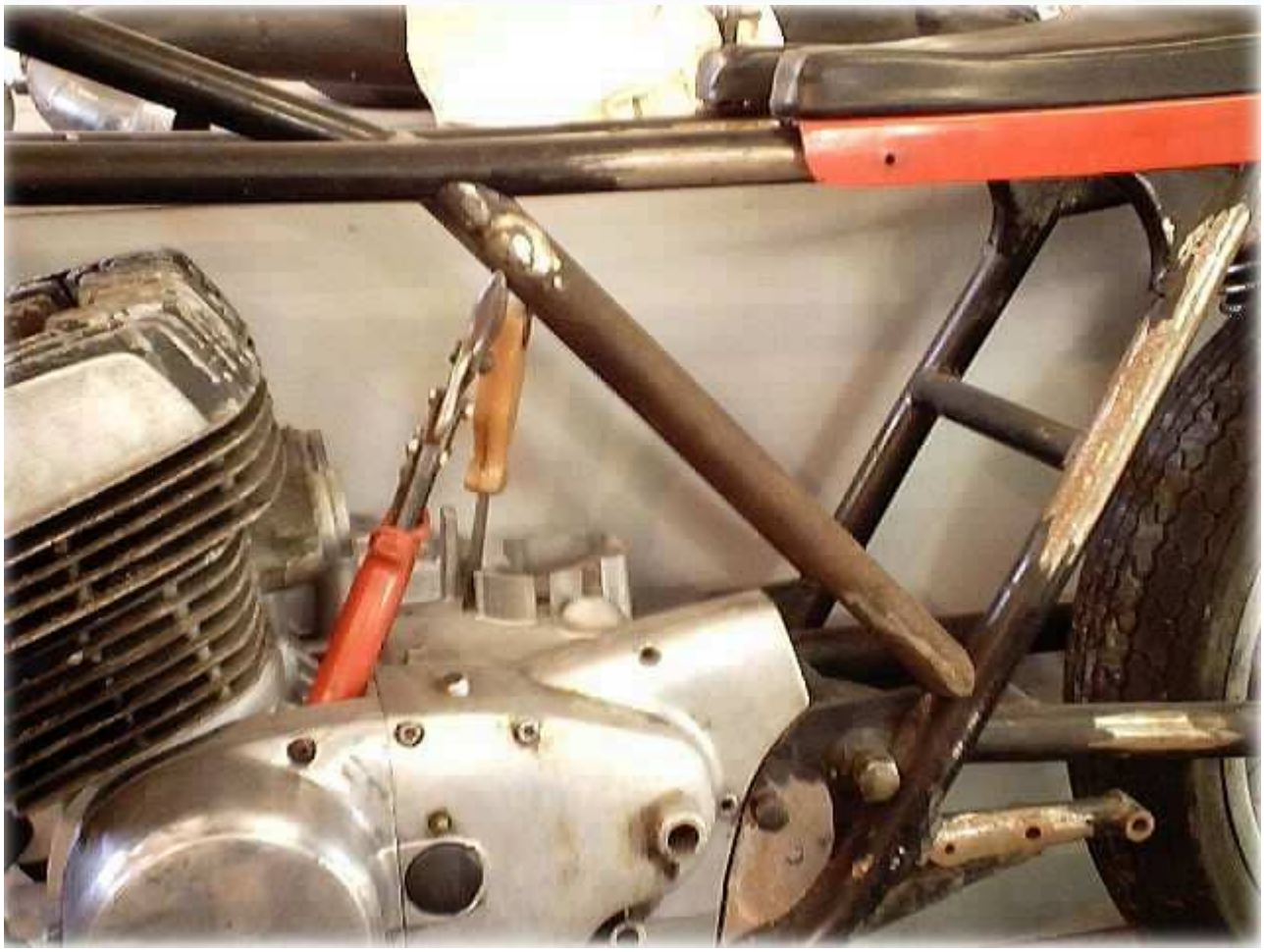
SUZUKI
51

Dr Gaz's T500 race project

Gazza's Project

Gareth Ace (better known as Gaz) has started on his T500 race project in his back shed in Colchester.
As he still scouring the country for parts, it is a good bet that his wife probably doesn't know about this yet.

An endless supply of bits



A pretty wild set of pipes here. Look like they may be peaky.

Gareth Ace (Gaz)

Colchester UK

Gaz sharing with us some pics of his Sprint project bike.

Just thought I would send you a couple of photos of the other sprint bike I am going to run next year! I think maybe, probably, hopefully I have sorted out the dosh for the other two bikes, but I thought, why be a racer when you can be a team manager/racer, so I have offered my mates a chance to sprint next year with me. Yeah they have to fork out to the National Sprint Assoc but thats only £50, cheap racing mate, even though its normally only in a straight line LOL. But I get the chance to be first at the auto jumbles!!!! Ignore the seat as I have ordered a rep Honda CR93 seat, yeah I know

its not Suzy but they do look nice and for £50 covered in any colour u want! £20 extra for suede. They are in glass though not super dooper ally! Still you will get the general drift.

Thanks Gaz..

Glen Morgan's racebike

Glen Morgan - NZ

Glen has been a regular contributor to the website, with articles on his bike, building chambers and making racing heads.Here he shares with us some data on his racebike and some pics.

Well, here it is! After five years, three shifts around the country and a few other projects in between. It's finished, it's had a couple of race meetings and it's about to be moth-balled while I head off overseas for a bit. The specs are: Seat, tank, chambers and oil tank by me. Taper roller steering head bearings. RS Honda electronic taco. Forks from a GT 550 disc brake model. GT 550/750 quad shoe front brake. Brake cable balance box by me.

RD250 front guard.

Wheels, standard steel 18 -19 combo on Avons.

GT350 swing arm (4 inches shorter).

Frame braced and shock brackets shortened 2 inches.

Hagon shocks

Gearbox has oil level modification to 1400cc.

Chain, o-ring on narrower sprockets than standard.

Carbs, standard but overbored to 35mm.

Squish heads at 12.5 to 1 compression (running avgas)

Ignition advance 18 degrees.

Exhausts 182 degees. (widened eliptical)

Transfers 126 degrees (barrel raised)

Inlets 160 degrees. (widened semi-eliptical)

Ignition, total loss with alternater rotor removed.

How's it go?

Good plenty of mumbo and very quick off the line. There's a bit of a hole in the middle of the mid-range, but I expect to be able to tune that out as I've done nothing to the needles or needle jets yet. The motor is surprisingly keen to rev. The big surprise was that I needed to go to smaller main jets (1.30mm). It just bogs on anything bigger (standard is 1.50-55 mm). This is not an uncommon phenomenon when carbs are over-bored.

Handling?

No problems so far. It turns quite well with the short swing arm. It's fairly easy to lift the front wheel when you get on the gas out of slow corners. The back end steps out if you get on the gas cranked over, but nothing hairy has happened so far.

Brakes?

Fine for drums and will get better with a bit more work. The balance box that I made is probably responsible for this. The original system was a shocker and should be biffed to someone who is doing a road going restoration.

Riding it?

This is definitely a quick bike off the mark - weight forward and hope no one goes down in front of you.
The stock box leaves you in a bit of a hole between first and second and you need to watch the revs as you transition, but I expect to deal with that by tuning that flat spot out. After a couple of seasons on modern light weights, I found myself riding it all wrong. Sweeping lines and trying to carry the cornering speed were not the way to go.

Once I was confident that it wasn't going to do a wild head shake (I hate that!) I found that the time honoured method of stuffing it up the inside, standing on the brakes and grunting away on a tight line was the way to get through the pack. It's not demanding to ride, there's plenty of room on it for someone my size (5,11) and it's considerable physical presence discourages those who would lean on you.

The future?

It's still a heavy bike and I'm tempted to make a lighter frame for it by cutting out some of the tubes and replacing them with lighter ones, but that's " some when" territory. I will definitely put it on alloy 18s when I get back to doing some work on it.

I haven't gone silly on this bike. It's pretty much what I set out to build. More than enough grunt to keep an older guy like me happy, comfortable to sit on, plenty of room to tuck down, good ground clearance - generally rider friendly! It's tidy, without being a show bike, and I might look at getting a fairing and a close ratio cluster.

That will be about it for this one. I've got my BSA 500 classic racer project to keep me busy for the next five years! Cheers Glen

Gary Griggs – Western Australia

Gary raced a modified 1972 T500 at Wanneroo Western Australia.

Andres – Belgium – racing GT500

Andres – Belgium – Andres worked on a racing GT500

Suzuki Service Bulletins – General Specs and Carburetor Settings – 1976 models

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: SPECIFICATION-8
Date: Oct. 31, 1975

Read and Initial
Manager
Parts
Service

Subject: 1976 GENERAL AND CARBURETOR SPECIFICATIONS
(Updated February 27, 1976)

This bulletin is issued to provide you with service specifications for the 1976 models.

UPDATED

GENERAL:

MODEL	IGN. TIMING B. T. D. C.	SPARK PLUG NGK (ND)	TRANS. OIL CAP. (cc)	FRONT FORK CAP. (cc)	PISTON & CYLINDER CLEARANCE	
					STANDARD MM (IN)	PT. TO BE MEASURED MM (IN)
TS/TM75A	1.56mm (20°)	B-7HS (W22FS)	700	TS:110 TM:100	0.050-0.060 (0.0020-0.0024)	23 (0.91)
A100A	1.86mm (20°)	BP-7HS (W22FP)	650	140	0.045-0.055 (0.0018-0.0022)	21 (0.83)
TC/TS100A	*1.96mm (20°)	B-8HS (W24FS)	700	125	0.040-0.050 (0.0016-0.0020)	20 (0.79)
RM100A	PEI 22° @6000rpm	B-9EV	550	125	*0.050-0.060 (0.0020-0.0024)	19 (0.75)
TC/TS125A	*2.26mm (22°)	*B-8HS (W24FS)	550	125	*0.045-0.055 (0.0018-0.0022)	23 (0.91)
RM125A	PEI 28° @6000rpm	B-9EV	*800	*223	0.060-0.070 (0.0024-0.0028)	18 (0.71)
GT185A	2.62mm (24°)	B-7HS (W22FS)	800	130	0.040-0.050 (0.0016-0.0020)	20 (0.79)
TC185A	3.07mm (24°)	B-7HS (W22FS)	750	125	*0.045-0.055 (0.0018-0.0022)	26 (1.02)
TS185A	PEI 24° @6000rpm	B-7HS (W22FS)	550	125	*0.045-0.055 (0.0018-0.0022)	26 (1.02)
[illegible]50A	*2.05mm (20°)	① B-8ES (W24ES)	1300	145	0.040-0.050 (0.0016-0.0020)	26 (1.02)

1. B-9ES (W27ES) on and after Engine Number: GT250-86479

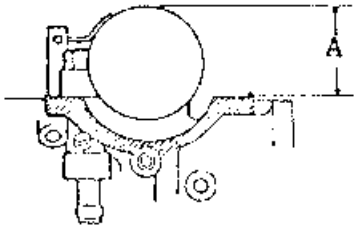
*DENOTES CHANGE FROM LAST YEARS SPECIFICATION

MODEL	IGN. TIMING B. T. D. C.	SPARK PLUG NGK (ND)	TRANS. OIL CAP.(cc)	FRONT FORK CAP.(cc)	PISTON & CYLINDER CLEARANCE	
					STANDARD MM (IN)	PT. TO BE MEASURED MM (IN)
RM250A	PEI 23° @ 6000rpm	B-9EV	900	245	0.060-0.070 (0.0024-0.0028)	26 (1.02)
TS250A	PEI 24.5°@6000rpm	B-8ES (W24ES)	850	180	*0.050-0.060 (0.0020-0.0024)	26 (1.02)
RM370A	PEI 23° @ 6000rpm	B-9EV	1000	245	0.070-0.080 (.0028-.0031)	*27 (1.06)
GT380A	*R,L2.09mm *C2.05mm(20°)	B-8ES (W24ES)	1500	145	0.040-0.050 (0.0016-0.0020)	26 (1.02)
TS400A	PEI 22° @ 3000rpm	B-6ES	1200	180	*0.100-0.111 (.0039-.0044)	44.5 (1.75)
GT500A	PEI (24°)	B-7HS (W22FS)	1400	265	0.065-0.075 (0.0026-0.0030)	32 (1.26)
GT550A	3.37mm (24°)	B-8ES (W24ES)	1500	160	0.040-0.050 (0.0016-0.0020)	26 (1.02)
GT750A	*R,L3.63mm C3.42mm(24°)	B-8ES (W24ES)	2200	160	0.045-0.055 (0.0018-0.0022)	32 (1.26)

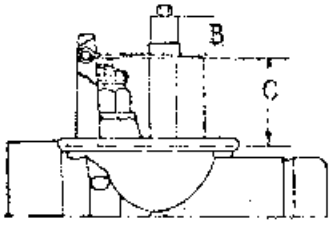
*DENOTES CHANGE FROM LAST YEARS SPECIFICATIONS

CARBURETION:

Carburetor float levels listed should be measured as shown below:



A: Distance between float bowl fitting surface, and top of float



B: Distance between float bowl fitting surface and float tongue.

C: Distance between float tongue and needle jet base.

(cont.)

CARBURETION: REVISED

MODEL	BORE SIZE	MAIN JET	NEEDLE JET	JET NEEDLE	CUT-AWAY	PILOT JET	AIR SCREW	FLOAT LEVEL (mm)
TS/TM75A	16mm	TS: 77.5 TM:*82.5	TS: E-3 TM:*E-2	3E3-3	2.0	22.5	1⅛	A:22.5
A100A	20mm	75	E-0	5ES1-2	2.5	35	1½	A:25.1
RM100A	28mm	160	0-8	5DP7-4	2.5	35	1½	A:25.0
TC/TS100A	19mm	TC: ① 210 TS: ② 200	E-4	5D3-3	2.0	22.5	1½	A:25.1
TC/TS125A	24mm	*85	0-0	4DH7-3	3.0	25	1⅛	C:6.9
RM125A	*32mm	*280	⑤ R-0 R-3	*6DP5-3	2.5	*30	1½	*A:31.7
GT185A	20mm	72.5	N-4	4DI7-3	2.0	20	1⅛	A:19.9
TC185A	24mm	130	0-4	5DP28-3	1.5	17.5	1½	C:6.9
TS185A	*26mm	*130	*0-9	*5EI16-3	*2.0	*25	1½	A:23.0
GT250A	*28mm	* ⑥ 95	* ⑥ 0-0	5CN3-3	2.5	*30	1½	*C:13.6
RM250A	36mm	③ 310 300	③ Q-0 Q-4	6FJ6-4	1.5	45	1½	C:13.9
TS250A	28mm	*160	0-4	5CN3-2	2.5	*30	*1½	C:16.4
RM370A	36mm	④ 340 310	④ Q-0 Q-4	6FJ6-3	1.5	50	1½	C:13.9
GT380A	24mm	80	0-2	4DH7-2	3.0	25	1⅛	A:25.8

*DENOTES CHANGE FROM LAST YEARS SPECIFICATION.

1. 200 M.J. as of Engine Number: TC100-46712
2. 190 M.J. as of Engine Number: TS100-61821
3. [illegible]00 M.J. as of Engine Number: RM250-13834
4. [illegible] M.J. as of Engine Number: RM370-13128
5. R-3 N.J. as of Engine Number: RM125-36597
6. As of Engine Number GT250-87498

(cont.)

REVISED

(REVISED: April 30, 1976)

MODEL	BORE SIZE	MAIN JET	NEEDLE JET	JET NEEDLE	CUT-AWAY	PILOT JET	AIR SCREW	FLOAT LEVEL (MM)
TS400A	32mm	122.5	P-1	5F22-3	2.5	27.5	1.0	*A:27.0
GT500A	32mm	97.5	P-4	5FF17-3	2.5	30	1½	A:25.8
GT550A	28mm	R&L:97.5 C:95	P-0	5DH21-4	2.5	25	1½	A:25.8
GT750A	32mm	R&L:110 C:107.5	Z-0	4DN18-*4	(Throttle Valve) 110 -0.5-	45	3/4 (Fuel-Air)	A:27.6

A: Measurement from gasket surface to top of floats.
B: Measurement from gasket surface to float tongue.
C: Measurement from needle jet base to float tongue.

*DENOTES CHANGE FROM LAST YEARS SPECIFICATIONS

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Norman Williamson – racing T20 and T500

Suzuki Snapshots

Norman Williamson - UK

Norman has had some serious T500 and T320 racers

Suzuki T320 (1967 T20 250cc Road based conversion) Air cooled, Twin Cylinder 320cc Two-Stroke,, Gears 6. The engine of this machine revs to approximately 10000 rpm and is capable of 130mph.

Suzuki T500 (1967 T500 Road based conversion) Air cooled, Twin Cylinder Two-Stroke, Gears 5. The engine of this machine revs to approximately 10,000 rpm and is capable of 145/155mph.

NW and sponsor Eric Hulme, Aintree paddock 2001

Ballakeighan, Pre-TT Post Classic Super-bike Race, 2002

Christian Mille – T500 racer

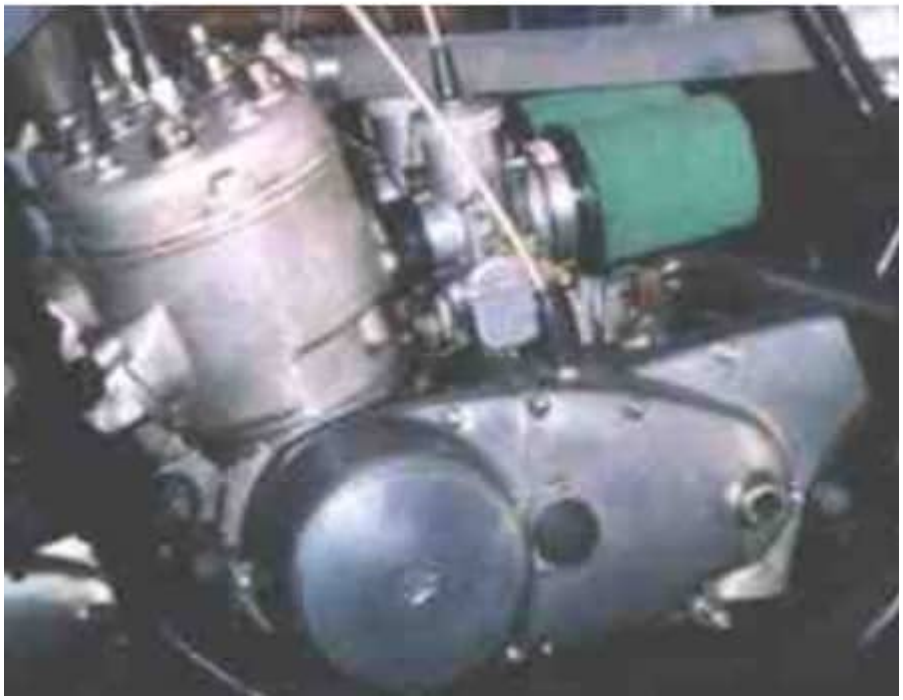
Suzuki Snapshots

Christian Mille

Bonjours, quelques photos du No 84 second au challenge AFAMAC 2002.

Cordialement, Christian MILLE

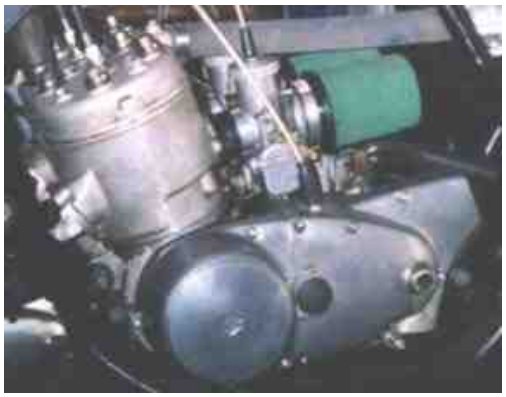
Paul Sandley – TR500 MkII project



Suzuki Snapshots

Paul Sandley - South Australia

Paul was a Suzi and Panther fan, good one Paul, and he is working on a watercooled T500 racer using TR500 MkII barrels and heads.



Kris (Krash) Larivee shares his racing experience on a T500 racer

Suzuki Snapshots

Kris (Krash) Larivee

Mosport, in my own words.

Posted by Kris L., the Ugly American on August 27, 2001, 10:01 pm

My four-day saga began and ended in torrential rain, divided by a couple of heavenly days. The difference was almost manic in comparison. Little did I know this would be the theme of the whole weekend. This is the Readers' Digest version.
Thursday, August 23

Left for Mosport. Jetted the bike yesterday on some deserted back roads. Running well, feels fast. Added another washer to the detent on the shift drum. Shifts much easier now. All crash damage fixed, chambers painted and Sundial stickers on tank. Drove all the way in pouring rain. Borrowed my brother's truck to get there. The VRRA volunteer at the gate made some rude comments about us f@#&ing Americans, then found out I was from New York. It's funny, because the VRRA was more than happy to take my membership fees and entry fees (totalling over $175 dollars US, along with a $20 gate fee). If the VRRA really feels that way about us Americans, maybe they should piss off, and have smaller grids and less money in the bank as a result. I came to race, not be stereo-typed and insulted. I hope it was an isolated incident. We'll see.

Many bikes and people are already at the track. I feel a little bit outclassed with all the beautiful machinery and experienced riders. The track looks huge.

Friday August 24

Woke at seven with the butterflies. I would be out in practice at nine, riding on a track I had never been to before. Walked the bike to tech, then ate a little breakfast. Still no sign of anyone I knew. Then I finally ran into Steven Szikora, also running a Titan. Nice to see a familiar face. Got out in practice and was trying to learn the track when the bike started whistling. Having heard this sound before on the last lap of a race at Shannonville, I pulled into the pits. Another cracked head. Left side again, cracked exactly the same way. No problem, I've got stock heads in the truck. That's funny, both of these heads look light right handers, oh no, they are! A small tantrum ensues as I watch my weekend go down the toilet, again. To be continued.

Steven S. senses my frustration, which is beginning to boil over into rage, and kindly invites me to ride his Titan with him and Eugene Stewart in the 2hr endurance race. I nearly refuse, having already smashed someone else's vehicle earlier this week(see earlier rants, er.. I mean posts on this board). Steven doesn't seem the least bit worried about letting me ride it, so I decide to. I'll get some track time before I go home.
I rode Steven's bike a few laps in practice, turning 2:18s, not very good. I couldn't get used to the bike's seemingly over-tall gearing, and was having alot of trouble keeping it in the powerband. Handling was nice and stable, even with an un-braced stock swing-arm. Brakes were very good as well, (unlike mine!).

Steven rode first, Eugene second, me third. The plan was to ride smooth and take it easy, just finish the race. The fuel stops and rider changes went well, considering we didn't have much of a plan and no time to practice. I won't say we were a well oiled machine, but we worked much better than my bike has been. Four laps into my ride, I was getting used to the bike, learning the track as well. The bike could be fast, you just had to keep it on the boil. Shift at redline, and run it to the bore. I held two fingers on the clutch down the almost 1/2 mile back straight for a few laps, just in case, but the bike was invincible. The three of us rode and rode that machine for two hours straight, and the only thing was that the brakes got hot! Never a cough, or a sputter, or even an unpredictable wobble from the suspension. Why the hell can't my Titan go like this?

Attrition was high, and I started to see bikes all over the side of the track, especially during my last round in the saddle. Oh,

there's that really souped up T-500 broken down. Eugene told me I was making good time, and that was the fuel I needed to really give it all I had during the last few laps. My whiplash was giving me some trouble, but on the track it was all but forgotten. I rode the bike harder and harder. I started dicing with a Honda 4, (750?), he would pass me, then me him. If I got out of the hairpin correctly, I had him on top end, but if the motor got lazy, he would pull me, and I'd have to play catch up. The back and forth made me ride even faster. I finally took the checkered flag for the team, as I was the finishing rider. Come to think of it, Steven should have run the last time out to get the checkers, as he was the bike's owner. It's a credit to him and his preparation that the bike went so well out there, being the only two-stroke to finish. Also, credit goes to Eugene and Steven for riding well, knowing that smoothness and consistency win the day, not bone-headed moves and trying to win it on the first lap, (I may be guilty of this from time to time.) I later found out that we placed second, much to our surprise! I would also find that I made my goal of an under 2 minute lap, running consistent 1:58s. I think we all had a blast, and much thanks goes to Steven for letting me flog his bike. Thank you.

Even with the elation of the endurance race, my thoughts began to turn to my bike and where the hell to get a left hand head for a T500 by tomorrow morning. Things looked bleak, as no one at my home (3 hrs away) could get me my spare heads (car's smashed, don'tcha know?). I'm ready to pack up and head for home when hope arrives in the back of a beat up Chevy truck.....

Saturday, August 25
Practice. The bike is running and I want to make the most of getting used to my bike, now that I know the track. Steven and I chase each other around the track a few times when disaster strikes. I was preparing to pit in after a particularly fast jaunt down the Mario Andretti back straight when the motor made a whoomp! noise and cut out to one cylinder. Figuring another cracked head, I coasted in to the pits, only to find a holed piston on the left hand side. Upon removal of the head, I find not only is the piston holed, but the crown is stuck in the top of the bore and the cylinder is ruined. The bottom half of the piston is still attached to the con rod, except for the hundreds of aluminum bits that are down in the crankcase. I am screwed.

A few hurried phone calls later and Eugene Stewart and I are pouring gas in the base, kicking over the motor repeatedly with the con-rod bungeed to keep it from contacting the cases, and making a general mess and racket. The crank feels too crunchy too move, and indeed gets stuck several times during the process. I know the bottom ends on these bikes are bulletproof, but I doubt this one will survive such punishment. The crank finally frees up nice and smooth and we turn the bike upside down to drain the case, dumping gas everywhere. Eugene and I swap out the left barrel and piston with a stock GT barrel and piston that have 14,000 miles on them. I now have one ported cylinder and one stock one, one Titan piston and one and one GT piston, which is different than the Titan one. Eugene mentions that you are never supposed to re-use the cir-clips that hold the wrist pin in place. I ask him if that really matters, seeing how we have a crank full of aluminum chunks, differently ported cylinders, and different weight pistons. He gets my point. Two hours later the bike is running again. I will start the heat race today, thankfully we are last on the schedule.

I'm gridded dead last on the start, as I have no points with VRRA. 29th out of 29. At least if the bike breaks on the line, I won't get run over by anyone. The flagman raises the red flag, clunk into first gear, rev to six grand, green flag and I'm off. The bike wheelies as I shift into second, passing three riders. Before I know it, there's six riders behind me, eight, ten. I'm up with Steven S., who was gridded in the third row, before we reach Turn One. I pass a couple more riders, but the bikes are getting their legs now, and a couple of them pass me on the short straight before Turn Two, the Chute. I'm doing a decent job of holding off many of the guys I passed on the line when I get to the hairpin. Who's there, but this tricked out, done-up, illegal, non-period parts, no expense spared beautiful GT750, taking a very awkward line. I try to go to the outside, but he runs wide and I almost end up in some Oil-dry from a previous mishap, so I cut in low and make the pass by running over the top of the rumble strip. Probably a bone-head move, but there was room and I knew I could make it. Before I can get it into fourth on the back straight, the angry triple comes wailing by me like a wounded banshee, leaving me wishing for much taller gearing and some more motor. I'm only revving the bike to 7 grand to keep it together and finish. I figure that's good for maybe ninety-five on top, with me well tucked in. Not enough for the P2 Heavyweight, against big Ducs and Hondas and 750cc 2 strokes. Halfway through the second lap, we get a red flag coming into the hair pin. Somebody's crashed a Dresda Honda 750 in turn 2. We head back for the re-start, I'm dead last all over again, after all that.
This time I line the bike up crooked to the others, but still next to the wall, to give me a straight shot by the guys in front of me. I have my work cut out for me again. I don't react to the flag as quickly as the first start, but the bike does the work for me. I get by three in front of me, see a big hole by the pit wall, pass the GT750 (again!), scraping my knee puck on the pit wall, and still managing to make a decent line for turn one, without killing anyone else, or cutting them off very badly. I maintain a position in the middle of the pack, and finish thirteenth. I am proud, the bike finished the heat and we beat quite a few in the process. Fingers crossed for the final.

It threatens rain all day Sunday, and the schedule is hurried to beat the weather. Steven has one final race early, which he finishes, I'm not sure of position. Our race is not until just about the end of the progam. Shortly before we are set to go, the heavens open with a deluge. I will not be denied finishing another race weekend! Not by mechanical failure, crash or even and act of God. I announce that if I have to race by myself in a monsoon, I will finish this damn weekend. If I must carry the bike on my back, I will cross the line in a final race today, (at which point Steven wryly suggests I start lightening the bike up now). Racers start going home, cones are put up in the hairpin to keep us off some slippery concrete, we wonder if they will cancel. The Superbike challenge is cancelled. More people leave. I grit my teeth and try to smile. I just want to finish one event with my own damn bike.
After excruiciating rain delays, the skies brighten and we go out for a warm up lap. The track that was yesterday my friend, now

wishes me dead. There seems to be no traction to be had, no line a safe one. I am riding a writhing snake down a greasy, slimy snail trail to oblivion. I miscalculate turn nine and almost meet with the hay bales, saving it at the last second. My foam filters are wet and making the bike run like crap. I go to pit in, not sure whether I should start the race or bag it, being nervous about the track. I look to the skies for an answer, and for a brief moment the sun peeks out, as if to say, go ahead, I will watch over you. Steven S. followed me in to see what the problem was. Unable to make the grid for the start, we have to start from pit lane, unable to see the riders or the flagman. I overheat the clutch waiting and stall the bike. It restarts, just a little roughly on the B9s Les Trotter suggested I run, we get the green and we're off for four laps of white knuckle, foot down, slip and slide. I get behind the second place guy, on a Yamaha 650 and try to take his lines, but those Metzelers feel so greasy I back off in fear of going down and not finishing at all. Finally I see the checkered flag, content to have finished a weekend on my bike. I found out in the pits later that I finished third. Four started the race out of 29 on the grid. Steven finished fourth. We probably should have packed up and gone home, as the track was so bad. But with a little skill and a whole lot of luck, we finished without falling, and got a little something for our efforts. What a rollercoaster, I am drained and think I will need a week to recover. I wouldn't have missed it for anything.

Wed. Oct.24
In between raindrops, Phil and I did some testing with the Titan on our illegal back road test strip. Much to our dismay we cracked another milled left hand head. That makes three this season, all on the left side, even after switching barrels. If anyone has any theories on this, please let me know. Zooke's porting was great, the 15/33 gearing seemed a bit too tall. Later that night we switched back to a stock head on the left. You guys will laugh when I tell you the compression readings on the cylinders. 90psi on the left and 125 on the right! I was surprised the motor even ran.
Thurs. Oct. 25
More rain, cold. Finally the roads dried up and we headed out to test the bike again. It ran, and we couldn't seem to break it, but it felt appallingly slow and came on the pipe very late making it especially hard to ride with the over-tall gearing. The only way to keep it on the boil was to twist the thing unmercifully. Yet I had confidence that the motor would hold together, with such low compression, running on race gas and B9 plugs, how could we hurt it?

Fri. Oct. 26
As soon as I hit the road for the track it started pouring. After being searched at the border I was finally allowed into Canada. It was raining at the track, but I paid for practice anyways, figuring it would dry up later. At noon it was still raining, but three guys went out to practice anyways, two of them crashed. That made up my mind not to practice in the wet. I took a nap in my tent and listened to the raindrops. No practice today. A short practice tomorrow and two races, Club Cup and Vintage. The butterflies set in. Would the bike hold? Could I learn the track in one ten minute track session? How bad was I going to get beat (or worse)? Me, a motorcycle racer? Who was I trying to kid?

Sat. Oct.27
Froze my ass off in the tent last night. No official word on how cold, but it was damn close to freezing. Good news is, the storm front blew by us in the dark and the morning nice, sunny and clear, even if everyone is wearing wooly hats and mittens at the rider's meeting! Bad news is, the bike is going terribly. Gearing is way too tall and the motor sounds sick. I'm too worried about the bike to learn the track, and it keeps bogging on the slower corners. I'm considering withdrawing from the race and going home to build a real race bike for next season. Frustration starts setting in. I count to ten (more like a hundred!) and decide to ride in one more practice session and make up my mind then.
The bike goes better in the second practice, and I'm riding a little bit better. Still, the gearing is so tall, I have to drop it into first gear in the hairpin, back wheel hopping on the entry, pin the throttle WFO and fan the clutch shifting into second. That's the only way I can get any kind of drive for the long straight. Do it in second and run wide in the hairpin and the motor bogs wickedly, sputtering and sounding like a dying cow. I decide I will run my races and beat the piss out of the bike doing so. It's the end of the season, I've got all winter to re-build. right?

The first heat race is Club Cup, sort of a "run what ya brung" class. The only rules are air-cooled and twin shock. There's RD350s and 400s, CB900 and 750 Hondas, a Ducati engined Cagiva, and several Honda twins. I'm gridded eighteenth (no points) out of thirty. I know I can't catch the top five bikes, and there are a few behind me that I know will get by, but my plan is to try not to lose too many positions on the grid and make a few safe passes if chance allows. To win, you must finish. And this was only a heat race.

I get a good start and pass four bikes off the line. They catch me in turn one and the battle is on. I pass and get passed several times, but still refuse to make any heroic moves. Let them go by. I'll be back tomorrow. No one crashes and the five laps are over quickly. I finish seventeenth. Not terrible, and the bike is still going!

All the classes are gridded together for the vintage race with about 35 bikes or more total. The 500 class is gridded in the middle, I'm on row 7, outside. The light goes green and I get another decent start. I leave the others in my class at the line, and don't see them again as they get caught in traffice. I catch up to the lightweights and pass a few Honda twins. I can't control myself anymore and make a bold pass on three bikes coming out of turn 2, running on the very last inches of the track in the rubber chunks to get by. I figure the more traffic between me and my class the better, and I want to race for position now. I calm down a lap later when I realize I can't catch the two-stroke Yamahas with my ailing Suzi. A quick look over the shoulder tells me I've got some cushion between the bikes behind me, so I let it coast a little bit. Again this is a heat race, and need to finish. The only tense moment comes on the last lap when some fat-ass on a Honda twin catches me in the carousel. He passes on the

outside and cuts right into my line, nailing my front wheel with his back, sending me into a tank slapper. I save it, but go way off line and speed to avoid the crash. I finish the race where I started, at least I finished. With idiots like that out on the track, it's a wonder I did. I spoke to him later and he flatly denies hitting me, or cutting in on me. He claims a clean pass. He and I both know the truth, and he shows his true colors. I make a note not to lend him any tools or trust anything he tells me. I'd really like to punch him in the nose, but I do my best to be sportsmanlike and swallow my pride and anger. I'll take it out on the track. The thing that really irks me is we are not even in the same class, and he knew it! But hey, I finished two races and the bike is still going. There's always tomorrow!

Sun. Oct.28
A cold night and the darkness gives way to light to reveal another gorgeous day. Practice goes well and I feel confident about the bike. Still isn't fast, but it will finish.
Club Cup is my first 10 lap final of the day. I get a good start, slipping the clutch all the way to turn one, passing three riders on the way. I am in fourteenth and holding when the half way flag appears. I don't expect to catch many other riders, but I start thinking about you guys on the board and figured you'd rather hear about a top ten than a fourteenth. I'm riding the hell out of the bike, arms are getting sore. I catch two riders, drop down a gear, severely over-revving the motor, and make a good pass. I catch a Honda coming into the hair-pin. Something in my brain tells me to wait until the straight and pass, but the Honda runs wide, giving me a space big enough to drive a Munch Mammoth through. Balls over-ride brain and I make the move. My knee touches down on the rumble strip and I look at the straight, knowing I am home free, crack the throttle. And promptly end up on my ass. I didn't see the oil dust on the inside of the turn from a previous crash and the front end washes out on me faster than Dick Cheney can say "heart attack". I slide off the track with the bike and a Honda twin running off the track to avoid me runs over my hand. I'm glad the ground was soft!. The right hand clip-on is broken, but the rest of the bike survives the impact and subsequent slide.

An hour later the clip-on is changed and the bike re-teched and ready to race. I get a terrible start with a wheelie off the line, pull in the clutch and wheelie again. Finally I get the pig rolling and catch up with the first group of bikes. We play cat and mouse for a while. Half-way into the race the carnage begins. First one bike off the track. Two laps later another slides off the track. On the last lap three bikes in front of me crash, taking each other out and off the track. They appear unhurt. Bikes seem to be slowing down, but the race is not red-flagged. I finish first in my class and tenth over-all. I am happy. It wasn't until I returned to the pits that I learn a bike was pissing oil all over the track for most of the race. I guess I was just running too wide in the corners to hit the slick! Thankfully no one was seriously hurt, but I heard the gentleman with the leaking bike was aware of the problem before he went out for the warm-up laps. If that's true I hope they fine his dumb ass. He was responsible for wrecking at least three bikes and some minor injuries. It put a damper on the win for me, but at least I'm charged up and planning for Daytona already. See ya there!

Kris

Next episode
Back to index page

Suzuki Snapshots

Kris (Krash) Larivee

DAYTONA: From Dismay to Despair. Part I: Pregnant Cats and Bloody Knuckles
Posted by Krash on March 7, 2002

I left for Daytona, a passenger in a 25 year old van, with a man I had only met once before and his pregnant cat. My racebike was in Virginia, hopefully all prepped and ready to go. The plan was to get to Zooke's, put the finishing touches on the three Sundial bikes and be off to practice at DeLand FL. Sounds like a simple plan, had I (or Eric) known what we were in for, we both might have stayed at home with our feet propped up and a frosty beverage close by (non-alcoholic in my case), watching re-runs of the Andy Griffith Show and nary a thought to the way things could have been. If only.....
A tense 14 white-knuckle, nail-biting, speedy prayers to my maker, eyes clamped shut, teeth gritted for impact, hours later I arrived in the lovely state of Virginia. My driver was a man with no need for useless conventions such as lane markers, stop signs, signal lights, one way streets, no u-turns, ect. A gentleman who truly believed in using the whole road, breakdown lane, rumble strips, grass median, the space currently occupied by another vehicle and so on, not to mention his pregnant cat that found standing on the dashboard blocking the driver's view the most comfortable spot. One particulary tense moment when the interstate split and we were given the choice of going sharply to the left or to the right, saw our vehicle travelling decidedly straight, into orange barrels and guard rails. Somehow we avoided the barrels and made our way back to the tarmac, but not before I needed a change of shorts. Racing at Daytona would be easy, if I didn't end up a greasy spot on I-81 trying to get there.

I emerged from that rolling tomb a bit shaky, but still intact, at Sundial HQ in Pulaski, VA. Zooke informed me that we had a busy night ahead of us, as he was behind schedule with the bikes. It was a daunting task he had undertaken, preparing three bikes to run the banking at Daytona, but he showed no signs of worry, so I was encouraged. That was until I saw how much work was left to be done. The front end and brakes needed to be assembled on my bike, as well as a plethora of nuts and bolts still to be drilled and wired, fork seals installed, hydraulics bled, calipers assembled. We worked until the night was old, and the dawn rapidly approaching, before retiring for a few brief hours of rest.
We awoke to a cold day, with winds and some snow. Even after living for years in upstate NY, it felt bitter. So much for sunny VA. It was at this point Eric began having trouble with his bike, it wouldn't fire. Suspecting a bad crank, he began the first of what would be at last count four (yes 4) engine swaps, and many trips up and down his driveway in the freezing cold trying to bump start the bike, to no avail. Not once did his enthusiasm or determination waver. I wish I could have said the same for me. Still recovering from the flu, I felt weak and congested. Not the way I would have liked to start off my racing season. In the end, Eric and I finally got all the bikes together and loaded up on the trailer and began the 12 hour trip to Deland. It was 1:30 am, the practice day I had paid $75 for began in 6.5 hours. At least we were on our way.

Part II: From Pissing Gas to Practice Laps

Zooke and I were headed down to Deland in the hours of the night when only the insane are awake. Surely our mental stability was in question at this point, only we were far too exhausted for our brains to function at any measurable output. We were the Driving Dead, our only goal to keep the truck and trailer between the white and yellow lines. Staring unflinchingly ahead into the abyss of blackness before us with burning, blinded eyes. Our shifts of sleeping and driving lasted just twenty minutes, because neither of us could stay awake any longer. I found I could sleep quite nicely while driving, if it wasn't for the tractor trailers passing us and waking me up, usually just in time to yank the truck back onto the road. Even asleep, Zooke and I were better drivers than some people (mentioned in Part I).

At the noon hour, we were rolling into the Deland Airport, where a section of runway had been cordoned off by hay bales, garbage bags filled with something and orange cones, to form some kind of makeshift, ramshackle "racetrack". It looked like the kind of thing some kids might build for a go-cart race, not a prestigious AHRMA event. Team Sundial had arrived, roll out the red carpet!

Practice was already underway, so we quickly unloaded, bought some fuel from "Super" Dave Rosno and fired up the bikes. Or at least tried to.

The second I put gas into my tank, it came pissing out the bloody petcock. A cursory inspection revealed a fiber washer was missing from one of the screws that holds the petcock on the tank. Ever tried to find a fiber fuel valve washer at the racetrack? They're all over the friggin' place, but nobody wants to take one off their tank to give it to you! I stood and watched the $5 a gallon petrol piss and dribble all over the ground, trying to come up with a solution in my already bruised and battered head. All I could do was manage to drool a little bit and grunt. Zookerman to the rescue. In his hand he held a tiny nylon washer used on the Titans to seal the injector lines and banjo bolts. Apparently these things seal out gas as well, because my incontinent tank soon held it's own water (gas?) better than Grandma's Depends. I might get to do a couple of laps today, although I had completely forgotten how to ride a bike. Was it clutch on the left, brake on the right? Four up, one down? How did you get the silly thing to go around corners? Countersteer, what's that, a new kind of beef? Yes boys and girls, Mr. Krash was a little rusty. But never fear, he was determined to put on a display of riding tactics to make even the most idiotic of cage drivers wince. This is how NOT to ride a motorcycle. I managed not to kill anybody in my first few laps. OK, I managed not to kill myself, they're still looking for the riders I put off into the swamp. Alligator bait I suppose. Sorry.

I came back into the pits to find Eric grimacing over his Production bike that was supposed to be raced in just a few short hours. "Bad crank seal," is all he mutters as he puts the bike back on the stand. Without time to swap another engine for today's racing, it looks like Zooke will be sidelined. Frank Melling has arrived from England, with his "tuner", but the GP bike is having some teething problems, suspected fuel starvation and/or jetting glitch that will require further testing to rectify. Zooke is not worried, he has taken the "I will work harder" creed as his own and is sticking to his guns. I am impressed, by now others would have been reduced to tears, valiantly he soldiers own, without heed to his own weariness or frustration. He is the rock that Sundial is built on, the thread that held us all together. I would have thrown at least half a dozen temper tantrums by now, but that's just me.

Just when things aren't looking so hot for Zooke racing that day, OH NO Mr. Bill Vernon shows up and offers his T500 proddie bike to Zooke to race. If I am correct, Zooke built both of Bill's bikes, his T500 and the T350 Bill would be racing. The fight is on and Zooke makes a hell of an effort on Bill's bike, coming in Third in the Historic Production class, despite handling problems and his unfamiliarity with bike. It's a credit to his smooth and careful riding, even on a bumpy, sandy bunghole of a track like Deland, and it pays off with a podium finish, "wood" if you will.

We load up the bikes and drive 90 minutes to Zooke's parents house, where we will be staying, (much cheaper than a hotel). The Kalamajas are extremely gracious, making me feel a member of the family, not just a mere guest. I would have gladly stayed another two weeks with such warm and friendly people like them. Truly their kind of hospitality is rare in this day and age. My hat is off to them, as well as a heartfelt thank you.

I am falling asleep standing up as we exchange greetings with the Kalamajas, and my need for rest is abundantly clear and quickly fufilled, as they offer me the spare room and bed which I am soon sound asleep and snoring louder than the racebike in. Alas, no rest for Zooke, who will spend another late night, swapping the motor in his Production bike for another with hopefully good crank seals. I don't envy him as he plods out to the garage. His hands and knuckles are already swollen and bloody from long nights wrenching, and it appears this one will be no different. I think about this for nearly four seconds before passing out.

Only to be awakened by Zooke way too early in the morning. We must get to Deland. Today, Frank and I will be racing Formula 500, and already the butterflies are swarming in my gut.

Part III: Frightening Finish and Friggin' Fork Seals

For once on this trip, Zooke and I arrive on time and almost prepared. My bike is running well. and the front brakes are just starting to bed in. I might be able to stop if I really yank the lever! Practice goes much smoother than yesterday, but I am still very anxious, and with good reason. Upon inspecting the bike after practicing, it appears the steering damper has puked it's oily guts out all over my front fender. The only thing that saved be from a nasty crash was that skinny piece of fiberglass. I nearly chose not to run a front fender, because we were running short of time and it was a pain in the ass to put on. I will never run without one now.

I think anyone who has raced before will agree that the worst, most anxious time at the racetrack is the period in between practice and your race. Doesn't it always seem that practice ends far to early in the morning and the race is way too late in the afternoon? That's definitely the case as practice wraps up and I begin the long wait for lunch break and the five other races that will occur before my Formula 500 debut on the Sundial GP T500. Plenty of time for the body to stiffen up, the mind to wander and the weariness of the last four days to catch up with me. You can't sleep because your heart won't slow down, you can't eat much because it feels like you're going to vomit your intestines out. I don't like to watch others race before I do, inevitably you will see a crash and the imagination takes over. I must have pissed thirty times before I got into my leathers, and another twenty after. The human body is 70% water, and I'm sure I lost at least 50% of myself down the port-a-pottie. It's always like this for me before a race, only it's amplified due to lack of sleep, a new bike and a long winter. I'd love to know if the other racers feel this way, or if I'm just a candy-ass.

Of course, when the green flag drops, a metamorphasis occurs. The fear is gone and the adrenaline surges. I change from the little girl quaking in his Alpinestars to a full-fledged idiot, capable of the most incredible acts of daring (stupidity?). I run off the track wide open, drag my knee in the mud and flog the bike past it's limits. My brain tells me to slow down, pay attention to the line and be smooth. I kick it in the balls and send it off to some dark corner of my skull. Every so often it will yell from the corner to go easier on the machine and not over-rev it. Another kick sends it yelping back to the depths. If I listened to it I might finish more races and crash less, and even become a better rider. "He will never be a Jedi. He is reckless. Adventure? Excitement? A Jedi craves not these things."

That's exactly how I'm riding out there as my race starts. I get over-eager and come close to jumping the start. I'm away, but the leaders are already into turn one, and I can hear some angry two-strokes chain-sawing up behind me. One of them shows me a wheel and I miss the line in the first turn, and get passed. This thoroughly pisses me off and I rev the snot out of the bike to catch up. If I don't calm down, I'm going to kill someone, or detonate the motor. Two laps into it I get a little better, but I'm having trouble with the power delivery of the engine. It's deader than my grandma below 6 thousand RPMs. If you get out of the power, forget it. Stay in power and it pulls like a freight train. I take my entry speed up a few notches and start feeling the front end going away from me in the corners. I downshift to an insanely low gear to keep the revs up, somewhere around a crankcase bursting 9500 RPMs. I'm sure I could ride this bike well if I had had more time to get used to it, but I can't seem to figure it out here in the middle of the race. I'm still not doing too badly position-wise as we reach the halfway point of the race. I pass an RD by coming into a corner way too fast, hopping the back end on the downshift and blocking his line. It ain't smooth, but it's a clean pass. He hangs with me for another lap and gets by me when I slide the back end getting the power on too early in a tight right hander. Now I have to play catch-up, determined not to lose another position, especially to a friggin' Yamaha. I'm still close to him as we hit the front straight, when a rattling noise comes from the Titan. It sounds like the whole bike is coming apart. I look down and the screw that holds my flip-up gas cap on has come off, and there's race fuel sloshing all over the top of the tank and my legs. Needless to say, this put me off my already sloppy game even further. I have to hold the cap down with one hand going down the straights. In the corners I let the gas go anywhere it pleases. Despite this set-back and my questionable riding style, I finish seventh. Frank retires early, still having problems with his bike. I am exhausted, not pleased with my riding, and upon post-race inspection of the bike it is discovered that the right-hand fork seal has given up the ghost and is vomiting the fork contents all over the lower leg. Great, another problem. And we haven't even made it to Daytona yet.

Frustrated and over-tired, we load the bikes and leave Deland to the airplanes and skydivers. If I have to look at the bright side, I didn't crash, blow up the bike or finish last, and we have two days off before Daytona. Looking at the dark side, I am in desperate need of a fork seal for a late model GT750, tomorrow is Sunday, nary a bike shop within a thousand miles will be open, and Zooke is so busy with Frank's bike that a fork seal is the least of his worries. And the icing on this dung cake is that I don't have anywhere near the seat time on my machine to feel even remotely confident in it, or my riding. Part of me wants to shitcan the whole race and spectate, check out all the cool bikes that will be there. Of course, the maniac part takes over and growls that as long as the bike will move, I will race, even if I have to empty the oil out of both fork legs, or put a girder front end from a '37 Sunbeam on it. There's no way out.

Zooke and I spend a semi-relaxed day running errands, checking on his rental property, and trying not to fret about the bikes. But I know Zooke is concerned about Frank having a good ride and a good showing, having travelled all this way. It doesn't make a very good article to tell about how you didn't race at Daytona, somehow I don't think Classic Bike would pick up Frank's tab for that one. I met a friend of Zooke's that had a GT750 he was using as a streetbike, but I couldn't con him into lending me his fork leg just for a few races. He thinks he might have some seals at home, says he will check and get back to me. I am not holding my breath. I'm starting to wake up to the grim reality that even when they have good intentions, you cannot count on other people. You truly must do it yourself, and leave nothing to chance. A lesson that was soon to be driven home with a sledge hammer. But I am getting ahead of myself.

As I did not here from Zooke's friend about the seal, much of Monday is spent trying to find one at the local bike shops. I might as well have been searching for a head for an AJS Porcupine with all the luck I had. Everybody's willing to order them, but I need them NOW! Frank wants me to drain the one fork leg and fill the other with 50WT oil. His rationale is that the legs are clamped together, and will move together, even if one is empty of oil. That will be my last resort. Others have suggested stuffing paper towels into the leg and duct-taping them in place, sort of a Maxi-pad type deal. One guy even told me to use JB-Weld on the seal, but I think he had spent too much time around uncapped inhalants in his dirt floor garage.

In a final attempt to procure a seal, I checked the box of spare parts I brought with me from NY, what seems like a lifetime ago. Buried in the bottom of the box is a used, grungy, distorted fork seal that I had forgotten to throw away at Zooke's because I couldn't find the garbage can. I knew there was no way this would work, defying all fork seal logic I had ever been taught, but there was nothing to lose. With the front end of my menstrating Titan jacked up on a log, bits spread out all over Zooke's parent's lawn, I began what I assumed would be a fruitless venture.

While I was dissecting my front half, Zooke and Frank were running his bike up and down the street in front of the house (somewhat illegally, I might add) trying to pinpoint the niggling fuel delivery problem that had plagued them for days. Finally Frank suggests swapping out both carburators for the set on the Sundial Production racer. Zooke, at a loss, concedes and the swap begins. Within thirty minutes Frank is tearing up and down the desolate stretch of central Florida backroad at speeds approaching triple digits, a distinctly English grin spreading from ear to ear inside his fiery red Arai brainbucket. Zooke decides

to celebrate cowboy style, whooping it up and smacking his hat back and forth on his leg, shouting expletives of happiness and hugging anyone who would come near. You'd have thought he discovered the cure for cancer. I only share partly in their happiness, as I am waiting to see whether my ancient fork seal will stand the test. I sanded the slider with 600 grit wet or dry and used a jewler's file on a nasty gouge that had previously escaped our notice, probably the cause of the first seal failure. Nothing good can come of rushing a project.

I test ride the bike over all the bumps I can find, trying to get the sliders to use their full travel. I dirt track it across the lawn (sorry about the ruts!) and take to the pavement. I jam the front brake several times to compress the suspension. At least the brakes are coming up. So much so that I do a pretty cool "stoppie" and nearly end up on my head! Didn't know vintage bikes could do that! After about fifteen minutes of these shenanigans, I roost back across the lawn to inspect. Nary a drop of fork oil to be seen. I push up and down on the forks, determined to get them to leak, but can't. I am happy. The bike will be ready for the banking at Daytona. The only other question is, will I?

After an excellent dinner cooked by Ma Kalamaja, I head to bed, pre-race jitters already beginning. But I have some hope, and that's a good thing.

The evening before the race at Daytona was the most relaxing time during this crazy trip, by far. Frank Melling, Zooke and I enjoyed a tasty meal prepared by Zooke's Ma. The food was good, the company was great and did much to set our minds at ease. The bikes were running well, tomorrow would be easy, provided you didn't crash or blow up the bike.
I was again awakened by Zooke at some ungodly hour of the morning when only ghosts are stirring. Time to go. We had loaded the bikes and gear last night, so without further ado, we departed for the track. The temperature was in the high 20s, low 30s. The news on the radio was talking about frost, the citrus farmers were covering up their crops. So much for sunny and warm Florida. Ninety minutes later Zooke and I are descending into the tunnel that leads to the pits at Daytona. Immediately we are swarmed upon by a gaggle of annoying creatures known as "Track Nazis", demanding credentials, and barking orders. The only way to be rid of these draconian insectoziods is to appease them. They love subservience from their victims, and this must be feigned at all times. Any hint that you might be disgusted with being told to park on the left, after another one of them told you to park on the right, just moments before another told you to park in the middle can cause them to attack. The sting of a Track Nazi can lead to a sudden rise in blood pressure, red blotchy face, a red veil before the eyes and the uncontrollable urge to rip one of those bastards to shreds and eat his heart for lunch, and spleen for dessert. Be warned.

One of these dreadful nincompoops comes over to the Sundial truck and shouts that we can drop off the trailer inside the paddock, but must return and park the truck in the outside lot, a walk somewhere between 1/4 and 1/2 mile. I am about to say something to this silly little man with the badge and walkie-talkie, when Zooke shows me the Zuki Knight Mind Trick. He bows his head and humbly aquiesces to this weaver of red tape webs, promising to bring the tow vehicle out forthwith and stable it in yonder lot. There is not a hint of annoyance in his tone, he sounds as if he's trying to talk a state trooper out of a speeding ticket. The bugman is fooled and we are on our way. Zooke mutters something under his breath about "bring the truck back, my ass". I have so much to learn, Master Zooke.

The sun is out, but the morning is freezing. I am forced to drop a heat range in plugs just to get the bike to fire. Finally it does, billowing forth plumes of two-stroke and 112 octane fumes. Many riders have opted not to head out for the first practice session, due to the cold. Zooke puts his leathers on over all his clothes for added warmth, I will never fit in mine if I do the same. We head out on the track. I have seen Daytona on tv, and listened to the racers talk about the banking, hell I even visited the track once as a kid. But the first time you come out of the infield and head out onto the banking any pre-conceptions you had disappear. The first look down is rather intimidating. A lowside here, would be very low indeed. I can see small specks moving around in the grass on the infield, only to realize they are corner workers. I take a quick look back up at the angled cement wall on top of the banking and can see the tire marks where NASCAR's finest have their red-neck wreckfest. Then I become aware of my speed, somewhere over the ton, and my attention snaps back to what I am doing. I back off the throttle, not wanting to harm the bike before the race. Learn the track, save the motor. Suddenly the wind catches my bike from behind, hits the fairing and pushes me down the banking. I had heard about the wind here, that was scary. I slow for the chicane, trying to find the best line through it, then head back out onto the banking. I give her a little more stick. The bike feels like it's down on power, then I hear the sound that became all too familiar to me last season. It's a fluttering, spluttering sound that can mean only one thing, the headgasket is blown. And if the head gasket is gone, the probable reason is that the head has cracked. I thought when I bought Zooke's specially prepared bike that this head cracking that plagued me last year would be over. Apparently not. I limp the machine back down the banking and to pit-in. I kill the motor to avoid further damage to the top of the cylinder (a lesson hard learned last year when I tried to finish a race with a bad head). I started pushing, and sweating and huffing and puffing in all my gear. Thankfully a young man decides I look utterly pitiful doing this and begins pushing me and the bike. I never got his name, but thanks to him anyways.

Frank, Zooke, and a tuner (whose name has been changed to prevent embarassment and a possible international incident due to circumstances I will later reveal. We'll can him Jim.) listen to the bike. Jim assures me that the head gasket is not gone, and sends me back out to practice again. I don't even get to the banking, the sound is so bad coming from the top end. I putter around in the in-field and begin the long push back to the paddock, this time with no assistance. My anger is starting to rise.

Back at the truck, my friend, and new sponsor (thanks!), Dave, owner of South St. Cycle in Philadelphia, has arrived. Just in time to watch me push the bike he's sponsoring back into the paddock. Inspection reveals what I have known for almost an hour

now, the head is cracked, the head gasket is toast. Zooke thankfully has spares of both. Dave and I jump into the job, removing the gas tank and the bad head. It's the right hand side, an annoying first. It's always been the left until now. No one has any definitive answers, just the vague opinion that I am over-revving the motor. If it had any power below 6000 rpm, I wouldn't have to over-rev it by shifting into too low a gear to pull out of the corners. A quick discussion of my riding style (or lack thereof) has me wondering if I am the cause. The bike is re-assembled and I only missed one practice session. Back out on the track, I am trying to change my riding and be easier on the bike. I start using the back brake, planning my downshifts better, just trying to be smoother on the machine. I feel appallingly slow. The bike is running well, but won't pull the over-tall gearing we've got on it, and it still won't pull coming out of corners without a nasty downshift to keep it in the narrow powerband. I decide not going to worry about it any more, just to ride and have as much fun as I can. I know I'll probably get my ass whooped, but I'm here, the bike is going and that will have to do for now.

Practice is over and the wait for the race begins. My prehistoric fork seal is holding, and the motor is running, the Florida sun is shining (still a bit chilly, though) and I'm at one of the most famous race tracks in the world, with a bunch of the greatest guys in the world. Zooke is happy, Frank is happy, I'm starting to become happy. We're just one happy family. Why can't I enjoy it though? Maybe it's a quirk, or a downright personality disorder that keeps me looking for the black cloud on the horizon. Constantly finding the glass not only half empty, but also very likely to crack the moment I pick it up. Call it pessimism, narcissism, whatever, if it's one thing I have learned it's that Murphy's Law is the ONLY LAW. It's a habit I can't kick. Despite smiles in the paddock, my mind is going over all the things that can still go wrong and probably will. It's a self-fulfilling prophecy, expecting things to go awry all the time. So much so that a friend of mine once asked me if I truly wanted to win the race or was content to break halfway through and be able to b###h about the bike. My knee jerk answer was of course I wanted to win, that's why I was there. I think I understand what he was saying now. If you really want to win, you find a way, whatever happens. You can't keep throwing obstacles in your own path, like what ifs, should haves and could have beens. The race is half lost already, like that. Failure is practically a guarantee. There are plenty of things to go wrong, without imagining more. That's exactly what I was doing, and using the bike breaking as an excuse. I'd be damned if I was going to do that again. I did want to win, and by hook or by crook I'd learn how. Maybe Daytona wasn't the best place to start, but then again, maybe it was.
My new sponsor, Dave of South St. Cycle, Philadelphia, GO THERE, HE'S THE BEST!!!!!! (is that a good enough plug for the shop?) and I head to start/finish to watch the Great Men, Great Machines Parade Lap. There are some beautifully prepared race machines alongside some real tatty looking buggers. My info is probably wrong, feel free to correct me, but here goes: There's an ex-Cal Rayborn KR Harley, a brutish American machine with high pipes, in somber Halloween orange and black, belting out that v-twin throb, a pair of Yoshimura-tuned Honda CR750s, one of which actually won Daytona in 1972. Gary Nixon will pilot that machine, resplendent in sunshine yellow paint, the other, a more sedate metallic blue will be ridden by "Super" Dave Rosno. There's a couple of snortin' Norton Manxes that you couldn't afford to buy a shift lever for, and some "barn fresh" Indian, freshly coated in rust, smoking profusely, that springs a gas leak before he even gets off the line and a couple of Egli Vincents that don't sound quite right. Photographers and moto-journalists are elbowing each other to get that quote, or perfect shot. Old men stand astride their old machines. Though I hate to say it, the machines look better than the pilots. There are other Great Men there I'm supposed to remember, but you'll have to forgive this whipper-snapper, as I only had eyes for the Yosh Hondas. Possibly the finest in-line four snarl I have ever heard, and when the flag for the parade lap dropped, I was in heaven. Gary Nixon stood that yellow CR up on it's back wheel and wheelied that son of a b###h almost to turn one, Rosno right on his tail. Some could call it a graphic display for a parade lap, but I thought he gave the crowd a great show, lifting his hat (wheel?) to Pops Yoshimura's dynamic tuning. I loved it, trying not to remember that I would race against both of these CRs in my second race of the day.

Back in the paddock, Frank is pulling on his leathers in anticipation of our first Formula 500 race. I follow suit, surprisingly calm. Whatever happens, I can tell people I raced at Daytona. How many hillbillies can say that? I'm not even worried about the bike. To hell with it, it breaks, it breaks. I'm not sure where we're supposed to go for the grid, but I know where I am gridded. In the back, as usual. I follow Frank, trying not to over-heat the clutch on the way. Motor sounds good, everything seems to be attached. Houston, we are ready for launch! The minute board goes sideways, bikes clonk into gear, revs up. I am screaming/laughing into my helmet. The guy next to me must hear, because he glances in my direction. Not for long, because the flagman twitches and I get one hell of a start! The bike is geared too tall to take off like a rocket, but it is like being shot out of a softly sprung catapult. The power kicks in and I am nearing Frank up at the front. Traffic is hellacious as 30 bikes all go for the same line into turn one at the same time. Bars are banging, I can see a wheel on each side of me. Discretion gets the better part of my valour, as I avoid making a couple of brave passes coming into Turn 2. I have had some trouble with this section, a fast right hander, and don't want to do anything stupid. If I'm riding well enough, I will catch them before the banking. I'm smoother, but not smooth enough, as the bikes stay ahead. I'm somewhere in the middle of the pack, not too bad, I think, as I make my way out onto the banking for the first time. Nobody in front to draft, though. A quick look back tells me there are quite a few bikes back there. I know I can't make afford too many mistakes. The straights at Daytona are long, even at speeds well in excess of 100mph. You are going so fast for so long, it stops feeling, well, fast. You can relax a bit, plan strategy, listen to the bike or do like I did, start thinking about an ex-girlfriend (don't ask). I can see the chicane ahead and prepare to dive in. I slow down earlier than I normally would, and downshift carefully. If I screw up and get the motor out of the power now, it's all over. Any second I expect to get passed in the chicane, as I am surely going too slow, but no one comes by. I think I'm about 12th at this point. The next time around the banking I think, not bad for a rookie, at Daytona. The front-runners are so far gone I don't have any plans to catch them, and I'm not worried about it. I am concerned about not letting anybody else by me, though, so I try to ride as well as I can. Not as fast as I can, just as smooth. It seems to be working, because no one comes by, even when I make a few mistakes in the infield. Don't get me wrong, they were there, I could hear them and sometimes see a wheel, but no one came by. I get the crossed halfway flags and realize the bike and I are going to finish this race, and really start having fun,

when disaster strikes.

I came out of the infield onto the banking, just two laps to go, upshift, fourth, roll on throttle, upshift fifth, throttle to the stops, nothing. Just a waahh sound, and no power from the motor. I drop back to fourth, open throttle, still no power, just waahh. I figure I cooked it, and in a bad spot. The 33 degree banking is no place for a motor to die. You couldn't walk up or down it, and I know there's many, many angry bikes getting ready to come by me, some at speeds approaching 150 mph. I signal with my arm, I'm coming down, and coast into the infield grass, before the chicane. All the bikes I was so worried about getting past me, continue on without a second glance. The corner workers have noticed me, and are heading in my direction. Strangely, I notice the bike is still running. What the hell? I rev it up a few times and it seems good. I look onto the track, have to wait for some back markers to come by before venturing forth, and dive back into the chicane. So far so good. I know I've lost a good ten spots, but now finishing the race is the only thing

Unfortunately, finishing that race was not in the cards for me. As I left the chicane and hit the banking again, the bike continued with it's waah waah bullshit. It wouldn't run with anything over half throttle. I coasted down the banking, along the pavement skirting the infield and dejectedly rode back to pit-in. I'm not sure of the problem at this point, but I am not ready to give up. There's still one more race, and I aim to finish it.

Everyone is talking to Frank about his tenth place finish when I pull in. Zooke asks what happened and a quick discussion begins. We all agree fuel starvation must be the problem. I quickly unscrew the fuel filter and the friggin' thing seems to be packed with sand? Jim comes over to help, and requests some paper towel. He empties the float bowls and gives us the good news that there's no sand in there. It's between the tank and the filter. The tank has a lousy cross-over line that makes it a pain to remove, but we get it off. There's about four different people including me, working to get the bike ready. Just one race before Formula Vintage, we'll never have the bike done in time. But wait, there's a red flag, the whole race will have to be restarted. The gift of time is given us, will we make it? There's not enough time to clean the brass filter element entirely, so I opt to run without it. Dave recommends pulling the petcock apart, which we do, then drain the tank. I begin replacing the tank when first call is given for my race. Jim tells me to get my helmet on, says he will put the tank back on. I zip up the leathers, fasten my lid and pull on my gloves. There is no way to know if we solved the starvation problem until I get out on the track. Frank is off to the grid. Jim has the tank on just before second call. I start the bike and ride toward the grid, when I notice the odor of race gas. I look down and it's pouring out all over my right leg, from somewhere under the tank. I call Zooke over and he comes running up. I figure it's just a line we forgot to hook up or something dumb, but he can't find the leak. When he finally announces the tank itself has sprung a leak, I lose it. I threw the bike down on the ground and walked away, chucking my helmet and glasses at least twenty yards. Dave (South St. Cycle, go there!) comes over and tells me to calm down, we're not out of it yet. He begins canvassing the whole paddock in search of some miracle gas tank sealant, which he does indeed find, only after my race has started. Heading over to the Sundial trailer, I play punching bag on the aluminum door with my left hand, (sorry about the dents, Zooke). If Dave wasn't there to calm me down, I might have gone for a knockout on the poor, unsuspecting trailer. It wasn't until about five minutes later, that I got really pissed. Dave was still looking at the bike and tank, trying to figure out how it could have started leaking. There was no rust, no bad dents or anything. Finally he asks if I put the tank on last time. When I reply no, he tells me to come have a look at my tank. Dave says, "Whoever put this tank on last, has cross-threaded both the bolts that hold it on in the back. See how cranked down that bracket is? It broke the weld on the tank, which is what caused the leak. They cross-threaded it so badly, it pulled the bracket sideways. See?"

I am livid. Put out of the race by something so dumb. All that money, time and effort, wasted, because of someone else's error. I feel like smashing something, like puking, like crying. I wished I never came to Daytona. And of course, I looked to lay the blame elsewhere. I mean, I didn't cause the tank to leak, it was somebody else. I didn't build the bike, it was somebody else. I didn't cause the fuel filter to get clogged in the first place, it was somebody else. And so on....

In retrospect I realize that kind of blame laying wouldn't get anybody anywhere. It was a tense time before the start of that last race, with a group of people all working feverishly to get me out there. Somebody turned a wrench just a little too much in the wrong direction. It's an easy thing to do, especially if you don't want to be the one blamed when the tank falls off in the middle of a race. So you give it just a half turn more, and something breaks. I could ask, why me?, but then a thousand racers will stand up and tell a story of something even dumber that somebody did (themselves included) that kept them out of a race, or worse yet, from winning it. As long as there is racing, there will be stories of heartbreak, I just wish I didn't have so many to tell this early in my career!

It was a damn good effort on all parts. Zooke built one hell of a bike, and if I ever learn to ride it, I may just win some races, (thanks). Frank kept it entertaining with his racetrack tales and anecdotes. (By the way, if you're in the UK, you've got to go to the Thundersprint that Frank puts on. It's sort of a motorcyle racing carnival, with all sorts of wonderous things. Check it out at thundersprint.com)(is that a good enough plug, Frank?) Of course there's everybody else, Dave at South St. Cycle, Matt Parrow gave me a $3 donation to help out, my friend Phil (without him I never would have seen a racetrack, he also gave me twenty bucks), all the people who helped (or tried to). Thanks. Hope this clears the air.

Frank told me some Isle of Man stories, unloading the bike, firing it up, riding literally 10 feet and having the crank go. Or getting the bike to the line and having the blasted thing sieze right before the start. There were quite a few more. The one thing he kept telling me was to get out while I could. "You're young," he said, "There's still hope for you. Stop this silly racing business and you can still enjoy a normal life. Do you really want to be a daft old bugger like me, riding around with a bunch of other old farts on

old bikes? Get out now. Your wallet, your family, your girl and your body will thank you." I knew he had a point that any sane, reasonable person would have taken to heart. That's why I chose to ignore it.
When someone asked Mick Hemmings what it was like to go roadracing he said, "You go to the toilet three times a week and flush all your money away. Then you get on a bus and when it gets up to 60mph you jump off it." I'm beginning to understand exactly what he means.

I eventually made it home from Daytona, my only souvenir an 8.5"x11" AHRMA Participation Certificate and a wallet with nothing but my driver's license in it. This time I drove the 25 year old van most of the way, exhausting but much less stressful than being a passenger. We arrived at my home and unloaded the bike in the middle of a lake effect snowstorm. (The next day, I used a snowbank to load the bike into the back of my pickup, really.) I sprawled out in bed, ever so grateful that I took tomorrow off from work. The only thing I wanted to do was listen to some music and pass out, forgetting about motorcycles for awhile. I put a disc in the CD player, pressed play, nothing. The goddamn CD player didn't work. This wasn't my week.

Next episode
Back to index page

Suzuki Snapshots

Kris (Krash) Larivee

Shannonville Recap: RACE Series Round I
Posted by Artist still known as Krash on May 6, 2002

Overall it was an excellent weekend at the track, with only a few glitches of the mechanical and administrative type. Friday was cold, damp and cloudy, not exactly how I had hoped to start off my racing season. It had been pouring all week, so I decided to look at the ominously dark skies as an improvement, a sign of better things to come? The first problem came at the border, exchanging my money. The woman shorted me $40, my gas money to get home! I didn't realize this until reaching the track, by then too late. I decided to shelve this problem in the "Worry about it later" section of my brain, which is now overflowing into the "Damn, I forgot all about it" section, which is already in severe crisis due to a lack of staff and is now sending all inquiries to the "I don't give a rat's ass" department (currently on strike for lack of a contract). I came to race, and nothing else mattered.

We were to run the Nelson circuit of the Shannonville Motorsports Park, an over-glorified go-kart track, with straights shorter than President Bush's attention span, a carousel, hairpin, rapidly decaying pavement and slippery cement patches, the perfect place to test the adhesion limits of my new Avon front tire. First lap on practice day, I nearly missed the second to the last turn because I was unsure of the layout, which was not clearly demarcated. I held on, and the cold tires stuck well enough to get me around the corner and propel me to my next obstacle, a river of this week's rainwater running over the track in front of me, followed by the hairpin. I eased myself across this and continued on my way. The rest of practice was uneventful aside from a lost baffle and cap to one of my silencers, giving the bike a strange tone. I searched the track high and low and finally found it, completely flattened!. Never one to say die, I reshaped the pancake-like metal into a configuration slightly similar to it's once cylindrical glory and safety-wired the bugger back in place, robbing a screw from the other silencer to hold it as well. Either both baffles would remain in place or I'd fire the suckers off at the competition behind me, a warning not to mess with Krash of the Titan!

A chilly evening was spent reading Ray Bradbury in my one man tent, wondering if I could get a hotel chain to sponsor me in return for a free room. I fell asleep dreaming of tomorrow's racing glory, trying to block out the sound of the trains that run by the racetrack all night long. I awoke to sunshine and temperatures hovering just a few degrees above the freezing mark. As a rule, I try to stay inside my tent until I hear the first bike running, my wake-up call.

Practice goes well, and after a gearing change the bike is near perfect. I am hopeful of a good finish, and confident that the bike will not break. With worries about machine fragility out of the way, I am able to concentrate on the track and my riding. The dual disc set-up with pads from Vintage Brake and braided lines is magnificent, providing excellent stopping power and wonderful feel. The Avon 90/90/18 is very sticky, inspiring the rider to throw the bike in and never worry what the front end will do. Phil Lee and I had been doing a bit of tuning to increase the low end and mid-range, which seems to have paid off as there is noticeably more power in those areas. Power delivery is still somewhat pipey, without much below 5500, but freight train pulling power above until the 8200 rpm redline. Despite that peakiness, the power is not unpredictable or frightening, (like some two-stroke twins and triples of the same era who shall remain nameless), this is not a bike that will wheelie you over on the line or come on the pipe uncontrollably while leaned over in a corner, (or sieze the top end while cracking the ton on the back straight), but a heavy hand on the throttle can set the back wheel spinning in a corner.

The powers that be decide under these cold conditions and short track configuration that circumstances dictate a 2 lap warm-up, much to the relief of all riders. Far too many bikes and bodies have been wrecked from racing on cold tires, and it seems the officials are finally taking heed of this. The light system is working, so no need to watch the flagman. I start on Row 7 for the Club Cup heat race. Only two rules govern the machines in this class, they must be air-cooled and twin-shock. Every sort of variation on this theme has been run here. Many Vintage racers (myself included) run this class, even though we are down on

horsepower and handling to the more modern bikes that fall under those two rules. The man to beat is Rich Wilson on his '83 framed, '98 motored Ducati 900ss. The combination of his experience and bike make him nearly a shoe-in. There's also the hard charging gentleman on a built KZ750 twin who is one of the most aggressive riders I have ever seen. He routinely beats faster, newer, better suspened and braked bikes by virtue of having a set of cojones so big he almost needs a sidecar to carry them. He intends to give Rich's Ducati a run for the money. I get a bad start and it takes me forever to get the bike singing. When I finally do, I pass a few riders and settle into a good pace. Saturday is not the time for heroics. There's the finals on Sunday for that. I finish seventh after being passed by a drum-braked Honda 350! That made me a little irate, until I find out the rider is Mike Burke, a gentleman with decades of riding experience and many trophies to his credit. It still stings, but not as bad.

The Vintage race goes about the same way, with me running third until that blasted Mike Burke scoots his 350 past me again! I finish fourth, hot on his rear Dunlop, a quick glance rearward confirms that the rest of the pack is not in sight, which takes the sting out of getting beat by that 350, again. We aren't even running the same class, although we are gridded together. Still, when I'm out on the track I have no idea who is in my class or not, my only goal to beat every single bike I can. I watch some of the other races, eat dinner and retire early, going over every inch of the track in my head and wondering if my brother the stock car driver will show up tomorrow to watch me race.

Day 2, RACE finals, Mixed Bag
Posted by Need to lose this nickname! on May 6, 2002

In Sunday morning practice I noticed the clutch beginning to slip. I had abused it alot at Daytona, so this should come as no surprise to me, but I am worried, hoping it will hold for the day. My brother has shown up with girlfriend and some other friends in tow. I want to give them a good show.
That's exactly what I do, with perhaps the greatest start in all of motorcycle racing for the Club Cup final. I started on row 4 and was up with the Ducati and KZ750 before turn one. I'm so excited with this start I decide to go hard right from the onset and get some distance between me and those behind. The only bike that gets by me is Ralph Sholtes on his built GS750 16 valver. I am running fourth and mean to stay there. The bike is going great other than clutch slippage on the short straights. I continue in fourth for three of the eight laps when I miss my brake marker coming into turn 3. I turn in too late and end up wide in the turn, the outside of which is off-camber, strewn with loose pavement chunks and bits of rubber. I get the machine over nearly on the engine cases, but it's still slipping to the outside. Fearing a lowside, I decide to stand the bike up and run off, figuring I'll just get back on the track. The ground is full of water and mud, but I keep the bike upright and close to the pavement, light on the rear brake. When I had the bike down to about 20 mph I put my left foot down and started to turn left toward the track. My boot slipped in the mud and down I went, machine and all. Of course I was close enough to the track to smack my head and left side down on the pavement. I felt my helmet hit and bounce off the ground, then the bike swatted my left hip and elbow into the tarmac. I remember thinking three things as I went down, 1. I have broken something on the bike. 2. I have ruined my new helmet. 3. I have just embarassed myself incredibly in front of my brother. I picked myself up out of the mud and checked the bike out. Nothing bent or broken, apparently. Some mud here and there. The corner worker asked if I was going to go back out. I didn't realize that was ok, he radioed the tower and they said if I thought I could keep the bike up and if it wasn't leaking, I could go. I went back out and finished dead last, but I finished.
Back in the pits a quick check reveals the coil bracket has broken and part of my $500 ignition system is dangling, almost in the unfiltered carbs. Two zip ties and some electric tape put that lot right. It was at this point various officials began visiting me. The first were the tech guys, to check the bike and helmet. He said my head hit the ground pretty hard, but the helmet looked ok, aside from a few scratches. The bike was fine. They left and the next official came. I felt like Scrooge being visited by the ghost of Krash's past, now the ghost of Red Tape Present. This tech official, (from the VRRA, not RACE), said there were concerns and even a possible protest over the class the Sundial Suzuki was entered in, Vintage 500. Last year the registration people at RACE had put me in that class, and had done the same thing this year when I told them the bike was a 500. This learned official from the VRRA began a five minute lecture about why my bike wasn't legal for the class, how I would lose my points with the VRRA in the event of a protest and generally hurt everybody's feelings if I didn't have the bike moved into P2 heavyweight, a class where the Titan really doesn't belong, but due to the VRRA's rules it actually does fall into. I informed this pencil pusher that it was of no import to me which class I ran in, that he could put me in Pro Open Sportbike for all I cared. Then I asked him who was protesting me, as I was the only person on the grid in Vintage 500! He stuttered a little bit and said that I could be protested if someone were to show up (this is twenty minutes before the final, mind you!), and besides, he retorted, Vintage 500 is a very fast class and I would be much better off in P2 heavyweight. This squinty-eyed little chucklehead was regarding me with all the suspicion of a cop grilling a perp in a capital crime case. For an organization that only runs two events a year, they sure spend alot of time policing events run in conjunction with other groups. God forbid I receive points in a class where no one else runs, I might help to save an ailing class or even take home a trophy that will otherwise be thrown away! I told this pissant that if he wanted it switched, he could switch it. I came to race, not correct the mistakes of others, and again re-iterated my sentiment that I did not care which class I was run in, nor was I going go deal with the already stressed out people at registration, and that I would leave it up to him to decide what to do. He huffed and puffed and then scrurried off in search of some more red tape to bind me with.

Now many of you will point out the glaringly obvious. The man was right. At least according to his rulebook. I would never dispute that a mistake was made, now that I understand how RACE breaks down the vintage classes, according to the rules the VRRA sets down. Last season, being new to RACE and VRRA I was not aware of this and I just thought RACE simplified the rules of class breakdown and put the 500s together, regardless. Oops!, sorry, I was wrong! So when they did it again this year, I

was still unaware of the mistake. So my beef really isn't with the rules, (although I may not agree with them entirely), it's with the way the situation was handled. I don't enjoy being treated like a criminal by officials of the club I support with my membership and racing fees. It's not like I was going to walk away with unwarranted prize money, or a championship or a big name sponsor. I wasn't caught running fuel injection or turbo or a single sided swing-arm. Somebody made a clerical error and gridded me in the wrong class by myself. This is the second time I have felt a little sour in my dealings with VRRA people (the first being an incident last season with a VRRA person at the Mosport gate who referred to me as a f@#$ing American). And the club wonders why membership is declining and the grids aren't full. If they continue to treat it like an old man's club, eyeing new, younger members with suspicion, then that's just what they'll be, a bunch of old farts holding wheelchair races in back of the rest home, talking about how great their motorcycle club once was.

So I was switched to P2 Heavy, but my spot on the grid did not reflect that, despite my fourth place finish overall on Saturday. I should have started second row in P2 heavy, but was gridded back on Row #10, almost the very back of the entire field. A good start ensured that I passed many riders before turn one, but not feeling too brave I hung back for the first couple of laps, picking off an occasional rider here and there, despite a slipping clutch and the pain setting in from the previous race's crash. I finished fifth in P2 heavy and 11th overall, not a bad job. I left for home feeling good, tired, and a bit sore (at some officials and in my body). Two weeks until the next one, I can't wait!

Kris- I think you ran into the hornet's nest....
Posted by Jim Winters on May 6, 2002

...after it had already been stirred up! If I understand the issue correctly you were running in the Vintage 500 (GP) class that has an eligibility cut off of 1967 and they bumped you into Heavyweight Super Vintage that has a cut off of 1972. This puts you up against 750s (including the TR750 which is really a T500 with another cylinder - explain how this is an even match??) and makes being competitive a tough job. I distinctly remember a VRRA member telling me that there has been a long, bitter, and recently fought internal battle over the eligibility of the T500 in the Vintage class. Despite evidence that the T500 was available to some markets in 1967, the VRRA (and AHRMA) won't allow it in the 500 GP class. This is only what I have been told - I am not a VRRA member and I have not been present at any of the eligibility discussions. I will say that this is why one T500 racer we know switched to a TR750 instead. If you HAVE to run in the Heavy Super Class, why not take advantage of the extra cylinder??? By the way, I also noticed that Mr. "Whittless" didn't leave an email address after his less than kind posting on the VRRA board although he didn't mention you by name. There's always at least one killjoy politician in every crowd!

Posted by Kris Larrivee on May 6, 2002, 10:59 pm , in reply to "Track Nazis is track Nazis....or scumbags, if you prefer."

It's good to know someone out there understands what I mean. I decided to let the whole issue rest until I saw the post on the VRRA board about "cheating", which, without naming me directly (cowardly, if you ask me) was intended for me, by virtue of some of the information he put in his post. He knew that most of the members would know exactly about whom he was referring. I think this guy was so excited to have caught himself a cheater that, after wetting himself, he had to throw his weight around and put the hammer down on me, snotnose punk-ass kid that I am. Instead of being friendly and helpful, pointing out my error, he comes up to me threatening disqualification, loss of points, and protests. What a self-important little busybody! I know it's his job to regulate this kind of thing, but where was he last season when I, unaware, entered this class twice with my illegal machine? Probably too wrapped up in his Senator Joe McCarthy impressions, witchhunting CB350 riders using non-OEM pistons and disc brakes that looked like drums. There's enough hassles with racing already than to have to deal with people like this at the track. I'm just getting to the point where I won't take their shit anymore. I could have sat back and quietly let this slip into the background, but that's exactly what the bureaucrats want, it just enforces and legitimizes their power. Yeah, I'm banging my head against a wall, but I think my skull is harder.

You don't want me to go there. But since you asked.....
Posted by "Krashed" Larrivee on May 24, 2002, 2:55 pm , in reply to "Kris, what happened at Shannonville?"

It began as a typical race weekend, a late night in the garage preparing the racebike, followed by a dawn that arrived far too early (and a might cold if I may say!). The sky was dark, awash with threatening clouds, the mercury at that point where precipitation may fall wet or white. My wallet was exceptionally thin, so much so that I knew I wouldn't be able to afford the petrol for the ride home if I didn't sell the A7 Kawi engine I was bringing across the border for a guy. If he didn't buy it, I might be reduced to a "gas and go", something I have certain experience with. Yes, it was a typical race weekend.
I froze my ass off in practice. It was a National Weekend, meaning the top pros from all over Canada (hold the laughter please), and the entourages that entails would be crowding the paddock and the track. Bringing with them the groupies, pit bike antics, wheelies, stoppies, burnouts and leopard print hair. It also meant that the regional RACE guys would get screwed for practice time and that two sets of rules would be in effect. No practice starts in pit lane, no wheelies, burnouts or stoppies for the "regional" guys, and no rules for the "pros". There was still a large turnout for Club Cup (my race), and it promised to be a fun

weekend.

Saturday, heat race day, was still chilly and cloudy. I was gridded dead last because of a mishap in the last round involving a low speed get-off in the mud and a last place finish (but a finish nonetheless). I wasn't worried, as the Titan is a rocket off the line and I knew I could beat many of the bikes gridded in front. This proved to be true as I found myself in sixth going into turn one. The Titan didn't let me down, murdering nearly a dozen bikes off the line. The rest of the six lap race had me chasing down a 16 valve CB750 for third place. He was very erratic, never holding his line. I could get a wheel up on him in the corners, but as soon as I did he would weave and punch the gas. Deciding a heat race is no place for heroics I kept pace behind him waiting for a chance that didn't come. I finished fourth, putting me on the second row for Sunday's final. Not too shabby. The bike was running and handling excellent, aside from a few traction problems due to the cold pavement. I spent the night in my tent planning strategy for the final. I knew I had to lead the race going into Turn One off the start and I was confident the Sundial Suzuki could put me there. There were faster bikes behind me, but I hoped opening up an early lead would put me on the podium, preferably the #1 spot.

We were given a three lap warmup due to the cold temps for our Sunday final, which meant I was going to charge hard from the get-go hoping the tires would be warm enough. The red light went green and off went the cannon that is my Sundial T500, easily pulling the holeshot and me into the lead. I would stay there for the first lap, until a crazy gentleman on a KZ750 squeaked by, using his superior torque on one of the slow corners. I chased him for several laps, resigning myself to second spot on the podium. The bastard is just fast! There were a few laps left, the 750 and I came into the slow left hander before the haybaled righthander known as Allen's corner. I was taking a wide line to avoid a slippery concrete patch and maintain my drive for Allen's. I leaned over, hit the apex and was just preparing to get back on the throttle when the noise of an engine distracts me. I shift my gaze down and left, only to see a mag wheel come into contact with my bike, just behind my boot. I felt the bike go out from underneath me. I remember hearing the sound of metal, plastic and leather grinding on pavement, then I saw sky, ground, sky, ground as I went tumbling, landing on my head, neck and back, finally coming to rest on the outside of the corner, my bike somewhere off in the weeds. I got up after what felt like a lifetime and tried to find the bike, which was off in the mud. Corner workers were running madly at me by this time, shouting "You allright? You OK?". A quick check revealed my shoulder was not quite where it should be, having been dislocated in my "fat man's waltz" across the tarmac. At this point other injuries were not yet surfacing due to the extreme adrenaline rush I was experiencing, along with the fierce desire to kill the mother#####er that ran into me. With some assistance from the corner worker (they are great people, hug one today!) my shoulder returned to it's original position (it's happened before) and my bike was pushed away from further danger. I had to remain at the corner worker's station, pacing like a rabid panther, until the race was over. Whereupon I pushed the mangled motorcycle back to the pits, and went looking for the spineless cur that just ruined my day, my bike and my brand goddamn new helmet.

By the time I found the gutless pig, his leathers were off and the bike was loaded into the back of an enclosed trailer, and covered. I ran around the pits salivating until he was located, pointed out to me by someone else. I asked who was riding the black GS750 #104, and this skinny dork comes up to me and says it was him. I lose my shit, screaming and spitting all over this little puke. My face is about a hairs' breadth from his and all I can see is red. Every ounce of self-restraint I have is being exercised to keep from tearing out his throat. The most this lilly-livered pussy can do is stutter a few "I'm sorries" and a few tears running down his cheek. What pissed me off the most was that this ####head didn't even have the balls to face me, instead packing up his shit and trying to hightail it out of town before I caught up with him. I would have driven all over Canada to find his ass, only the consequences would have been much worse had we been off the track. Turns out this bozo was a rookie on his second race ever, on a bike way too fast for him, riding way over his head. I made many mistakes my rookie season too, but I never endangered anyone's life but my own. What he did was unacceptable. When I checked with the track photographer, he had photos of the jerk-off hitting me and my resultant flight. I can e-mail them to anyone who wants to see them, just send my your address. Maybe Zooke will post them here for everyone to get a laugh out of. So now I have a few weeks before the next race to fix the bike and my body. Aside from the dislocated shoulder, I cracked two ribs, got whiplash and two broken fingers on my right hand (from punching my pickup truck repeatedly, it was that or that shit's face). That little ####bag better just stay out of my way, or next time I won't be so nice. That's my story, have a nice day. Jesus, I guess Stephen will accuse me of playing the victim again, damn.

Kris

Next episode

Back to index page

Suzuki Snapshots

Kris (Krash) Larivee

Mosport Report, The Return of Krash pt. 1
Posted by Krash on August 30, 2002,

I arrived at Mosport Raceway in beautiful Canada last Thursday evening only to find many others had beat me there. Tents, trailers, and trucks were bivouacked on the grounds in anticipation of the weekend's combat. Warriors had journeyed many miles to joust on the undulating 2.5 mile asphalt ribbon that is Mosport, with it's elevation changes, off-camber blind corners, interminably long back straight and uphill hairpin. It's not a place for the faint of heart, most of the corners can be taken at an excess of 90 mph, if your cojones are big enough. The back straight is a bike killer, unforgiving to gearing or jetting mistakes. By the end of the weekend, many bikes and riders will take the "ride of shame" back to the pits in the pick-up vehicle.

After practice on Friday afternoon is the Honda Endurance Race, a 2 hour affair open to all vintage legal bikes. Last year Stephen Szikora, Eugene Stewart and I rode to a second place in the Period Two Heavyweight class on Stephen's near stock T500. I will be spectating this year, preferring to concentrate on the two classes I will contest aboard the Sundial GP T500, Period 2 Heavyweight and Period 3 Middleweight (a bump-up class for the Titan). Scott McVicker jumps out to an early lead on the much modified CB750 DOHC, with a large displacement Guzzi hot on his heels, as well as a big bore BMW. They swap the lead a few times before McVicker pulls in to the pits with a smoking engine, not to return. This would not be the last bike to succumb to the rigors of the race, testing the fiber of both rider and machine. The race comes to an early end when a KZ1000 oils the track all over turns 2 and three, sending two other riders crashing off the track. A poorly secured oil line is found to be the culprit. How many more people will have to be hurt before people begin checking their bikes more thoroughly? The scoring and timing volunteers have their hands full trying to sort out the results. I'm still not sure who won.

Saturday's racing goes well, the most serious incident a broken ankle when two riders collide in the hairpin. My T500 goes well in the P3 race, finishing eighth out of 33 bikes, including several in-line four cylinder Kawis. The key is to get the jump on the start and get ahead of the traffic and stick with the lead pack. I got a terrible start and had to fight through the slower riders. I know what to do for my P2 race later in the day. I get an excellent start, running fourth going into turn 1. That all changes when we hit the back straight, as the larger displacement bikes come flying by. The Titan sounds somewhat flat and doesn't seem to be pulling very well. I convince myself it's just that the other bikes are faster, but by the third lap I know something is wrong. Suspecting a knackered engine I take it easy and finish 14th, cursing in my helmet. Back to the pits for a diagnosis.

Mosport Report Pt 2
Posted by Kris Larrivee on August 31, 2002

A quick check over the bike reveals nothing out of sorts. I borrow a compression tester but nothing out of the ordinary there either. Tired, I decide to sleep on it, a decision I would later regret.
Sunday morning after another long drawn out rider's meeting (yes, I know what the green flag means!) I started the bike and noticed smoke coming out from underneath the engine. I know the machine is oil tight, so the only explanation could be a cracked expansion chamber, not uncommon in the two stroke world. Lying on the stones beside the machine confirms my suspicion and answers my lack of power from the previous day. A few choice phrases that would have a Royal Marine blushing ensue (not for the last time!) and quickly the offending chamber is removed. I borrow a wire welder and enlist a fellow racer to tack the pipe back up. My practice group is on the track. The P3 race is the first one on the program for the day. Looks like I'll have to run it cold. I am still safety wiring bolts when first call for our race comes. Leathers are hastily pulled over my body, helmet strapped, gloves fastened. As I head to pre-grid, I am swearing inside my Bieffe, didn't have time to check fuel or tire pressure. I arrive only to find there has been a 10 minute delay. I screamed #### at the top of my lungs, I think the pre-grid volunteer thought I was yelling at them, and headed back to the pits for a splash of fuel and a zip of air in the tires.

I'm starting on the fourth row, the butterflies fluttering in my gut. The flagman twitches and I attack, only to bog the engine and have to slip the blasted clutch all over again. I'm ninth heading into turn one, but catching the lead traffic. It's Sunday and all stops have been pulled out. Win it or bin it is my attitude of the day. The season is almost over, only one race to go, plenty of time to rebuild the bike and heal the body. So let it all hang out mother####er! That's exactly what I do, running up into the sixth spot and feeling pretty damn good. Until the third lap when I hit the back straight and the bike is feeling flat all over again. I know the stupid chamber has cracked again and my hopes of a podium finish are dashed, with the machine barely pulling 100 mph on the straights. I fall back into the 11th spot out of 33 machines and that's where I finish, still cursing inside my helmet.

Back in the pits I begin a frantic search for someone with torches that can braze the chamber. Bless the Norton sidecar racers for their torches and high quality rod and my fellow racer Wayne Raynard for his brazing talents. Within the hour the pipe is fixed and remounted on the T500. Time for lunch and planning strategy for the P2 heavyweight race.

Due to a mistake in the VRRA rules the T500 falls into the heavyweight class, putting it at a serious horsepower disadvantage to the CR750 Hondas, 850 Nortons, H2s and other bikes it was never meant to run against. I know I will have to beat these riders in the corners and draft them on the back straight. Even with the Titan running well, they still have some top speed on me. The men to beat in this class are the Hurst brothers, Peter and Chris. One is running a Rickman framed Triumph Triple, the other a seriously tricked out Yamaha XS650. With a half a century of racing experience between the two brothers and such powerful and sorted bikes, they usually walk away from the rest of the pack. The rest of the grid is made up of 750 Hondas, a couple Nortons, an H1 and an H2 and other bikes I can't remember. I've spent the night and few spare moments today working out a new line in corner 9. Most riders take an inside line here, staying off of a concrete patch about mid-corner. I watched a 125 rider do it on the outside of the patch during a race yesterday. He passed two bikes and was set up for turn 10 perfectly. I tried it in practice and it works, although the pavement is bumpy and the back end gets a bit loose at race speeds, but it can be done, I think.

We take off from pre-grid and head out for the warm up lap. I am following the Hurst brothers into turn two when the Trident pulls off line and heads for the side of the track. I see what appears to be a dead snake in front of me, only it's a drive chain! The 650 Yammie slows down and we take a relaxed trip to the start/finish line. The flagman begins his procedure and we all assume the start will proceed normally. I put the bike into gear, determined to get a good start. The red flag goes down and I am awaiting the green, but the flagman throws it to the ground and unfurls the red. Someone motions for us to kill the machines and I hear the dreaded words. "Oil on the track, it's going to be a while." Apparently on it's way to resting on the racetrack, the Triumph's drive chain took a detour through the engine casing. Beautiful. We prop our bikes along the pit wall and stand around sweating. Some of the racers are friendly and talkative, others are still wearing their "game faces". Thankfully Stuart Pilkington (VRRA executive and excellent racer) shows up in one of the track vans with a report and some cold water. Much to our amusement we can smell the heated up brakes of the van. Stuart says he had the thing over 100mph on the back straight. I can only laugh. Forty minutes later we put our helmets back on. It's time to race! I am hoping that wait will have some of these guys off their guard. We get one warm up lap and the race is shortened from eight laps to six. The green flag flies and I am off, about mid-pack into the first turn. I get to fourth spot at one point, but it is short lived as we hit the back straight. I find a Honda to draft and he carries me right to Turn 8, where I promptly pass him on the outside. Pleased with that performance I look for more victims only to find the father and son team riding their CR750s. I have yet to beat this pair in competition and I mean to do it this time. I pass one of them on the outside of Turn 9, utilizing my strategy from earlier, and stuff the other on the inside of 10. One of the CRs comes by me on the front straight, but I am right on his ass. I pass him again on the outside of Turn 2, holding the throttle to the stops and feeling both tires drifting, almost sliding. I make it. Both of the CRs get me on the back straight, but I am in their draft and it's like an instant replay of the last lap, as I pass one on the outside of 9 and the other on the inside of 10. I am screaming inside my helmet, eyeballs bulging and having the time of my life. The bike is sliding and chattering through some corners, but I hang on. The three of us battle it out for a couple more laps, but one CR falls off the pace and I don't see him again. I get caught up in a lapper and the other Honda gets by me. I am lapping this particular guy for the 2nd time this race, and it's only six laps, and I'm not even one of the fastest riders! Someone needs to take some track schools or rethink this racing thing before he becomes a speed bump! With this shortened race I am unable to catch the other Honda, but I am right on his ass when the checkers fall. I finish sixth, my best so far in the P2 heavy class. Imagine what I could do in a more competitive class! The bike has performed beautifully, even under these demanding conditions. I wish I could do this every weekend. Time to pack up and drive home, dreaming about the last race of the season, making plans for next year. Racing is the greatest thing.

Next episode

Back to index page

Suzuki Snapshots

Kris (Krash) Larivee

Krashman and SuperZooke Battle the Dying 302
Posted by Krash on March 5, 2003

The trouble started early, in fact the first hill we tried to ascend had the poor, overloaded vans motor coughing and spitting and threatening to die. It was an 85 Ford Conversion van with 144 grand on the odo, but Zooke assured me it was a strong runner. What reason had I to doubt him? Figuring it was water in the fuel, our brave heroes stopped at the first gas station for some Dry-Gas. Soon it was apparent that this wasn't working and it was time for plan B. But was there a Plan B? Not really. We just put the hazard lights on and crawled up the mountains at 35 mph, listening to the tired engine sputter and puke what seemed to be it's last breaths. The problem would come and go, sometimes the thing would run fine, then suddenly almost die. Zooke felt it was a vacuum leak, I didn't know what to think, except that I was having visions of last year's Daytona disaster (see the archives). Finally somewhere in the rural, poor backwoods of Georgia the intermittent problem became unbearable and we pulled into a boarded up gas station, about 4am. At this point our heroes nerves were wearing thin, very thin. Bleary-eyed and angry we both stared into the dark engine compartment looking for a sign. Zooke kept futzing with the vacuum lines and I kept having waking nightmares of the 302 tossing a rod right there and leaving us stranded in 'good ol' boy country'. Granted our skin is white enough to avoid a lynchin', but I had my Confederate Flag tattoo removed a few years ago after completing my detox program and Zooke currently hailing from Virginia might not be enough for rejects from "Cops" who were still fighting the Civil War. Ok, that might be an overstatement, but you get the point.
As I gazed at the aging V8 and Zooke poked and prodded with every line and wire I could have sworn I saw a jumping spark. When I asked my partner he told me he had replaced all the plug wires and was sure our problem lay somewhere in the tangle of tubes and hoses jutting out from the carb. Too tired to argue I retreated inside the van to cry. Well, I would have cried if my eyes weren't so dry and bloodshot. I could see an even bigger SNAFU than last year, the very real possiblity of missing out on an $80 practice loomed on the horizon and who knew what else? Was my friggin' luck ever gonna change?

Zooke was feeling the pressure as well, but he took it much better than I did, attempting to eliminate the variables one by one in a seemingly futile search for the source of our trouble. We hit the road a half hour later and made it a good 35 miles before the damn thing started it's shit again. Needless to say, Zooke and I weren't doing a whole lot of talking at this point. The sun started to rise on our puttering little caravan as exhaustion and hunger set in, just to the left of our mutual frustration. I was beginning to hate the entire world and wanted to crawl into some hole and die. I can't vouch for Zooke, but his mental state was somewhere in the ballpark. A few more hours of the on again off again engine performance brought us to the border of Florida and to the doorstep of a Ford dealer, who promptly refused to help us, muttering something about not having any technicians on duty (except for the three or four we saw hanging out in the bays smoking cigarettes). Don't kid yourself man, customer service is dead.

With forty miles left to go to Jennings GP I began to care less about solving the problem of the ailing 302 and just getting our asses to the track and trying to get in some damn practice. I hadn't ridden a bike since October and was just a bit nervous about getting back in the saddle. Without much further hulaballoo we pulled into the sandy wasteland that is Jennings GP, paid our gate fees and looked for a suitable place to set up shop amongst the hundreds of other racers that were already bivouacked there. A two-stroke GP bike was being warmed up in the paddock, the smell of race gas and synthetic Klotz in the air and the hair on the back of my neck is standing up, a smile on my face. I shake the cobwebs from my brain and all the weariness falls from my shoulders. I am home, I've been gone too long. We made it.

The heart of the matter.
Posted by Krash on March 9, 2003

Zooke and I set up shop quickly and rushed the bikes through tech. My GP bike starts and idles well enough, but this will be the first time I've ridden it with the Crook's Squish Heads and Zooke's super-secret porting. He made me sign a confidentiality

agreement before even letting me look at the cylinders and I am also under threat of death should I reveal any Sundial secrets! I find out where pit-out and pit-in are, suit up and head to the track, more anxious than a virgin on prom night. I remind myself to take it easy and bed the new motor in before doing anything stupid. I wheelie away in second gear and take my first tentative lap around the superb Jennings GP circuit.

I say superb, and I truly mean it. The course is a little over two miles, with coarse new asphalt, and plenty of sandy runoff room, with no walls or other obstacles to collide with, (knowing my "track record" many of you will agree this is my kind of place!). The track is a motorcyclist's dream, with fast sweeping lefts and rights, many right to left chicane-type flicks and 100 mph kinks in the straights, and absolutely no damn cars allowed! I soon learn that with the excellent pavement and lack of debris on the outside of the corners, you can put the bike just about anywhere in the turn and make it work. The bike is running sweetly and within a few laps I'm starting to push it a just a bit. The difference the Crook's heads make is amazing. Corners I would have to scream into in second gear to keep the power on last season are now a breeze in third, with torque much lower in the rev range pulling me out of the corners. The bike feels more like a four-stroke single than a two-stroke twin. I'm passing slower riders and loving it.

On the last lap of my session I come in hot and kill the engine to do a plug chop. It's a pain in the ass pushing all the way back to our pit, but necessary. On Zooke's insistence I am running K&N filters, which is a good idea considering how sandy the paddock is at Jennings GP. Much to my disbelief, even with the filters and the new porting, the jetting is still spot-on, as evidenced by the beautiful tan on the plug, the kind of tan that two-stroke tuners see in their dreams. The new Avons are working well, (110/80/18 front and 130/650/18 rear), and aside from some front end chatter in the two fast sweepers the bike is handling well. Even when pushed hard the Avons will slide predictably without doing anything silly. I am having a blast riding this thing. It's never run so well! Other than some difficulty finding neutral and an occasional missed shift everything is good. Zooke and I mess around with the clutch in-between sessions but it's hard to find a happy medium, too far one way and the thing slips like a b###h and too far the other and it creeps on the line with neutral harder to find than an honest politician. Practice ends without a satisfactory solution to the clutch dilemma, I hope to take care of it after the first practice session in the morning. Just as the track closes for the day, the rain starts and it downpours all evening, alternating between a steady piss and a cats and dogs affair. I have a damp night in the cab of Zooke's trailer, but sleep well, confident that the bike will go well in the morning. My first race is Formula Two-stroke, a bump-up class that will have me running against 85hp liquid-cooled RZ350s not to mention the usual contingent of bloody RDs that make my life so miserable. It will be the first time the new motor is tested under combat conditions, but my faith in Suzuki over-engineering and Zooke's careful tuning are unwavering.

I'm gridded somewhere in the middle of the pack, and as much as I would love to win this race, I know that even finishing in the top ten will be a job. WERA has the best flagman in the business and he's in pure form this day and I get a great start, running sixth into Turn One. If you've never fired a T500 off the line at a racetrack, you're missing something really amazing. You'd have to be a complete idiot to get a bad start with a Suzuki Titan, it's just a locomotive at the flag. People think I have some god-given talent for getting off the line, but it ain't me, it's the bike. Of course once the faster two-strokes get their legs under them, I know they will come wailing by me like a swarm of angry bumblebees. Apparently my arms and elbows stick out in the corners and this keeps many guys from getting around (a left-over habit from my dirt-bike days, no smooth tucked in style for me!). I want to put spikes on my elbows but the tech inspectors told me no. Scott McCain finally gets by me on his "streetfighter" black RZ and I am apalled at how the thing accelerates. My T500 is no slouch, but those RZs are friggin' rockets. My only salvation is the Titan's tractable power coming out of the corners that lets me get on the gas sooner. The race ends uneventfully and I finish in 8th place, very satisfied with the bike's performance in our first race of the year. The clutch is still slipping a bit and I had two false neutrals during the race, one which happened mid-corner, causing a bit of a fright for me as I ran dangerously wide, but managed to save it. I return to the pits and decide to have a look at the clutch before my next race.

Zooke has unfortunately forgotten his gaskets in Virginia, so it becomes necessary for me to be very delicate with the clutch cover gasket so it can be re-used. I tip the bike over on it's side to save the $6 a quart Gear Saver oil and get to work. Finding no wear on the fibers and no blueing on the recently bead-blasted (thanks Zooke!) metal plates, I re-assemble, adding a spark plug washer to each spring on the clutch to increase the preload. A slathering of Three-bond and it's back together. Careful re-adjustment of the free-play and changing a clutch lever housing that has a hairline crack in it and my hopes are high that the problem is solved.

Zooke and I are both gridded in the next race, due to some rulebook mixup. His proddie racer really does not belong on the grid with full fledged GP bikes, including some wicked RD400s (maybe I don't either, come to think of it). Zooke still manages to bring the Sundial bike home in tenth place after a terrible start. I came from the back of the grid after a rocketship start and finished sixth, showing the way home to a few of those RDs. The clutch was much better, but still slipping at high speeds, very annoying and possibly costing me a spot or two at the finish. But that's racing and Zooke and I are very happy with our respective finishes and there's still one more full day of racing, now with AHRMA. Tomorrow would be the real test, as the level of competition would be even higher than it was today. And of course still looming in the background was the sick Ford Van which still had to get us home. At least we weren't as bad off as HcW3 and his buddies who almost turned their motorhome into a submarine, then had to remove and replace a transmission at the racetrack, hats off to their mechanical abilities and intestinal fortitude in the face of a situation that would have reduced lesser men to tears (namely me). See elsewhere on this site for his excellent story My parents, who had bravely come to watch me/Krash race, and I went out to dinner that evening. Later Zooke and I spend the rest of the night playing Superbike 2000 and generally having a good time. We survived today intact, so tomorrow was like a bonus.

Read the final conclusion as our superheroes do battle on the Jennings circuit once again, will Krash live up to his name, or finally finish a weekend on two wheels?

What's in a Nickname?
Posted by Krash on March 12, 2003

I awoke early the morning of our final race day at Jennings. I never sleep late when at the track. A combination of excitement and a tent that wouldn't soundproof a mosquito fart. At their hotels, many racers are still sleeping, snoring away until their wake up call. You feel closer to everything sleeping at the track, almost as if staying there keeps your mind on the racing. The corners call out in the darkness, "Think you can get me right tomorrow?". Many racers are drawn to the track in the morning, as if to see it first might give them an advantage. They stand about pit wall, coffee mugs in hand, two-day growth, wearing sweat pants and sandals. You couldn't tell them apart from a guy on his front porch, stooping to pick up the Sunday paper. Unless you look in their eyes.

This intensity was seen in the faces of men long ago surveying the battlefield. It's with the same single-mindedness that racers inspect the track. To an observer they seem casual, sharing a joke with a competitor even. Underneath is a taut bundle of nerves submerged in a cauldron of bubbling acid, kept at bay by only the steely resolve to do what must be done. Make no mistake, these men are fierce opponents, who take victory (and defeat) very seriously. That is why people are drawn to motorsports. They remain one of the last venues where a man may test his skill, feel the thrill of risk, and go head to head with his fellows, an arena to test your mind, body and character. The sublime beauty of racing is that to defeat your opponent, you must merely pass him, and stay in front. You needn't brain him to death, or slice off his appendages with a broadsword. You just need to be faster than he is, and stay upright. Yet it affords the same satisfaction as winning a battle, even better, because if you did it right, nobody got hurt and you can sit and tell stories about it later. The very essence of "sport", all the more noble for it's subtlety, derring-do and utter lack of physical violence. Most live in a comfortable world that is too safe, predictable and involves way too much TV. Racing is the eternal challenge, a bar against which to measure oneself, and a way to find out,"Have you got it in you?"

I'm hoping this morning that I do, judging by my queasiness, I may not. The warm weather has given way to a damp chill and I emerge from the trailer to realize I spent too long waxing nostalgic about racing and nearly missed the rider's meeting. I jog over to the tower. It's the same as a dozen other rider's meetings I have been to, but there's always a piece of information to be had. Subtle differences in the flags, a slick spot on the track, variations in start procedure. I find out that I'm in the first practice group. The track is wet and the threat of rain is very real. There are many new riders here today and the feeling in the paddock is an anxious one. Or is it just me?

I tool around the track at a decidedly pedestrian pace, which soon has me bored to tears. I wick it up a bit and the fun factor increases. These bloody tires are great in the wet, (they're English man, why wouldn't they be good in the rain), and my confidence increases. The bike goes well and I come in happy. The only real complaint is that I now have to wait several hours before my two races. That much waiting and I may forget which way the track goes. The weather remains overcast and cool, but dry. I eat some lunch to give me something to chew on other than my fingernails. I go over the bike and re-check everything I already checked, snug up the motor mounts and top off the oil. I'm amazed at the guys who don't check this stuff between races. I am tightening spokes and checking triple clamp bolts while others are lounging about, watching races and gasp, enjoying themselves!

My parents are here to watch me race again. I give them alot of credit for coming out, as they never quite approved of me riding around on two wheels. I don't know how much of it they understand or if they enjoy it all, but it's still cool. The only downside is that it puts extra pressure on me not to crash. Combine that with the strange feeling I'm getting in the pit of my stomach as my race approaches and it can put a damper on the old spirit.

The Formula 500 race finally arrives. The bike lights on the first kick. I line up behind the forty or so other bikes and attempt to find neutral. I can't get it. After several futile attempts one of Zooke's friends, Thad comes over to inquire about my trouble. The bike has stalled and my kickstarter is back in the pits and there's no damn room for a pushstart! Thad offers to push my bike the rest of the way to the pre-grid while I run and grab the kicker. We get the bike fired and Thad leans over and tells me what to do. "Wait till everyone else goes out for the warm-up lap, then put it in gear and head out. As you come to the last turn before the grid, starting fiddling around for neutral, once you get it, just paddle your way up to grid position and don't put it in gear until the one-minute board goes sideways."

With that I scream off onto the track for my warm-up lap. I goose the throttle in my anger and the bike answers with a wheelie. The front wheel comes back to earth in time for me to make turn one and I'm off. I may not be able to find neutral, but at least the stupid clutch isn't slipping. I'm thoroughly pissed at this situation, but the anger is good for my racing. I coast around the last turn, toeing up and down repeatedly for that sacred spot above first and below second. I let the clutch out several times only to find it lurching or screaming. I'm getting panicky. By some miracle I get the shifter into that magic spot, about 60 feet from my grid position and paddle up to it. It's a two-wave start, with Formula 500 being the second group, so I'm on like Row 13, with a bunch of freakin' Yamahas in front of me. The first wave is off and it seems like a lifetime before our one minute board goes

sideways. I drop it into gear and wait for another lifetime before the green flies. I'm off, with a nice wheelie in first and a little one as I bang second. Another great start as I head into turn one in third spot. I don't stay there long as an RD scoots by as the corner opens up. I tail him for a bit but he's out-pulling me on the straight. I run hard for another lap in fourth, so hard that my eyeballs are bouncing from the chatter. Suddenly another Yamaha overtakes me, this time it's Chris Spargo, last year's Daytona winner. Something inside me snaps and I decide to follow him with everything I've got. The RD is faster on the straights, but I find I'm able to reel him in on the twisty stuff. I brake stupidly late for a few corners and throw the pig down on her side, knees dragging all over the place. I get on the gas sooner and pull Spargo coming out of the corner. I may not get by him, but I'll at least let him tow my ass around the track. We start catching up with slower riders. Just a straggler here and there. If Spargo goes by on the inside, I'm right there on the outside of the rider. We split a couple of guys like this, whenever the door closes and I can't use the line Chris did. I know I'm pushing it pretty hard because I've had a couple slides out of the Avons, had both of them drifting one time. That RD still hasn't managed to get away, although it does seem doubtful I'll get by him. Everytime I get close enough, Chris gets back on the throttle and smokes me. I'm cursing and spitting inside my helmet, my eyes full of blood. Just stay with him, I tell myself, maybe his bike will break. I follow him around like a puppy for a few laps. I come around the long, fast right-hander just before start/finish, just a few bike lengths behind. I'm watching his tail section as he hits the apex just a second before I do. I look to my exit and find all routes blocked. I'm in fourth gear wide open at nearly a full lean, running somewhere around eighty miles an hour and find myself on top of a gaggle of five riders from the first wave, going about 60 mph. Spargo finds a hole and squeaks through. I make for it just in time to have the door shut by a very slow rider. What happens after this point becomes hazy. I may have tried to force the bike down even further to tighten the turn, or I may have touched the front brake to scrub off some speed. Whatever I did washed the front end out and the next thing I knew I was skidding down the track on my head, listening to the shusshh of leather tearing away from my body and wondering when the #### I was going to stop. My legs hit the sand on the side of the track, and I pole-vaulted into the air, landing on my neck and thoroughly wrenching it, not to mention several of my ribs. I finally came to rest somewhere on the side of the track. I'm on my feet quickly and looking for the bike. I find a 650 Yamaha that is definitely not mine, with a seemingly unconscious man lying beside it. He is not moving and for a second I think, I've killed this poor man. Then I get back to the task at hand and locate the Titan. I check for damage. It doesn't appear too bad, but the front brake is somehow locked on and one of the K&Ns is AWOL. I find it in the sand. The whole bike is covered in sand. The crash truck arrives and we drag the beast onto the trailer. The ambulance arrives to cart away my latest victim. I can feel the blood running down my leg, my helmet is utterly ruined as are my gloves. None of this matters, just that I get the bike ready for the next race, which will be in about 45 minutes. My parents and Zooke are freaking out, people keep asking me if I'm ok, but nobody seems as interested in getting the bike back together as I am. I feel no pain, no fear, only the burning desire to get back on the track for the final race. Adrenaline is high. Have I got it in me?

The Never-Ending Saga
Posted by Krash on March 13, 2003

Maybe some explanation is in order. Following a nasty tumble, such as the one I took that day at Jennings GP, most sane, rational persons would have retired to the pits to lick their wounds, after being thoroughly checked by the on-track medical personnel. I was neither sane, nor rational at this time. I was in the grip of a wonderful drug called adrenaline, which was being secreted into my bloodstream during the race, and dumped in, in copious amounts after the crash. I yanked the bike off the crash truck by myself and pushed it back to the paddock with the front brake locked on, screaming for people to get out of my way. At least six persons asked me if I was alright, to which I kept replying, "I'm fine, just ####ing pissed off, these assholes think this is a Sunday ride out there." I pulled the top half of my leathers down and saw my bloody, grapefruit sized elbow. I can remember thinking, that's gonna hurt later. Somebody asked me how the other guy was and I snapped, "How the hell should I know, I've been busy pushing this piece of shit back here by myself!" (I just found out he broke his arm and a couple of ribs in the crash. I feel bad that he was taken out by my sliding bike and hope that he makes a full recovery)

I ranted and raved for a few minutes about what a bunch of poke ass riders were doing out there five wide in a turn riding like they were in Grandma's golfcart, ect. ect.. Much of my other b###hings are unfit to print. Later reflection would lead me to the conclusion that this crash was, as Kurtis Roberts put it, "a racing incident". In the heat of it, these things do happen, and to try to assign blame is pointless. I could argue that slower riders are always told to leave space on either side to be passed by faster ones, then you could come back and point out that as the overtaking rider, it was my responsibility to make a clean pass. Both are true. One could even go so far as to shift some blame to AHRMA for gridding two groups in the same race with such a disparity in speeds. No purpose would be served by any of these arguments. You know the risks before going out on the track, at least you're supposed to.

I grab a few cans of brake cleaner and begin hosing down my bike. The entire machine is covered in sand, and as it turns out that's what was keeping my front brake handle stuck. Brett from Pro-Flo brings a pressurized water squirter thing and we go to town, leaning the bike on it's side to drain . The clip on (a Pro-Flo item) is hardly damaged and doesn't even appear bent. The kill switch, however, is smashed beyond all repair. No time to fix it now. The gas tank has a huge fist-sized dent in it where it came down on my right hand. The throttle is working, and other than some scratches and gouging the fairing and windscreen are ok. Most of the time is spent trying to get the damn sand off the bike. Everyone is trying to help, but those tiny grains are everywhere, in every crevice. My spare helmet is pulled from it's bag and it's back to tech. Gordon Smith, chief scrutineer, does the once over on my machine, and whispers in my ear, "Take it easy out there man, your tires are covered in sand."

The loudspeaker announces first call for my race. We're bustling around in the pits trying to get ready. Zooke is out on the track just finishing up his race, which I would find out later he won, with Keith Sutton on the other Sundial bike following him home in second. Dave Crussell, an Englishman that races a quick and authentic H1R is helping me duct tape my hands to cover the holes in my gloves and the tear in the right leg of my leathers. "Just like a boxer, mate.", he says with a smile.

I wait until third call to make my way to the pre-grid. My parents are still nearly in convulsions over my little mishap, Zooke has calmed them down a bit. I pay particular attention to the bike on the warm-up lap. Brakes fine, motor feels good, tires good. I give it the gas on the straight and the bike goes nice and steady without a hint or a wobble, nothing seems bent. I find neutral easily in the final corner and paddle my way to my grid positon, row 5 in the middle. Having looked at the grid sheets earlier in the day, I know Gary Nixon is just in front of me and Jay Springsteen is just behind. That's decades of racing experience fore and aft, and it's well known that Nixon would run over his own mother to win a race. The flag flies and we're off. I run into the first turn in fourth spot. This race is called Formula Vintage, it's a catch-all for just about any bike that wants to run. I'm out there against real Harley roadracers, 750 Hondas and a slew of impressive machinery. And I know they are coming for my piddly half-liter Suzuki. Sure enough they come by me on the straight. I run around in sixth spot for a while, but the adrenaline is wearing off and the pain is setting in. There's also a breeze on my right foot, and when I look down I see a half dollar size hole in my boot, something we missed. There's no way I can afford to crash again, so discretion gets the better part of valor and I finish the race in seventh spot. I come back to the pits and everyone is smiling, happy that I kept the rubber down this time. I'm happy too. It's been a good few days, with three top ten finishes, a bike that worked great and some truly amazing people. Much thanks goes out to Eric Kalamaja, Thad, Brett at Pro-Flo, mom and dad, my sponsors who include:

SUNDIAL MOTO SPORTS
CAN-AM ENTERPRISES
SOUTH ST. CYCLE
SIDI
NATURAL BRIDGE KOA
HALL'S SPORT SHOP

and anybody else I forgot. Thanks.

Re: The Never-Ending Saga
Posted by JA on March 13, 2003, 5:12 pm, in reply to "The Never-Ending Saga"

Krash,
your are one heck of a story teller. But at the very bottom of the norm as a vintage racer. I understand that you are a "newbie" to racing and that's very exciting. We have this problem with most new (plastic rocket)riders out here at our track. And we had to impliment a "board of riders" to keep everyone safe. Each crash is examned and an attempt to allieviate the cause. The "PR" (plastic rocket)guys think they will be the "new" Nicky Hayden and do all sorts of stupid stuff. Club racing is the first stepping stone to the big time, if that's what you are going for. Even if you are not, the same rules apply. Ride safe, not over your head and keep your cool.

And vintage racing is even more difficult. You are not only racing 3 decade old machinery, but with the new tech tire, tuning and suspension available, you are pushing the old frames past their designed parameters. Then add in decade old parts and motors and you get massive doses of the "aggravation" factor. As you know, last year I went wwwaaayyy into credit card hell to get to Daytona. The day the bike was supposed to leave for Florida the crank went in practice here. I didn't throw a fit (or helmet.... ;-) I found the problem, sent the bike off and sent off a crank to be rebilt and sent to Florida. I picked up the bike in Deland and proceded to take it to my cousins garage for a full bottom end tear down. I wasn't thrilled, but that's vintage racing. Got it all buttoned up and trailered it out to a secret test road to break in and jet some. Of course it started raining and I got soaked. Then as I was loading the bike, the trailer tilted, and the bike fell on me, a couple of curse words later I got out from under it to ascess the damage. New paint scratched, 90.00 bubble busted up, foot peg broken off and a few other niggly things to be straightened. So off I went to fix the bike, again. I make it through tech (few things I was worried about), riders meeting and talked to you guys for a bit. Finally race day comes, I am really pumped. First practice scares the hell out of me, and was frigid cold as you remember. Halfway through the next practice, the new crank goes again. I just pull off the track and push the to the pits. Work a couple of hours thinking it might of been a seizure. But it came to be the crank. So I carefull reassembled the bike, very unhappy but no "fits". Thousands of dollars spent, lost race fees, busted up bike that I put a year into, and no racing for me. What can one do, the Daytona bug bit me good. I spent the rest of the day watching races, and bench racing with Zook and my other buddies. Then packed up and went to my cousins.

My very long point is that there is a great chance of things going wrong in vintage racing. And most of the guys there are older and are out to have a fun day of racing. It is also "club" racing which means no money, no chance of getting a factory superbike contract, and in the end a piece of wood if you finish in the top 3. And being a vintage club AHRMA has to combine classes. There just aren't enough riders. Add that into not having Expert and amature classes you have a wide range of speed even in a single class.You knew that going into the race.

And even though "blood in the eyes" and "drugged up on adrenalin" make for a great read, lets look at the facts. You were riding

over your head trying to keep Spargo in your sight. Then in your "adrenal drugged state" you not only came barreling up on a slower group of riders, you krashed and took someone else out. And on top of that, you left the other rider laying there only thinking about your bike. Yeah, that piece of wood is more important than a rider you hurt. Add yelling at people in the pits to get out of your way, and that comes up to you being a total self centered a$$hole. Now because of your decision to be a manic on the track, you are bruised, one trashed helmet and gloves, torn-up leathers and boots, busted up bike, and a guy that was out for a fun day of racing, will be hurt for weeks with broken bones, hospital bills, maybe lost work and a trashed bike, again all for maybe getting a piece of wood. He had a right to be out there as much as you did. If you had done the righ/safe thing, you would of let Spargo go, slowed down till you could of passed safely and everyone would of had a good day. If you had krashed like that at our track, you would of been banned for 2 races. Yes racing is very dangerous, we all accept that. But what you did, was just plain stupid.

I hope you really think about this, and get your priorities straight. if you can't control yourself, you need to find another hobbie that when you get the "blood in your eyes" and can't see straight, that you won't be hurting others.

I'm not singling you out, a few guys here have been repremanded for the same unsafe riding. And I probably do sound harsh, but it's very important to me and everyone racing that the other guy is in control and can make good judgment calls, because we have each others lives in our hands. And that's way more important then one little race for a piece of wood.

Ok I'm off my (wood)soapbox.

In Defense of Myself Part 1
Posted by Krash on March 14, 2003

I believe that JA and X6er may be reacting to some of the embellishment I like to put in my stories. All the events I describe are true, but I am sometimes guilty of using storytellers license to spice up what would otherwise be run of the mill race reports. I wanted to give non-racers a view into a world rarely seen other than on SpeedVision, from someone who had lived it firsthand. I also do my damndest to be brutally honest about what I am thinking or feeling at any given time during the story. I'm sorry if that causes some people to leap to many erroneous conclusions about the type of racer and person that I am. If you will be so generous as to allow me a few moments of your time to clarify and, apparently, defend myself, I think we can all understand each other.
We have a good time here on the board and even at the track calling me Krash. Hell, I even started using it as an on-line name. It's a nickname I have been given (earned?) through a small number of incidents and mishaps, some of which are ABSOLUTELY MY OWN FAULT, others that are not entirely my own, and some that may be attributed to just dumb luck. I have been gracious enough to share these incidents in great detail with the members on this board, again in the most honest manner I am able. Therefore I do not mind being judged or criticized for what I've flung out there into cyberspace, with mostly a warm welcome, it comes with the territory. However, I will not sit idle while my remarks are being misconstrued and assumptions made about my character without totality of fact.

First of all, I am not an unsafe racer who rides over his head trying to be the next Nicky Hayden. I ride well within the limits of ability and reason when I'm out there, and I am always thinking clearly. My mindset may be in the "intense" mode, but I use that as a tool to help my concentration. It narrows your focus and keeps your head at the racetrack. It's very easy make a mistake through a mental lapse if you aren't prepared. I prepare by emptying my head of the non-essentials and making the race a primary objective. To ride as well and as hard as I can. Not to go and fling it down the road taking out everyone in my way. I have over-exaggerated this state by describing it as 'the blood being in my eyes' or something to that effect. A literary device gentlemen, not a point of fact. Every decision I make out there is calculated and level-headed. I do not take stupid chances, but I have made mistakes. My goal is to learn from each one in my quest to become a better rider. Ask any number of people I've raced with, they know what type of rider I am, able to race closely, but safely as well.

Secondly, I have been guilty of throwing a helmet or two in my day, my temper has gotten the better of me on more than one occasion. I know too well the frustrations that vintage racing can dish out, and I think it's admirable the way that JA stoically soldiered through his repeated heartbreaks at Daytona last year. I do not deal with things the same way he does. I curse, rant, chuck a helmet, make some noise. Most people just ignore me. Yeah I look like a petulant child when I do it, but it vents it to the outside atmosphere, like a bad fart. It stinks for a few seconds, but is soon gone on the wind. I don't run around beating people up or anything, I save it for inanimate objects as they are much less likely to defend themselves. I find, though, that this is happening less and less as I grow as a rider, now I am not waiting for something to go wrong to piss me off, but instead I am preparing ahead of time to lessen the chance that something will go awry. Still, even those preventative steps will not safeguard against everything. Emotions run high in the pits and it's easy to succumb to them.

Thirdly, and perhaps most important, the incident in question. There were certain details before and after the crash that did not make it into my story, and new information has come to light that I will share with you. The facts are these, as I understand them. I was chasing Chris Spargo for a couple laps of the race. I was not riding over my head trying to stay with him, his bike may not have been running 100% or he may have been going easy with it and this is probably what allowed me to remain close to him. Let's be honest here, a race tuned RD400 will smoke the pants off a T500 any day of the week, and Spargo can ride to boot. I was happy to be hanging with him, being towed around by a faster rider. I knew barring a mistake or mechanical trouble I

wasn't going to get by him, I mentioned this in my first story. I made the decision to tuck into his draft and follow his lines until he got away. Does that sound like the thoughts of a glory hungry, dangerous, testosterone addled youngster? I think not. When we came around the final corner before the crash I made an error that seemed small at first, but upon further reflection I see that it probably precipitated the chain of events. I looked too long at Spargo's tail section, was too focused on following him that I didn't look to the exit of the turn early enough and lost the valuable split second that would have allowed me to see the group of riders sooner. That much I am guilty of and accept full responsibility for. It's called "target fixation" and in the brief moment I committed that mortal sin of motorcycle racing I became the key antagonist in an event that would leave one person hurt, (although I wouldn't find this out until well after the fact, and after the story was on the Internet). My second mistake was one in judgement. I was closing fast and leaned over, at these other riders, but there was a hole, which Chris Spargo, only a second ahead of me had gone through. In that instant I made for the same hole (wide enough for at least two bikes), knowing that I could not brake leaned over or risk washing the front out. As my front wheel was about halfway past the bikes, the two riders I was going between suddenly closed ranks, unaware that I was there. The only thing I could do was hit the front brake, and the rest, as they say, is history.

Hindsight, of course, is 20/20 and I should have been ready for the possibility of the riders coming together as I went through. There was no "out" for me at that point. Had I continued on with the pass, the three of us may have collided with even more disastrous results, or we may have swapped some paint and continued on our merry way, it doesn't really matter. I made the best decisions I could with the information I had available at the time, with rotten results. I lost the front end and this poor guy who never knew I was there got taken out by my sliding bike, at least that's what we think happened. I'm still not sure where he was on the track, or if he was one of the riders I was overtaking or not. I do know that while I was still on my bike, I NEVER hit another rider, so it seems highly probable that as the bike slid to the outside of the corner it became tangled up with this gentleman and his machine, location and identity still unknown to me. When I got up after my long slide down the tarmac, I thought I had been involved in a ONE BIKE accident, not knowing there was another rider down. So of course the first thing I did was look for my bike, which took me a few seconds to find. I saw the crashed Yamaha first and then it's rider lying beside it, when I had the thought I mentioned in my story, 'I've killed this poor man.' Then I saw my bike with it's still spinning back tire, running on it's side. Being closer to the bike I ran and hit the kill switch and started to head to the guy on the ground. The crash truck beat me to him, as we were right near the Start/Finish line, and I could see the rider moving on the ground a bit. The race officials motioned everyone to stay away as the ambulance was making it's way to the scene. Knowing I could be of no further assistance to the downed man, I went back and picked up my bike and it was loaded onto the crash truck. Obviously my adrenaline was high at this point, any conscious human beings' would be. But I was also still in "race mode" and getting the bike back together was a priority. I knew I couldn't play Florence Nightingale to the other rider and I also knew that he was getting excellent treatment for what I was told were very minor wounds. In fact I was told that the gentleman was OK, just had the wind knocked out of him. So I put it out of my head and proceeded with fixing the bike, with the intentions of finding him later and making sure everything was allright. Still, the bike was my primary concern, the incident "non-essential" at that time. If that sounds callous, so be it, but why should I worry about something that was no longer in my control, or even my abilities. When I heard he just "had the wind knocked out of him" I ceased thinking about it at that moment, what else could I do? I learned just yesterday that the non-injury status of the man was wrongly reported, that he had indeed broken his arm and a couple of ribs, but that he was going to be fine. This information naturally changed the color of the crash in my mind and had I known this at the writing of the story it would have changed the tone of the article to be much more serious. It's one thing when everybody walks away, you shake hands and make amends, but it makes you feel downright shitty when somebody gets hurt, because of circumstances I was in part responsible for. I don't feel guilty about it, because I know I didn't do anything wrong, or foolish. That's why I described it as a 'racing incident', not to try and shift the blame to anyone, or away from myself, but because that is, in all truth, exactly what it was. These things happen on the track all the time, and if you're going to race, you'd better understand that. If I misrepresented it in my story, used a few too many enthusiastic adjectives, then maybe I need a few courses in journalism, not in the ingestion of humble pie as seems to be the feeling of a few here. My thoughts are with the rider and I hope he has a speedy recovery.
Lastly I want to comment on something else mentioned in one of the posts. I will never apologize for being serious about racing or for riding hard when I'm on the track. When I'm out there, it's to compete, plain and simple. Too often people want to soften the image of vintage racing into a few parade laps on old bikes with number plates. Frankly, that stinks. I know this isn't World Superbike and there isn't a factory ride waiting out there for me, but why shouldn't we take it seriously? If we want to show the masses that vintage roadracing is real and not the joke we keep trying to turn it into, then we need to act like it. New riders and those who like to circulate at a brisk pace without pushing too hard are a big and necessary part of vintage racing, but why is it so common to chastize someone when they want more than that? It's like we keep telling the up and coming guys, "Well buddy, we sort of race here, yeah it looks like it and we put on a good show, but at the end of the day if you're pushing harder than we like, you're an asshole." Almost as if the illusion of racing is enough, and I guess for some it is. But have no illusions about this: for a small minority of us, this is "real" racing and we will continue to treat it that way.

Okay, I'm done.

Next page
Back to index page

Suzuki Snapshots

Kris (Krash) Larivee Pics April 2003

Frank "Krash" Larivee managed a 2nd and a 4th place at this meeting. Well done.

The Hard Way (always).

Posted by Krash on May 12, 2003

The racing season began in Canada two weeks ago with a free "test" day at Shannonville Motorsports Park, Ontario. It's a good way for the racers to shake the dust off their leathers and get the frost out of their bones after being snowed in all winter, without the pressure of actually racing. Not to mention getting new bikes and engines and suspensions sorted out for racing the following weekend. I arrived Saturday evening and was greeted heartily by my racing compatriots. Other than the "winter fat" many of us seemed to be carrying and some new racebikes, it felt as if nothing had changed. One of the racers put it best when he said, "We are home". These were the people who knew too well the racing obsession, men (and a few women) who would stuff you into a corner to make a pass one moment, then be lending you parts and wrenching on your bike the next. Ever watch two racers talk about racing? They use their hands as much as their mouths, (which are usually in a wide grin), mimicking the movements and feedback from the motorcycle. It's a language few that haven't raced would understand, learned only through experience. Until you've chattered the front end through an 80mph corner, had the back end step out when you gassed it early, or heard the shusshing sound of leather on pavement and been wondering when you were going to stop, praying you weren't going to hit anything, it's all just words. We were home, and what a great home it was.

It was a cold night spent in the uninsulated enclosed trailer I haul the bike in, but so much better than sleeping in the tent, (thank god for sponsors!). The morning was grey and threatening, but that's Shannonville, we were lucky it wasn't snowing. I pulled my leathers on early, newly repaired by John Bickle from my 90mph get off in Florida, to keep warm. The two-stroke began it's sweet and smoky cacophony with just a few prods. Soon we were out on the cold track, warming our tires and sussing out our lines on the Nelson circuit, a short course comprised of several tight, 2nd gear right handers. The type of track that rewards rider skill (and cojones) as opposed to sheer horsepower, where you are constantly turning, shifting and setting up. My kind of track.
Two sessions into my day, things went south. I kicked the bike over to head out for the next practice, nothing. 10 kicks later I was working up a sweat in my leathers and helmet, starting to swear profusely. The bastard wouldn't fire for anything. I enlisted the aid of a gentleman to pushstart the beast I was beginning to hate, but to no avail. Off came the helmet and gloves, and open went the tool box. I tore into all the wiring and ignition components I could get my trembling fingers on, from the kill switch to the pick-up coil and brain box, ground wires and spark plugs, but I was pissing in the wind. The patient is dead doctor, and so was my day.
I drove home like a maniac, stopping only briefly to declare to customs that I had nothing to declare except my undying frustration. I had less than 4 days to find out what was wrong with my ignition, fix it or get a replacement, or my hopes for a championship bid would get off to a terrible no points start. Long time readers of my exploits will know this type of situation is par for the course in my life. If it wasn't for bad luck.....
Things went from bad to worse as Phil (my long suffering tuner) and I troubleshot the silly machine into the late hours that Sunday night. We did discover one thing in all that time, the bloody ignition was deader than Lee Majors' acting career. A quick call Monday AM to the people at Pro-Flo

(manufacturers of my very expensive racing ignition) yielded much sympathy, but no help whatsoever. They were no longer making that ignition and no spares were available, tough crap buddy, but thanks for your 500 bucks. A decision had to be made, and fast, as half of Monday was already gone with the wind. Go back to points and battery ignition, in a total loss set-up? Add all that weight to the bike and have to worry about continually checking points gap and battery charge? Or go down the darker road of the Suzuki Pointless Electronic Ignition (PEI), with it's teeny pick-up coils and heavy Kokusan rotor outboard on the left side of the crank? This option would require a switch of the entire bottom end, as the T500 cranks are not the same as the GT500. I had a GT bottom end that was running good two seasons ago. I knew all the gears were there and the crank was good, but what about the crank seals? If they were bad after sitting a couple years I would be royally screwed. Hello Rock, my old friend, greetings Mr. Hard Place, you both look well. Unable to bring myself to add a battery to a racebike, I opted for the PEI system, knowing full well this decision might lead to me watching re-runs of CHIPs this weekend and lamenting what might have been. To complicate matters, I had minor surgery on the middle finger of my right hand that Monday (an extension was added so the officials could see it as I went by the tower!), leaving me with one good hand and one swollen, useless one. Not good for swapping out motors and re-assembling them. I soldiered on, trying not to bleed on too much on the bike. As the sun came up on Tuesday morning, I left the garage, BOTH hands puffy and bleeding, but the engine was out of the bike and apart, the GT bottom end cleaned and ready for the ported race barrels so lovingly prepared by Eric at Sundial Moto Sports. I had just enough time to close my eyes before the alarm clock told me it was time to go to the day job. Oh hell.
Tuesday night in the shop had the GT bottom end mated to my top end and mounted in the frame. And there was actually spark coming off the pick-up coil! As long as the black ignition module proved to be good, I would have spark. Whether the crank seals were good was anybody's guess. Eric was over-nighting me a set of external coils, as I didn't have any of the correct resistance to run with a self generating system like the PEI. I still had to assemble the clutch and various other components, but I couldn't see straight enough to put the discs back in properly, so I decided some sleep was in order.
Wednesday was nearly a bust, my right hand so swollen that I couldn't even think of turning a wrench, the doctors fearing infection. I tied up as many of the loose ends as I could one-handed and went to bed early. Tomorrow was make or break day. If I had the energy or the right, I might have said a prayer.

Thursday dawned and my hand was feeling better, but the rain was pouring down. I thought of the leaks in the trailer roof I hadn't had time to fix because of all this ignition nonsense, shrugged my shoulders and went to work. Four hours and several curse words later the bike was done. I had spark, a fully assembled motor and clutch, but would it run? First kick, nothing. Well I did empty the float bowls of fuel. Second kick, nothing. Well, the motor had just been torn apart and put back together. I paused for a moment to elevate my throbbing hand and check to make sure both choke levers were engaged. It had to go, it just had to. Third kick....the beast awoke, crackling away merrily on the stand. There was some dampness in my eyes, but that was just from the two-stroke fumes. I put my helmet on and took it out into the pouring rain. Several illegal runs down the road had me convinced the seals were good, and that I was going racing.
The Hard Way Pt.2

The trailer was loaded and off I went into the pissing downpour. I got five miles down the road before I realized I had forgotten my sleeping bag, blankets and pillows. Not good for an excursion into the Great White North. The trailer was re-loaded and off I went into the pissing downpour, for the second time.

I breezed through customs and arrived with daylight to spare (it wasn't raining at the track). Unloaded the bike and tried to set up the canopy for the first time this year. The blasted thing is a maze of numbered poles, velcro straps and plastic feet. Of course I didn't bother to save the directions. Not a pretty sight. The night was cold and damp, and at some point it started raining. The wind picked up and I could hear the canopy flapping about. The veteran racers tell stories about the tornado that ripped through here several years ago, toppling bikes, turning canopies into kites and flipping over at least one camper trailer. I shudder with visions of it happening again, roll over and try to sleep, something I haven't gotten much of lately.

Late Friday morning the rain stops and the track dries up enough to ride. I want to get as much out of the paid practice as I can. The tech inspector makes a comment about my bike being dirty, but I think the look I gave him said it all. The temperature is still quite cool, leaning out the two-stroke's jetting enough to make it run a bit crisper, but any advantage in engine performance is negated by the lack of grip the cold track provides for the tires. Even the hotshoes are tiptoeing around. There are many new riders this year, which provides for some

interesting moments. It's very gratifying to slide up along the outside of a modern 1000cc bike on my little half-liter vintage wreck and pass it, even if the ego-bruised little bastard comes howling by on the next straight. The only really hairy moment comes when I try to reach for the brake and my bandaged finger can't get over the lever. By the time I start breathing again and get my eyeballs popped back into my head I've slid my way around the corner and I'm already halfway to the next one. I make sure to get my fingers on the lever early. The only other bitch is getting my glove on and off, a genuinely excruciating experience. My practice day ends a bit early when I find a leak in my gas tank. I epoxy it, but it takes the rest of the day and night for the stuff to set, as a result of the cold.

A relaxing evening, if somewhat chilly, is spent with the other vintage racers. I haven't seen them all winter, and I'd forgotten just how much I missed this great bunch of people. I'd still come to the racetrack to compete, even if I didn't have friends like these, but it increases the gratification tenfold having them there. I don't think that kind of camaraderie exists with the modern classes. Besides, the vintage guys are treated like the red-headed stepchild of racing at these RACE events anyways. Simply because we can't afford to, or choose not to ride the most expensive, modern equipment. That only increases the bond between vintage racers. Another factor that brings us closer is that we all tend to stay at the track. When the pros head out to their hotel rooms to watch cable, we sit by the campfire and tell lies about how fast we are. All part of the experience.

Saturday dawns, cold, but sunnier. I am awakened by the loudspeaker announcing 15 minutes to rider's meeting. Oh well, I didn't want a shower this morning anyways. I throw my jeans on, which are very cold, and bang my finger on the way out the trailer door, leading to a long string of curse words, I even invented a few new ones. What a lovely start to the day. I purchase a hot chocolate, that I am inclined to dump into my jeans to feel some warmth.

Morning practice goes well. My first race of the day is Club Cup, where I will be running against 1000cc four-cylinders and other more modern machinery. The only rules are: Twin shock, air cooled. Anything else goes. I have been a consistent top ten finisher in this class, and I'm hoping to better that this weekend. The T500 works well on tight tracks like the Nelson circuit at Shannonville. Unfortunately we only run this configuration once a year, so I plan to make the most of it. I've had to draft a friend to stand at the pit wall with my kickstart lever. The transmission is hard to get into neutral, adjust it one way and the clutch slips, go the other way and it creeps on the line. Luckily, I manage to find neutral coming around the final corner on the warm up lap, and paddle my way to grid position, in the middle of the pack. There are over 20 bikes on the start line, all of different vintage and performance levels. I grin inside my helmet, it's gonna be a fun race.

The light is red, motors scream, transmissions clunk into first gear. Light goes green and I dump the clutch, expecting a great start, like always. What I get is a front end gone suddenly light and a wheel pointing decidedly skyward. Clutch back in and try again. Another monster wheelie, but I'm so pissed I go with it, carrying the front until I bang second, another brief wheel stand and I bang third and throw it into turn one, a very high speed right hander. This season I avoid the mistake that gets many riders (including me) off the start, which is shutting off for the first turn before up to speed. I keep the throttle pinned and bang fourth gear, passing two riders on the outside. Turn two comes zooming up, down into third gear, keep the revs up or it'll drop off the pipe, brake hard enough to slide the front and force it into the corner. The bike pitches and slides a bit on the greasy tar strips the racetrack sees fit to use to repair cracks, but before I have time to crap myself I'm off to the next turn. I'm running third in the amateur ranks at this point, with a KZ750 twin ridden by a maniac, and a GS750 in front of me. Two laps into the fray we get the red flag, which means I go back to the middle of the pack and restart the whole thing, watching the ambulance cart off another victim. This start is worse, I bog it off the line and have to play catch up. I run around in fifth for most of the race, swapping spots with somebody on an Aermacchi. He slides around me in the corners and I outpower him down the straights. We get caught up to John Crossley on the last lap, a big man on a big bike (GS 1000S) and get by both of them. The next short straight Crossley comes by like a friggin' rocket, brakes early. I have a decision, stuff my way past him, risk taking both of us out or sit tight and finish behind him. Before I have a chance to decide the Aermacchi jams his way up the inside of me, forcing me wide, with two corners left to go. Two voices start screaming inside my brain, let him go, save it for the Supervintage race, and the other one, get that bastard! Unable to find a middle ground I stay right on his ass. I look to the outside in the final corner, a 2nd gear right hander lined with haybales. I'm chattering the front and sliding the rear. I gas it as early as I dare. I crashed here last year, just missed breaking both legs on the wall, so I know how little traction is available in that corner. Still, I'm on the gas before the Aermacchi and coming by. I'm tucked in as far as I can get, "under the paint", so to speak. It's a photo finish with the Aermacchi getting me by the width of a tire. I end up sixth, not bad.

I've got the pole for the Supervintage Heavyweight race because of my standing in the points last year. Long time readers of my exploits have heard me bemoan this class before, sticking a 500cc bike against 750s and 900s. I'll whimper less about it this time, because I knew the tightness of the track would help to level the field a bit. Toivo Madrus and his "Yamando", a 750 kitted XS650 in a Norton frame sits next to me and to my surprise on his left is a 1982 GS750, a bike 10 years out of class! Not to mention the fact that it's the same guy that centerpunched me last season, dislocated my shoulder and wrecked my bike, then didn't have the guts to apologize for knocking me

down. He looks at me and I give him the one-fingered salute and he quickly averts his gaze. I don't have any time to protest his illegal bike in this class, so I'll have to race him for now.

I get a better start this race and ride as hard as I dare. The GS 750 and Toivo's Yamando are in front of me. I spend the race following Toivo, but unwilling to make a brave move on Saturday's heat race, I decide to save it for Sunday. The GS750 is later disqualified after several others protest (I didn't get there first), so my third place becomes a second. Not exactly the way I want to move up in the standings, but I'll take it. Sunday is another day, and I'll be pulling no punches.

Kris

Back to index page

Bort Koelewijn’s Muzza Replica

Andres Urban on the track

TWO STROKE

SUZUKI
TWO STROKE
Service Bulletin

Bulletin No.: SPECIFICATION-7
Date: Oct. 10, 1975
Read and Initial
Manager
Parts Mgr.
Service Mgr.
Mechanics

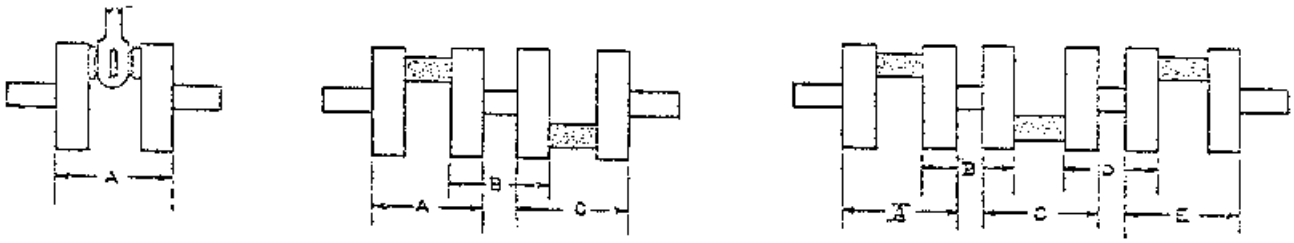
Subject: CRANKSHAFT DIMENSIONS

UPDATED July 13, 1979

NOTICE:

UPDATED

This bulletin provides crankshaft dimensions essential to check whenever installing a new or rebuilt crankshaft in a Suzuki motorcycle.



MODEL	A	B	C	D	
TM/TS75	50.0				
RV90	50.0				
A100	50.0				
TC/TS100	47.5				
TM100/RM100	56.0				
RV/TC/TS125	56.0				
RM/TM125	56.0				
GT185	50.0	82.5	50.0		
TC/TS185	56.0				
GT250	57.0	97.0	57.0		
RL/RM/TM/TS250	60.0				
RM370	70.0				
GT380	50.0	97.0	50.0	97.0	50.0
TM/TS400	70.0				
T500/GT500	66.0	101.0	66.0		
GT550	56.0	107.0	56.0	107.0	56.0
GT750 Late Style	66.0	91.0	66.0	119.0	66.0
*GT750 Early Style	66.0	93.0	66.0	121.0	66.0

All dimensions are in millimeters.
Tolerance: ± 0.1mm

(cont.)

MODEL	A
TS100N	56.0
TS125N	56.0
TS185N	56.0
TS250N	60.0
RM50N	40.0
RM60N	40.0
RM80N	40.0
RM100N	52.0
RM125N	52.0
RM250N	58.0
RM400N	70.0
PE175N	56.0
PE250N	60.0
DS100N	56.0
DS125N	56.0
DS185N	56.0
DS80N	40.0
OR50N	40.0
FZ50N	40.0
JR50N	32.0

All dimensions are in millimeters.
Tolerance: ± 0.1mm

TECHNICAL SERVICE DEPARTMENT
U.S. SUZUKI MOTOR CORPORATION

SUZUKI
2-Stroke
Service Bulletin

Subject: IGNITION TIMING SPECIFICATIONS

Bulletin No: SPECIFICATIONS-4
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

The below listed tools are necessary to properly adjust the ignition settings on Suzuki motorcyles without PEI.

Timing Tester (buzz box) Part No. 09900-27002
Timing Gauge (dial indicator) Part No. 09931-00112

MODEL	TIMING (mm)	DEGREES (BTDC)
AS50, AC50, TS50	2.00	24°
F50, TM/TS75	1.56	20°
MT50	1.40	20°
M12, M15	2.53	27°
M31	1.41	20°
K10, K11, K15	3.34	27°
K10P, K11P, K15P	1.86	20°
TS/TC90	1.96	20°
RV90	2.04	22°
A100, AS100, AC100	1.86	20°
TM100/125, RM125	*36° @ 1000 RPM	29° @ 6000
TS/TC100	2.22	20°
B100P, B105P, KT120, TC120	3.00	24°
T125	2.20	24°
TC/TS125K, RV125K	2.41	22°
S32-2	1.95	22°
GT185 (1973 & 1974)	1.83	20°
GT185 (1975 -	2.62	24°
TC185	3.07	24°
TS185	*16° @ 1000 RPM.	24° @ 6000RPM.
T200, TC200	2.68	24°
T10	3.88	27°
T20, TC250	3.62	27°
TS250 (1969 & 1970)	2.70	21°
TS250 (71'-), RL250	*16°@ 1000 RPM	24° @ 6000 RPM.
GT250 (73') T250, T305, T250	2.88	24°
GT250 (1974-)	2.93	24°
TM400	*8° @ 1000 RPM.	24° @ 6000 RPM.
T500	3.40	24°
GT380 (1972 & 1973)	3.00	24°
GT380 (1974)	2.40	21°
GT380 (1975-)	(R & L) 2.30	21°
	(C) 2.25	21°

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

MODEL	TIMING (mm)	DEGREES (BTDC)
GT550	3.37	24°
GT750 (1972-1974)	(R & L) 3.64	24°
	(C) 3.42	24°
GT750 (1975-)	(R & L) 3.62	24°
	(C) 3.42	24°

*On PEI models the ignition timing is set when mark on the stator plate is centered at the top mounting screw. The figures given are used to check the advance built into the black-box circuitry. These figures are checked using a degree wheel and a timing light. RPM specifications for aligning timing marks to be used with a Timing Light are given in the appropriate Service Manual.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

Suzuki Snapshots

Cor Geraet's T500 Racebike

A nice bike from the Netherlands

Suzuki Snapshots

Cor Geraet's T500 Racebike - page 2

A nice bike from the Netherlands

The pipes we build them ourselves from original specifications. The fibreglass parts are built in Holland by a firm on my special order by Ruigs glasfiber , I spent about 2.5 years to make the bike. It runs like hell. We have driven the bike this year at some race demos and we rode the bike on the Nurnburgring grandprixcircuit. Next year the bike is going to run on Spa Fracocamps circuit and some race demos we now have to do some little work on the bike in the winter to optimise it.

P.S the name Samracing its the name of my son borne 03-03-03 he is one the pictures

Samracing on the circuit of Spa Francocamps the TR 500 replica was very fast on this day

Samracing are also making replica pipes, contact Cor Geraet here for details

Jean Claude Kreutz’s T500 race replica

Ralph Spencer (Desmocat) builds a T500 racer

Suzuki Snapshots
Ralph Spencer's T500 Racebike under construction
Livermore, CA, USA

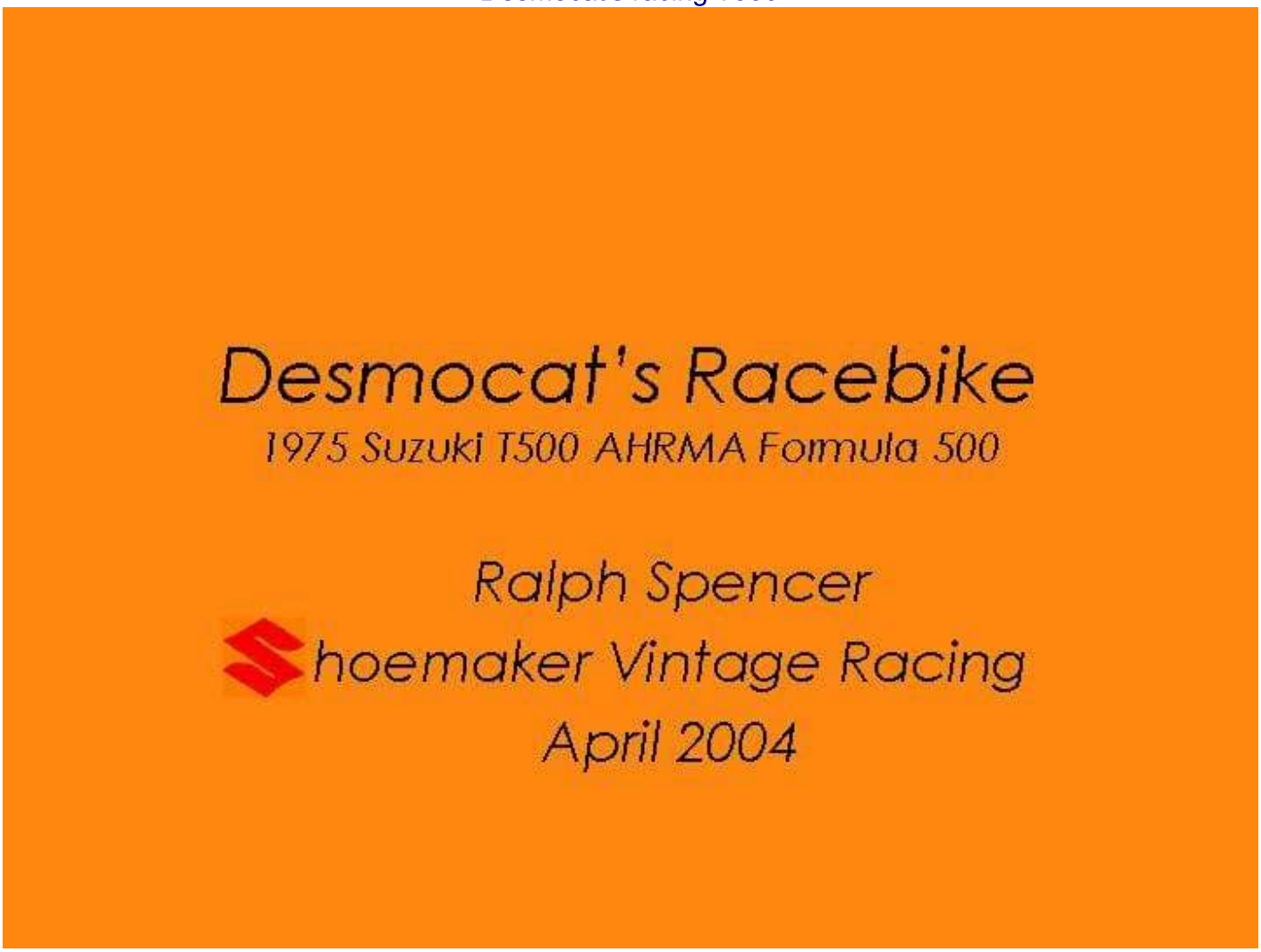
Ralph's bike first came to light as Wayne's challenge before Ralph (Desmocat) bought it

Back to Suzi 500 index page
Classic Motorcycling 2003

Suzuki Snapshots

Desmocat - USA

Desmocat's racing T500



The Specifics…

- 1975 Suzuki T500M "Titan"
- Engine
  - Stage II Porting – Sundial Motor Sports
  - Angled Milled Cylinders – Sundial Motor Sports
  - Crooks TR500 Replica "Squish" Sand Cast Heads
  - Mikuni VM34 Carbs
  - Jemco Chambers
  - "Batpak" Battery Eliminator
- Chassis
  - Standard Geometry, Frame Braced
  - GT750 Dual Disc Front End
  - Borranni Shouldered Aluminum Rims
  - Kawi H1 Style Steering Damper
  - Tapered Roller Steering Head Bearings
  - Bridgestone BT45 Battlax Tires
  - Scitsu Electric Tach
  - Suzuki GSXR1000 Rearsets

Before
SUZUKI

After
933
933

SUZUKI
933

SUZUKI
933

SUZUKI
933

933

933

933

Desmocat pulls it off! Well done

see this bike under construction here

Back to Suzi 500 index page

Laurent's Race Replica

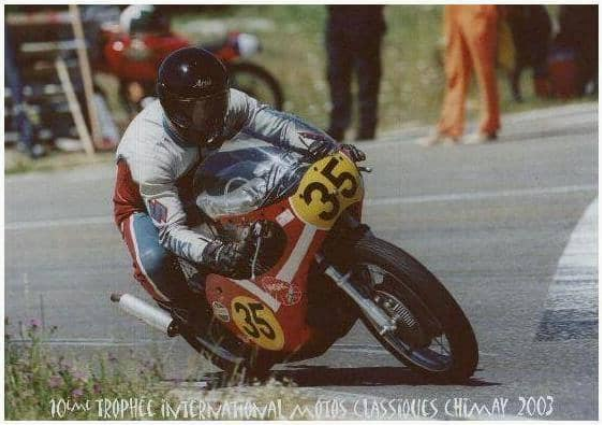
Neat machine, good one Laurent,

Noel Soudant's T500 racer

Suzuki Snapshots

Noël Soudant - Netherlands

Noël Soudant's racing T500, excellent looking bike



Tech stuff

year: 1970

weight: 128 kg

power: about 70 bhp

top speed: about 235 kph (145 mph)

frame: home made by Erik Kerkhof and myself

ignition: PVL magneto

Tank and seat: custom tank and design

ceriani frontfork

grimeca 4 leading shoe drum brake

fairing: TGA TR3 fairing

tyres front: heidenau

rear : Dunlop KR124A

I live in the Netherlands

I started racing in 2002, just 2 meetings in Belgium: Chimay and Jehonville. It was not a big success, lots of bugs, just finished in 1 of the 4 races all the rest I retired with engine trouble (seizures).

But in 2003 I entered in the same meetings and I finished in 3 out of the 4 races. A big step forward. and in the last 2 races (this was the meeting in Jehonville Belgium) I finished 2nd in the first race and 1st in the second race.

Not bad for someone who had never seen a racetrack before that.

Noël Soudant

The Netherlands.

Noel has sold this machine and moved on to a Nicco Bakker TZ350G

Les van Breda – TR500 & XR500 (TR500 MkII)

APRIL 13, 2023
CATEGORIES: TR500, LES VAN BREDA

This is Les van Breda multiple South African Motorcycle Champion.

The Blue bike is my XR05 (ready to run at last!), and the wine red bike you have featured before is Phil de Gruchy's air cooled TR500.

Les won South African championships on both of these bikes. He says the watercooled XR05 had a great engine, but the aircooled TR handled much

DRESDA SUZUKI 500 RACER – Spike Livingstone

Spike Livingstone shared this pic with us….of his rare Dresda race framed Suzuki 500…back in 2006

Hi Muzza, bought chassis from TGA racing at the end of `04 and put what should have been a very quick (according to seller) tr500 lump with a standard gearbox…. Finished build in time for first outing in classic parade at snetterton in June. Everything felt fine so after recovering finances entered first ever race, post classic, at Pembrey. Put a big hole in the piston after three laps but established that it, and I, were more than up to the task. Look forward to `06……

Frame is Dresda racing type, not the same as the roadgoing t500 Dresda frame. Tank is also a Dresda item. Forks are works Suzuki and shocks are Falcon aluminium items. Braking is supplied by three AP racing calipers & is plentiful to say the least. seat unit also works item from an xr14 and fairing from a tz700……. The engine is currently undergoing a rebuild at the hands of Rob Greenhill of Cobra Racing, I`ll fill you in on specs when I run out of money but its gonna be very, very fast…..!!

Seeley T500 racers at Wanneroo Western Australia

Seeley framed T500 Suzuki racebikes
seen at Wanneroo Western Australia

Jack Coyle

Martin Pearson

Gerard Kampen's T500 racer

My name is Gerard Kampen and i live in Holland, I am a great Barry Sheene fan, I have raced motorbikes here in Holland from 1977 until 1982. At this moment I am building a Suzuki TR500 replica and I am going to race it here in classic events. In complete Sheene style, with replica helmet and leaters and with number 7 on the bike.

2 2 2008

SUZUKI
20 1 2008

14 2 2008

Sukidookie's (Robert Taylor) T500 Racer

Sukidookie has supplied some pics of his great T500 based racer…..

"Here are some pictures and info on my bike. ere's my story:

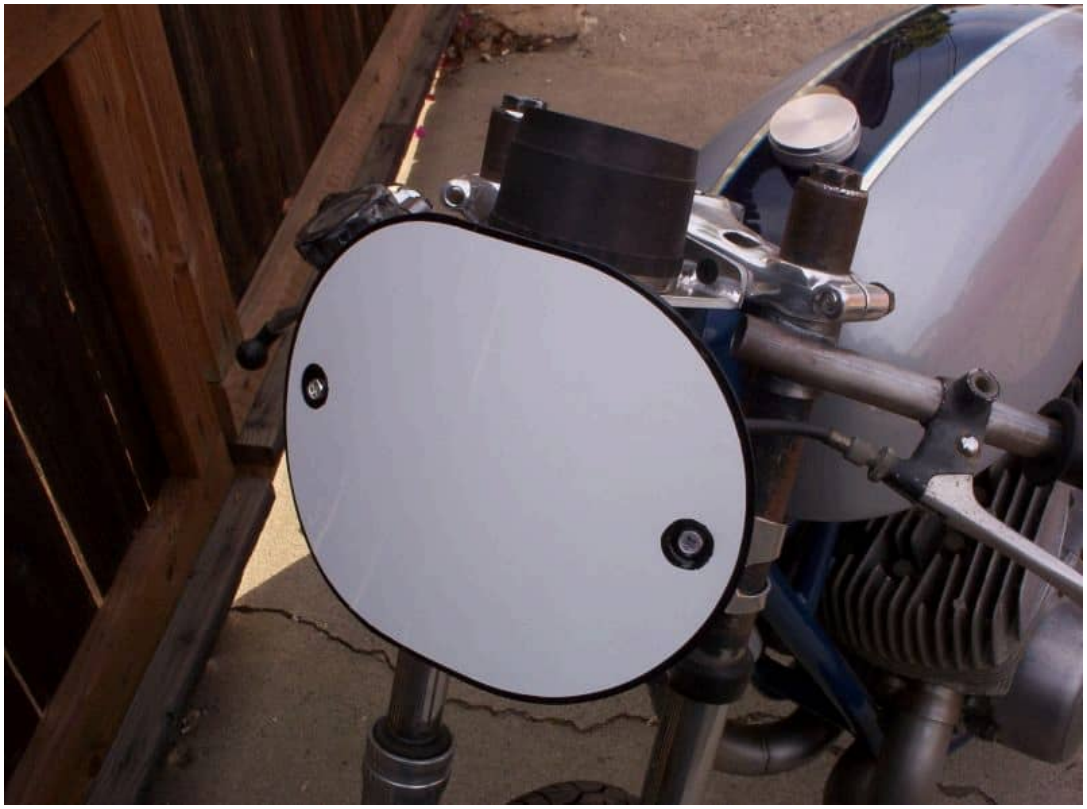
I picked the bike up for free from someone that just had it rusting away in the backyard. They actually had it next to the fence so the dogs could stand on it to look over. I started by taking the bike apart and modifying things.

Frame- chopped the rear of the frame and relocated the shock mounts, shortened the swing-arm and added gussets, added extra frame tubes for bracing, remove unwanted brackets and stands. Tank and rear cowl- I made them from 3003 aluminum and fit them to the frame, lots if work. Paint was handled by a friend of mine (pete "hot Dog" finlan) who paints for West Coast Choppers. Thanks Pete.

Chambers, Silencers and rear sets- I made them all with my own hands, rolling cones is a bitch and I think I will just buy the cones next time. rear sets were designed in Cad and the cut out on the water jet at Boyd Coddington Hot Rods (my current employer). Other things include clip-ons, number plates and all brackets that I made for the bike.

I plan to finish the bike by April 2008 and take it out to race at willow springs with AHRMA I have never raced before so it's an exciting time for me.

All The Best, Robert Taylor"



Robert Echard's T500

Robert Echard

Lanham Maryland USA

Robert's T500 is a 1970 with an original paint job from the 70s including the essential accessory of the time, a bikini fairing.

Peter Nutland’s wild bike

Sam Peterson's T500

"I bought it in about 98 and it was a complete basket case. I think it had been around Australia 5 times, the electrics had caught fire and then it was left out in the weather for a couple of years before I bought it. The parts were either very worn, crispy black or rusty brown – often all three. But it was a T500 and a MkIII at that so I just had to have it! I was lucky enough to make contact with someone who was restoring a Cobra and who had to move house. After a little haggling, I got his spares (more or less a whole machine – thanks Andrew!) which saved the day. I'm still chasing the tank rack, the front mudguard stays, and a few other bits. One day I'll restore it to original but for now it's just a blast to ride one again."

Sam Peterson
Brisbane Qld

Paul Payette's Suzuki T500

Hi,

Just finished restoring my fathers t500, The bike stayed in the backyard under a tarp for 7 years before i decide to take a look at it. Changed the battery, Removed the heads and cleaned the tops of the pistons, changed spark plugs, trans oil, Polished and painted. All original except for the handle bars. Has 18000 miles My father never thought it would start but to his surprise it did on about the tenth crank. Love the bike. Lots of power

Regards

Paul Payette

Montreal, Quebec

Pictures from Denmark by Per Norstedt

GT 500 from previous picture.

The engine have been tuned, All Speed exhaust system, GT 750 double disc front fork,

Nico Bakker fairing, Raask footrest system and Kawasaki Z 650 saddle.

Now all parts have been painted, and the fairing have been modified to suit the GT 500.

This bike could run about 200 km/h.

GT 500 B, 1978.

This i it´s first tour to Sweden, it had only run 80 km, when i bought it.

Picture is taken in Linköbing, Sweden, the day we went back to Denmark (600 km).

T 500´s, seen on the racetrack in Linköbing.

Brian Dawson's – T500 Suzuki

Brian wrote on 8 Nov 2001 –

Attached is a pic of my 1974/75 T500L/M. I came across this bike while I was working in a BMW motorcycle shop. A customer came in one day and wanted to buy a set of vintage BMW saddlebags (or panniers as they are also known) but didn't have any money. He offered "an old Suzuki" that he had in the back of a van. I took a look and the bike was a T500 in horrifying condition. But I decided to give him the saddlebags in exchange for the bike and pay the shop for the bags later.

Taking a hard look at what I'd purchased, I was not encouraged. The poor old thing was filthy and covered in oil but it was mostly complete and the exhaust pipes were undamaged. Cleaning it off I found that the bike was actually fairly well preserved under the film of oil. But, the previous owner, apparently having the IQ of a potato, had tried to install a Suzuki electronic ignition on a points-and-condenser engine.

He did not know that the nose of the older crankshaft and the nose of the later e-ignition crankshaft are quite different. In his attempt to make things work he had actually punched a hole through the engine cases and had then plugged the hole with silicon seal! How he expected that to work I don't know.

I searched around for a while and found another two bikes – both of them incomplete and damaged but with useful parts. I bought them cheap. I also came across a guy selling a T500 half-converted to a racing bike with no less than five spare engines! I bought everything.

I assembled a 1975 T500M electronic engine out of all the bits and installed that in place of the original, and butchered, 1974 T500L engine. And that is why I list the bike as both a 1974 and a 1975 and a T500L and T500M!

All the bodywork is original with original paint and original chrome except for some of the fasteners which were rusted. The side cover was also badly damaged and I have purchased a new one but it is not painted as yet. Since the pic was taken I ran across a chrome handrail and installed it on the bike. The total cost of this bike as it sits, with all the spares including the half-done racebike conversion, is less than $1000.

BTW, the racebike has been torn apart and is being rebuilt as we speak. The engine, with crankcase stuffers is done, the frame is welded up and the bodywork has been built and is being painted. I'll need to find some Akront rims and buy spokes, get some tires and assemble the whole thing. I've been taking pics as I go so when it's done I'll pass them along.

In addition to this T500 and the coming T500 racebike I own a TR250 replica racebike, an under-restoration T250 street bike and an unrestored and not-yet-running T350 which is extremely rare here (Canada).

Chris Gyorgy's T500J

Chris Gyorgy shared some shots of his T500J with a $LS drum brake

Bob Parkes from Canberra Australia with his T500

SUZUKI

Patrick Peters T500 restoration

Hi there muzza. (pardon me for my bad English but I am Dutch) Like I promised iI would send you some pictures of my T500. I used lot's of your info and still am. (Thanks for that man). I got the T from friends when my former bike was stolen and I did not have money to buy an other one. I still don't know whether to thank them or…..haha

Looks like a T20 sidecover there!

JohhnyUK and his Suzuki T500

John Mackay shares his machine with us. Don’t be fooled by the paint-job, it is a T500M

SUZUKI

500

SUZUKI

FOP 324W
SUZUKI

SUZUKI
UAJ
891S

FCP 324W
SUZUKI
UAJ
891S

Simon Horder's Suzuki T500J

Simon Horder has moved to Perth, Western Australia from the UK and brought a T500J with him to restore. The bike has now been restored and is a credit to Simon's dedication to the task.

Mike’s NZ T500R restoration

Before

SUZUKI
500

SUZUKI
500

SUZUKI
500

SUZUKI
61 WMP

Eddie Brackenbridge's T500-III

Eddie Brackenridge from Lisburn, Northern Ireland has sent us these pics of his bikes....including his nice looking T500 MkIII

SUZUKI
SUZUKI 500
ccc

AVK
146H

SUZUKI

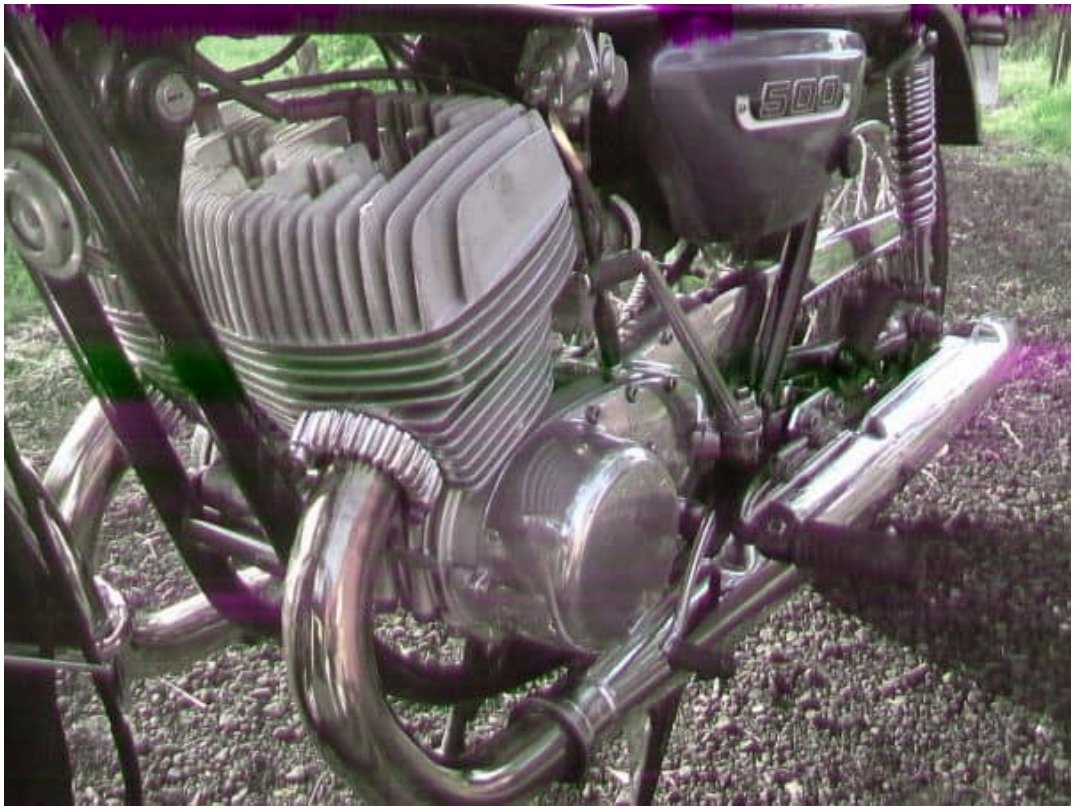
SUZUKI

SUZUKI

Alex's T500K

Alex Ellis has a 1973 Suzuki T500 that looks almost as good as new...nice paint job Alex!

SUZUKI


500

TPC
913M

913M

SUZUKI

SUZUKI

SUZUKI

SUZUKI MOTOR CO., LTD

SUZUKI

T500
SUZUKI MOTOR CO., LTD.
GCI

Hansen’s Ebay Special T500 from Norway

SUZUKI
AA
4945

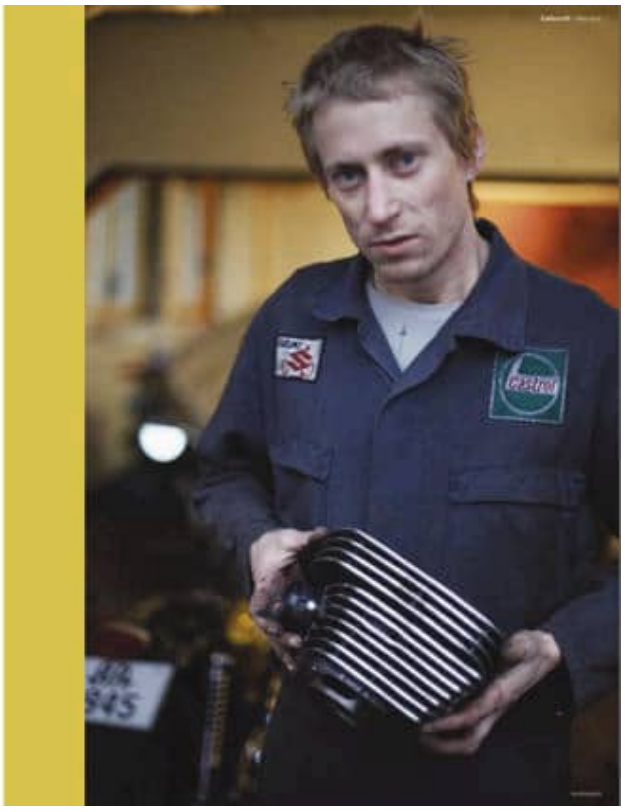
EBAY-RACER

1969-modell Suzuki T500 II Titan. To sylindere, to-takt, 180 kilo, 47 hk, Japan. Tekst Kevin Young / Bilder Espen Sætre

Ikke akkurat førstevalget til et cafferacerprosjekt

Hvorfor denne motoren? Bård Hansen vil i tillegg til å bygge en stilsikker cafferacer for dagligbruk, se svarene som drømmene av kritiske og dedikerte motorsyklist, ved se motorene som oppfattes japanske motorsyklist som ujevnsvektige og ufleksnomiske. Bård var litt annerledes på ting.

T500 tilhører den tidlige del av Suzuki tvitaktserie på 60- og 70-tallet. Suzuki var ikke like effektivbasert som dødsmaskinene fra Kawasaki men desto mer driftsikker. Herlelig nok hadde sistnevnte, Suzuki GT 550 som også var på markedet, enda bedre effekt enn gamle T500. Da nå modellene allerede på tidlig for en periode, men Suzuki valgte å håndtere denne



SUZUKI
2-Stroke
Service Bulletin

Bulletin No: General-5
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: SPARK PLUGS

1. Suzuki has specified NGK or ND spark plugs of a certain heat range to be used in each of its standard models. There is excellent reason for this. We have found the NGK and ND spark plugs to perform over a wider heat range with each engine, and they are in ready supply at the factory in Japan. We discourage the use of other manufactures' spark plugs for these reasons:

   A. HEAT RANGE: We have no control over the heat range which is used. This can result in either one of two problems depending on the non-standard spark plugs characteristics:

      1. Excessive spark plug fouling - this is an indication of too cold a heat range.

      2. Piston seizure or hole in the top of pistion - this is the result of too hot a heat range.

   B. REACH: Spark plug reach is another area where we have had difficulty with other manufacturers' spark plugs.

      1. If the spark plug reach is too short, the exposed threads in the cylinder head will carbon up over a short period of time. Consequently, when a spark plug of the correct reach is installed, the cylinder threads are stripped or damaged.

      2. If the spark plug reach is too long, the exposed thread of the spark plug will carbon up. When the spark plug is removed the extra 1/8" of the spark plug will tear up the cylinder head spark plug threads.

2. Thus, it is in your own best interest to strongly encourage the Suzuki owner to use only NGK or ND spark plugs of the specified type. It may be necessary in some cases to vary the heat range to suit the usage a motorcycle is getting. A good rule of thumb is: Use as cold a spark plug as possible without fouling. This will give you the best performance.

3. If you feel that you can obtain better performance and longer spark plug life through the use of nonstandard spark plugs, proceed with caution. You should run extensive tests on the type of spark plug you intend to try before you use it in the customer's machine. Don't ask your

customers to do your test riding for you. Additionally, we would like reports on any improvement you may find with nonstandard spark plugs.

4. SPARK PLUG GAP: Our spark plug gap specifications range from .018 inch to .032 inch. We have found that with a narrow spark plug gap, expecially during the break-in period, we have more fouling. Rather than install a hotter spark plug than standard, open the spark plug gap to reduce fouling. These are your basic guidelines for spark plug gap:

   A. Narrow spark plug gap (.018-.022 inch). This spark plug gap is best for high RPM operation. In other words a customer who rides the highway quite often or one who accelerates through the gears taching the engine out before each shift. In other words, he wrings the engine out. This type of driving keeps the spark plug electrodes and insulator very clean and reduces the chance of electrode bridging or spark plug fouling. If fouling is experienced due to the narrow gap, it is recommended to open the spark plug gap up to .022-.024 inch.

   B. Wide spark plug gap - The wider spark plug gap is better for the type of customer who shifts the engine at 4,000 to 5,000 RPM all the time, and who rides the motorcycle on city streets, rarely venturing out on the freeway and making little demand on the engine's maximum output. Low engine speeds mean less turbulence, poor fuel/air distribution and homogenization, and rich fuel/air mixtures. For this reason a wider spark plug gap should be used to clean the insulator and electrodes of possible bridging or fouling compounds. If it is found that high RPM performance suffers, the spark plug gap may be closed to .018-.022 inch to improve high RPM engine performance.

   C. SPARK PLUG CAPS: We have found that when the nonstandard spark plug caps are used in a mechanic's effort to get better high RPM performance, there is a tendency for the spark plug to foul more so than with the standard Suzuki spark plug caps. This is because the resistor in the Suzuki spark plug caps increases the required voltage to fire across the spark plug. Further, radio and TV interference is very poor public relations. A motorcycle with two cylinders and "straight" spark plug caps will wreak havoc with nearby television set and radio reception. Since we have so much legislation afoot these days, isn't it good practice to prevent further "protection" by using a standard Suzuki cap? There is very little performance to be gained, except when a Suzuki cap is faulty; then, replacement with the standard item is recommended. You can check the Suzuki spark plug caps with an ohmeter to see if they are resisting too much. Maximum resistance through the spark plug cap is no more than 10-20 Kilohms.

Suzuki Service Bulletins – GT750/550/380/500/250/185: 1972-77

NO.	MODEL	SUBJECT
1	GT750	COOLING SYSTEM
2	GT750	OIL STARVATION
3	GT750	CRANKCASE AND GEAR REPLACEMENT
4	GT750	STARTER CLUTCH MODIFICATION
5	GT750	NEW STYLE CYLINDER HEAD BOLT WASHER
6	GT750	CRANK SHAFT MODIFICATIONS
7	GT750	INCREASED PERFORMANCE
8	GT550J	PRIMARY GEAR NOISE
9	GT380	KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION
10	GT380	INCREASED TRANSMISSION OIL CAPACITY
11	GT250	DRIVE SHAFT/TOP GEAR
12	GT185	DISC BRAKE MANUAL ADDENDUM
13	GT550/750	EXHAUST COUPLER SEALANT
14	GT380/550/750	BATTERY BREATHER LOCATION
15	GT380/550/750	AIR CLEANER SERVICING
16	GT380/550/750	OPTIONAL SPROCKETS AND CHAIN
17	GT380/550/750	CONTACT BREAKER CAMS
18	GT380/550/750K	SRIS OIL STRAINER
19	GT250/380/550/750	DISC BRAKE MODIFICATION
20	GT250/380/550	NEW STYLE SPARK PLUG CAP BOOT
21	GT380/550/750L	FUEL STARVATION AT HIGH RPM
22	GT380/550/750	INSTRUCTIONS FOR USING CARBURETOR SYNCHRONIZATION TOOL
23	GT380/550	WIRING HARNESS TEMPORARY COLOR CODE CHANGES
24	GT250	BURNED OUT HEADLIGHT BULB
25	GT750	CYLINDER PULLER TOOL SET
26	GT550	STARTER CLUTCH CHANGE
27	GT185/250/380 550	SPARK PLUG CAPS

NO.	MODEL	SUBJECT
1	GT750	COOLING SYSTEM
2	GT750	OIL STARVATION
3	GT750	CRANKCASE AND GEAR REPLACEMENT
4	GT750	STARTER CLUTCH MODIFICATION
5	GT750	NEW STYLE CYLINDER HEAD BOLT WASHER
6	GT750	CRANK SHAFT MODIFICATIONS
7	GT750	INCREASED PERFORMANCE
8	GT550J	PRIMARY GEAR NOISE
9	GT380	KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION
10	GT380	INCREASED TRANSMISSION OIL CAPACITY
11	GT250	DRIVE SHAFT/TOP GEAR
12	GT185	DISC BRAKE MANUAL ADDENDUM
13	GT550/750	EXHAUST COUPLER SEALANT
14	GT380/550/750	BATTERY BREATHER LOCATION
15	GT380/550/750	AIR CLEANER SERVICING
16	GT380/550/750	OPTIONAL SPROCKETS AND CHAIN
17	GT380/550/750	CONTACT BREAKER CAMS
18	GT380/550/750K	SRIS OIL STRAINER
19	GT250/380/550/750	DISC BRAKE MODIFICATION
20	GT250/380/550	NEW STYLE SPARK PLUG CAP BOOT
21	GT380/550/750L	FUEL STARVATION AT HIGH RPM
22	GT380/550/750	INSTRUCTIONS FOR USING CARBURETOR SYNCHRONIZATION TOOL
23	GT380/550	WIRING HARNESS TEMPORARY COLOR CODE CHANGES
24	GT250	BURNED OUT HEADLIGHT BULB
25	GT750	CYLINDER PULLER TOOL SET
26	GT550	STARTER CLUTCH CHANGE
27	GT185/250/380 550	SPARK PLUG CAPS

GT

NO.	MODEL	SUBJECT
28	GT500	PEI INSPECTION
29	GT550/750	2ND DRIVE AND DRIVEN GEARS
30	GT250A	IGNITION TIMING MARKS
31	ALL GT'S	CONSTANT ON HEADLIGHT
32	GT250	CHANGES FROM 1975 TO 1976
33	GT550	IMPROVED REAR BRAKE PERFORMANCE
34	GT500	SHIFT CAM GUIDE BOLT LOCATION
35	GT250	CYLINDER HEAD, SPARK PLUG, AND CARBURETION CHANGES
36	GT750	SURGING
37	GT380/550/750	FUEL COCK SEEPAGE
38	GT380/550/750	GEAR SHIFTING SWITCH
39	GT500 A, B	FRONT FENDER MOUNT
40		

TWO STROKE

SUZUKI

2-Stroke

Service Bulletin Index

GT

NO.	MODEL	SUBJECT
1	GT750	COOLING SYSTEM
2	GT750	OIL STARVATION
3	GT750	CRANKCASE AND GEAR REPLACEMENT
4	GT750	STARTER CLUTCH MODIFICATION
5	GT750	NEW STYLE CYLINDER HEAD BOLT WASHER
6	GT750	CRANK SHAFT MODIFICATIONS
7	GT750	INCREASED PERFORMANCE
8	GT550J	PRIMARY GEAR NOISE
9	GT380	KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION
10	GT380	INCREASED TRANSMISSION OIL CAPACITY
11	GT250	DRIVE SHAFT/TOP GEAR
12	GT185	DISC BRAKE MANUAL ADDENDUM
13	GT550/750	EXHAUST COUPLER SEALANT
14	GT380/550/750	BATTERY BREATHER LOCATION
15	GT380/550/750	AIR CLEANER SERVICING
16	GT380/550/750	OPTIONAL SPROCKETS AND CHAIN
17	GT380/550/750	CONTACT BREAKER CAMS
18	GT380/550/750K	SRIS OIL STRAINER
19	GT250/380/550/750	DISC BRAKE MODIFICATION
20	GT250/380/550	NEW STYLE SPARK PLUG CAP BOOT
21	GT380/550/750L	FUEL STARVATION AT HIGH RPM
22	GT380/550/750	INSTRUCTIONS FOR USING CARBURETOR SYNCHRONIZATION TOOL
23	GT380/550	WIRING HARNESS TEMPORARY COLOR CODE CHANGES
24	GT250	BURNED OUT HEADLIGHT BULB
25	GT750	CYLINDER PULLER TOOL SET
26	GT550	STARTER CLUTCH CHANGE
27	GT185/250/380 550	SPARK PLUG CAPS

GT

NO.	MODEL	SUBJECT
28	GT500	PEI INSPECTION
29	GT550/750	2ND DRIVE AND DRIVEN GEARS
30	GT250A	IGNITION TIMING MARKS
31	ALL GT'S	CONSTANT ON HEADLIGHT
32	GT250	CHANGES FROM 1975 TO 1976
33	GT550	IMPROVED REAR BRAKE PERFORMANCE
34	GT500	SHIFT CAM GUIDE BOLT LOCATION
35	GT250	CYLINDER HEAD, SPARK PLUG, AND CARBURETION CHANGES
36	GT750	SURGING
37	GT380/550/750	FUEL COCK SEEPAGE
38	GT380/550/750	GEAR SHIFTING SWITCH
39	GT500 A, B	FRONT FENDER MOUNT
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-1
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject GT750 COOLING SYSTEM

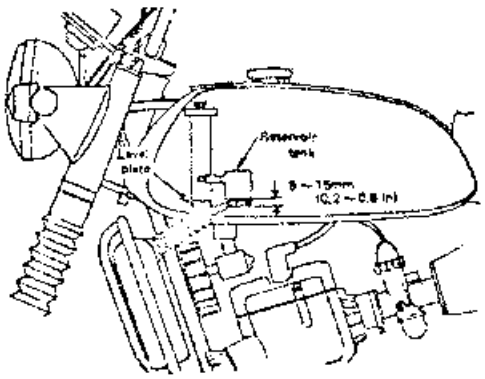
Due to the specialized knowledge required to correctly service the liquid cooling system on the new GT750, the following information has been compiled as a ready reference.

Coolant: "Suzuki CCI Antifreeze and Summer Coolant" is recommended exclusively by the factory for use in the GT750. Tests have shown that no other brand of coolant manufactured in the United States meets the specialized requirements of this motorcycle cooling system.

Suzuki CCI Coolant.....Part No. 99000-24120 is available in 2 liter cans (2.1 U. S. quarts).*

Set-Up: Each machine is serviced with a 50/50 mixture of distilled water and Suzuki CCI Coolant at the factory. This protects the cooling system to a temperature of -24° Fahrenheit. (-31°C). This mixture will probably last for two years or 20,000 miles under normal use. Do not exceed a cooling mixture ratio of 60% Antifreeze as its anti-freezing effectiveness does not increase beyond this ratio. Conversely, do not go below a cooling mixture ratio of 30% Antifreeze in summer weather. This amount is required at all times for anti-corrosion and cooling. Use distilled water only for mixing.

Cooling System Capacity: The specified cooling system capacity is 4.5 liters or 4.75 U. S. quarts. The cooling mixture should be maintained 5-15mm from the bottom of the radiator resevoir tank. To facilitate daily inspection of this level, a white level plate is located inside the radiator refill pipe. The cooling solution should be maintained near this plate at all times. A daily inspection should be made of the cooling mixture level before starting the engine.



Cooling solution level

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

Maintenance: Although the cooling solution capacity is 4.5 liters, approximately 500 cc will remain trapped after draining or flushing; unless the engine is disassembled. Therefore, after normal draining or flushing, the refill capacity will be 4 liters (4.22 U. S. quarts).

To flush the cooling system, remove all engine water plugs and let drain. With the engine cold, flush with a water hose through the radiator opening. Replace the water plugs and run the engine for ten minutes with a flushing agent. Drain and flush again with water. Refill with the proper cooling mixture.

When refilling the system it will be necessary to run the engine until the thermostat opens, before the system can be filled to capacity. Running the engine at idle for ten minutes should accomplish this.

A container with a pre-mixed solution of the correct distilled water/anti-freeze ratio should be kept on hand to replenish whatever normal cooling mixture loss occurs during use. Refilling with water only will result in diluting the cooling mixture after a while.

The radiator cap pressure is rated at 13 p.s.i. J and K models: A cooling fan is installed behind the radiator and is controlled by a thermostat switch set to activate at a water temperature of 220°F. The fan will then operate until the cooling mixture temperature drops to 212°F. If for some reason you wish to activate the fan to run before a temperature of 220° F is reached, disconnect the brown wire from the thermo-switch and the fan will operate.

Anti-leak Chemicals: At the factory 14 grams (½ oz.) of "Bars-Leaks" brand anti-leak chemical is installed in the cooling system of each GT750. NO ADDITIONAL ANTI-LEAK should be added, except after completely flushing the system and replenishing with new cooling solution. The inner diameter of the radiator tubing is only 1.5mm. Consequently radiator blockage can become critical. "Bars-leak" is capable of plugging a hole 1mm in diameter.
This fact, plus any incidental corrosion which might occur if a proper cooling mixture is not maintained, could result in clogging of the radiator leading to engine failure. Use of any other brand anti-leak is not recommended.

Storage: It is not advisable to drain the cooling system when the motorcycle is to be stored, since this would initiate corrosion in the aluminum radiator, cylinder and cylinder head.

(cont.)

WATER PUMP IMPELLER CIRCLIP:

We have had several reports of water pump damage on the GT-750. This has been due to the impeller circlip, coming off the water pump shaft.

Therefor, whenever the water pump is disassembled, a new impeller circlip, Suzuki Part No. 08331-11109, should always be installed upon reassembly.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

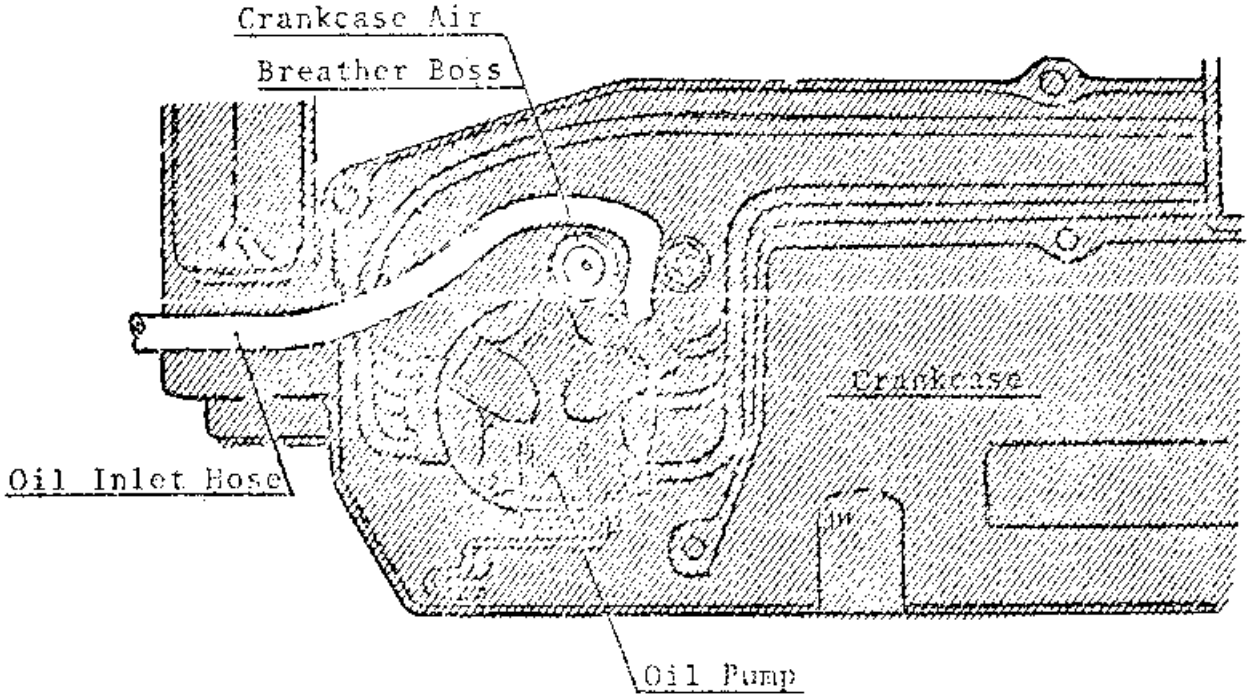
Subject: GT750 OIL STARVATION

Bulletin No: GT-2
Date: May 1, 1975

Read and Initial

Manager
Parts
Service MAC

PROBLEM: If care is not taken it is possible to pinch the inlet line from the oil tank to the oil pump when installing the oil pump cover. Pinching this line closed will result in no oil getting to the oil pump, or to the engine. Naturally this can cause a multitude of problems due to lack of lubrication.



CORRECTION:

1. Take special care that the oil pump inlet hose is routed around the crankcase air breather boss before installing the oil pump cover.
2. Before tightening down the screws holding the cover, check that the cover seats flush against the crankcase, without any gaps. If there is a gap, this would indicate that the hose might be pinched between the breather boss and the cover.
3. After tightening the screws, start the engine and check at the lines for any evidence of oil starving.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-3
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT750 CRANKCASE AND GEAR REPLACEMENT
(Revised December 19, 1975)
REFERENCE: Service Bulletin #GT-29

The crankcase, 1st driven, 2nd driven and kick starter drive gears of the GT750 will be selection-assembled to obtain the optimum backlash of the gears for less noise from the transmission. Install the most suitable gears according to the following instructions when replacing these parts.

A. Installation of parts

1. When replacing the CRANKASE ASSEMBLY:

   a. The crankcase assembly is supplied with the 1st driven, 2nd driven and kick starter drive gears with which the optimum backlash is obtained. Therefore, install these gears when replacing the crankcase assembly.

   *b. Second drive gear is not supplied with the crankcase assembly, but for engines prior to number GT750-73059 it must be replaced in conjunction with second driven gear which is supplied with the crankcase assembly.

2. When replacing 1ST DRIVEN GEAR AND/OR 2ND DRIVEN GEAR:

   a. In this package of spare parts, there are two gears classified by size, one is painted yellow and the other is painted white. When replacing this gear with a new one, check the paint color indicated on the crankcase originally fitted to the machine, then choose the most suitable gear in accordance with the chart on Page 2.

      EXAMPLE: Fit the white painted gear if the crankcase is painted blue, green or white.

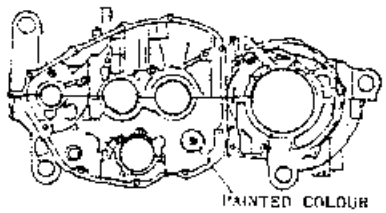
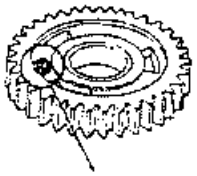
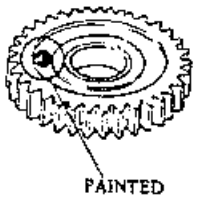
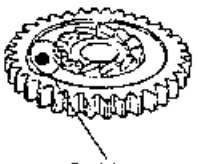
   b. For engine numbers prior to GT750-73059 second drive gear must be replaced at the same time second driven gear is installed.

*Revised: December 19, 1975

3. When replacing the KICK STARTER DRIVE GEAR:

   a. Again there are two gears in the package, one is painted brown and the other is painted yellow. Choose the most suitable gear shown on the chart according to the paint color indicated on the crankcase.

      EXAMPLE: Fit the brown painted gear if the crankcase is painted brown, black, red or yellow.

CRANKCASE COLOUR	1ST DRIVEN GEAR	2ND DRIVEN GEAR	KICK START DRIVE GEAR
B R O W N	YELLOW	YELLOW	BROWN
B L A C K			
R E D			
Y E L L O W			
B L U E	WHITE	WHITE	YELLOW
G R E E N			
W H I T E			
			

B. Change of part numbers

The part numbers of the relative parts have been changed as follows on page 3:

(cont.)

PART NAME	OLD PART NO.	NEW PART NO.	REMARKS
*Crankcase Ass'y.	11300-31851	11300-31852	includes crankcase ass'y., 1st driven, 2nd driven & kick starter drive gears. For engines up to number GT750-73059. Second drive gear must also be installed. However, it is not supplied with crankcase assembly, and must be ordered separately.
Gear Comp, 1st Driven	24310-31000	24310-31821	includes two gears classified by size.
*Gear Comp, 2nd Driven	24321-31822	24300-37810	includes two gears classified by size. For engines up to number GT750-73059 second drive gear must also be installed at the same time.
Gear Comp, Kick Starter Drive	26240-31000	26240-31823	includes two gears classified by size.
*Second Drive Gear	24221-31000	24221-37000	Up to engine #GT750-73059 install second driven gear at the same time.

NOTE: For further details refer to Service Bulletin Number GT-29 of November 21, 1975.

*Revised: December 19, 1975

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 STARTER CLUTCH MODIFICATION

Bulletin No: GT-4
Date: May 1, 1975

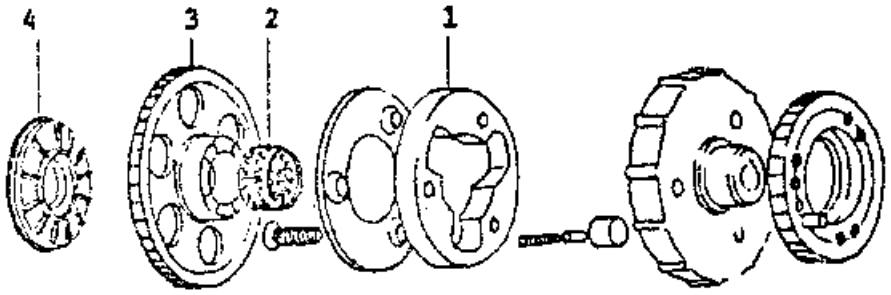
Read and Initial

Manager
Parts
Service

NOTICE:

Reports have been received of starter clutch failures on the subject models. While the symptoms are similar, there have been various contributory factors involved. Therefore, several modifications have been made to effect a total cure, as the following illustrations show.

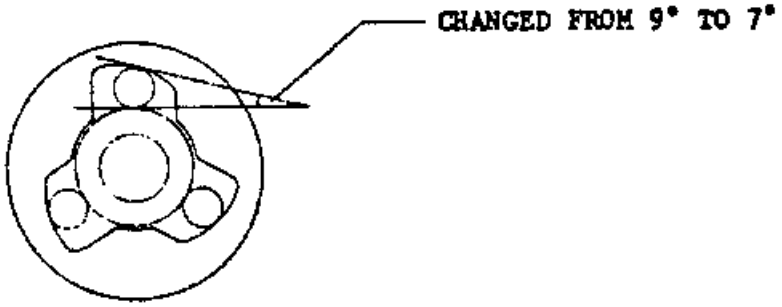
DETAILS OF MODIFICATIONS



STARTER CLUTCH ASSEMBLY

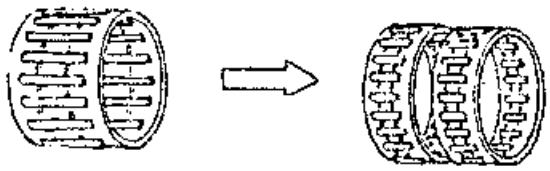
1. STARTER CLUTCH HOUSING

The wedge has been altered as shown in the illustration.



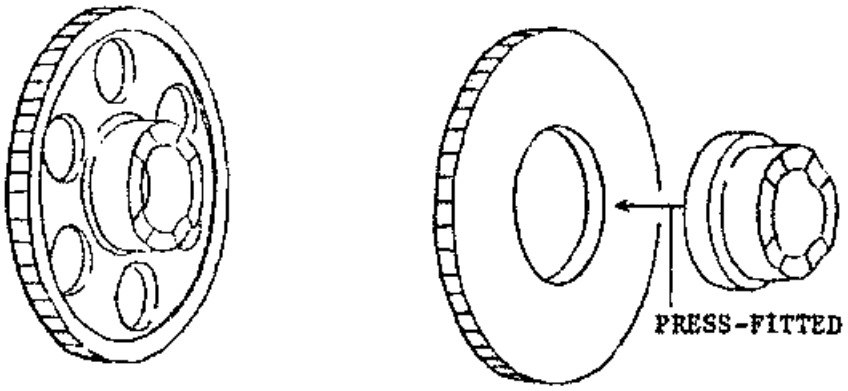
2. NEEDLE BEARING

The width of the needle roller bearing has been narrowed so that a pair may be installed in place of the old type wider bearing.



3. STARTER CLUTCH GEAR

The hub on the starter clutch gear on which the starter clutch rollers run has been changed from a solid type to a press-fitted type as shown below.

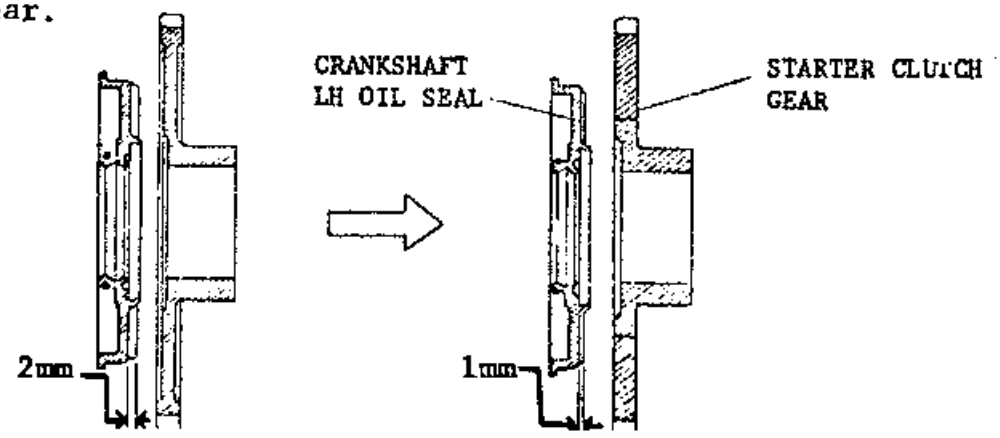


SOLID PRESS FITTED

4. CRANKSHAFT LH OIL SEAL

In connection with the modification of the starter clutch gear the thickness of the gear is evened so as to have enough contact surface around the hub being press-fitted.

In addition, the height of the ribs on the crankshaft oil seal have been lowered by 1 mm in order to clear the starter clutch gear.



5. INTERCHANGEABILITY

UPDATED

The parts, except the crankshaft oil seal, may be interchanged. However, it is still highly recommended to use only the modified parts in order to thoroughly avoid a possible problem.

PART NUMBER:

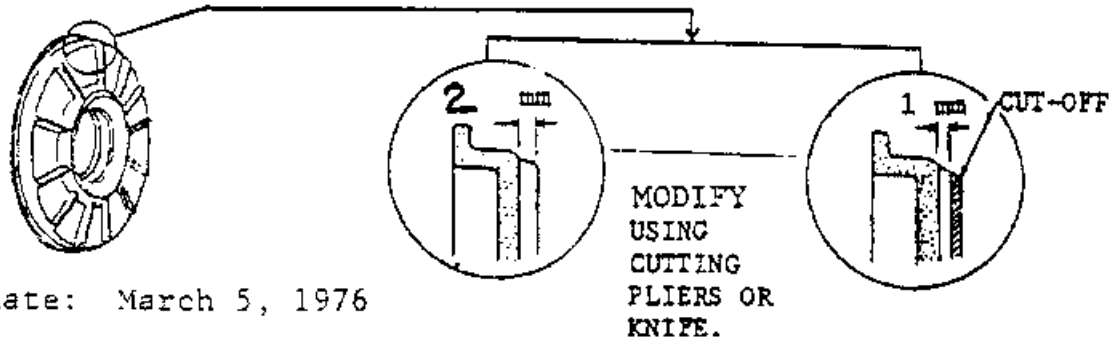
DESCRIPTION	OLD NO.	NEW NO.
Starter Clutch Assembly	12603-31832	*12600-31832
Starter Clutch Gear	12620-31003	*12620-31004
Starter Clutch Gear Bearing	09263-25011	09263-25011
Crankshaft LH Oil Seal	09289-30001	*09263-30001

APPLICABILITY:

DESCRIPTION	PRODUCTION MONTH	ENGINE NO.
Starter Clutch Housing	From April, 1972	From #27667
Starter Clutch Gear Bearing	From April, 1972	From #26030
Starter Clutch Gear	1. April and May production	1. #26030-#29045
Crankshaft LH Oil Seal	2. After old stock is exhausted	2. --

Note:

On future parts orders only the new type starter clutch parts will be supplied. However, the old type LH crankshaft oil seal will still be supplied until such time as the existing stock is exhausted. Therefore, when the old oil seal is retained in the unit and the starter clutch is modified or replaced, it is necessary to check the rib height of the oil seal and modify the same as shown.



*Update: March 5, 1976

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-5
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: NEW STYLE GT750 CYL. HEAD BOLT WASHER

NOTICE

A new style washer has been designed for the cylinder head bolt of the GT750. The new style washer has a rubber seal molded around its inside surface as shown below.

OLD STYLE WASHER
(08322-11148)

NEW STYLE WASHER
(09168-14008)

The rubber seal will prevent any possibility of coolant leaking past the washer and also prevent water from outside (rain or washing) passing in past the washer and rusting the bolt.

APPLICABILITY

GT750's on and after Engine Number GT750-51822 and Frame Number GT750-45213 have had the new style washers installed.

RECOMMENDATION

For units prior to the above Engine and Frame Numbers, it is recommended that the old style washers be replaced with new style washers whenever the cylinder head is removed from the GT750.

PARTS

The new style washer is now available from the U. S. Suzuki Parts Department, and the Part Number is: 09168-14008.

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 CRANKSHAFT MODIFICATIONS

Bulletin No: GT-6
Date: May 1, 1975

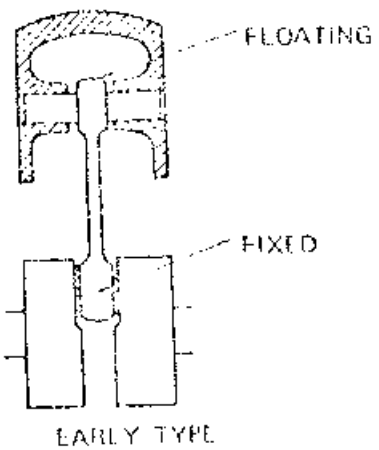
Read and Initial
Manager
Parts
Service

NOTICE:

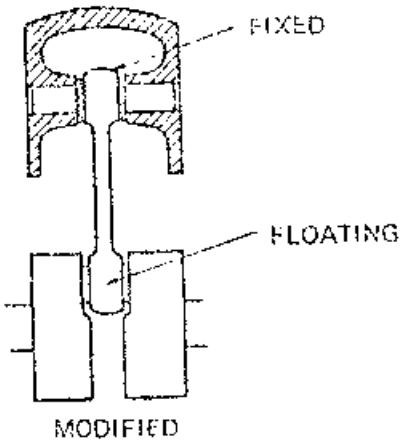
The GT750 crankshaft assembly, has been modified in several ways to further increase its durability.

DETAILS OF MODIFICATIONS:

Side movement of the connecting rod is restricted on the small end, and the big end has been changed to a floating type as shown in the illustration below.



EARLY TYPE

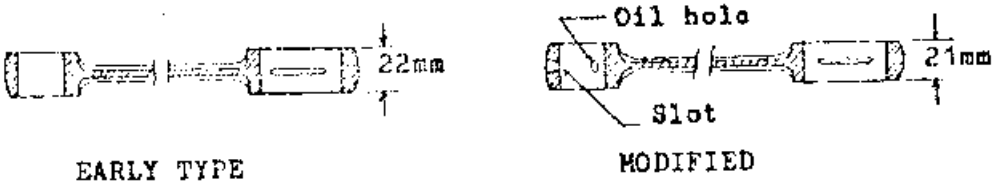


MODIFIED

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

This has been accomplished by the following individual modifications.

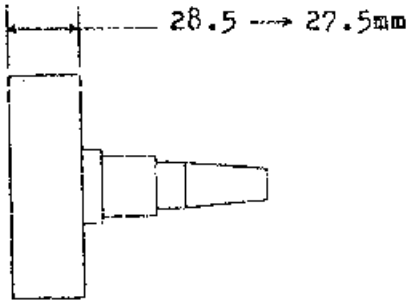
1) Connecting rod:
The big end width has been reduced and a slot and a hole have been provided on the small end for better lubrication.



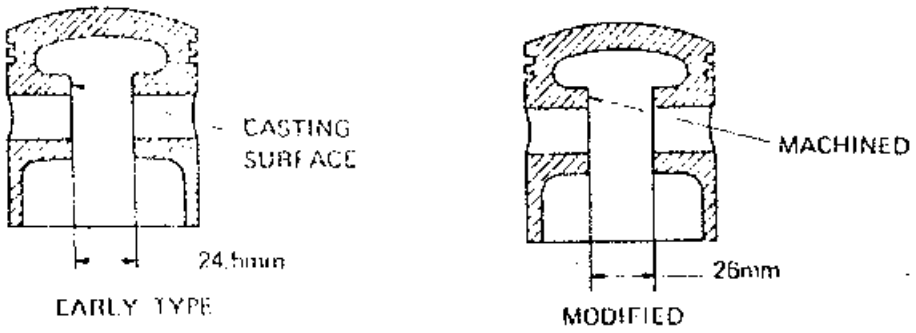
EARLY TYPE MODIFIED

2) Crankshaft components:

A) Crank Wheels:
The width of the crank wheels has been reduced from 28.5mm to 27.5mm.



B) Pistons:
The pistons inside surface has been changed from a casting surface to that of a machined surface. The inside dimension between the wrist pin bosses has also been changed.



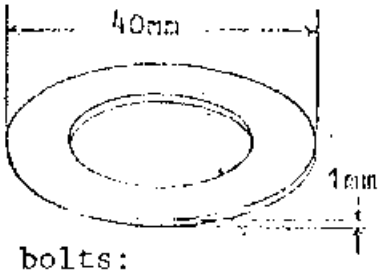
EARLY TYPE MODIFIED

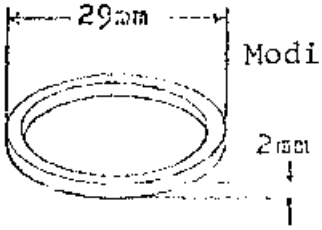
(cont.)

C.) **Thrust** washer, connecting rod small end:
This thrust washer has been provided for the non-floating small end of the connecting rod. Two of these are used for each piston.

D.) Thrust washer, crank pin bearing:
In order to have the connecting rod floating on the crank pin, this thrust washer has been modified as shown below.

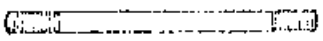
Early Type



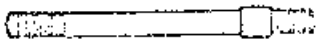


Modified

E.) Stud bolts:
Two of the twelve stud bolts on the crankcase assembly have been replaced with a new type shouldered bolt.

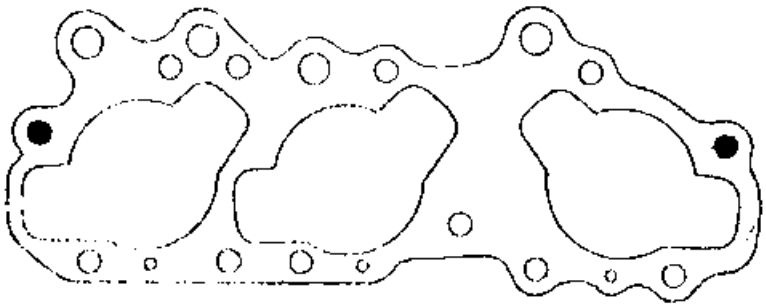


EARLY TYPE



MODIFIED

F.) Cylinder gasket:
Two holes in the gasket have been enlarged from 11mm to 12.5mm in diameter to match the new type stud bolts.



● : ENLARGED

(cont.)

PART NUMBERS AND AVAILABILITY:

For assembly convenience, the new style crankshaft assembly consists of the following parts.

1. Pistons (3)

2. Thrust washers, connecting rod small end. (6)

3. Stud bolts. (2)

4. Crankshaft assembly.

The above crankshaft set does not include the cylinder base gasket, although it has been modified as explained in paragraph #2 (F). Consequently, when using the old style gasket, the necessary two holes should be enlarged before assembly.

PART NAME	OLD PART NO.	NEW PART NO.	AVAILABILITY
CRANKSHAFT SET	12003-31803	12200-31835	NEW ONLY
(CONNECTING ROD)	12161-31000	12161-31001	OLD & NEW
(CRANKSHAFT, R)	12221-31000	12221-31001	NEW ONLY
(CRANKSHAFT, MIDDLE)	12231-31000	12231-31001	NEW ONLY
(CRANKSHAFT, L)	12241-31002	12241-31003	NEW ONLY
(CRANK WEB, L)	12242-31000	12242-31001	NEW ONLY
(THRUST WASHER, CRANK PIN BEARING)	09160-24012	09160-24014	OLD & NEW
PISTON, R	12110-31000	12110-31001	OLD & NEW
PISTON, L	12120-31000	12120-31001	OLD & NEW
THRUST WASHER, CON-ROD SMALL END	NOT EXIST	09169-18001	AVAILABLE
STUD BOLT, CYLINDER	09108-10006	09108-10012	OLD & NEW
CYLINDER GASKET	11241-31000	SAME AS OLD	NEW ONLY

(cont.)

*The parts shown in parentheses are the modified components of the crankshaft.

PARTS STOCK:

Since the old style piston cannot be used on the new style crankshaft assembly, some of which are already in the field, it is recommended that you add the new style pistons to your parts inventory as soon as possible.

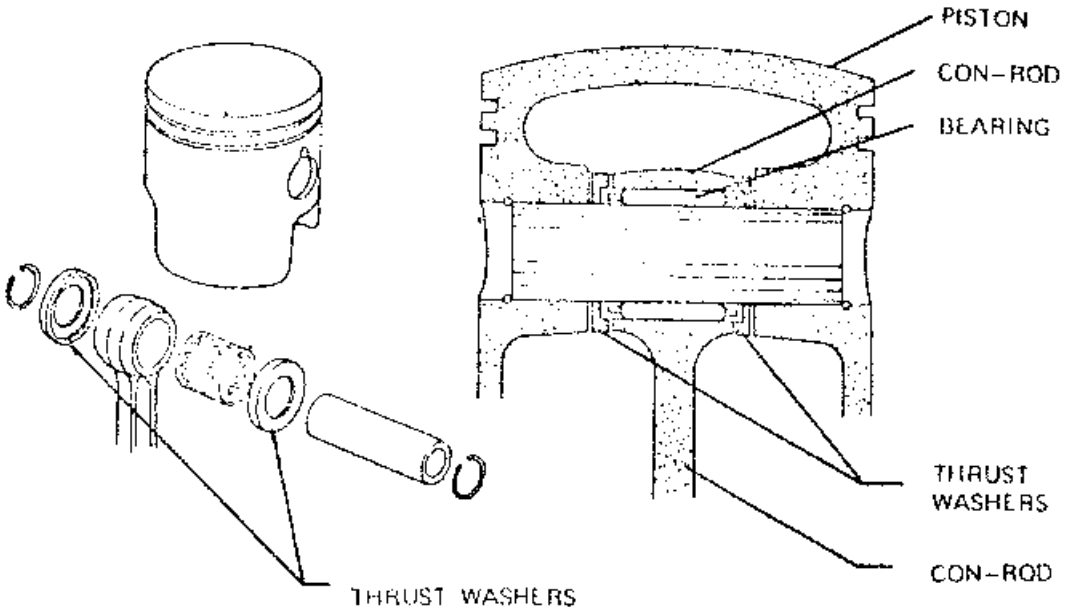
APPLICABILITY:

The crankshaft modification has been applied, on and from Engine Number 38060.

ASSEMBLING PROCEDURE:

If the new style crankshaft is to be used on the early type engine, the following procedure should be noted.

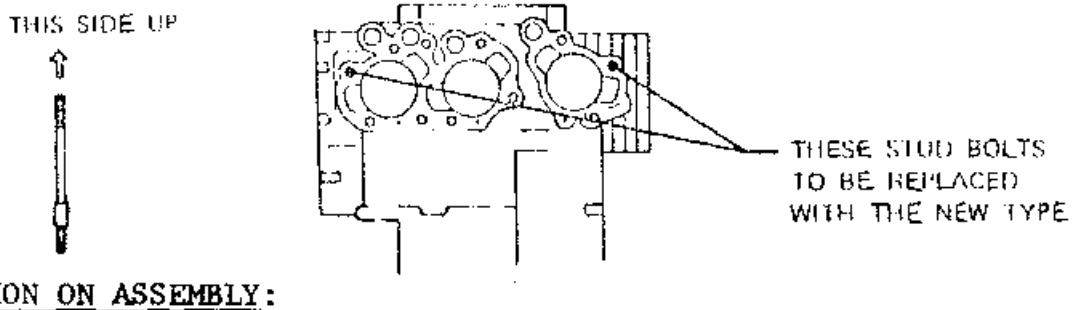
1) The pistons and thrust washers should be assembled as shown below.



NOTE: Two different pistons are used in the GT750 engine, and they are marked "R" and "L" on top of the piston crown. The "R" piston is for the right cylinder and the "L" pistons are for the left and middle cylinders.

(cont.)

2) In order to achieve proper alignment of the connecting rod with the center of the cylinder bore, the necessary stud bolts should be replaced with the new style as shown below.



CAUTION ON ASSEMBLY:

1) To prevent transmission oil leaking into the crankcase, care should be taken when placing the crankshaft assembly into the lower crankcase half. There should not be any clearance allowed between the crankshaft oil seals and crankshaft bearings and oil seal retainer.

2) Be certain to apply Suzuki bond #4 (99000-33030) to the crankcase around the water by-pass hole to avoid water leakage into the transmission.

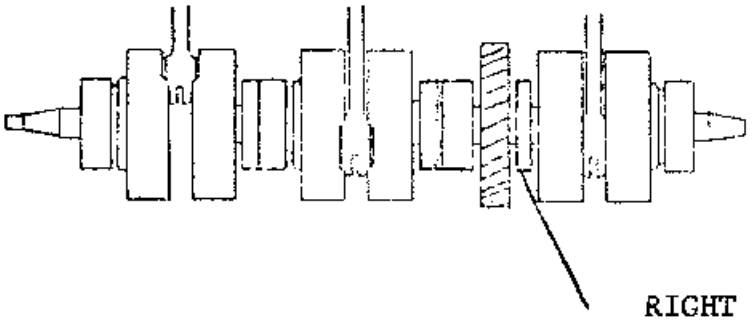
3) When installing the starter clutch unit to the crankshaft, apply Thread Lock Cement (Part No. 99000-32010) to the threads of the crankshaft and torque the fitting nut to 50 lb-ft.

ADDENDUM

We have received occasional reports of GT750's smoking excessively from the right exhaust pipe.

CAUSE:

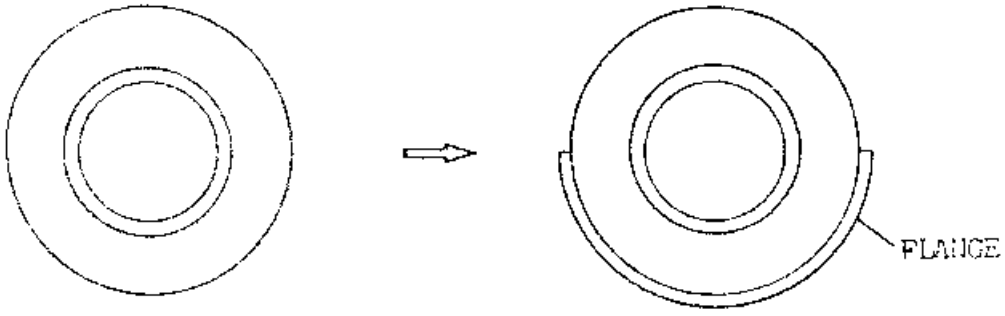
The excessive smoking was attributed to the right inboard crankshaft oil seal becoming displaced, allowing transmission oil to pass into the right cylinders crankcase.



(cont.)

MODIFICATION:

To provide a more positive method of positioning the right inboard oil seal, a metal flange has been added to the seal.



OLD STYLE NEW STYLE

The new style seal's flange eliminates the old style seals positioning "C"-ring (Part No. 09390-78003). The flange of the oil seal should be placed in the "C"-rings crankcase groove when positioning the crankshaft assembly in the lower crankcase half.

PARTS:

The new style parts are now available from the U. S. Suzuki Parts Department.

DESCRIPTION	OLD PART NO.	NEW PART NO.
Oil Seal, R. H. Inboard	09289-38003	09289-38008
Crankshaft Assembly	12200-31834	12200-31835
"C" Ring	09390-78003	----------

APPLICATION:

The new style oil seal has been installed on and after the following Engine and Frame Number.

Engine Number: GT750-54214 Frame Number: GT750-49895

INTERCHANGEABILITY:

The old and new style oil seals are interchangeable.

When using the old style seal (without the flange) the "C" ring must also be used.

When installing a new style oil seal in an engine prior to No. GT750-54214, the "C" ring is not needed.

SUZUKI
2-Stroke
Service Bulletin

Subject: INCREASED PERFORMANCE OF GT750

Bulletin No: GT-7
Date: May 1, 1975

Read and Initial

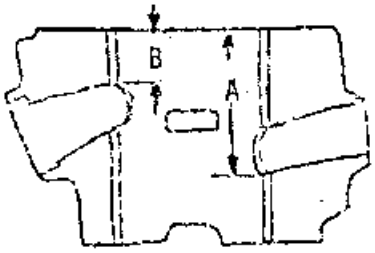
Manager _____
Parts _____
Service _____

The maximum horsepower and top speed of the 1975 GT750 "Le Mans" has been increased. This bulletin explains the modifications and changes made to achieve the additional output.

MODIFICATIONS

I. Cylinder:

The cylinders intake and exhaust port timing have been changed as indicated.



EXHAUST INTAKE

A: 101.5 ⟶ 106.5mm

B: 42.5 ⟶ 40.0mm

II. Cylinder Head:

a. To decrease the combustion chamber volume from 30.6cc to 29.7cc, 0.2mm has been removed from the cylinder head surface.

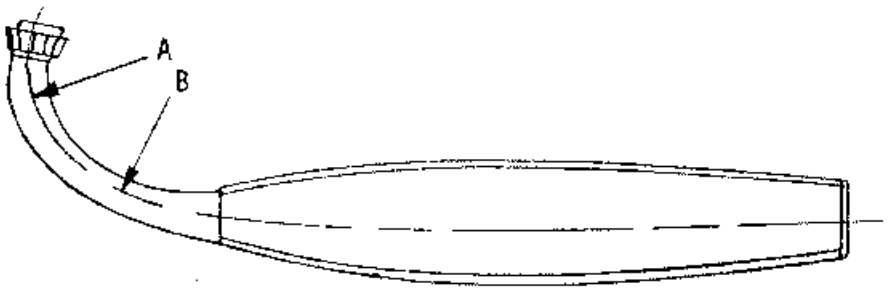
b. At the same time, the cylinder head gaskets thickness has been decreased from 1.5mm to 0.8mm.

The above changes (a & b) have increased the compression ratio from 6.7 to 6.9:1.

III. Exhaust System:

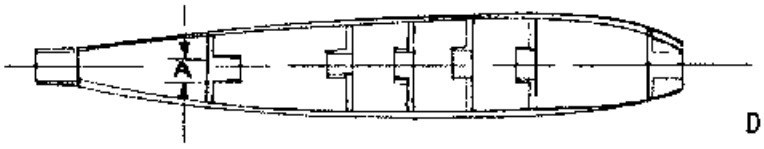
The exhaust coupler tube system has been eliminated and the dimensions of the mufflers has been changed as indicated.

a. Right and Left Outer Mufflers



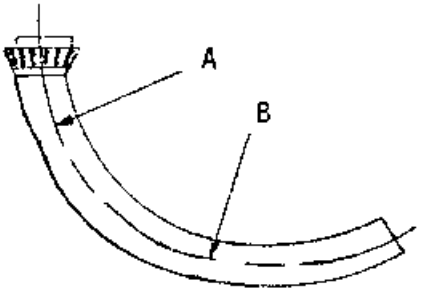
RADIUS A: 100→90 mm
RADIUS B: 140→165mm

b. Right and Left, Center Mufflers



DIAMETER A: 29→20mm

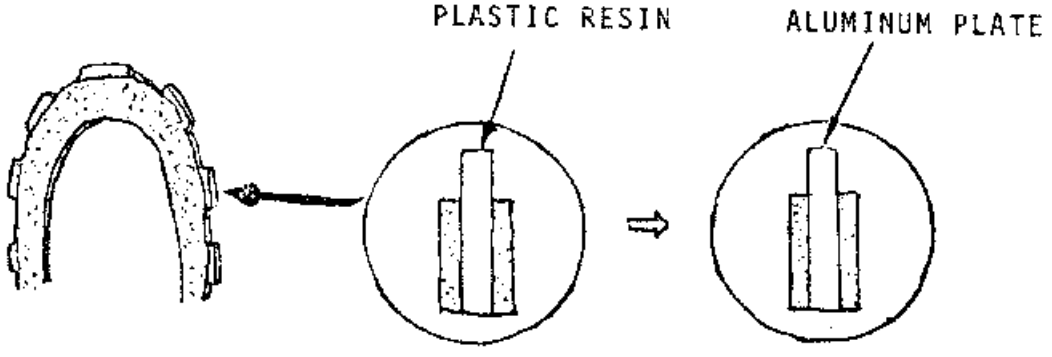
c. Center Exhaust Pipe



RADIUS A: 100→90mm
RADIUS B: 140→165mm

IV. Clutch Cork Plates:

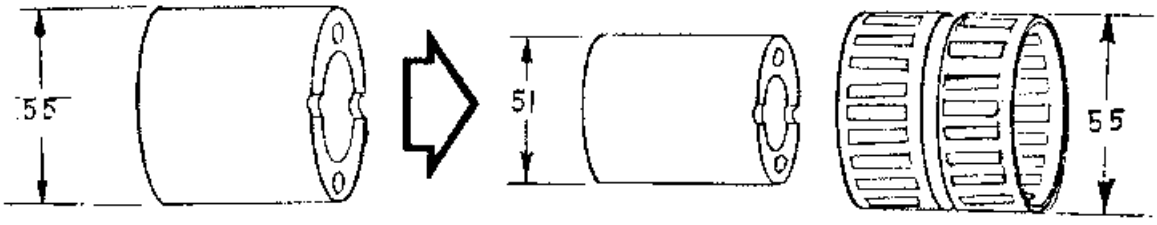
The clutch cork plate's base material has been changed from plastic resin to aluminum.



(cont.)

V. Primary Driven Gear Bushing:

The primary driven gear bushing outer diameter has been reduced from 55mm (2.16in.) to 51mm (2.00 in.) to accompany a new needle bearing now being used.



OLD STYLE NEW STYLE

VI. Carburetion:

The carburetor jetting has been adjusted to accompany the engine and muffler modifications. The changes made are as follows:

DESCRIPTION	PREVIOUS JETTING	NEW JETTING
Throttle Valve:	#120	#110
Pilot Jet:	#47.5	# 45
Pilot Screw:	1/4	3/4
Jet Needle:	4DN18-3	4DN18-4

VII. Spark Plug:

The spark plug heat range has also been changed.

	OLD	NEW
NGK	B6ES	B8ES
Nippon Denso	W20ES	W24ES

VIII. 5th Driven Gear:

The 5th driven gear's number of teeth has been increased from 24 to 25.

This lowers the 5th gear ratio from 0.923 to 0.962:1.

(cont.)

IX. Final Drive:

The final drive ratio has been changed from 3.133 to 2.688:1 by changing the following:

a. The engine sprocket's number of teeth has been changed from 15 to 16.

b. The rear drive sprocket's number of teeth has been changed from 47 to 43.

X. Drive Chain:

The number of drive chain links has been decreased from 108 to 106 links.

The 1975 GT750's drive chain strength has been increased and its new designation is: D1D50HDSS.

PART NUMBERS & AVAILABILITY

DESCRIPTION	OLD PART NO.	NEW PART NO.	AVAILABILITY
1. Cylinder head	11111-31001	11111-31003	New only
2. Cylinder	11210-31003	11210-31600	New only
3. Cylinder head gasket	11141-31002	11141-31680	Old & New
4. Right muffler ass'y.	14301-31201	14301-31620	Old & New
5. Left muffler ass'y.	14302-31201	14302-31620	Old & New
6. Center right muffler ass'y.	14303-31200	14303-31620	Old & New
7. Center left muffler ass'y.	14304-31200	14304-31620	Old & New
8. Center exhaust pipe	14170-31000	14170-31620	Old & New
9. Needle bearing	-	09263-51001	Available
10. Primary driven gear bush	21250-31000	21251-31600	Old & New
11. Clutch drive plate	21441-31000	21441-31600	New only
12. Engine sprocket	27511-33600	27511-34000	Old & New
13. Drive chain	27600-31013	27600-31014	Old & New
14. Rear sprocket	64511-31731	64511-31700	Old & New
15. Carburetor ass'y.	13200-31210	13200-31621	Old & New
16. Pilot jet	09492-47005	09492-45012	Old & New
17. Throttle valve	13551-31210	13551-31600	Old & New
18. Right carburetor ass'y.	13201-31210	13201-31621	Old & New
19. Center carburetor ass'y.	13202-31210	13202-31621	Old & New
20. Left carburetor ass'y.	13203-31210	13203-31621	Old & New
21. 5th drive gear	24351-31000	24351-31200	Old & New

INTERCHANGEBILITY

The parts listed as "Old & New" being available are not interchangeable. Those listed as "New only" are interchangeable with the old parts.

Whenever replacing the cylinder, the new cylinder head gasket should also be installed.

APPLICABILITY

The modifications and changes described in this bulletin were effective at the beginning of 1975 production.

Engine Number: GT750 - 57533

Frame Number: GT750 - 52823

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-8
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT550J PRIMARY GEAR NOISE

PROBLEM:

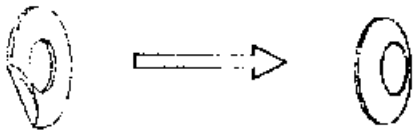
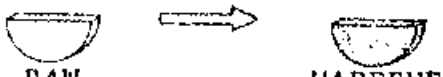
We have received reports of certain GT550J's developing a rattle in the right side primary case. This is caused by loosening of the primary drive gear nut.

MODIFICATION:

In order to remove this possibility, a new style lock washer has been employed. The crankshaft woodruff key has been heat treated and the tightening torque of the primary gear nut increased from 29-40 ft/lb to 94-108 ft/lb.

APPLICATION:

The modifications are already incorporated as per the following chart:

ITEM	MODIFICATION	APPLICABILITY
WASHER	 TONGUED → SPRING	From July production engine number: from 24552
TIGHTENING TORQUE	400 - 550 kg-cm(29 - 40 lb-ft) ⇩ 1,300 - 1,500 kg-cm(94 - 108 lb-ft)	
KEY	 RAW → HARDENED	From July production engine number: from 25054

SUZUKI
2-Stroke
Service Bulletin

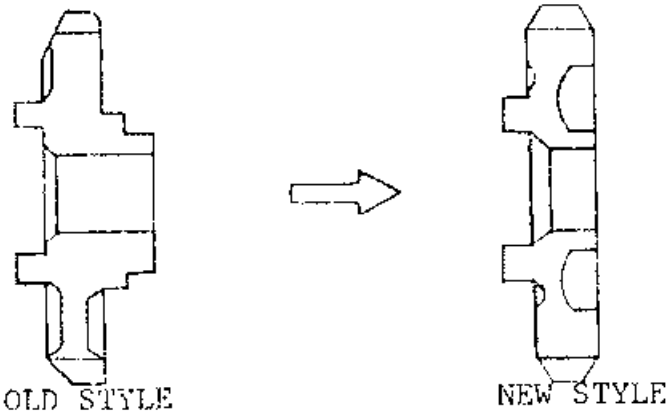
Bulletin No: GT-9
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT380 KICK STARTER DRIVE GEAR AND OIL PUMP DRIVEN GEAR MODIFICATION

MODIFICATION:

The GT380 kick starter drive gear has been increased in strength. Its shape also has been changed as shown below.



In accordance with this modification the oil pump driven gear shape has also been changed.

APPLICABILITY:

The modified gears have been installed on and from Frame No. GT380-45336.

PART NUMBERS AND AVAILABILITY:

The old style gears will no longer be available.

The new style gears are now available from the U. S. Suzuki Parts Department, and the part numbers are listed below:

DESCRIPTION	OLD PART NO.	INTER-CHANGE	NEW PART NO.
Kick Starter Drive Gear	26240-33002	X → ← O	26241-33002
Oil Pump Driven Gear	16321-33001	X → ← O	16321-33002

X: NOT INTERCHANGEABLE O: INTERCHANGEABLE

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-10
Date: May 1, 1975

Read and Initial

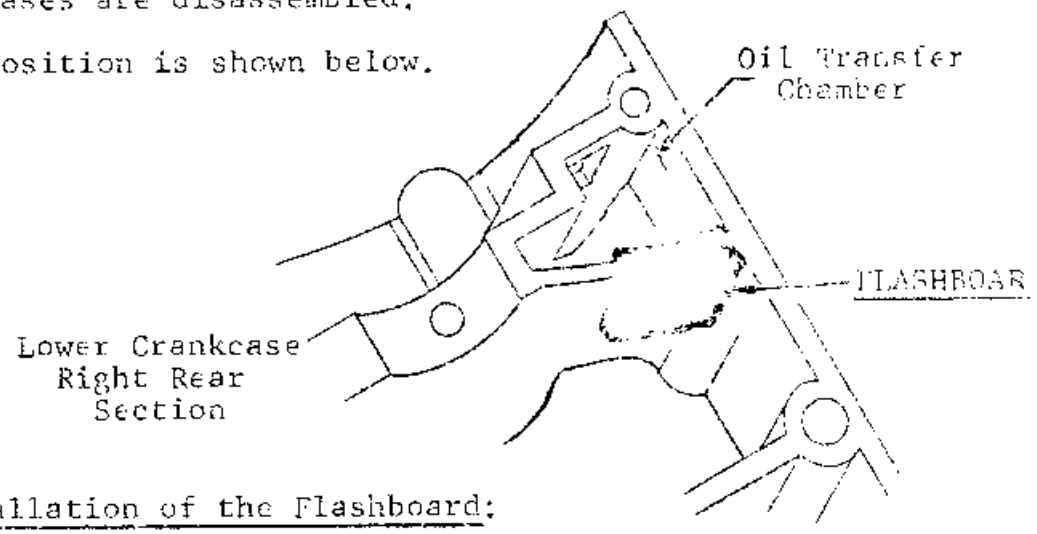
Manager _____
Parts _____
Service _____

Subject: GT380 INCREASED TRANSMISSION OIL CAPACITY

To effectively increase the durability of the GT380 5th drive gear, the transmission oil capacity has been increased from 1400cc to 1500cc. The increased oil capacity has been applied to the GT380 since the begining of the 1974 "L" model production.

To increase the transmission oil capacity of GT380's prior to the 1974 "L" model to 1500cc, a rubber flashboard must be applied to the primary oil transfer chamber located near the right rear of the lower crankcase half. The flashboard is now available from U. S. Suzuki's Parts Department and its use is strongly recommended whenever the crankcases are disassembled.

The flashboard in position is shown below.



Procedure for Installation of the Flashboard:

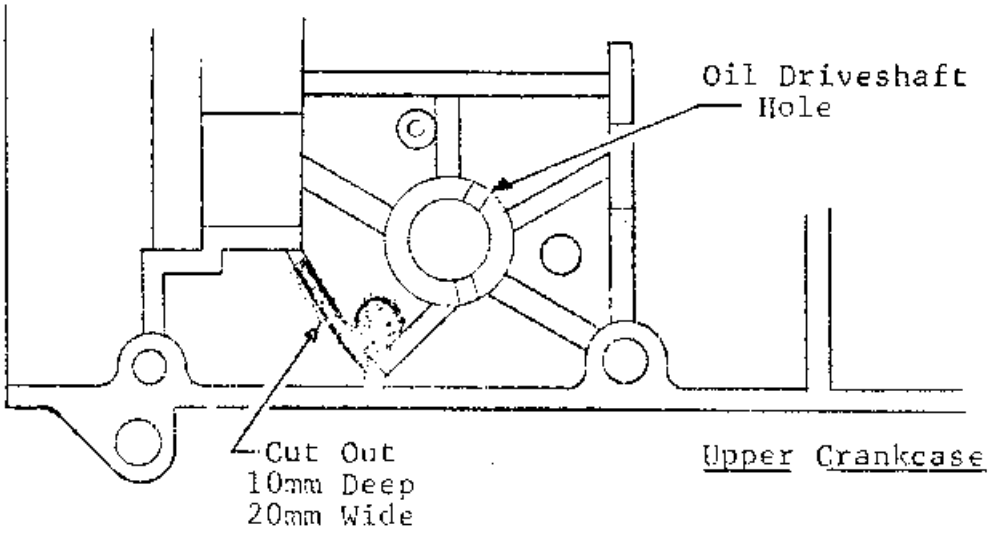
The following parts are required when installing the flashboard and are now available from U. S. Suzuki's Parts Department with the exception of the 7/32" steel ball.

Part Description	Part Number	Qty.
Flashboard	99104-08700	1
Breather Plug (For new breather location)	24821-09000	1
Breather cap (For above)	24822-26000	1
7/32" Steel Ball (For blocking transmission breather hole)	Must be purchased locally.	1

1. Clean the surface on which the flashboard is to be applied.

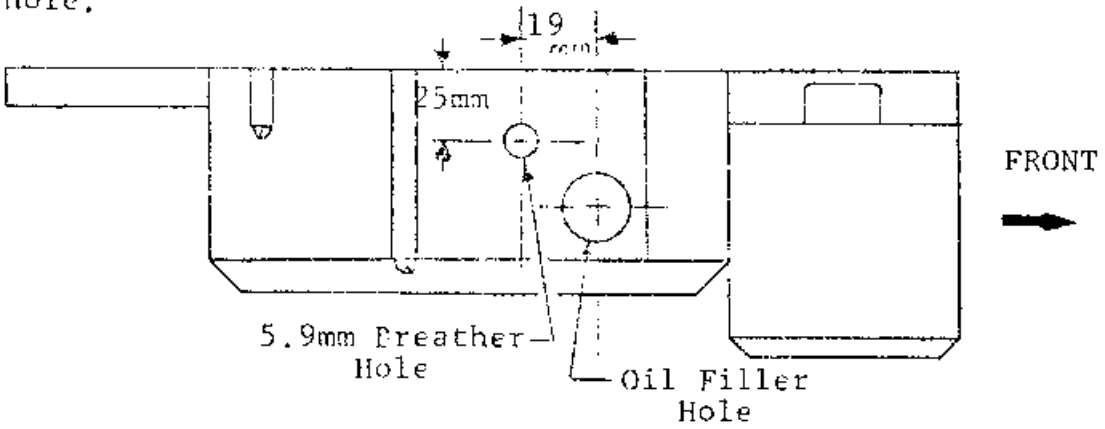
2. Apply a quick setting adhesive (such as Suzuki Thread Lock, Loctite, etc.) on the mating surfaces of the flashboard and the chamber wall.

3. To assure that oil reaches the primary case you must cut the adjacent rib of the upper crankcase as illustrated below.



4. Engines prior to Engine Number GT380-37400 must have the transmission breather hole blocked before re-assembling the crankcases. The breather hole is located between the two left drive shaft upper crankcase bearing surfaces. Block the transmission breather by pressing a 7/32 in. steel ball into the hole.

5. Relocate the transmission breather hole by drilling one 5.9mm (.2301 in.) diameter hole on top of the clutch cover in the location shown below. To avoid cracking the clutch cover, care should be used when using a center punch prior to drilling the hole.

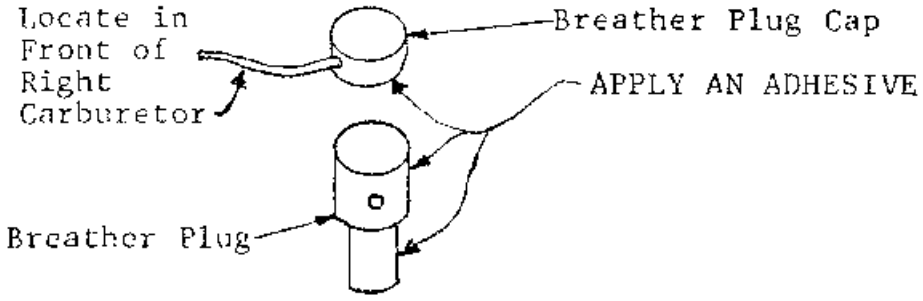


CLUTCH COVER

(cont.)

6. Press the breather plug (Part No. 24821-09000) into the hole which was drilled in Step 5, after applying an adhesive.

7. Apply an adhesive to the inside of the breather cap before pressing it onto the breather plug. Take care not to block the hole of the breather plug with the adhesive applied to the breather cap.



8. A metallic adhesive tape with 1500cc printed on it is supplied with the flashboard and should be placed over the embossed 1400cc on the clutch cover.

9. When the crankcase is re-assembled, pour 1500cc of Suzuki Transmission oil or a high quality 20W-40 motor oil into the transmission.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

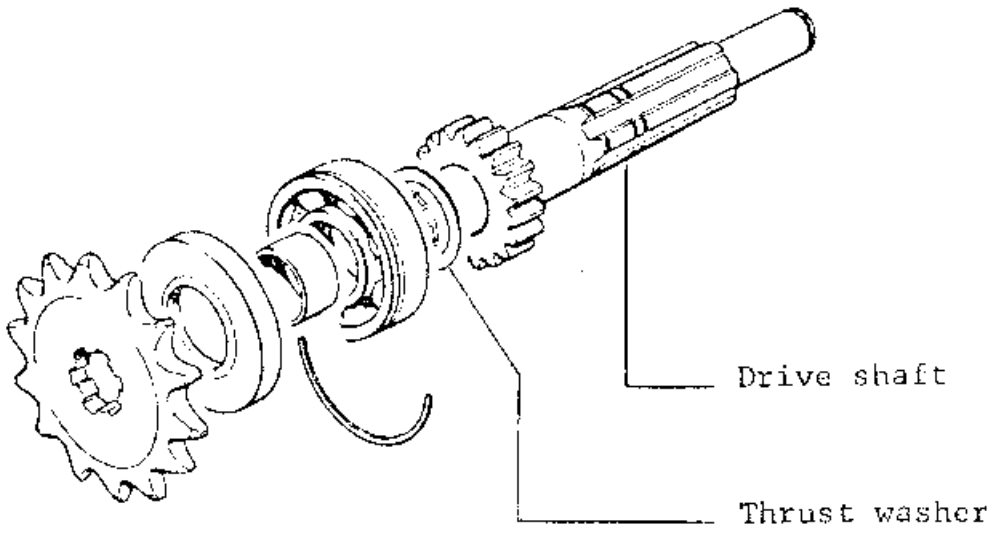
Subject: GT250 DRIVE SHAFT/TOP GEAR

Bulletin No GT-11
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

NOTICE:

Top gear, driven, on the subject models has been increased in thickness and strength.



INTERCHANGEABILITY:

When using the new style driveshaft #24131-18002 with old style crankcases, the thrust washer #08211-22341 must be eliminated.

In the event that new cases are fitted and the old driveshaft re-used, washer #08211-22341 must be retained.

PARTS:

PART DESCRIPTION	OLD PART NO.	NEW PART NO.	QTY
Drive shaft	24131-18001	24131-18002	1
Thrust washer	08211-22341		1

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-12
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: DISC BRAKE MANUAL ADDENDUM:
GT185 DISC BRAKE SPECIFICATIONS

NOTICE:

The GT185 is equipped with a hydraulic front disc brake. The GT185 disc brake will operate similar to the disc brakes equipped on the larger models, and should be serviced according to the GT250, GT380, GT550, and GT750 Disc Brake Service Manual.

Listed below are the GT185 Disc Brake Service Specifications.

	STD	LIMIT
Disc Thickness	5.00mm (.197 in.)	4.00mm (.157 in.)
Disc Runout	Max. 0.1mm (.004 in)	0.3mm (.012 in.)
Disc Outer Diameter	250mm (9.84 in.)	14.05mm (.553 in.)
Master Cylinder Inner Diameter	14.00mm - 14.04mm (.551 - .553 in.)	13.94mm (.549 in.)
Master Cylinder Piston Diameter	13.96mm - 13.98mm (.550 - .551 in.)	38.22mm (1.504 in.)
Caliper Cylinder Inner Diameter	38.18mm - 38.20mm (1.503 - 1.504 in.)	38.10mm (1.500 in.)
Caliper Cylinder Piston Diameter	38.15mm - 38.18mm (1.502 - 1.503 in.)	
Disc Effective Diameter	199mm (7.835 in.)	
Effective Brake Lining Area	19 cm^2 x 2 pcs. (2.95 $in.^2$ x 2 pcs.)	

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-13
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT550//750 EXHAUST COUPLER SEALANT

INSTALLATION: Special attention should be paid to the exhaust coupler pipes on the GT750 and GT550 to assure an airtight seal. For best results, the following procedure should be used when reassembling the exhaust system on these bikes.

1. Thoroughly remove any old muffler seal left on the coupler pipes.
2. Cut four (4) pieces of muffler seal, each piece 5 inches long. Because the seal is too thick in its original form, stretch each piece to 6.3 inches. This will make each piece the correct length and thickness for proper installation.
3. Check the rubber O-rings for nicks or defects.
4. Install the coupler pipes in the center exhaust header, then install the left and right header pipes on the engine and join the coupler pipes.
5. Check the coupler joints to assure that a good seal is obtained.
6. Tighten all muffler nuts and bolts.
7. Run the engine at low rpm for 10 to 15 minutes until the coupler seal melts and seals the connection.

PARTS: Exhaust Coupler Seal (Part #99000-31020) is available from the U. S. Suzuki Parts Department. One package contains enough coupler seal for four strips, each five inches long, for ten motorcycles. This makes a total "rope" of seal 200 inches long.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No. GT-14
Date: May 1, 1975

Read and Initial
Manager
Parts
Service AWP

Subject: GT380/550/750 BATTERY BREATHER LOCATION

Extreme care should be taken in locating the battery breather tube on these and all other Suzuki models.

The breather must be located in such a manner as to avoid any possibility of overflow from the battery coming in contact with the drive chain. At the same time ensuring that there are no kinks or obstructions in the tube.

Failure to observe these cautions could result in cracked side plates in the drive chain, caused by the chemical action of sulphuric acid which may be splashed on them.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-15
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT380/550/750 AIR CLEANER SERVICING

NOTICE:

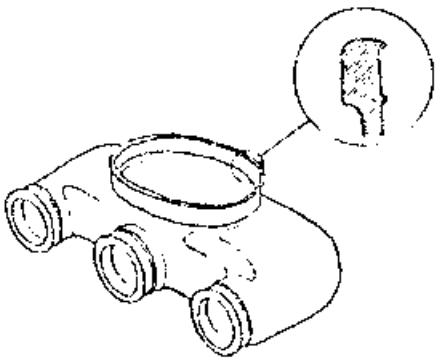
During assembly of the GT380, GT550, and GT750, the carburetor air inlet hose is sealed with "Suzuki Bond No. 4."

Therefore, whenever the carburetor air inlet hose is removed from the air filter body on the subject units, it should be re-sealed with "Suzuki Bond No. 4" (Part No. 99000-31030). Failure to reseal the carburetor air inlet hose correctly, may result in damage to the internal engine components.

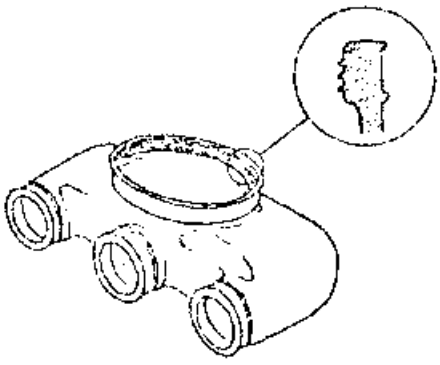
The proper sealing procedure for the GT380, GT550 and GT750 carburetor air inlet hose is shown below.

SEALING PROCEDURES:

The sealing procedure depends on the type of the carburetor air inlet hose as shown below.

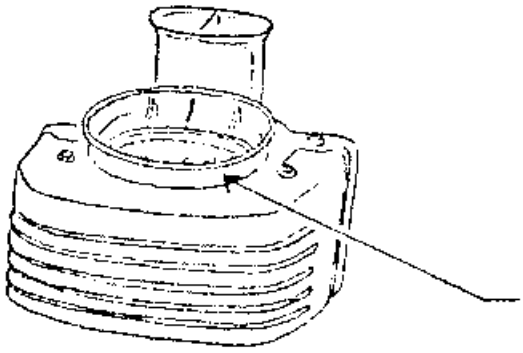


OLD TYPE



NEW TYPE

1. OLD TYPE

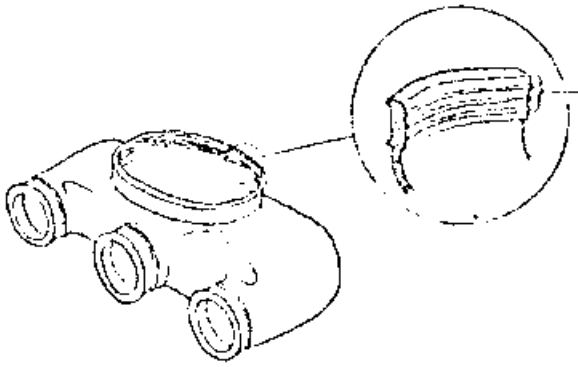


CAUTION:

DO NOT APPLY SUZUKI BOND NO. 4 ON AIR INLET HOSE, OTHERWISE IT MAY CAUSE CLOGGING OF THE CARBURETOR.

COAT WITH "SUZUKI BOND NO. 4" ALL AROUND.

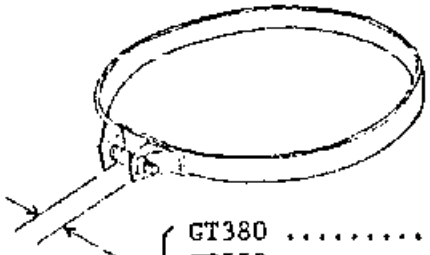
2. NEW TYPE



COAT WITH "SUZUKI BOND NO. 4" ALL AROUND.

NOTES:

1. The sealant should be dried for about 3-6 minutes before installation.
2. The clamp should be tightened as explained below.



348

GT380 ..... LESS THAN 4 mm (0.16 in)
GT550 ..... LESS THAN 4 mm (0.16 in)
GT750 ..... LESS THAN 5 mm (0.20 in)

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-16
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

Subject: GT380/550/750 OPTIONAL SPROCKETS AND CHAIN

ENGINE SPROCKET: The standard engine sprockets fitted on the Suzuki GT series are interchangeable as per the following chart:

GT380	GT550	GT750
Part Number	Part Number	Part Number
14 tooth 27511-33000	15 tooth 27511-33600	15 tooth 27511-33600
15 tooth 27511-33600	16 tooth 27511-34000	16 tooth 27511-34000

The 16 tooth sprocket should not be fitted to the GT380, since the insufficient clearance available will cause serious damage to the engine cases.

REAR SPROCKETS: Optional rear sprockets are also available as per the following chart:

GT380	GT550	GT750
Part Number	Part Number	Part Number
38 tooth 64511-33760	38 tooth 64511-33760	43 tooth 64511-31700
40 tooth 64511-33751	40 tooth 64511-33751	45 tooth 64511-31000
42 tooth 64511-33741	42 tooth 64511-33741	47 tooth 64511-31731
44 tooth 64511-33770	44 tooth 64511-33770	49 tooth 64511-31740
46 tooth 64511-33001	46 tooth 64511-33001	51 tooth 64511-31750

CHAIN: Extreme caution should be exercised when fitting new sprockets and/or chain. As chain wear and stretch increases, the sprockets tend to wear proportionately. It is therefore essential that if any perceptible wear has taken place on either the chain or sprocket, both items should be replaced at the same time, otherwise serious damage is possible.

When fitting larger than standard sprockets, additional chain links and rivet links are usually necessary. These are now available as per the following chart and Part Numbers.

Description	GT380	GT550	GT750
Drive chain #50 Endless	104 links DID 50 HDS (DAIDO Part #27600-33012	102 links DID 50 HDS (DAIDO) Part #27600-34010	108 links (1972-1974 DID 50 HDS (DAIDO) Part #27600-31015 106 links (1975-) DID 50 HDSS (DAIDO) Part #27600-31014
Extension	4 links Part #27600-31700	4 links Part #27600-31700	4 links Part #27600-31700
Rivet link	Part #27620-31012	Part #27620-31012	Part #27620-31012

Note:
Before the chain breaking and riveting tool was made available, it was intended that the swing-arm be removed to replace a chain. For this reason new chains do not come with a spare rivet link. It should be noted therefore that to replace a chain, one new rivet link will be necessary, and to insert an extension for a larger sprocket two new rivet links will be required. Under NO circumstances, other than "get-you-home" emergencies, should horse-shoe type masterlinks be used.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-17
Date: May 1, 1975

Read and Initial

Manager
Parts
Service

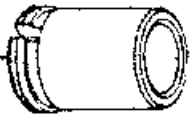
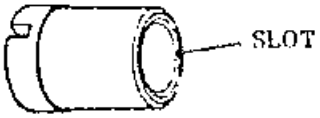
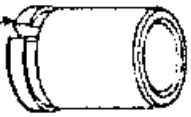
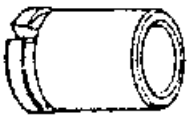
Subject: GT380/550/750 CONTACT BREAKER CAMS

NOTICE:

In the above three models, five different contact breaker cams are provided. While these cams are very similar in appearance and will in fact physically fit each machine, there is only one correct cam for each model. Any deviation from the correct installation will cause incorrect ignition timing, poor performance and possible engine damage.

IDENTIFICATION:

Since the July 1972 production, the different cams are identified as per the following chart.

	DENSO MAKE	KOKUSAN MAKE
GT380	SLOT 	 SLOT
GT550	PUNCH MARK 	NO MARKING
GT750	NO MARKING 	

Prior to this date however, the only identification was by part number. Therefore it is of the utmost importance that any breaker cams in your current parts stock, be kept carefully separated by part number and correctly identified when put into use.

SUZUKI
2-Stroke
Service Bulletin

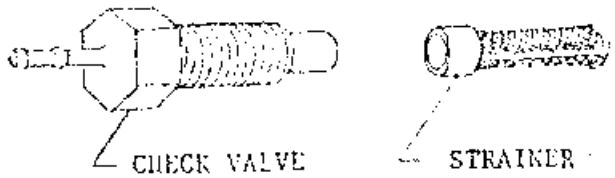
Bulletin No: GT-18
Date: May 1, 1975

Read and Initial
Manager_____
Parts_____
Service Mg?

Subject: 1973 GT380/550/750 SRIS OIL STRAINER

NOTICE:

As you may be aware, the K series GT models have had an oil strainer added to the SRIS check valve in order to prevent clogging of the valve and consequently excessive smoking of the motorcycle. Also the valve has been changed from a press fitted type to that of a threaded type. However, the original strainer being constructed of a plastic material, has been found unable to withstand the high speed riding. Therefore, the plastic oil strainer material has been changed to metal.



APPLICATION:

This has been applied to the production units of the three models assembled since November 1972, or from and on the following engine numbers:

GT380K	#44325
GT550K	#32854
GT750K	#39084

PART DESCRIPTION	OLD PART NO.	NEW PART NO.
Strainer	16521-31080	16521-31010

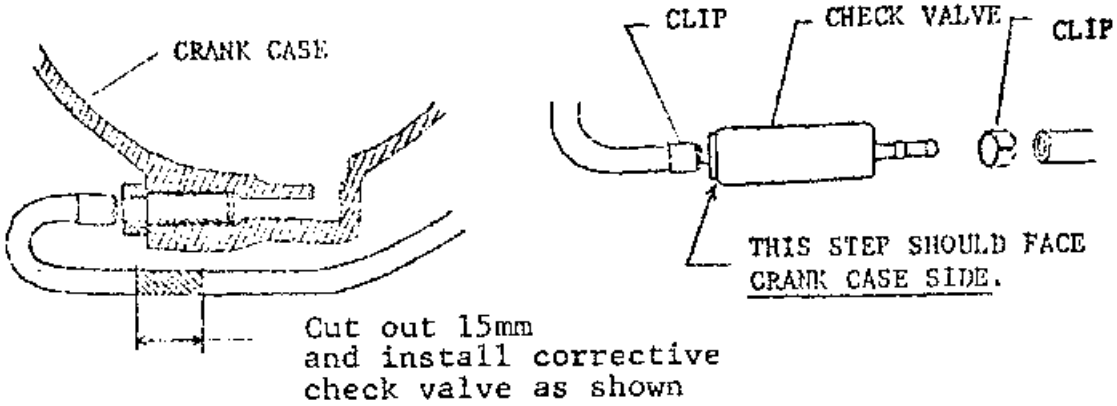
Only the new parts will be supplied and they are available from the Parts Department now.

INTERCHANGEABILITY:

The old and new type strainers are interchangeable, however the old type should be avoided, since the new type is available.

PREVENTIVE MEASURE FOR J MODEL ENGINES:

In order to prevent any J model SRIS valves from clogging, the following modification can be performed as shown below:



The parts needed for this modification will be available immediately and herafter as spare parts from the Parts Department. These parts are listed below:

PART DESCRIPTION	PART NUMBER	QUANTITY
Check Valve	16710-31990	1

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-19
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

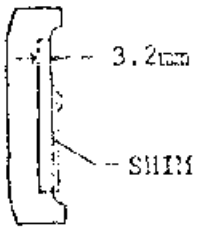
Subject: GT250/380/550/750 DISC BRAKE MODIFICATION

MODIFICATION:

To eliminate any possible squeaking noise from the disc brakes, the caliper piston and the moving pad have been modified as shown below.

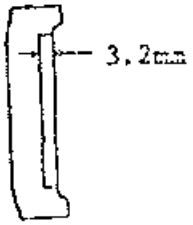
(MOVING PAD)

OLD STYLE
GT250,380,550



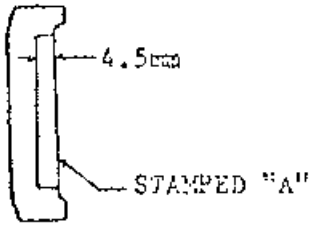
(59100-18826)

OLD STYLE
GT750



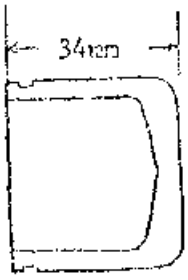
(59100-31830)
INTERCHANGES
WITH
(59100-18826)

NEW STYLE
GT250,380,550,750

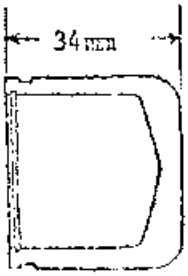


(59100-18840)

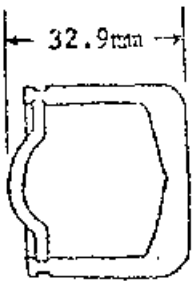
(PISTON)



OLD STYLE
GT250,380,550



OLD STYLE
GT750

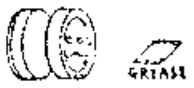
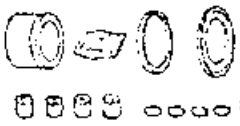


(59100-18831)
NEW STYLE
GT250,380,550,750

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

PARTS AVAILABILITY:

Only the new parts are available now from the parts department. The table below lists the parts. The new part numbers should be inserted in the parts books.

	OLD PARTS NO LONGER SUPPLIED	NEW PARTS ONLY SUPPLIED HEREAFTER	
PAD SET	 (59100-18826)	(59100-31830)	(59100-18840)
CALIPER PISTON SEAL SET PAD & CALIPER PISTON SET	 CALIPER PISTON SEAL SET (59000-18825)	PAD & CALIPER PISTON SET (59100-18831)	
RH CALIPER	(59100-18410) or (59100-18411)	NEW PISTON ASSEMBLED (59100-33111)	
LH CALIPER	(59300-31010) or (59300-31011)	NEW PISTON ASSEMBLED (59300-31211)	

(cont.)

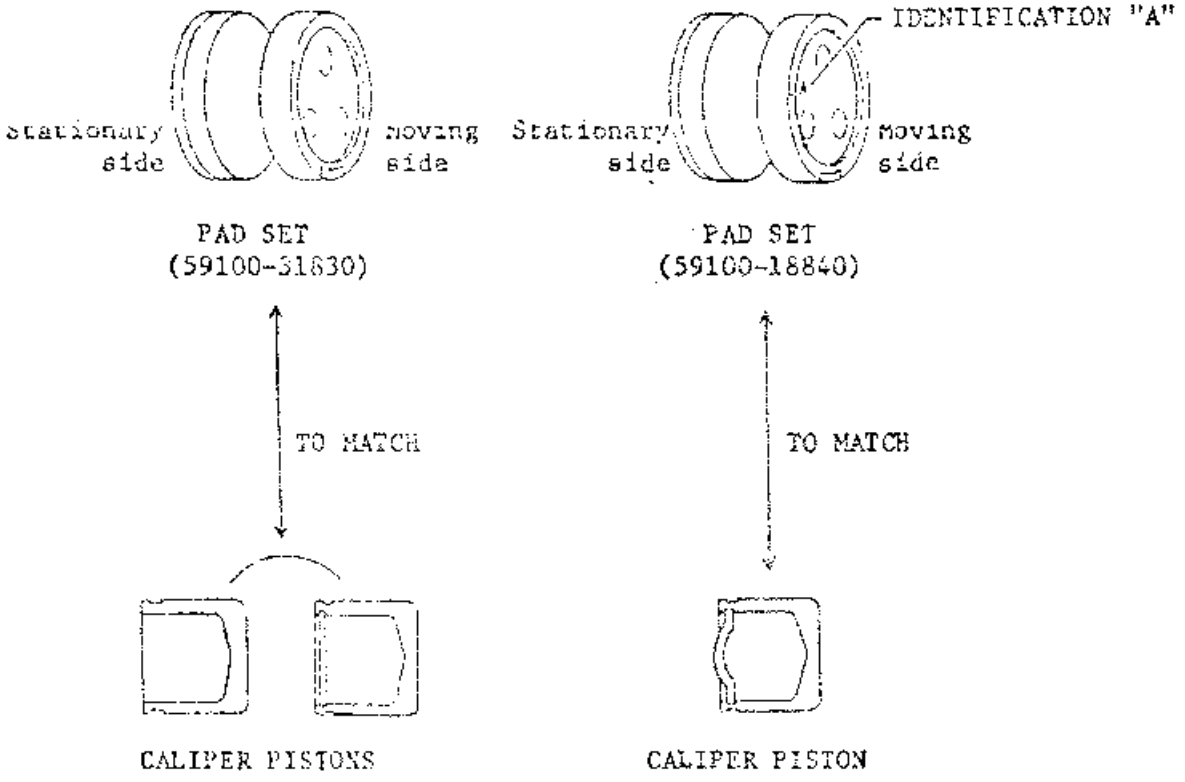
The special Suzuki disc brake pad grease and caliper axle grease are now available separately from the Parts Department. The part numbers are listed below.

	Part Number
SUZUKI BRAKE PAD GREASE.....	99000-25100
SUZUKI CALIPER AXLE GREASE.....	99000-25110

For the correct application of these special greases, see pages 11 and 20 of the DISC BRAKE MANUAL.

PARTS INTERCHANGEABILITY:

Two pad sets are supplied. Part Number 59100-31830 is for use with the old style pistons. Part Number 59100-18840 is for use with the new style piston. This is illustrated below.



(cont.)

Failure to correctly match these parts could cause the pads to crack or the disc wheel to drag severely.

NOTE: The modified moving brake pad is identified by an "A" stamped on its metal back.

APPLICABILITY:

The modified components of the disc brake piston caliper assembly have been applied to the units listed below.

GT550..... On and from Frame No. 32292

GT750..... On and from Frame No. 38591

ADDITIONAL HINTS ON DISC BRAKES:

1. New units equipped with disc brakes may have a protective cosmoline coating on the disc wheel. Therefore, the disc wheel should be cleaned with alcohol on set-up before the motorcycle is ever moved to prevent contamination of the brake pads.

2. Only brake fluid specified as DOT 3 or 4 and SAE J1703 and 70R3 should be used. This is a heavy duty brake fluid designed for use with disc brakes. Mixing ordinary brake fluid with disc brake fluid will lower its boiling point, which could cause serious braking problems.

   Whenever cleaning the internal brake parts, wash the parts in disc brake fluid or alcohol only. Never wash the parts in gasoline or solvent as it will damage the rubber parts.

   Brake fluid should never be left open as it will absorb moisture from the atmosphere.

3. The diaphragm located in the master cylinder is installed to prevent the atmosphere from directly contacting the disc brake fluid. Therefore, it is very important that it is not damaged or cracked or possible contamination by moisture or dirt to the disc brake fluid may result.

(cont.)

4. When removing the reservoir cap, the motorcycle should be on the center stand with its wheels in line to avoid spilling the fluid.

   Care must be taken when servicing the disc brake system to avoid the disc brake fluid from contacting any painted surfaces or plastic components. If the disc brake fluid should contact a painted or plastic surface, discoloration or possible removal of the finish will result.

5. Your customers should be advised to have only authorized Suzuki dealers service their disc brakes. The customer should not attempt to service the disc brake himself.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-20
Date: May 1, 1975

Read and Initial
Manager____
Parts____
Service____

Subject: GT250/380/550 NEW STYLE SPARK PLUG CAP BOOT

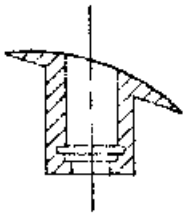
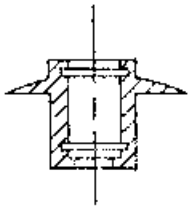
We have received occasional reports of electrical leakage from the GT250, GT380, and GT550 spark plug cap boots.

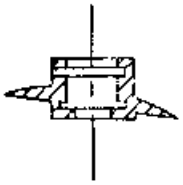
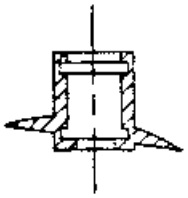
To prevent electrical leakage on future units, the spark plug cap boots shape and material have been changed.

The new style boots have been installed on "L" models on and from the following Frame Numbers:

GT250 - 35700
GT380 - 48934
GT550 - 36783

Units prior to these frame numbers which have experienced electrical leakage problems can have the new style boots installed. Listed below are the new style boots and their application.

BOOT	PART NO.	APPLICATION
	33544-33010	GT250 (Right & Left): Standard on and after F.# 35700. Right and Left replacement for all units prior to F.# 35700. GT380 (Right & Left): Replacement for all units prior to F.# 48934.
	33543-33010	GT380 (Middle): Standard on and after F.# 48934. Middle replacement for all units prior to F.# 48934. GT550 (Middle): Standard on and after F.# 36783. Replacement for Right, Middle, & Left on all units prior to F.# 36783.

BOOT	PART NO.	APPLICATION
	33543-33110	GT380 (Right & Left): Standard on and after F.# 48934.
	33543-34110	GT550 (Right & Left): Standard on and after F.# 36783.

An adhesive sealer (Suzuki Thread Lock, Silicone Seal, Locktite, etc.) should be applied to the inner surface of the new style boot when it is installed onto the spark plug cap.

Only the new style spark plug cap boots are now available from the U. S. Suzuki Parts Department.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI SERVICE BULLETIN

Bulletin No. GT-21
Date May 1, 1975

SUBJECT: 1974 GT380/550/750 FUEL STARVATION AT HIGH RPM

Read & Initial
Manager
Parts
Service DHP

PROBLEM:

We have received reports of some 1974 GT380L, GT550L, and GT750L's starving for fuel at high RPM's.

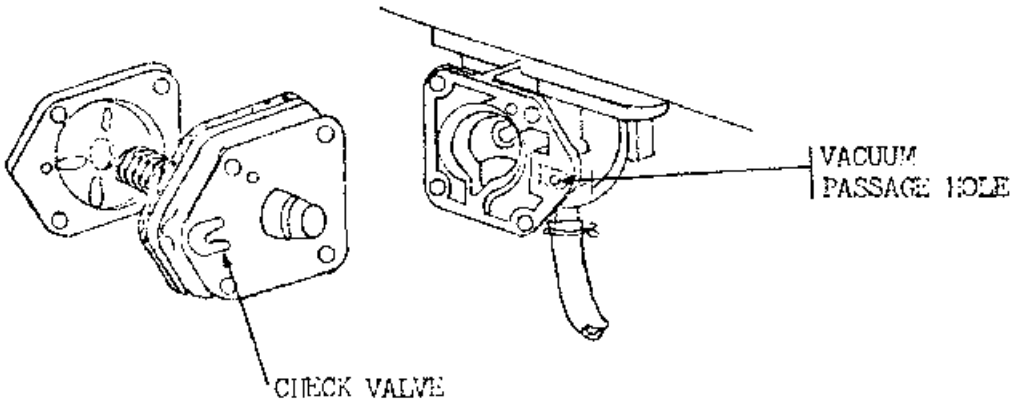
CAUSE:

During factory testing, it was found that the new style fuel cock's vacuum passage was being partially blocked by the diaphram check valve.

CORRECTION:

As a preventive measure, it is strongly recommended that your Service Department perform the following steps during assembly or pre-delivery service of any affected units in your stock.

1. Remove the fuel tank from the affected unit and empty its contents.
2. Using a #1 Phillips head screw driver, remove the diaphram cover and diaphram assembly from the fuel cock's body.
3. Using a 6mm (15/64 in.) bit and drill, chamfer the vacuum passage hole as much as possible without removing any material from the bodies diaphram mating surface. The vacuum passage hole is shown below.



(cont.)

U. S. SUZUKI motor corporation
13767 Freeway Drive • Santa Fe Springs, California 90670 • Phone: (213) 921-4461

4. After completing the previous step, use an air hose to remove the aluminum shavings in the vacuum passage.

5. Reassemble the fuel cock, taking care not to damage the diaphrams thin rubber parts and to tighten the diaphrams cover securely.

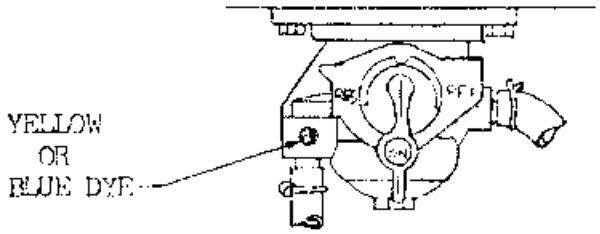
The aforementioned steps should also be performed whenever any of the affected units presently sold are brought in for routine service.

APPLICATION:

Units having fuel cock assemblies with yellow dye on the vacuum intake side of the body have been corrected at the factory. May be installed on units prior to the Frame Numbers listed below.

GT380 - 53506 GT550 - 39304

GT750 - 43778



All fuel cock assemblies on units after the above Frame Numbers have been corrected and have a blue dye on the vacuum intake side of the body.

PARTS:

All replacement fuel cock assemblies in U. S. Suzuki Parts Department Stock have been corrected.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-22
Date: May 1, 1975
Read and Initial
Manager
Parts
Service AHC

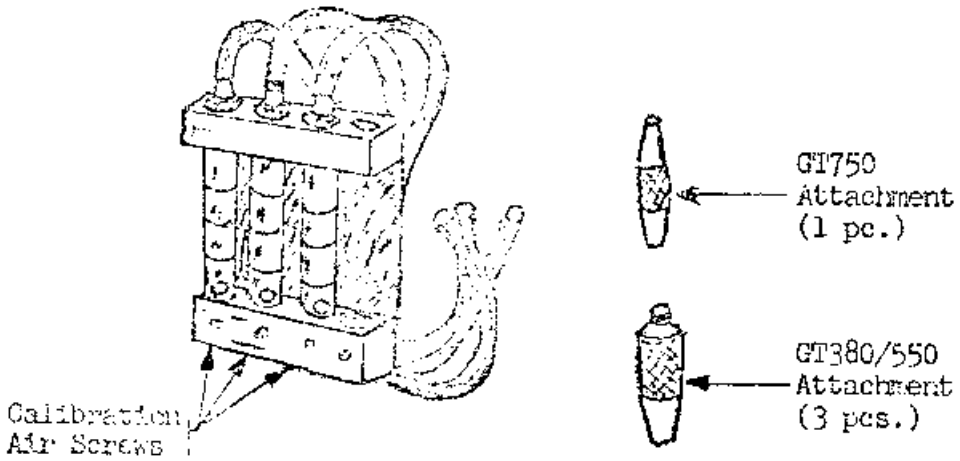
Subject: INSTRUCTIONS FOR USING GT380/550/750 CARBURETOR SYNCHRONIZATION TOOL

NOTICE

Beginning with the 1974 model year, the three cylinder models were equipped with new type carburetors. These carburetors have a feature which allows the use of a carburetor balancer to be connected, enabling very accurate carburetor synchronization.

PARTS

The U. S. Suzuki Parts Department now has a special three cylinder carburetor balancer available. This new tool is illustrated below.



The Carburetor Balancer Part Number is: 09913-13120.

INSTRUCTIONS

Prior to performing carburetor synchronization the following items should be checked and adjusted to specifications.

A. Point Gap
B. Ignition Timing
C. Spark Plug Gap
D. Throttle Cable Play at Pulley
E. GT380/550 Pilot Air Screws
F. GT750 Fuel-Air Mixture

Following are instructions for calibrating the tool and for adjusting the engine idle speed and carburetor synchronization, using the new carburetor balancer, (09913-13120).

Calibration of Tool:

1. Start the engine and allow it to run until normal operating temperature is obtained.

2. Stop engine. Attach one balancer tube hose to one carburetors vacuum outlet. (Locations of the vacuum outlets are listed at end of these instructions.) Start engine and note position of check ball.

3. Stop engine. Attach the second balancer tube hose to the same carburetor. Start engine and adjust the position of check ball to that noted of the first check ball in Step 2, by turning the appropriate air adjusting screw, in the bottom of the balancer tubes base.

4. Repeat Step Number 3. for the remaining balancer tube.

NOTE: The tools calibration should be checked and adjusted each time it is used.

Carburetor Synchronization:

1. Start the engine and allow it to run until normal operating temperature is obtained.

2. Stop engine. Connect a balancer tube hose to each carburetors vacuum outlet. (Locations of the vacuum outlets are listed at the end of these instructions.) IMPORTANT - FINGER TIGHTEN ONLY TO SEAT "O" RING. If a wrench is used to tighten the connector, the carburetor threads can be damaged.

(cont.)

3. Start engine. Bring all three check balls to the same level, using the carburetor throttle valve adjusters. (See New Type Carburetor Service Manual For Models GT380, GT550, GT750.)

4. When all three check balls are at the same level, turn the throttle stop screw so the engine will idle smoothly at the lowest possible RPM. (Approximately 1,000 to 1,300 RPM depending on each individual motorcycle.)

NOTE: GT750 carburetor synchronization must be performed in the following order: RIGHT - CENTER - LEFT.

Location of Carburetor Vacuum Outlets:

Right and Left Carburetors - The vacuum outlets for the right and left carburetors are foward of the throttle slide, on the carburetor body. Phillips head screws (5mm) are threaded into the vacuum outlets on GT380/550 models, and face towards the outside of the motorcycle. The GT750's vacuum outlets are not threaded and the hose should be placed over the outlets without the threaded adapters.

Middle Carburetor - The GT380/550 middle carburetor's vacuum outlets are located in the throttle valve shafts left support bracket, near the fuel petcock vacuum hose connection. A 5mm Phillips head screw is also threaded into this outlet.

The GT750 middle carburetor does not have a special vacuum outlet and the fuel petcock's vacuum hose must be disconnected from the petcock. A special adapter is included with the Carburetor Balancer for inserting into the petcocks vacuum hose. After the GT750 engine is started for adjustment, the fuel petcock should be placed in the "PRIME" position.

WARNING: When the engine is stopped be sure the petcock is returned to the "ON" or "RES" position. Failure to comply with this warning can result in serious damage to the engine.

NOTE: Some early 1974 GT750's with new type carburetors were not equipped with vacuum outlets, and the new tool cannot be used to synchronize those units carburetors.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

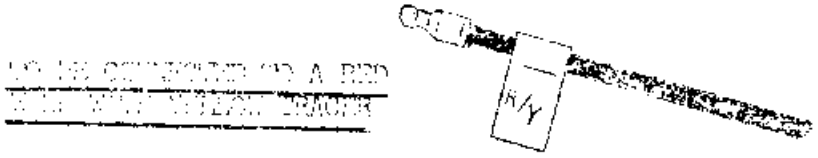
Bulletin No: GT-23
Date: May 1, 1975

Read and Initial
Manager
Parts
Service

Subject: GT380/750 WIRING HARNESS
TEMPORARY COLOR CODE CHANGES

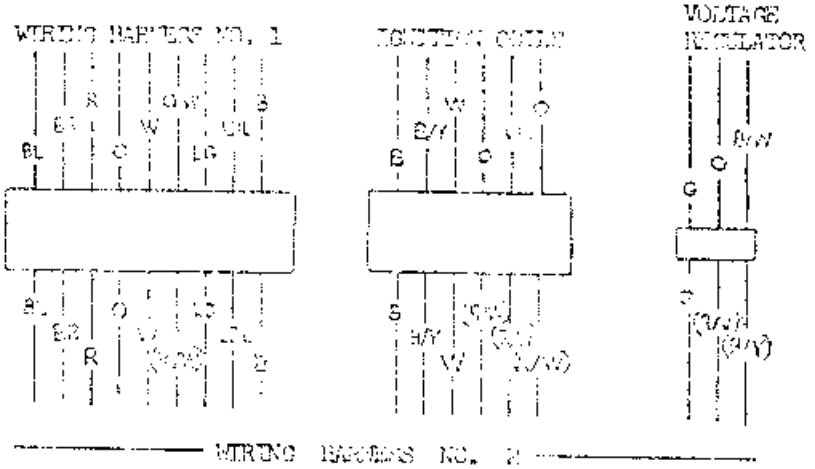
Sufficient amounts of the standard color coded wire insulation used in Suzuki electrical systems were unavailable at the beginning of the 1974 "L" model production. Therefore, temporarily non-standard wiring colors have been substituted whenever necessary.

Units manufactured during and after the month of February 1974 will have white tape with a color code printed on it attached near the end of the connector of the substitute wires. This will indicate the color of the wire it is to be connected to. Example:



Listed below are the basic color code changes which have been necessary. Variations of the color codes listed below may occur, while some units may be equipped with the standard color codes.

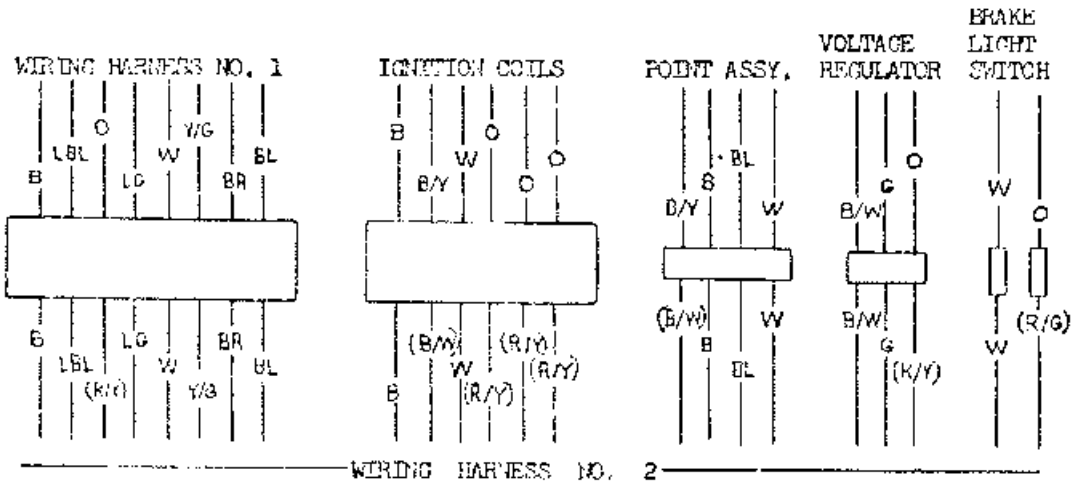
GT380



GT380

( ): INDICATES THE SUBSTITUTE COLORS

GT750



GT750

( ): INDICATES THE SUBSTITUTE COLORS

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-24
Date: May 1, 1975

Read and Initial
Manager ____
Parts ____
Service AHW

Subject: BURNED OUT GT250 HEADLIGHT BULB

PROBLEM:

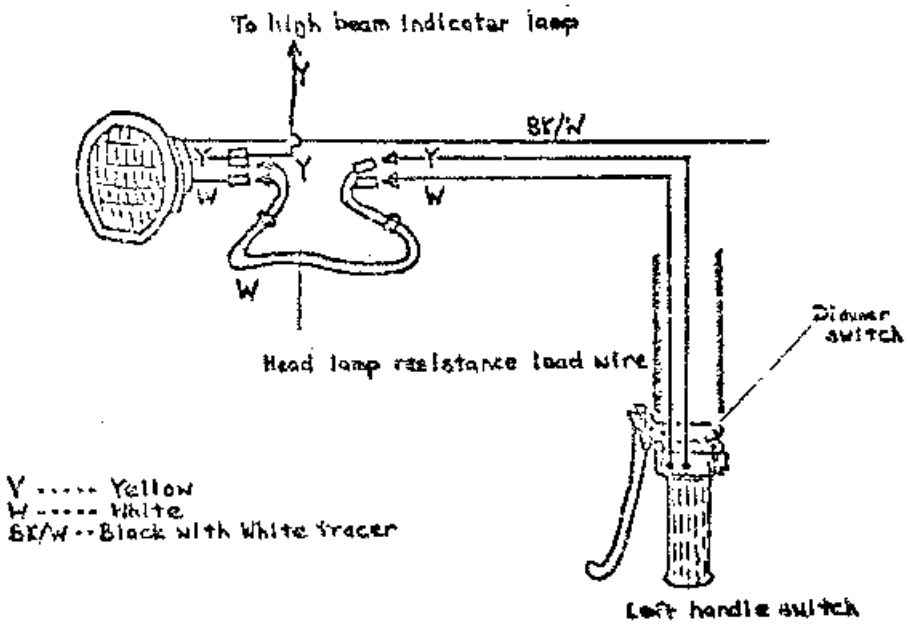
Routine reports indicate that certain units of the subject models have experienced premature headlight bulb failure. The usual cause is excessive voltage combined with high r.p.m. vibrations.

INSPECTION:

Check all the usual ground connections within the system, paying particular attention to such items as the high beam indicator bulb, neutral indicator bulb and taillight bulb. These must all be firmly connected, in working order and of the correct values, as listed in your service data manual.

CORRECTION:

Should the condition still exist, install the resistance lead wires, according to the following instructions.



GT250

Disconnect the white and yellow wire couplers inside the headlight shell. Install the resistance leads, in series, as shown in the illustration.

PART NUMBER AND AVAILABILITY:

The resistance leads are available from U. S. Suzuki's Parts department. The part number is 37131-18999.

For further information, refer to Service Bulletin No. TS-11.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-25
Date: August 15, 1975

Read and Initial

Manager
Parts
Service

Subject: GT750 CYLINDER PULLER TOOL SET

NOTICE:

We have received occassional reports of some GT750 cylinders being difficult to remove. Especially those with high mileage. In extreme cases the crankcase and/or cylinder has been damaged during removal attempts.

To easily remove the cylinder from a GT750, a Cylinder Puller Tool Set is now available from U. S. Suzuki's Parts Department.

INSTRUCTIONS:

Instructions for using the GT750 Cylinder Removal Tool Set are listed below. Read them thoroughly prior to use. Pay special attention to CAUTIONS to prevent cylinder and crankcase damage.

1. Using compressed air, blow loose residue out of all eleven cylinder stud holes.

CAUTION: Always wear safety goggles whenever performing an operation of this type.

2. Using the 5/8 NF tap (#99104-03140), thread all eleven holes until tap lightly bottoms on the cylinder studs.

CAUTION: Do not force tap further as damage to the cylinder will result.

3. Using compressed air, blow all the aluminum chips out of the stud holes and install puller body (99104-03110) using the installation bolt until body lightly bottoms in the threaded hole. The puller bodies internal threads should face down, towards cylinder studs. Shop towels should be placed in cylinders to prevent aluminum chips from entering.

CAUTION: Always wear safety goggles whenever performing an operation of this type.

NOTE: Do not use installation bolt to remove puller bodies after cylinder is removed. To do so will result in thread damage to it and the puller body.

4. Using a good grade of penetrating oil, fill all eleven cylinder stud holes. Then install eleven starter bolts (#99104-03120) until they bottom on the studs.

CAUTION: The following procedures must be adhered to or damage to the cylinder and engine cases will result.

5. Using the appropriate allen wrench, tighten all bolts ½ turn at a time using the same pattern as you would to torque the cylinder head. Continue tightening ½ turn at a time until the eleven starter bolts bottom in puller bodies. Uneven insertion of puller bodies must be allowed for. Therefore, when first bolt bottoms do not tighten any remaining bolts further if they break the tightening sequence pattern.

CAUTION: Under no circumstance should you tighten the starter bolts more than ½ turn at a time, to do so will probably cause damage to cylinder and cases, due to uneven pulling of cylinder.

6. Remove all starter bolts and install the eleven extension bolts (#99104-03130) until they bottom on the studs. Use the same tightening procedure one (1) turn at a time in sequence until the cylinder is completely removed.

SUMMARY:

It can not be stressed strongly enough, the importance of the above instructions and cautions. Failure to follow these will result in destroying the cylinder and/or the crankcase ass'y. All corrosion should be cleaned from cylinder studs and cylinder holes before re-assembling.

NOTE: After the above procedure is used to remove the cylinder, it is strongly recommended that the new cylinder washer with the rubber seal be used, part (#09168-14008). Please refer to Service Bulletin #GT-5, May 1, 1975.

PARTS:

The following is a list of parts that make-up the Puller Kit (#99104-03100). All listed parts are available from U. S. Suzuki in quantities of one, with the exception of the Installation Bolt.

(cont.)

PART NUMBER	DESCRIPTION	Q'TY PER KIT	DLR. COST
99104-03100	Puller Set	———	$46.88
99104-03110	Puller Body	11	$1.82 ea.
99104-03120	Starter Bolt	11	$0.28 ea.
99104-03130	5 1/4" Extension Bolt	11	$1.75 ea.
99104-03140	5/8" x 24 Tap	1	$4.57
N/A	3/8" x 1 ½" Installation Bolt	1	N/A

NOTE: The 3/8" x 1 ½" Installation Bolt can be easily obtained from any hardware store.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

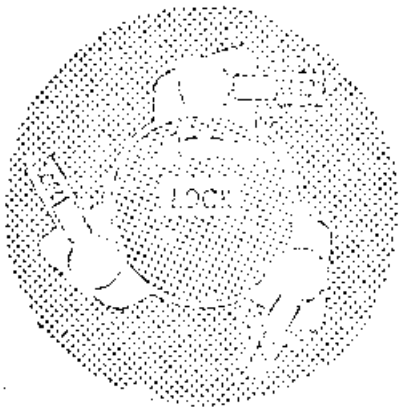
Bulletin No: GT-26
Date: August 15, 1975

Read and Initial
Manager
Parts
Service

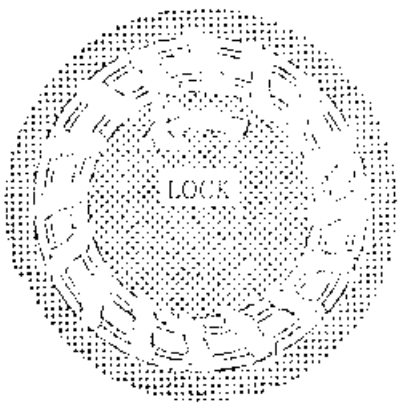
Subject: GT550 STARTER CLUTCH CHANGE

NOTICE:

To increase the durability of the GT550 starter clutch assembly, its design has been changed from a 3-roller to a "Borg Warner" type clutch.



OLD TYPE (3-roller)



NEW TYPE ("Borg Warner")

INTERCHANGEABILITY:

The old and new type starter clutches are interchangeable as an assembly only. Individual components are not interchangeable.

PARTS AND AVAILABILITY:

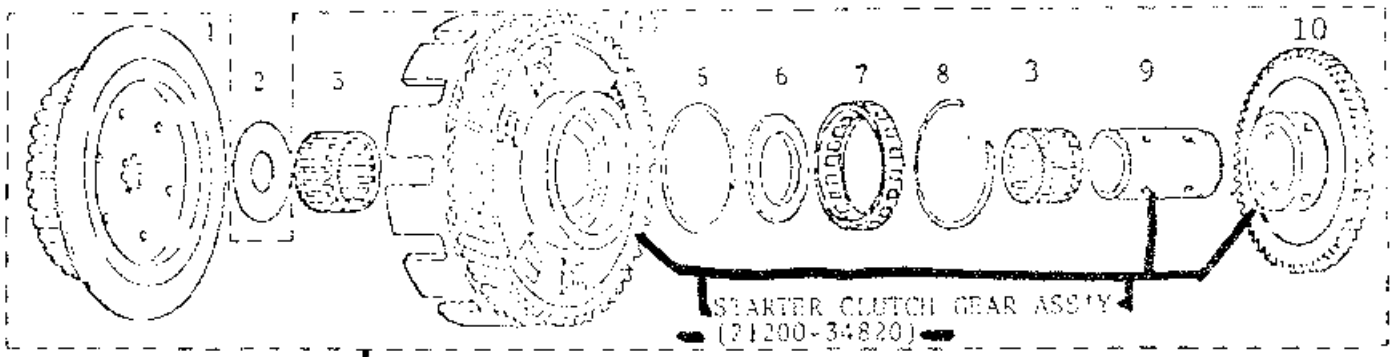
The 3-roller type starter clutch assembly is no longer available from U. S. Suzuki's Parts Department. Only those component parts still used in other models shall remain available. These are listed below:

DESCRIPTION	PART NUMBER
Starter clutch hub screw	02121-08258
Primary driven gear thrust washer	08211-22423
Starter clutch roller	09261-15001
Starter clutch spring	09440-04015
Starter clutch roller push piece	12633-31000
*Clutch sleeve hub	21411-34000

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

*The old style clutch sleeve hub will remain available until the current stock is depleted.

The new "Borg Warner" type starter clutch assembly is now available from the Parts Department. Its Part Number is 21200-34830. Its individual components are also available as listed below:



REF. NO	DESCRIPTION	PART NUMBER
	"Borg Warner" starter clutch ass'y.	21200-34831
1.	Clutch sleeve hub	21411-34001
2.	Thrust washer	08211-22503
3.	Needle bearing	09263-38005
*4.	Primary driven gear ass'y.	21200-34821
5.	Thrust washer	09160-64001
6.	Thrust bearing	09263-38003
7.	One-way clutch ass'y.	12650-34020
8.	One-way clutch circlip	09381-71001
*9.	Primary driven gear spacer	21200-34821
*10.	Starter clutch gear	21200-34821

(cont.)

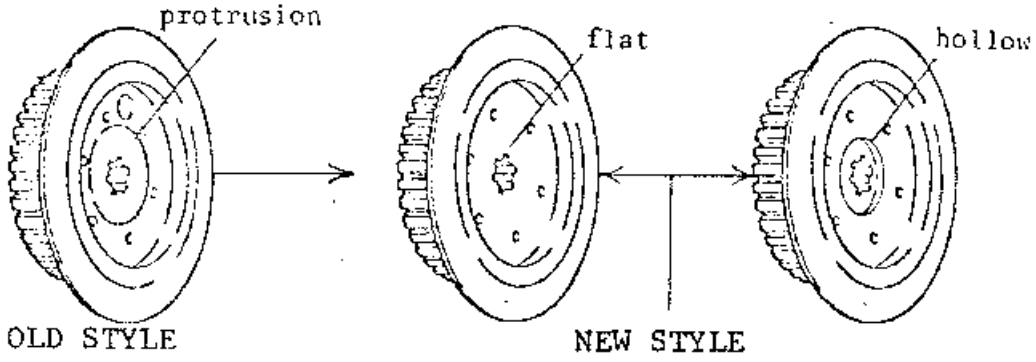
REVISED

Note: Item 2 is not supplied with the new starter clutch assembly. It is the same washer as in the old style assembly. Be sure to install it with the new assembly.

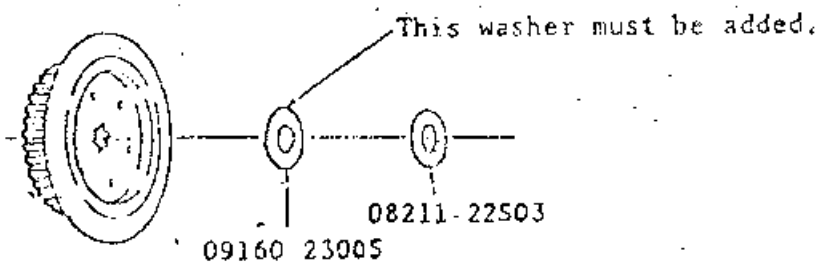
Items 4, 9, and 10 are supplied as a matched set. This is explained under Assembly Notes III.

COMPONENT PART CHANGES:

Changes to the individual component parts are explained below:



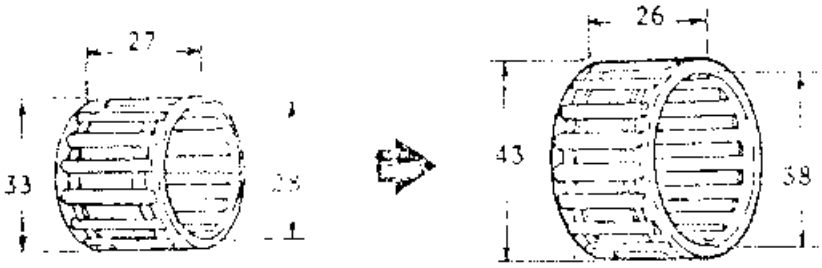
*The new style clutch sleeve hub, either the flat or hollowed out type as shown above, can be used with the old style primary driven gear, as long as a 3mm washer (09160-23005) is used between the standard thrust washer and hub as shown below.



*REVISED

Needle Bearing:

The dimensions of the needle bearing have been changed as shown.



OLD TYPE NEW TYPE

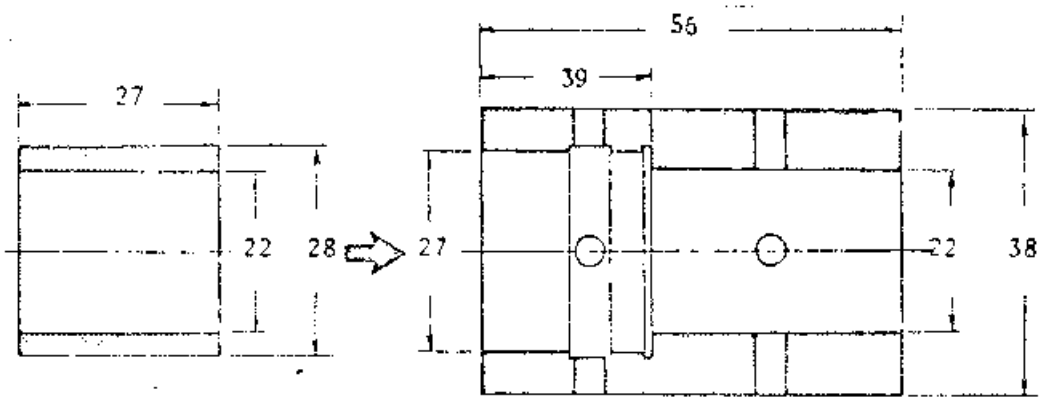
unit: mm

Two needle bearings are used in the new type starter clutch assembly; one for the primary driven gear and one for the starter clutch gear.

The old type starter clutch used one needle bearing, and it was for the primary driven gear.

Primary Driven Gear Spacer:

The dimensions and shape of the primary driven gear spacer have been changed as shown.



OLD TYPE NEW TYPE

unit: mm

(cont.)

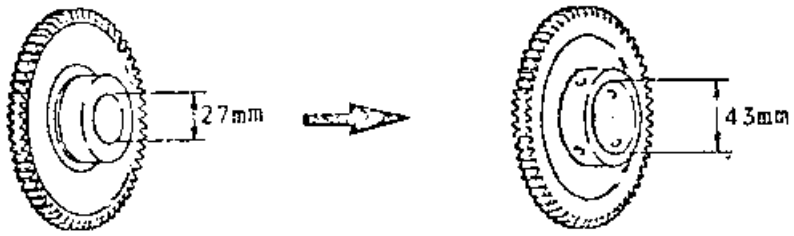
Primary Driven Gear Assembly:

The primary driven gear assembly has been changed to incorporat the new one-way starter clutch.

OLD TYPE NEW TYPE

Starter Clutch Gear:

The shape and inside diameter of the starter clutch gear has been changed as shown.



OLD TYPE NEW TYPE

Any component parts not shown have been either discontinued, or newly added to the new type starter clutch assembly.

APPLICATION:

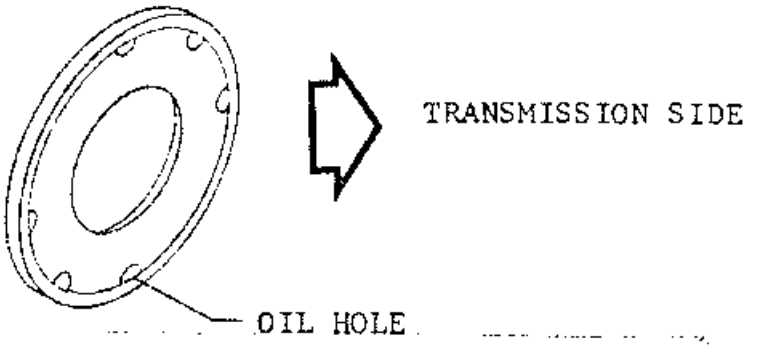
The new type starter clutch assembly has been installed in GT550's on and from Engine Number: GT550-63692.

ASSEMBLY NOTES:

Whenever replacing new type starter clutch individual components, refer to the following notes.

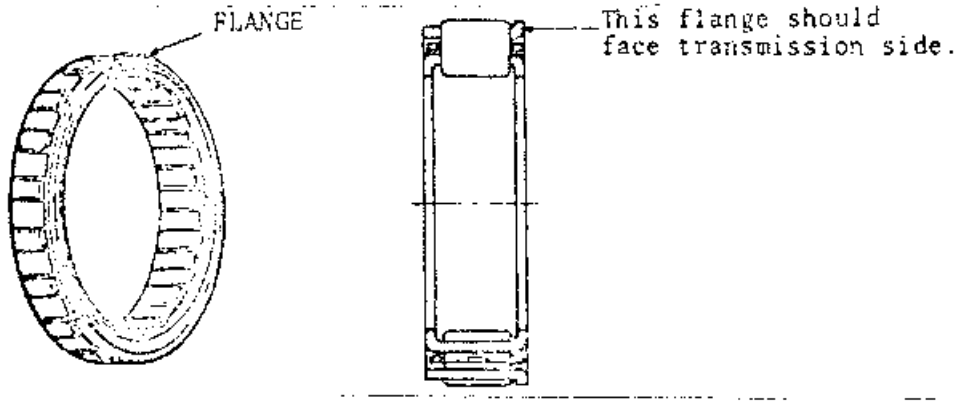
I. Primary driven gear thrust bearing:

When installing the thrust bearing, be certain the side with the oil holes is positioned towards the transmission when the primary driven gear is installed on the countershaft.



II. One-way clutch assembly:

Installation of the one-way clutch assembly should be with the flanged side facing the transmission when the primary driven gear is installed on the countershaft.



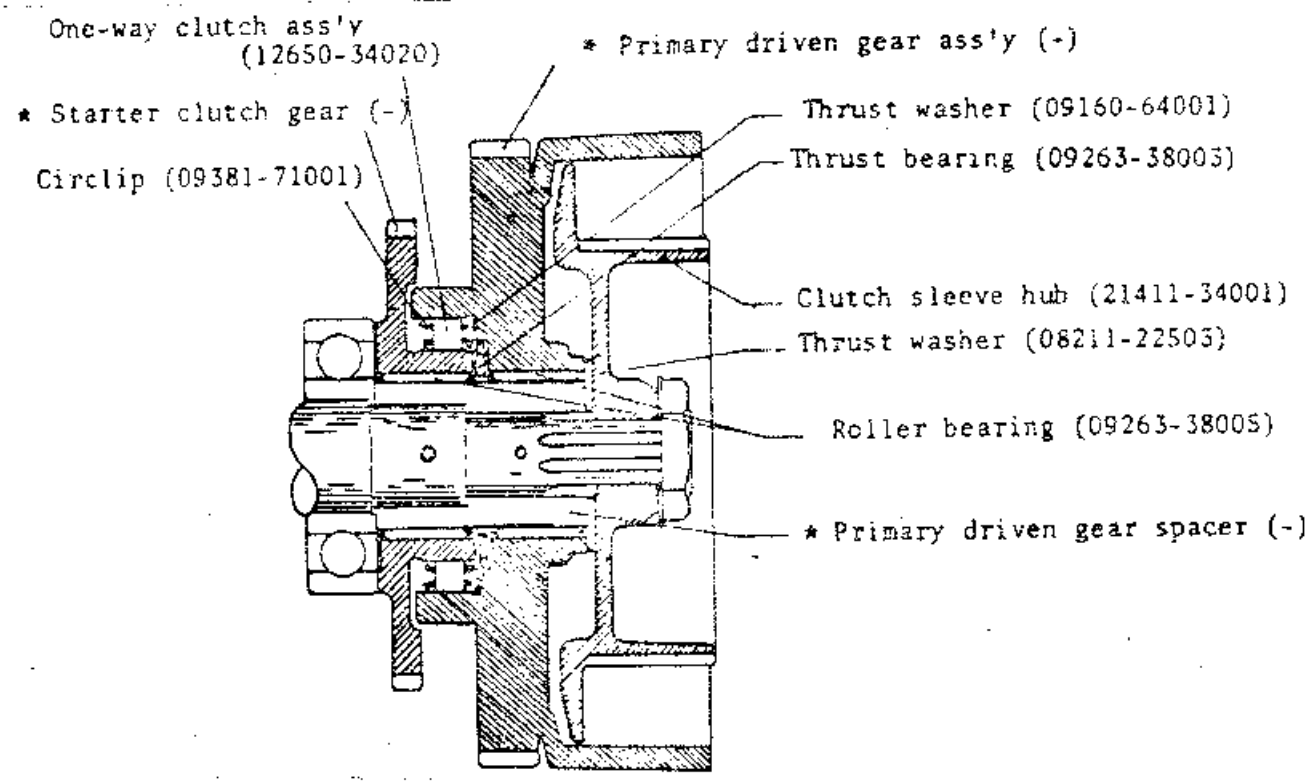
If the one-way clutch is installed inversely, the clutch will not engage when the electric starter is used. If the engine is then started with the kick starter, damage to the starter motor will occur.

III. Starter clutch gear assembly:

The primary driven gear, primary driven gear spacer, and starter clutch gear are supplied as a matched set (21200-34820). These

individual components require replacement the entire matched set must be replaced. To mix the component parts of different starter clutch sets can cause difficult assembly or will cause premature starter failure.

IV. Below is a sectional illustration of the starter clutch assembled and installed.



*See Assembly Note III.

MICELLANEOUS NOTES:

1. Since the clutch sleeve hub thrust washer (08211-22503) is not included with the starter clutch assembly, be certain that it is installed. This washer is used in both new and old style clutches.

2. The starter one-way clutch is susceptible to foreign particles in the transmission oil. Therefore, transmission oil changes at regular intervals of 2,000 miles are strongly recommended. At the same time, the transmission should be flushed with cleaning solvent.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

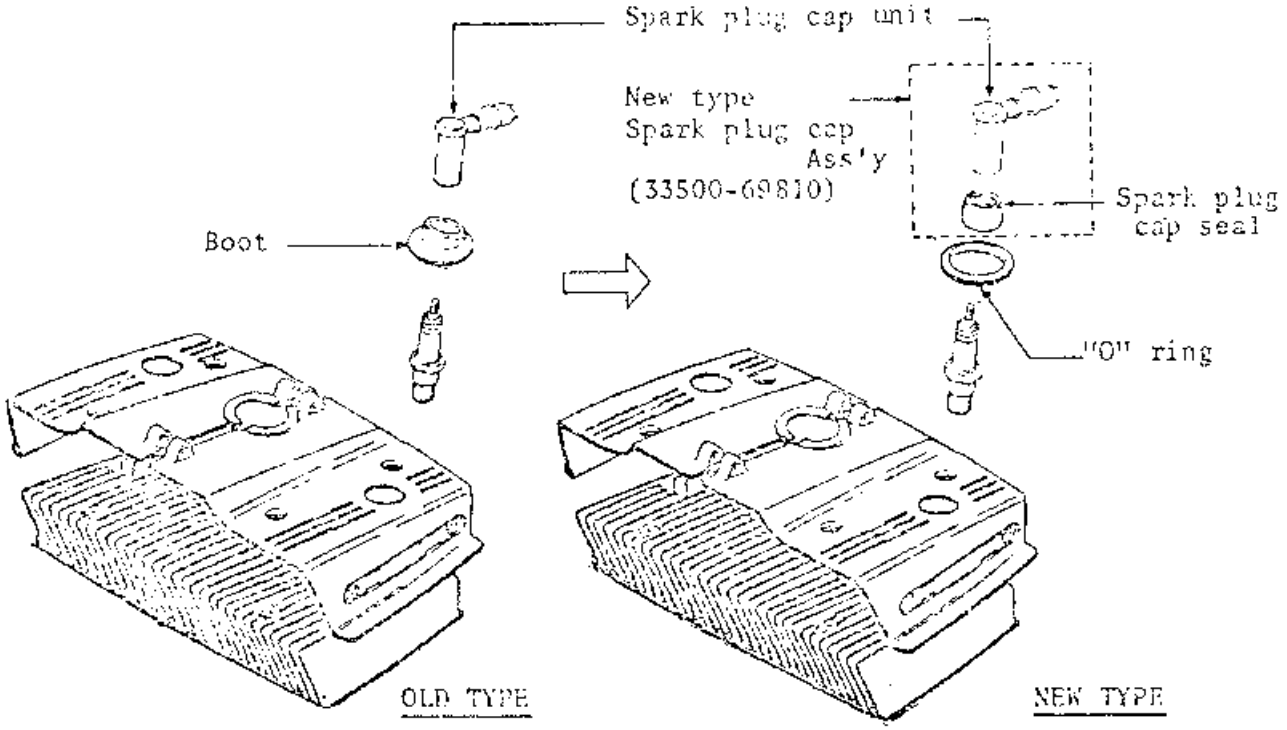
Bulletin No: GT-27
Date: Nov. 14, 1975

Read and Initial
Manager
Parts
Service AA

Subject: GT SERIES SPARK PLUG CAPS

NOTICE:

Use of the rubber spark plug cap boot on the GT ram air covers has been discontinued. To take the place of the boot, a spark plug cap seal (also used for other models) and a rubber 'O' ring are now used as shown below.



Whenever a GT model equipped with spark plug cap boots is misfiring, inspect the inside of the spark plug cap unit for "tracking". If it is tracking, replace the spark plug caps and discard the boots, replacing them with the new 'O' rings.

PARTS:

DESCRIPTION	OLD PART No.	NEW PART NO.	AVAILABILITY
GT250/380/550 Middle Spark Plug Cap Boot	33543-33010	-------	No
GT380 Right & Left Spark Plug Cap Boot	33543-33110	-------	No

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-28
Date: Nov. 14, 1975

Read and Initial

Manager
Parts
Service

Subject: GT500 PEI INSPECTION

NOTICE:

A feature of the GT500 is a Pointless Electronic Ignition system. This bulletin provides the necessary information required to thoroughly inspect the GT500 PEI system.

INSPECTIONS:

A: Coil Resistance

The resistance readings below are made on a Suzuki pocket tester (R x 1 scale) and have a tolerance of plus or minus 10%. The ignition coil secondary inspection is an exception, it should be measured on the RX100 scale.

1.	Exciter Coil	G to B/W:	185 ohms
		B/R to B/W:	214 ohms
2.	Pulser Coil	R/W to B/W:	67 ohms
3.	Charging Coil	Y/G to R/G:	1.0 ohms
		Y/G to G/W:	1.0 ohms
4.	Ignition Coil (primary)	W/BL to B/W:	1 - 5 ohms
	(secondary)	:	10 - 14k ohms

B: PEI Unit

Turn the Suzuki pocket tester selector to the RX100 scale when inspecting the PEI unit according to the chart on the next page.

CONNECT TO TESTER (-) TERMINAL	CONNECT TO TESTER (+) TERMINAL					
	B/R	G	B/Y	R/W	W/BL	B/W
B/R		B	A	B	C	B
G	B		B	B	B	B
B/Y	B	B		B	C	B
R/W	B	A	A		B	A
W/BL	*C	B	C	B		B
B/W	B	A	A	A	C	

A: Continuity
B: No Continuity
C: Needle should deflect once and return immediately

* Needle deflection is very small.

Note: When checking a wire combination which should give a meter reading designated by 'C', the battery in the ohmmeter is charging the condenser in the PEI box. Before any further test are performed the condenser must be discharged by connecting a jump wire between the White/Blue and Black/Yellow wires for at least ½ minute.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-29
Date: Nov. 21, 1975

Read and Initial

Manager
Parts
Service HW

Subject: GT550 & GT750 SECOND DRIVE & DRIVEN GEARS
REFERENCE: Service Bulletin #RE-13

NOTICE:

To increase durability of the GT550 and GT750 second drive gear, the second drive and driven gears have been strengthened by decreasing their number of teeth by one. At the same time, third drive and driven gears have been strengthened using the same method.

	NUMBER OF TEETH	
	OLD STYLE	NEW STYLE
2nd drive gear	19	18
2nd driven gear	33	32
3rd drive gear	22	21
3rd driven gear	30	29

PARTS:

The new style 2nd drive and driven gears must be replaced as a set. The same applies for 3rd drive and driven gears. The new style parts are used according to the following table:

DESCRIPTION	OLD PART NO.	NEW PART NO.	APPLICABLE MODEL	RELATED PARTS WHICH MUST ALSO BE ORDERED AND REPLACED WHEN THE NEW STYLE PART IS USED.	
2nd drive gear	24221-31000	24221-37000	GT550 GT750	*2nd driven gear 24300-37810 (GT750)	2nd driven gear 24320-37000 (GT550)
2nd driven gear	24321-31822	24300-37810	GT750	2nd drive gear 24221-37000	
2nd driven gear	24321-31000	24320-37000	GT550	2nd drive gear 24221-37000	
3rd drive gear	24231-31000	24231-37000	GT550 GT750	3rd driven gear 24330-37000	
3rd driven gear	24331-31000	24330-37000	GT550 GT750	3rd drive gear 24231-37000	
Countershaft Ass'y.	24120-31001	24120-31002	GT750	*2nd driven gear 24300-37810	3rd driven gear 24330-37000
Countershaft Ass'y.	24120-34001	24120-34002	GT550	2nd driven gear 24320-37000	3rd driven gear 24330-37000
Crankcase Ass'y	11300-31851	11300-31852	GT750	2nd drive gear 24221-37000	

*Revised November 26, 1975 REVISED

(cont.)

Only, the new style parts are now available from U. S. Suzuki's Parts Department.

Although it is not absolutely necessary, we strongly recommend that if new style 2nd gears are being installed, new style 3rd gears should also be installed at the same time, and vice-versa.

APPLICABILITY:

The new style parts have been installed in GT750's on and from the following frame and engine numbers:

FRAME NO.: GT750-66220

ENGINE NO.: GT750-73059

GT550's will continue to have the old style parts installed, until the current supply is depleted.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-30
Date: Nov. 26, 1975

Read and Initial

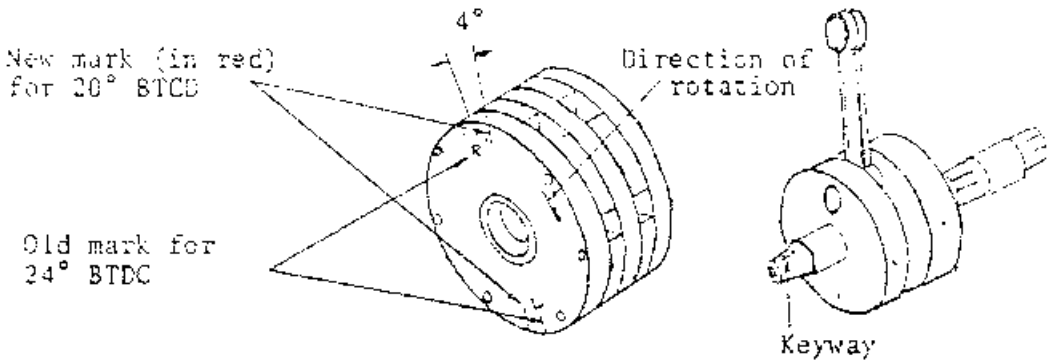
Manager
Parts
Service

Subject: 1976 GT250 IGNITION TIMING MARKS

NOTICE:

In conjunction with other engine design changes, the ignition timing for the 1976 GT250 has been retarded 4° from the 1975 specification of 24° (2.88mm) to 20° (2.05mm).

In order to have the timing marks on the roter align with the stationary mark on the crankcase, it is intended to relocate the crankshaft's rotor keyway. However, some initial 1976 production units are equipped with crankshafts without the keyway being relocated. Therefore, another timing mark has been stamped on the rotor and is distinguished by red paint.



ROTOR CRANKSHAFT

APPLICABILITY:

Affected units which are equipped with the unrelocated keyway crankshaft; are as follows:

Frame No. GT250-80001 through *approximately Frame No. GT250-83000.

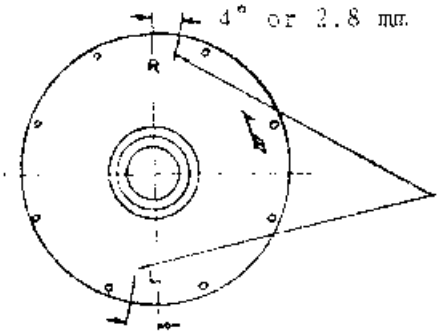
It is expected that 1976 model GT250's will be produced with the keyway relocated on the crankshaft shortly after Frame No. GT250-83000. At that time the additional rotor timing marks will be discontinued.

*When exact frame numbers become available a bulletin will be issued.

PARTS:

I. Rotor

Should it become necessary to replace a rotor on an affected 1976 GT250 (Frame Nos. 80001-83000), be sure to punch the 20° timing marks as illustrated.



Be sure to paint the punched marks in red.

II. Crankshaft

When replacing a crankshaft assembly or left crankshaft journal on a 1976 GT250 refer to the guide table below:

1976 GT250 EQUIPPED WITH	ROTOR REMARKS
Crankshaft with 24° keyway (12200-18861)	Be sure rotor has 20° punch marks
Crankshaft with 20° keyway (12200-18401)	Use rotors standard marks
Crankshaft LH Journal with 24° keyway (12261-18001)	Be sure rotor has 20° punch marks
Crankshaft LH Journal with 20° keyway (12261-18002)	Use rotors standard marks

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No GT-31
Date: Dec. 12, 1975

Read and Initial

Manager
Parts
Service

Subject: GT SERIES CONSTANT ON HEADLIGHT

NOTICE:

All 1976 GT model Suzuki motorcycles now incorporate a headlight on feature when the ignition system is turned on.

This has been accomplished on the Suzuki GT models by locking the headlight switch in the 'on' position. In conjunction with this, the headlight wattage has been increased on the GT185, GT250, GT380, and GT500 models.

PARTS:

The above requirement has made the modification of certain parts and their related components necessary. These parts by model are as follows:

GT185

DESCRIPTION	REMARKS
L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 40/30w
Headlight Ass'y.	
Headlight Housing	

GT250

L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 30/30w
Headlight Ass'y	
Voltage Regulator	

GT380

L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to 40/30w
Headlight Ass'y.	
Headlight Housing	

DESCRIPTION	REMARKS
GT500	
L. H. Handle Switch Ass'y.	
Light Switch Knob	
Headlight Unit	changed from 35/25w to
Headlight Ass'y.	30/30w
GT550	
L. H. Handle Switch Ass'y.	
Light Switch Knob	
GT750	
L. H. Handle Switch Ass'y.	
Light Switch Knob	

The new component part numbers are listed on the 1976 model micro fiche.

APPLICABILITY:

The afore mentioned changes have been made on and from the following Frame Numbers:

GT185 - 39375	GT500 - 90729
GT250 - 80001	GT550 - 56555
GT380 - 81738	GT750 - 61050

SUZUKI
2-Stroke
Service Bulletin

Subject: GT250 CHANGES FROM 1975 TO 1976

Bulletin No: GT-32
Date: Jan. 2, 1976

Read and Initial

Manager
Parts
Service

NOTICE:

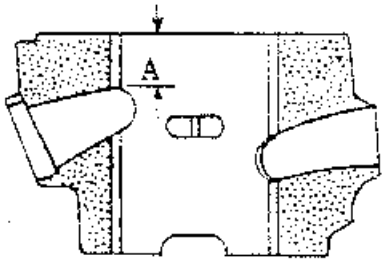
This bulletin is issued to inform you of changes that have been applied to the GT250 beginning with 1976 model production.

MODIFICATIONS:

I. Cylinder

a. The cylinders exhaust port has been raised 2.5mm for increased performance.

EXHAUST



A: 32mm ⟶ 29.5mm

b. Also, for increased performance the number of transfer ports has been increased from two to four.

II. Crankcase

a. In conjunction with the increased number of cylinder transfer ports, the crankcase transfer ports have been enlarged.

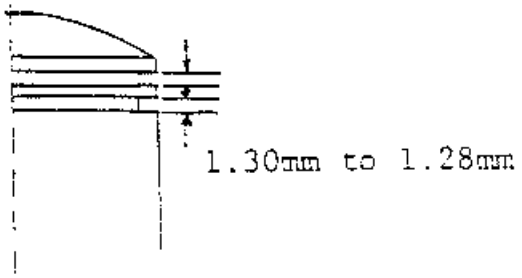
b. The lubrication system of the center crankshaft bearings has been changed from transmission oil to CCI oil.

c. The right crankshaft bearing lubrication has been changed from CCI to transmission oil.

III. Piston

a. In conjunction with cylinder port modifications, the piston ring locating pin positions have been changed.

b. For improved piston ring gas sealing, the piston ring groove height has been narrowed from 1.30 to 1.28mm.



IV. Carburetion

a. The bore size of the carburetor has been increased from 26 to 28mm, and the internal specifications changed as indicated below:

	1975	1976
Type	VM26SH	VM28SS
Bore Size	26mm	28mm
Pilot Jet	25	30
Cut-Away	2.5	2.5
Jet Needle	5CN3-2	5CN3-3
Needle Jet	0-2	0-2
Main Jet	112.5	92.5

b. The carburetor mounting type has also been changed from a flange mount to a spigot mount.

V. Ignition Timing

In conjunction with engine modifications the ignition timing has been retarded from 2.93 (24^{o}) to 2.05mm(20^{o}) BTDC.

VI. Crankshaft

To correspond with the above ignition timing change, the keyway for the generator rotor has been relocated 4^{o}. Refer to Service Bulletin No. GT-30 for further information.

VII. Cylinder Heads

a. The right and left cylinder heads have been changed to a one piece casting to reduce its noise level. To further reduce cylinder head fin vibration noise level, the fins have been interconnected during the manufacturing casting process.

b. At the same time, the Ram Air System cover has been discontinued to reduce overall weight.

VIII. Mufflers

To reduce the exhaust noise level and still maintain the GT250's standard of performance, the mufflers have been modified as listed below.

a. The number of holes in the baffle have been increased.

b. At the same time the number of muffler internal baffle plates has been increased by two.

IX. Transmission

To more evenly match the new power band of the 1976 GT250, the second and third gear transmission ratios have been changed as shown:

DESCRIPTION	1975	1976
2nd drive gear number of teeth	16	17
2nd driven gear number of teeth	24	23
3rd drive gear number of teeth	19	20
2nd gear ratio	1.50	1.35
3rd gear ratio	1.15	1.05

Third driven gear retains the same number of teeth (22), however the gears profile has been changed to match the new 3rd drive gears,

X. Drive Chain

To increase its dependability the drive chain has been changed to an endless type, thus eliminating the master link.

XI. Headlight

The headlight of the GT250 now operates when the ignition key is turned on. See Service Bulletin No. GT-31 for further information.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-33
Date: Jan. 30, 1976

Read and Initial

Manager:
Parts:
Service: AHC

Subject: IMPROVED GT550 REAR BRAKE PERFORMANCE

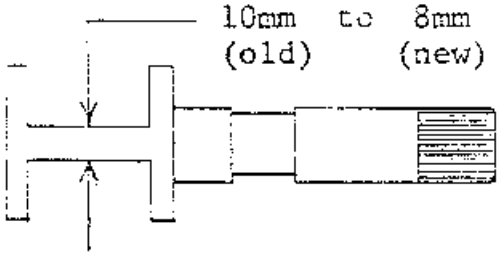
NOTICE: To improve the rear wheel braking performance of the GT550, the brake shoe, brake cam, and brake cam lever have been redesigned. The rear brake panel has also been changed to accept the new style parts.
These changes are explained below.

I. Rear Brake Shoe

The width has been increased from 28mm to 33mm.

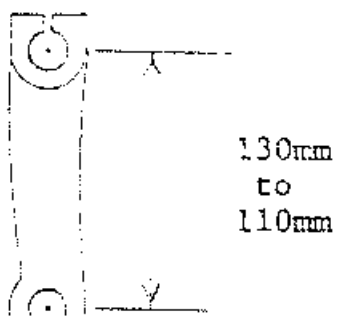
II. Brake Cam

The thickness of the brake cam has been decreased from 10mm to 8mm as shown.



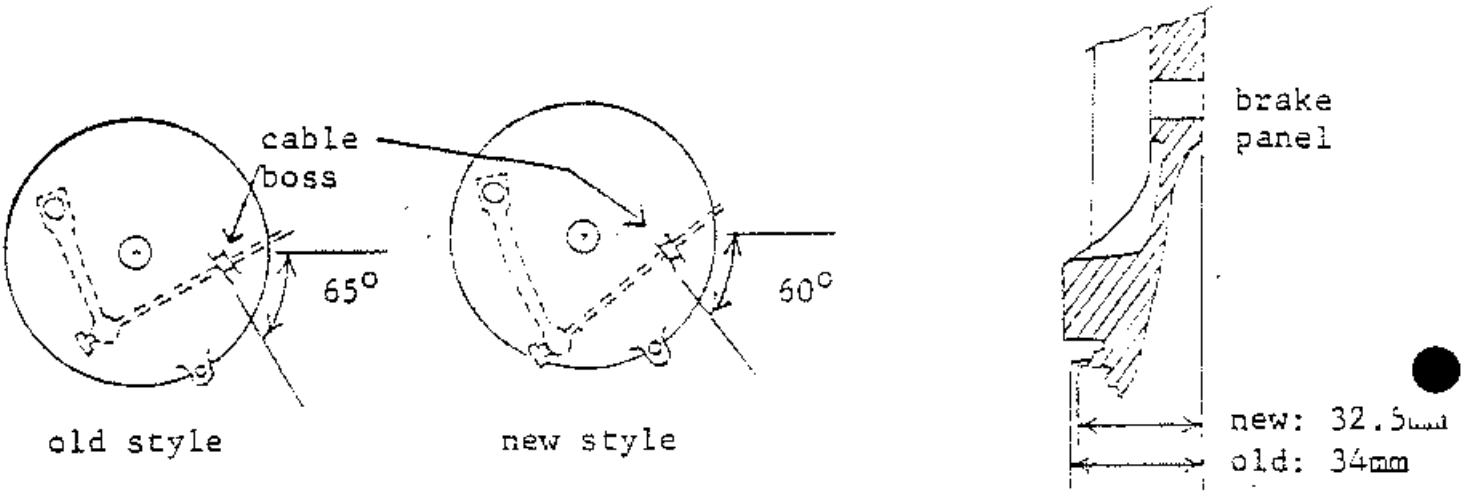
III. Rear Brake Cam Lever

The overall length of the cam lever has been increased from 110mm to 130mm, for more leverage.



IV. Rear Brake Panel

In compliance with changes I, II, III, the rear brake panel (brake backing plate) has undergone two changes: the first change is the angle of the cable boss in conjunction with the increased length of the cam lever. Secondly, at the same time the width of the panel has been decreased 1.5mm, as shown.



APPLICATION:

The changes discribed above have been in effect since the beginning of the 1976 model production on, and from Frame No. GT550-60904.

PARTS:

The old style parts shall remain available. The new style parts are also now available.

INTERCHANGEABILITY:

The new and old style parts are not interchangeable individually. The exception is that the old style brake

(con't)

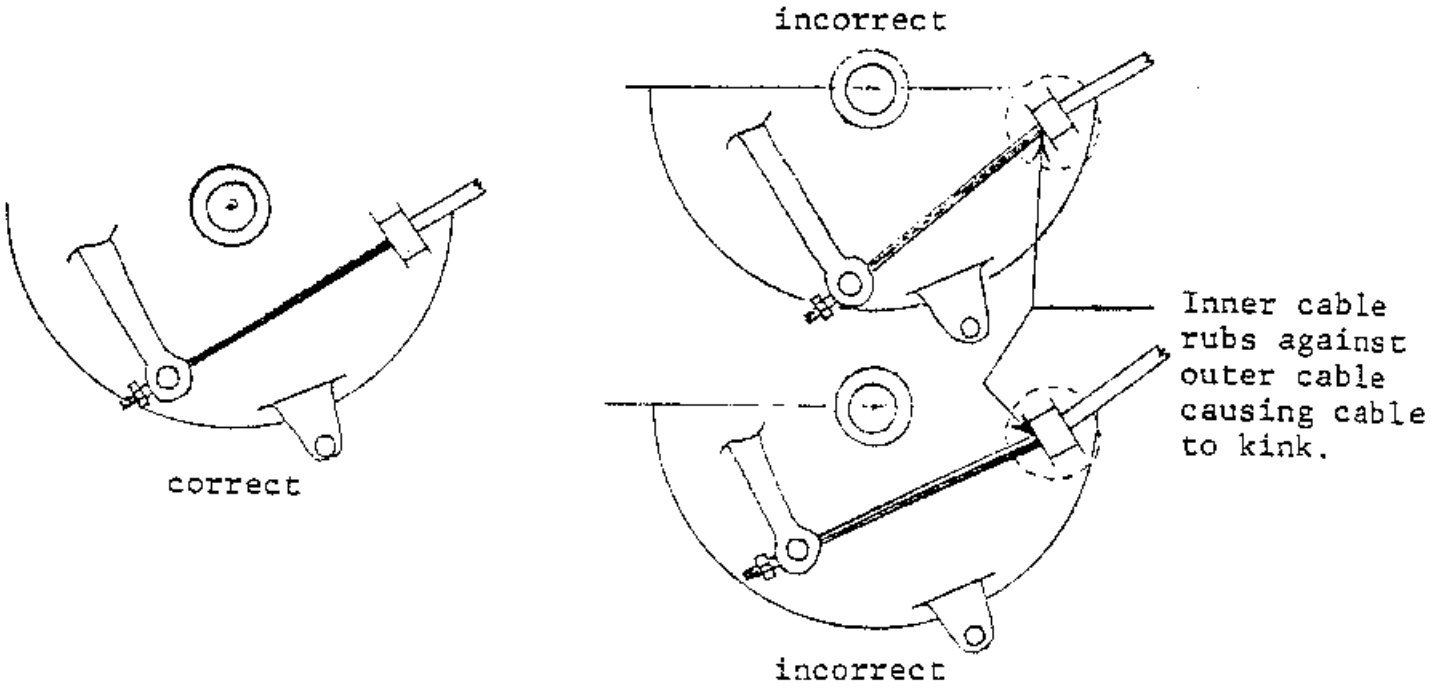
shoes may be used with the new style brake assembly. However, the new style brake shoes cannot be used with the old style brake assembly because of their increased width. When changed as a set, the new and the old parts are interchangeable.

OLD	NEW
Brake Panel,	Brake Panel,
Cam Lever, Shoes	Cam Lever, Shoes

CAUTION:

1. Be sure to use the OLD brake shoe (28mm wide) if the brake panel is the older style. The new style shoes mounted on the old style brake panel will not have the proper side clearance.

2. Damage to the brake cable will occur if the incorrect brake cam lever is used with either brake panel. This is due to the lengths of the cam levers and corresponding angle of the brake panel cable boss. This is illustrated below.



U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-34
Date: Mar. 26, 1976

Read and Initial

Manager_____
Parts_____
Service AAF

Subject: GT500 SHIFTING CAM GUIDE BOLT LOCATION
REFERENCE: Service Bulletin #T-5

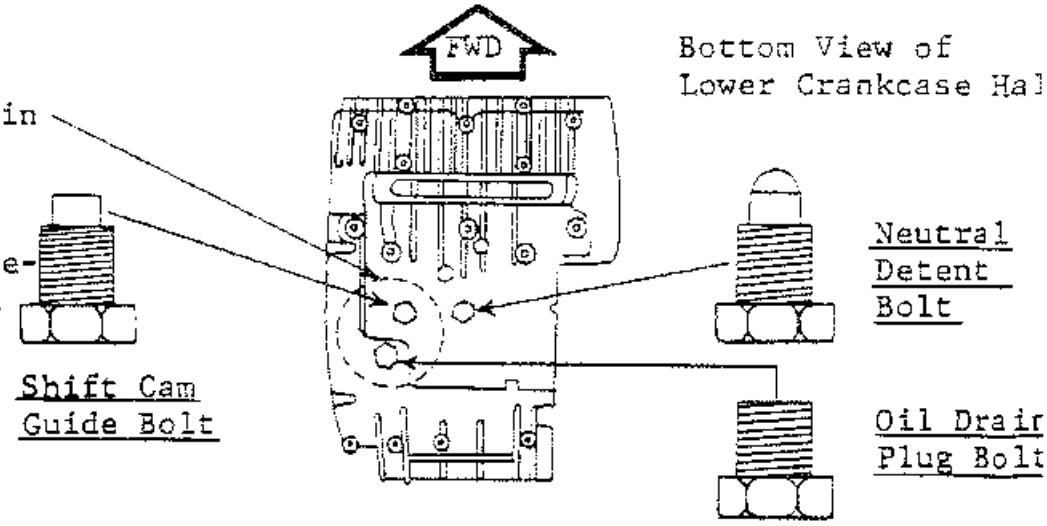
NOTICE:

We have received occasional reports of GT500 transmission failure immediately after an engine or transmission overhaul. Upon disassembling and inspecting the transmission, it was found that the transmission oil drain plug and the shift cam guide bolt had been mistakenly interchanged during the overhaul.

REVISED
(7/16/76)

UPDATED
(7/16/76)

NOTE: Remove both bolts to drain oil. After draining oil make sure of correct placement of both bolts.



The shift cam guide bolt restricts the shift cam drum from sliding from side to side inside the crankcase assembly. When these two bolts are interchanged, the oil drain plug does not extend into the locating groove of the shift cam drum, allowing the drum to slide from side to side. When this happens the shifting forks slide with the shift cam, allowing two sets of gears to become engaged at the same time. This results in severe damage to the gears, and requires their replacement.

Therefore, whenever a GT500 is overhauled, or the transmission oil changed by your service department the final inspection after reassembly should be the proper placement of the shift cam guide bolt and oil drain plug.

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: GT-35
Date: April 2, 1976
Read and Initial
Manager
Parts
Service

Subject: GT250 CYLINDER HEAD, SPARK PLUG AND CARBURETION CHANGES
REFERENCE: Service Bulletin #GT-32 January 2, 1976

NOTICE:

For improved engine efficiency at all operating speeds, the carburetion, compression ratio, and spark plug heat range have been changed. These changes are as follows:

I. Cylinder Head

The cylinder head has been redesigned to lower the compression ratio from 7.2:1 to 6.8:1.

II. Spark Plug

The spark plug heat range has been changed from a B-8ES (NGK) - W24ES (ND) to B-9ES (NGK) - W27ES (ND).

III. Carburetion

The right and left main and needle jets have been changed as indicated.

A. The main jet specification has been increased in size from 92.5 to 95.

B. The needle jet specification has been decreased in size from 0-2 to 0-0.

APPLICABILITY:

The new style parts have been applied to GT250's on and after the engine numbers shown below. These are mid 1976 GT250A production line engine numbers.

NEW TYPE	ENGINE NUMBER
Cylinder Head	87498
Carburetors	87498
Spark Plug	86479

(cont.

INTERCHANGEABILITY:

The old and new style parts are interchangeable. However, the use of old style parts in place of the new style parts is not recommended.

PARTS:

DESCRIPTION	OLD PART NUMBER	NEW PART NUMBER
Cylinder Head	11111-18631	11111-18632
Spark Plug	09482-00091 (B8ES)	09482-00066 (B9ES)
Carburetor Assy. (R)	13201-18660	13201-18661
Carburetor Assy. (L)	13202-18660	13202-18661
Main Jet	09491-92001	09491-95003
Needle Jet	09494-00168	09494-00167

Only the new style cylinder head and carburetor assemblies are available from U. S. Suzuki's Parts Department.

NOTE: It is recommended to install a B-9ES spark plug in earlier machines which are primarily intended for high speed use.

SUZUKI
2-Stroke
Service Bulletin

Subject: GT750 "SURGING"

Bulletin No: GT-36
Date: March 11, 1977

Read and Initial

Manager _____
Parts _____
Service DAF

NOTICE:

Certain GT750's equipped with Constant Velocity (C.V.) carburetors may experience a "surging" or "bucking" problem on deceleration or part throttle cruising conditions.

Extensive carburetion testing has shown that by reducing the pilot air jet size, these characteristics can be minimized or eliminated.

Important: The factors listed below can also contribute to this situation and should be checked carefully before reducing the pilot air jet size:

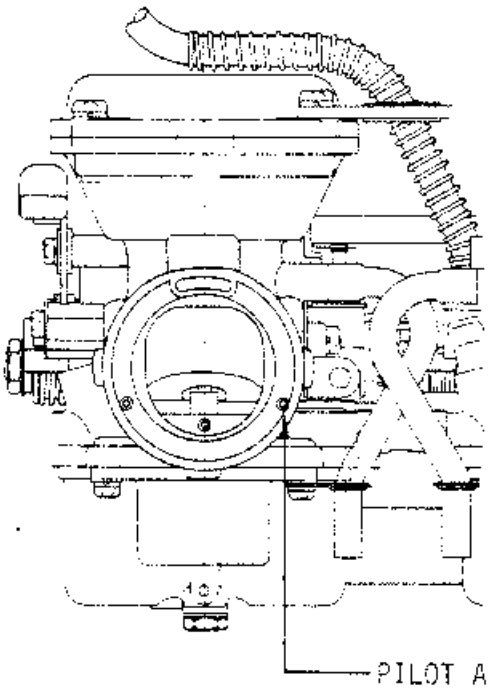
Carburetion Adjustments/Synchronization
Gasoline Type/Octane
Ignition Timing
Drive Chain and Sprocket Condition
Piston Ring Seat Condition (Compression)
Spark Plug Type and Condition
General Engine Condition
Muffler Baffle Condition

GT750 pilot air jets are pressed into position and cannot be removed. Therefore, an additional reduction air jet must be installed in the pilot air circuit. Reduction air jets are now available and come in the two sizes listed below:

REDUCTION PILOT AIR JET	
#80	0.80 mm DIA.
#90	0.90 mm DIA.

(continued)

The #80 reduction jet would normally be used in the 1975M, 1976A, and 1977B models. The #90 reduction jet would normally be used in the 1974L model. These are the suggested applications and depending on geographical area and engine conditions, it may be necessary to select the alternate jet.



The installation of these reduction air jets will richen the idle mixture considerably. On certain machines, it may be necessary to adjust the jet needle position one step leaner to eliminate an "off idle" hesitation. Before the needle position is altered, the pilot air screw's adjustment and carburetor synchronization should be carefully adjusted.

NOTE: The Suzuki vacuum carburetor balancer (09913-13121) should be used to synchronize the carburetors properly.

Unleaded or low-lead gasoline is recommended for the GT750 for maximum spark plug life and proper engine operation. If the unit has been operated on leaded gasoline, 2 or 3 tanks of unleaded or low lead fuel will remove the lead build up in the engine. New spark plugs are recommended after this cleaning action is finished.

New GT750's should have approximately 1,000 miles of break-in miles on them and all adjustments re-checked before determining whether this jetting modification is required.

If it is determined that a reduction in air jet size is necessary, the following directions and precautions should be carefully studied before installing them.

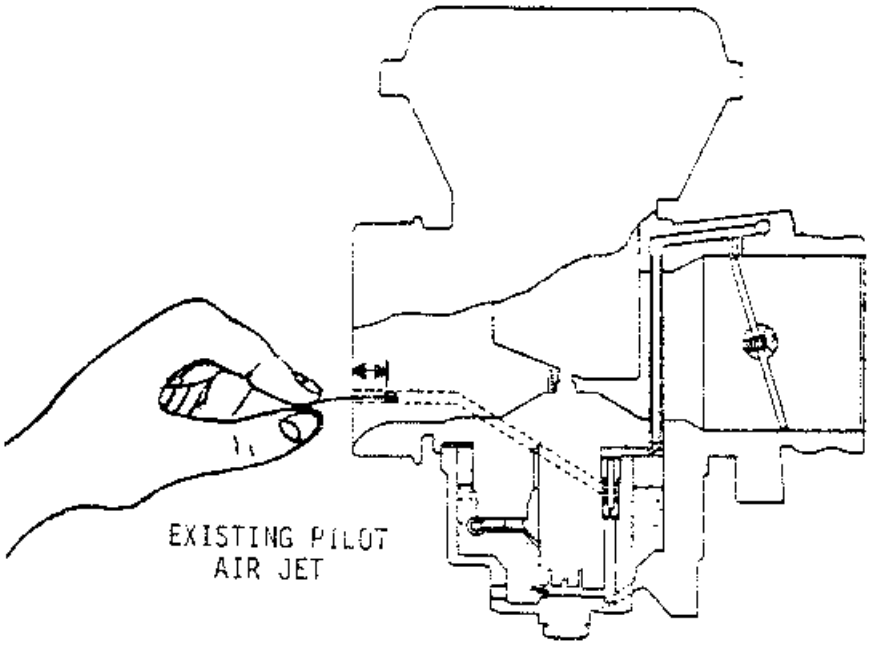
(continued)

INSTALLATION:

1. Remove the carburetor assembly.

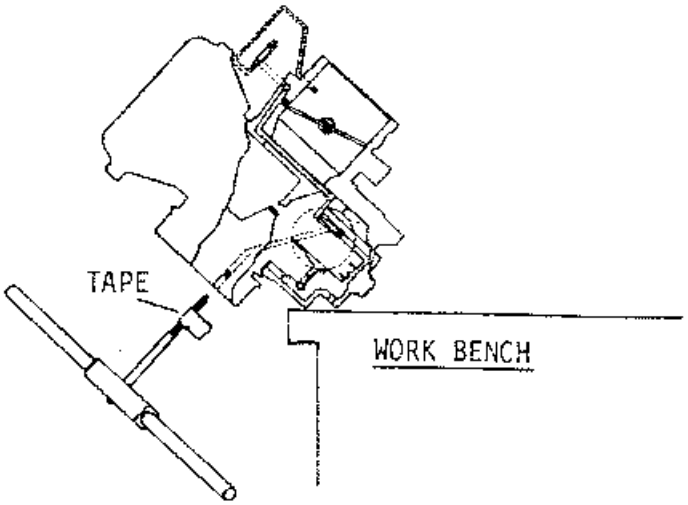
2. Place the carburetor assembly on a clean work surface.

3. Using a fine piece of wire, measure the distance that the existing pilot air jet has been inserted into the pilot air intake tract, as illustrated below:



4. Place a piece of tape (to be used as a reference point) on a 4 x 0.7mm tap, 1mm less than the total distance measured with the piece of wire. This will prevent the tap from damaging the existing air jet.

5. Tilt the carburetor assembly so that the mouth of the venturi is tilted in a downward position. This step must be done to eliminate the possibility of aluminum shavings entering the existing pilot air jet.



NOTE: Before performing the threading operation, clean the tap of any oil or grease deposits. Any oil or grease deposits left in the air jet bore will prevent the easy removal of the aluminum cuttings from the threading operation. If any aluminum cuttings pass through the existing air jet, the carburetor may have to be replaced due to the difficulty of cleaning this particular circuit.

6. Insert the tap until the tape reaches the flange of the pilot air intake opening. Remove the tap. Lightly knock the carburetor assembly against the work bench to remove all aluminum shavings.

7. Using Suzuki Thread Lock Cement, place one small drop on the threads of the new pilot air jet. Screw the new jet into the pilot air jets' bore until the head of the jet lightly seals against the flange of the bore.

8. Reinstall the carburetor assembly, adjust and sychronize the carburetors.

9. Test ride the machine to determine if the jet needle position must be changed as described earlier.

PARTS:

DESCRIPTION	PART NUMBER	DEALER COST	QTY.
Pilot Air Jet - 0.8mm DIA.	09493-31330	$.92 ea.	3
Pilot Air Jet - 0.9mm DIA.	09493-18001	$.92 ea.	3

Both pilot reduction air jets are now available from U.S. Suzuki's Parts Department.

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
(2-Stroke)
Service Bulletin

Bulletin No: GT-37

Date: March 11, 1977

Read and Initial

Manager

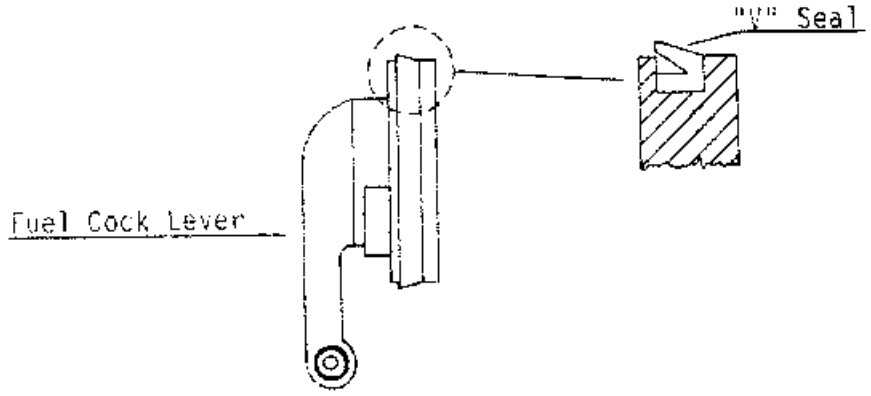
Parts

Service

Subject: GT380/550/750 FUEL COCK SEEPAGE

NOTICE:

To prevent fuel cock seepage, a "V" seal has been installed around the fuel cock lever, to seal the lever to the fuel cock body, as illustrated below.



PARTS AND INTERCHANGEABILITY:

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
Fuel Cock	44300-33153	← 0 →	44300-33154
"V" Seal		→	44353-33154

After the existing supply of the old style parts are exhausted, only the new style will be available.

APPLICABILITY:

GT model motorcycles will have the new style parts installed on and after the Frame Numbers listed below:

GT380-89108

GT550-64337

GT750-67962

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921 4461

(T-4)

SUZUKI
(2-Stroke)
Service Bulletin

GT380/550/750
Subject: GEAR SHIFTING SWITCH

Bulletin No: GT-38
Date: April 29, 1977

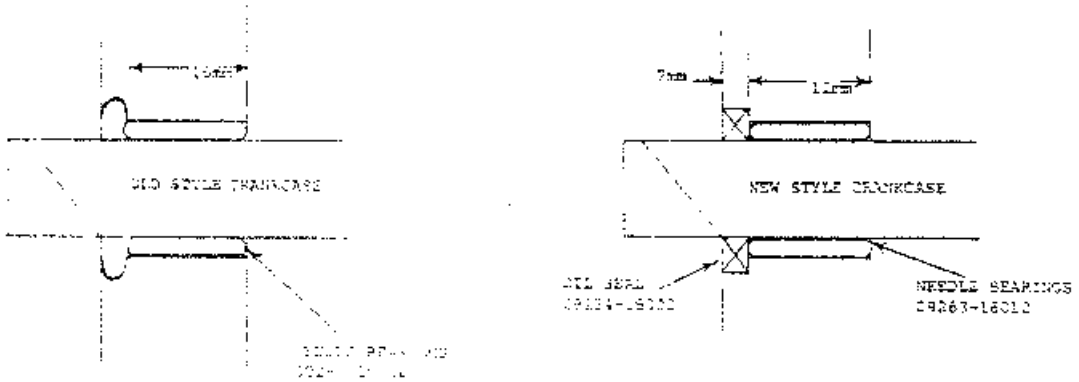
Read and Initial

Manager
Parts
Service

NOTICE:

To strengthen the GT380/550/750's gear shift indicator switch's body, its material has been changed from phenolic to metal, and its shape changed.

At the same time, the crankcase has been changed to accept an oil seal for the gear shifting camshaft. This will prevent metal particles in the transmission oil from damaging the switches' "O" rings, thus allowing oil to seep past. The crankcase modifications are listed below.



PARTS AND INTERCHANGEABILITY:

USA CRANKCASE AND RELATED COMPONENT'S PART NO.S.

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
GT380 Crankcase	11300-33820		11300-33822
GT550 Crankcase	11300-34860	* See Below	11300-34861
GT750 Crankcase	11300-31850		11300-31852
Oil Seal	———		09284-16002
Needle Bearings	09263-16006	←—×—→	09263-16012

KEY: O - Interchangeable X - Not Interchangeable

*Interchangeability between old and new style crankcases is possible, if, when installing a new style crankcase the new style needle bearings and oil seal are used.

*After the existing stock of the old style crankcases are exhausted, only the new style will be available.

NOTE: When installing the oil seal on a new style crankcase, the lip of the oil seal must face the internal components of the transmission.

(continued)

SHIFTING SWITCH BODY

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
GT750	37710-31211	← 0 →	37710-31212
GT380/550	37710-33111	← 0 →	37710-33112

FINAL DRIVE COMPONENTS

The GT750 final drive components have been changed to increase the distance between the engine's drive sprocket and switch body to prevent a loose chain from hitting the switch body. The GT380/550 final drive components will remain unchanged.

DESCRIPTION	OLD PART NO.	INTERCHANGEABILITY	NEW PART NO.
Drive Sprocket	27511-31000 16 Teeth	} ← 0 → {	27511-33600 15 Teeth
Driven Sprocket	64511-31700 43 Teeth		64511-31770 40 Teeth
Drive Chain	27600-31014 106 Links		27600-31016 104 Links

*Interchangeability is possible, only if all three components are replaced as a set.

Both the old and new style final drive components are available from U.S. Suzuki's Parts Department.

APPLICABILITY:

These modifications have been made on and after the Engine Numbers listed below:

GT380-99412

GT550-66724

GT750-74377

U.S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

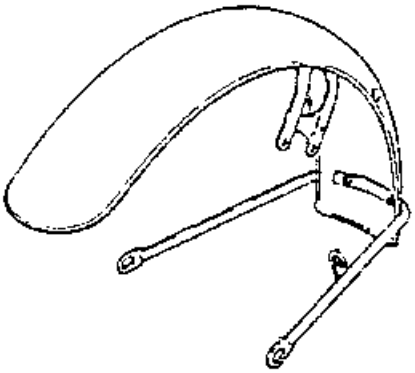
Subject: GT500A,B FRONT FENDER MOUNTING METHOD

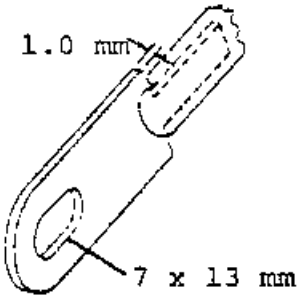
Bulletin No: GT-39
Date: December 2, 1977

Read and Initial

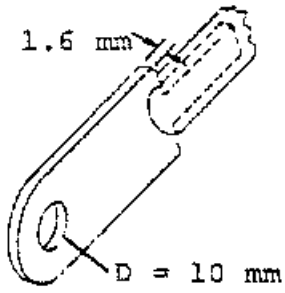
Manager
Parts
Service

There are presently three ways to mount the A and B model GT500 front fender brace to the front fork outer tube. To distinguish the different mounting methods from each other, they are labeled the Original method, the Type 1 method, and the Type 2 method. If any original or Type 1 front fender has to be replaced, it must be updated to the Type 2 fender.





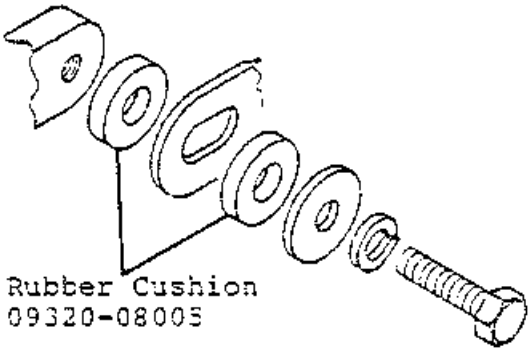
TYPE 1



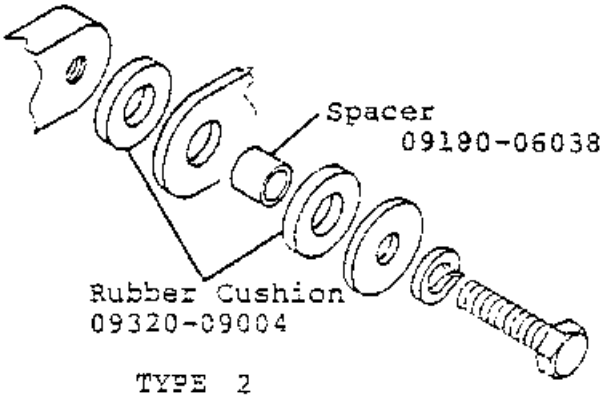
TYPE 2

The Original method is a "rigid"mount with the fender brace bolted directly to the fork tube.

The Type 1 method is a "semi-floating" mount. A rubber cushion is used with the original type fender to provide a small amount of flexibility. With this type of mount, the mounting bolt must be secured with thread lock cement.



TYPE 1



TYPE 2

The Type 2 method is a "floating" mount. The front fender brace has been changed and it is mounted by a rubber cushion and a spacer. This mounting method will provide a secure yet flexible mount for the front fender.

(continued)

INTERCHANGE INFORMATION:

DESCRIPTION	ORIGINAL PART NO.	INTRCHG.	TYPE 1 PART NO.	INTRCHG.	TYPE 2 PART NO.
Front Fender	53100-31703	←YES→	53100-31703	NO	53100-31704
Cushion	———	NO	09320-08005	NO	09320-09004

PARTS AVAILABILITY INFORMATION:

Component parts for Type 1 and Type 2 mounting methods that are available from U. S. SUZUKI'S PARTS DEPARTMENT are:

QTY. NEEDED	DESCRIPTION	TYPE 1 PART NO.	TYPE 2 PART NO.
1	Front Fender	Discontinued	53100-31704
2	Bolt	01107-06208	01107-06208
2	Lockwasher	08321-21068	08321-21068
2	Flatwasher	09160-06020	09160-06020
4	Cushion	09320-08005	09320-09004
2	Spacer	———	09180-06038

APPLICABLE FRAME NUMBERS:

Before and on	F# 106185	-----	Original Type
From	F# 106186 to 106460	-----	Type 1
On and after	F# 106461	-----	Type 2

SERVICE BULLETIN

Bulletin No. MC 75-10
Date May 12,1975
Page 1 of 2

MODIFIED OIL PUMP DRIVE GEAR

SUBJECT: GT 185
Affected Model's: GT 185-25638
Effective Engine No.:
Reference:

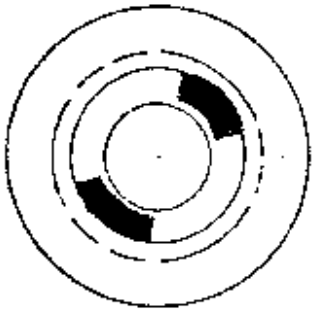
Send & Initial
Manager
Parts
Service

PROBLEM:

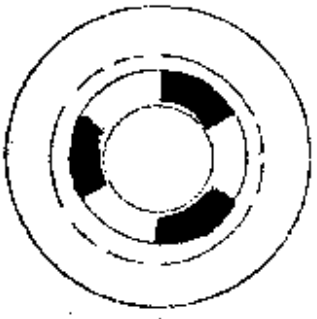
We have received reports of broken GT 185 oil pump drive gears.

MODIFICATION:

To increase the durability of the oil pump drive gear, the number of engagement dogs have been increased from 2 to 3.



OLD STYLE WITH
TWO ENGAGEMENT DOGS



NEW STYLE WITH
THREE ENGAGEMENT DOGS

In conjunction with the oil pump drive gear modification, it was also required to increase the number of kick starter drive gear engagement dogs from 2 to 3.

PARTS:

The new style parts are now available from Suzuki Canada's Parts Department and the part numbers are listed below.

DESCRIPTION	OLD PART NO.	NEW PART NO.
Oil pump drive gear	16321-36100	16321-36101
Kick Starter Drive Gear	26240-36000	26240-36001

INTERCHANGEABILITY:

Neither of the modified gears are interchangeable separately with the old style parts. The modified gears must be installed together, as a set.

APPLICATION:

The new style oil pump drive gear and kick starter drive gear have been installed on and after Engine Number GT185-25638.

C.B. Knight,
Service Manager

SERVICE BULLETIN

RADCO SALES LTD. — TECHNICAL SERVICE

SUBJECT: TIMING GEAR MODIFICATIONS GT380

Affected Models:

Effective Engine No.:

Reference:

Bulletin No. 119

Date Jan. 22, 1973

Page 1 of 1

PROBLEM:

Nylon timing gear breakage on the GT380J.

SOLUTION:

Following a temporary modification in the form of a steel gear, a newly designed nylon driven and steel drive gear are now available. Both of these new gears must be fitted in order to complete the modification and it is still strongly recommended that the timing of these units be accomplished by turning the rear wheel in sixth gear. Under no circumstances should the engine be turned by means of the 14mm nut on the point cam, as shown in the Owner's Manual. This places undue stress on the nylon gear, which is designed for silent operation and the negligible load of the point cam only.

PARTS:

Only the new parts are now being supplied.

Qty	Description	Old Part No.	New Part No.
1	Breaker Shaft Driven Gear	12713-33030	12713-33032
1	Breaker Shaft Drive Gear	12712-33010	12712-33012

The modified parts are already installed on all production units from Engine #GT380-31811 Onward

TECHNICAL SERVICE SECTION.

RADCO SALES LTD.
1107 Homer Street, Vancouver 3, B.C.
Phone (Area Code 604) 683-3271 Telex 04-507742

SERVICE BULLETIN

RADCO SALES LTD. — TECHNICAL SERVICE

SUBJECT: EXHAUST STUD BREAKAGE

Affected Models: GT380 GT380K

Effective Engine No.:

Reference:

Bulletin No. 110

Date Dec 10,1972

Page 1 of 1

MODIFICATION:

Numerous reports of the exhaust studs breaking on the subject models have been received. Various factors, such as over-torquing, excessive clearance between the flange and cylinder etc., have been diagnosed.

Since these types of influences will still be present, the material of the studs has been changed.

PARTS:

The part number for the new chrome-molybdenum studs is 09108-08038. However, since the old carbon steel stud, part number 01421-08308, is one of various general bolts used for other models, it will still be available from our Parts Department.

TECHNICAL SERVICE SECTION.

RADCO SALES LTD.
1107 Homer Street, Vancouver 3, B.C.
Phone (Area Code 604) 683-3271 Telex 04-507742

SERVICE BULLETIN

Bulletin No. 75-29
Date August 22, 1975
Page ____ of 2

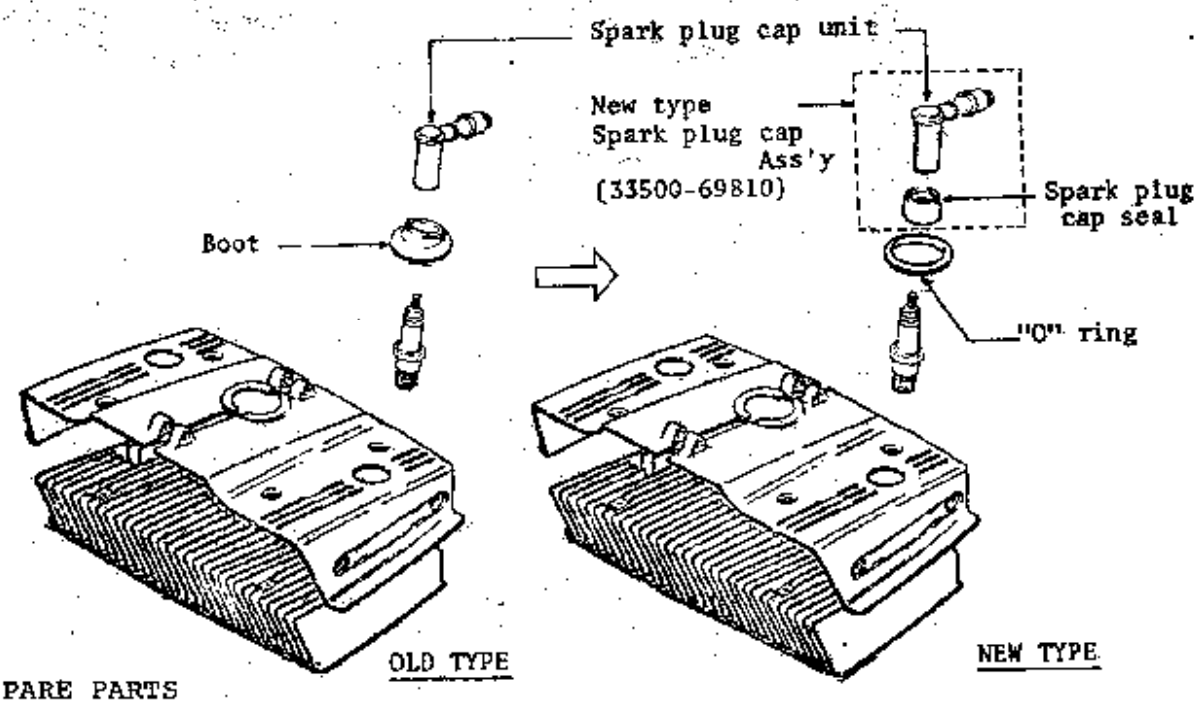
SUBJECT: SPARK PLUG CAP
Affected Models: GT380M and GT550M
Effective Engine No.: E NO. GT380-36035, GT550-60143
Reference:

Read & Initial
Manager
Parts
Service

This bulletin is intended to inform you that the spark plug cap sealing has been modified into a conventional type in order to prevent a high tension leak from the spark plug cap.

MODIFICATION DETAILS

In this modification, the spark plug boot has been removed and an "O" ring has been fixed to the cylinder head cover. No modification has been carried out in the cap unit itself.



SPARE PARTS

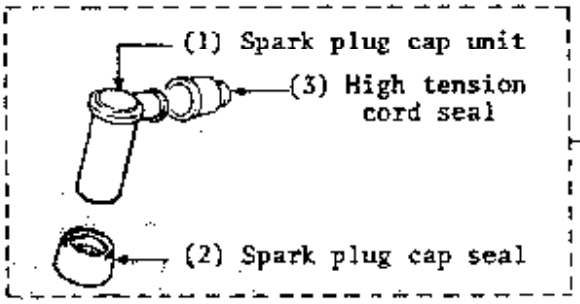
PART NAME	PART NUMBER		SPARE SUPPLY
	OLD	NEW	
SPARK PLUG CAP UNIT	33510-22010	Same as old	Available
SPARK PLUG CAP BOOT (for GT380)	33543-33010(M) 33543-33110(R,L)	-	No longer Available
SPARK PLUG CAP BOOT (for GT550)	33543-33010(M) 33543-34110(R,L)	-	No longer Available
SPARK PLUG CAP SEAL	-	33541-69010	Available
"O" RING	-	33545-34000	Available
SPARK PLUG CAP ASS'Y	-	33500-69810	Available

SUZUKI CANADA LTD. 155 ST. REGIS CRESCENT, DOWNSVIEW, ONTARIO M3J 1Y6 PHONE (416) 630-4100

Note: In addition to the supply of the spark plug cap unit as before, the new type assembly will be supplied too. The diagram below shows the components of the new type.

(1) Spark plug cap unit (33510-22010)
(2) Spark plug cap seal (33541-69010)
(3) High tension cord seal (33542-98000)

Spark plug cap Ass'y
(33500-69810)



Caution: In case of any engine trouble due to leakage of electricity from the spark plug cap (mis-firing of the engine), the plug cap should be changed to the new type and at the same time an "O" ring should be fixed to the cylinder head cover.

APPLICATION

This modification has been in effect since March production on and from the following frame numbers:

GT380-36035
GT550-60143

C.B. Knight,
Service Manager

SERVICE BULLETIN

RADCO SALES LTD. — TECHNICAL SERVICE

SUBJECT: IDENTIFICATION OF MASTER CYLINDERS
Affected Models: Disc Brake Models
Effective Engine No.:
Reference:

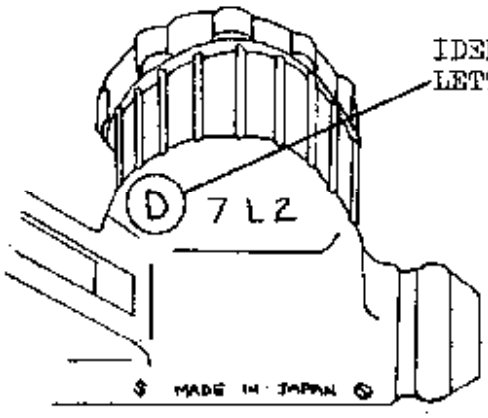
Bulletin No. 134
Date. May 21/73
Page 1 of 1

IDENTIFICATION OF MASTER CYLINDERS

On Suzuki motorcycles equipped with the hydraulic disc brake system, there are two types: one is single disc (GT250K GT380K GT550K) and the other is a double disc system (GT750K).

Although two different master cylinder specifications are provided for these two types, the appearence of these master cylinders are identical possibly causing missmatching when replacing them with replacement parts.

As the misuse of the master cylinder may bring about poor brake performance or the improper brake lever stroke, careful attention should be paid not only to the part number stamped on the paper tag but also to the identification marking on the cylinder which is:

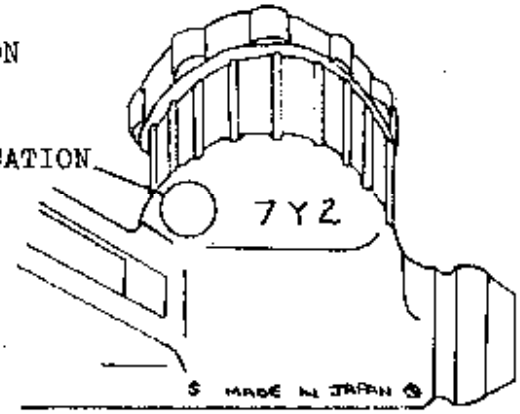


IDENTIFICATION LETTER "D"

Piston Diameter: 15.9 mm
Part No. 59600-31040

For GT750K

NO IDENTIFICATION



Piston Diameter: 14 mm
Part No. 59600-18840

For GT250K, GT380K, GT550K.

So, please note, an identification letter "D" is press stamped on the cylinder for the double disc type and no identification marking for the single disc type. Disregard any letters cast into the cylinder as they do not apply in this case.

RADCO SALES LTD.,
Technical Service Section.

RADCO SALES LTD.
1107 Homer Street, Vancouver 3, B.C.
Phone (Area Code 604) 683-3271 Telex 04-507742

SERVICE BULLETIN

SUZUKI

MC75-1
February 14, 1975
1 of 1

SUBJECT: MODIFIED R.H. CRANKSHAFT OIL SEAL
Affected Models: GT750
Effective Frame No.: GT750-54214
Reference:

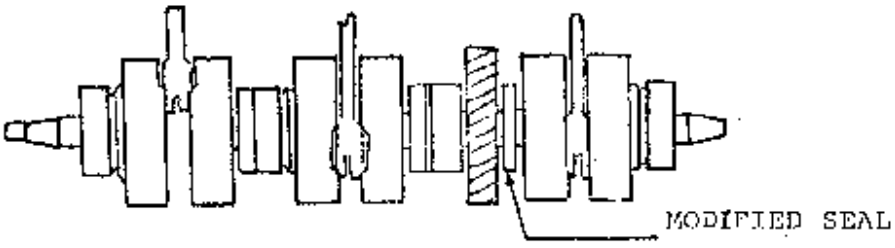
Read & Initial
Owners
Parts
Service

NOTICE:

We have received occasional reports of GT750's smoking excessively from the right exhaust pipe.

CAUSE:

The excessive smoking was attributed to the right inboard crankshaft oil seal becoming displaced, allowing transmission oil to pass into the right cylinders crankcase.



MODIFICATIONS:

To provide a more positive method of positioning the right inboard oil seal, a metal flange has been added to the seal.

The new style seal's flange eliminates the old style seals positioning "C"-ring (Part No. 09390-78003). The flange of the oil seal should be placed in the "C"-rings crankcase groove when positioning the crankshaft assembly in the lower crankcase half. Only the new style oil seal (09289-38008) will be supplied from the parts department.

SUZUKI CANADA LIMITED.

E. Akiyama,
Service Manager.

SERVICE BULLETIN

RADCO SALES LTD. — TECHNICAL SERVICE

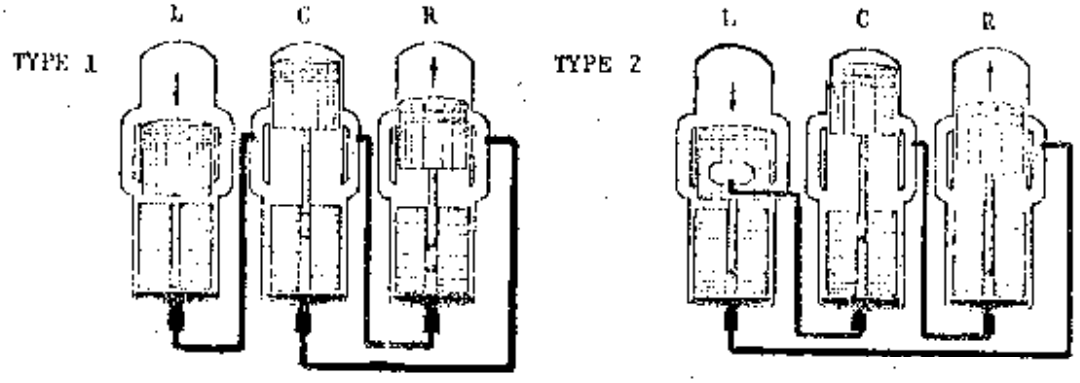
SUBJECT: MODIFICATION OF SRIS PIPING
Affected Models: GT750
Effective Engine No :
Reference:

Bulletin No. 117
Date Jan. 16, 1973

NOTICE:

As explained in the Service Manual of GT750, there are two types of the SRIS piping shown below and the type 2 in the illustration has been applied to the production since just before the yearly change of 1973 and the initial number of the modified engine is GT750-31344

The reason for this modification is to rectify the symptom that the engine of the type 1 tends to emit a little thick fumes from the right hand muffler as compared with the others



This symptom only appears when the engine is not warmed up enough and it in no way affects the engine function. However, it is supposed that the users who mainly drive the motorcycles in town or at rather low speeds might point out this problem and request you to correct it.

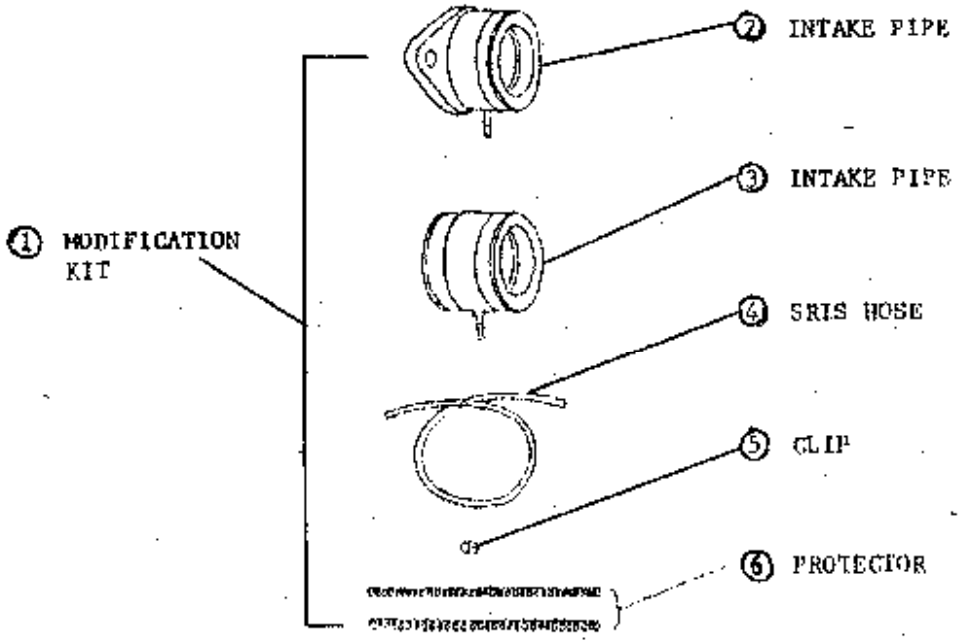
In order to provide for this request, a modification kit has been prepared to convert the early engine to the new type in principle and it now available as a spare part.

MODIFICATION KIT:

The modification kit includes the following parts:

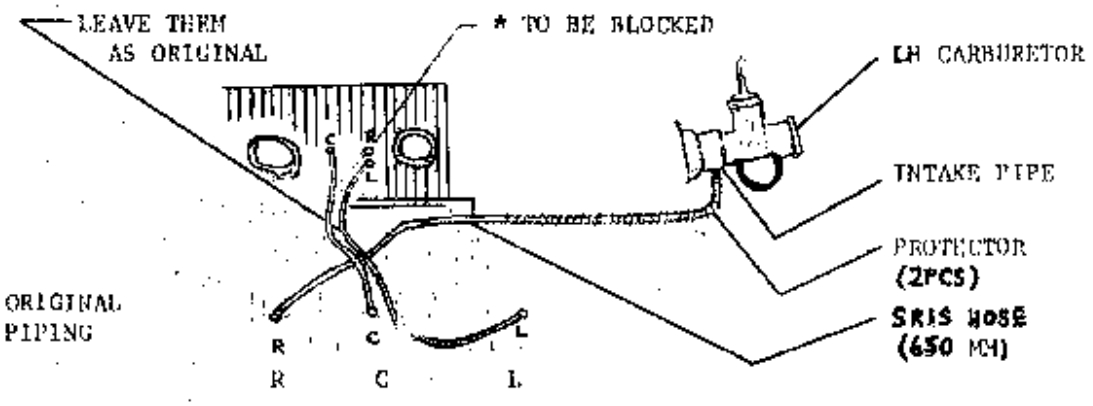
REF NO.	PART NO.	PART NAME	QTY/UNIT
1	13100-31830	SRIS MODIFICATION KIT	1
2	13110-31990	INTAKE PIPE COMP.	EITHER ONE OF 2
3	13110-31991	INTAKE PIPE COMP.	
4	09343-02010	SRIS HOSE	1
5	09410-00042	CLIP	1
6	16871-31000	PROTECTOR	2

RADCO SALES LTD.
1107 Homer Street, Vancouver 3, B.C.
Phone (Area Code 604) 683-3271 Telex 04-507742

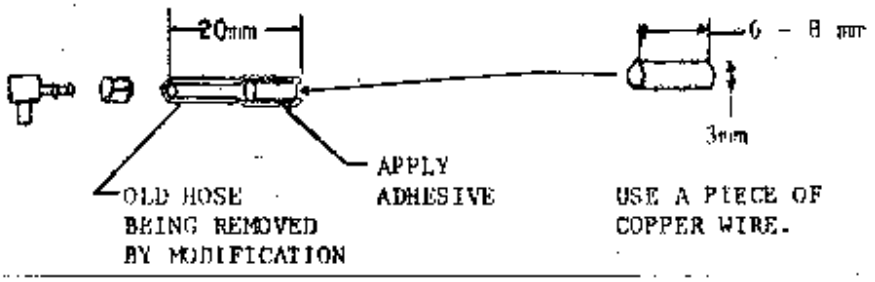


Since the early type engines are classified into two types in respect to the configuration of the intake pipe placed between the cylinder and the carburetor, the modification kit has been provided with two types of intake pipe so that it can be used on both types. Therefore it is necessary to check the type of the engine and use the appropriate intake pipe.

MODIFICATION PROCEDURE



* To block the part shown above, perform the following job.



NOTE:

The unbalance of the exhaust fumes is not always due to the construction of SRIS explained previously but to blockage of the SRIS check valve installed on the lower part of the crankcase.

Therefore, before setting about this modification, it is necessary to examine the function of the check valve and take corrective measures as required.

For details of the corrective measure of the check valve refer to Issues No. 115 & 116.

TECHNICAL SERVICE SECTION.

SERVICE BULLETIN

RADCO SALES LTD. — TECHNICAL SERVICE

SUBJECT: BATTERYS NOT CHARGING
Affected Models: Three Cylinder Models
Effective Engine No.: Before E.#'s GT380-38764
Reference: GT550-27536 & GT750-33504

Bulletin No. 137
Date June 11th 1973
Page 1 of 2

PROBLEM:

Weak and dead batteries on the affected models.

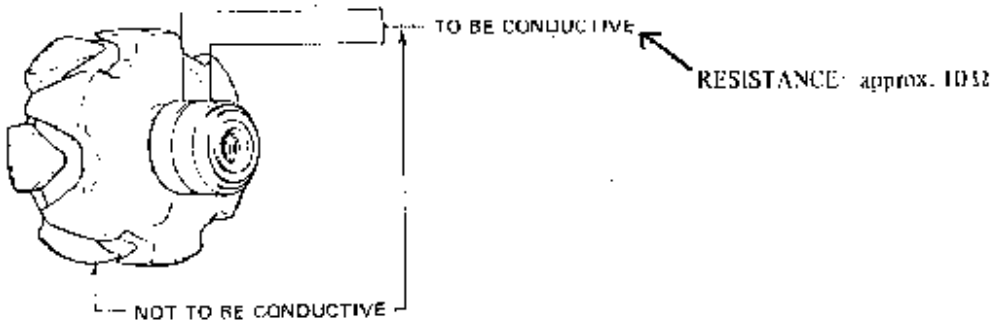
BACKGROUND:

Alternators manufactured by KOKUSAN on the 380 and 550 do not have this problem. Alternators made by NIPPON DENSO on these machines sometimes have this problem, and the 750 which is built with only ND alternators may experience it as well.

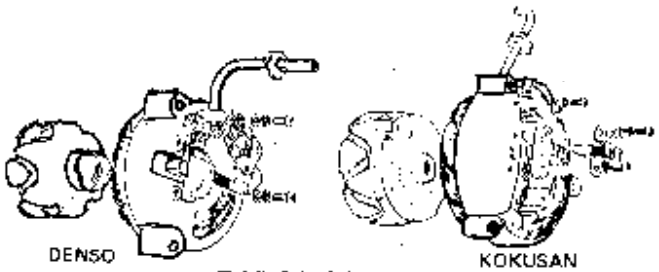
The early rotor coil was wound on a plastic bobbin then taped outside and fitted between the rotor poles with no space allowed for expansion of the coil windings when warm. The new type have their coil wound loose, then taped all around in the same manner as a new tire is wrapped. The coil is fitted with a felt spacer to allow the windings to expand and contract.

TESTING:

Before condemning a rotor, check its continuity from brush ring to brush ring using an ohmeter, (Suzuki Pocket Tester, reading: 10Ω resistance) or a battery with a lamp, there should be conductivity. From either ring to the rotor body, or ground, there must be no continuity. Do not change the rotor point blank, as the problem could be in the voltage regulator, the rectifier, the wiring, or the battery itself.

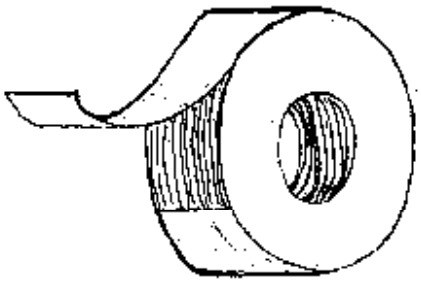


APPEARANCE:

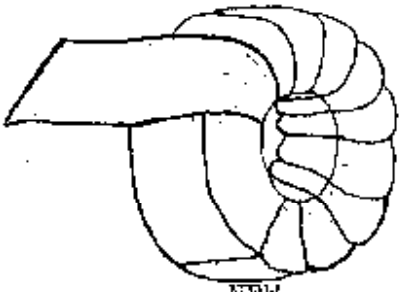


RADCO SALES LTD.
1107 Homer Street, Vancouver 3, B.C.
Phone (Area Code 604) 683-3271 Telex 04-507742

DIFFERENCE IN APPEARANCE:



OLD



NEW

IMPORTANT NOTE:

As explained in Parts Bulletin No. 73-7, the ND rotor part number is missprinted in the 1973 GT380J/K parts catalogue and the 750 rotor part number is shown. If not already done please change page 13, reference 7, from 31402-31011 to 31402-32011.

RADCO SALES LTD.
Technical Service Section.

SERVICE BULLETIN

U. S. SUZUKI TECHNICAL SERVICE

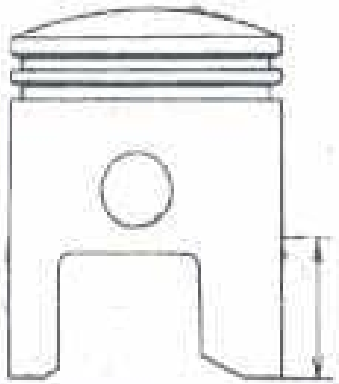
Bulletin No. 1
Date February 1, 1973
Page 1 of 4

SUBJECT: Piston Replacement
Affected Models: All
Effective Engine No.: All
Reference:

Read & Initial
Manager
Parts
Service

This bulletin is issued to assist our dealers in the replacement of piston and rings in Suzuki motorcycles.

1. Always measure the piston diameter at the specified distance from the base of the piston. Measure at right angle to the piston pin hole.



MEASURE PISTON DIAMETER AT SPECIFIED HEIGHT

MEASURE AT 90° TO PIN HOLE

2. Always fit the piston with arrow pointing towards the front of the engine, toward the exhaust port. This is important because of the ring end gap location.

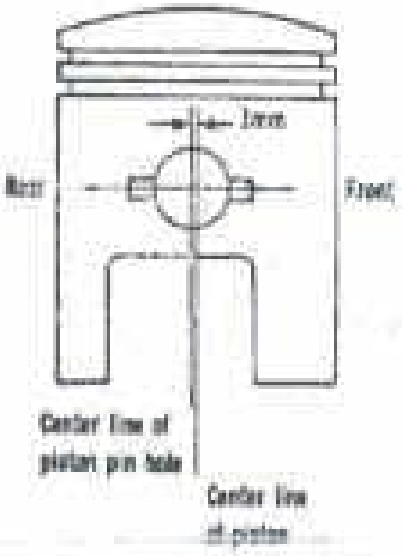
ARROW SHOULD POINT TO EXHAUST PORT

NOTE: Some TM250 pistons were not marked. Fit the piston with the notch in the pinhole to the rear of the engine, toward the intake port.

U. S. SUZUKI motor corporation
13767 Freeway Drive - Santa Fe Springs, California 90670 - Phone (213) 921-4461

Piston Replacement

3. The piston pinhole is always offset to the rear of the piston centerline. This is to anticipate the BTDC firing of the ignition system and reduce side thrust on the piston skirt.



4. When using old pistons, clean the ring grooves out before installing new rings.

5. Measure the cylinder bore at 5mm above the exhaust port for piston clearance diameter. No more than .002" total taper in the bore is permissible.

6. Check the ring end gap in the cylinder before assembling the engine. Push the ring into the cylinder with the piston to get it square in the bore. Check the end gap with a feeler gauge, while the ring is at its lowest normal position in the cylinder bore; just above the intake port. If the gap is too narrow, file both ends of the ring with a file gripped in a vice.

7. When inspecting used rings, check the free gap with a caliper This is an indication of ring tension. If the ring is 1.0mm (.040") less than specified, replace it.

MODEL	DISPLACEMENT	NOMINAL CYLINDER BORE	PISTON CLEARANCE MEASURE @	FIT TO	REPLACE AT	RING END GAP IN CYLINDER	REPLACE AT
F50R, MT50K	49cc	41mm(1.62")	23mm	(.0028-.0031")	.009"	.006-.014"	.040"
AS50,AC50,TS50K	49cc	41mm(1.62")	23mm	(.0026-.0029")	.005"	.004-.012"	.020"
M12,M15,M12-2,M15-2	50cc	41mm(1.62")	23mm	(.0020-.0025")	.006"	.004-.010"	.028"
M31	55cc	43mm(1.69")	23mm	(.0035-.0038")	.010"	.004-.010"	.035"
K10,K11	79cc	45mm(1.77")	16mm	(.0032-.0038")	.008"	.004-.012"	.040"
K15	79cc	45mm(1.77")	16mm	(.0035-.0040")	.008"	.004-.012"	.040"
K10P,K11P,K15P	79cc	45mm(1.77")	16mm	(.0014-.0016")	.004"	.004-.012"	.040"
RV90K	88cc	50mm(1.98")	22mm	(.0026-.0030")	.005"	.006-.014"	.047"
TS/TC90	89cc	47mm(1.85")	20mm	(.0022-.0026")	.004"	.006-.014"	.016"
A100	98cc	50mm(1.98")	21mm	(.0020-.0024")	.004"	.006-.014"	.016"
AC100	98cc	50mm(1.98")	21mm	(.0018-.0022")	.004"	.006-.014"	.016"
A100 RT KIT	98cc	50mm(1.98")	21mm	(.0025-.0032")	.005"	.006-.014"	.016"
TC120	118cc	52mm(2.05")	24mm	(.0018-.0022")	.005"	.004-.012"	.040"
T125	124cc	43mm(1.69")	20mm	(.0035-.0040")	.010"	.012-.014"	.046"
TS/TC125,RV125K	123cc	56mm(2.20")	23mm	(.0024-.0028")	.009"	.006-.014"	.040"
S32	149cc	46mm(1.81")	23mm	(.0022-.0026")	.005"	.004-.012"	.060"
TS185K	183cc	64mm(2.52")	23mm	(.0024-.0028")	.009"	.006-.014"	.040"
T200,TC200	196cc	50mm(1.98")	21mm	(.0016-.0020")	.003"	.004-.012"	.040"
T10	246cc	52mm(2.05")	20mm	(.0049-.0050")	.008"	.006-.014"	.040"
TM250 (1968)	246cc	66mm(2.64")	77mm	(.0120-.0130")	.015"	.008-.015"	.040"
TM250J,K	246cc	70mm(2.76")	26mm	(.0024-.0028")	.009"	.006-.014"	.040"
TS250-II	246cc	70mm(2.75")	52mm	(.0070-.0074")	.012"	.006-.014"	.040"
TS250 R,J,K	246cc	70mm(2.76")	26mm	(.0024-.0028")	.009"	.006-.014"	.040"
T20,TC250	247cc	54mm(2.13")	26mm	(.0020-.0024")	.005"	.004-.010"	.040"
T250J	247cc	54mm(2.13")	26mm	(.0022-.0026")	.005"	.006-.014"	.040"
GT250K	247cc	54mm(2.13")	26mm	(.0016-.0022")		.006-.014"	.040"
T305,TC305	305cc	60mm(2.36")	26mm	(.0022-.0026")	.005"	.006-.014"	.040"
T350J	315cc	61mm(2.40")	26mm	(.0022-.0026")	.005"	.006-.014"	.040"
GT380K	371cc	54mm(2.13")	26mm	(.0016-.0020")		.006-.014"	.040"
TM400K	396cc	82mm(3.23")	45mm	(.0041-.0046")		.008-.016"	.040"
TS400K	396cc	82mm(3.23")	45mm	(.0029-.0033")		.008-.016"	.040"
T500	492cc	70mm(2.75")	54mm	(.0070-.0074")	.012"	.008-.014"	.040"
T500 II,III,R,J,K	492cc	70mm(2.75")	32mm	(.0026-.0030")	.010"	.008-.014"	.040"
GT550K	544cc	61mm(2.40")	26mm	(.0016-.0020")			
GT750K	738cc	70mm(2.76")	32mm	(.0018-.0022")	.004"	.006-.014"	.040"

PISTON PART NUMBER

MODEL		STANDARD	1ST O.S. (0.5mm)	2ND O.S. (1.0mm)
F50R, MT50K		12110-19600	-19720	-19730
AS50,AC50,TS50K		12110-05101	-05750	-05760
M12,M15,M12-2,M15-2		12110-01601	-01721	-01740
M31		12110-02610	-02750	
K10,K11		12110-03971	-03981	-03991
K15		12110-03960	-03950	-03940
K10P,K11P,K15P		12110-03100	-03700	-03710
TS/TC90		12110-25100	-25721	-25731
RV90K		12110-23000	-23700	-23710
A100,AC100,AC100		12110-12000	-12700	-12710
A100 RT KIT		12110-17400	-17410	-17420
TS/TC100		12110-25601	-25761	-25771
TC120		12110-20200	-20720	-20730
T125		12110-20600	-20740	-20750
TS/TC125,		12110-28000	-28710	-28720
S32		12110-09205	-09705	-09715
TS185K		12110-29000	-29710	-29720
T200,TC200		12110-10000	-10700	-10710
T10		00059-61300	-61302	-61304
TM250 (1968)		12110-16200		
TM250J,K		12110-30731	-30740	
TS250II		12110-16400	-16700	-16710
TS250R,J,K		12110-30000	-30710	-30720
T20, TC250		12110-11600	-11720	-11730
T250J		12110-18400	-18750	-18760
GT250K		12110-18401	-18751	-18761
T305,TC305		12110-18000	-18700	-18710
T350		12110-18301	-18741	
T350II,R,J		12110-18500	-18770	
GT380K		12110-33001	-33701	-33711
TM400K		12110-16500	-16720	
TS400K		12110-32000	-16720	
T500	(R.H.)	12110-15000	-15700	-15710
	(L.H.)	12120-15000	-15700	-15710
T500III,R,J,K	(R.H.)	12110-15101	-15721	-15731
	(L.H.)	12120-15101	-15721	-15731
GT550K		12110-34000	-34700	-34710
GT750K	(R.H.)	12110-31000	-31710	-31720
	(L.H.)	12120-31000	-31710	-31720
RV125K		12110-27300	-28710	-28720

SUZUKI
2-Stroke
Service Bulletin

Subject: AUTOMATIC PETCOCK MISUSE

Bulletin No: GENERAL-10
Date: May 1, 1975

Read and Initial

Manager_____
Parts_____
Service_____

PROBLEM:

Motorcycle seems to be locked up after being parked overnight. When kickstarting or pushing is tried, the engine will not turn over. Extreme Case: If engine is forced in this condition, a bent connecting rod, expelled crank seals, or broken piston skirt results.

CAUSE:

The automatic petcock was left in the PRIME position when the motorcycle was parked. This allows fuel to flow into the carburetors when the engine is not running. If the float valve is not perfectly seated, the fuel will then flow into the engine crankcase. This liquid fuel fills the crank chamber. When the owner tries to start the motorcycle, the piston cannot compress this "solid" fluid. This is termed a hydrastatic lock condition.

CORRECTION:

1. Warn new owners to park the motorcycle in the MAIN (#1) or RESERVE (#2) positions.

2. If this condition is present, drain the excess gasoline using the crank chamber drain plugs.

3. Since this type of engine failure is caused by misuse, U. S. Suzuki will not honor any warranty claim for bent connecting rods on these models.

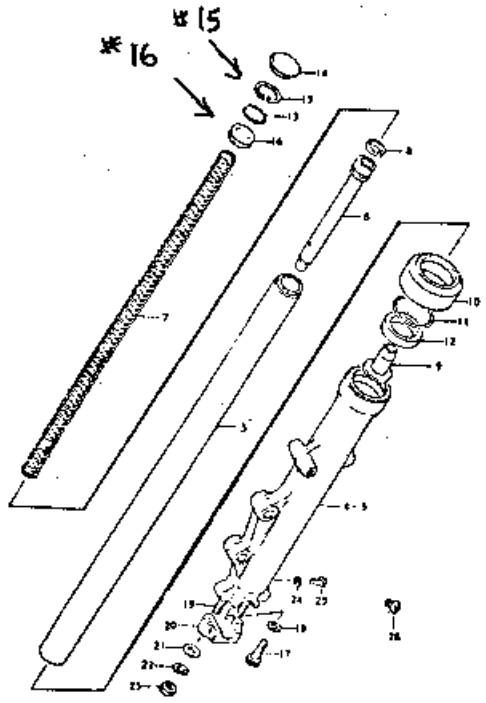
SERVICE BULLETIN

SUZUKI

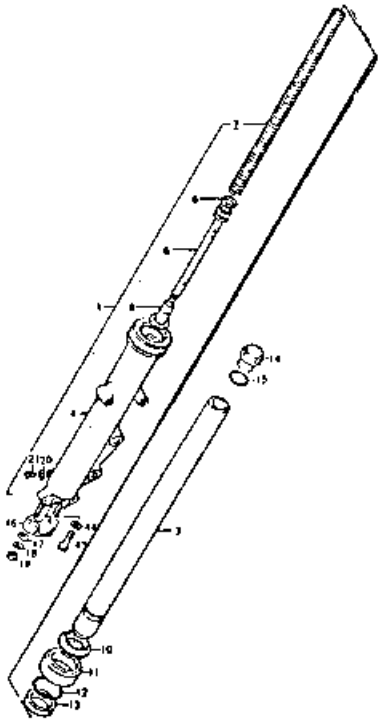
Bulletin No. 75-6
Date May 2, 1975
Page ... of ...

SUBJECT: FRONT FORKS
Affected Models: GT380M, GT550M and GT750M
Effective Engine No.:
Reference:

Read & Initial
Shop Supt.
Parts
Service



1975



EARLIER MODELS

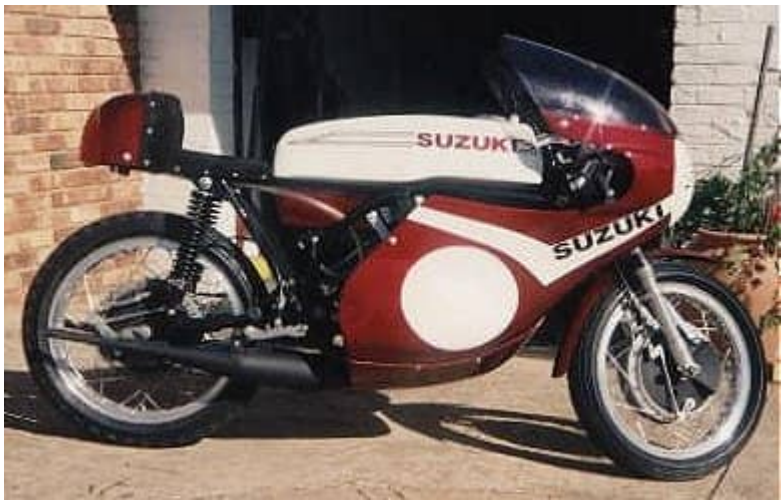
NOTICE:

The 1975 GT series triples have slightly different front forks from those used on earlier models.

The most noticeable difference is that there is no stanchion tube cap bolt, the spring being secured instead by a machined plug (#16) held in place by a circlip (#15). Care should be taken when changing the fork oil in these units that the circlip be reinstalled properly and that it be replaced should it become bent or twisted whilst being removed. The correct oil levels for the 74 and 75 front fork assemblies can be found in bulletins #74-6 and 74-13.

C. Knight
C. Knight
Service Manager

Philip de Gruchy's TR500



South African TR500

HISTORY OF SUZUKI TR500

ENGINE NO. TR10028

This **SUZUKI** racing motorcycle was one of (2) two bikes supplied to sponsored riders in South Africa in 1972 and arrived by ship at Durban harbour on the 19 th of December. The sponsored riders who were allocated the bikes were Jon Ekerold and Les van Breda, Jon Ekerold of course eventually would become 350cc World Champion a few years later on a Yamaha. This particular machine was the bike used by Les van Breda, who had won the South African Championship on an earlier XR05 model in 1971.

The bike's first outing was at a race meeting in Lourenço Marques , Mozambique (now Maputo), on the 27th of December 1972. The first race did not start well as the bike seized at the end of the main straight resulting in considerable damage to the machine and fractured ribs for its unfortunate rider, Les van Breda. The machine was then repaired and raced at the Killarney Circuit in Cape Town in early January in the first round of the South African Championships in 1973 .

Les had finished 2nd overall to Kork Ballington on an ex- Gillie Cruise TR500 in the previous 1972 season, Kork was another South African rider who was to leave for Europe early in 1973 and of course later to become a double World Champion in 1978 and 1979 on the Kawasaki Tandem Twin.

During the 1973 season the standard Fontana 4-leading shoe front brake was swapped for the Ceriani unit from the earlier machine which Les still had in his possession, and the standard Suzuki PEI ignition was replaced with a Spanish Femsatronic System to improve reliability.

In 1973 many well known international riders were invited to contest certain prestigious events in South Africa.

The first of the South African T.T. series was held at the Roy Hesketh Circuit outside Pietermaritzburg, Natal, where Les riding the TR500 finished second to John Cooper – BSA 750cc, Derek Chatterton was 3rd with Giacomo Agostini 4th having slowed on the M.V. Agusta with machine problems.

The second race in the series was held at the Kylami G.P. circuit in Johannesburg, where Les was the quickest local rider passing Tony Jeffries – Triumph 750cc, Barry Sheene – Seeley Suzuki TR500 and Agostini on the MV Agusta to take the lead which he held for most of the race. A few laps from the end, holes began appearing on the expansion chamber of Les's TR500 due to scraping on the road in an attempt to defend his lead from Agostini who came past 2 laps from the end of the race as the Suzuki lost power. Les was awarded the Dickie Dale Trophy for his efforts in this International series as best local rider, and went on to claim the South African Championship on his bike in 1973.

In 1974 Les was given the new more powerful water cooled TR500 and this air cooled machine was sold to another local rider Roy Hill in 1974 and then re-sold to Van Rooyen Motors a well known motorcycle dealer in Bulawayo, Rhodesia, where a local rider named John Warburton won the Rhodesian Championship in 1975 and 1976.

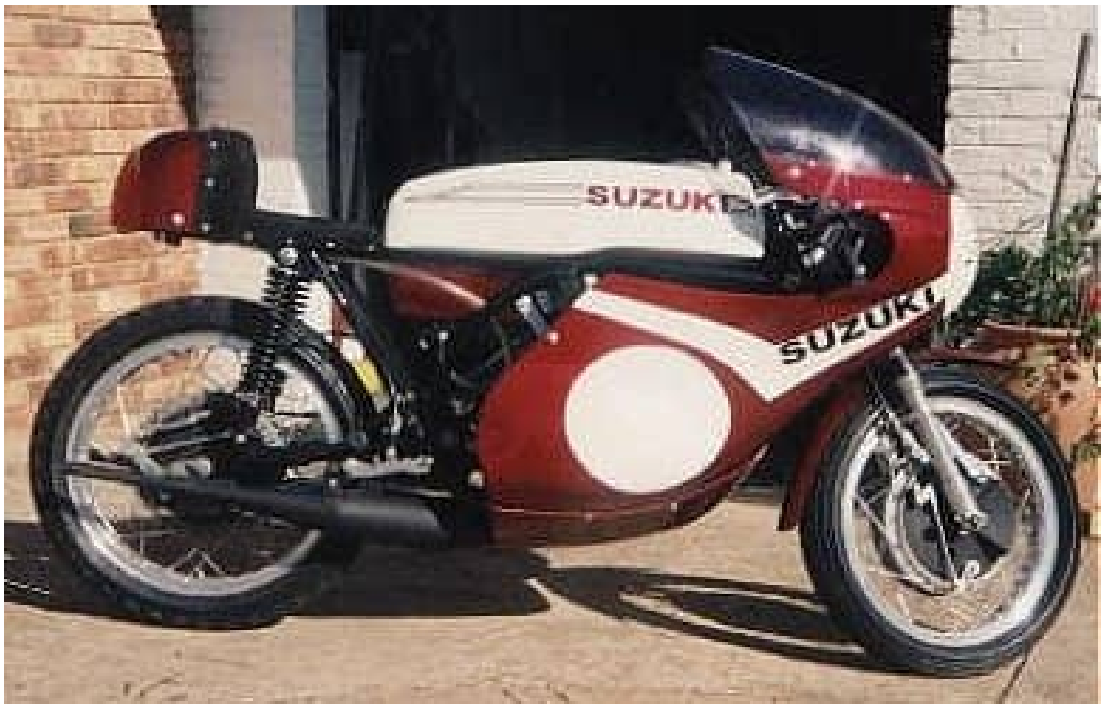
In 1978 the bike and its rider officially retired due to the escalating war in Rhodesia. All racing was suspended, the bike was then stored in a garage in Bulawayo until 1982 by which time white Rhodesians were leaving the country in large numbers as the economy and lifestyle deteriorated under the new government. John and his family loaded all the possessions they could carry onto a trailer and headed for Botswana, the Suzuki now in a very dilapidated state was stored with household goods on the trailer and towed thousands of kilometers across Africa to Botswana.

I first heard rumours of an old Suzuki racing machine lying under a cover in a dusty corner of a garage in Gaberone, Botswana, from a friend who was a traveling salesman. At first I thought it was just a modified T500 production machine similar to the one which I had ridden in Classic racing events from 1987 to 1990, but from the description I was given I felt sure this might the real thing. I negotiated for the bike and bought it without actually having seen it, and it was subsequently smuggled across the border back into South Africa and delivered to my Johannesburg home in June 1992, on returning from a trip to the Isle of Man TT races, I found the bike in my yard awaiting my arrival in a rather sad and neglected state , but at least it was complete and mostly original , the bike even came with the original spare barrels, heads , pistons, clutch plates and factory parts list .

Les van Breda who is still a Suzuki Dealer in South Africa was able to provide me with the detailed history of this bike , during our conversation he mentioned the fact that the top frame rail was actually broken in the high speed crash in Luanda at his first outing on a racetrack , and that the frame had been "fixed " in the pits by brazing on a piece of conduit tube obtained from a local contractor . I inspected the bike on my return home to find that the chrome moly frame was still being held together with that piece of conduit tube , in spite of the fact that the bike had changed hands on 3 occasions . that repair, and the fact that it had the Ceriani front brake confirmed that this was indeed his original bike .

The restoration project was completed by July 1995 and once again another rather special racing motorcycle has been saved for future generations of racing enthusiasts and represents the ultimate engineering technology available in 1972.

I must thank many specialists in South Africa for their help in restoring the bike in those instances where my skills were lacking, and to those people who assisted me in tracing and identifying the bike and it's colourful history.


SUZUKI
SUZUKI

SUZUKI
SUZUKI

(What a pleasure viewing your website, lovely pics, can't get enough , I though I was alone in the universe with my passion for T500s. I can't remember if I spoke to you at the NZ race meeting in Pukekoe Auckland in 1998 , but I did have long chat with some Aussie bloke who was racing a much modified road going T500 who was very knowledgeable on the subject of making them go faster.

I have two bikes at the moment and am trying to acquire another , a watercooled TR500 machine from friend here in South Africa. I currently have restored a 1971 TR500 Daytona which has a long and interesting history , briefly, this bike was assigned to Cal Rayborn for the 1971 Daytona I was told , but unfortunately he was killed at Pukekoe raceway in December 1970 , and this bike and one other was shipped to Durban in January 1971 for Jon Ekerold , 350cc world champion in later years. I have documented the entire history of this bike and will e-mail it to you if you are interested.

My other bike is a modified and " very tasty " T500 Gus Kuhn Cafe Racer in production race trim , I am nearly finished converting the bike for road use and am trying to finish it off before the Classic Motorcycle club's annual 1000 Bike show on the 2nd of July 2000 . I would be happy to share my knowledge of building and preparing this bike over the years and of course I still have some problems, with which I could do with some advice from your circle of friends)

Regards – Philip de Gruchy
Johannesburg South Africa

Some more info on this machine……

I was really interested to read the story of this bike. I can also add a few paragraphs to the story. During 197l I went to the then Rhodesia
(now Zimbabwe) with Les van Breda to a race meeting in Salisbury. Les had started campaigning his new water-

cooled TR500, and I was to race the air-cooled model now owned by Philip. In practice the water-cooled bike ran its crank bearings, and Les, myself and Mickey Chalom, a Suzuki dealer from South Africa who went with us on this weekend race trip, fitted a new one at the deserted circuit by the light of our car's headlights. I had never even sat on a racing two stroke, never mind having raced one, but I loved the aircooled TR, and rode it as much as I could during open practice. The Donnybrooke Circuit in Salisbury was brand new and was very abrasive, and I used up the only set of slick tyros we had before the official qualifying practice, so we fitted a set of Dunlop TT100 tyres from van Breda's production racing Suzuki GT750. To tell the truth I couldn't really feel the difference between them and the racing slicks, and qualified third behind Les On the water-cooled six speed TR 500 and the Rhodesian Champion at the time, Geoff Downing, on a factory Kawasaki H1R 500. In the race itself I made a complete mess of the start, which was a push start, and by the time the bike fired I was almost a full lap behind. Anyway I had a wonderful time making my way through the field, and finished about fourth or fifth. Les won, and Downing was second. All the local riders were really interested in our two Suzuki's, and regarded them as factory exotica! About a year later I received a phone call from one of the Rhodesian riders, Roy Hill, who wanted to know if I would find out from van Breda if the aircooled TR was for sale. Les was just to glad to be able to sell it, and a deal was agreed. The big problem was how to get the bike into Rhodesia, which was subject to trade sanctions from the West etc, and also had a very strict import policy. As the country was technically at war, luxury imports were completely banned. I was competing in the South African national motocross championship at the time, so I took it, packed in the back of a caravan, as spare parts for a Honda CR250 Elsinore MX bike. In order to fit the two bikes into the caravan and to convince the customs that I had only one bike in the back I stripped the Elsinore completely and packed it into the caravan cupboards. I them took the Suzuki decals off the TR and replaced them with the Elsinore-Honda winged decal! This plan worked completely, and the buyer Roy Hill, got his TR500. A footnote to this story is that this TR500 has now gone a full circle and has arrived back in SA, I now own the water-cooled TR500, and Roy Hill now lives in South Africa two blocks away from me in a town called Benoni.

Clive Strugnell South Africa

Murray Barnard

June 2000

Dave Maskell's Seeley TR500

Pictures and technical info on a water-cooled Seeley TR500 from the UK

by David Maskell

I bought new Seeley Suzuki at the start of the 72 season from Eddie Crooks, complete rolling chassis £350, new std T500 engine £250 with racing parts in exchange for std road parts returned – that's some of the help Eddie gave us in those far off days(I am still playing at it 28 yrs on) you are supposed to grow old gracefully.)

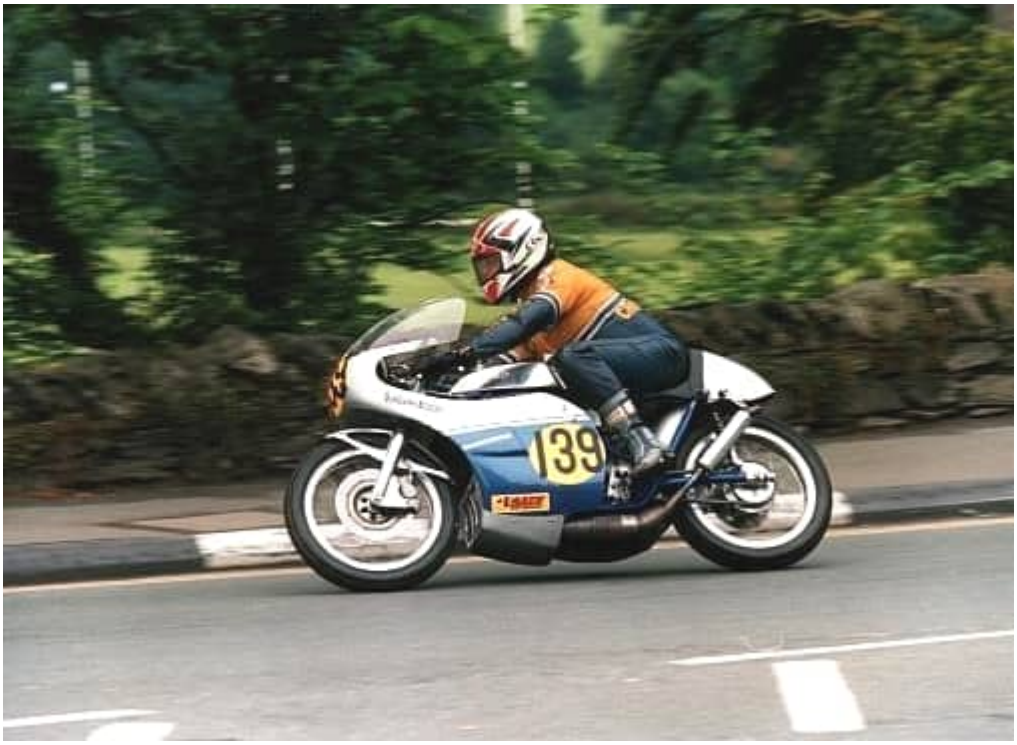
About 1989 I was lucky to come across brand new genuine factory parts for a XR05 w/c 500 twin. advertised in MCM (motor cycle news). These parts camefrom the famous BARRY SHEENE stable hidden under RG500 /TR750 spares he was selling. The guy that bought them had no reason to keep them so I managed to clinch a deal, lucky me.

10YEARS later, now retired, I completed the project. We ran it at OULTON PARK 29 Oct last year. My test rider was the 1981 250cc TT winner Steve Tonkin -3 times British 250cc champ- riding an Armstrong-Rotax (Australian Jeff Sayle was his teamate).

(

INTRO- Steve started out racing my Seeley in 1973, the following year, he moved up to full sponsorship on 250/350 TZ's. (I was his race mechanic until 1984 TT) racing a RG500 the g/box sprocket sheared off thro' the drilled radial holes (made by Suzuki) chain locked the rear wheel throwing him and bike into the wall at Handley's cottage, RG burnt out, Steve lived to tell the tale, lucky lad. He retired after this bad crash from professional racing. He now owns/ runs a very succesful bike restoration workshop and enjoys our gallops out on the Suzuki track days and parades. He has a wealth of racing knowledge ie setting up, giving the best feed back I could wish for.

The track day started 8am. very cold (air temp. 50F – air density 112%) must start off rich, weather fine all day, after briefing the bikes are let loose on the track in 20 min sessions mostly the latest superbikes R1's, Fireblades, 901's, fast stuff. My Suzuki was the oldest bike there. This was the first time out on the w/c, I have fitted an EGT meter sent over from a contact in the States so it was new to our setup. FANTASTIC after jetting down from 420 – 360's m/jets 38mm mikunis, taping up the radiator to get some heat in the engine, temp increased from 55deg-75deg's water temp) EGT,s readings increased from 800 – 1200F as carburation was leaned out to get the rev's, boy does this engine rev easily, power from 5,000-10,000 and if you dont keep your eye on the tach – 11,000rpm. No vibration or buzzing like the turned down T500 road cranks, FANTASTIC! I have raced bikes since 1956,(250cc MOV Velocette) at last the machine I have dreamt of owning, yes a WORKS FACTORY ENGINE. Granted 27 yrs too late; but, hey who cares.



Martin Crooks suzuki 40th anniversary lap,exiting the QUARTER BRIDGE

TR500 SEELEY conversion to w/cooling using genuine factory parts XR05 parts I obtained 1989
3-barrels – 1 nicosil plated, 6 pistons, 2 cyl/heads, waterpump, last but not least 1 crankshaft .

STD.T500 crankcases need welding to fill up transfer cutaways, cylinder stud holes etc, this together with all the machining operations, re-drilling stud holes for cylinder, facing off case to accept new barrel correcting slight distortion thro' welding, care here makes for very good motor.

Next the crank is definitely a special item crankpins integral with inner wheels,balance holes size/location non std. I fitted my own tried & tested 4 bearings, centre lab.seal as fitted to my air-cooled TR. No sucking oil out of the g/box. Total wgt. crankshaft complete 18.5lbs. std 500 – 27lbs. a big difference, short 130mm rods, ie 750 kettle are fitted. Waterpump is driven of oilpump drive, no problem here making up spacer for case clearence.

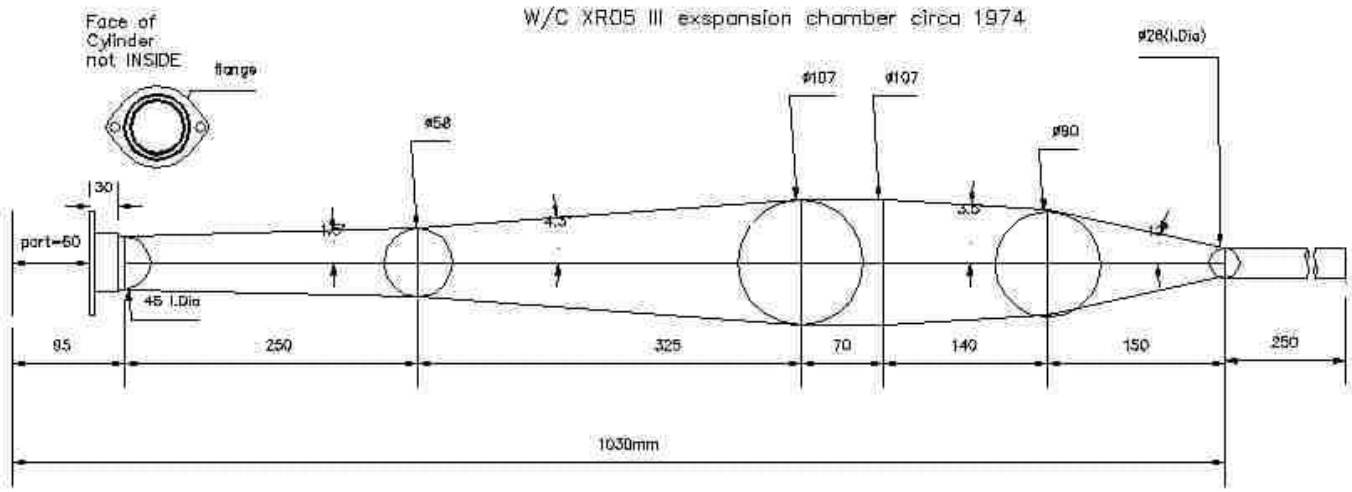
A dry clutch conversion made by NOVA in 1990, is fitted from the old aircooled together with a 5-speed box st.cut primary's complete's the bottom end, no clutch drag here. Chassis mods required specialist frame builder Roger Titmarsh (Seeley replica's) to alter front down tubes and engine mounts to fit straight out forward exhausts. Suspension upgraded by Maxton Eng.(Ron Williams) fitted HRC racing inserts to my Seeley forks reworking rear konis to suit. Brakes are cast iron discs, front master cylinder to suit both Steve and I, small bore to give 2 finger operation, combined with all up weight. Stopping indeed outbraking all but those on a suicide mission no problemo!

Power to weight ratio takes some beating. Putting all this together has given me tremendous satisfaction not forgetting all the advice, help and hands on exspertise you pick up over the last 45 years.

Steve Tonkin on the Seeley. The big Ducati clocked Steve at 160mph on the TR

Now for the technical stuff, all tuning data from Suzuki etc,stuffer rings squish band heads, turned down cranks (more
vibrations) forget it! Granted the barrel has plenty of ports including ported pistons,
Exhaust .op.80deg atdc(200deg duration)
Transfer .op.115deg atdc(130 deg.duration)
Inlet .ops.85deg atdc(190 deg.duration ign.timing 2.5mm)
38mm mikuni p/jets
ign. Hitachi ex tz 350
Combustion chambers none squish same as T500 road bike but has central plugs,
pistons no deck height atdc.
head gasket 1.6mm
ccv.atdc=23.5cc cranking pressure 125lbs.ins
fuel pump
petrol not unleaded 4* or lead replacement.
20-1 oil mix R-30
Expansion chambers are really trick items needless to say I must keep the details under my hat suffice to say tuned length is greatly reduced 200mm , mid section dia increased to 116mm as mentioned power starts 5000 I try to gear it for 10,000 rpm tops but have run out of sprockets the highest we have gives 10500 and still rising.it is just too good to be true.

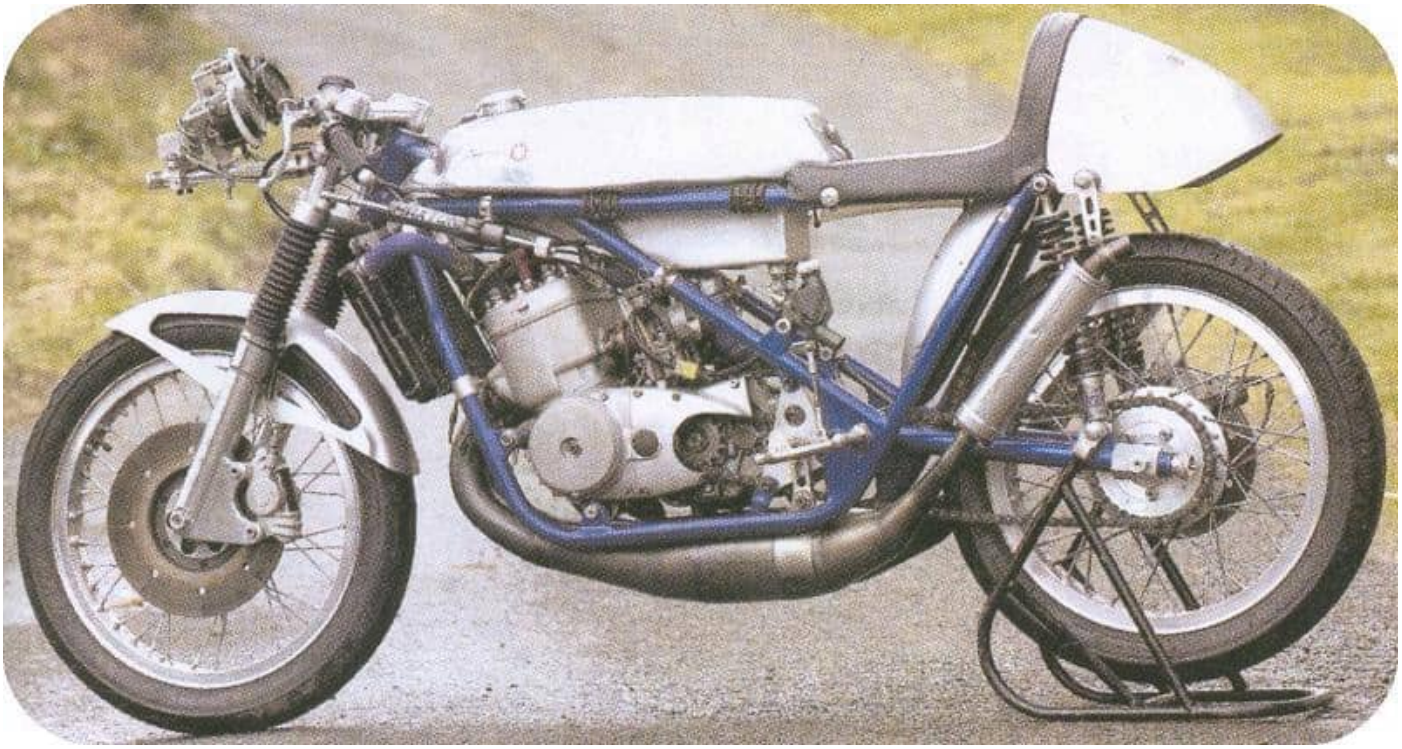
Any advice will be willingly given to genuine queries good tuning everyone!
hope this info gives food for thought.



Also enclosed are measurements for 1984 Suzuki wc pipes I have just found in my files, these are Suzuki data. I made a set for guy who fitted them to his aircooled t500 racer he did a back to back test on a rolling road, just hung them on to try without changing any settings gave a 10bhp increase at the top.

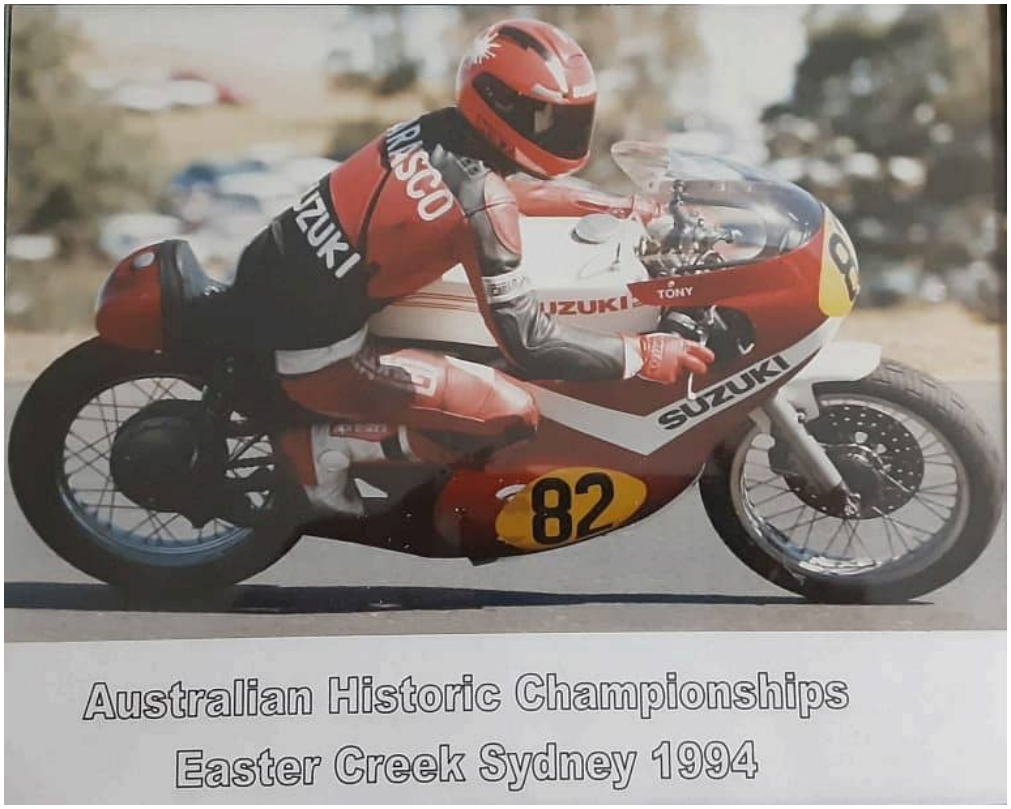
Good tuning all,
cheers Dave Maskell.

Dave@sundawn.fsnet.co.uk



Tony Marasco – racing Suzuki

Tony raced with the Historic Motorcycle Racing Association, Victoria, Australia in the 1990s.



TONY
SUZUKI
82

82
82

Southern Classic - Winton 1991

HMRAV Interclub - Broadford 1992

NO
SMOKING
SUZUKI
SUZUKI
SUZUKI

SUZUKI

SUZUKI
SUZUKI
82

Ex Pat Hennan TR500-III

Following 2 photos show Pat Hennan on the TR500III at Laverton, Victoria, Australia in 1976. Photos by John Dayhew

SUZUKI
07

SUZUKI
07

Jim Lee framed TR500

IF IT'S DESIGNED IN METAL — WE CAN MAKE IT

JIM LEE

RACING COMPONENTS

Why should you be expected to suffer such poor handling and that disconcerting flexing of the front or rear end just because some manufacturer believes that his is the best available?

We can offer you frames and general racing components so light and rigid that you may begin to doubt their strength—rest assured—even top riders like Peter Williams cannot break them. Completely new frames to your design or simply give me the engine and we will wrap a superb frame around it. Or choose one of our ready proved designs for production racers, available for Yamaha, Suzuki, Honda, Greeves, Starmakers, etc., etc.

BELOW: Our proved Yamah frame, tested by Terry Grotefield and John Ashworth. Takes all TD 1 series units, supplied with clip-ons, foot-rests, swinging arm, etc. — £65

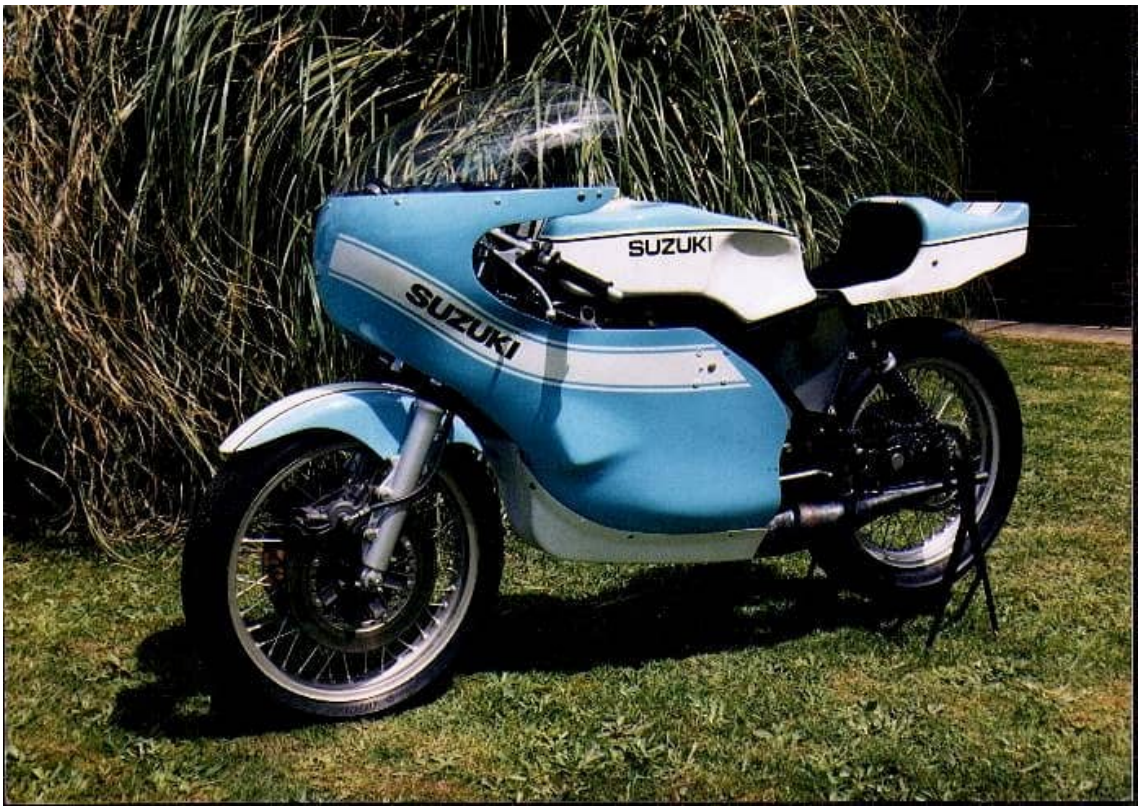
Send for further details now — don't forget the season starts again in two months

RING OR CALL IN

2 SMITHIES MOOR LANE, BIRSTALL, near LEEDS, Yorkshire

Telephone BATLEY 2386

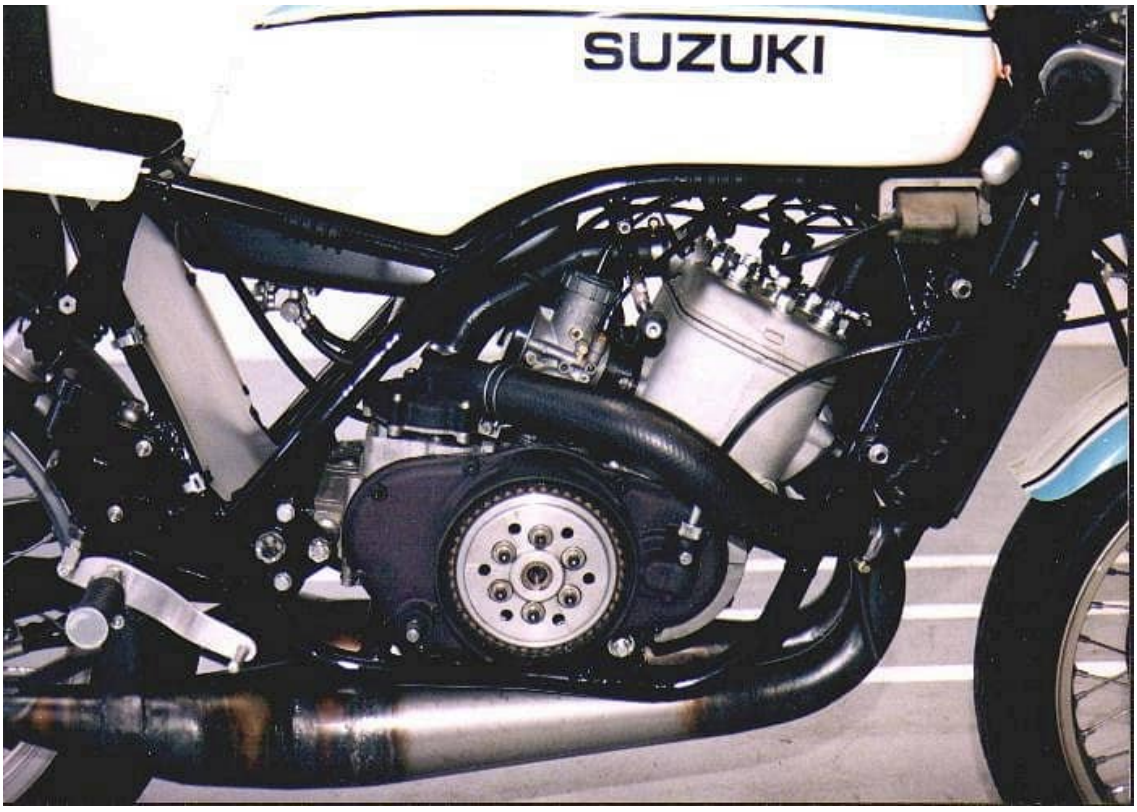
TR500 MkIII

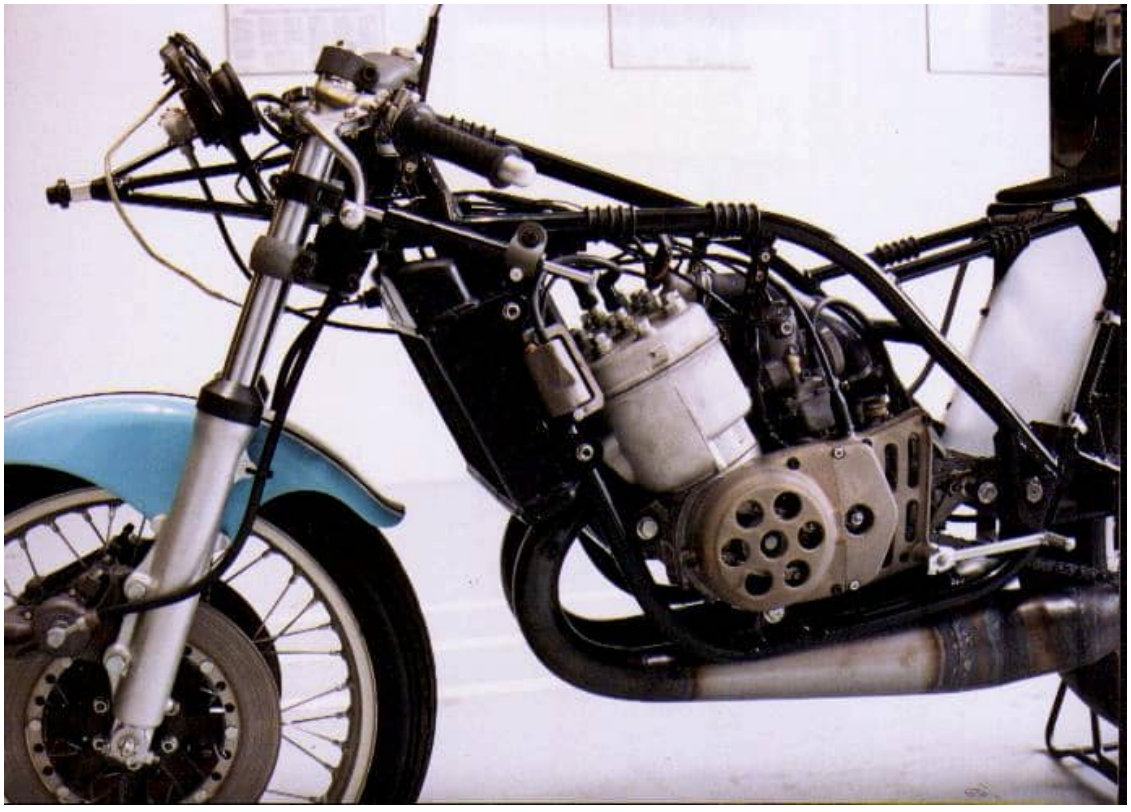


TR500 Watercooled MkIII – 1975

Bore and Stroke: 70 x 64
Carbs: 2 x 38mm Mikuni VM38SS
Compression: 7.4:1

Max HP: 80 @ 8900rpm
Max speed: 160 mph
Dry weight: 140kg





Dieterman watercooled TR500 MkIII

This pic is by Skimmer from Thumpertalk – 1971 Suzuki TR500 in a Dieterman frame at Snetterton

Bimota TR500 Suzuki MkIII

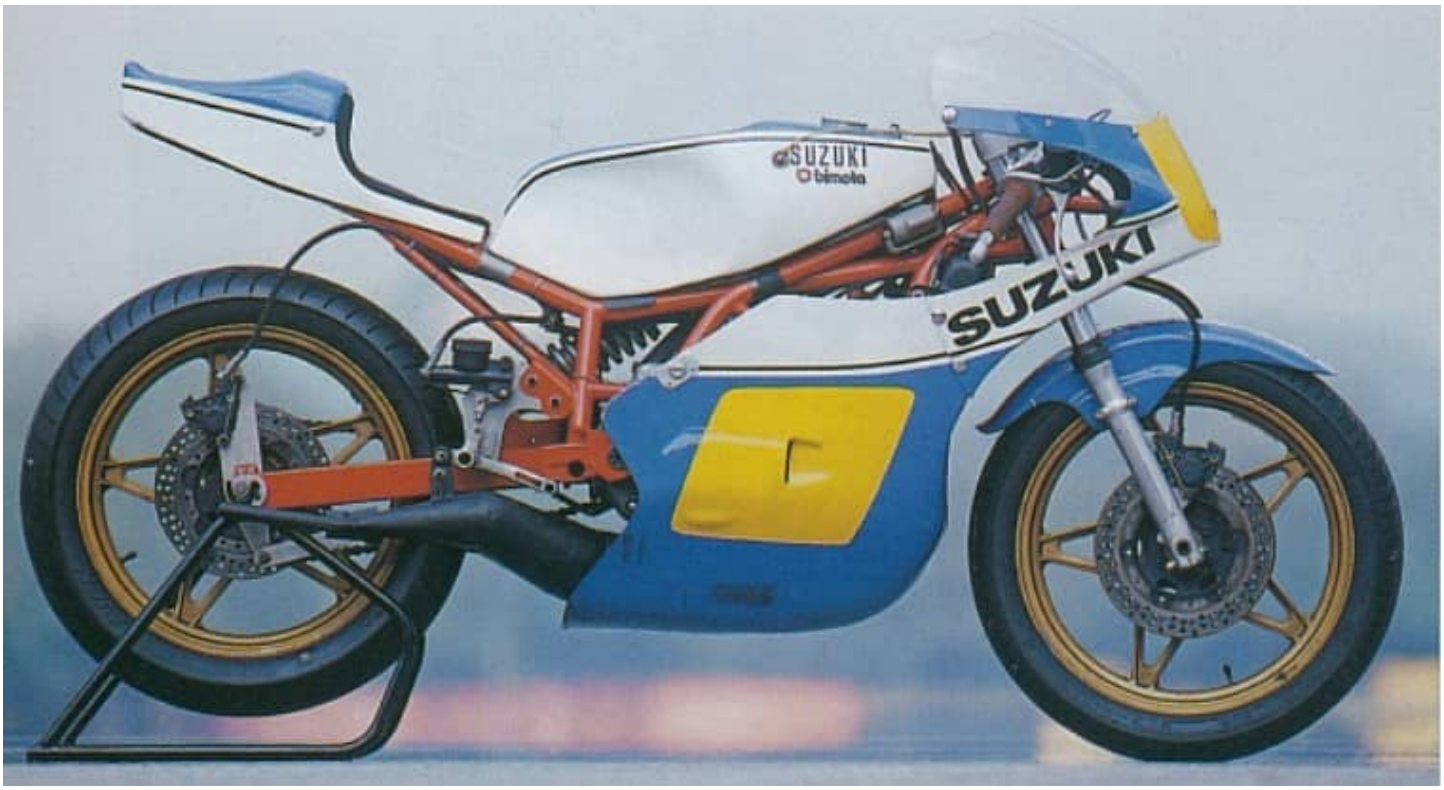
Suzuki Snapshots

Bimota TR500

Probably the most beautiful TR500 built, using the 85BHP Mk3 motor the Bimota was built for an Italian Bimota only race series.

The late Don Leeson on a Bimota 500

More Bimota Suzuki TR500 MkIII photos



Suzuki Bimota TR500 MkIII Photos – click here

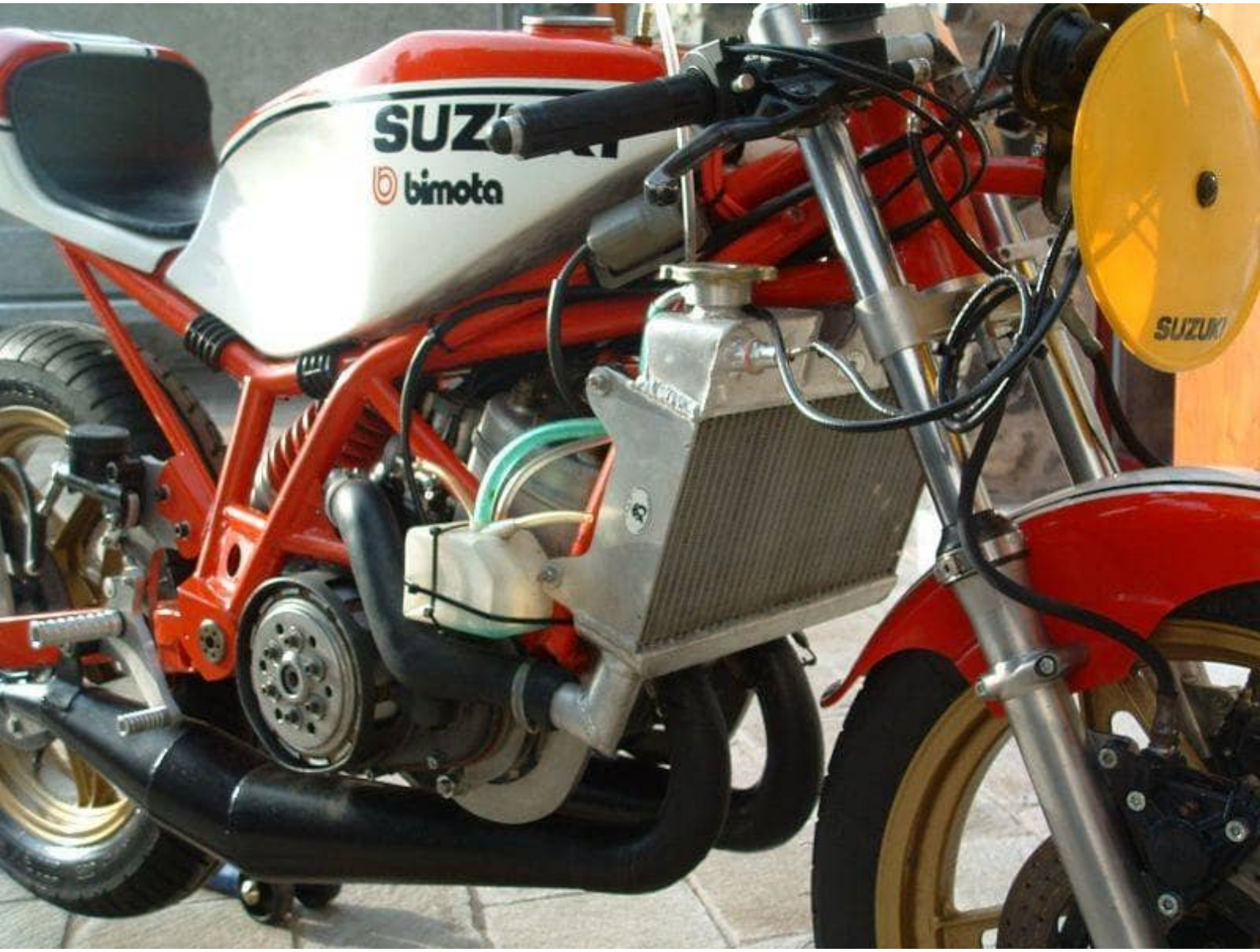
SUZUKI

SUZUKI

SUZUKI
bimota

SUZUKI
bimota

SUZUKI
bimota


bimota
SUZUKI

SUZUKI

SUZUKI
Marlboro

SUZUKI
bimota

SUZUKI
bimota

UKI
bimota

SUZUKI

SUZUKI

SUZUKI
bimota
SUZUKI
bimota

SUZUKI
bimota
SUZUKI
bimota

UZUKI
bimota
MOTO CLUB MISANO

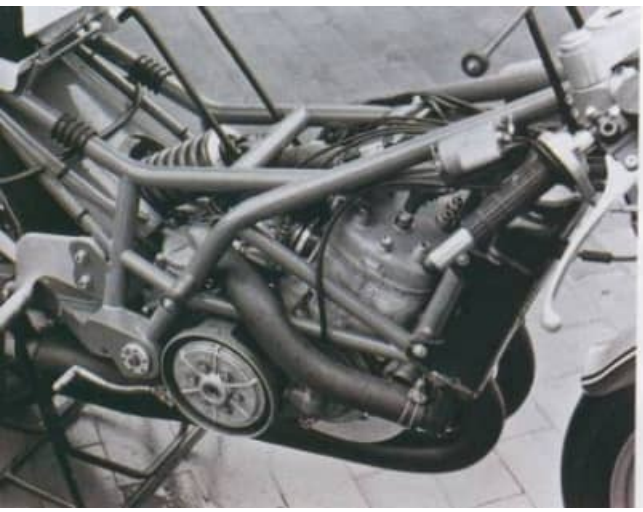
SUZUKI

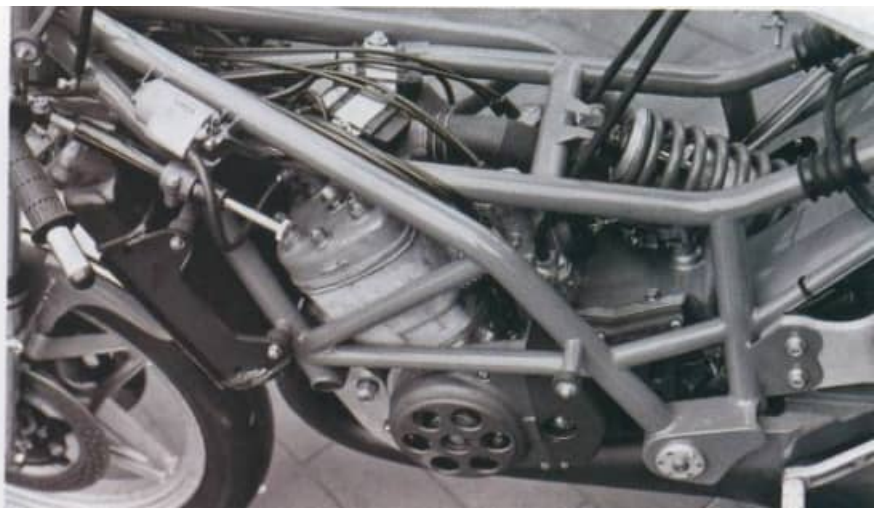
DUCATI
SUZUKI
SUZUKI

SUZUKI
bimota
SUZUKI

SUZUKI
bimota

SUZUKI
bimota
SUZUKI





SUZUKI BIMOTA TR 500 - SB

World
SUZUKI
SUZUKI

• Svestizione completa della SB1. Come si può notare il disegno del telaio tubolare a culla aperta è estremamente razionale. Notare nella parte inferiore le due piastre in alluminio che vincolano inferiormente il motore. Il telaio pesa 8,3 kg, a cui si devono aggiungere 3,9 kg del forcellone. I cerchi in magnesio erano prodotti dalla Speedline, ma erano stati disegnati dalla matita di Tamburini.

Dati tecnici

Motore: bicilindrico due tempi raffreddato a liquido. Testa e cilindri in lega leggera con canne cromate. Alesaggio per corsa 70x64 mm. Cilindrata totale 492 cc. Rapporto di compressione 6,4:1. Potenza max 83 CV a 9.000 giri. Coppia max 6,6 kgm a 8.500 giri.
Accensione: elettronica.
Carburatore: due carburatori Mikuni VM 38 SC da 38 mm.
Trasmissione: primaria ad ingranaggi, finale a catena.
Frizione: multidisco a secco.
Cambio: a 6 rapporti.
Telaio: tubolare in tubi d'acciaio al cromomolibdeno.
Sospensioni: anteriore forcella teleidraulica Ceriani da 35 mm; posteriore forcellone oscillante con monoammortizzatore tipo Monocross regolabile.
Freni: anteriore due dischi da 280 mm con pinze Brembo a doppio pistoncino; posteriore a disco da 230 mm con pinza Brembo a doppio pistoncino.
Ruote: a razze in magnesio da 18". Pneumatici: anteriore 3.50-18"; posteriore 4.25-18".
Dimensioni (in mm) e peso: interasse 1.360, lunghezza max 2.010, larghezza massima al manubrio 620, altezza max 1.070, altezza sella 780, altezza pedane 390, luce a terra 150, altezza manubrio 720. Peso a vuoto 128 kg.

• Due particolari della SB1: sopra il monoammortizzatore posteriore Koni regolabile. Sotto, nella piastra inferiore dello sterzo è ricavato lo sdoppiatore dell'impianto frenante.

SUZUKI
857

DONATINI
SUZUKI
SUZUKI
117
DUNLOP

117
SUZUKI
117

SUZUKI
SUZUKI
117
DUNLOP

117
SUZUKI
SUZUKI
117

SUZUKI
117

SUZUKI
SUZUKI
117
DUNLOP

SUZUKI
SUZUKI
117
DUNLOP

SUZUKI

SUZUKI

SUZUKI

SUZUKI

Ralph Hudson's TR500

Suzuki Snapshots

Ralph Hudson's TR500

2003

Geoff Perry helped me put this bike together back in '72 to campaign in the states on the AMA circuit. The advent of the TZ700 made the 500 uncompetitive on a national level, so it was retired at the end of '73. I just took it out of the garage to run at an AHRMA race this last weekend, I had a crankshaft problem and also need some pistons/rings. The top guy in the vintage races here rides an H-1R, but after following him around on a TD-3, I'm pretty sure the TR can beat him, there aren't any others running. Photo from the vintage race at Thunder Hill. Thanks, Ralph

Christian Desbordes' – TR500 Suzuki

Christian Desbordes' - TR500 Suzuki
Christian lives in France and has a very nice racing 500 indeed, and to cap it off he has succeeded in achieving the French 500 Classic Championship on this machine

SUZUKI
AP RACING

SUZUKI

IPONE
SUZUKI
RK
RacingCHAIN
SELLERIE
S.G.M

IPONE
SUZUKI
RK
S.G.M
Prima

SHOEI
76
Moto-Piecen-Center
SUZUKI
16
FRANCE

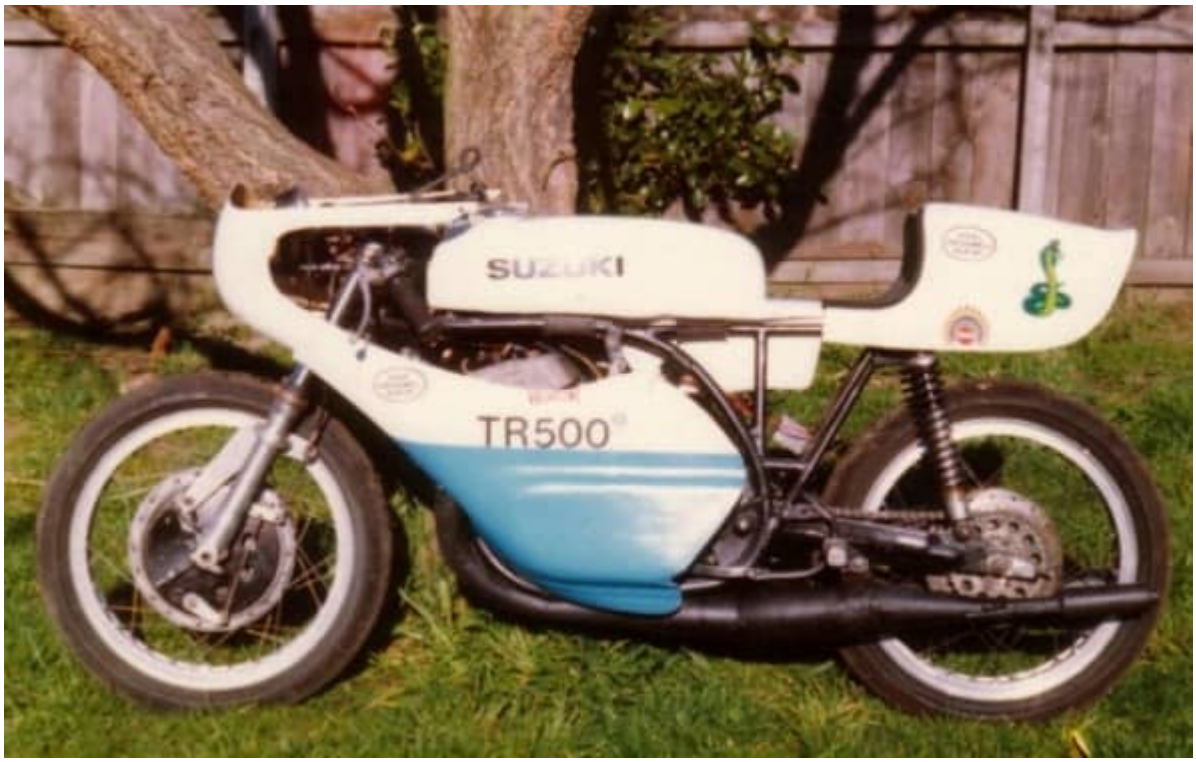
SUZUKI
S.G.M

6
SUZUKI
Moto-Pièces-Center
76

6
IPONE
SUZUKI
Moto-Pièces-Center
76
SPYKE

Robin McKenzie's Suzuki TR500

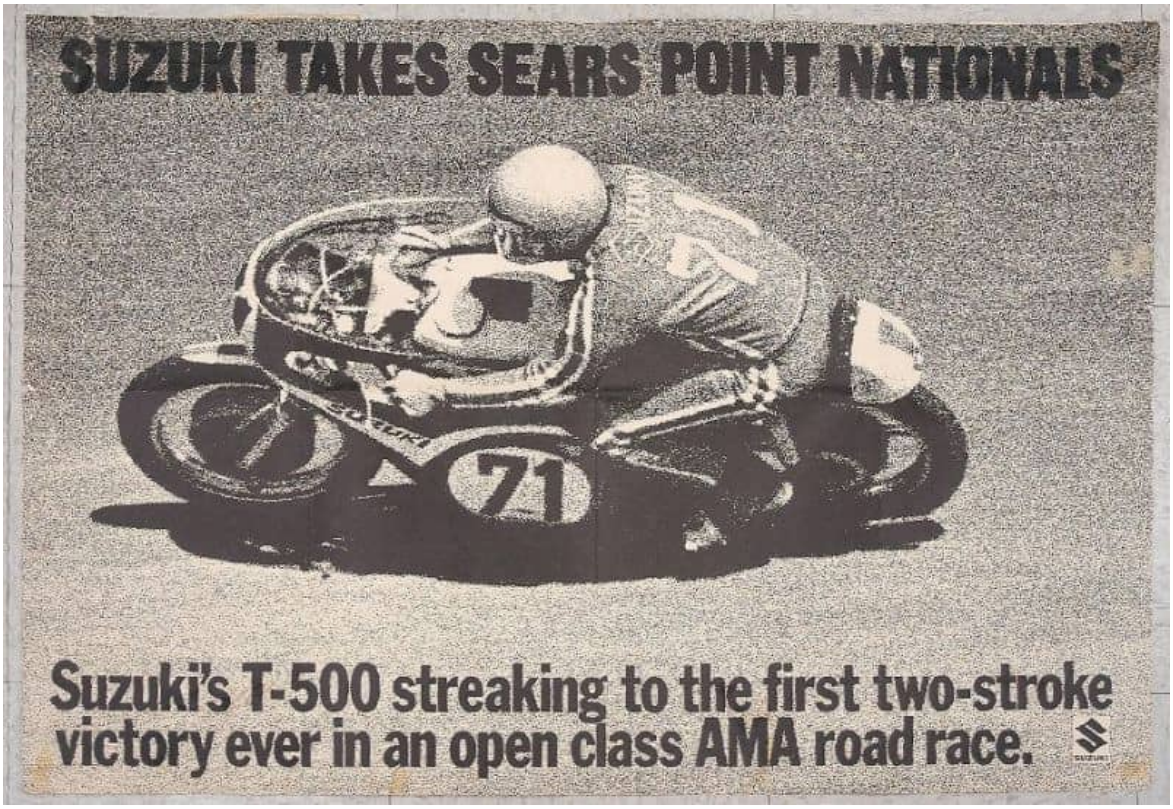
APRIL 21, 2023
CATEGORIES: TR500



Robin McKenzie's Suzuki TR500

Back in 1980, while living in Christchurch NZ I found a TR500 in a guys shed, back in the good ol days when old race bikes were worth nothing. Anyway I bought this old TR500, for the princely sum of $500 I think it was, got it going and raced it for a year. The bike was one of the 3 that Colemans did, using a Works sandcast motor, Ceriani suspension and Fontana brakes and a NZ made frame, by Steve Roberts I think. I was told that my one was the one that Geoff Perry rode and was the one that set a NZ speed record in 1970 of 155mph, but the name of the rider eludes me now, possibly Dennis Ireland??
Anyway I have attached a photo of the beast as I raced it, basicly stock apart from the TZ seat, and under the tail section was a battery, as I fitted T500 points ignition running total loss, as the CDI units were not working when I bought the bike. I do not know where the bike is now.

Ralph Hudson's TR500

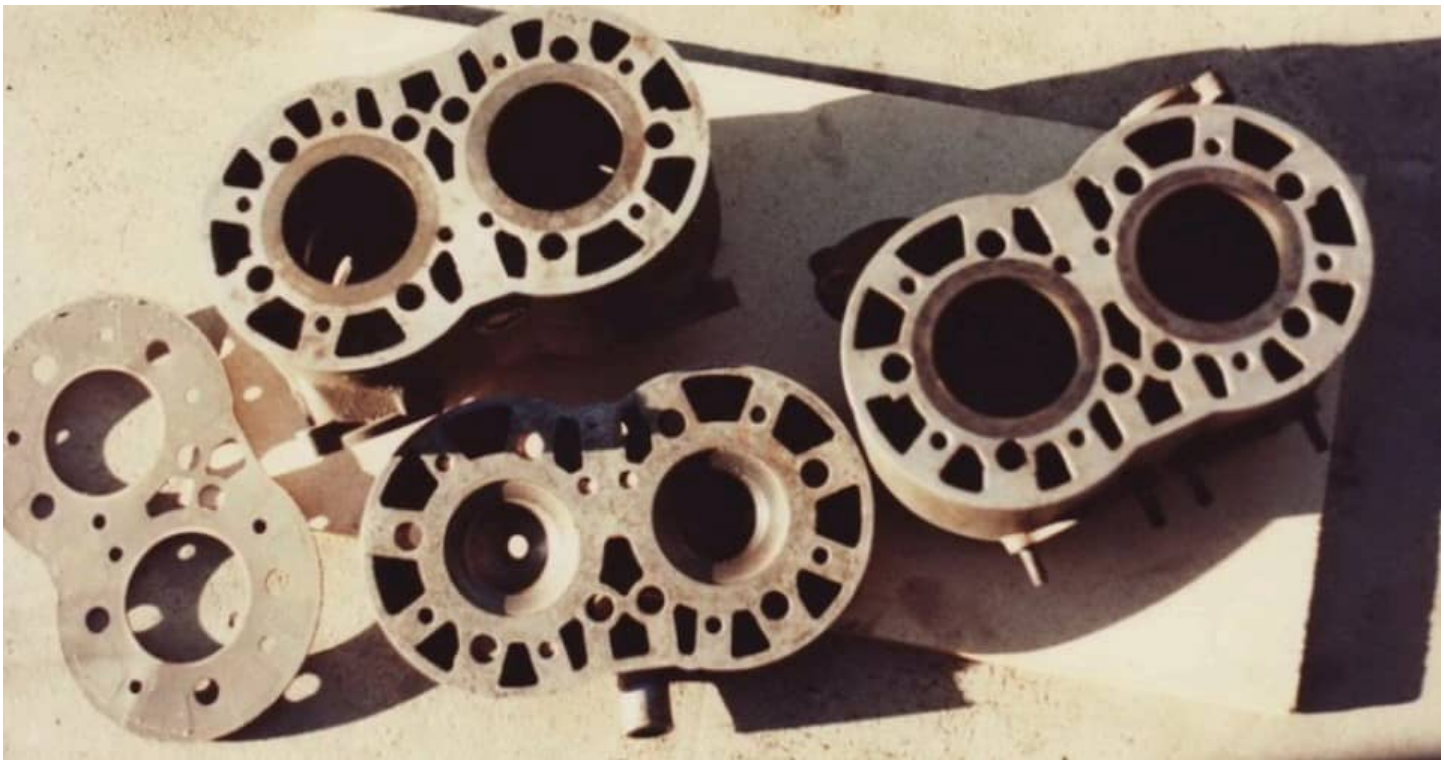


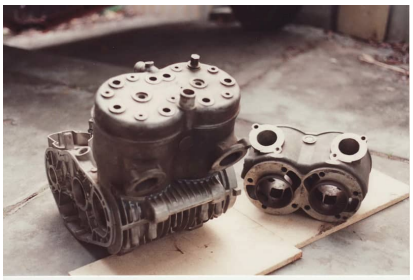
Hello, I have a TR500 with a Steve Roberts frame that I got from Geoff Perry in 1972. I was able to get some parts out the back door at Suzuki when they got the TR750's and sent the 500 parts to the crusher. I've been racing in AHRMA with it for about 4 yrs, after a 30-some year hiatus from bikes. I have one of the factory close ratio gearsets in it. Took it to Daytona this year and won the Formula 500 race. That was particularly satisfying

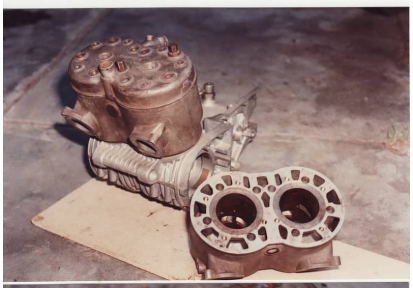
because the number 1 plate is held by a guy with an H1R. The Suzuki had top speed on him, it was great. However, I pulled it apart for another problem and found that I'd lost a tooth on the 2nd gear on the driven shaft. All the gears are looking a little ragged. Ralph Hudson

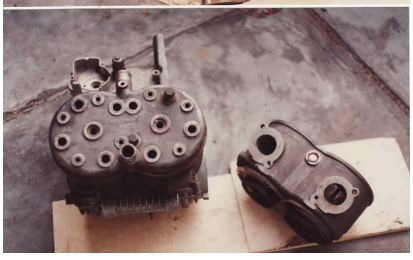
117
35

Pics of the water cooled XR05 TR500 MkII Suzuki barrels.







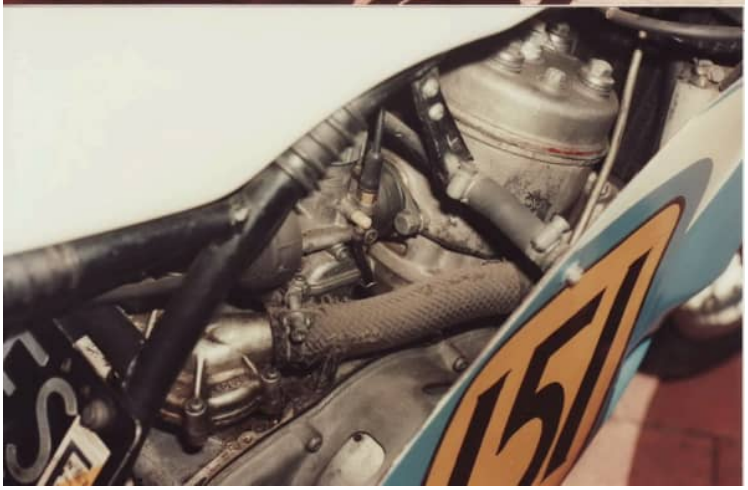


Ken Rick's Suzuki TR500 MkII

Ken claimed this machine was raced to victory in the 1973/74 Marlboro Series in New Zealand by Dale Wylie, but that claim is disputed. Ken's seat is not standard.The standard seat can be seen below in the shot of Jack Findlay's TR500II pictured in 1973. (Picture borrowed from Ray Battersby's book Team Suzuki)

SUZUKI
151

SUZUKI
151


151

TR500 MkIII Barrels

TR500III Suzuki

DiamondJ has shared some pics of a TR500 MkIII watercooled barrel with us….nikalsil liners rather than steel sleeves on these guys, plus the transfer ports have been re-arranged.

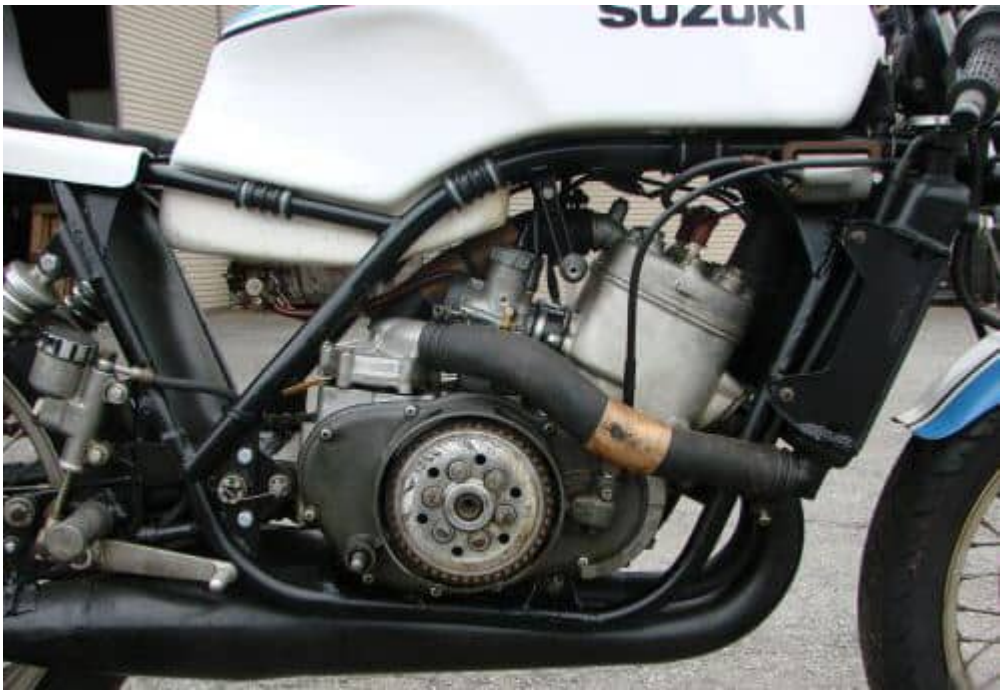
Pics of a Suzuki TR500III

SUZUKI
SUZUKI
CHAMPION
6

SUZUKI
SUZUKI
GOODYEAR

SUZUKI
SUZUKI
6

SUZUKI


SUZUKI

South African Legends

In Feb this year the owners of the Zwartkop Raceway, in Pretoria, South Africa, hosted a classic racie bike day, where the feature event was "SA Legends" As many South African Champions as possible were contacted to take part, and the result was an amazing collection of over 35 past South African motorcycle champions, many of them with their old bikes. Two of these were factory Suzuki two stokes, imported by Suzuki South Africa for local rider Les van Breda to use in the South African national championship. The circuit also brought Mick Grant out from the UK with his 1984 Isle of Man TT winning Suzuki RGB 500 (This is an XR45 factory bike).

The first is a Suzuki XR05 watercooled twin. This must be one of the rarest Suzuki GP bikes around. It was the first of the waterooled 500 cc models. This bike is still as it last raced in 1975 (when it was completely outclassed by the Suzuki TR 750, and the RG500 raced at the time by Keith Zeeman. It has never been restored.

Also out for the day was the Suzuki TR750 raced by Les van Breda. This bike was put on display after a short foray in Europe by van Breda, and has been hanging on a wall for the best part of 25 years. It took two weeks of cleaning and checking and it was ready to ride.

No 77 Les van Breda on his Suzuki TR 750, no 31, Clive Strugnell on his Suzuki XR05 , both a Zwartkops raceway, 2nd Feb 2008

31
31
DAINESE

Steve Wheatman's TR500

Suzuki TR500

Steve Wheatman has picked up a factory TR500 Daytona which was imported into Australia for racing. This bike's engine number is T500-24895 – The original owner was Kijima engineering from Japan & the bike was bought to Australia in 1973 by Grant McRichie & other Australian owners have been Martin Hone, Steve Trinder, Jeff Curley & Ray Weston

SUZUKI

SUZUKI

TR500 found in a New Zealand shed.

Found in a New Zealand shed.

Hi Suzuki fans, here's a pic of a couple of TR replicas I recently picked up with the plan of racing them in NZ's classic scene. Built by a craftsman named John Anderson they are reasonable replicas of the mighty TR 500 and TR 250, the porting is supposed to be TR spec. I got them in Tuakau, they were built by John Anderson, its not a Steve Roberts frame, although it will be just as good. It was copied from an original air cooled TR frame, and also incorporates elements of an original water cooled TR frame that was also available for the maker to copy. At the moment they are covered in dust, and need a bit of TLC. When I saw them they spoke to me…buy us….and after a couple of beers and a handshake deal with the owner having settled on a reasonable price, they were mine. The plan is to have them singing in time for the "Burt Munro Memorial Street Race" on the 26th of November in Wyndham, Southland (if you are in New Zealand at this time this weekend will be an epic showcase of motorcycle racing with beach, circuit, street and speedway events all held in the Invercargill region. Hopefully the TR500 replica will give me the power I need to beat the Honda CB750's that dominate our pre 72 class racing.

I'd like to thank Muzza for his great website, its been very interesting and inspiring, and the pics of the early Australian racing days are excellent. I'd like to know more about his T500 racer with the 2 in to 1 expansion

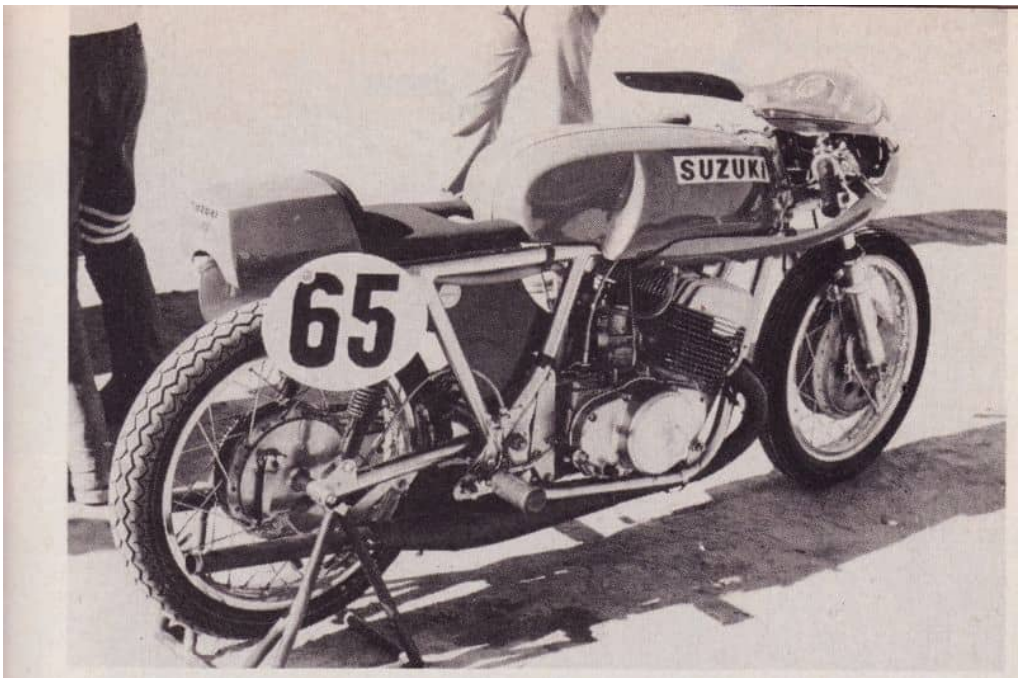
chamber…how it went, power characteristics, etc. The only other 2 stroke I have seen with 2 cylinders breathing in to 1 chamber is the Koenig, if it works why isn't it more common…it must be a lot easier to only have to make one expansion chamber for the T500 instead of 2 eh?

More later,

Brooksy

Ed. 2 into 1s are great fun but they don't make enough top end to be competitive on most tracks…they work mighty good on the road though where top end is not so essential.

regards Muzz



Metisse frame, tank and seat mated with a Suzuki 500 engine make Floyd Emde's Daytona entry a handsome beast.

Floyd Emde Suzuki T500 Rickman Metisse

A rare pic of a Rickman Metisse Suzuki 500 raced by Floyd Emde…

From the April '68 issue of Cycle World on pages 66 and 67 comes an article titled "Daytona:The Men and Machines for 1968″…..with a quick mention as follows…..

"Floyd Emde has entered his 500-cc Suzuki-Metisse, which rider Johnny Apple took to second place in its race debut at Carlsbad, Calif. The machine uses Suzuki's two-stroke twin-cylinder engine in one of the Rickman brothers' Metisse frames, complete with fiberglass tank and seat."

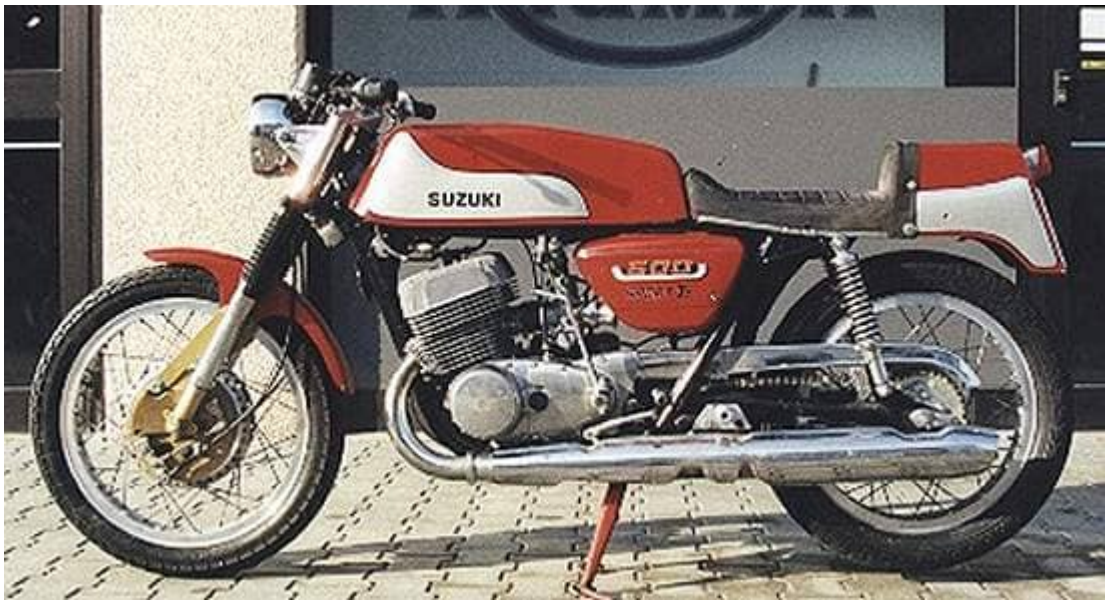
Fatboy's Muzza Replica T500

She's painted. Photo doesn't do it justice. Waddya think. I'm just outright grateful to my Dad for the paint and polish….

km/h
TRIUMPH

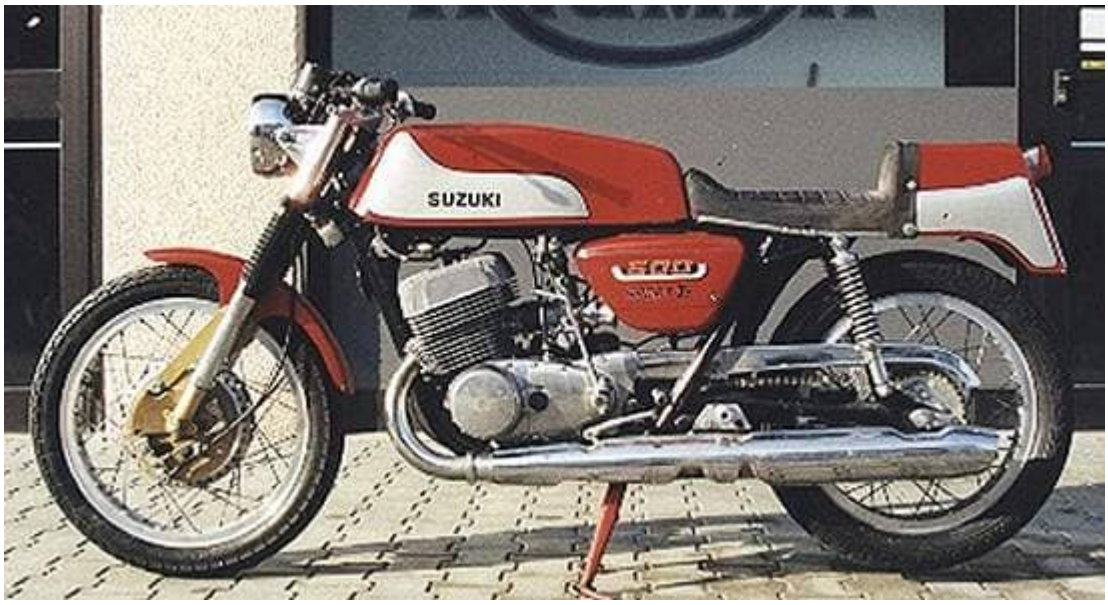
I'm too frightened to ride the thing now!!! What if it gets oily and dirty! Many thanks too my Dad for the many many hours of work to get it pretty.

Saiad T500 Sport TT)



A Suzuki Italy special model. They also did a limited edition called the Vallelunga based on the GT750, ten to full TR750 works spec. and a hundred less potent look-alikes. – great tank, GT750 drum brake, rear sets etc.

Umberto wrote to say he has one for sale, a T500 sport customizedby the Italian importer in 1972 and he would like to sell it. It has fibreglass fairing, gas tank and front fender. It has also front GT750 forks and Borrani alloy rims. Perfect.

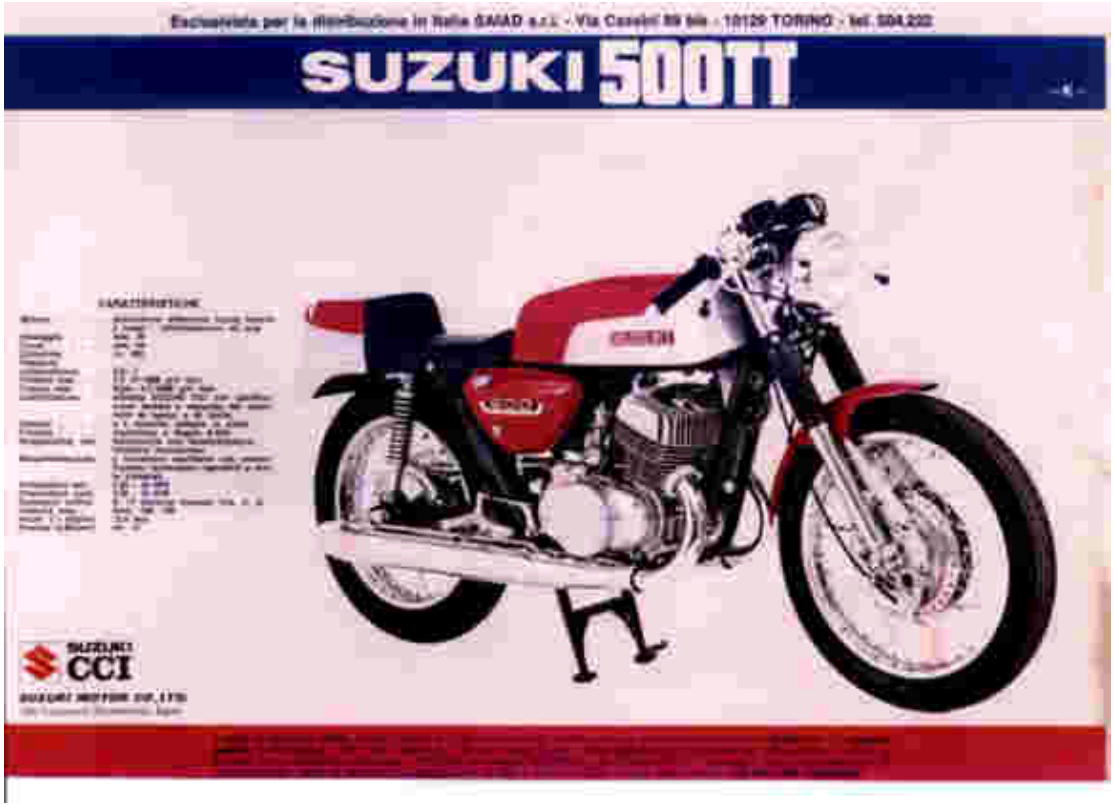


PC•5
1377

SUZUKI

SUZUKI
500
SPORT

SUZUKI
500
SPORT



Pics below courtesy Maurizio

SUZUKI

Dr von Strange and his Titan creations

Great chambers, both exiting on the right side and tucked under the motor. Lot of work in the fairing as well, took a lot of plastic welding.

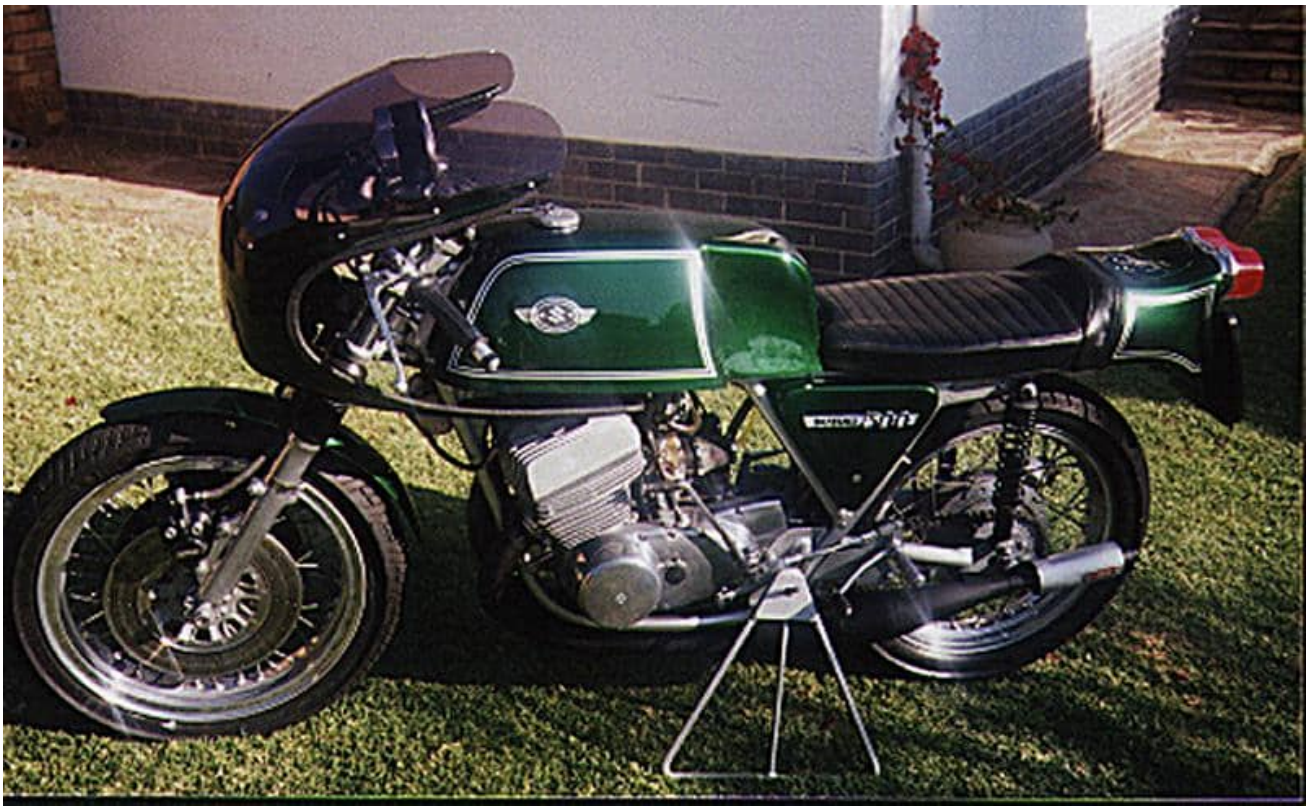
500

500

500

Good work Dave, err Dr Von Strange, I mean.

Dunstall Suzuki T500



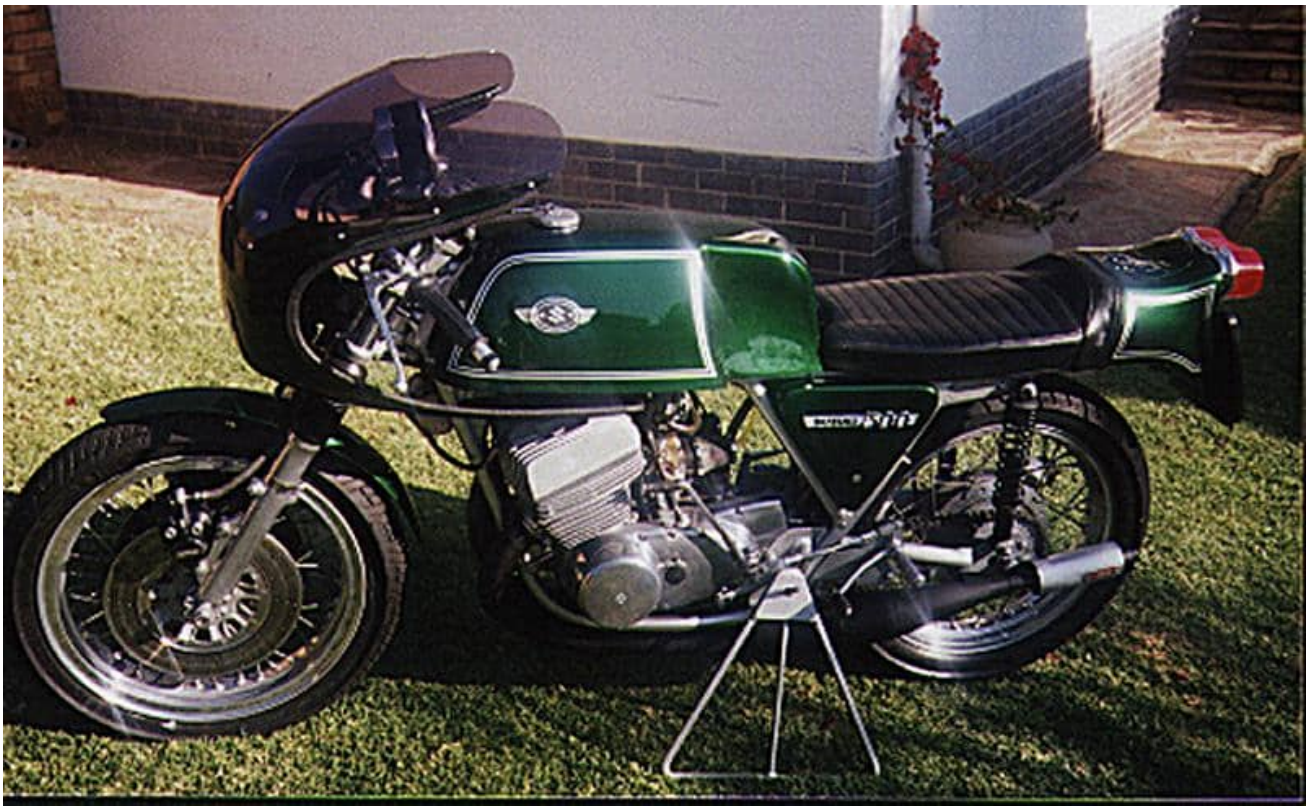
A Dunstall Suzuki T500 from South Africa

by Philip de Gruchy

Thought you might like to see my Dunstall Cafe Racer , it used to be my classic race bike , which I raced for about 5 years in South Africa but it became uncompetative . I bought this bike and 3 others as basket cases in 1985, the bikes had been lying in an open compound at a Military base for 10 years or so , where they were used as despatch riders bikes, and came complete with side panniers.

All three bikes went classic racing eventually, and ran in the senior class with 750 sohc Honda Fours , but some rules got bent and eventually we were up against 1000cc 4 cylinder bikes, so I ended up collecting more X rays than Trophies so thought it was time to call it a day ! Bike is very quick having TR500 Barrels , heads , pipes etc , fitted Modern Mikuni race carbs and Bransden Ignition . some essential mods were done to clutch , extra plates . heavier springs etc and longer thrust arm inside casing for fingerlight operation , also bored engine casings to accept GT750 Rubber engine mounts which works a treat , engine wobbles at tickover , but no numbness from waist down after 10 laps.

Neighbours are not impressed when I fire her up , but it's like music to my ears with those expansion boxes ..



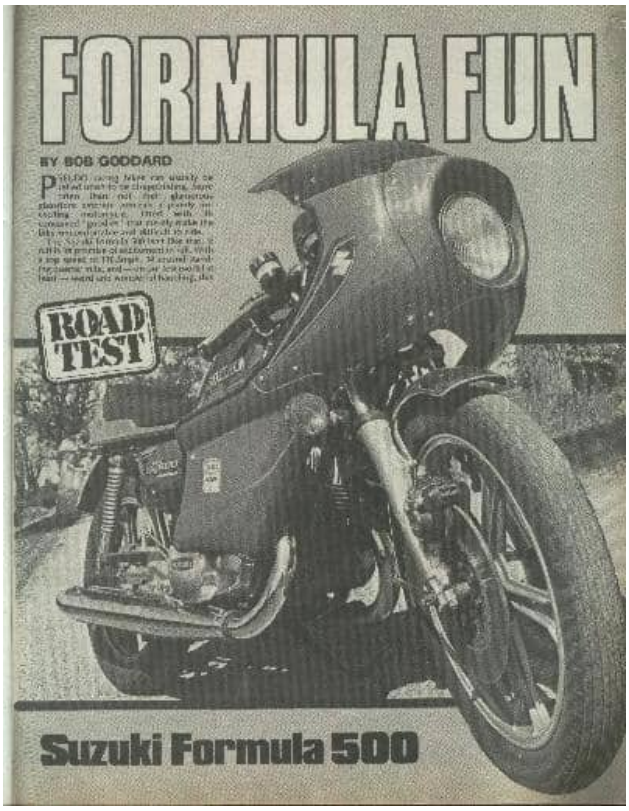
Philip de Gruchy – Johannesburg South Africa

Dresda Suzuki GT500

Nicholas Riley, Hull UK

Dresda

Formula 500



Formula 500 -1977

UK parts bin special

“Pseudo racing bikes can be relied upon to be disappointing. More often than not their glassfibre exterior conceals a plainly unexciting motorcycle, fitted with ill-conceived “goodies” that merely make the bike uncomfortable and difficult to ride. The Suzuki Formula 500 isn’t like that. It fulfills its promise of excitement in full. With a top speed of 110.5 mph, 14 second standing quarter mile, and – on our test bike at least, weird and wonderful handling. this……”

FORMULA FUN

machine could not be accused of being dull. Every trip on the Suzuki was a voyage into the unknown.

Not that that is any kind of criticism, because often a bike that you feel at home on straight away tends to become boring before long. Having picked the bike up from Suzuki in Croydon, and duly noted the £120 cast alloy, Italian made wheels (they are about 20-25 per cent lighter than standard), Dunstall sports fairing, glass seat, rear set foot rests and clip-on bars, I set off to discover what it was like to ride.

The riding position was very comfortable, with bars at the right angle, and the well-padded dual seat was just at the right height to evenly spread the weight on arms and legs. The footrests were placed well back and very high, which is a position which suits me very well. It is quite probable that the layout would not be as comfortable for many other riders, because build and riding style affect the ideal position of seat, rests and bars.

It was a good job the riding position was right, for I had quite enough to contend with mastering absurdly heavy steering and an upside-down gearchange in the central London traffic. The central-yoke friction steering damper, which was not fitted to the last Suzuki GT500A we tested, had reappeared, and brought along one of its distant cousins in the form of a hydraulic steering damper clamped between bottom yoke and frame tube on the nearside. The 500 Suzuki as a breed has always had fairly solid and heavy steering, which was presumably why the Japanese finally decided to do away with the unnecessary damper on the latest model. Why Suzuki GB had fitted two dampers to this bike completely baffled me, but fortunately both could be adjusted off — the hydraulic one had a knurled wheel on the end — and the steering could then be operated without too much straining of biceps.

The gearchange was a different matter. The linkage had been tossed away and replaced by a reversed pedal reaching back from the gear shaft towards the set-back footrest. Consequently changes were down for up and up for down, which meant considerable embarrassment for me when I tried to pull away from traffic lights in fifth gear, and when I changed down in error just as I was accelerating past a car. Admittedly an owner would soon get used to this set-up if he never rode anything else, and there are no linkage clevis pins to get worn and sloppy.

The engine of this bike was a standard GT500A unit, and produced enough power to set the adrenalin flowing on the open road, while being docile enough in town to trickle through traffic with ease. Our dynamometer testing showed that the Suzuki produced almost identical power characteristics to the old Triumph Bonneville, with a little over 38bhp churned out at 6,300rpm and an almost flat spread of torque between 3,500 and 6,000 revs. This gives a really meaty surge of poke when you twist your wrist — whatever the revs.

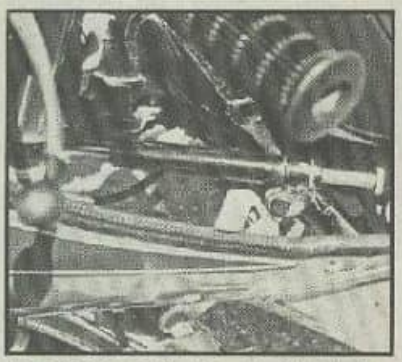
With my hands down near my knees and heels up under my bum, peering over the top of the racy tinted screen, it was impossible to resist the urge to go racing. Gunning the bike hard down country roads and playing the gearbox through the bends seemed to be the right thing to do with the Formula 500. Unfortunately the bike didn't entirely agree.

Something was very wrong with the rear suspension. There was insufficient damping to set the rear springs on their softest setting without getting considerable wallowing, and set any harder, the seat smacked you in the backside every time you went over a bump. This combination of kicking and jumping from the back end was disconcerting in bumpy corners, but I found the rear chain to be a more efficient means of damping the suspension than the shockers, using the bike's power to tighten up the chain and control the springs.

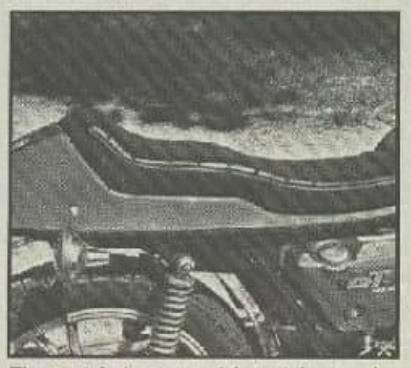
Vibration was a problem for both driver and passenger, the Suzuki giving a buzz through hands and feet at anything over 5,000rpm, but after a week or so I got used to it. Really the bike didn't rattle any more than the stock GT500A, but without the rubber-mounted handlebars and footrests it was much more noticeable.

One peculiarity with the Formula 500 which I didn't like too much, was the way the front disc brake picked the bike up whenever it was applied in a bend. My riding style often finds me braking half-way round a bend, and that is no time to discover that the bike allows only two choices — going round the bend much too fast or braking and going straight on. After a bit I learned to get the braking over with well before corners got nasty, and when bend braking was vital, to use the brake and force the bike round the bend with a liberal application of brute force and ignorance.

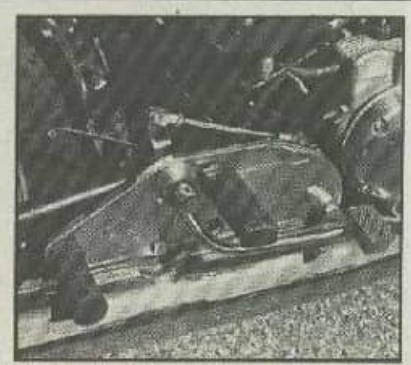
There was no problem with the back brake — it didn't work. It didn't bother me too much as I rarely use a rear brake, and I could stop the bike from 30mph in 29 feet on the front disc alone, although it required a hefty pull on the lever, and wet weather reduced the efficiency to a mediocre level. There was no stop lamp switch attached to the front brake caliper, although the mounting was there, and vibration shook the rear brake stop lamp switch out of its mounting



One of two steering dampers fitted to the Suzuki.



The seat is large enough to take two in comfort.



The rear set rests were sensibly positioned.

Thanks to Gazza for the copy……I used to have those Italian mags on a Suzi T500, threw them out after they got buckled, softest wheels I have ever ridden on, can’t imagine many have survived the years.

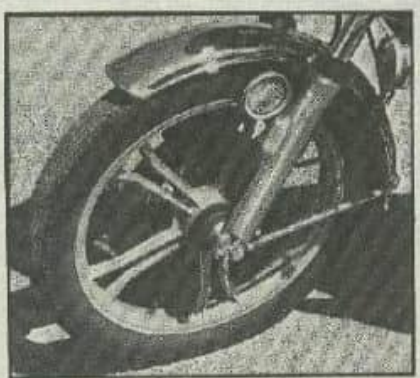
so many times that I got fed up replacing it.

The headlamp, mounted rigidly in the fairing, produced almost enough light to live with the bike's speed at night, but on anything but a smooth surface the suspension's action meant that the light was rarely shining at what you wanted to see most — i.e. the road. Otherwise the electrical equipment was faultless, and standard Suzuki switchgear was simple and efficient to operate.

Starting was a doddle. The fuel tank has a diaphragm fuel tap which can be forgotten about unless you run onto reserve, and all that was necessary was to turn the key in the central-console ignition switch, flick the choke lever on the left carb down and prod twice on the left-foot kickstarter. Within a hundred yards from cold the bike would run chokeless on a whiff of throttle. The fact that the bike didn't need a great deal of grip-twisting to produce acceptable ride-to-work performance was reflected in the fuel consumption which averaged 49mpg. The low revving motor must also be a contributary factor to this remarkable economy for a performance two-stroke twin, and the higher gearing (smaller rear sprocket) to make the most of the fairing, also helps. Nevertheless I was surprised to find that I couldn't get the bike to use more than 41mpg, and mid 50s was possible at 50-60mph. Oil consumption averaged 234mpp. The 3.7 gallon petrol tank gave a little over 150 miles before running onto reserve.

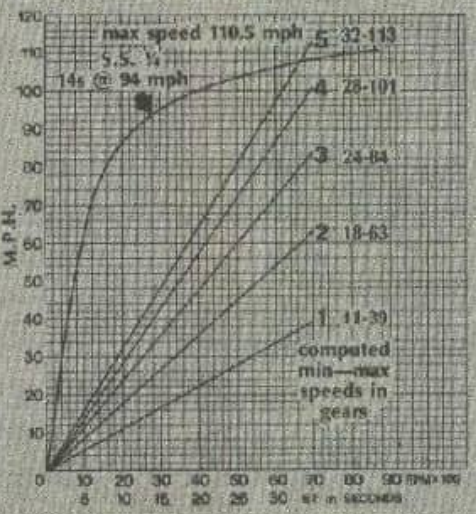
We discovered that the Suzuki 500 had quite a following of devoted owners when we tested the stock GT500A last year, and because of a fault it only did 92mph. For those Suzuki 500 lovers still reading our magazine, the Formula 500 not only represents an indecently quick vehicle of pleasure, but also a welcome change to the bread and butter, middle of the road Japanese middleweights that promise years of trouble-free boredom.

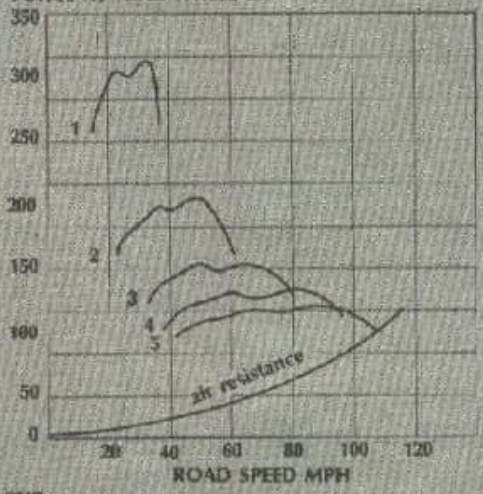
The Formula 500 isn't just a tarted up version of a ten-year-old design that refuses to go out of fashion. It is a real sports motorcycle that will quicken the pulse, boost the ego and satisfy the soul of any fast rider who is dissatisfied with the choice of run-of-the-mill roadsters. It is not perfect by any means, although I suspect our bike had dud rear dampers, but somehow the imperfections don't seem to matter.

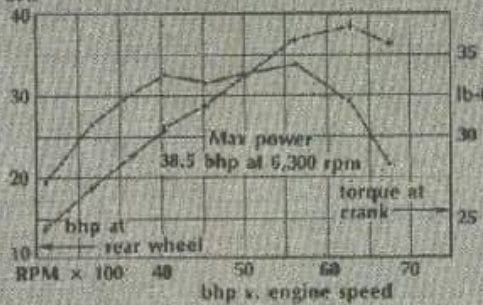


The cast wheels add over £120 to the price.

Performance & specification







bhp v. engine speed

HOW IT COMPARES

	price inc VAT	max speed	mpg	¼	dry weight
Suzuki F 500	£895.00	110.5	49	14.0	395
Morini Sport 3½	£1007.50	94	60	15.8	318
Honda CB 550F	£1005.00	105	45	13.9	421
Yamaha XS500	£959.50	100	47	14.6	425
Kawasaki KH400	£776.50	101	40	15.2	364
Yamaha RD 400	£764.50	99	43	14.8	346

TRACK CONDITIONS:

Dry and fine, light breeze, ambient temperature 54 deg F

PERFORMANCE:

Maximum speed ..... 110.5 mph
SS ¼ mile ..... 14 sec at 94 mph
braking from 30 mph ..... 29 feet
fuel consumption: worst ..... 41 mpg
best ..... 54 mpg
average over test ..... 49 mpg
speedo error ...5 mph fast at 70 mph
tacho error
250 rpm slow at 7,000 rpm
power to weight ratio
0.09166 bhp/lb

ENGINE:

Aircooled piston ported parallel two-stroke twin fed by two 32 mm Mikuni carburettors. Capacitor discharge ignition, 12 V alternator feeding 7 ah battery. Lubrication by Suzuki CCI injection.
displacement ..... 492 cc
bore x stroke ..... 70 x 64 mm
compression ratio 6.6:1
claimed output
44 hp SAE at 6,000 rpm
39 lb ft at 5,500 rpm

TRANSMISSION

Geared primary drive to multi-plate clutch and five speed gearbox, final drive by chain.
primary reduction 2.5
final reduction 2.2
gearbox ratios: 2.5, 1.583, 1.158; 0.955, 0.870.

CHASSIS:

Single hydraulic front disc brake, s/s rear drum brake. 5 pre-load rear dampers.
Front tyre ..... 3.25 x 19 Bridgestone
rear tyre ..... 4.00 x 18 Bridgestone
wheelbase ..... 57.3 inch
castor ..... 61 deg
trail ..... 5.1 inch
overall length ..... 86.4 inch
dry weight ..... 395 lb
fuel tank capacity ..... 3.7 gallon
oil tank capacity ..... 3.2 pint

PARTS PRICES, inc. VAT

front mudguard £22.70
handlebars £10.75
speedo cable £3.14
C.D.I. Ignition Unit £55.77
exhaust system (complete) £37.88
set of pistons and rings £30.18
list price (inc. delivery, but ex. £120 cast wheels) £895
Warranty: Six months, 6,000 miles parts & labour.
Importer: Suzuki GB, 37 Beddington Lane, Croydon, Surrey.

All engine tests run by Lincolnshire Engine Development, School Lane, Barton, Lincs.

Jan Kronslev's special T500s

Suzuki Snapshots

Jan Kronslev from Copenhagen and his friend Kim Nikolaisen's T500 specials

The start of the project & below, the final product.

Below – Kim Nikolaisen's extremely modified T500

“With factory exhaust and cylinders and 145 kg dry, I can still give modern machines a run for their money, which is a lot more fun to do on this than on my Ducati 900”

Thanks Jan for sharing your bike with us.

Jan Kronslev's Cafe racer

Jan Kronslev's Cafe racer

Its in Danish but I thought that you would like the attached article for your collection.

Its about my T500 and was published in the Danish magazine BIKE April 2005.

BIKE REPORTAGE: Suzuki 500 Titan

Stalinorgelet

Et begrænset budget fører ikke nødvendigvis til kedelige motorcykler. Man skal bare tænke lidt uden for rammerne!

Sådan ynder den 35-årige arkitekt Jan Kronslev at tænke, både når det gælder huse og motorcykler. Jan elsker at give gas på en racerbane, men efterhånden havde han svært ved at holde sin Ducati 900 Superlight nede i et tempo, der ikke var livstruende. Så i jagten på en mere intens køreoplevelse, købte han en Suzuki T 500, der blev produceret fra 1968 til 1975. Cyklen blev splittet ad i atomer, lettet, tunet, og optimeret, og pludselig stod han med en køremaskine, der gjorde dyre racerreplikaer overflødige. I hvert fald med hensyn til køreoplevelsen.

Stellet, der normalt bliver betragtet som et løst gummibånd, der forbinder en hysterisk motor og to hjul, er forstærket med to ekstra stelrør på skrå lige bag motoren. At kalde stellet for vridningsstabilt er dog en kæmpe overdrivelse, men alle de diagonale vrid i rammen strammer gummibåndet op og giver Suzuki'en ganske hæderlige køreegenskaber, selv om den godt kan åle sig lystigt gennem kurverne på Knutstorp, mens sanserne hænger uden for køredragten. Jan har lært at tøjle sin T 500 på banen, for den skal i høj grad køres på sin helt egen facon.

– Gearvalget skal være ganske præcist, for den hysteriske motor yder intet under 5000 o/m, hvorefter den nærmest eksploderer og når at smide 60 hk på baghjulets gummi, inden festen slutter ved 7000 o/m. Samtidig skal man kende den lange cykel, for midt i svinget opdager man, at den ikke vil med rundt alligevel, men stellet giver sig blot endnu en gang, kaster 10 grader på nedlægningsvinklen. Og så kommer man rundt i svinget godt hjulpet af motorens kræfter til at støtte balancen.

Jan kan godt lide rå og upolerede køremaskiner, der er skrællet for alt overflødigt og skrumpet omkring en motor, der er så direkte i sin respons, at den ligger i lige forlængelse af hans egen nervebane. Under renoveringen faldt T 500-guru og mentor Kim Nicolaisens hjerte for projektet. Kim delte ud af hemmelige dele og tricks fra 1970'ernes altvindende banemotorcykler.

– Hemmeligheden er at være omhyggelig, siger Jan. Hvor man skruer en 4-taktsmotors hundrede små, mekaniske dimser sammen, former man en 2-takters indre, så der er optimalt flow hele vejen igennem.

– Mekanikken er ikke mere indviklet end et toilet, men hvordan man får toilettet til at skylle mest muligt benzin igennem, er sort magi.

Med Kims hjælp er resultatet blevet en cykel, der er noget sjovere, end Jan havde turdet håbe på. Cyklen starter

AF JAN RØNNE HERMANSEN
FOTO: JAKOB EVERS

Under 5000 o/m sker der intenting!

Motoren er omhyggeligt tunet og samlet. Siden har den kørt 7000 km uden at brokke sig, også på bane!

Niveaumåleren i pleksiglas viser farven på olien, der står i kontrast til Sigma-flasken fra Spejder Sport.

Motoren trækker først fra 5000. Herefter smides 60 baghjuls-hk op til rødt felt.

Gamle motorcykler har lang vandring. ½ udveksling på gassen hjælper.

Den originale T.A. Baker alutank fra en Suzuki TR 500 stråler stadig som i sin storhedstid på banen.

Stalinorgelet larmer afsindigt. Den lille fyr har lært at holde sig for ørerne, når 2-taktsmotoren fyres af.

Mange T 500-stumper kan købes via www.crooks-suzuki.com.

hver gang og virker bundsolid. Efter at Jan fik skudt sig ind på de rigtige tændrør, hvilket kostede et par smeltede stempler, har T 500'eren kørt 7000 problemfri km.

– Det største problem er, at tidligere T 500-ejere ikke skiftede den midterste simmering i krumtappen, men kun de yderste, hvilket medfører et overforbrug af gearolie. Dernæst hældte de ikke gearolie nok på, fordi oliestanden skal kontrolleres med cyklen på sidestøtteben og ikke lodret! Dårlig strøm og falsk luft løser man med et nyt ledningsnet og nyt gummi.

Jan er ofte blevet spurgt om, hvorfor han vil have så meget besvær ud af sådan en gammel hund?

– I mit arbejde som arkitekt er der altid en chef, en kunde eller en myndighed, der ikke kan få det kedeligt nok. Når man bygger en motorcykel, er man frit stillet til at bruge pengene de rigtige steder og skabe en enhed. På den måde er det ikke så vigtigt, hvilken cykel det er, eller hvor stort budgettet er.

Jan har helt sikkert ret i, at vi mennesker ofte tænker alt for kedeligt og traditionelt. Vi vil helst ikke bevæge os ud over rammerne. Det sikre motorcykelkøb er det mest fornuftige, og hvis vi begynder at bygge om på maskinen, rasler den sandsynligvis ned i værdi. Typer som Jan sætter krydderi på tilværelsen! Lad os få nogle flere af dem!

Rickmann Matisse-sædet er ombygget for at passe til stel og påfyldningen til oliedunken.

Sjov for små penge!

SUZUKI 500 TITAN	
Pris:	Prisen er ikke afgørende for at have det sjovt. Denne racer har ikke været dyr, men der er lagt sjæl og arbejde i.
Motor:	GT 500 krumtaphus med 1968 T-dæksler. Portede cylindre og modificerede topstykker. Smedede GMP-stempler. TR 500-ekspansionskamre. RM 250-kobling. Quick action gashåndtag med ½ vandring. Nova Racing kædehjul. 60 hk på baghjulet.
Opbygning:	Stel lettet og afstivet med to diagonale rør. NJB Racing støddæmpere. 310 mm skive med Grimega calipere. T.A. Baker alutank. Sigma-olieflaske fra Spejder Sport. Ombygget Rickmann Matisse-sæde.
Ombygningstid:	Mange hyggelige timer med T 500-guru Kim Nicolaisen i værkstedet.
Motto:	Playstation-cykler er effektive, men på landevejen mangler de en karakter at arbejde omkring, og i det arbejde ligger meget af køreglæden.

Since last I have done a lot of trackdays on my T500 and send you an aditional pic for my small corner of your incredible T500 page.

jan@kronslev.dk

Henri’s cafe racer

Suzuki Snapshots

Henri Goodman

1971 T500 for your web site. Started as a basket case, and has taken a few years and a lot of money to finish. Rickman fairing and parts from a lot of different bikes purchased from swap meets and salvage yards. Very few new parts were used, with the exception of the motor. From California.

Looks like a GSX250/GS450 tank fits quite well! Black chrome on the pipes as well, nice touch.

Parts used in construction:

Suzuki GS450E Gas Tank (Polished to look like aluminium – no paint)

Suzuki GS450E seat foam cut down w/custom upholstery on a custom made base, with a Kawasaki KZ750 Seat Cowling attached

Yamaha XS650 Front Fork Assembly

* Fiberglass Front Fender

Yamaha XS650 19” Front Wheel W/ Dual Disc

Yamaha XS400 16” Rear Wheel W/ Drum Brake

* Tires 100/90X19 Front 130/90X16 Rear
* Aluminium 32T rear Sprocket
* 12 ¾" Rear Shocks
Rickman Fairing came off of a Kawasaki Z1. I cut the bottom part of the fairing off so you could see more of the motor.
The exhaust system is ceramic coated
1976 GT500 motor w/P.E.I ignition,
1971 cylinders & heads (Spec II stage II porting)

JUGHEAD'S

Cafe racer

Here’s the Pictures of my 69 T500 Cafe Racer.Modifications Include:

34mm Mikuni Carbs

Billet Intakes

Uni pod Filters

Milled Heads

J&R Chambers

Redwing Shocks

GT Front End

GS550 Drilled Discs

GS550 Calipers

Nissin 5/8 Master Cylinder

Fiberglass Rear Fender and Side Panel

Euro GP Bend Handlebars (Thanks Gordon!)

Nico Naeye's Cafe GT500

Tim Hart’s Cafe Racer

Tim Hart’s T500 Cafe Racer

THOUGHT YOU MIGHT LIKE TO SEE MY 73 T500 Café racer, I live in Kent U.K. and have a collection of bikes but this is my current favourite ..I forgot how much fun old two strokes really are !! The tank is handmade alloy by Custom Tanks and Design in the U.K.,wheels are Akront flanged alloy with s/s spokes. Motor is mildly ported by Stan Stevens racing as I didn’t want to lose the famed T500 TORQUE.

I now have some expansion chambers that are being ceramic coated .i am now building a GT500 café racer for my brother so we are keeping the 70’s spirit alive. as these bikes are becoming rarer in jolly old England

Great website, keep it up

Tim Hart

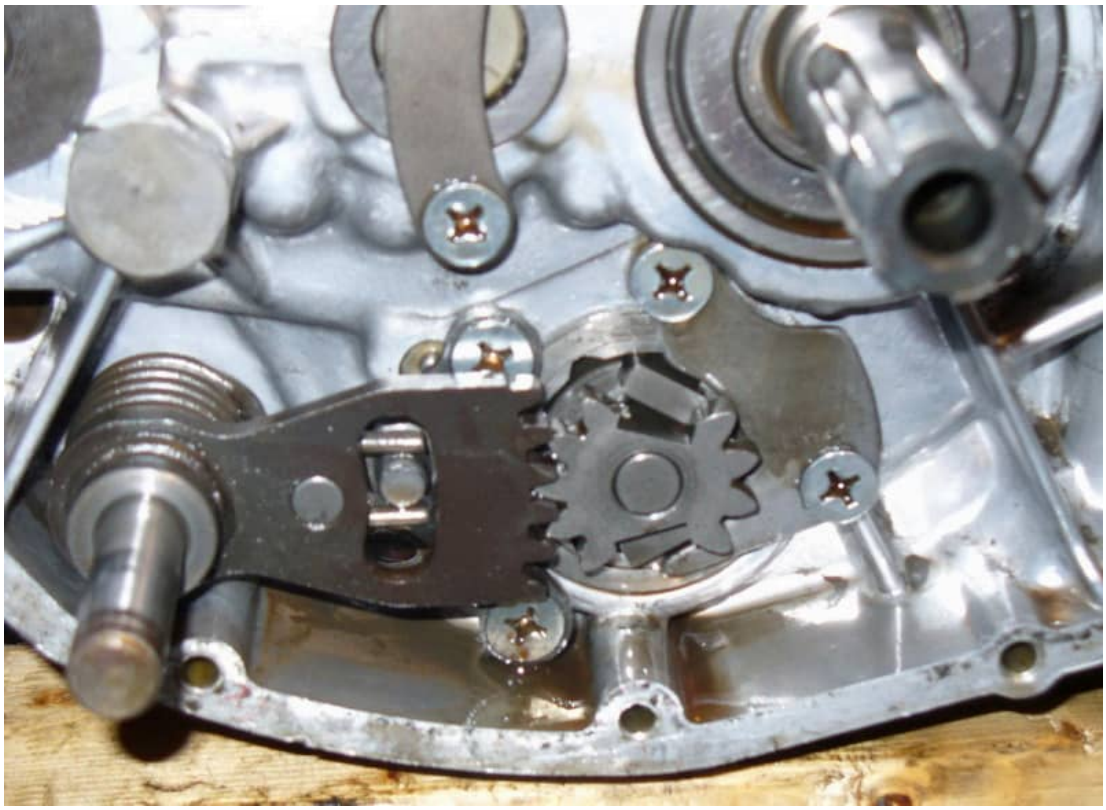
Chris' Cafe Racer build

Chris is building a T500 based road racer….here is his story…

This is the '76 GT500 I started out with. I bought it off Ebay in '07. It needed a top end rebuild, carb kits, sprockets and chain and some rust removal and shinning to get her road worthy. I road the bike all summer and fall of '07. Then, I came up with the idea to convert her into a road racer and scrapped my other racer project

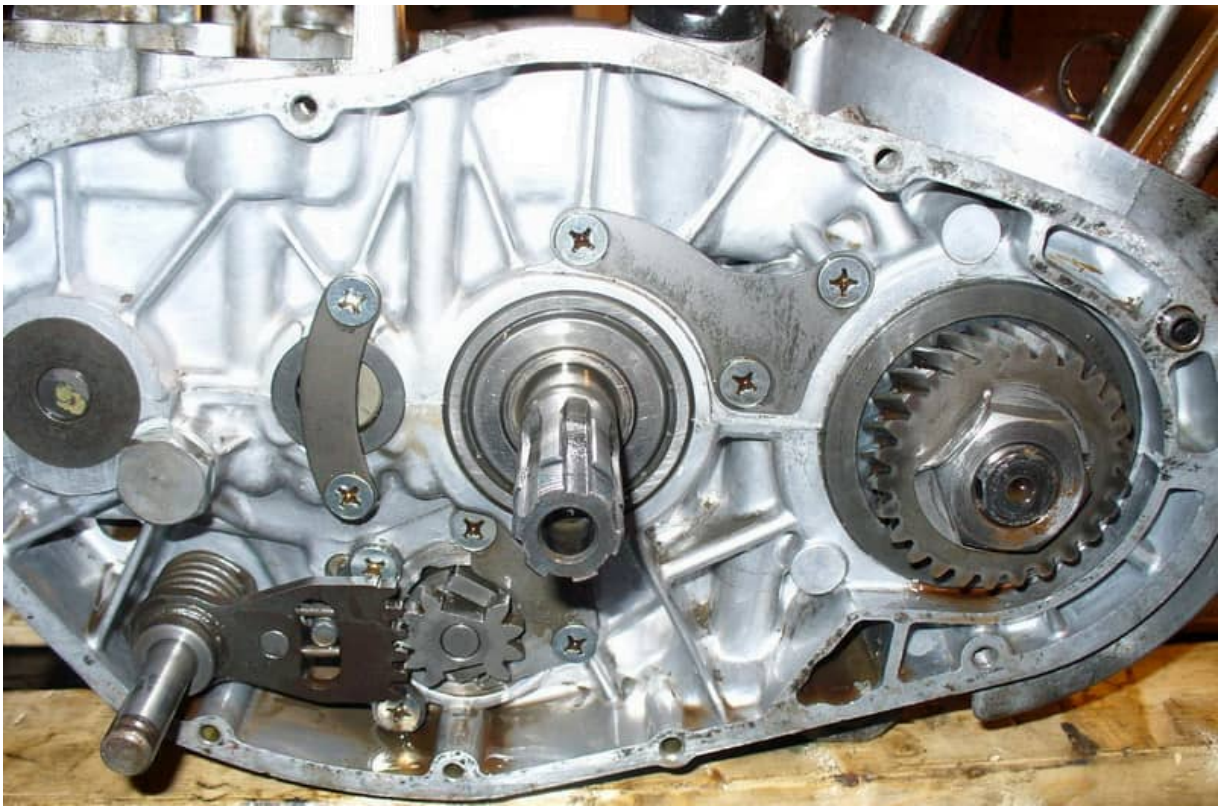
building a Honda CR750. The CR750 project would have costed me 4-5 times what this build will cost. I sold my CR750 tank, seat, fender and exhaust and that should cover the entire TR500 build.

This is a mid point picture of the minor restoration to get her road worthy in ’07.

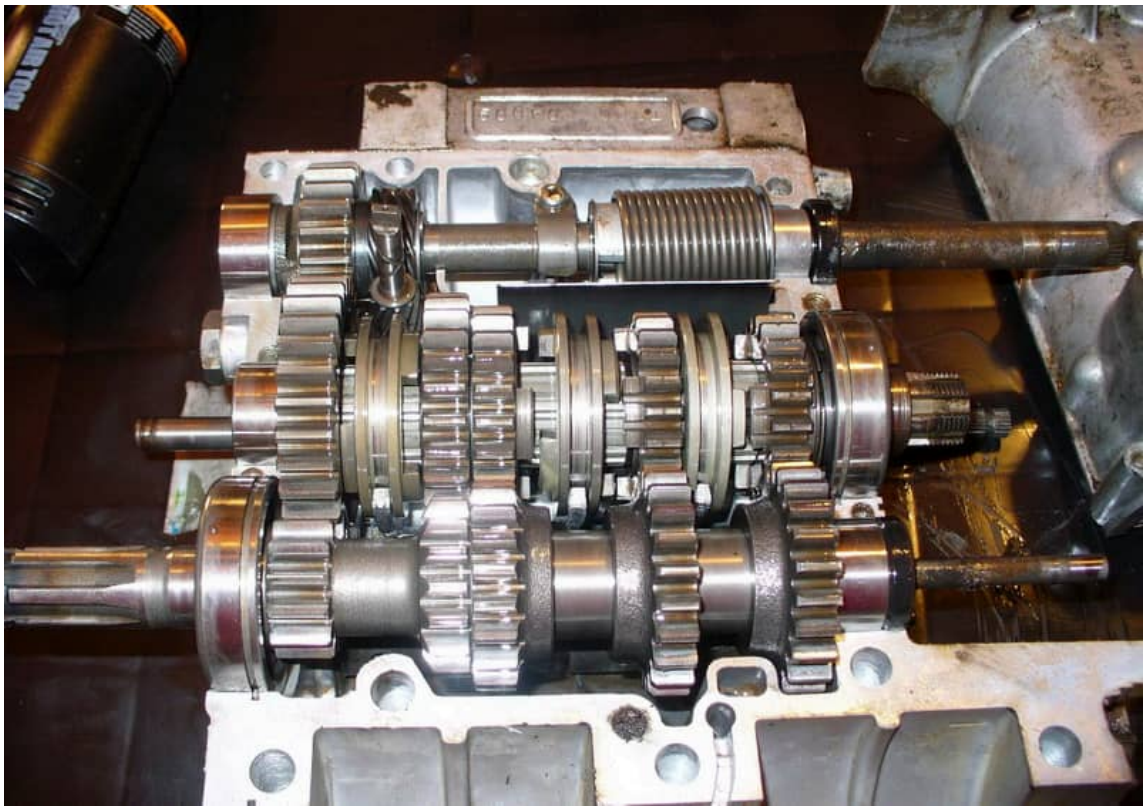


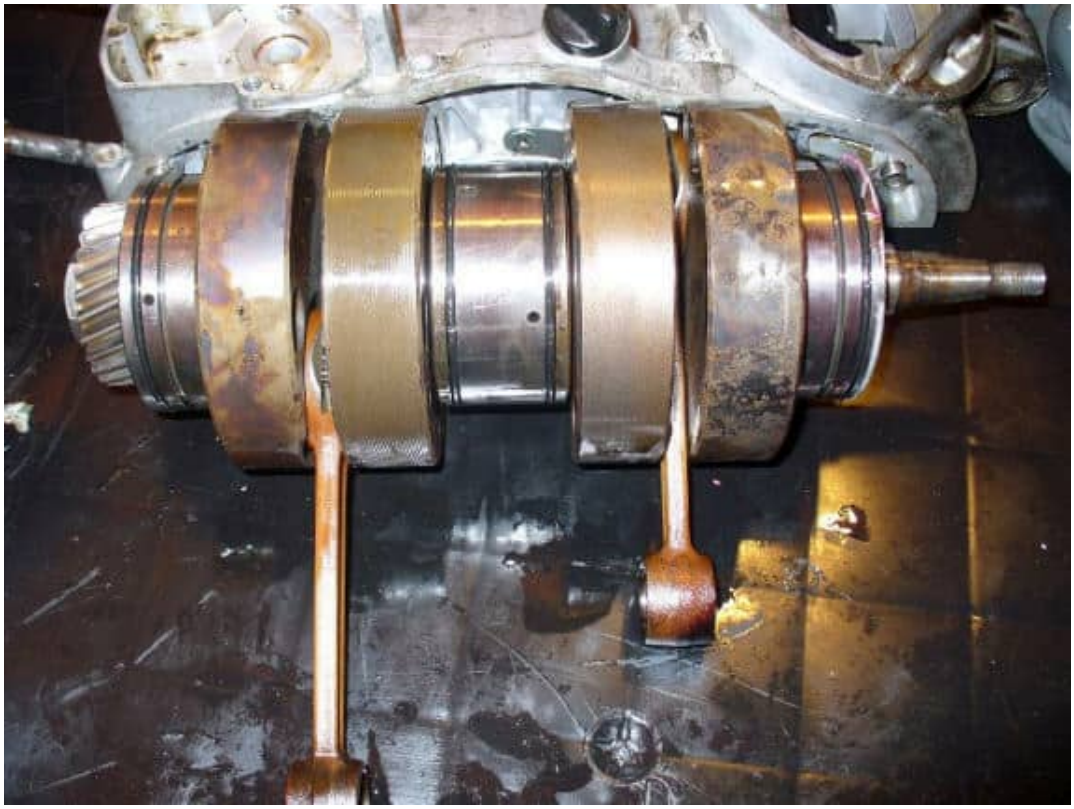
These are pictures i took while tearing down the engine for a rebuild.

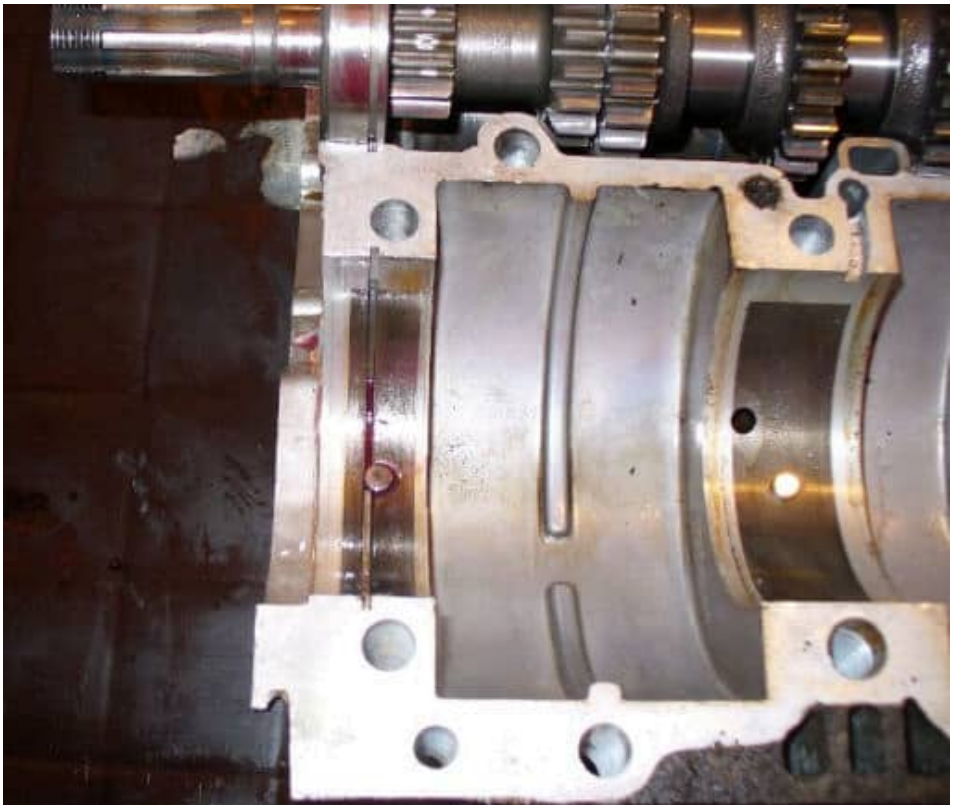
This is the first time I have rebuilt a bottom end, so i wanted to make sure everything goes back in it’s place.



SUZUKI
SUZUKI

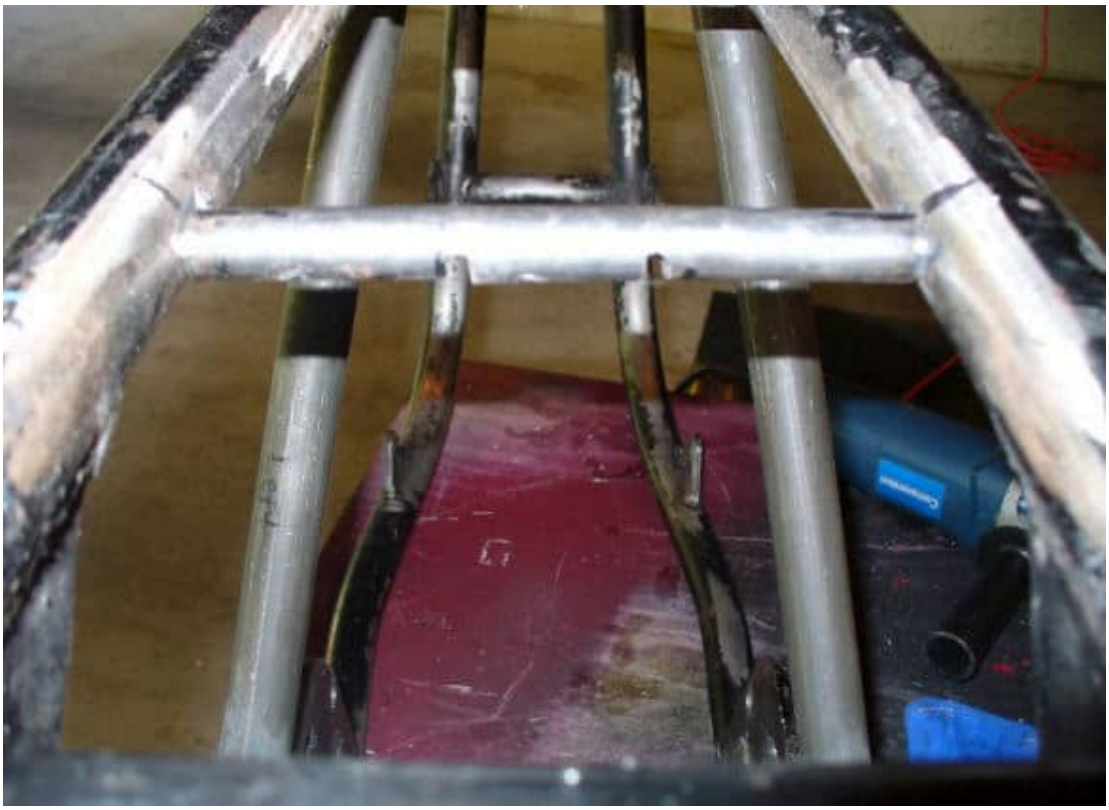






Frame mod to add support tubing. I used chrome moly tubes which are light and strong.

This was a mock up step in the process trying to get the placement right.



This is a 1/2 inch steel tube used to mount the tank.

I cut notches in the tubing that will allow me to use the stock GT500 tank mounting strap.

I cut and ground off about 5lbs of scrap metal in the form of center stand, side stand, fender mounts, side panel mounts, etc…

These are the mounting tabs for the rearsets I'm making up.

They will have holes drilled for the aluminum mounting plates.

Rear fiberglass fender.

I used foam from a hobby shop and shaped it until i had the right shape.

Then, I covered it and the frame with blue painters tape, cut the fiberglass and added the epoxy.

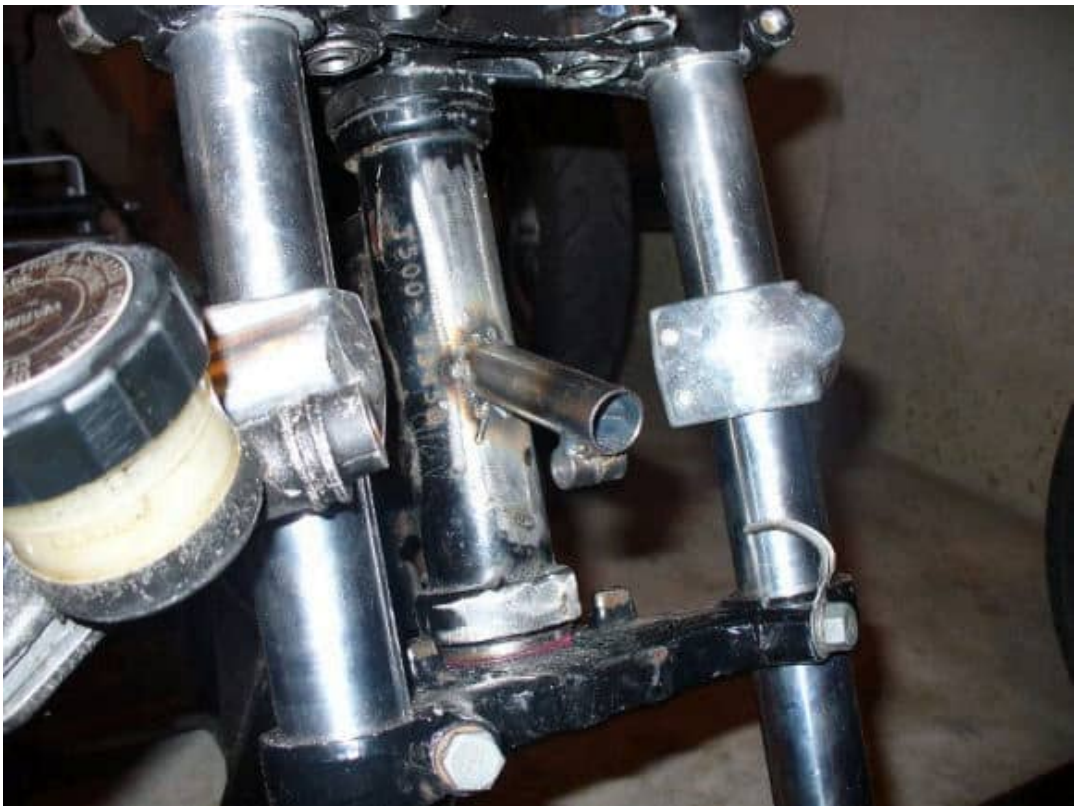
Rear view shows the fender out of the mold and mounted.

I have also made up the front seat mount made out of aluminum flat bar, bent and bolted into the existing frame mounts (I think originally used for the seat grab handle).

I had to grind douwn the inside of the two mounts and tap out the hole from the inside of the frame.

The original holes were tapped from the outside of the frame where the grab bar bolts mounted.

Side view with the tank, seat and fairing. I'm in the process of figuring out how to mount the fairing in the right place. This was not an easy job!!



Front fairing mount. I used a fairing mounting system from Meadspeed in the UK. I had originally purchased it for a CR750 race bike I was building up, but decided to switch to this build instead. The mounts ended up working perfect on this build with only a few minor modifications.

Here is the beginning of my rear sets being mounted to the frame.

The mounting plates are rough cut and will have some shapping and buffing once I get the fit right. I had to make them pretty long to accomodate my long legs and to get into a nice racing position. Getting the right position has taken several tries, but I think I finally have it.

Front end showing the new wheel from east coast wheels mounted to my stock GT500 hub and tire from RC Barker.

Jemco chambers

John Kruger's T500 Sport TT SAIAD Suzuki

My Next Project…….. by Jughead

This one will be code name Trojan……. don't ask why. It's what popped into my mind. Never owning a sport bike and not wanting to go to 4 Stroke squid Bikes I've decided to build my own almost modern 2 Stroke from pieces of spare parts that I have lying aound. This one will probably take a little while to finish. (It took 8 years to get something resembling a finished bike from my 69 T500)

When finished I'm hoping to get something a Little similar to this…..

The Modifications to the engine will be going on thru out the summer as time and money allows.

So far the mods are turning out pretty good. There is a lot of work to go but this will give you a general Idea of what's going on.

I'm going to attempt to Install these stock Yamaha Banshee reed cages into the intakes. I'll be Using the 3/4″ Trinity Racing spacers as the boxes. This means I only have to worry about enough room to sink 23MM of the tip of the cage into the cylinder. This itself makes for another problem. Getting the cages angled to point downward to the intake port. Hmmmmm, OK here we go.

Actually I don't think that the angle milling would have been a big Problem. It just that in order to make room the cylinder fins had to be welded up to get a flat area big enough to gouge out and still have enough flat space to seal the spacers against.

OK it doesn't look pretty right now. I would have liked to have gotten them Tig welded but the welder said that for this Mig was the way to go. The one on the left was the first to be done. The second? Well, that's what a cylinder looks like on 190 Everclear. Still not bad at all but he used a little more wire than I really liked. I may take the left one back and have him fill in the Lower fin to match it up a little if it looks a little out of sorts when I have them milled. Right now the reed boxes won't be attached to the Cylinder by welding. They will be bolted so that I can play with different spacing to see If there is any changes in the tune Between them.

OK. here is the donor bike. It's an 89 GS500 E that had a clear title. I picked up for a really fair price off of Ebay.

Well the Intake I'm going to use finally arrived. Notice no balance tube/boost bottle spigots. Good they are a waste of space. Especially for what I'm building. Just one more thing to leak air. Right Now I have enough to

worry with to keep air tight.

Now it's onto worrying with what I'm going to stick in the bores. Instead of playing around with the baby size stock suzuki pistons I've decided to go all out with a set of old Wiseco .080 (2mm).This will take the displacement from possibly the stock 492cc up to 521cc. More is better I guess? That is until the pistons detonate or seize and ruin the bores.

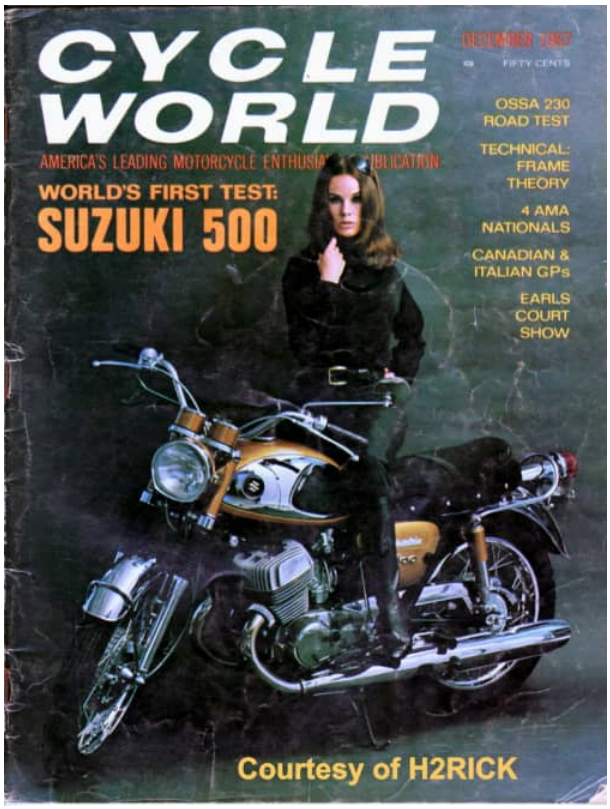
T500 Cobra pics

T500/5 or Cobra (has later oil tank but otherwise looks good, even down to road grime).

T500 Cobra pics courtesy Jughead

T500 Cobra

SUZUKI COBRA (T500-1), Cycle World test, 1967

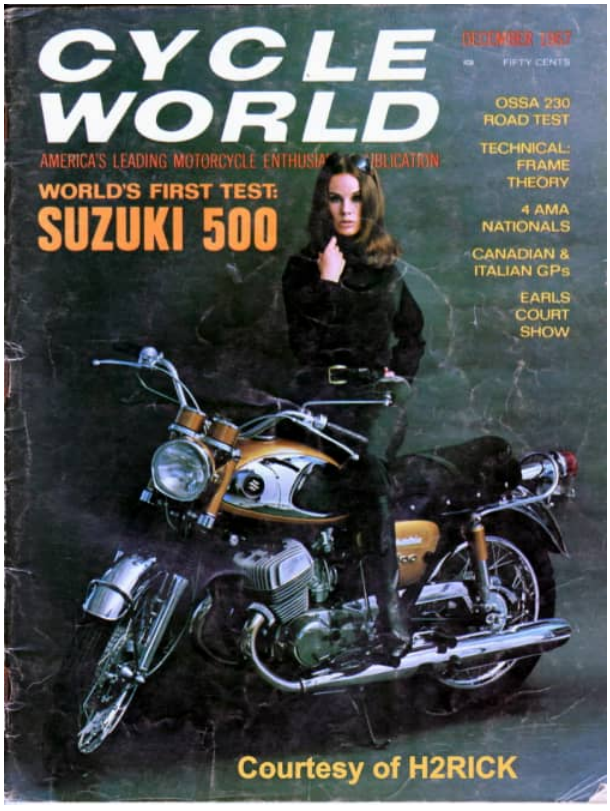


SUZUKI COBRA (T500-1) INTRODUCTION FALL, 1967

Just think….it's Fall, 1967….a time before a lot of you were born. The world was a lot different then than now, wasn't it ?? Well….kind of. Canada was celebrating its centennial as a country, the US was getting more deeply involved in Vietnam and the hippies' "summer of love" in the Haight-Ashbury district of Fan Francisco was just winding down. If you wanted a big bore motorcycle of 500cc or larger (which an increasing number of young people did), then you bought British-made or a Harley. The largest percentage of Japanese bikes at this time were 305cc or smaller. The bike that most people got their start on, the Honda 50 Cub step-through tiddler, was still very popular although not anything like it was just 3 or 4 years earlier.

Suzuki decided to raise the bar in the motorcycle world somewhat by unleashing a half-litre two stroke twin cylinder motorcycle. With magazine lead times being what they were back then (and probably still are, for all I know) the Cycle World tests/story had to be done in early/mid September to meet the December issue deadline for the article you see here. Can you imagine the excitement at CW and the competition amongst the staff to get picked to write up this story ?? And in California (the centre of all things new and good), on top of it all !!!

Some other large cities (Toronto, NYC, Chicago, Vancouver) in North America, besides LA, probably had the bike in dealers' showrooms around the time this article was written but for the rest of us…… we were bowled right over when this issue of CW hit the stands in mid November. This was the first time any of us had seen such a bike and what a bike it was.



The Cobra was quite a bike for its day as the article makes clear. Unsuspecting, the Cobra would occupy the motorcyling limelight for exactly one year. Multicyclinder offerings from Kawasaki and Honda would eclipse the Cobra in just one short year.

Some said the Cobra was just a big Hustler (X6), which was kind of true....but the main thing was that the engine was BIG. Big for Suzuki, for sure, and big for a two stroke, as no one had been successful with a half-litre capacity air cooled two stroke ever before. The performance was big too, as the CW test panel and writeup shows. How would the whole gamble work out for Suzuki ?? Well, we now know the answers to all these concerns as the Cobra/Titan went on to be the most durable model in Suzuki's lineup through to the last GT500 in the 1977 model year. Ten model years of production is an eternity compared to the current manufacturers' practices of changing bikes totally every 3 or 4 model years.....and sometimes more often.

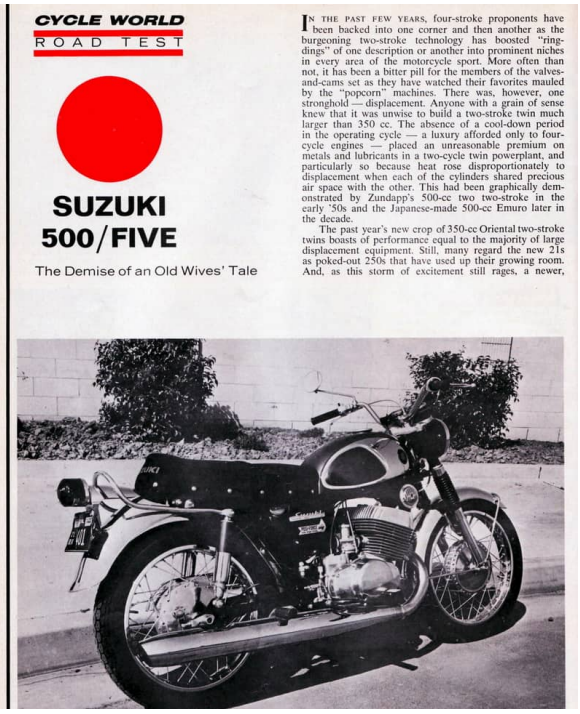
The Cobra/Titan went through very few serious changes in its production life thus showing the rightness and thoroughness of the original design/testing work. The two most important changes were:
– modification of the main engine castings to give better transmission lubrication. This occurred somewhere during the early part of the 1973 model year.
– change of the front forks/brakes over to more modern units with single disk brake at the beginning of the 1976 model year.

Other than those two major changes and the usual annual "Detroit-style" colour and trim changes, the Cobra/Titan stayed pretty much as originally designed all the way through to the end of production.

Thousands of them are still on the road today, 35 years after the first one rolled off the assembly line at Suzuki's Hamamatsu plant. Reasonable purchase price, faithful as a St. Bernard (and easy to fix if something did go wrong), no evil handling vices hidden away in the frame anywhere and capable of running as long as you could sit on the saddle and hang onto the bars. And all this from a type of motorcycle (two stroke) with a reputation for supposedly poor durability. What else could you ask for from any motorcycle ??

This is one of very few "modern" motorcycles with a fairly large and loyal worldwide following of enthusiasts that are still resurrecting, riding, racing and restoring a single model of motorcycle.

Copyright © 2003, R. W. Best (H2RICK)



CYCLE WORLD
ROAD TEST

SUZUKI
500/FIVE

The Demise of an Old Wives' Tale

IN THE PAST FEW YEARS, four-stroke proponents have been backed into one corner and then another as the burgeoning two-stroke technology has boosted "ring-dings" of one description or another into prominent niches in every area of the motorcycle sport. More often than not, it has been a bitter pill for the members of the valves-and-cams set as they have watched their favorites mauled by the "popcorn" machines. There was, however, one stronghold — displacement. Anyone with a grain of sense knew that it was unwise to build a two-stroke twin much larger than 350 cc. The absence of a cool-down period in the operating cycle — a luxury afforded only to four-cycle engines — placed an unreasonable premium on metals and lubricants in a two-cycle twin powerplant, and particularly so because heat rose disproportionately to displacement when each of the cylinders shared precious air space with the other. This had been graphically demonstrated by Zundapp's 500-cc two two-stroke in the early '50s and the Japanese-made 500-cc Emuro later in the decade.

The past year's new crop of 350-cc Oriental two-stroke twins boasts of performance equal to the majority of large displacement equipment. Still, many regard the new 21s as poked-out 250s that have used up their growing room. And, as this storm of excitement still rages, a newer,

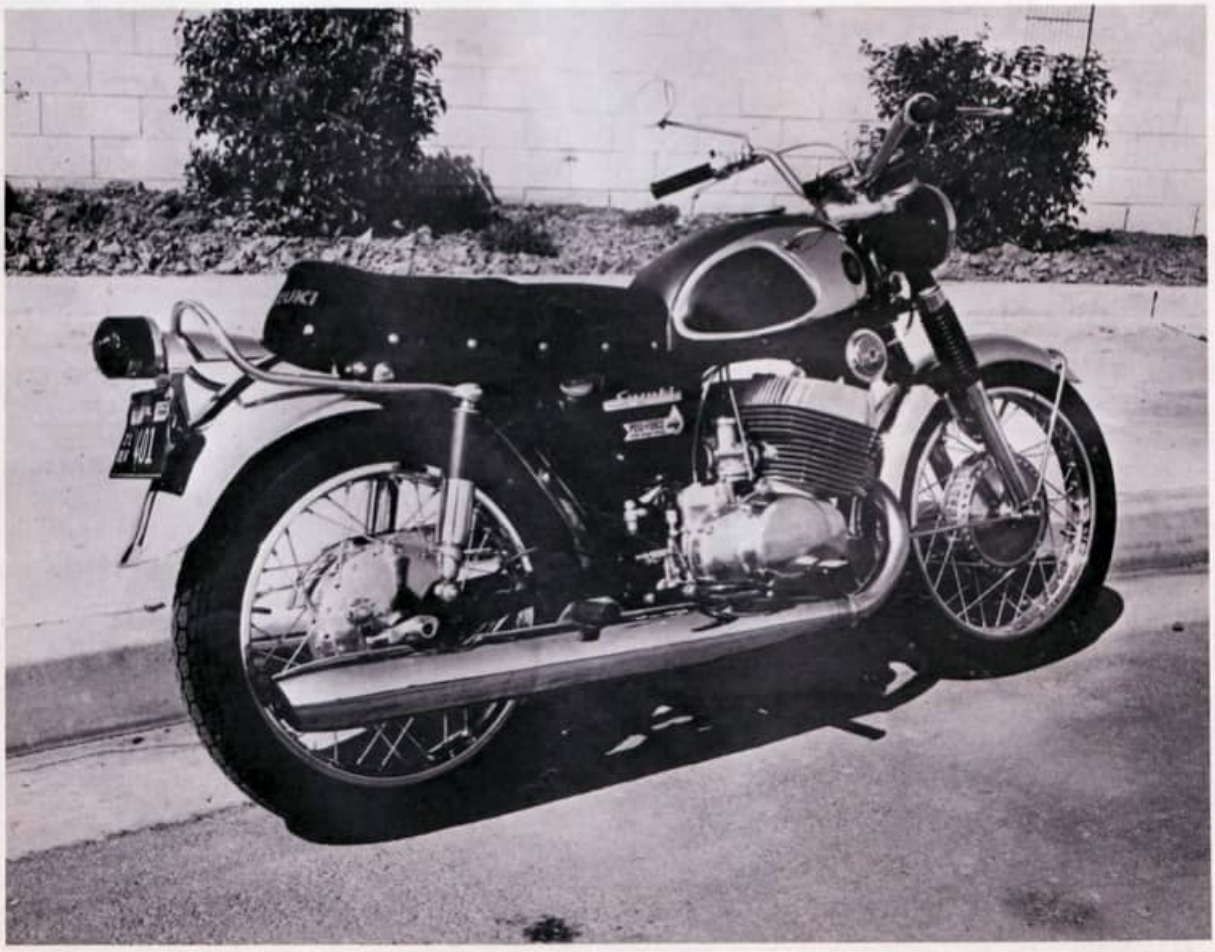
CYCLE WORLD
ROAD TEST

SUZUKI 500/FIVE

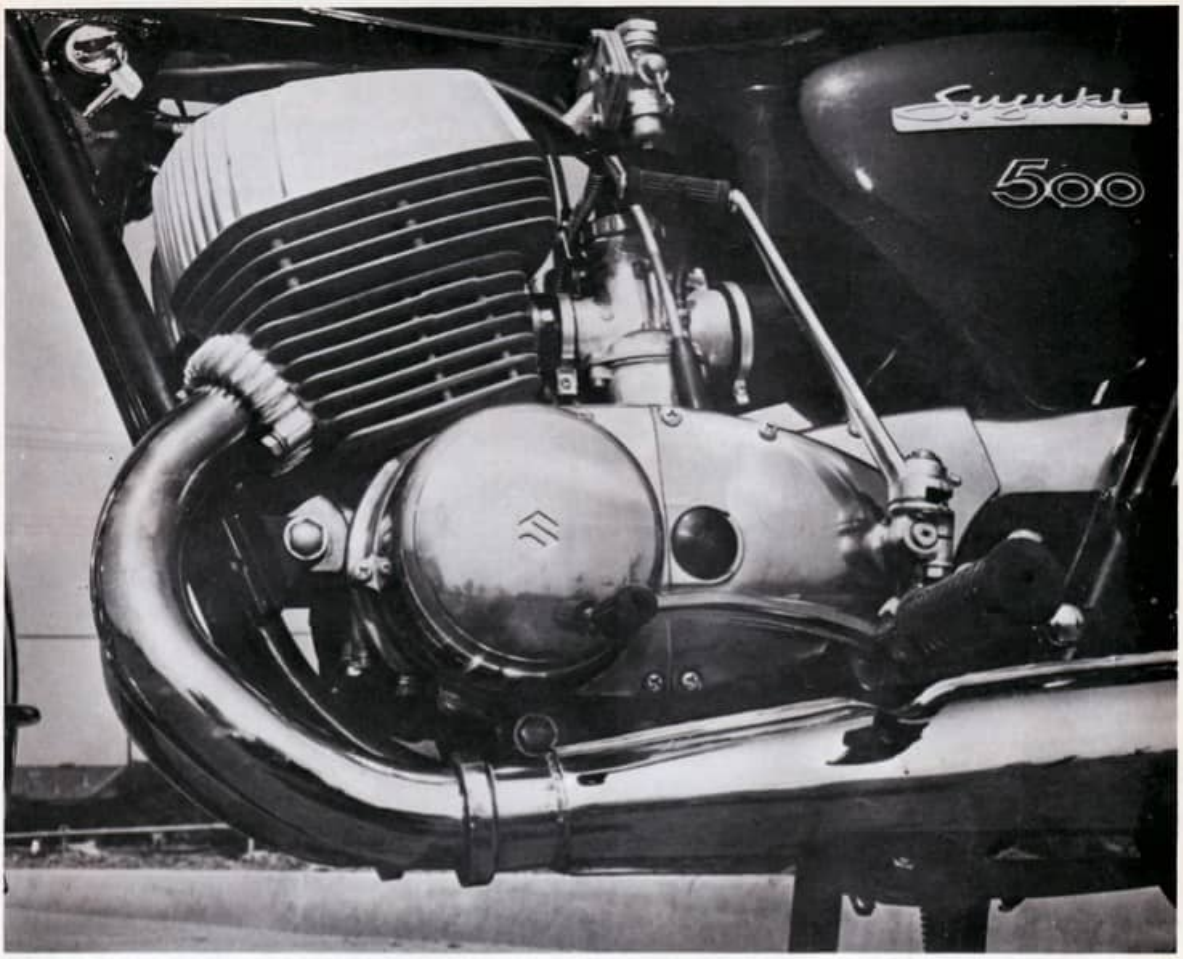
The Demise of an Old Wives' Tale

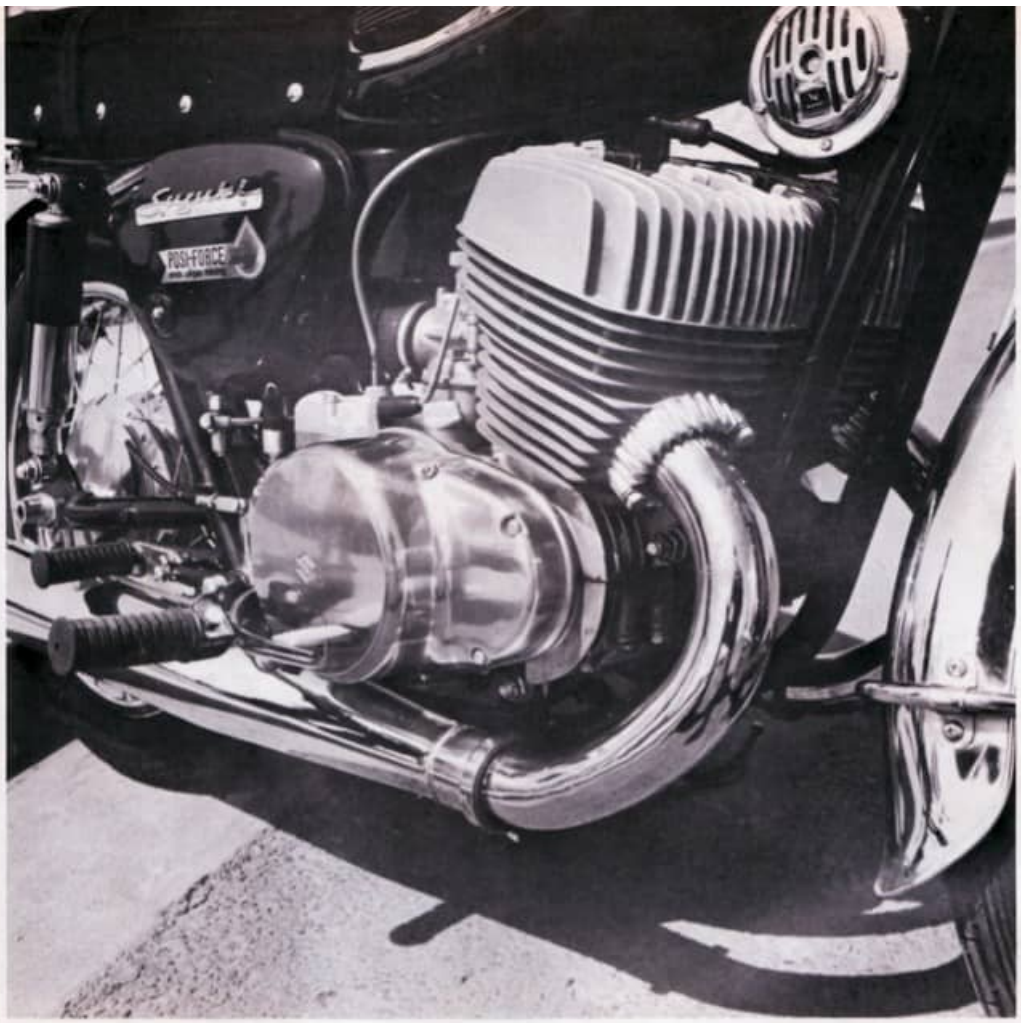
IN THE PAST FEW YEARS, four-stroke proponents have been backed into one corner and then another as the burgeoning two-stroke technology has boosted "ring-dings" of one description or another into prominent niches in every area of the motorcycle sport. More often than not, it has been a bitter pill for the members of the valves-and-cams set as they have watched their favorites mauled by the "popcorn" machines. There was, however, one stronghold — displacement. Anyone with a grain of sense knew that it was unwise to build a two-stroke twin much larger than 350 cc. The absence of a cool-down period in the operating cycle — a luxury afforded only to four-cycle engines — placed an unreasonable premium on metals and lubricants in a two-cycle twin powerplant, and particularly so because heat rose disproportionately to displacement when each of the cylinders shared precious air space with the other. This had been graphically demonstrated by Zundapp's 500-cc two two-stroke in the early '50s and the Japanese-made 500-cc Emuro later in the decade.

The past year's new crop of 350-cc Oriental two-stroke twins boasts of performance equal to the majority of large displacement equipment. Still, many regard the new 21s as poked-out 250s that have used up their growing room. And, as this storm of excitement still rages, a newer,



Courtesy of H2RICK


Suzuki
500



bigger, faster two-stroke bomb, the Suzuki 500/Five, is dropped on us, and we see the myth concerning displacement limitations for two-cycle engines go flitting out the window. Is nothing sacred?

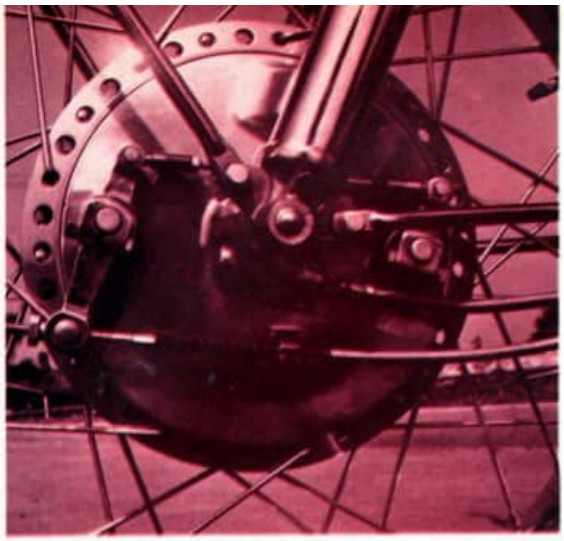
The Suzuki 500/Five — or something just like it — was bound to appear at about this time; in the past ten years, industry in general has enjoyed an explosively expanding technology in metallurgy, in heat dissipation schemes, and in lubrication, and with this growth has come a greater understanding of the fundamentals of physics. Perhaps this seems a rather grand spring-board from which to launch an analysis of an everyday device such as a motorcycle — but then, the 500/Five is a rather grand motorcycle that, like as not, would not have been feasible a few years ago.

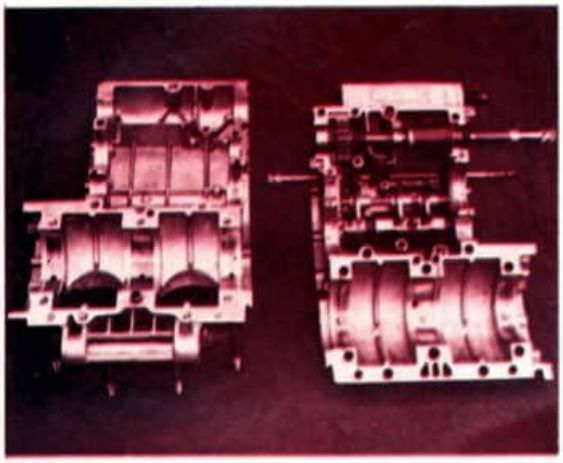
The 500/Five doesn't depart from current, common design practice. It simply has all the accepted items — in spades. Its built-up crank is carried in three massive roller bearing assemblies. These are mated to the horizontally split cases with O-ring seals which prevent oil from seeping between the bearing recesses and the outer races into the clutch and electrical chambers.

In the smaller twins, adequate clutch oiling is assured by routing oil, cast from the gearbox into a reservoir that supplies oil to the center main bearing, into the clutch chamber where it duly returns to the transmission — at least that is what is supposed to occur. Most of the time this system works well, but occasionally the clutch chamber finds inself with more oil than it needs, while the top-mounted gears in the transmission run high and dry for want of a sufficiently high oil level. The 500/Five Suzuki still employs transmission oil to lubricate the center main, but, instead of routing the oil into the clutch chamber, it is returned directly to the transmission. The clutch is supplied by way of a passage from the transmission that ensures that both systems have neither more nor less lubrication than they require.

The caged needle bearing assemblies at both ends of the connecting rods are noticeably heavy duty. Both are lubricated by oil mist which is created when the straight oil from the Posi-Force lubrication system passes through the outer main bearings and into the crank chambers where it is mixed with the incoming fuel/air mixture. The connecting rod big ends are split, to expose the middles of the needle bearing assemblies to the oil-mist atmosphere in the crank chambers.

The 500/Five's pistons bear examination because they





employ windows, rather than notches, for port control. This design, uncommon in production machines because of its higher manufacturing cost, provides the pistons with full-circumference skirts that are stronger than notched ones, and quieter; the "bridges" between the solid portions of the skirt damp, to a great degree, the rattling operating sound that is common to notched-skirt pistons. The massive alloy cylinders are fitted with an equally generous set of steel liners that will comfortably accept a couple of rebores. Replacement pistons will be offered in 0.020 and 0.040 in. oversize, and when this rejuvenation approach has been exhausted, the cylinders can be refitted with new liners of the original dimension.

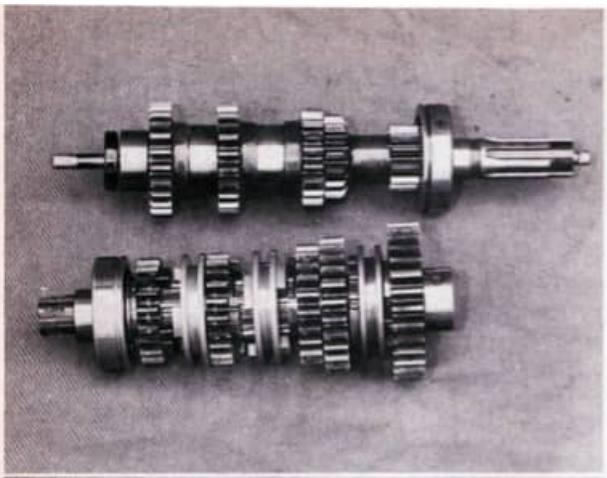
Porting is not as generous as might be expected of an engine that performs as strongly as this one. Abundant material around the ports promises good potential to the performance-minded enthusiast. Barrel-to-cylinder mating of the ports is quite good. The soft state of tune of the 500/Five is evidenced again by the mild geometric compression ratio of 6.6:1 for the hemi-chambered heads.

On the intake side of the track is the 500/Five's pair of great walloping 34-mm Mikuni VMs, with excellent delivery capabilities. Despite their choke sizes, the carburetors are pleasantly tractable at all engine speeds. On this point, much credit must be given to the method used to vent the float chambers. A static probe-like port is cast into the intake nozzle and is connected to the float chamber with a cast-in passage. Air passing through the intake siphons air from the port and, consequently, from the float chamber. At low engine speeds, with proportionately low intake velocities, the siphon effect is moderate and, as a result, a desirable pressure is maintained in the ullage portion of the sealed float chamber to prevent more fuel than is required from entering the chamber. Conversely, as engine speed increases, and with it intake velocity, the siphon effect increases and lowers the ullage pressure in the float chamber, which permits the fuel flow rate into the chamber to increase to meet the engine's increased requirements. Paired with the vacuum-operated positive-shutoff fuel tank tap, introduced on the X-5, the 500/Five's carburetors offer one of the most advanced fuel feed systems to be found in motorcycling.

The totality of the 500/Five development program appeared time and again throughout evaluation and road testing. The transmission, for example, departs significantly — but not drastically — from what could be expected from Suzuki's competent gear train designers, who already have some good things going for them with the X-5 and X-6 layouts. The key innovation is the drum shifter assembly which, instead of using encircling shifting forks on the drum, employs stubby half forks, mounted on an independent shaft, that have nubs which engage the indexing slots on the drum. This design results in a reduction of fork-to-drum contact area that is attended by an absence of galling which occurs when minute particles from wearing-in gears happen to slip between a shifter drum and an encircling fork.

Chief characteristic of the transmission is sturdiness, with wide gears, needle bearings inboard on the shafts, and rollers supporting the ends. The transmission receives an additional and unfamiliar chore on this model; a worm gear on the "lazy" end of the countershaft drives the oil pump. Potentially, the only thing wrong with this is that neither the pump, nor the tachometer, operates when the clutch is disengaged. Realistically, this is of no consequence unless, of course, the engine were run at high speed with the clutch pulled in for a long period of time.

The Suzuki family resemblance is strong in the new chassis. Its appearance is a scale-up of its two smaller brothers. The frame is constructed of heavy-wall tubing, fabricated gussets, fine welding, and satisfying triangula-



tion. In general, the frame is a full duplex design that departs from the "accepted standard" in that the base tubes do not arc upward to meet the top tubes at the seat/tank juncture, but, instead, incline casually up and rearward to intersect the top members at the upper rear shock mount. The rear swing arm assembly is stout, reinforced by a large gusset aft of the pivot tube.

The 500/Five can be faulted on only one point, suspension. Unfortunately, for a motorcycle as fast as this one, poor suspension is a grievous shortcoming. The entire suspension system is not to be harshly criticized, however. The rear spring-shock units are well applied to their duties with spring rates that suit the weight and purpose of the motorcycle and damping that cannot be disparaged. The front fork assembly is another matter. It is plagued with a set of too-soft springs and cursed with dampers that would scarcely be missed if they were left at home. Conversation with service reps from U.S. Suzuki revealed that experiments with damping oil many weight grades heavier than recommended had improved the condition, but certainly not cured it. It's entirely possible, however, that this problem soon will be rectified by a design change.

During performance testing the 500/Five's strength was clearly demonstrated when CW alternated acceleration runs with U.S. Suzuki's flyweight road tester. His all-or-nothing technique produced a slightly better ET — 13.9 — but a lower speed — 91.4 mph.

Some of the 500/Five's more endearing virtues — performance aside — concern its civility and suitability as a high-speed tourer. There's little question that a great deal of money and head scratching have gone into the design of the exhaust system which is pleasantly throaty and totally inoffensive.

Riding position and comfort are very agreeable, and the bike readily accommodates riders sized from medium to extra large. The seat, covered in a non-slip material, is a little too firm and tends to become board-like after several hours of riding without a break. Controls positioning and action, with exception of the gear selector, are so satisfactory that the motorcycle has an instant at-home feeling. Selector movement is longer than it should be, and missed cogs — particularly the 4th to 5th change — are a regular thing if the left foot is not moved decisively upward. However, this is something that can be lived with, and it's not difficult to call to mind a dozen other motorcycles that are more irritating in this respect.

The 500/Five's brakes are superb with predictable action and high fade resistance. The front unit, as might be expected, is a robust, double-leading-shoe unit that can be encouraged to completely stop the front wheel at almost any speed. Used prudently, it is a comfortable confidence builder that offers a wide margin of safety.

Suzuki has been a leader in providing customers with proper electrical systems. (Suzuki was one of the first two manufacturers to win acceptance of lighting systems by the very particular California Highway Patrol.) The components on the 500/Five indicate Suzuki remains a leader in this area. Lights are very bright at any engine speed, all switches perform without flaw, and circuit integrity is perfect. The AC ignition is partially independent of the main electrical system in that the engine can be started and run with a dead battery, or with no battery at all. However, this is recommended only as an emergency measure because the ignition is dependent upon battery current to augment its output at low engine speed.

Viewed as a package, a concept, a milestone, the Suzuki 500/Five qualifies as one of the most exciting and best engineered motorcycles on today's market. It has exploded an absurd myth and may, itself, be destined to become a legend, or, at the very least, a benchmark at the beginning of a brand new game. ■

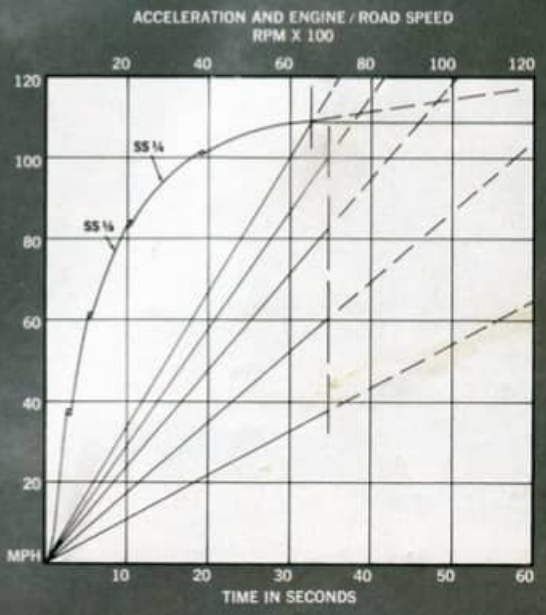
SUZUKI 500/FIVE

SPECIFICATIONS

List Price	$1039
Suspension, front	telescopic fork
Suspension, rear	swing arm
Tire, front	3.25-19
Tire, rear	3.50-18
Brake, front, dia. x width, in.	8.0 x 1.6
Brake, rear, dia. x width, in.	7.0 x 1.6
Total brake swept area, sq.-in.	75.3
Brake loading (test weight/swept area) lb/sq-in.	7.3
Engine type	2-stroke twin
Bore and stroke (inches-millimeters)	2.76 x 2.52, 70 x 64
Displacement (inches³-centimeters³)	30, 492
Compression ratio	6.6:1
Carburetion	(2) 34-mm Mikuni VM
Ignition	battery and coils
Bhp @ rpm	46 @ 7000
Oil System	oil injection
Oil capacity, pts.	5.2
Fuel capacity, gal.	3.7
Starting system	kick, folding crank
Lighting system	12v, AC generator
Air filtration	washable paper
Clutch	multi-disc, wet plate
Primary drive	gear
Final drive	single-row chain
Gear ratios, overall:1	
5th	4.38
4th	5.06
3rd	6.17
2nd	8.31
1st	13.30
Wheelbase	52.7
Seat height	32.3
Seat width	11.8
Foot-peg height	11.9
Ground clearance	6.3
Curb weight (w/half-tank fuel)	391
Test weight (fuel and rider)	551

PERFORMANCE

Top speed	109
Maximum speed in gears (@ 7000 rpm)	
5th	117
4th	101
3rd	83
2nd	61
1st	38
Mph per 1000 rpm, top gear	16.7
Speedometer error	
30 mph indicated, actually	28.6
50	49.5
70	64.9
ACCELERATION, ZERO TO —	
30 mph, sec.	2.4
40	3.3
50	4.2
60	5.2
70	7.3
80	9.2
90	12.8
100	18.2
Standing 1/8-mile, sec.	8.6
terminal speed	77
Standing 1/4-mile, sec.	14.1
terminal speed	94



Hyside racing T500

Got this info from Hyside Racing about their pipes and some pics…..

“The spec I am running on my T500 is actually TR750 spec, my cylinders are ported to T500 race spec, which was sent out by the factory back in the 70’s running with 36mm carbs, Pete is building one at the moment which will have TR500 watercooled spec pipes on it, same porting but with 38mm carbs.

Pete’s Pipes are not just off the shelf one spec, Pete has been building 2 stroke pipes for over 35 years, he has found that the later spec pipes are not as peaky with the power delivery, as the early ones, so making the bike a bit easier to ride and seems to give just as much power. You are always better off building the pipes to suit the bike, rather than trying to build a bike to suit a set of pipes.

I have attached a pic of the pipes on my bike, but as you will see I don’t have a standard frame.

Martin –

Got this info from Hyside Racing about their pipes and some pics…..

“The spec I am running on my T500 is actualy TR750 spec, my cylinders are ported to T500 race spec, which was sent out by the factory back in the 70’s running with 36mm carbs, Pete is building one at the moment which will have TR500 watercooled spec pipes on it, same porting but with 38mm carbs.

Petes Pipes are not just off the shelf one spec, pete has been building 2 stroke pipes for over 35 years and will build the pipes to suit your bike, he has found that the later spec pipes are not as peaky with the power delivery as the early ones so making the bike a bit easier to ride and seems to give just as much power. sorry I cant help you with any dyno sheets or graphs as I dont have any, believe me Pete doesnt normaly get it wrong, as long as

he has the spec of your engine he will work it out, you are always better off building the pipes to suit the bike, rather than trying to build a bike to suit a set of pipes.

I have attached a pic of the pipes on my bike, but as you will see I dont have a standard frame, I dont have any pics at the moment of a set on a standard frame I will have in a couple of weeks. also a pic of some T250 pipes.

I hope this answers some of your questions, please feel free to contact if you need any more info

Many thanks, Martin, Hyside Trading Qld

T500

Daniel rides a GT500 in New Zealand

I am Daniel, I just got a hold of a GT500 to race here in New Zealand. I don't have a race licence yet but race at "have a go" days. I thought you would like to know that these things are still around in New Zealand. I am still building this bike to be competitive; but, hell its fun. Here's some pics of me on it at Teretonga in Invercargill.

007
71

Cobra T500 at the Reynolds-Alberta Museum

Tony Jarvis wrote:

“Down the road from me here in a place called Wetaskawin is a Transportation Museum called the Reynolds-Alberta Museum. Starting on May 14th this year they opened a two year display called “Life and Times of the Motorcycle” All together there are 150 motorcycles of all years and makes on display. I was there on opening day along with about 250 other bikers. It’s a great display and they have published a book showing all the bikes in the collection. As you guessed, there was a 1968 T500 there that I photographed like crazy. The bike belongs to Kenneth New of Edmonton.”

Suzuki

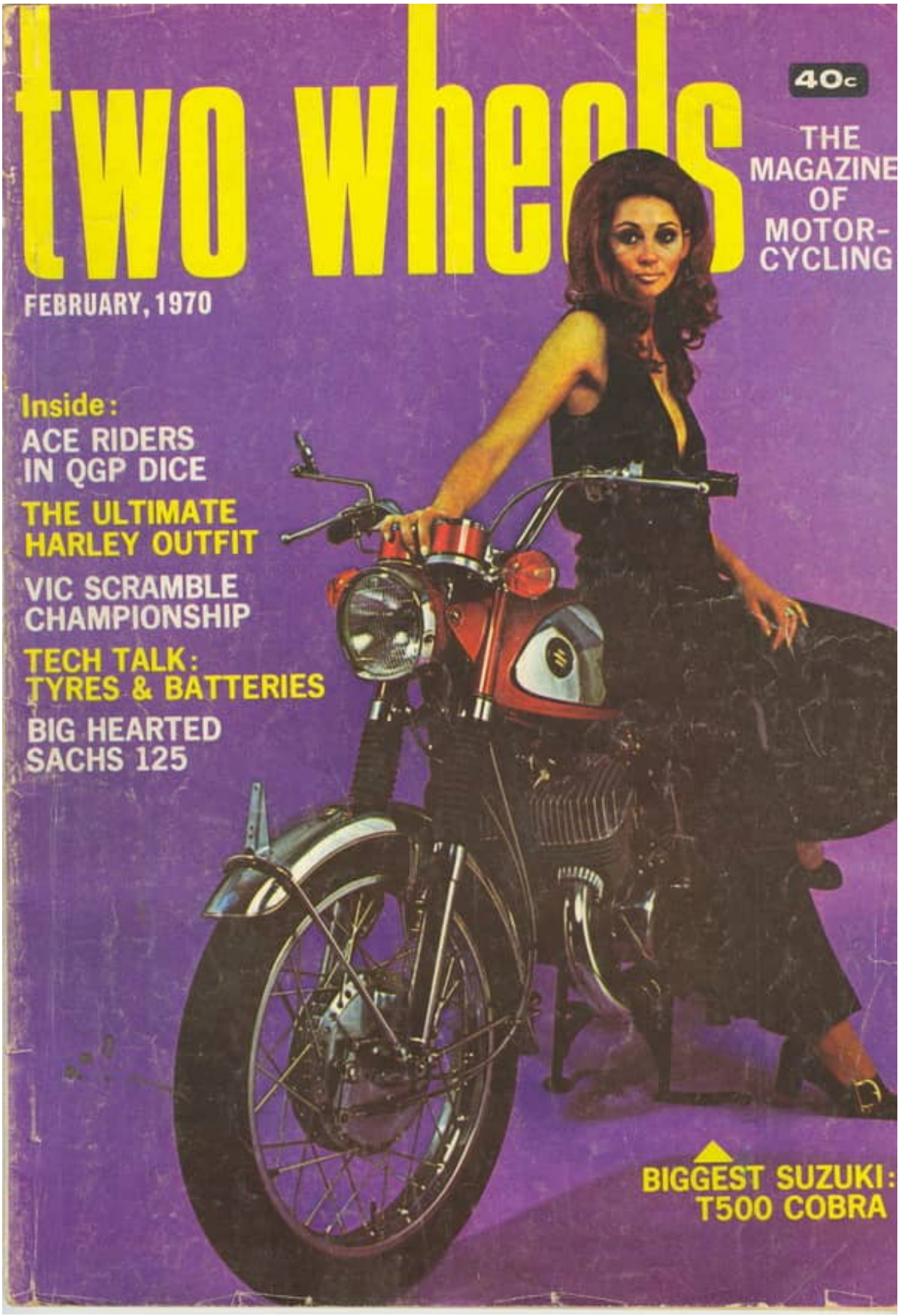
Suzuki

Ed. *Nice replica….I am sure the best part of the bike is original but it looks like a later model motor has been dropped in and a later model front guard. Still looks real good though..*

Cobra T500 & sidecar

RPM X1000

T500 Cobra Road test – Two Wheels Australia – Feb 1970



Already replaced by the T500II by the time this report was published…..

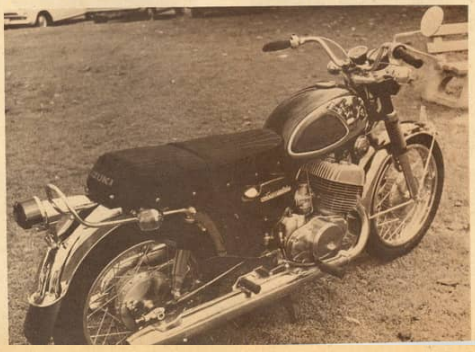
THE BIGGEST SUZUKI

Suzuki's T500 Cobra is now well-known in NSW as the other bike the Police Department uses. It's been on the market for a while now, but we've only recently had the opportunity to test one. Apart from its low price, the biggest Suzuki offers performance and good looks, and marvellous 'pose' value.

THE Suzuki T500 Cobra is the cheapest high performance motorcycle on sale in Australia. Acceleration and top speed are in the class formerly associated with the big 650 and 750 English twins at around $1200.

Basically, the T500 is no different from current two-stroke twin design trends, it's merely bigger and faster.

Styling is basically clean and uncluttered, with powerful lines. Engine really fills the frame.



Unlike the other 500 cc two-stroke the T500 has not broken new ground.

Of course, at the time of its introduction a few years ago it was considered radical because it was the first time a really successful touring 500 two-stroke had been made.

Actually what Suzuki have done is built a machine with all the performance a sane man could want, coupled with marvellous flexibility.

As a result the T500 is a fine touring cycle — power is available all through the range.

It is possible to go from under twenty miles an hour to well over 100 in top with a smooth surge of power which has to be felt to be believed.

Performance can be summed up briefly by saying that it will crack 15 seconds for the quarter, pull 101 (at around 7000 rpm) in fourth and will run out to about 115 in fifth under good conditions if a long enough road can be found. Obviously performance is more than adequate.

The cause of this staggering performance is a two-cylinder two-stroke of 492 cc (70 mm bore x 64 mm stroke) developing 46 bhp at 7000 rpm. (By way of comparison the Triumph Daytona 500 develops 41 bhp at 7200 rpm and the Honda CB 450 45 bhp at 9000 rpm.)

The engine is in fairly mild state of tune with the compression ratio on 6.6:1, leaving a considerable amount of room for future development.

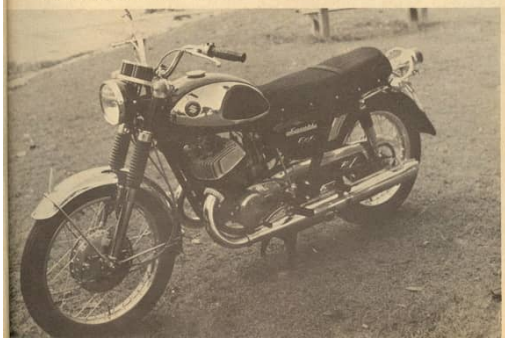
The power is transmitted by a five-speed gearbox. This has a fairly wide gap from first to second with the upper four ratios closer together. However, the first to second gap is hardly noticeable because of the abundance of bottom end torque.

The engine's torque range is the reason the machine is such a pleasant day to day tourer. One rides the machine in a lazy, quiet fashion rarely wrapping the throttle on, for the performance is adequate anyway.

This is probably why the NSW Police Department is using the Suzuki for police work. It is flexible around town, is not tiring to ride and has enough performance to catch all but the most determined

Cylinders are slightly inclined forward, and are fed by two carbies of staggering diameter.

Double leading shoe front brake stops the big, powerful bike well, and lights are more than adequate.



stroke twin design trends, it's merely bigger and faster.

Unlike the other 500 cc two-stroke the T500 has not broken new ground.

Of course, at the time of its introduction a few years ago it was considered radical because it was the first time a really successful touring 500 two-stroke had been made.

Actually what Suzuki have done is built a machine with all the performance a sane man could want, coupled with marvellous flexibility.

As a result the T500 is a fine touring cycle — power is available all through the range.

It is possible to go from under twenty miles an hour to well over 100 in top with a smooth surge of power which has to be felt to be believed.

Performance can be summed up briefly by saying that it will crack 15 seconds for the quarter, pull 101 (at around 7000 rpm) in fourth and will run out to about 115 in fifth under good conditions if a long enough road can be found. Obviously performance is more than adequate.

The cause of this staggering performance is a two-cylinder two-stroke of 492 cc (70 mm bore x 64 mm stroke) developing 46 bhp at 7000 rpm. (By way of comparison the Triumph Daytona 500 develops 41 bhp at 7200 rpm and the Honda CB 450 45 bhp at 9000 rpm.)

The engine is in fairly mild state of tune with the compression ratio on 6.6:1, leaving a considerable amount of room for future development.

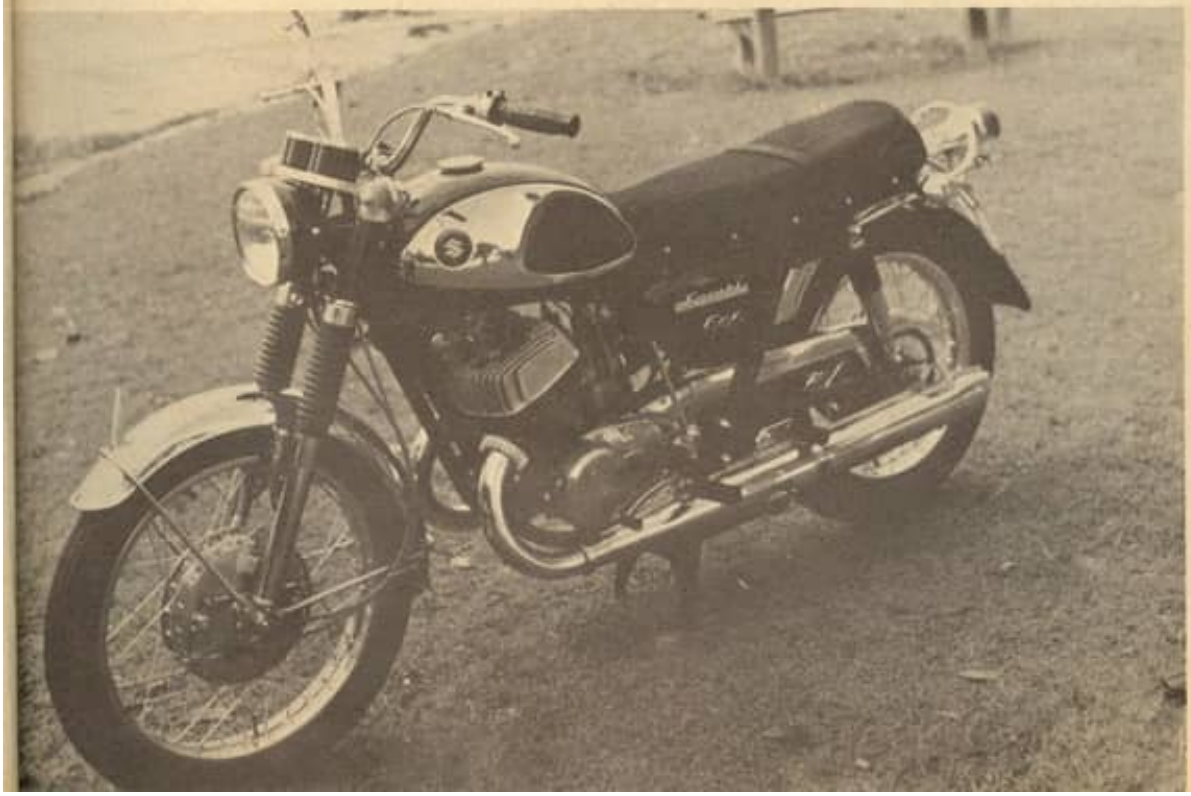
The power is transmitted by a five-speed gearbox. This has a fairly wide gap from first to second with the upper four ratios closer together. However, the first to second gap is hardly noticeable because of the abundance of bottom end torque.

The engine's torque range is the reason the machine is such a pleasant day to day tourer. One rides the machine in a lazy, quiet fashion rarely wrapping the throttle on, for the performance is adequate anyway.

This is probably why the NSW Police Department is using the Suzuki for police work. It is flexible around town, is not tiring to ride and has enough performance to catch all but the most determined

Cylinders are slightly inclined forward, and are fed by two carbies of staggering diameter.

Double leading shoe front brake stops the big, powerful bike well, and lights are more than adequate.



speeder, and its low state of tune should keep it out of the workshop.

I found the T500 a very comfortable motorcycle. Few machines seem to fit, one usually climbs on and has to spend some miles working out the best riding position.

Not so the Suzuki. I felt at home at once.

The handle bars are wide and comfortable for most touring; although anyone indulging in continuous high speed work would do well to fit a lower set to minimise wind buffeting.

The handgrips are literally a handful, being soft and easy to grip with the minor controls easy to manipulate even with mittens and readily to hand.

The other comfort bit, the seat, is fine. It's wide and soft and very comfortable with plenty of room for two. The material that it is upholstered with seems strange at first sight but is tough and should be long-wearing.

The foot controls are well positioned and easy to use, even when sitting forward with a pillion passenger.

Although the T500 is heavy (391 lb) it feels light to

(Continued on page 58)

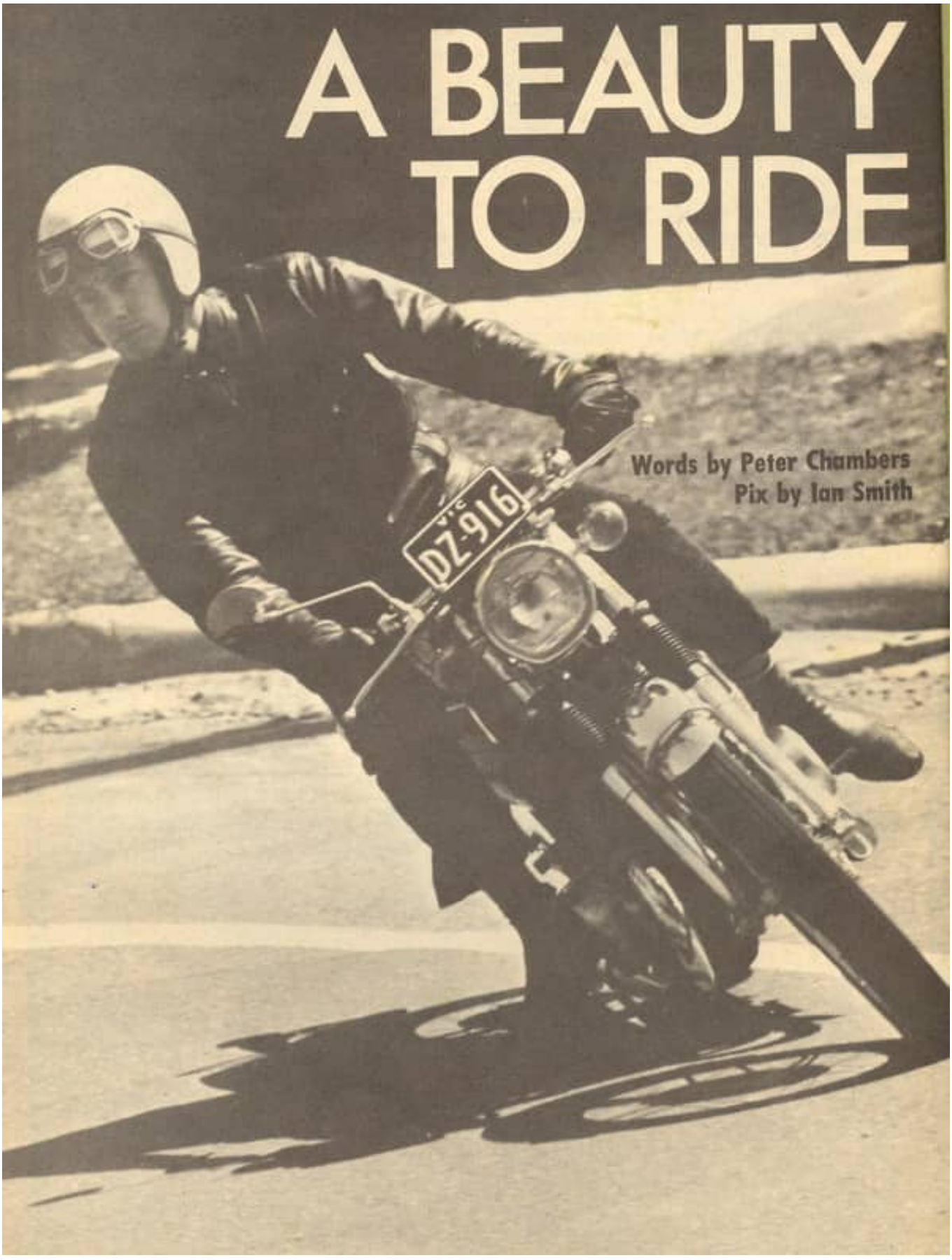
The big 500 cc two-stroke twin-cylinder power plant is supported in a double-cradle type frame.

The mighty Suzuki T500 Cobra stands hip-high to a six-foot-something editor — it's a big bike!

Tony's Suzuki T500-II

Tony Jarvis. in Canada, has owned this wonderful machine since 1974

Suzuki T500-II road test – Two Wheels Australia – March 1970



A sports road bike that feels like a racer in the best sense — a strong but docile motor, superb handling and cornering . . . that's Suzuki's Titan.

THE Suzuki Titan is one of those rare motorcycles that is "right". A 500 cc twin-cylinder two-stroke that was revolutionary when it first appeared, it has now been overtaken in technical innovation by some of the so-called "superbikes" that have hit the scene.

It is not the fastest in top speed, nor the quickest in acceleration in its class. It is not the smoothest or the lightest, but it's a beauty, both to look at and to ride.

The looks of the Titan caused appreciative comments everywhere we went. It is even better looking than in our photographs, thanks to the gorgeous greeny gold duco on tank and side panels, as well as the chrome and highly polished alloy that seem to cover the bike.

It is a beauty to ride mainly because all its characteristics work in harmony — none of this high top speed allied with feeble brakes, or shattering acceleration with appalling roadholding. But if we had to pick out the best points, we would talk about the handling and cornering, the superb brakes, and the docile but really strong power characteristics.

Probably the two most significant changes from the earlier Mark I Cobra, apart from appearance, are the 2mm smaller carbies and revised frame layout. The carbies give greater flexibility with hardly if any loss in peak power; the silencers are better tucked away for cornering, and the longer wheelbase makes for greater straight-ahead stability.

The wheelbase now extends to 57 inches, longer than nearly all other bikes under 700 cc. You would imagine that this, with the 5.4 in trail, would make the cornering rather slow and heavy, but this is not so. The 412 lb weight of the Titan feels at least 50 lb lighter.

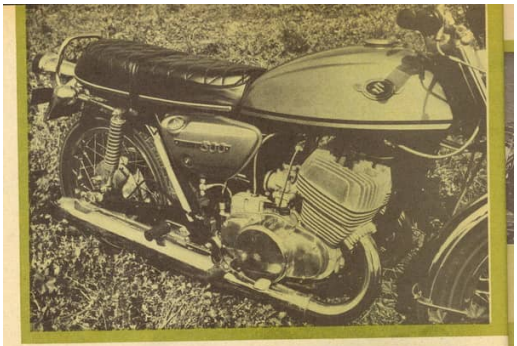
We can't claim credit for the extreme chamfering of the right footrest on the test bike in our pictures: this was done by Peter Jones, Suzuki distributor Melbourne Motorcycles' employee, in winning the recent production race at Winton circuit. Now, Winton has very tight right handers, and in normal conditions on the road I would venture to say that you would grind the footrests only rarely and when you know bike and corner very well.

Chambers in the weeds. You feel good just sitting on it, but it goes extra well, too.

That Mercury Cougar is a real tyre-spinner, but it's no match for the Titan in acceleration.

The flat bars of the Suzuki Titan give a slight forward lean which is comfortable for fast touring.

Its long wheelbase makes the Titan very controllable on surfaces such as this.



The Titan feels like a racer in the best sense. It has fine steering and a willingness to be flopped down in a corner and holds its line. The eight-inch twin leading shoe front brake is incredible. It can be adjusted so that it comes on after only a quarter inch of play with no binding, is very powerful and yet has ample sensitivity to prevent inadvertent lock ups. (The linings fitted on this particular machine are MZ41). Our average braking distance from 30 mph was 28 feet, in four test runs.

Although the suspension feels firm, and can allow the back wheel to hop out a little on fast bumpy bends, it also, oddly enough, tends to bottom on big bumps when riding two up. Still, the Titan passed the Melbourne Tramline Test with flying colors, hardly deviating at all over the nastiest ruts we could find on the dressed Toorak Road tramlines. Curiouser and curiouser. Sadly, the ruts will have been smoothed out by the road menders by the time you read this, so we will have to find another location for this particular test in future.

A serious fault, but one that is easily cured, concerns the Japanese "Inoue" tyres. Fine in the dry — and probably very long lasting — they could be lethal in the wet if the Titan wasn't so predictable, and will be if the rider is fool enough to be rough with the loud handle.

Wheelspin can be fun if there's no one about and you're pointed straight, but we would rather have the choice to avoid it that a stickier tyre rubber would give.

Power builds up progressively from as low as 2000 revs to the claimed 47 bhp peak at 7000, and there is no sudden kick in the back to worry about. In spite of having been used to win a race, the engine at that time had not been revved over 6000. Claimed maximum speed is 110-120 mph. In our hands the bike zoomed up to 90 with no worries, but a slight hesitation at around 6000 in the gears disunded me from trying any more. The hesitation was probably due, I later discovered, to the original well-worn plugs, which were replaced after the Winton meeting.

Smooth lines, beautiful styling. The quilted seat isn't quite as comfortable as it looks. The white tyre pump is too obvious to light fingers.

The bike seems capable of comfortable cruising speeds anywhere between 50 and 90 in top. Just below 55, at about 3500 rpm, there is a slight rough spot, but from there to maximum revs the engine is absolutely smooth. The agreeable "honk" from the exhaust changes to a silky howl. Even at tickover it excites comment: my landlord stuck his head over the fence to say, "That's a nice noise!"

In acceleration against a Triumph Trophy 650, the Titan proved that it has the edge from a standing start. This indicates that the factory-claimed figure of 13.2 seconds for 400 metres (437 yards) would be just possible with a standard machine and a very good rider. After all, Peter Allen recorded 13.6 seconds for the quarter on a very good, but standard Trophy.

The gearing is excellent for a sports road bike. First is very low, which gives an easy getaway from the traffic lights. A big jump to second is followed by very closely spaced third, fourth and fifth gears: ideal for production racing.

The bike's flexibility is aided by the fact that it doesn't seem to mind what gear you are in, unlike certain of its competitors which are happiest in top gear. If circumstances or your mood dictate, you can drive for miles in third or fourth with no vibration or funny noises from the transmission.

Fuel consumption would be the only reason for staying in top, and this the Titan will also do quite satisfactorily. It is one of the best two stroke multis for pulling away at low revs in top gear.

We returned 45 miles per gallon in the 225 miles

(Continued on page 60)

Tacho and speedo here indicate the docility of this sportster which can still be ridden at low speeds without wobble or chain snatch.

That tank is a beauty. With the sky framing it, it's a work of art. Styling is tremendous.

SPECIFICATIONS

Wheelbase 57.2 in.
Ground clearance 6.3 in.
Tyres—front 3.25 x 19
rear 4.00 x 18
Dry weight 412 lb
Claimed top speed 110-120 mph
0-400 metres 13.2 seconds—claimed
Climbing ability 25 deg — claimed
Braking at 30 mph (mean of 4 runs) 28 feet

Capacity 492 cc
Bore and stroke 70 x 64 mm
Compression ratio 6.6:1
Claimed bhp 47 @ 7000 rpm
Claimed torque 38.3 lb/ft @ 6000 rpm
Starting by kick
Carburettors (2) 32 mm, VM32sc
Petrol tank capacity 3.1 gallons (3.6 pint reserve)
Cruising range 140— miles
Gear ratios: 1st 14.80; 2nd 9.20; 3rd 6.79; 4th 5.63; 5th 4.87.
40 degree steering right and left
61 degree caster
5.14 inches trail
90.6 inches turning radius
Theoretical top speeds in gears (@ 7000 rpm)
1st 39 mph; 2nd 64 mph; 3rd 83 mph; 4th 102 mph; 5th 117 mph

A BEAUTY TO RIDE

(Continued from page 10)

we rode the Titan, which is reasonable considering that some fuel would have been wasted when we were pottering about looking for photographic locations.

It is certainly better than the thirsty Cobra, which reputedly gulped a gallon for every 20 miles. With the 3.1 gallon fuel tank capacity, touring range is now about 140 miles between petrol stations. Less than one pint of oil was used every 100 miles, which is also reasonable for a two stroke.

This Suzuki has few faults for touring. Docile, with good lights and an above average horn, it has relatively mild fuel consumption, trouble-free starting and idling, effortless handling, the luxury of a seat strap *and* a grab handle for the passenger. The footrests are well positioned for comfort and control, in spite of the appearance of the rear ones: they look too small and too far inboard, but aren't, according to my pillion tester. The dual seat is ample for two people, but a bit hard after an hour's riding or so. The mirror is more useful than most. Not only is it correctly positioned, but the general absence of vibration makes it possible actually to see things to the rear.

Speedometer and tachometer on the Titan are well positioned and easy to read. Unfortunately the tacho follows engine speed very slowly. If you hold a constant speed and change through the top three gears, the immediate reaction of the tachometer is nil. True, those gears are close and it does eventually slide around to a more reasonable position, but rather reluctantly. Odd too, when first gear is engaged at rest, to see the needle gradually go down to 0, telling you incorrectly that the engine has stopped. However, when you move off the thing does wake up again, so it's not too bad.

The Suzuki engineers have obviously put some thought into the problem of neutral gear selection, and have come up with a novel solution. Neutral is bypassed when changing up from first to second. But there is a positive stop for neutral when going down through the gears, so it is easy to find when coming to a halt. Unfortunately it is also easy to strike neutral when changing down for a slow corner, in which case the rider loses some braking action and the facility to pull the bike upright again.

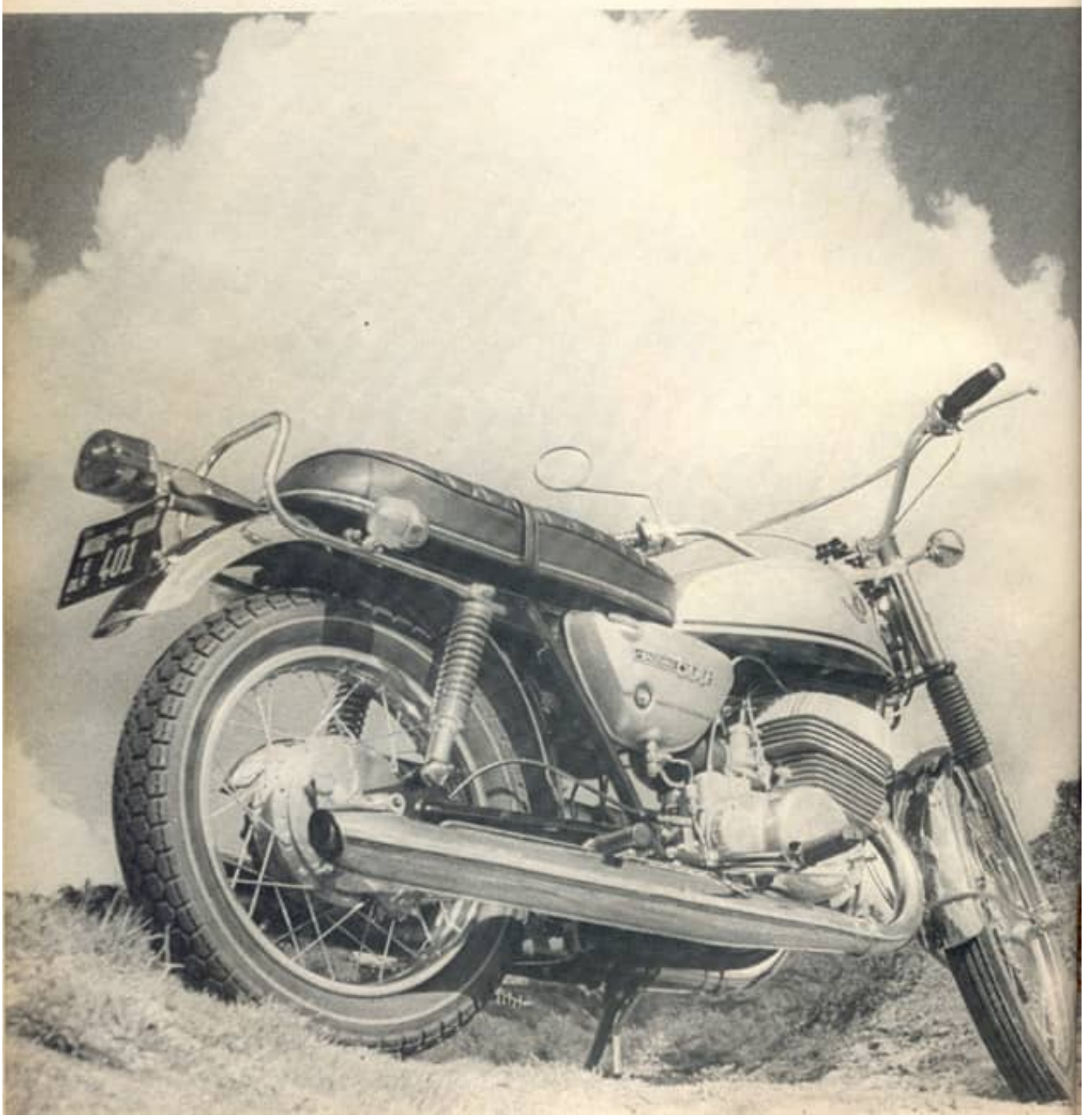
After testing the Titan, I was pleasantly surprised by its low Victorian price of $859. The machine's all round excellence led me to expect something higher. The Suzuki Titan may not have the extreme performance features of some of the "superbikes", but for most riders it will be far better value for money. #

Peter Jones left not only a lot of rubber but metal too from this footrest on the Winton track.

T500II Road Test – Cycle – June 1969

SUZUKI T-500 TITAN MARK 2

With red rings around the tires and a Colorado
Gold paint job, the Suzuki 500 is marvelous to behold.
And 47 bhp certainly ought to keep you ahead of traffic.



PHOTOGRAPHY: EBERHARD LUETHKE

Nobody in his right mind is going to tell you that Ron Grant's Daytona Suzuki was stock. The bike blitzed through the timing traps on the first day of practice at over 147 mph and qualified at 146.723, right behind the fastest AMA-stock Yamahas the world has ever seen (see *Daytona Report*), and finished the 200-miler a giddy second. Couldn't be standard, a bike like that. The frame, for one thing, was a special made-in-Japan double loop number designed specifically for the American racing market. Ceriani supplied the shocks, forks, and brakes. An entirely different ignition system was used.

But how about the engine? Must have a world of trick stuff in that baby, right? According to a spokesman for the factory racing team, no –no trick stuff. Not to say that it wasn't available–TR barrels and heads (with entirely different finning and porting) have been around for sometime–but the exotica wasn't used during the race for "reliability" reasons. So–stock, heads, cylinders, and crankcases. Modified, of course, but still production, and the results on the dynomometer showed no less than 68 hp with a cold engine, 61 after the engine warmed to operating temperature. All of which serves to demonstrate (again) one indisputable fact: the Suzuki 500, a motorcycle that everybody said couldn't be built, is *tough*. *And fast*. And after spending some time with the Titan II, frolicking about in the warm California rain, the big two-stroke impressed us as being not only tough and fast, but passibly smooth, tractable, and a generally well-mannered street machine. The biggest twin-cylinder two-stroke going is finally coming into its own. Considering what it has to offer, it's about time.

The 500 has been, almost since its introduction, the most highly stylized motorcycle this side of a full custom, and this year it's more stylish than ever. Two colors are available: Colorado Gold and Mesa Orange, either accented with black stripes running along the bottom of the fuel tank. Both fenders are chrome, and the seat has been the object of some fancy pleatwork. The engine cases are fully polished, the bolt-on equipment (shock springs, headlights, forklegs, etc.) is chrome-plated, and the tires, following the lead of the Detroit super-car manfacturers (who presumably have their hands around the pulse of young America), have been embellished for 1969 with red rings on the sidewalls. They don't stay on the tires as long as they might. Apparently when the fancy tires were submitted to Suzuki for approval the color was impregnated into the rubber. But a change was made, and now the rings are simply glued on. And tend to fall off in chunks.

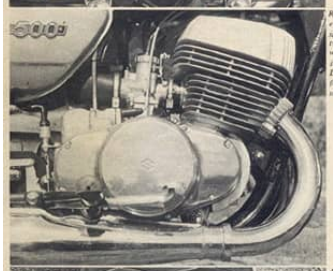
Tires notwithstanding it's an awfully sharp looking motorcycle, glittery, slick, quintessentially California-esque. Only a few things keep it from being one of the world's great motorcycles.

One, surprisingly, is air intake noise, always more of a problem with two-strokes than four-strokes. And the greater the engines's displacement the greater the quantity of air pulled in through the carbs, and the more the noise. When the Suzuki 500 was running along at a constant speed, at part throttle opening, it was no noisier than any other two-stroke. But yank up the carb slides at low or intermediate rpm and the noise was loud enough to start dogs barking miles away as it ricocheted off buildings and shook window-panes and raised hackles on the backs of policemen's necks. No kidding–its a real big, penetrating, intrusive, irritating noise that's difficult to get used to and impossible to enjoy–even if you're the meanest of the street-meanies. There doesn't seem to be anything that can be done about it without damaging the Titan's performance. And no-one with any sense is going to do *that*.

The Titan engine, even after a couple of years of exposure, is still the main attraction of this technicolor wonder. It continues to look outsized, which is remarkable considering the size of the total motorcycle. And the reason it's big is because it needs a lot of cooling-fin area to handle all that displacement. The engine employs a 180°-crank, a necessity for two-stroke twins (a 360°crank, of course, would result in a gigantic single), and conventional piston-port breathing. Conventional, that is, except for the fact that windows are used in the pistons instead of notches to transfer fuel air mixture from the crankcases to the ports. Windows permit material around the complete lower circumference of the piston, ostensibly making it stronger and less prone to slapping and rattling. The reason that windows in the pistons are somewhat unique is due simply to the fact that small pistons do not lend themselves readily to the kind of machining necessary.

Big pistons; big connecting rods; a good, beefy crank; noticeable vibration. It follows as the night and day. None of the vibration can be attributed to crank-flexing or a rocking couple (the crankshaft is supported by a gigantic roller bearing at each end and one in the middle). It's just that the engine's reciprocating parts are big. It doesn't vibrate any more than a 500 Triumph, say, or any other similar-displacement four-stroke; but the Suzuki is a two-stroke, and since we have come to expect very little vibration from two-strokes the 500-5's buzzing seems worse than it really is.

The 7600 rpm redline is pretty realistic, although the engine is capable of revving up to 7800 rpm.



Remember when everybody said a 500cc two-stroke twin was an impossibility! Lots of fin area make it work.

A few features, custom-looking pleated seat, among more comfortable around, and turn indicators.

SUZUKI 500 *Continued*

In truth, the vibration intrigues more than it annoys, because it moves around the motorcycle, affecting different areas at different engine speeds. The front of the seat shakes as the bike moves away from a halt–say 2000 rpm. In midrange the vibration affects the footpegs, and just before the next gear is engaged the handlebars (rubber-mounted) start to shake. But strangely enough the Suzuki settles down at reasonable cruising speed in fifth gear (3000-4000) rpm, and vibration, though still present, becomes barely noticeable.

Big pistons; big connecting rods; a good, beefy crank; noticeable vibration. It follows as the night and day. None of the vibration can be attributed to crank-flexing or a rocking couple–the crankshaft is supported by a gigantic roller bearing at each end and one in the middle. It's just that the engine's reciprocating parts are big. It doesn't vibrate any more than a 500 Triumph, say, or any other similar-displacement four-stroke; but the Suzuki is a two-stroke, and since we have come to expect very little vibration from two-strokes the 500-5's buzzing seems worse than it really is. In truth, the vibration intrigues more than it annoys, because it moves around the motorcycle, affecting different areas at different engine speeds. The front of the seat shakes as the bike moves away from a halt–say 2000 rpm. In midrange the vibration affects the footpegs, and just before the next gear is engaged the handlebars (rubber-mounted) start to shake. But strangely enough the Suzuki settles down at reasonable cruising speed in fifth gear (3000-4000) rpm, and vibration, though present, becomes barely noticeable.

Once we become used to it the Suzuki five-speed transmission was delightful. But it *did* take getting used to. Power is transmitted by helical-cut gear to the gearbox (as is the case with almost any Japanese two-stroke you'd care to name), and except for the fact that we found first gear to be a little tall for the hills of suburban Los Angeles (lots of clutch slippage was necessary), all ratios were perfectly satisfactory. It was the positive stop for neutral (only when shifting down) that threw us. Suppose you were lugging up a hill in second and went for first: pull in the clutch, wing the engine, stomp on the shift lever, and wing the engine again. Nothing happens, except an awful lot of engine rpms suddenly come on the scene, accompanied by this sort of stupid feeling. But you can get used to it pretty fast, and moving the shift lever a couple of times to get down to first sounds more awkward than it really is. And considering the amount of clutch slipping that has to be done in that ultra-high gear, a positive stop for neutral is more than likely a good idea. The clutch didn't get grabby on our machine. It might on another one.

The manufacturers claim 47 hp from the 493 cc (2.76" bore, 2.52" stroke) engine, and if the Suzuki 500 puts out any less than that we'd be the first to fall over dead with surprise. It's super-strong, no two ways about it. If you're at wide-open throttle when the power comes on in any of the lower gears, watch

out; that front wheel is bound to come up. Crank it on in fourth or fifth above 4000 rpm and the speedmeter needle is beating up against the 100 mark before you know it, the engine all the while putting out that tremendous moaning sound. And even at 100 there's still quite a bit left. Just before we returned the 500 to Suzuki headquarters in Santa Fe Springs, California we cruised at exactly 100 for a period of approximately 5 minutes–just to see what would happen. Nothing happened. The Suzuki moaned along, belly to the ground, and felt like it could have sustained the pace all day long. A cool hundred is no strain–the engine's cranking over at about 6000-6200 rpm at that ground speed, and has the capability of revving to 7000 if pressed. We didn't-at least not in fifth. And we doubt if the bike could have pulled maximum rpm in top gear anyway, since it is geared a little tall: + 4.79-1, or only .37 tighter than the Sportster and .05 *taller* than the Triumph Bonneville. But remember that the Suzuki does have one additional gear, and consequently can afford to be a little lavish as far as cruising gear ratio is concerned. Additionally, the Suzuki's tall top gear tends to help reduce whatever vibration is being generated. *All* the gear ratios, by being sightly taller than maximum performance would seem to dictate, help cover one very important point. The Suzuki 500 isn't a high-rpm engine. At least the one we tested wasn't. The engine pulls heartily between about 4000-4500 and 6900-7000, and then the power falls off pretty abruptly. We noticed that Suzuki claims maximum horsepower at 7000-er, effectively, pretty close to the engine's rev peak-and we can't help feeling that if the rpm range were extended somewhat, permitting shorter gearing, the Suzuki could show a lot of new, highly touted machinery some scalding performance of its own. It's getting so that a bike has to run the quarter in the twelves to be considered a hot performer. The Suzuki has the potential. A lot of bikes don't. And the racing department has demonstrated ample proof of the Suzuki's capabilities: the Daytona 500/5s were cranking maximum horsepower at 7800 rpm, which is certainly more like it. But there's a good chance we're being fussy with the Suzuki's performance. After all, it's faster than all but a handful of motorcycles made as it is.

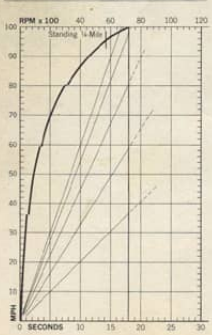
Like an increasing number of motorcycles being pumped out of Japan, the Suzuki features a full complement of electrical equipment, all of which works splendidly and all of which, like turn indicators, has been included for a logical reason. Remember how it was in the beginning when the first turn-signals showed up on motorcycles? A lot of people said that they'd never really work out because (1) nobody would use them and (2) automobile drivers would only be confused, since the turn light would necessarily have to be located close to the vehicle's center line. Nonsense. Turn signals on motorcycles are a beautiful idea, and work splendidly on the

SUZUKI 500 *Continued*

lights big enough to capture the attention of even the numbest car driver. Too, the finger-activated signals free your hands for more important things like steering the motorcycle and pulling on the brake or clutch lever. We approve turn signals generally, and we applaud those supplied on the Suzuki. Only one thing needs changing: the signals, if used during the day, are easily forgotten and left flashing, since the turn signal indicator light, located in the tachometer housing, is usually obscured by the handlebar crossbrace.

It would be difficult to conduct a roadtest in the hills of Los Angeles without coming to some appreciation of the bike's handling qualities; additionally, any motorcycle that could sparkle ripping through Mulholland Drive has the ability to deal with any other cornering Suzuki-which has been equipped with flashing brake-g playground in the whole country. The Suzuki sparkled, as few other motorcycles have. Time after time we got the 500/5 into embarrassing situations (like clamping on the brakes with the bike well and truly committed to one of those 180° Mulholland corners), and every time it managed to make it out the other side. The frame is stiff (full double loop, steering head supported by heavy gusseting and located by the confluecce of no less than 5 frame tubes), the swing-arm pivot point is heavily re-inforced, and the shock absorbers at both ends of the bike are well-dampned. The front forks we found particularly intriguing in that they afforded accurate tracking even at speeds in excess of 100 mph, yet seemed overly compliant and soft while tooling around town at low speeds. The forks also provide a good, sturdy mounting point for what must be considered the smoothest front brake around. It's a double-leading-shoe brake that gives the satin feel of a disc, and it's a good thing it works as well as it does. The rear break, sadly, got mushy flogging through the fills and more or less expired. Better linings could put that right.

We enjoyed the Suzuki immensely. The biggest, most-powerful two-stroke twin in production just can't be all bad. During our first few days, the roads were drenched with rain and we kept remembering all those safety figures about how a tire begins quaplaning at 55mph. Believe us, you have to *work* to hold a 47bhp cruiser to 55mph. When that vaunted California sun finally came out, we turned the 500/5 loose and found our waiting worth the while. At the ton or any speed on the near side, we just couldn't get enough of it. Air sucking and vibration aside, a big two-stroke has all the advantages of most four-stroke tourers and considerably more mechanical simplicity. Reliability? That kind of question you should address to the likes of Ron Grant and his pals on the Suzuki racing team. Speeds like 147mph and racing mileage exceeding 200 take getting used to. ★



Suzuki 500 cc Titan 2

Price, suggested retail	West Coast, POE $980
Tire, front	3.25 in. x 19 in.
rear	4.00 in. x 18 in.
Brakes, front	8 in. x 1.6 in.
rear	7 in. x 1.6 in.
Brake swept area	75.3 sq. in.
Specific brake loading	7.8 lb/sq. in.
Engine type	2-cyl. 2-stroke, 180-degree crank
Bore and stroke	2.75 in. x 2.52 in., 70 mm x 64 mm
Piston displacement	30.01 cu. in., 492 cc
Compression ratio	6.6:1 (actual)
Carburetion	(2) 32 mm, VM
Air filtration	Resin–processed fibrous tissue
Ignition	Battery
Bhp @ rpm	47 @ 7000 rpm
Torque @ rpm	38 ft.–lbs. @ 5500 rpm
Fuel capacity	3.7 gal.
Oil capacity	5.2 pt.
Lighting	12v, 35 watts
Battery	12v, 7 ah
Gear ratios, overall	(1) 13.75 (2) 8.58 (3) 6.38 (4) 5.23 (5) 4.79
Wheelbase	56.1 in.
Seat height	32 in.
Ground clearance	6.3 in.
Curb weight	415 lb.
Test weight	590 lb.
Instruments	Speedo./odometer, tach
0-60 mph	seconds
Standing start ¼ mile	seconds–mph
Top speed	108 mph (Est.)

CYCLE GUIDE TEST REPORT

SUZUKI'S NEW TITAN

Smoothness and good road manners are the big Suzuki's strong selling points

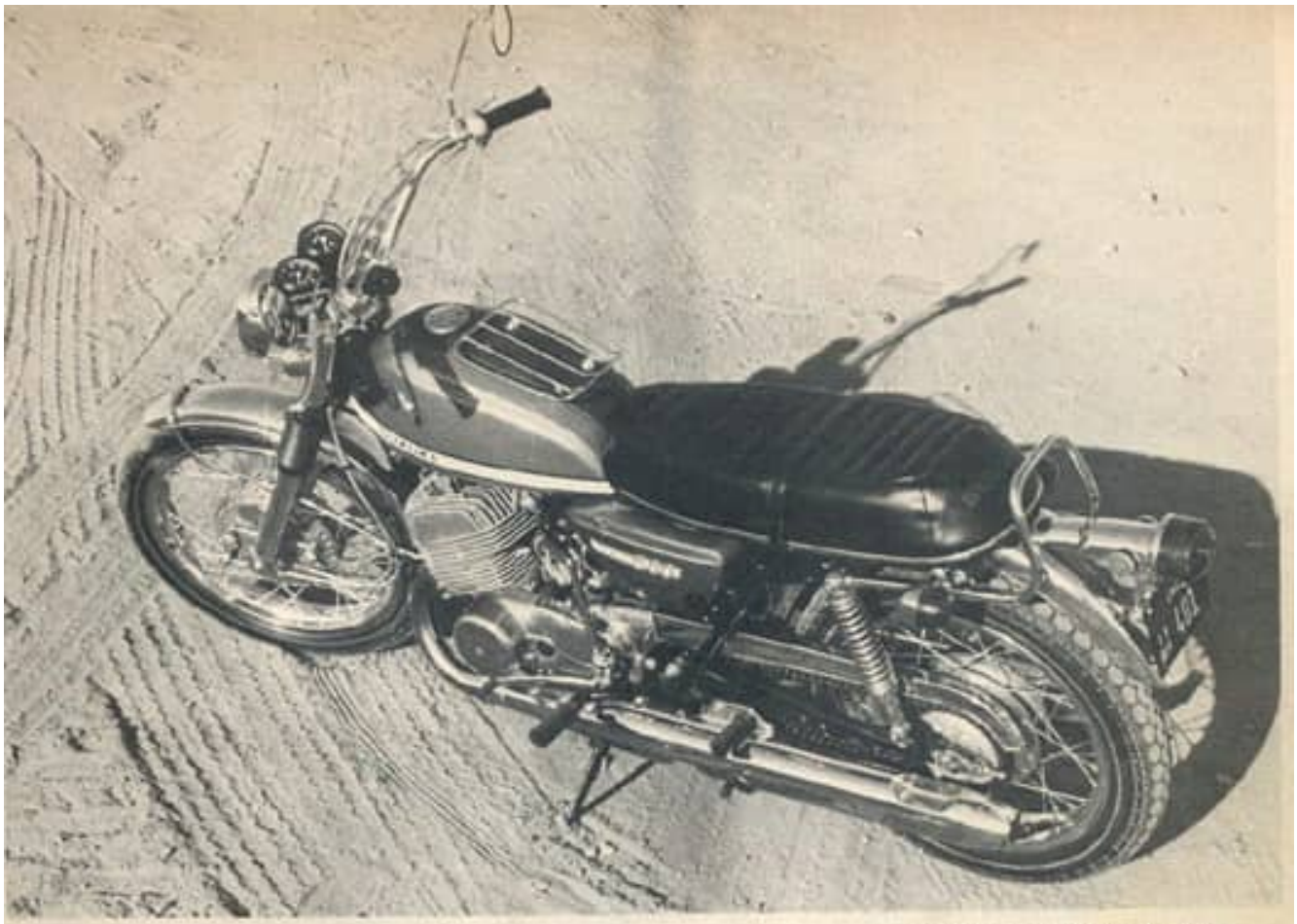
From here on out, no matter whatever happens, Suzuki can still sit back, puff out their chests, and say they have done it. When Art Baumann won Sears point, he did in fact become the first rider of a two-stroke machine to win an AMA National.

On the surface, this may not seem like such a big deal to a number of our readers, but if you mull over the events of the past 12 or 24 months, it seems incredible indeed that one or two lone Suzuki 500's stole the thunder from the multi-motorcycle juggernaut known as the Yamaha Racing Team. It has been a long painful row to hoe and this success has not been one that has come about overnight.

Suzuki has come a long way since the introduction of their first 500's in 1967. After spending some time with Suzuki's largest two-stroke twin (or the world's largest, for that matter), we have come to discover that Suzuki has not been idle, but instead has been working industriously to correct previous ills, and supplement the bike with new improvements to excite the potential buyer.

One of these early ills was vibration. It was discovered that the carburetors, of all things, were contributing no small part to the engine's unwillingness to run smoothly. Along with the carburetor situation, various balance factors were tried on different crankshafts, and Suzuki felt an optimum balance had been achieved. However, the engine still shook. Some of these earlier carburetion problems mentioned previously, we feel, were introduced largely through this vibration situation, because after all, it seems quite logical that if the engine is shaking, it is upsetting the carburetion department. This happens on virtually every other engine we have run across, and we see no reason to believe the Suzuki 500 is any different.

Right here, before anybody gets the wrong idea, perhaps we had better set the record straight and explain exactly why the 500 does vibrate a bit. When you stop and think about it, inasmuch as the Suzuki 500 is the biggest two-stroke twin going, it seems that all of the reciprocating parts are also quite large. Now we all know, the larger the reciprocating parts are, the more chance there is for the whole outfit to shake a bit, and this is exactly what has happened. So what the factory has done is



The Titan is one of the more attractive machines to hit our shores from Japan. Seat is long and comfortable.

The saddle and passenger hand hold appear to be a take off from some British machines. Chrome work is first class!

should. The truth of the matter is, we were really quite puzzled since we know that in a slightly modified form, this engine is quite capable of putting out large doses of horsepower. The engine started easily and ran quite smoothly, but the kind of horsepower we expected just wasn't there. You will notice we used the term "the kind of horsepower." While the machine did not seem to accelerate as quickly as it should, it definitely was very fast. It ran 106 miles an hour, and while it took awhile to get down there, drag strip trap speeds were in the mid-90's. This is very good for a 650, let alone a '500.' The E.T.'s, were in the 14.20 area. This is not so good. Although not very quick, it was fast. We feel that a change in gearing could possibly do something to correct this.

We might also mention at this point, the engine pumps out enough power to allow the rider to get down the road at 90 to 100 mph all day long if this is his bag. Not only that, but he has a chassis that will handle this type speed without getting the pilot in trouble.

Suzuki made two other changes this year, both of which we dislike. First is the gas tank cap. In an effort to change the styling somewhat, they have added an additional panel, painted flat black, to the top of their existing fuel holder. But what they forgot to do was to change the gas cap. It is impossible, to remove the fuel cap with gloves on. The cap itself is sunk down so low that only through a great deal of effort can the cap be removed to put gas in. A taller filler neck (or cap) would help solve this. Somebody mentioned putting a door-knob on top of the gas cap. This would help.

The other change was the addition of

e parcel rack just behind the gas cap. On the surface this sounds like a great idea, but in actual practice, it turns out to be just the opposite. If you are riding double and have to stop very quickly, the rear passenger almost always slides forward slightly, and will push your lower extremities into the parcel rack. The result is a great deal of pain. Better you should take off the parcel rack.

One thing we thought especially good is the brake department. Although the machine is a bit on the heavy side, both anchors never failed to get both the rider and the machine stopped within the allotted space. Actually we found it was quite simple to lock the front brake at fairly high speeds, which indicates there is more than sufficient braking force there for the asking. The rear brake was somewhat softer, but still adequate. This was not too surprising since the front anchor is of the double leading shoe variety while the back one is a single-cam type.

All things considered, we liked the Suzuki 500 very much. It did what we asked of it, for the most part, and it did its job while extracting the minimum amount of strain from the rider. At the same time, it gives him a more than average amount of enjoyment. For the price, the Titan is a tough package to beat. It offers performance, quality, handling, brakes and comfort.

It would be a foolish rider indeed who, when considering an expensive larger displacement motorcycle, does not try this one on for size. ●

SUZUKI T-500 TITAN

ENGINE

Type	twin cylinder piston port 2-stroke
Bore and stroke	70.1 x 64.0mm
Displacement	492cc
Compression ratio	6.6:1
Max. Horsepower	47 at 7,000 rpm
Ignition	generator/battery
Carburetion	two 32mm Mikuni concentrics
Lubrication	oil injection

DIMENSIONS

Length	86.4 in.
Wheelbase	57.3 in.
Ground clearance	6.3 in.
Dry weight	408 lbs.

WHEELS AND BRAKES

Front tire size	3.25 x 19 in.
Front brake type	double leading shoe — internal expanding
Rear tire size	4.00 x 18 in.
Rear brake type	internal expanding

TRANSMISSION

Type	constant mesh 5-speed
Clutch	wet multi-plate
Internal gear ratios	1st 2.50:1, 2nd 1.56:1, 3rd 1.16:1, 4th .95:1, 5th .87:1
Final ratio	2.2:1
Countershaft sprocket	15 T
Rear wheel sprocket	33 T

PERFORMANCE

Indicated highest one-way speed	106 mph
Acceleration 0-60	7.7 sec.
Braking distance 30-0	33 feet
¼ mile terminal speed/E.T.	94.5/14.20

GENERAL

Air filtration	dry paper
Battery type	12V 7 AH

CAPACITIES

Fuel tank	3.7 gal.
Oil tank	3.8 pts.
Gear box	1.3 qts.

FRAME AND SUSPENSION

Front suspension	telescopic, oil dampened
Rear suspension	adjustable shocks
Frame type	tubular, double loop
Steering damper type	friction

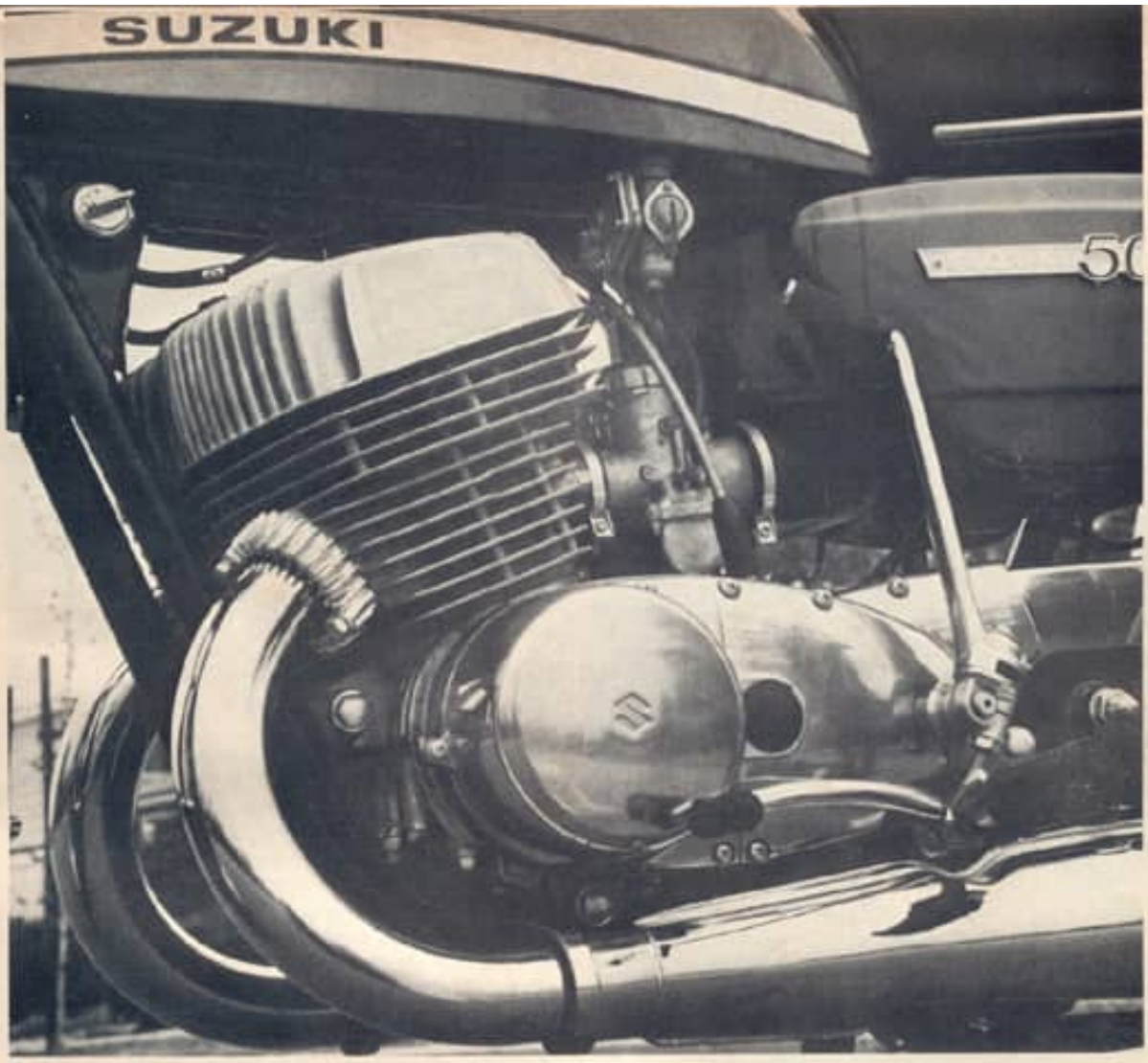
COLORS — Blue, Green

PRICE AS TESTED — $899 FOB Santa Fe Springs

DISTRIBUTOR

U.S. Suzuki Motor Corp.
Santa Fe Springs, Calif. 90670

Suzuki T500III Road Test – Motorcyclist – July 1970



SUZUKI T500-II

WITH TWO NATIONAL ROAD RACING CHAMPIONSHIPS UNDER ITS BELT, THE 500cc TWIN CYLINDER TWO–STROKE SUZUKI COMES ON STRONG AS A HIGH–SPEED TOURING MOUNT

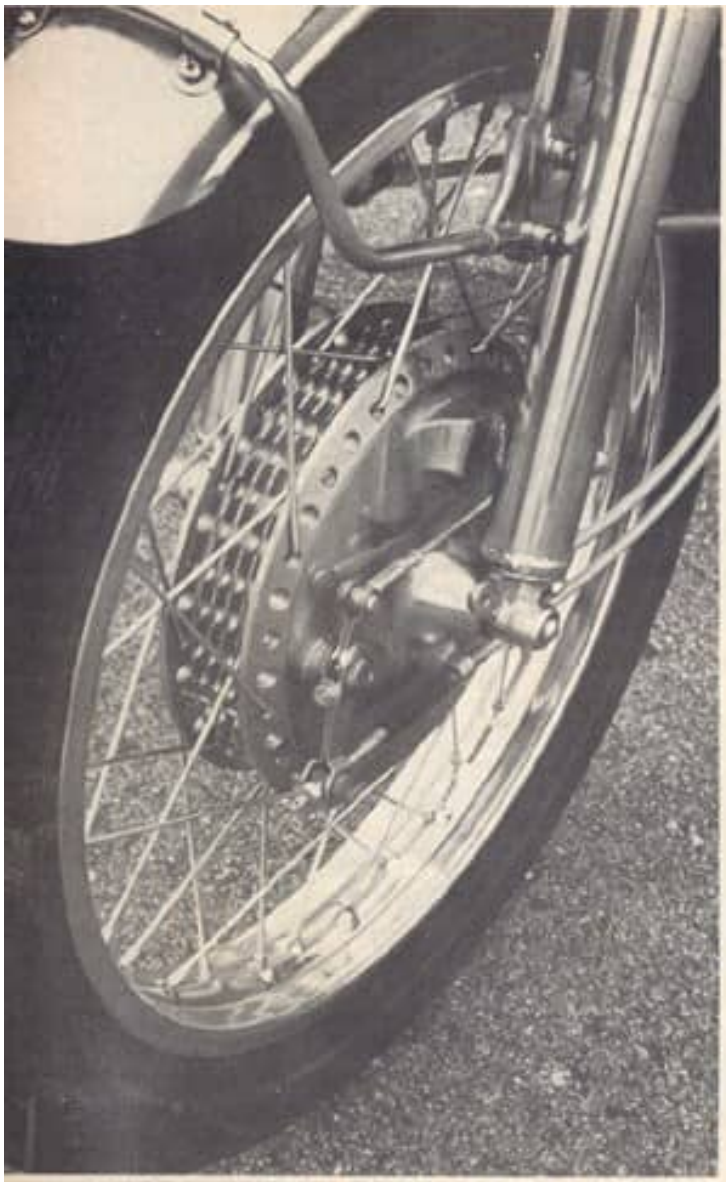
motor CYCLIST MAGAZINE
ROAD TEST

YOU'D BE SURPRISED at the amount of motorcycles that I get a chance to ride each year. They're big ones, small ones, two-strokes, four-strokes, opposed twins, vertical twins, singles, just about any type of machine that you can name.

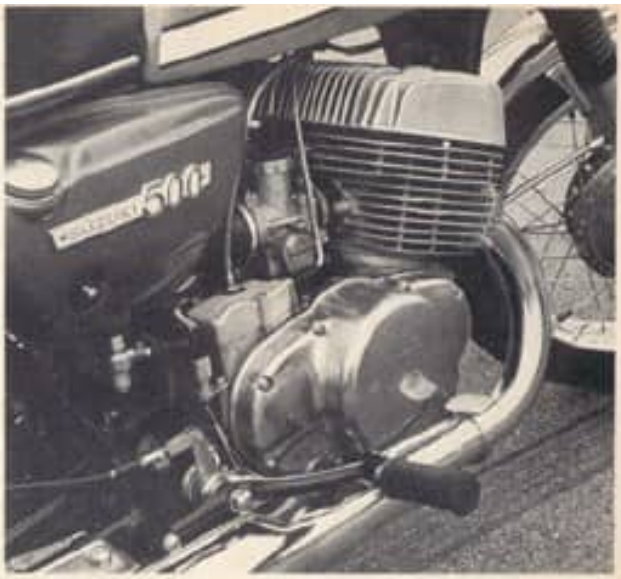
The other day, someone asked me to choose my favorite motorcycles regardless of price. One of the machines that was right up there on top of the list, was the Suzuki T500-II. I first had a chance to test this model about two years ago. In looking thru my old test report, I found that I really enjoyed the bike. To see just what changes and improvements had been made, I talked Suzuki out of the 1970 model and went out and put another batch of miles on it.

A journalist friend of mine once referred to the Suzuki 500 as the King Kong of the two-strokes, and he certainly wasn't kidding. This bike, when in good tune, will blast thru the quarter-mile in a little over 14 seconds, and it will run 0 to 60 in a flat 3 seconds, time after time. It is a heavy bike, but yet it sure will scoot on down the road when the throttle is cranked on. In fact, if you can't get 110 miles an hour from this bike, there's something wrong with it. The last one I tested turned 112 miles an hour and this one turned a little under 110. For a machine weighing in with gas and oil at 417 pounds, that is not bad at all.

Magazine says it is a T500II but it really is a T500III!!



FRONT, double leading shoe brake is amply finned to keep fade to a minimum. Test bike would stop in under 35 feet from 30 mph every time.



HOW about this for a gigantic engine? It displaces 492 cubic centimeters, and cranks out 47 horses at seven-grand.

SUZUKI T500-II TEST / Continued

Engine of the T 500 is a gigantic vertical twin, two-stroke, that displaces approximately 500 cubic centimeters (492cc), and is piston port inducted. Corrected compression ratio is 6.6-to-1, and the factory claims 47 brake horsepower at 7,000 rpm. Bore and stroke is 70 mm by 64 mm. This means that the engine will have to be winding in order to gain its full power. Even so, the bike will lug along in fourth and fifth gears beautifully. Torque comes on at an easy 6,000 rpm, and this is 37.5 foot pounds. The two Mikuni carburetors look big enough to jam your boot down, and they almost are, as their bore is 32 mm. As is the case with just about all of the modern Japanese two-strokes, there is no mixing of gas and oil. The automatic cooling system which Suzuki calls Posi-Force, does all the work for you. All you have to do is make sure that the oil tank is filled to the proper level.

A large wet-type multi-plate clutch gets the power from the engine to the five-speed constant mesh gearbox. Gear ratios are: first 2.5 to 1, second 1.56 to 1, third 1.16 to 1, fourth 0.95 to 1, and fifth 1.87 to 1. In high gear even though chugging along thru traffic, with speeds as low as 30 miles an hour, you can accelerate without shifting, and take the machine up to its top speed of over 100 miles an hour. About the only way that I can describe its acceleration, is to say that it is fierce. If you care to crank the wick all the way up, you can smoke the wheel in either first or second gear without any problem at all. Even in fifth gear, at 80 miles an hour, if you crack the throttle acceleration is unbelievable. If you can keep the rpm up between 5- and 6-thousand, acceleration has a real snap to it. Anything above that and you are instantly on your way, with revs going all the way up to 8-grand if you care to take it that high.

For average riding conditions, the brakes are more than adequate. The front unit is internal expanding, double leading shoe. The rear stopper is the same size, but of the single leading shoe variety. From stops up near 100 mph, I very much prefer a larger brake, as braking gets a trifle hairy at those speeds. But then, how often do you have to stop from 100 mph? For riding around town, the brakes can not be faulted. Neither unit grabs, and they bring the bike to a rapid, skid-free halt. I found that time and time again, I could bring the big Suzuki to a stop from 30 mph in just 32 feet. For a bike this size, this is darned good.

The electrical system is what we have come to expect on Japanese motorcycles, and the only word to describe it is excellent. Both ignition and lighting runs off a large 12-volt battery. Ignition is by two coils and a contact breaker system. Lighting is superb. The headlights throw a sharp crisp beam at night, and the tail-light is what I've always wanted to see in the way of rear lighting. About the only angle that you *can't* see the tail-

LOTS of bike here, but real quick. Still the "King Kong" of the two-strokes.

light from is the front, as it is high, and protrudes way out beyond the bike. I am not saying that it is the prettiest tail-light set-up around, but it certainly does the job that it is supposed to do. The big Suzuki is also fitted with a set of turn signal indicating lights that do their job as they are supposed to do. It is tough enough to pull up to a stop light, all the while shifting down, clutching, and braking without trying to find a spare hand to signal with. With my test machine all I did was flick a switch either to the left or to the right, and the lights did the rest. The horn could be louder, but yet it has a very sharp crisp sound, and does attract the attention of landbarge owners, so I really can't complain about this.

I also felt that the suspension on the T 500 was excellent. It's standard as far as suspensions go, telescopic front fork, and swing arm rear, but it's nice to know that everything is working the way it was designed to work. The front forks don't clunk, cannot be made to bottom, at least with my weight, and the ride is soft and smooth. The rear shocks are adjustable just in case you get a chubby girl-friend. The seat is large and fat, and this in conjunction with the excellent suspension, makes for a superb ride.

One thing I mentioned on the last test and I'd like to mention again, is that the Suzuki is one of the grooviest sounding motorcycles around. I don't mean that it is noisy, because it is not. Muffling is perfect, but induction silencing is not. On any other bike this would be a fault, but on the big Suzuki it's beautiful.

The big Suzuki is one of my favorite motorcycles, but yet there are some things that I don't dig about it. The center stand still has not been improved since the last time I had a chance to test it. I only weigh 135 pounds, and horsing this monster up on the stand is almost an impossibility. The only thing that saves my stomach muscles, is the fact that this bike has one of the best sidestands around. This I always use. Another thing that I have a gripe about, is the fact that the Japanese hide ignition switches and light switches in some of the weirdest places. Like many other Asiatic bikes, the ignition is stashed forward of the left cylinder, up underneath the gas tank, and completely out of reach unless you are stopped, have your feet on the ground, and have a chance to lean down to see what you are doing. Why can't this simple little switch be moved up on to the headlight nacelle, as on many other motorcycles? The tires fitted to my test bike were good, but at the same time they

ATOP 3-gallon gas tank is one of handiest small luggage racks around. All you need to tie on a lightweight parcel is a length of bungee cord with a hook at each end.

weren't. Both wheels were fitted with a street tread, and seemed all right for most riding, but yet here in California, especially in the mornings, the streets are damp with either fog or dew. The moment the streets got wet, those neat street tires got as slippery as owl feathers. It seems that a bike that cranks out almost 50 horsepower should have just a tiny bit more in the way of tread on the tire.

I've told you what I disliked, so I will tell you also what I like. Vertical twins have never really turned me on because many of them have a tendency to vibrate. For commuting back and forth to school or work, this really isn't noticeable, but yet under long distance touring conditions, it is quite noticeable. At low rpm, I really can't say that the Suzuki is any different but yet this is not a motorcycle that is meant to be run at low rpm. The moment you get up above 3-grand on the easy-to-read tachometer, there is not a trace of vibration. This I really liked. I also dug the Suzuki gearbox set-up. Gears are spaced just the way I like them, and the gear change mechanism works as easily as the proverbial hot knife thru the quarter-pound of butter. Never once during the time I had the test bike shown on these pages, did I encounter any shifting difficulties at all. Large displacement two-strokes have always suffered from gas mileage problems, and in many cases you are lucky if you can get from one gas station to the next before your petrol runs out. Not so with the Suzuki. Under average conditions, which included a 200-mile trip on the open highway, and then several days chugging around town, overall gasoline consumption ran right around 50 miles to the gallon. This is not bad for a bike, especially a two-stroke displacing 500cc. I think if you wanted to use this motorcycle for riding around town, you should be able to get even better gas mileage.

I liked the way that the T 500 was put together. The frame was sturdy, all the welds looked good, and the paint was perfect. This also goes for the rest of the bike. There is no short-

age of chrome on the T 500, and this gives you some sort of an idea that this particular bike might just have been designed for you, the American buying public. I couldn't find one blemish in the paint job, the castings were perfect, the chrome was good and thick, and the overall finish of the bike was excellent. I can't say more in this respect. Another thing that turned me on, was the vacuum-operated priming position on the fuel tap. If you snap the fuel tap into primed position, the engine stopped immediately, leaving gas in the carburetor. When you wanted to start, all it took was one dab with your foot and the bike roared to life immediately. This is a very handy goodie, especially if your motorcycle has been sitting around for a few days since the last time you used it.

My overall impressions of the Suzuki T500-II were nothing but good. Way in the back of my mind, I've got some ideas of picking up a small lightweight sidecar, and mounting it on one of these machines. I think that this bike would make a real fine sidecar hauler. What I'd also like to do is possibly do a minor hop-up on the internals of this gigantic engine. I don't mean change port timing or anything, but just a general clean-up of parts, possibly raise the compression a tiny bit and just overall get a little bit more go from an engine that I feel already goes like whoopee. If I do get one of these bikes, I'll let you know all about it. About all I can say to finish this test, is if you can get a ride on one do it. I think you'll enjoy it.

SPECIFICATIONS: SUZUKI T 500 MARK 11

Make	Suzuki
Model	T500-II
Engine	Vertical twin, two stroke Piston port inducted
Engine Capacity	492cc
Bore and Stroke	70mm by 64mm
Corrected Compression Ratio	6.6 to 1
Carburetion	Twin Mikuni 32 mm
Horsepower	47 @ 7,000rpm
Torque	37.5 foot pounds @ 6,000rpm
Clutch	Wet, multi-plate
Gearbox	Five speed constant mesh
Gear Ratios	First: 2.5 to 1 Second: 1.56 Third: 1.16 Fourth: 0.95 Fifth: 0.87
Frame	Dual downtube cradle type
Suspension	Front: Telescopic fork Rear: Adjustable Swing Arm
Tires	Front: 3.25 x 19 Rear: 4.00 x 18
Brakes	Front: Double leading shoe Internal expanding Rear: Single leading shoe Internal expanding
Gas Tank Capacity	3 gallons
Oil Tank Capacity	3.2 pints
Wheelbase	57.2 inches
Length	85.5 inches
Ground Clearance	6.3 inches
Weight	417 pounds
Top Speed	110 mph
Price	$895.

ENGINE	Excellent	Good	Fair	Poor	Unsatisfactory
Starting	•				
Throttle Response	•				
Vibration		•			
Noise	•				
TRANSMISSION					
Gear Spacing	•				
Clutch Smoothness	•				
Shifting speed		•			
CONTROLS					
Handlebar position	•				
Ease of operation	•				
Location	•				
BRAKES					
Lever pressure	•				
Pedal pressure	•				
Fade resistance		•			
Directional stability	•				
Stopping distance	•				
SUSPENSION					
Front	•				
Rear	•				
Ride control	•				
Dampening	•				
APPEARANCE					
Paint	•				
Construction and welds	•				
Chrome and trim	•				
ELECTRICAL					
Wiring	•				
Headlight		•			
Taillight	•				
Horn		•			
GENERAL					
Spark plug accessibility	•				
Instrumentation	•				
Side stand	•				
Center stand			•		
Seat comfort	•				
Muffling	•				
Tool storage space		•			

COMMENTS: Unbelievable acceleration. Good brakes. A top speed way over 100. Good gasoline mileage for an engine of this size, especially a two-stroke.

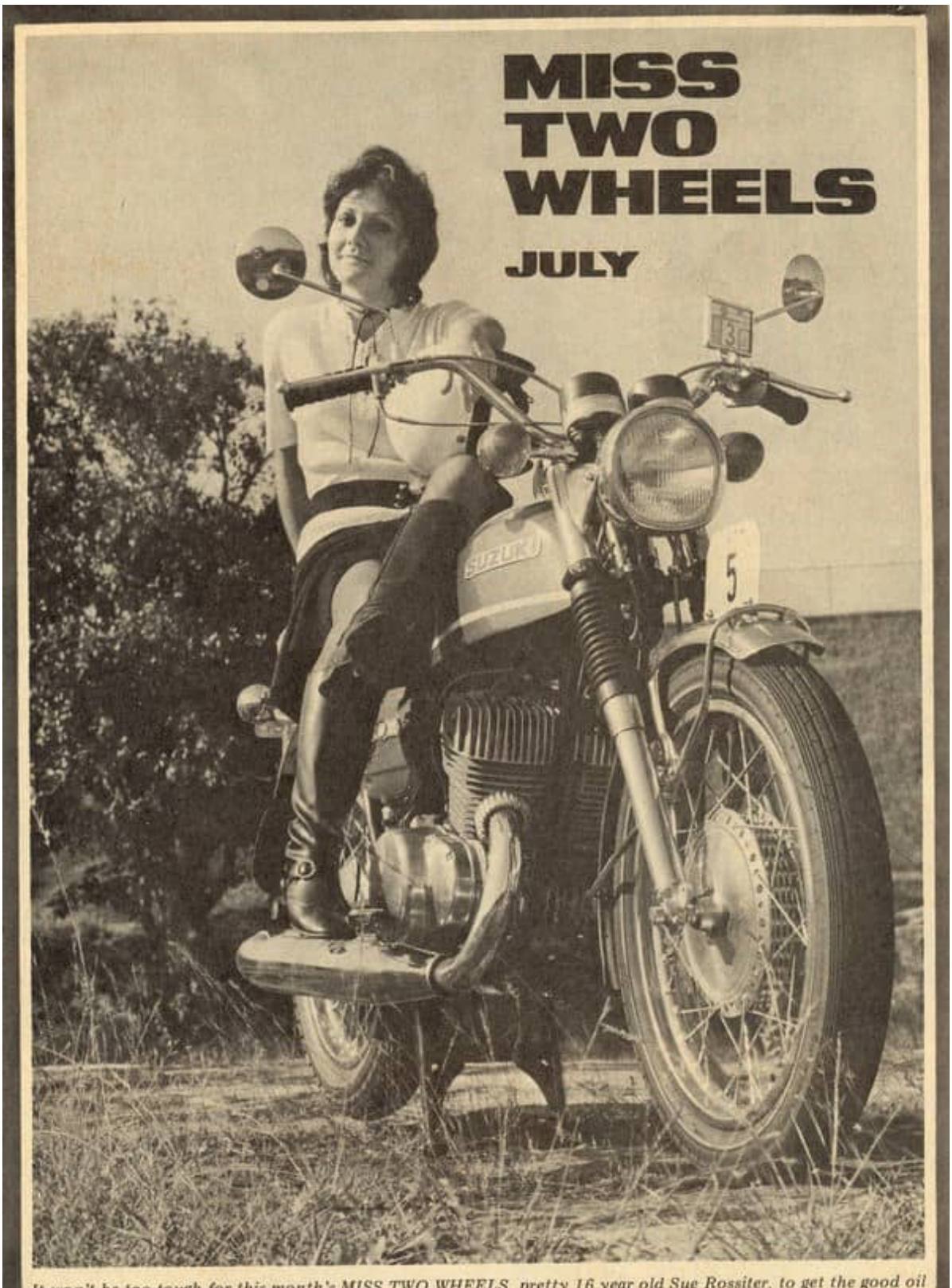
Paul Brocker's Stable

Hi Muzza,

I'm a Suzuki two stroke fan having had many in my younger years and currently have a 1970 T500-3, 1971 TS125, and a Kawasaki 175 F7 which are all complete and running nicely. I recently bought a 1973 TS400K basket-case 'cos it's a bike I always wanted but never owned, but am having trouble locating a few bits. I love all this old stuff — you climb on to one, kick her over and you're 18 again !! No aches, no pains, no worries !!

Cheers and regards, Paul Brocker, Brisbane.

Miss Two Wheels – Australia – Suzuki T500R – July 1971



It won't be too tough for this month's MISS TWO WHEELS, pretty 16 year old Sue Rossiter, to get the good oil on bikes. She's a clerk at Hazell and Moore, Sydney's Suzuki and Triumph dealers. The T-500R she's on is probably a bit big for a first machine, but the time's not too far away when she'll have her own bike and take care of an ambition to tour Australia. Our shot was taken by another of Hazell and Moore's staff, Terry Manning, with a Cawa 6 using Kodak 125 ASA film.

Suzuki T500 Cobra Road Test – Cycle Guide – January 1968 – Short wheelbase prototype

SUZUKI MAKES IT, MAN!

A 30-cubic inch two-stroke they call the 500/Five.

THE 500/FIVE is a multitude of experiences. The pride of having something unique; the sensation of mind-bending acceleration. The delight of a five-speed gearbox. The thrill of effortless handling. The incredible smoothness at 70 miles per hour. The comfort that doesn't cease after hours of riding. The road-grabbing brakes that pull down in a hurry. The list could go on, and on, and on.

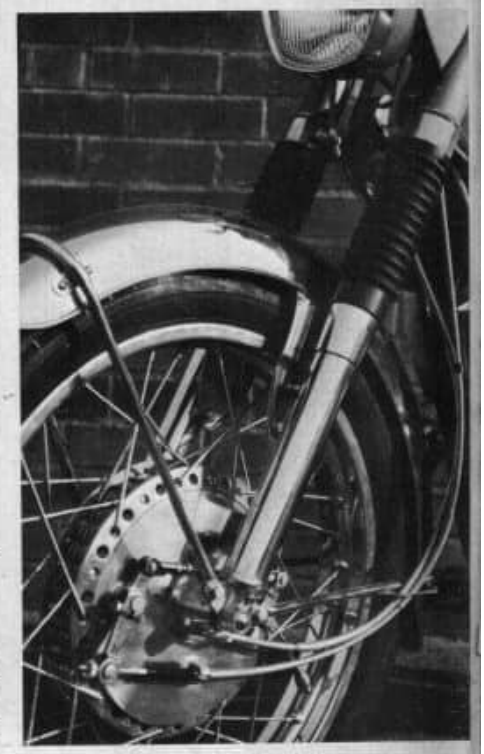
Suffice to say, the Suzuki 500/Five is more than a Hustler with torque. It imparts an entirely different set of sensations and more than a few can be traced directly to that whomping big dual-stroke engine. The same engine that many said couldn't be built. Well, how does a bore of 70mm and a stroke of 64mm with a displacement of 492cc's sound? How about 6.6:1 compression; 46 horsepower at 7000 rpm or 38 foot-pounds of torque at 5500 rpm? Believe it or not, it's very real. Particularly when the hammer is dropped. Of course there were problems.

Lubrication slowed the two-stroke wheels of progress until Suzuki developed their Posi-Force lubrication. A system that assures an ample supply of oil to every moving part without the proclivity toward fouling spark plugs normally associated with two-stroke engines. Probably the biggest obstacle in the path of big bore two-strokes was merely tradition. Suzuki engineers ran right over tradition with the 500/Five.

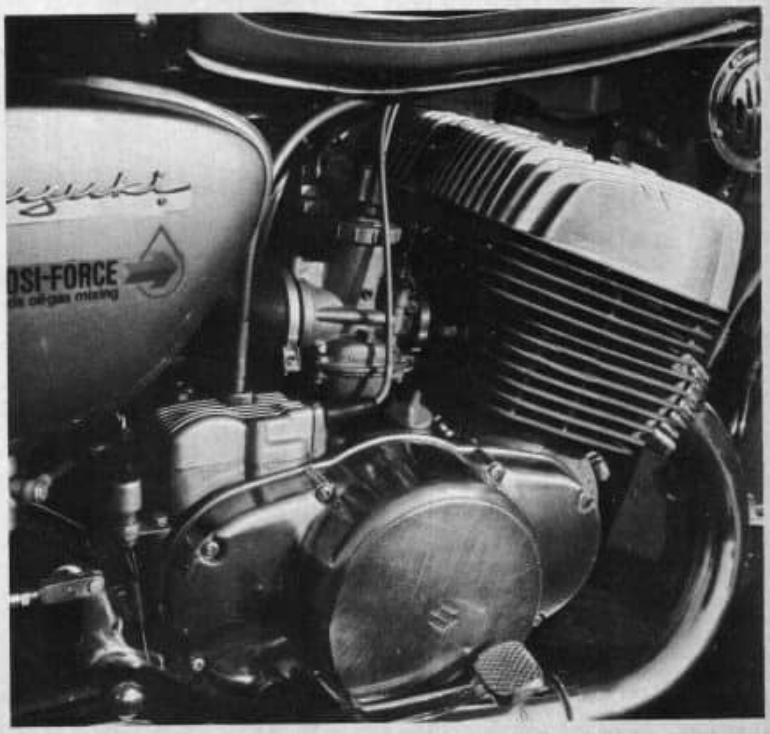
And chances are, not a bump was felt. The double down-tube frame, adjustable rear shocks and hydraulic-smooth front forks take care of that. The frame is very rigid and the swinging rear arm is limited to up-and-down movement only. There's 64-degree of caster in the front forks which provides a pleasant compromise between

The large, but simple 500/Five engine rests in a double down tube frame that's as sturdy as the mill itself. Shift lever can be located on right, too.

The 500/Five front end has a lusterous finish and a massive double leading shoe front brake. The front binder in conjunction with the single leading shoe rear brake, managed to haul the bike to a dead stop in record distance.



A 500cc two-stroke can inhale a small child, but these 34mm Mikuni jugs are more than up to the task of supplying the fuel:air mix. Carbs are of the altitude compensating variety.



effortless highway cruising and precise cornering ability.

Coupled to the massive mill, there's a constant mesh five-speed gearbox that features a fairly decent choice of ratios and a hard to miss neutral between low and second. Traditionalists will appreciate the option of left or right foot mounting. Out of the crate, it's on the left.

What goes up must come down and what accelerates must also decelerate. In this department, the Suxuki 500/Five is well equipped. The eight-inch diameter double leading shoe front brake and single leading shoe rear binder (seven-inch diameter) are more than equal to the 109 mph top end. Fade is virtually non-existent thanks to heat dissapating fins on both drums. The drums by the way, are laced to an unmatched pair of rims. The front is a 19-inch with a 3.25 road tire and the rear is an 18-inch rim with a 4.00 skin.

However, the big thing with the 500/Five is in the little things. A comfortable dual seat that's a wee bit short for two big fellas, but just right for a guy and his date. The big 3.7 gallon gas tank features a sight gauge which does away with the "Gee, I ran outta gas" excuse. Those comfortable handlebars are rubber mounted to reduce vibration, but not road feel. A particularly nice touch is the new fuel regulator. Instead of the normal 'off,' 'on,'

During the extensive testing of the 500/Five, Suzuki's factory riders tried quite an assortment of exhaust systems. The one finally selected fills the bill well.

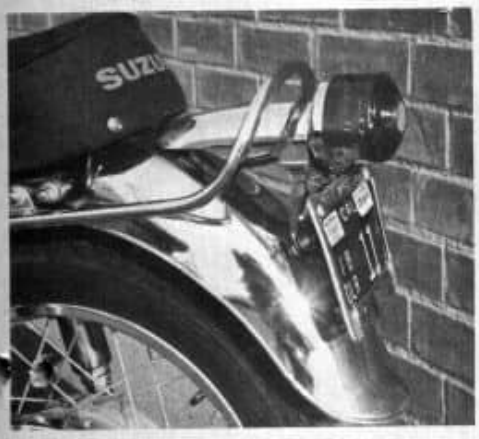
The bike shown here was beautifully finished in Pagan Gold metallic and turned heads wherever we rode it. Seat was very comfortable for all but a pair of real heavyweights.

We wouldn't want to desecrate a shrine, but the 500/Five could really be a winner on the custom circuit with just a little imagination and some money.

There seems to be an abundance of high quality chrome and nicely polished aluminum. Rear shocks are adjustable in case you are riding two up.

'reserve' positions and the perpetual puddle of gas; Suzuki's 500/Five is equipped with a vacuum operated regulator that only delivers fuel when and where it's needed. Then, there's the tire pump on the right side of the frame and the separate tachometer and speedometer with excellent lighting and smooth operation.

The Suzuki is a combination of lots of little nicities such as the tire pump, oil injection tank inspection window, sight glass for the fuel supply, etc, etc.



Suzuki places great emphasis on safety and that oversize tail light/brake light is just one more example. It also incorporates a license plate light and reflector.

Although English bikes have had instrument clusters for years, this one is hard to top for looks, readibility and complete lack of vibration. Ditto for bars.

This is not to say that the Suzuki 500/Five is just a collection of useful little gadgets. There are other, important considerations too. The fit, the finish, attention to detail and quality control are among these. In this respect, Suzuki really comes on strong. The photographs can't really show the beauty of that candy pagangold finish, but you can get an idea of the copious quantity of first class chrome plating. The ample amount of polished aluminum should also be a tip-off to the pride that Suzuki expresses in their 500/Five. Beauty is said to be in the eye of the beholder and perhaps this is true, but to us, aesthetically and mechanically, the Suzuki makes it, man!

Suzuki 500/Five

Suggested Price* $1039.00

ENGINE

Type	two cycle, vertical twin
Displacement	492 cc
Bore and stroke	70 x 64 mm
Compression ratio	6.6 to 1
Maximum horsepower	46 @ 7000 rpm
Maximum torque	37.9 ft/lbs at 5,500 rpm
Ignition system	coil and battery
Lubrication	Suzuki Posi-Force

TRANSMISSION

Type	five speed, foot operated
Primary drive	gear
Clutch	wet, multi plate

FRAME

Type	double down tube
Front suspension	telehydraulic forks
Rear suspension	hydraulic shocks
Brakes	internal expanding

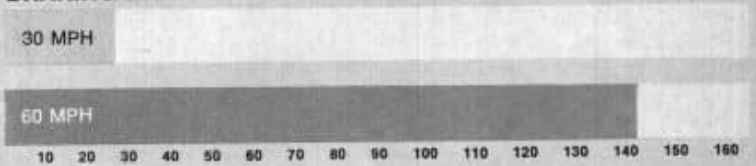
DIMENSIONS

Overall length	80.8 inches
Overall width	33.5 inches
Wheelbase	55.9 inches
Ground clearance	6.3 inches
Weight	383 pounds

PERFORMANCE

Quarter mile time	**14.63 seconds**
Quarter mile speed	**90.3mph**

BRAKING DISTANCE

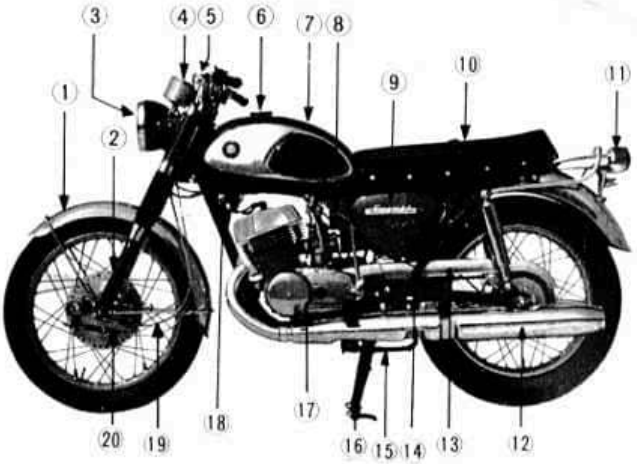


Neutral	
1st	**2.46:1**
2nd	**1.64:1**
3rd	**1.25:1**
4th	**1.00:1**
5th	**0.85:1**
6th	**0.75:1**

*Retail (P.O.E. West Coast)

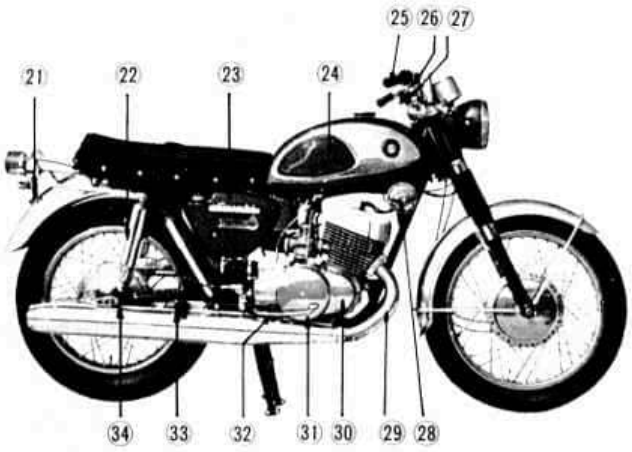
SIDE VIEWS OF SUZUKI T500

2. LOCATION OF PARTS



(1) Front Fender
(2) Front Fork
(3) Head Lamp
(4) Speedometer & Tachometer
(5) Clutch Lever
(6) Fuel Tank Cap
(7) Fuel Tank
(8) Fuel Cock
(9) Battery & Tool Cover
(10) Dual Seat
(11) Tail/Brake Lamp
(12) Muffler
(13) Chain Guard
(14) Kick Starter Lever
(15) Side Stand
(16) Center Stand
(17) Gear Shifting Lever
(18) Ignition Switch

Fig. 2



(19) Speedometer Cable
(20) Front Brake Cable
(21) Rear Fender
(22) Rear Shock Absorber
(23) Oil Tank
(24) Knee Grip
(25) Throttle Grip
(26) Front Brake Lever
(27) Steering Damper Knob
(28) Horn
(29) Exhaust Pipe
(30) Power Unit
(31) Rear Brake Pedal
(32) Front Footrest
(33) Rear Footrest
(34) Swinging Arm

Fig. 3

5. OPERATION OF IMPORTANT PARTS

◇Engine and Frame Numbers

The engine and frame numbers of your machine are given on the identification plate. These numbers are required especially for licensing the machine and ordering spare parts. When writing to the factory or your dealer, never fail to mention them as well as the milage reading.

Fig. 4 – Identification plate

◇Fuel Cock

Before starting the engine turn the fuel cock lever to the **"ON"** position where the fuel flows from the fuel tank into the carbruretor as the engine is rotating. If you run low on fuel, turn the lever to the **"RES"** position which opens a tap to **approximately 2 ltr (4.2/3.6 pt, US/Imp) of reserve supply.** Only when no fuel is in the carburetor, turn the lever to the **"PRI"** position, which allows the fuel to flow directly to the carburetor even with the engine at a stop.
When the engine has started, be sure to return the lever to the **"ON"** position.
CAUTION: **Don't disassemble the vacuum chamber lest the diaphragm valve system in this chamber should not work properly after reassembled.**

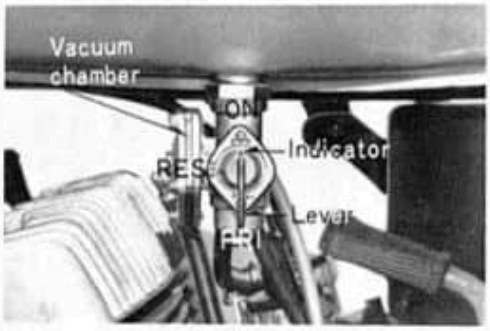


Fig. 5 – Fuel cock

◇Oil Tank

The oil tank holds lubricant oil for the engine. Be sure to check the oil level in the oil tank before starting the engine. **If the oil level is found below the screw which fixes the oil level inspection eye, replenish the oil tank with one of the prescribed oils. The oil tank capacity is 2.5 ltr (2.6/2.2 qt, US/Imp).**

Fig. 6—Oil tank

◇Ignition Switch

The ignition switch turns the engine ignition system and electric equipment on and off. **The ignition switch key can be removed from the switch in the "0" (off) or "3" (night parking) position as shown in Fig. 7.** When the key is turned to the "1" (day), "2" (night) and "3" (night) positions, electric equipment' works as shown in the chart.

Fig. 7—Ignition switch

Key Position	Ignition	Neutral Indicator Lamp	Horn	Brake Lamp	Tail, Lamp	Parking Lamp	Head Lamp	Speedometer Lamp	High Beam Indicator Lamp
0 (off)									
1 (daytime riding	○	○	○	○					
2 (nighttime riding)	○	○	○	○	○	○	○	○	○
3 (nighttime parking)					○	○			

◇Carburetor Starter System

The carburetor starter system allows easy starting even in cold weather by supplying a rich fuel air mixture to the engine. This system is operated by a lever fitted on the carburetors. **When starting a cold engine, push starter lever. Be sure to return it to its original position when the engine warms up and the motorcycle is run.**

Do not open the throttle when this lever is pushed.

If the throttle grip is turned even a small amount, the engine becomes hard to start.

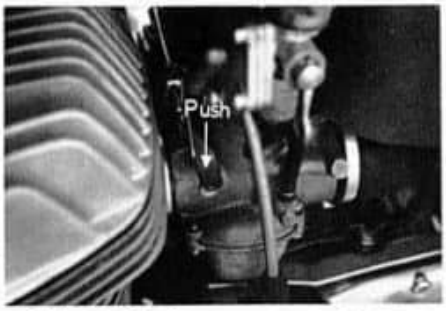


Fig. 8—Carburetor starter lever

◇Engine Starter

The engine can be started easily by depressing the kick starter lever. Always shift the gears into neutral before depressing the kick starter lever.

Fig. 9—Kick starter lever

◇Clutch Lever

The clutch lever is used to disengage or engage the engine with the rear wheel when starting or shifting the transmission gears. **Squeezing the lever disengages the clutch and releasing it connects the engine with the rear wheel.**

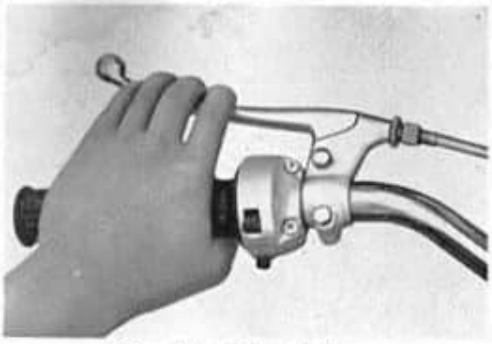


Fig. 10—Clutch lever

◇Throttle Grip

Engine speed is controlled by the throttle grip on the right end of the handlebar. **If the throttle grip is twisted inward toward you, engine speed rises.** The racing type quick action throttle grip is so sensitive that a quarter turn of it opens the throttle valves fully. A throttle tension adjustment is provided on the underside of the throttle housing.

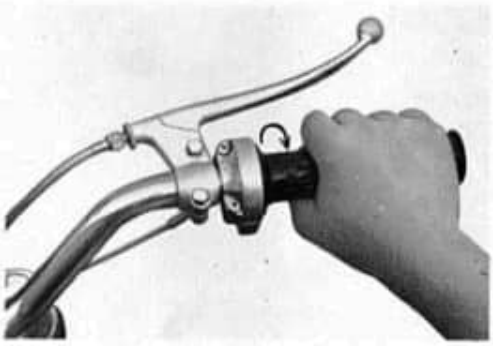


Fig. 11—Throttle grip

Fig. 16—Adjusting rear shock absorber

◇Head Lamp

Dimmer Switch

Pushing knob up ·····**turns on low beam**

Pushing knob down·····**turns on high beam**

When the knob is pushed down the red high beam indicator lamp on the head lamp housing turns on.

Use low beam when running along illuminated roads, riding on bad roads or meeting other vehicles.

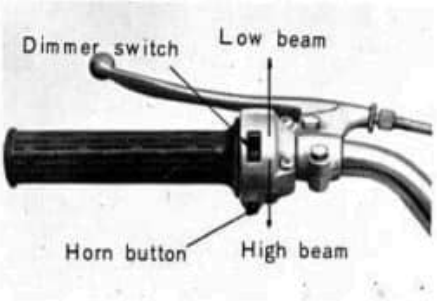


Fig. 17—Dimmer switch

◇Adjusting Carburetors

The throttle cables, pilot air adjusting screws and throttle valve adjusting screws can get out of adjustment from vibrations when the motorcycle is running, so periodical inspection and adjustment are necessary.

Remember to retighten the mixing chamber caps to prevent dust and dirt from finding their ways into the carburetors each time adjustment of carburetors is necessary.

Also be sure that the throttle cable ends are fully seated in their seats in the throttle slides.

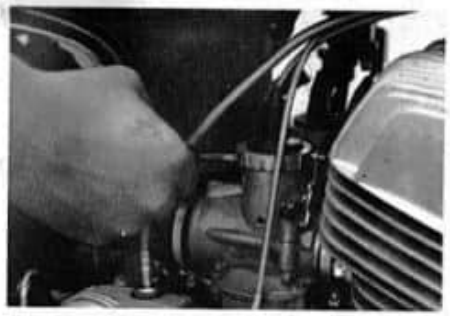


Fig. 23—Retightening mixing chamber cap

Adjusting Throttle Cables

1. Start the engine and allow it to idle. Turn the handlebars from extreme left to right. Idle speed should stay constant. If the engine speed increases, first adjust at the throttle grip cable adjuster to allow **0.5-1 mm (.020-.040 in) play** in the throttle cable.

2. To insure balanced charge induction to both cylinders, synchronize the carburetors:

Turn ignition off and adjust the throttle cables by the adjusters on the top of each carburetor until there is no play found when pulling up the cables with the throttle grip opened completely.

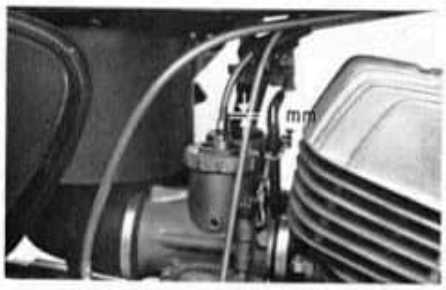


Fig. 24—Throttle cable play

Turning adjuster out ·····**decreases play**
Turning adjuster in·····**increases play**

Take the air cleaner tube off of the carburetors and check to see, with hand mirros or with your fingers inserted into the air intakes of the carburetors simultaneously, if the throttle valves move up and down smoothly and simultaneously when the throttle grip is turned inward and outward. If the movement is not smooth, lubricate the cables and make sure they are not bent or twisted. If the throttle valves are not raised equally, readjust the play. After adjustment, tighten the throttle cable adjuster lock nuts firmly and reattach the air cleaner tube.

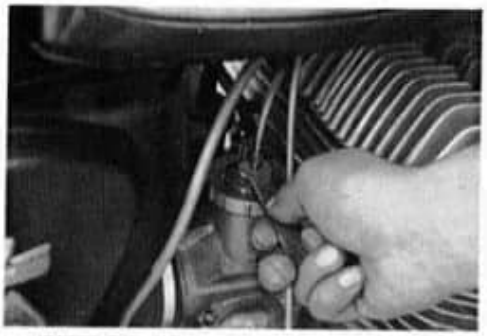


Fig. 25—Adjusting throttle cable play

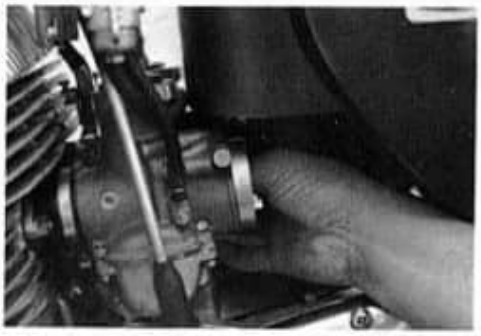


Fig. 26—Checking throttle valve movement

Adjusting Engine Idling

The pilot air adjusting screws regulate the mixing ratio of fuel and air at low speed.

In case the mixture is on the lean or rich side, adjust the carburetion with the pilot air adjusting screws in the following manner:

○Start the engine and allow it to warm up at idling speed for several minutes.

○After the engine warms up, stop it momentarily to remove one of the spark plug caps. Now screw the pilot air adjusting screw all the way in and then back it out 1 1/2 turns.
○Start the engine, with one cylinder firing and adjust it with the throttle valve adjusting screw so that it runs at the lowest steady speed.
○Screw the pilot air adjusting screw in and out within 1/2 turn from the standard setting (1 1/2 turns) to find the optimum position where the engine runs most smoothly.
○**When the pilot air adjusting screw has been adjusted, obtain the proper engine idling speed with the throttle valve adjusting screw.**
○After the carburetion has been adjusted on one side, next adjust the carburetion on the opposite side in the same manner.
○When the carburetion has been adjusted on both sides, start the engine with both plug caps in position, that is, with both cylinders firing. The idling speed will be considerably high. Adjust the engine idling speed by screwing both throttle valve adjusting screws in the same amount. **The engine idling**

Fig. 27—Turning pilot air adjusting screw

Fig. 28—Throttle valve adjusting screw

speed should be as low as possible (about 1 200 rpm).

***Turning pilot air adjusting screw in ·····makes mixture rich**
***Turning pilot air adjusting screw out ·····makes mixture lean**
***Turning throttle valve adjusting screw in ·····lowers engine rpm**
***Turning throttle valve adjusting screw out·····raises engine rpm**

Synchronizing Right and Left Cylinders

Lastly, it is necessary to check whether exhaust fumes from the mufflers on both sides are indentical in shade and volume. If difference is found, adjust the carburetion in the following way.

○Loosen the pilot air adjusting screw on the side where exhausted gas is denser and irregular, but it must be borne in mind the pilot air adjusting screw should not be loosened more than 2 turns from the innermost position. Tighten the pilot air adjusting screw on the opposite side. Never tighten it more than 3 turns out from the innermost position.
○Note that the pilot air adjusting screw of one carburetor should not be set differently from that of the other carburetor by more than 1 turn. Considerable difference between the two pilot air adjusting screws leads to overheating and increased fuel consumption.

◇Adjusting Oil Pump Control Cable

The oil pump control cable must be adjusted with the adjuster so that about 0.5 mm (0.02 in) of clearance is left between the control lever and stop when the throttle valves are fully opend.

It is to be noted that too much clearance can cause insufficient lubrication, whereas no clearance increases oil consumption.

To adjust the oil pump control cable, remove the oil pump cover, loosen the control cable adjuster lock nut with a 12 mm wrench and then turn the adjuster in or out until proper clearance is obtained. After adjustment, be sure to secure the adjuster with the lock nut.

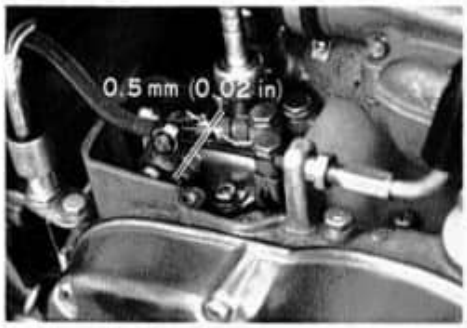


Fig. 29—Control lever clearance

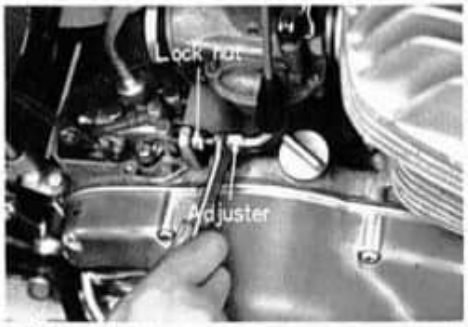


Fig. 30—Adjusting oil pump control cable

◇Adjusting Ignition Timing

Incorrect ignition timing decreases engine performance and shortens the life of the engine. Therefore, it is necessary to check the ignition timing periodically. **When adjusting ignition timing, be sure to adjust the contact breaker point gap first and then adjust the ignition timing.**

Check and adjust in the following manner:

○Remove the crankcase left cover by loosening three fitting screws first.

Left Cylinder

1. Turn the rotor with a 14 mm wrench and find the position where the left side point gap is the largest.
2. Check the point gap with the feeler gauge (0.35 mm thick) fitted on the point wench provided in the service tool bag. **The standard point gap is 0.3-0.35 mm (0.012-0.014 in).**
3. Loosen screw "a" in Fig. 33 and adjust the gap to the standard by moving the stationary contact point with a screw driver.
   Retighten screw "a" securely after the adjustment is made.
4. And so to the adjustment of ignition timing. Turn the crankshaft counter-clockwise to the point at which the contact points just begin to open.
5. **Check to see if the red score "b" on the rotor aligns with the red score "c" on the stator.**

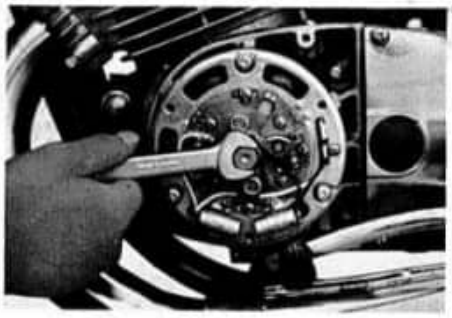


Fig. 31—Turning rotor

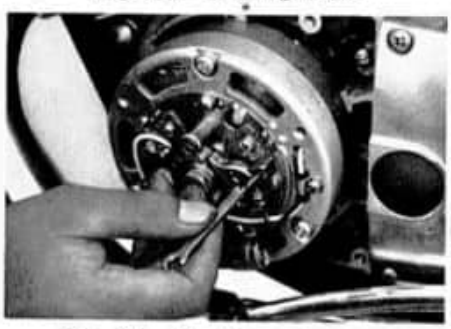


Fig. 32—Checking point gap

If "b" is on the right side of "c", ignition timing is advanced.

If "b" is on the left side of "c", ignition timing is retarded.

6. **If the ignition timing is found to be advanced,** loosen two screws "d" and move the contact point base to left with the plain screw driver put into the notch of the contact point base until the points begin to open just as "b" aligns with "c".
7. **If the ignition timing is found to be retarded,** move the contact point base to right and adjust to the correct ignition timing.

After the adjustment is made, tighten screws "d" firmly.

Fig. 33—Timing marks

Right Cylinder

○Turn the rotor 180° and adjust the point gap first and then the ignition timing in the same manner as the left cylinder.

○But in this case **you must adjust it so that the right side point begins to open when the blue score on the rotor aligns with the red score "c".**

There is another method to adjust the ignition timing which should be taken place when the correct adjustment can't be obtained in the way outlined above.

○Loosen three screws "e" and turn the circular mount by pushing with a screw driver.

○Turning it clockwise advances the ignition timing of both right and left cylinders and counter-clockwise retards the same.

Caution:

Point surfaces which are burnt, pitted or coated with oil cause defective engine operation. Check the

https://ozebook.com/wpsuzi/?format=pdf&post-type=post&order-date=asc&order-menu=asc&statuses%5B%5D=publish&dates%5Bafter%5… 539/809

Eddie Crooks in Japan on prototype T500 Cobra 1967

Note: short wheelbase

Kevin Bedell's T500R

Suzuki T500R – Kevin Bedell

SUZUKI

VIRGINIA
6583A

SUZUKI

SUZUKI

Steve's T500J

Steve Traynor from Scotland shares his 1972 J model steed with us…..and a nice job it is indeed

SUZUKI
500

Daniel's Suzukis

Hi, here are two pictures about my SUZUKI T500J...green and white, built in 1972, also my GT500A and GT750B, thanks, Daniel from Courbevoie, FRANCE

SUZUKI
500

SUZUKI
500

GT500A

GT750B

Tony's T500K

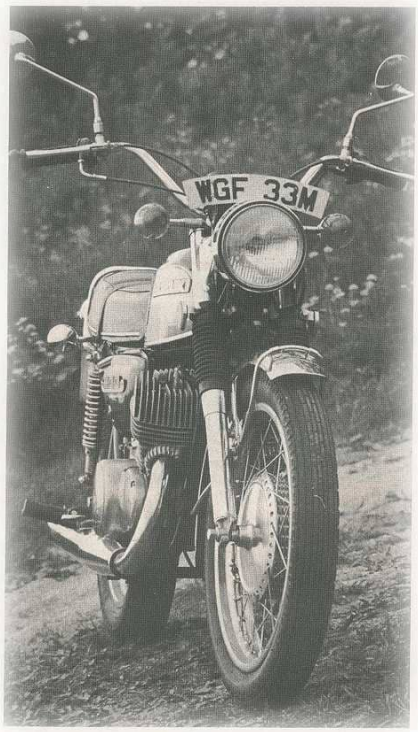
Here's a picture of my 1974 K-model T500.

When I was about 12 years of age (1974) I fell in love with this impressive bike. Now I am 41 years old and I decided to buy one. Next to my Honda Pan European it looks rather small instead of impressive, but who cares! Every now and than I ride it and i love it! I named it "Snoepie" which is dutch for "candy", because of the color which was called candy-lavender. The bike is unrestored and I am planning to keep it this way, after all it will be 30 years old next year and it still looks acceptable.

Tony van den Berg

Almere, Holland (near Amsterdam)

1974 Suzuki T500L Road Test



Gazza's scrapbook

1974 Suzuki T500L

(extract from Motorcycle Sport – July 1974)

Suzuki T500, 1974 style... a mild, cool middleweight

"Motorcycle Sport" July 1974

It wasn't very long ago that the Suzuki Cobra 500cc two stroke twin was being brandished by Suzuki as the hottest thing on two wheels. By one of those ironies of fate they are currently running a series of advertisements on the latest version "running cool even in Death Valley" just as we have the latest 1974 model on test as an example of a mild cool, middleweight machine. It's funny how a few years and a single model can transform a common view: the Honda 750-4 completely changed the face of motorcycling with the coming of the technical masterpiece with civilised appurtenances. Now one looks beyond a Honda 4 and seizes on the latest Italian nine-days wonder; the Four is a part of every day motorcycling.

The Suzuki T500 arrived in a world that regarded a big twin two stroke with great reserve, almost mirth. Yet after the horrific fuel consumption of the first Cobras had registered, the reliability moan vanishes, and now

that the T500 is quiet economical and nice to ride, it is almost a standard “it’s solid, reliable, good value and big enough to do most jobs well” motorcycle – much to Suzuki’s satisfaction, as well they keep on wheeling them out in their thousands. But the T500 has been completely buried by the tide of big and shiny motorcycles, and somehow takes a back seat to the water-cooled 750 or the 550 three twin with it’s fancy four pipes. Yet, take a look at the production racing results: TT wins and 500 Miler victories have left their mark on the sales figures, and after the TT victory the sales gave a mighty bound, thereby directly influencing the decision to form the Suzuki GP racing team. At club and national race meetings up and down the country the Suzuki 500 is a sure fire runner in the PR classes, and in the absence of Yoshimura’d Hondas they tend to win, too…. and in very standard trim indeed.

The people T500’s all seem to be very happy with them, and have cretinaly kept them far longer than one would have expected. Why is this?

The Suzuki is a big small machine: it does not have the height, the mass, the width or the weight of the modern 750’s or even “500”s” like the 550 three. The handling of the machine about the garage is of a small machine, and the slim seat helps to retain this feel when on board. Once moving, the 500 has a quite remarkable ability to pull high gears at low r.p.m.. This is really a big bike feature – and is not adequately present in the R75/5, and helps immeasurably to give a relaxed and controlled feeling to the machine on the move. The carburetion and porting alteration introduced as an almost immediate reaction to the reception of the Cobra have given the Suzuki a delightful spread of torque: 2000rpm in top gear is quite acceptable to the motor and the engine pulls sweetly up to about 3500rpm or 4000 before vibration set in. When the vibration does start it is severe and becomes quite remarkably uncomfortable above 5000. To use the 500 to full rpm limits is an unrewarding experience as ones foot can be firmly but steadily shaken off the footrest, as ones hands go to sleep under the shaking.

The front brake is a twin leading shoe affair that works adequately, but it is difficult to be enthusiastic about it as it simply works, fading a bit as it’s used, and always stopping, the machine with a faintly tired air. The tyres front and back seem to fit the vintage Japanese theme of the T500. They grip well enough in the dry, although the squeals at mild brake pressure discourage one from pressing the front too hard.

The rear tyre is fine in the dry except for the distinct tendency to track along the lines of the road, but then once the wet weather arrives….. I had two unnerving slides under very mild low speed braking in the wet, and felt very wary from then on. On the race track the T500 has proved itself over and over, once given the advantage of a good set of tyres and damping.

The front mudguard is solid and works well, keeping much of the water from the rider instead of aiding it in it’s progress onto the riders knees as is done so successfully by certain other makes. The headlight at one time might have been regarded as excellent but the presence of 12V equipment on even Italian machines has now deprived the Suzuki of any distinction in this quarter. The main beam was adequate for the job, and the dip suffered from a strange pattern that did not seem to be very sensible.

The handlebar controls for the lighting where very neat and easy to use, and the well lit and well marked tachometer and speedometer are equally well designed. The handlebars are high wide and ugly. They are rubber mounted in a vain attempt to hold vibration at bay, and to rub in the hopeless attitude of the designers even the handlebar mirrors have rubber isolation in the stem to make the mirrors usable. The depressed engineer who decided to go to these length might take some heart from the fact that both handlebar and mirror isolation work well over a considerable range of rpm, and it is hardly possible to carp when the vibration only gets through outside the normal cruising range of rpm.

The tank looks a lot bigger than it is and, in spite of the great improvement in fuel consumption over the Cobra tested about six years ago, the 2.8 gallons that went in only produced between 38 & 42 mpg in mixed town and country use. The cruising speed of an indicated 85 on motorways for 30 miles at a time required full throttle and was in fact the top speed under these conditions on many occasions, although once an indicated 95 – 100

crept up under favourable conditions. The overall performance was closely similar to the old Yamaha 350cc R5 model up to 80 mph, and rather worse than the 380 Suzuki subsequently. Two up the T500 would hold an indicated 80 with little if any to come, translating to about 75 real mph. Not too different to any other 500 or good 350, really, and probably a bit more economical than any 350 could manage at that sort of speed. On reflection, 80 two up sounds so slow: the degree or exaggeration of modern “speedometers” is such that one hears complaints that 350’s won’t hold 80 two up on wide handlebars……. which, when converted into straight bars and a solo rider, equates to around 100mph in general for bikes of a 350c.cc. style of torque.

The Suzuki shows its strength here, and really eats up the distance into wind and two-up. With the wind behind, the Suzuki was flogged up to an indicated 90-93 mph and the attendant vibrations were so severe that the passenger lost her grip on a sweater that she was carrying when shifting around to try to escape the tooth grinding tingle. Let the Suzuki drop back down to about 60 and it is mild and smooth enough for comfort. The rate of oil consumption is remarkably low: the level barely shifted over several hundred miles. The Suzuki positive feed system is much more efficient in its use of lubricant than the Yamaha or Kawasaki variants. The oil pump assemblage is fitted to the top at the rear of the crankcases, and the feed pipes can be seen twisting their way to the crankshaft bearings.

The gearbox has five speeds and a very nice action. Switching from a BMW to the Suzuki gave it a pretty easy mark to beat, but the comparison with a Yamaha RD250 gearbox placed the Suzuki firmly as a good gearbox by the standards a few years ago.

Positive, but heavy, with a long action, it was difficult to miss a gear and engagement was commendably quiet. The wet clutch dragged a little and made neutral selection difficult at a halt. Once on the move the neutral selection was precise and easy to engage. A dated feature was the lack of a primary gear kick-start engagement point; one must find neutral to start the Suzuki, and had it been easier to obtain neutral it would have seemed less of a fault.

The seating position was good, and a 40-mile trip led neither to discomfort nor to fatigue on the part of machine or rider. This was perhaps the best feature of the Suzuki: it could be caned as hard as the rider could stand it, and not wilt. The Suzuki really gets its own back on anyone who treats it so severely and the discomfort at 6,500 r.p.m. is equalled only by the 650 c.c parallel twins that are now nearly defunct.

The Suzuki was very much at home in congested traffic; the immediate response to the throttle, the wide spread of torque, and the crisp gearbox provided just the right set of characteristics for decisive town manoeuvring. The Suzuki is lighter than most medium-sized machines now sold, and weighs about 420lb or so. This is enough to sustain strong gusting motorway winds with some stability, and yet light enough to throw about with fair abandon when the opportunity arises. The T500 was one of the nicest machines to use to travel 40 miles each way each day to London on, and one of the least fatiguing to drive in the heaviest traffic.

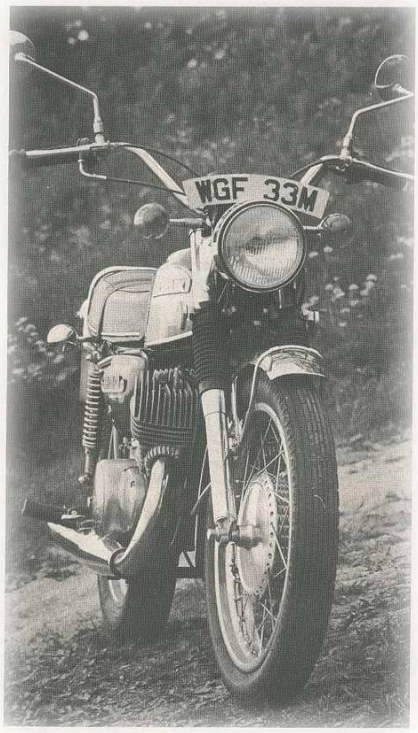
On back roads the Suzuki’s suspension showed up rather better than it did on main roads. On smooth motorways the odd bump seemed to produce a painful jar, but once the suspension was working on undulating and bumpy lanes the Suzuki was far more comfortable to ride, and displayed a capacity for soaking up really nasty-looking holes without passing the jolt to the rider.

The 500 Suzuki has remained virtually unchanged for most of its six-year life, and probably owes its present existence solely to the American AMA racing regulations. It has a very fine reputation for reliability and strength, and a string of major Production race successes.

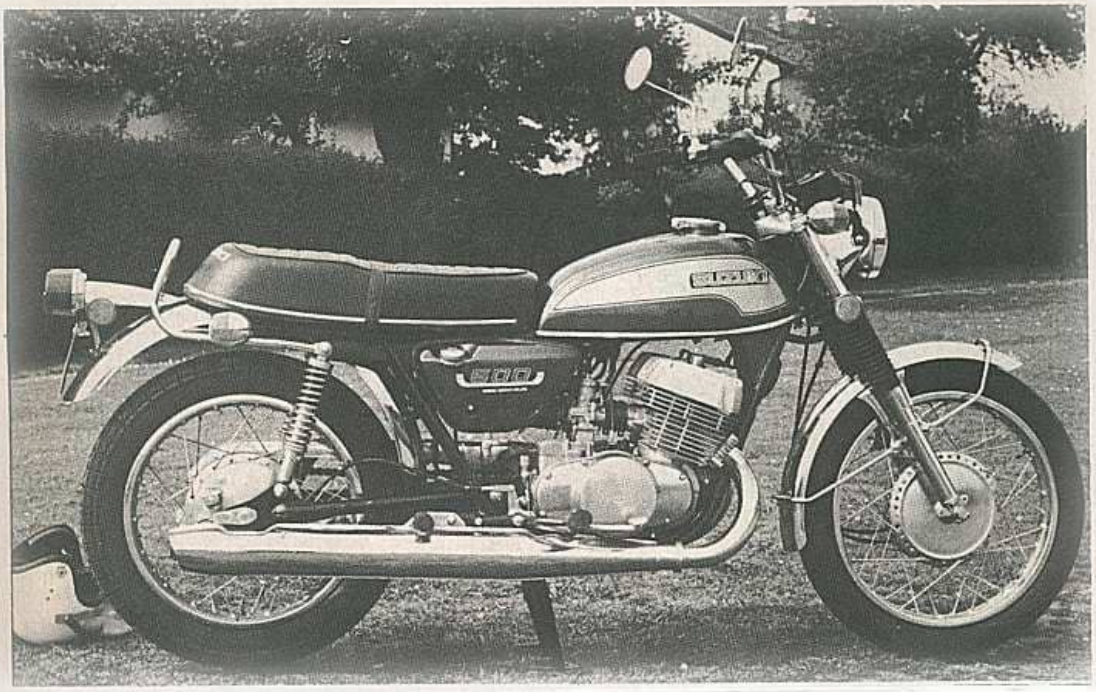
All this well proven product is worth a second look: the enviable stability of the machine has ensured that all the results of the “early sorting out” have been incorporated for years, and the customer can purchase a really well proven all round machine without the blandishments of instant redesign every year.

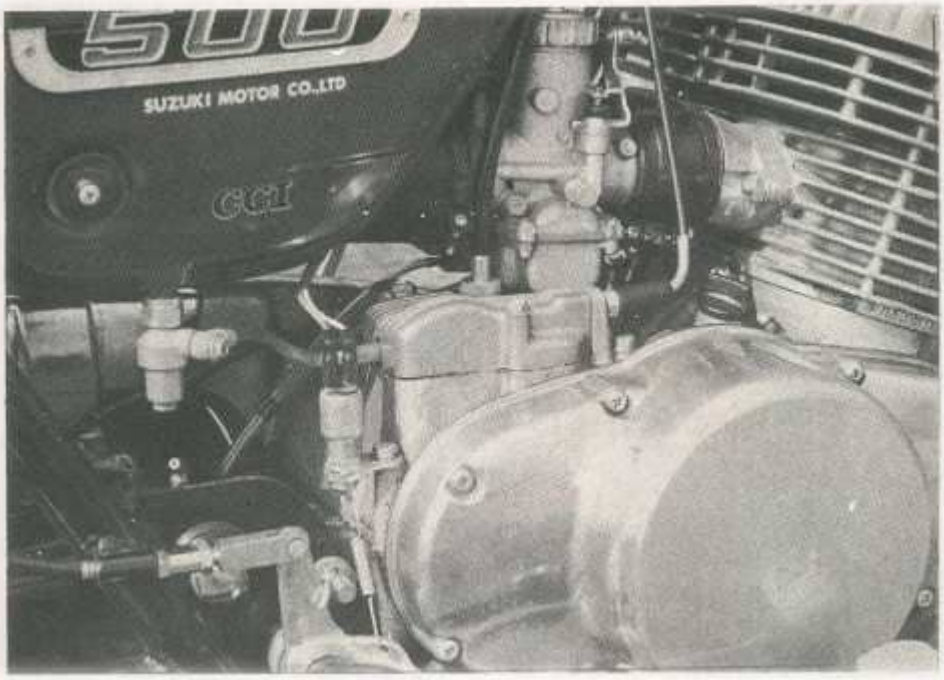
Unfortunately six years is a long time, and the new round of 350 machines have the T500 taped. Suzuki’s own 380 undersells. out accelerates and out handles the T500. Yamaha’s RD 350 will do the same, and Suzuki’s 550 three concedes only too much weight to the older twin.

Yet all these comparisons can do little to disguise the fact that the T500 twin will do almost everything that one would want from a motorcycle, and has been really well proved and not subjected to yearly replacements like so many others from Japan. The simplicity of the two stroke twin is a real advantage. Now that the T500 has sat back on it's laurels it will be shortly replaced by a far more complicated and expensive beast that will require far longer to deal with when something goes wrong. The T500 may well be a visitor left over from the 60's but it fills a real slot in the market. Dated now, but with a friendly rugged character, the T500 is likely to continue to appeal to a sizeable group of motorcyclists for quite a while yet.



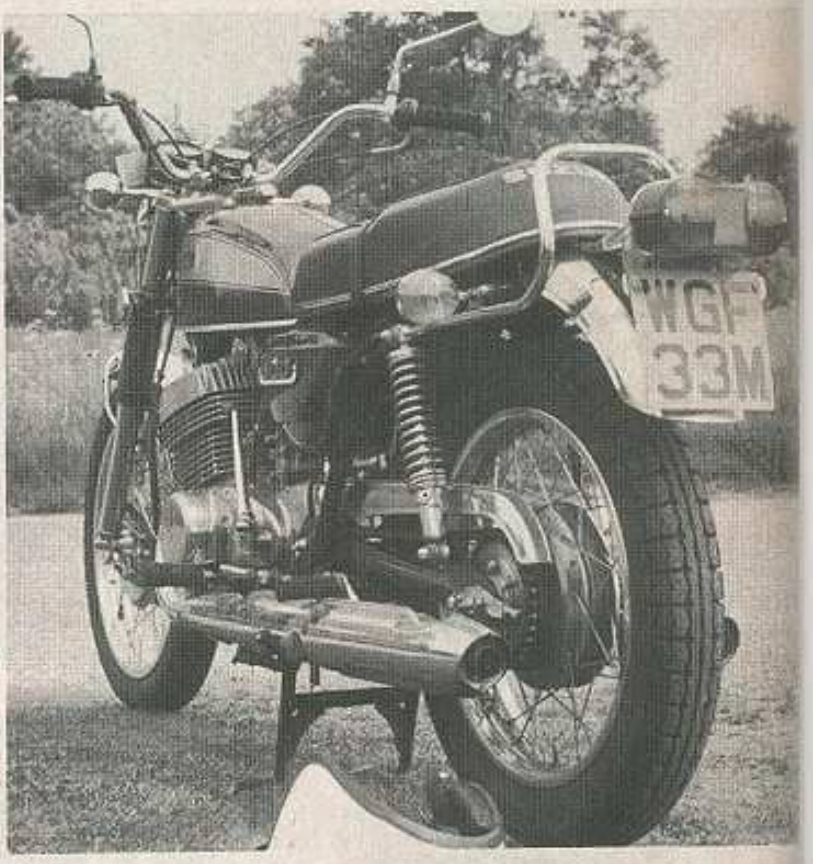
The up-to-the-minute version of the Suzuki compared with its 1969-70 forebear: remarkably little difference externally (but where's the tyre inflator now?) but one or two carburettor modifications

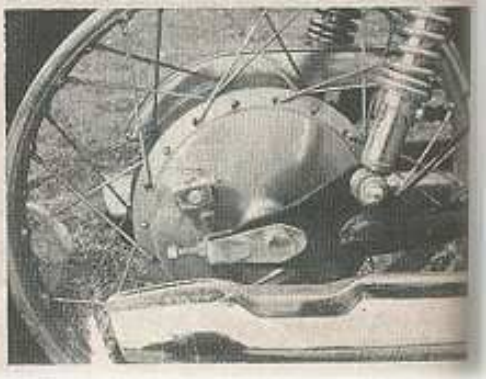



500
SUZUKI MOTOR CO.,LTD
GGI

quite a while yet.

Above: "The Suzuki positive feed system is much more efficient in its use of lubricant than the Yamaha or Kawasaki variants." Below: Very neat, practical control cluster on the left side; and the guide for rear brake-lining wear





Ted Harris' T500K Restoration

APRIL 22, 2023
CATEGORIES: T500, TITAN

Ted Harris' T500K Restoration

Ted, who lives in perth Western Australia, is a brilliant mechanic and a perfectionist when it comes to restoration…Ted has spent countless hours and over $6,500 (in 2004) in new parts and rebuilding to arrive at his restored T500. Ted painted the tank black rather than follow the standard pattern purely due to personal preference. No-one can doubt the excellence of the work he has conducted on this machine…..it is restored to almost new condition. Who could argue with that?

(Muzza Note: I was lucky enough for this machine to end up in my garage, later)

SUZUKI

500
SUZUKI MOTOR CO., LTD.
CCI

SUZUKI
500

500

SUZUKI
www.ozebook.com

500
www.ozebook.com

SUZUKI
500

SUZUKI
GOO
www.nzebook.com

SUZUKI
GOO

www.ozebook.com

Muzza's T500L Gallery

Muzza's T500L Gallery

The Midnight Express T500 now graces Muzza's garage. The Ted Harris restored T500L looks good for now but not for long once Muzza gets his greasy mitts on it!

I couldn't keep Muzza Jnr off the beast either!

Muzz Jnr

Muzza & Muzz-ess

SUZUKI
500

SUZUKI
500

Nigel's T500L in 1975

Welshpool Road, Western Australia

Bill's T500K

Bill's T500K – USA

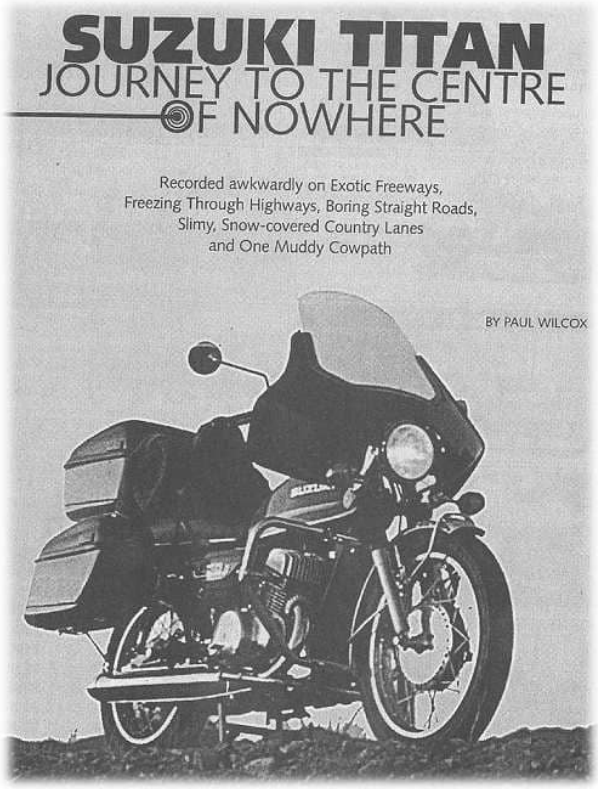
Immaculate and only 700 miles on the clock! Lucky Bill. Bill Moore lives in California and has a fine collection of bikes.

Some of Bill's other beasts….

YAMAHA
RDZ 400

SUZUKI
125
CC1

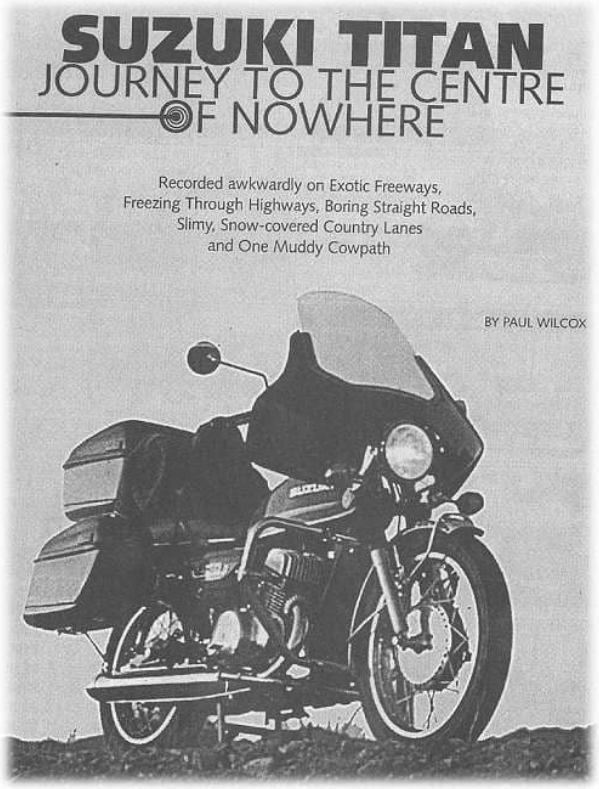
1975 Suzuki T500M Torture Test



1975 Suzuki T500M Torture Test

Big Bike Magazine

A rather strange test from 1975 – the rider underwent an unusual process to test the durability of the T500 – why they waited until 1975 (8 years after the bike was released I'll never know) and 3,000 miles is nothing, even weird miles in this case. Anyway, no surprises to us T500 fans, but interesting to read one strange chap's view of our favourite beast.



SUZUKI TITAN
JOURNEY TO THE CENTRE OF NOWHERE

Recorded awkwardly on Exotic Freeways, Freezing Through Highways, Boring Straight Roads, Slimy, Snow-covered Country Lanes and One Muddy Cowpath

BY PAUL WILCOX

And so it was to be.

All the arrangements had been made.

U.S. Suzuki Corp. was to release to *BIG BIKE Magazine* one of their 1975 Suzuki T-500/M Titans for testing.

At first we had planned to run a standard road test on the T-500, and then return it to Suzuki after a couple of weeks. But we decided that a straight road test couldn't possibly evaluate the Titan's reputation properly.

Reputation for what? The main word has always been reliability. More accurately, words like simplicity, maintenance-free, bulletproof, and forever have also been hurled at the Largest of The Two-Stroke Twins. We had even heard stories of Titan owners that had gone for three or four years without any maintenance, still using the ORIGINAL spark plugs.

Aside from the stories about reliability, we had also received more than a few reports on long-range touring comfort, handling, and ease of maintenance (even if it does look like its big brother the Titanic).

With input like that, we had to bump a few heads together to come up with a less-than-kind test procedure for the 500. So it was decided that what the Titan needed was some serious torture. Say about 3000 miles' worth of torture... loaded down with every conceivable touring item. Which is exactly what we set out to do, and I was to be somewhere in the middle. We started out by running the bike down to Bates Industries, where we put on two of their largest saddlebags, a large tote box and luggage rack, highway pegs, safety bars and a Ride-Off Stand.

In addition to the Bats items, we had a number of touring items that needed to go through tests of their own – goodies like Vetter HippoHands, a DB touring fairing, a Suzuki Tank Bag, a Chamelion Adjustable Backrest, GDH Rain-suit, and so on.

By late that afternoon, the Titan began looking a lot like an Electra Glide (it was even blue). Into the saddlebags and tote box all of my worldly possessions were crammed – clothes, tools, inner tubes, oil and chain lube, camera equipment and film – to the point where motion was almost a questionable subject.

At this point, the bike was roadworthy. A last-minute conference brought up the idea of providing the bike with absolutely no maintenance for the duration of the test. We decided that the bike was to be totally neglected with the exception of gas and oil. That was to include neglecting the timing, injection adjustments, chain adjustment, transmission maintenance, bolt tightening and, heaven forbid, the spark plugs, for as long as they would continue, or until they no longer resembled the original part.

And so it was to be. All the arrangements had been made. US Suzuki Corp. was to release to BIG BIKE Magazine one of their 1975 Suzuki T-500/M Titans for testing. At first we had planned to run a standard road test on the T500 and then return it to Suzuki after a couple of weeks. But we decided that a straight road test couldn't possibly evaluate the Titan's reputation properly. Reputation for what? The main word has always been reliability. More accurately, words like simplicity, maintenance-free, bulletproof, and forever have also been hurled at the largest of The Two-Stroke Twins. We had even heard stories of Titan owners that had gone for three or four years without any maintenance, still using the ORIGINAL spark plugs.

Aside from the stories about reliability, we had also received more than a few reports on long-range touring comfort, handling, and ease of maintenance (even if it does look like its big brother the Titanic). With input like that, we had to bump a few heads together to come up with a less-than-kind test procedure for the 500. So it was decided that what the Titan needed was some serious torture. Say about 3000 miles worth of torture... loaded down with every conceivable touring item, which is exactly what we set out to do, and I was to be somewhere in the middle. We started out by running the bike down to Bates Industries, where we put on two of their largest saddlebags, a large tote box and luggage rack, highway pegs, safety bars and & Ride-Off Stand. In addition to the Bates items, we had a number of touring items that needed to go through tests of their own – goodies like Vetter Hippo Hands, a DB touring fairing, a Suzuki Tank Bag, a Chameleon Adjustable Backrest, GDH Rain-suit, and so on.

By late that afternoon, the Titan began looking a lot like an Electra Glide (it was even blue). Into the saddlebags and tote box all of my worldly possessions were crammed — clothes, tools, inner tubes, oil and Chain lube, camera equipment and film to the point where motion was almost a questionable subject. At this point, the bike was roadworthy. A last-minute conference brought up the idea of providing the bike with absolutely no maintenance for the duration of the test. We decided that the bike
was to be totally neglected with the exception of gas

Everything was ready for me to set out on this barbaric mission. All that was needed was a name for the operation. Since the object was one of mileage rather than destination, and since I had no particular destination, the trip was to become known as "Journey To The Centre of Nowhere," with all due apologies to Jules Verne and Rick Wakeman.

THE JOURNEY:

Journey on through the ages gone,
to the centre of the earth,
Past rocks of quartz and granite,
which gave mother nature birth
Burial ground of ancient man, his
life no more is seen,
A journey through his time
unknown, I wonder where he's been

—From "The Forest"
by Rick Wakeman

And so I was off – eight or ten days of mechanical abuse, totaling around 3000 miles, was about to start on my doorstep that morning. It was a Friday, as I recall, when I first walked out to that Titan in front of the house.

I struggled into all of my touring gear – boots and gloves and jacket and helmet and all. Swung my right leg over the saddle, bent down and inserted the ignition key, turned it on, and engaged the enrichening lever. I prepared to swing out the kick lever with my right foot, when I remembered that nasty feature of the Titan – left side kickstarter.

I climbed off again, since I'm as inept with my left foot as I am with my left hand, and proceeded to boot the lever right-footed. About halfway through the stroke of the lever, the big twin grumbled. The instructions say to let it idle with the enrichener engaged until the engine is warm.

Fine, I sat and I waited. After a moment or two, I found that suddenly I was losing my eyesight – objects started to fade out of view – was I coming down with a strange disease or something? – soon all sight had left me – was I about to die? As I was about to give myself up as a basket case. I realized that I had no sight problem at all – I had been swallowed up in billowing, CCI-metered, triple-thick two-stroke oil fumes.

I reached down and released the choke lever, and the billowing began to subside. Even though some of the smoke was dispersing, I could still hear the angry voices of neighbors and howling of irate canines. I wouldn't have been too surprised to hear fire engines en route, but it seemed that nobody cared if a magazine editor was smouldering in his front yard.

Must be warm enough to ride by now.

A neighbor started running toward me with rolling pin in hand.

Yup – it's plenty warm. Pull in the clutch, boot the shifter and it's away, off the curb and out into the streets. Look around for freeway onramp – lessee-eeny, meeny, miny – this one looks good: State Hwy No. 10/Eastbound.

Up onto the freeway and point the Titan out of Los Angeles, toward the desert. Let the revs climb as I go through the gears, letting the little white pointer of the speedo rest around the 80 mark. Lean on back behind the shelter of the fairing and relax. Cruise on past the factories and junkyards, the smog, suburbia, and the ugly grayness of L.A.

About an hour out, I couldn't help but notice that I was just as comfortable at this point as I was some 70-some miles ago. Indeed this bike is proving to be quite nice to live with. Good, soft seat – rubber-mounted bars and footpegs – quiet exhaust note, and the engine turning a leisurely four-or-so grand. Looking around before me – check out the gauges and controls – very well laid out. All of the thumbswitches were in just the right places, and the gauges are relatively uncluttered and well marked.

I was out in the very border reaches of civilization when it was time for a quick pit stop for gas. First station I came to turned out to be some cheap independent, that looked like it made more from the egg, beer and cigarette sales than it did by pumping gas. Pulled into the station and headed for the pump that appeared to have their best stuff I it, but then I decided to use their cheapest, lowest octane, low lead sub-regular instead. After all, this was an exercise in organized abuse and torture, wasn't it? Filled up and started the Suzi. Fired first kick. For that matter – it always fired first kick.

Back on the road after going through five crisp, positive shifts, and settled down for some more rolling comfort. Continued on for an hour or so, till I reached Blythe. Ah, yes – Blythe – the city of dreams – if you happen to be a cow, a cowboy, a trucker, redneck, right-winger or a combination of all five. Felt as though I'd just leave the dream city behind, but I did need gas and a bite to eat. Head down the offramp and on through the center of town. People stare, turn around, make funny faces; I continue down the main street, stop and get required food and gas, and make way for the road again.

Putting through town through their "Makes Crawling Look Good" speed limits, had taken a small toll on the Suzi and gotten both plugs a bit loaded up. Down the ramp, I ran both first and second cogs up to the redline. Clouds of blue smoke piled up behind me, and the bike cleared out just fine.

The highway patrolman behind me felt that the bike had cleared out just fine, too. He even pulled me over to have a friendly chat.

"Goin' jest a wee bit fast there, huh, son?"

"Well, uh, you see now – uh, – I mean – you know – two-stroke and all that – would you believe that the throttle stuck?"

Funny, he didn't seem to believe me. He rattled on about how I should be conserving energy and that I was a threat to the public, and so on. He was also a bit curious as to why the bike had no license plate, paper plate or registration. Cops get curious about little details, you know.

Then the gent informed me that I was estimated to be traveling at about 70 per when pulled me over. I knew that this was impossible, because you can't reach 70 in second gear on a Titan. Signed the ticket anyway, and demanded to see the judge right away. He "escorted" me to the town court/jail/post office/country store, where I convinced the judge that he should reduce the fine from 94 bucks to a more acceptable 25. He agreed – something about having his town badmouthed in a national publication – and now I don't have to say that if California was given an enema, they'd stick the hose I Blythe.

Hi America!

Out of Blythe and back to the desert. SIT AND daydream about The Journey To The Centre Of Nowhere. Would I ever find it? What do I look for? Nothing? And could I manage to do any sort of damage to the Titan, or would it keep on running?

With a question like that staring me in the face, I couldn't help but start some of the Suzi torturing right away. Let's see – what shall I dish out first? It wasn't long before my sadistic mind had come up with a cazart idea: at 80 per – maybe more – I dropped the gearbox down from fifth to third, popped the clutch, watched the engine border on overrevving, and opened the throttle all the way; the miles per rose up to the 100 mark, and then I just held it there – third gear, seven or eight grand – for 30 minutes straight.

Hmm, this isn't doing anything bad to the darn thing; in fact, I

and oil. That was to include neglecting the timing, injection adjustments,
chain adjustment, transmission maintenance, bolt tightening and, heaven forbid, the spark plugs, for as long as they would
continue, or until they no longer resembled the original part.

Everything was ready for me to set out on this barbaric mission. All that was needed was a name for the operation. Since the
object was one of mileage rather than destination, and since I had no particular destination, the trip was to become known as “Journey To The Centre of Nowhere,” with all due apologies to Jules Verne and Rick Wakeman.

THE JOURNEY: Journey on through the ages gone, to the centre of the earth, Past rocks of quartz and granite, which gave mother nature birth. Burial ground of ancient man, his life no more is seen, A journey through his time unknown, I wonder where he’s been — From “The Forest” by Rick Wakeman.

And so I was off – eight or ten days of mechanical abuse, totalling around 3000 miles, was about to start on my doorstep that
morning. If was a Friday, as I recall, when I first walked out to that Titan in front of the house. I struggled into all of my touring
gear – boots and gloves and jacket and helmet and all. Swung my right leg over the saddle, bent down and inserted the ignition
key, turned it on, and engaged the choke lever. I prepared to swing out the kick lever with my right foot, when I remembered that nasty feature of the Titan – left side kick starter. I climbed off again, since I’m as inept with my left foot as I am with my left hand, and proceeded to boot the lever right-footed. About halfway through the stroke of the lever, the big twin grumbled. The instructions say to let it idle with the choke engaged until the engine is warm. Fine, I sat and I waited. After a moment or two, I found that suddenly I was losing my eyesight – objects started to fade out of view – was I coming down with a strange disease or something? – soon all sight had left me – was I about to die? As I was about to give myself up as a basket case. I

was beginning to think the bike was enjoying it.

Looking up the road a piece, I saw a car over on the shoulder of the road, with a rather attractive woofie standing nearby. How could I resist being a good Samaritan at this point? Simple – why resist?

Pulled over and asked what was wrong, and she said that it just wouldn't go. It was a Fiat 850 Spyder, and since I'd had a little experience with Fiats, I had a look. It appeared as though she had overheated the poor thing to the point where it completely seized up solid. One thing was for sure, though, that car wasn't going anywhere – at least not under its own power. This was my golden opportunity. No, not THAT, you filthy-minded perverts. The opportunity in question was one of perfect torture for the Titan. I latched onto a piece of rope that she had with her, tied one end to the front of her car and the other to the back of the Suzuki. What the hell – I'd seen a Yammie 250 pull a fully-laden NSU before, so why couldn't I tow a Fiat with a Suzi? I was right – the Suzi did pull the car, and at a pretty decent pace as well. Within about 40 seconds, I had the both of us rolling along at about 40, and the darn bike continued to haul the car up to about 50 or 55 per. And it did it for some 60 miles.

She gave me a nice big thank you, and I left, feeling half defeated and half victorious, the Suzuki's show of strength being the victorious half of the feeling.

And so the journey continued on into the night, until I reached some little town I Arizona. It was there, in that town, whatever town it was, that I decided to end that day's travel, and get food and a room for the night.

"Say, mister, you can tell me where a man might find a bed?" He just smiled and shook my hand. "No" was all he said.

A bit further down the road I did find a bed, and even a place to eat. Two hamburgers, an order of fries and an hour of Johnny Carson were all I could stand. Sleep.

Waking up in a strange place isn't any fun, especially when it's at six in the a.m. and to the sound of garbage trucks outside my window.

Should have gotten a different room. Well, now that I'm up, I may as well hit the road.

The weather was warm, the sky was blue, and the Suzuki was covered with dew from the night before. Darn thing fired up first kick once again. There's got to be some way that I can slow this machine down... with a little effort, maybe I can cause a blinker bulb to burn out or something. Out on the road I gave it my worst, by winding out the gears to set the motor into the deepest reaches of the Red Zone.

banging shifts, and generally being nasty. For several hundred miles this went on, into the night and until I was almost out of Arizona and into Nevada.

Throughout all of this torture, the bike (and I) had been going through several seasons of varied weather. From 40 to 80 to 90 to close to zero the temperatures rose and fell. The Suzi handled them all easily. On to Nevada, Las Vegas, some sleep, and the next day it was off to Utah, more highways, and more searching for The Centre of Nowhere.

For several hundred miles I sat, searching, and getting tired. It seemed sure that my fate was to never find Noplace, not to mention the Centre of the darn place. I felt positive that if I was to find the Centre of Nowhere, I wasn't going to find it in Utah. Apparently, the only thing there is in Utah are pickup trucks and Sheriffs' cars. Sadly, the pickup trucks are grossly outnumbered. There is, though, at least one other thing in that state – snow – and quite a bit of it at that. It has never been claimed by anyone that riding a motorcycle is fun when the fairing's windscreen is clouded with frost and ice, or when snow and muck start blowing up under your chin and into a full-coverage helmet. Nor is it a jovial experience to be frozen all over until every nerve is flashing pain instead of cold. I was in the kind of weather that was severe enough to render HippoHands helpless.

Weather that had the power to turn heavy-duty touring apparel into a defenseless babe in the woods.

To make the picture perfectly clear – I was freezing my butt off.

A beacon in the snowy sky, reading: "Astro Motel" was signifying heavily. Sleep came easily, but when I was ready to depart in the morning, I found the weather to be just as bad as it was an evening ago. Great. Back into the cold I went, and battled it back into Nevada, hoping to find warmer weather and, eventually, The Centre Of Nowhere.

On one stretch of road I thought that maybe I might be getting close to the ultimate goal. I had found a road, a small road, in the middle of the dessert, that looked as if it might lead me to Nowhere. There was even a sign saying that there were no places to get gas for the next 100 miles or so. I flipped up the gas cap and peered down into the tank.

Looked like plenty.

Headed out in search of Nowhere. Traveled on for a way and, being still within the bounds of "Somewhere," decided to take time out for a torture-break.

My timing must have been right (about the torture session), because directly to my left I could see a beautiful, straight, narrow set of railroad tracks. Perfect – what better abuse could I find in the middle of the desert? I bumped the bike over one of the tracks and pointed the Titan down the center of the two tracks... and ran first gear up as far as it would go... say to about the end of the tachometer dial... and held it there for some 15 minutes. The "test" would have lasted longer, but my body was about to become a giant mass of Jello.

I bumped on down from the tracks and onto the road again. As I motored on down the highway, I thought back on what the tracks must have been doing to the bike. I could picture the crank as the bike went over each railroad tie... a sudden jolt as it went up... a micro-second of slack, and then another jolt... and having it happen about 350,000 times in first gear... and in the Red Zone. Gawd, it made me cringe just to think about it, but the Suzuki just kept on humming along, never giving any sign of sniveling...

A few more miles and another day had gone by... eat, refuel, sleep, and then another day of torture – and another – and still searching for The Centre Of Nowhere through it all. A couple of times I thought that perhaps I had seen a fleeting glance of Nowhere, but I was mistaken.

It wasn't until I had been in several different states that I realized what I was looking for was back in Nevada. At least I thought it was, because there were a few times that I could remember when a strange feeling came over me. It was a feeling of nearness, as if I were close to my goal – so I went back into the middle of Nevada, to try to track down that same feeling, and possibly even find The Centre Of Nowhere.

It happened a couple of hours after I had crossed the border – that feeling of nearness returned again. It drew both me and the Suzuki away from the main highway, onto a smaller road, and from there we were led to an even smaller road, then to a dirt road, and finally to a small

realized that I had no sight problem at all – I had been swallowed up in billowing, CCI-metered, triple-thick two-stroke oil fumes. I reached down and released the choke lever, and the billowing began to subside. Even though some of the smoke was dispersing, I could still hear the angry voices of neighbours and howling of irate canines. I wouldn't have been too surprised to hear fire engines enroute. but it seemed that nobody cared if a magazine editor was smouldering in his front yard.

Must be warm enough by now. A neighbour started running toward me with rolling pin in hand. Yup -it's plenty warm. Pull in the
clutch, boot the shifter and it's away, off the curb and out into the streets. Look around for freeway on ramp – lessee, eeny, meeny, miney – this one looks good: State Hwy No. 10/Eastbound. Up onto the freeway and point the Titan out of Los Angeles,
toward the desert. Let the revs climb as I go through the gears. letting the little white pointer of the speedo rest around the 80
mark Lean on back behind the shelter of the fairing and relax. Cruise on past the factories and junkyards, the smog, suburbia,
and the ugly greyness of LA. About an hour out. I couldn't help but notice that I was just as comfortable at this point as I was some 70-some miles ago. Indeed this bike is proving to be quite nice to live with. Good, soft seat – rubber-mounted bars and
foot pegs – quiet exhaust note, and the engine turning a leisurely four-or-so grand. Looking around before me – check out the gauges and controls'- very well laid out. All of the thumb switches were in just the right places, and the gauges are relatively uncluttered and well marked.

I was out in the very border reaches of civilization when it was time for a quick pit stop for gas. First station I came to turned out to be some cheap independent, that looked like it made more from the egg, beer and cigarette sales than it did by pumping gas. Pulled into the station and headed for the pump that appeared to have their best stuff in it, but then decided to use their cheapest, lowest octane, low lead sub-regular instead. After all, this was an exercise in organized abuse and torture, wasn't 'it? Filled up and started the Suzi. Fired

cowtrail. The Suzi carried us along the trail, which grew smaller as the feeling of nearness to Nowhere grew larger. Eventually, the trail could become no smaller, and the feeling could become no larger.

It was at this point that both the Titan and I were sure – yes, very sure, that we had at long last completed the Journey To The Centre Of Nowhere. All around us, there was nothing. No sight of civilization in any direction was detectable by the naked eye. Or even naked sealed beam. Before us there was a huge rock-like formation that was to mark the Centre. Along the upper portion of the Great Rock there were smaller rocks, both small and large variety rocks, some short, some long. And these small stones were laid out in a most peculiar pattern. Looking more closely, it was readily apparent that the rocks had been strewn about in a makeshift type of Morse Code. It was hard to see exactly what the stones were spelling out, due to the diminishing light of the dusktime hours. But then it was clear – the rocks spelled out the words: "WHERE AM I?" At that moment there was no longer any doubt as to our exact location.

We were, indeed, in the Centre Of Nowhere. A quick salute to The Great Rock, and away we went, the Titan and myself, off to bring the news of our Journey to the people . . . and to further continue the torturing of each and every component of the Suzuki.

Once out on the open road, I felt that travel was more important than torture, and headed out into the darkness towards Las Vegas once again, and a place to rest for the night. Riding through the desert was altogether effortless, and I settled the bike into a steady 70 mph hum.

Usually the desert is pretty much void of through traffic at night, but this particular night was a slight exception to the rule – I had company. A BMW. Not the BMW bike, but a Bee Emm automobile. A 2002, to be precise. Now, in case you didn't know, the 2002 has a very heavy reputation for being one of the few true Grand Touring Coupes around. The reputation that the car is built upon deals with claims of being able to cruise at 100 mph all day long.

Not being one to let a chance for a reputation slip by, I decided to play a few games with the Bee Emm. After he went zooshing by me at his leisurely century mark, I chose to wind out the Suzi a wee bit and cruise along with him at his set pace. The Titan did the job in a very respectable manner. Not really straining at all, it was as solid on the road at 100 as it was at 50. We continued on like this, at the same steady hum, for all of two hours, which put us a few miles short of Vegas. In memory of the Nevada Highway Patrol, or whatever they call themselves, I cut down on the ol' speed limit until I approached what could be described as a sane rate. The Bee Emm kept up his pace, and I waved him adieu.

Into Las Vegas – a few beers, a little TV, and off to sleep.

The following morning marked the last day of "testing," and the day would be spent going back into L.A. That morning also marked the day of the First Annual BIG BIKE/Suzuki Vegas To Barstow Run. The planning of this year's run had been done a bit haphazardly, but it didn't really matter because I was the only contestant in the race.

I set up the ground rules anyway. Actually, they were quite simple. All a rider had to do to qualify for the race was: ride a minimum of 2700 miles prior to the race, without maintaining the bike at all during that period, have had no more than four hours sleep before the race, and be nursing a sickly headache and hangover at the start of the race.

To help keep with the spirit of competition, none of the riders would be able to bring along any tools or supplies for the race, and all repairs that must be performed en route must be made by hand. The last prerequisite for entering the race is that each bike must have at least 95 kilograms (209.5 pounds) of excess weight on the rear 50 percent of the machine (rider not included).

Since I had already taken care of all the prerequisites for The First Annual BIG BIKE/Suzuki Vegas To Barstow Run, there was nothing holding me back. I fueled up the bike and was ready to run, hangover and all.

I left the border of Vegas at precisely 9:37 a.m., and set out to make history on the First of all B.B./Suzuki Runs. Surprisingly, I was faced with very little in the way of traffic along the way. My speed average was up to par, nothing broke, and my one gas stop in Baker, California, was very quick indeed. All the way into Barstow the bike held high average speeds, and I came across the border of Barstow with flying colors.

I forgot to check my watch to see what my total elapsed time was, but it didn't really matter, though, because I KNEW that I had won. Hell, the competition never even showed up. Next year it will be held on February 25, 1976, and everyone will depart at 6:00 a.m. from the Las Vegas Suzuki Shop on Fremont Blvd. You can't miss it, it's the only Suzuki shop in L.V.

All that was left to do to complete the Journey To The Centre Of Nowhere was to get back from Barstow into North Hollywood and still keep the record of no breakdowns with no maintenance.

You could have guessed the rest – no breakdowns all the way into L.A., and the bike had undergone 3000 miles of sadistic abuse with not even the tiniest of wrenches coming close to a single nut or bolt. I must admit that I was still a bit disappointed that I couldn't make something start running amuck. After all, I had even been heralded as The Only Living Person To Almost Completely Overheat A Suzuki Water-Cooled 750, so why was I unable to render the Titan defunct?

Throughout our testing period of over 3000 miles, we subjected the Suzuki T-500 to the worst possible conditions and abuses – without maintenance of any kind. The bike functioned flawlessly without any mishaps whatsoever.

We at *BIG BIKE Magazine* are thoroughly convinced that the Suzuki Titan is the most reliable twin-cylinder motorcycle available. It can handle anything that any cyclist could conceivably dish out. And to top it off – the Titan is also the lowest priced 500 on the market. What more could you want?

Reprinted with the permission of Hi-Torque Publishing, copyright May 1975

first kick. For that matter – it always fired first kick. Back on the road after going through five crisp, positive shifts and settled down for some more rolling comfort. Continued on for an hour or so, till I reached Blythe. Ah. yes – Blythe – the city of dreams – if you happen to be a cow, a cowboy. a trucker, redneck, right-winger or a combination of all five. Felt as though I'd just leave the dream city behind, but I did need gas and a bite to eat. Head down the offramp and on through the center of town. People stare, turn around, make funny faces; continue down the main street, stop and get required food and gas, and make way for the road again.

Putting through town through their "Makes Crawling Look Good" speed limits, had taken a small toll on the Suzi and gotten both plugs a bit loaded up. Down the ramp, I ran both first and second cogs up to the redline. Clouds of blue smoke piled up
behind me, and the bike cleared out just fine. The highway patrolman behind me felt that the bike had cleared out just fine, too. He even pulled me over to have a friendly chat. "Goin' jest a wee bit fast there, huh, son?" "Well, uh, you see now – uh, – I mean – you know – two stroke and all that – would you believe that the throttle stuck?" Funny, he didn't seem to believe me. He rattled on about how I should be conserving energy and that I was a threat to the public, and so on. He was also a bit curious as to why the bike had no license plate, paper plate or registration. Cops get curious about little detail's, you know. Then the gent informed me that I was estimated to be traveling at about 70 per when pulled me over. I knew that this was impossible, because you can't reach 70 in second gear on a Titan. Signed the ticket anyway, and demanded to see the judge right away. He "escorted" me to the town court/jail/post office/country store, where I convinced the judge that he should reduce the fine from 94 bucks to a more acceptable 25. He something about having his town badmouthed in a national publication – and now I don't have to say that if California was given an enema. they'd stick the hose in Blythe. Hi America!

Out of Blythe and back to the desert. SIT AND daydream about The Journey To The Centre Of Nowhere. Would I ever find it?
what. do I look for? Nothing? And could I manage to do any sort of damage to the Titan, or would it keep on

running? With a question like that staring me in the' face, I couldn't help but start some of the Suzi torturing right away. Let's see – what shall I dish out first? it wasn't long before my sadistic mind had come up with a great idea: at 80 per – maybe more – I dropped the gearbox down from fifth to third, popped the clutch, watched the engine border on over revving, and opened the throttle all the way: the miles per rose up to the 100 mark, and then I just held it there – third gear, seven or eight grand – for 30 minutes straight. Hmm, this isn't doing anything bad to the dam thing; in fact, I was beginning to think the bike was enjoying it.

Looking up the road a piece, I saw a car over on the shoulder of the road. with a rather attractive woofie standing nearby. How
could I resist being a good Samaritan at this point? Simple – why resist? Pulled over and asked what was wrong, and she said that it just wouldn't go. It was a Fiat 850 Spyder, and since I'd had a little experience with Fiats, I had a look. It appeared as though she had overheated the poor thing to the point where it completely seized up solid. One thing was for sure, though, that car wasn't going anywhere – at least not under its own power. This was my golden opportunity. No, not THAT, you filthy-minded perverts. The opportunity in question was one of perfect torture for the Titan. I latched onto a piece of rope that she had with her, tied one end to the front of her car and the other to the back of the Suzuki. What the hell – I'd seen a Yammie 250 pull a fully-laden NSU before, so why couldn't I tow a Fiat with a Suzi? I was right – the Suzi did pull the car, and at a pretty decent pace as well. Within about 40 seconds, I had the both of us rolling along at about 40, and the darn bike continued to haul the car up to almost 50 or 55 per. And it did it for some 60 miles. She gave me a nice big thank you, and I left, feeling half defeated and half victorious, the Suzuki's show of strength being the victorious half of the feeling.

And so the Journey continued on into the night. until I reached some little town in Arizona. It was 'here, in that town, whatever
town it was, that I decided to end that day's travel, and get food and a room for the night. "Say, mister, you can tell me where a man might find a bed?" He just smiled

and shook my hand. “No” was all he said. A bit further down the road I did find a bed, and even a place to eat. TWO hamburgers. an order of fries and an hour of Johnny Carson were all I could stand. Sleep.

Waking up in a strange place isn’t any fun, especially when it’s at six in the a.m. and to the sound of garbage trucks outside my window. Should have gotten a different room. Well, now that I’m up, I may as well hit the road. The weather was warm, the sky
was blue, and the Suzuki was covered with dew from the night before. Darn thing fired up first kick once again. There’s got to be some way that I can slow this machine down… with a little effort, maybe I can cause a blinker bulb to bum out or something.

Out on the road I gave it my worst, by winding out the gears to set the motor into the deepest reaches of the Red Zone, banging shifts, and generally being nasty. For several hundred miles this went on, into the night and until I was almost out of
Arizona and into Nevada.

Throughout all of this torture, the bike (and I) had been going through several seasons of varied weather. From 40 to 80 to 90 to close to zero the temperatures rose and fell. The Suzi handled them all easily. On to Nevada, Las Vegas, some sleep, and the next day it was off to Utah, more highways, and more searching for The Centre of Nowhere. For several hundred miles I sat, searching, and getting tired. It seemed sure that my fate was to never find No place, not to mention the Centre of the darn
place. I felt positive that if I was to find the Centre of Nowhere, I wasn’t going to find it in Utah. Apparently, the only thing there
is in Utah are pickup trucks and Sheriff’s cars. Sadly, the pickup trucks are grossly outnumbered. There is, though, at least one
other thing in that state – snow – and quite a bit of it at that. It has never been claimed by anyone, that riding ·a motorcycle is fun when the fairing’s windscreen is clouded with frost and ice, or when snow and muck start blowing up under your chin and into a full-coverage helmet, Nor is it a jovial experience to be Frozen all over until every nerve is flashing pain instead of cold. I

was in the kind of weather that was severe enough to render Hippo Hands helpless. Weather that had the power to turn heavy-duty touring apparel into a defense-less babe in the woods. To make the picture perfectly dear – I was freezing my butt off.

A beacon in the snowy sky, reading: “Astro Motel” was signifying heavily. Sleep came easily. but when I was ready to depart in the morning, I found the weather to be just as bad as it was an evening ago. Great, Back into the cold I went, and battled it back into Nevada, hoping to find warmer weather and, eventually, The Centre Of Nowhere. On one stretch of road I thought
that maybe I might be getting close to the ultimate goal. I had found a road, a small road, in the middle of the desert, that looked as if it might led me to Nowhere. There was even a sign saying that there were no place’s to get gas for the next 100 miles or so. I flipped up the gas cap and peered down into the tank. Looked like plenty.

Headed out in search of Nowhere. Travelled on for a way and, being still within the bounds of “Somewhere,” decided to take
time out for a torture-break. My timing must have been right (about the torture session), because directly to my left I could see a beautiful. straight, narrow set of railroad tracks. Perfect – what better abuse could I find in the middle of the desert? I bumped the bike over one of the tracks .and pointed the Titan down the centre of the two tracks… and ran first gear up as far as it would go… say to about the end of the tachometer dial…and held it there for some 15 minutes. The “test” would have lasted longer, but my body was about to become a giant mass of jello. I bumped on down from the tracks and onto the road again.

As I motored on down the highway, I thought back on what the tracks must have been doing to the bike. I could picture the
crank as the bike went over each railroad tie… a sudden jolt as it went up… a micro-second of slack, and then another jolt…and having it happen about 350,000 times in first gear… and in the Red Zone. Gawd, it made me cringe just to think about it, but the Suzuki just kept on humming along never giving any sign of snivelling…..

A few more miles and another day had gone by… eat, refuel, sleep, and then another day of torture – and another – and still searching for The Centre Of Nowhere through it all. A couple of times I thought that perhaps I had seen a fleeting glance of Nowhere, but I was mistaken. ” It wasn’t until I’ had been in several different states that I realized what I was looking for was back in Nevada. At least I thought it was, because there were a few times that I could remember when a strange feeling came over me. It was ..a feeling of nearness, as if I wore close to my goal – so I went back into the middle of Nevada, to try to track down that same feeling. and possibly even find The Centre Of Nowhere.

It happened a couple of hours after I had crossed the border – that feeling of nearness returned again. It drew both me and the
Suzuki away from the main highway, onto a smaller road, and from there we were led to an even smaller road, then to a dirt
road, then finally to a small cow trail. The Suzi carried us along the trail, which grew smaller as the feeling of nearness to Nowhere grew larger. Eventually, the trail could become no smaller, and the feeling could become no larger.

It was at this point that both the Titan and I were sure – yes, very sure, that we had at long last completed the Journey To The
Centre Of Nowhere. All around us, there was nothing. No sight of civilization in any direction was detectable by the naked eye. Or even naked sealed beam. Before us there was a huge rock-like formation that was to mark the Centre. Along the upper portion of the Great Rock there were smaller rocks, both small and large variety rocks, some short, some long. And these small stones were laid out in a most peculiar pattern. Looking more closely, it was madly apparent that the rocks had been strewn
about in a makeshift type of Morse Code. It was hard to see exactly what the stones were spelling out, due to the diminishing light of the dusk time hours. But then it was clear – the rocks spelled out the words: “WHERE AM I?” At that moment there was
no longer any doubt as to our exact location. We were. indeed, in the Centre Of Nowhere. A quick salute to

The Great Rock, and away we went, the Titan and myself, off to bring the news of our Journey to the people . . . and to further continue the torturing of each and every component of the Suzuki.

Once out on the open road, I felt that travel was more important than torture, and headed out into the darkness towards Las Vegas once again, and a place to rest for the night. Riding through the desert was altogether effortless, and I settled the bike into a steady 70 mph hum. Usually the desert is pretty much void of through traffic at night, but this particular night was a slight exception to the rule – I had company. A BMW. Not the BMW bike, but a Bee Emm automobile. A 2002 to be precise. Now, in case you didn't know, the 2002 has a very heavy reputation for being one of the few true Grand Touring Coupes around. The reputation that the car is built upon deals with claims of being able to cruise al 100 mph all day long. Not being one to let a chance or a reputation slip by, I decided to play a few games with the Bee Emm. After he went wooshing by me at his leisurly century mark I chose to wind out the Suzi a wee bit and cruise along with him at his set pace. The Titan did the job in a very respectable manner. Not really straining at all, it was as solid on the road at 100 as it was at 50. We continued on like this, at the same steady hum for all of two hours, which put us a few miles short of Vegas. In memory of the Nevada Highway Patrol, or whatever they call themselves, I cut down on the ol' sped limit until I approached what could be described as a sane rate. The Bee Emm kept up his pace, and I waved him adieu.

Into Las Vegas – a few beers, a little TV, and Off to sleep. The following morning marked the last day of "testing,'° and the day would be spent going back into LA. That morning also marked the day of the First Annual BIG BIKE/Suzuki Vegas to Barstow Run. The planning of this year's run had had been done a bit haphazardly, but it didn't really matter because I was the only contestant in the race.

I set up the ground rules anyway. Actually, they were quite simple. All a rider had to do to qualify for the race was: ride a minimum of 2700 miles prior to the race, without maintaining the bike at all during that period, have had no more than four hours sleep before the

race, and be nursing a sickly headache and hangover at the start of the race. To help keep with the spirit of competition, none of the riders would be able to bring along any took or supplies for the race and all repairs that must be performed enroute must be made by hand. The last prerequisite for entering the race is that each bike must have at least 95 kilograms (209.5 pounds) of excess weight on the rear 50 percent of the machine (rider not included). Since I had already taken care of all the prerequisite for The First Annual BIG BIKE/Suzuki Vegas To Barstow Run there was nothing holding me back. I fueled up the bike and was ready to rum, hangover and all.

I left the border of Vegas at precisely 9:37 am., and set out to make history on the First of all B.B./Suzuki Runs. Surprisingly, I
was faced with very little in the way of traffic along the way. My speed average was up to par, nothing broke, and my one gas
stop in Baker, California was very quick indeed. All the way into Barstow the bike held high average speeds, and I came across the border of Barstow with flying colours. I forgot to check my watch to see what my total elapsed time was, but it didn't really matter, though. because I KNEW that I had won. Hell, the competition never even showed up. Next year it will be held on February 25, 1976, and everyone will depart at 6:00 a.m. from the Las Vegas Suzuki Shop on Fremont Blvd. You can't miss it, it's the only Suzuki shop in L.V.

All that was left to do to complete the Journey To The Center Of Nowhere was to get back from Barstow into North Hollywood
and still keep the record of no breakdowns with no maintenance. You could have guessed the rest – no breakdowns all the way
into LA., and the bike had undergone 3000 miles of sadistic abuse with not even the tiniest of wrenches coming close to a
single nut or bolt. I must admit that I was still a bit disappointed that i couldn't make something start running amuck. After all, I
had even been heralded as The Only Living Person to Almost Completely Overheat a Suzuki Water Cooled 750, so why was I unable to render the Titan defunct?

Throughout our testing period of over 3000 miles. we subjected the Suzuki T500 to the worst possible conditions and abuses –
without maintenance of any kind. The bike functioned flawlessly without any mishaps whatsoever. We at BIG BIKE Magazine are thoroughly convinced that the Suzuki Titan is the most reliable twin-cylinder motorcycle available. It can handle anything that any cyclist could conceivably dish out. And to top it off – the Titan is also the lowest priced 500 on the market. What more
could you want?

1975 Suzuki T500oM Road Test

Suzuki T500

YOU CAN'T afford to make generalisations in this game. Sooner or later you're bound to come across a two stroke that doesn't sound like a bee in a coke can, a vertical twin that doesn't vibrate, a Jap bike that handles (?). Or how's about an old Jap bike that is still as good as the day it was introduced and just as competitive?

Suzuki's T500 has been with us now for nigh on eight years; during that time it has changed so little you could probably put "N" registration plates on the first 500/5 and few people would notice the difference. Taking a squint at a faded road test the only obvious external alterations are redesigned front mudguard stays and chrome sides to the old petrol tank. Nothing's changed on the performance side either, top speed around a healthy 110 mph and standing quarters in consistent fourteen second runs.

So, you might well ask, just what is behind this apparent lack of interest from the Suzuki factory? Has the T500 been sidelined from the general trend of revision and development to plod its way to production death, a rock bottom priced tourer, a cheap alternative for the lad who dreams of owning a water cooled, three pot screamer but whose pocket isn't £900 deep? Or has it been such an incredibly good bike all along that its reputation and the consequent hoards of willing buyers have precluded the need for all the usual promotional mumbo-jumbo?

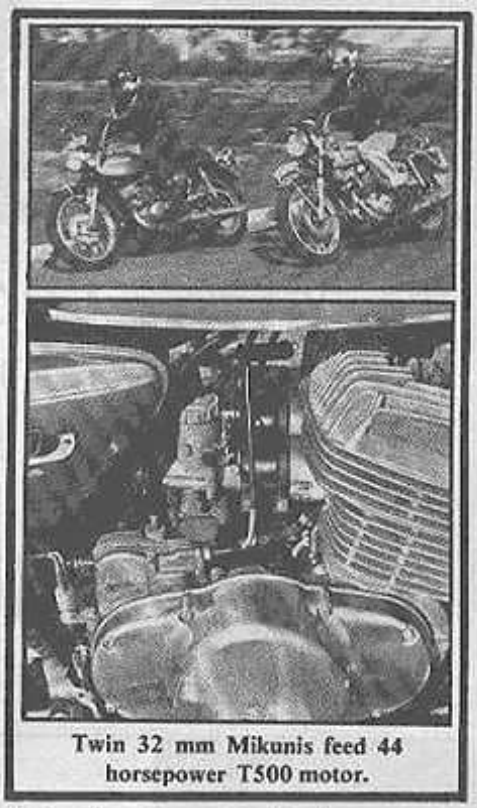
A couple of hours of anybody's time should be enough to allay the most serious of doubts. Whether you're looking for an easy to live with roadster or a lively sports mount the T500 fits the bill. In fact there can be few machines around that combine those two roles so perfectly, neither demanding any conscious effort on the part of the rider, and both equally available to suit his mood.

Riding from south London to the *Bike* headquarters in Peterborough is a good test for any motorcycle. First you have to plough through the melee that we all know so fondly as Lunnun town, then drone up the country's most uneventful (read "over-policed") dual carriageway, the A1. Both sections of the journey require different riding techniques and impose different demands on your machinery. Suzuki GB, operating out of darkest Croydon, sets the scene for such a test.

The T500 is surprisingly light for a Japanese middleweight, tipping the scales a mere 17 lbs over Honda's latest CB 250 and giving away almost a full fifty to the CB 500 twin. In congested traffic you can flick and weave to your heart's delight, the bike's agility engendered by its comfortable seat height, wide bars, adequate steering lock and overall frame geometry. The dual-seat is long and comfortable with ample room for a passenger without having the rider jammed halfway onto the petrol tank. The suspension, adjustable on the rear, copes with two up riding just as well as it does solo.

Given five well chosen gear ratios to play with and more bhp than some similar capacity four strokes the Suzuki takes the cut and thrust of town driving in its stride. Mild mannered enough to trickle through the worst jams, the clutch action is smooth and the twin Mikunis pick up without any of the unpleasant jerkiness of the Keihins fitted to the Honda and the Yamaha; it really takes off when the throttle is wound open. And that extra bottom end poke means you don't get caught out in the wrong gear so often, pulling out of a tight corner with a motor that bogs down unless you dialled the right number with your nimble size twelves.

Consequently you'd expect it either to run out of revs at the top end once you hit the open spaces, or be so hopelessly over-geared in fifth that high speed cruising required constant fourth and fifth gear trickery. Not at all — with a comfortably



Twin 32 mm Mikunis feed 44 horsepower T500 motor.

obtained maximum of 110 miles per (and a generous helping of speedo error that boosted your ego no end and inflates the reading on the dial to 125) cruising in and out of the legal limit was as easy as pie. Only relatively drastic changes in the road's upward inclination necessitated dropping a cog, and even then there was never any need to go any lower than fourth.

One or two nasties did come to light in this second half of the test though. The riding position is very much a sit up and enjoy it affair with bars supposedly suited to our

Continued on Page 60

Suzuki T500

YOU CAN'T afford to make generalisations in this game. Sooner or later you're bound to come across a two stroke that doesn't sound like a bee in a coke can, a vertical twin that doesn't vibrate, a Jap bike that handles (?). Or how's about an old Jap bike that is still as good as the day it was introduced and just as competitive?

Suzuki's T500 has been with us now for nigh on eight years; during that time it has changed so little you could probably put "N" registration plates on the first 500/5 and few people would notice the difference. Taking a squint at a faded road test the only obvious external alterations are redesigned front mudguard stays and chrome sides to the old petrol tank. Nothing's changed on the performance side either, top speed around a healthy 110 mph and standing quarters in consistent fourteen second runs.

So, you might well ask, just what is behind this apparent lack of interest from the Suzuki factory? Has the T500 been sidelined from the general trend of revision and development to plod its way to production death, a rock bottom priced tourer, a cheap alternative for the lad who dreams of owning a water cooled, three pot screamer but whose pocket isn't £900 deep? Or has it been such an incredibly good bike all along that its reputation and the consequent hoards of willing buyers have precluded the need for all the usual promotional mumbo-jumbo?

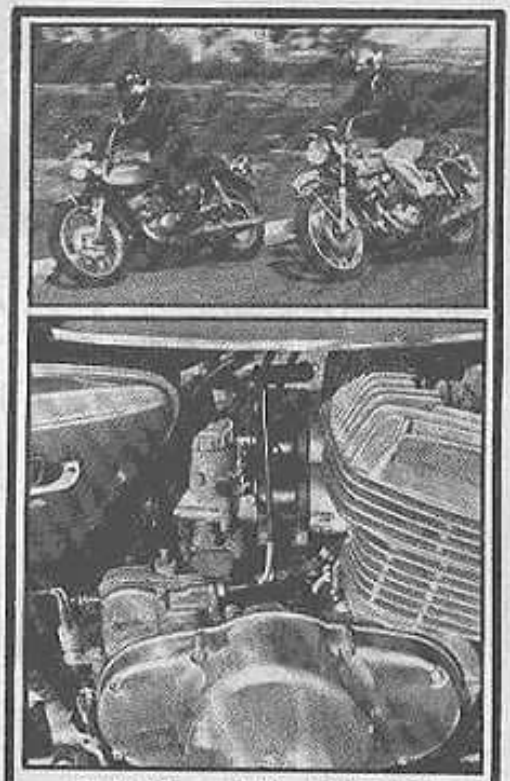
A couple of hours of anybody's time should be enough to allay the most serious of doubts. Whether you're looking for an easy to live with roadster or a lively sports mount the T500 fits the bill. In fact there can be few machines around that combine those two roles so perfectly, neither demanding any conscious effort on the part of the rider, and both equally available to suit his mood.

Riding from south London to the *Bike* headquarters in Peterborough is a good test for any motorcycle. First you have to plough through the melee that we all know so fondly as Lunnun town, then drone up the country's most uneventful (read "over-policed") dual carriageway, the A1. Both sections of the journey require different riding techniques and impose different demands on your machinery. Suzuki GB, operating out of darkest Croydon, sets the scene for such a test.

The T500 is surprisingly light for a Japanese middleweight, tipping the scales a mere 17 lbs over Honda's latest CB 250 and giving away almost a full fifty to the CB 500 twin. In congested traffic you can flick and weave to your heart's delight, the bike's agility engendered by its comfortable seat height, wide bars, adequate steering lock and overall frame geometry. The dual-seat is long and comfortable with ample room for a passenger without having the rider jammed halfway onto the petrol tank. The suspension, adjustable on the rear, copes with two up riding just as well as it does solo.

Given five well chosen gear ratios to play with and more bhp than some similar capacity four strokes the Suzuki takes the cut and thrust of town driving in its stride. Mild mannered enough to trickle through the worst jams, the clutch action is smooth and the twin Mikunis pick up without any of the unpleasant jerkiness of the Keihins fitted to the Honda and the Yamaha; it really takes off when the throttle is wound open. And that extra bottom end poke means you don't get caught out in the wrong gear so often, pulling out of a tight corner with a motor that bogs down unless you dialled the right number with your nimble size twelves.

Consequently you'd expect it either to run out of revs at the top end once you hit the open spaces, or be so hopelessly over-geared in fifth that high speed cruising required constant fourth and fifth gear trickery. Not at all — with a comfortably



Twin 32 mm Mikunis feed 44 horsepower T500 motor.

obtained maximum of 110 miles per (and a generous helping of speedo error that boosted your ego no end and inflates the reading on the dial to 125) cruising in and out of the legal limit was as easy as pie. Only relatively drastic changes in the road's upward inclination necessitated dropping a cog, and even then there was never any need to go any lower than fourth.

One or two nasties did come to light in this second half of the test though. The riding position is very much a sit up and enjoy it affair with bars supposedly suited to our

Continued on Page 60

Suzuki T500

American opposite numbers and footrests positioned well to the front. Faced with the prospect of an hour or more on the dual carriageway between the capital city and the labour camp I set the throttle at full open, narrowed my eyes, gritted my teeth, and hung my boots back on the pillion rests.

So what? I hear you chorus, and at the time I was inclined to agree. Until a few days later that is, when Haylock ambled into the office with tales of high speed vibes through the footrests. As far as I could remember the T500 had been as smooth as the proverbial right the way through the range, but then I did a double take and realised why I had been missing out. I gave the front pegs a try and must admit the tingle got quite uncomfortable as the rev counter zeroed in on the seven thou red line.

Then there was nasty number two, which Suzuki owners only talk about behind the closed doors of their clubrooms and which even our performance checkout failed to underline. It's all down to the braking, or rather the apparent lack of it. An overall figure of thirty-four feet from 30 mph isn't bad by any standards, especially when the Honda's disc assisted panic halts only sneaked in at a couple of feet less, but the lack of initial retardation is quite startling. Coming up to bends you have to start braking really early otherwise you find yourself banking over and still fighting to lose speed, and tight city situations that demand an equal proportion of stop to the motor's go are best avoided.

However, much of the steam has been whipped from my criticism of the brakes with Suzuki's latest version of the bike, the GT500. Yup, as you'd have seen if you were at the Earls Court show when the GT version was unveiled, they've at last tacked a disc on to the front end, which will presumably match the braking powers to the engine's performance. Why wasn't the GT version used for this test? Put that down to magazine publishing schedules, which meant that this particular test was compiled before its appearance. The majority of info listed here will apply to both models, however, as apart from the disc and a new tank the specs of both bikes remain almost identical. The new version costs £625, incidentally, which is still highly competitive.

Now all you T500 owners can put away the pointed sticks because those are the only two things I've got to niggle about on this bike. In fact if I wasn't a bitchy ole road tester I probably wouldn't have figured them worth mentioning at all.

Just look at all those plus points again — tough twin cylinder motor churning out upwards of forty manageable horses; light, low chassis and good suspension to ensure positive roadholding at any speed; smart and durable finish, excellent rider comfort, well designed instruments and switchgear layout. Add the CCI lubrication system which ensures a constant supply of oil to the mains and cylinder walls related directly to engine speed, then round the whole package off with small details like the steering damper and lockable petrol tank cap. I've tried to avoid mentioning it until now, but for the asking price of around six hundred quid you start to wonder not how on earth Suzuki can produce it so cheaply, but how on earth anybody can hope to compete with it in the same class. It sure as hell takes some beating.

SUMMARY

WITH THREE machines so equally matched on the road we find ourselves in the unenviable position of having to consider their individual merits in the cold light of the price tag, and under these circumstances there can be absolutely no question over the fact that Suzuki's T500 offers by far the best all round value in the 500 cc class.

Now don't get us wrong, that doesn't mean we rate it second only to a Morry Minor. It just so happens that the performance of all three test bikes came as a welcome surprise in view of the current downward trend of power outputs and top speeds, and with none of the corner cutting that is so painfully apparent on a number of European machines, the Suzuki is just about unbeatable in every respect.

So where did Yamaha go wrong? Quite probably nowhere in actual fact. It stands to reason that any bike designed, developed and produced in the last couple of years is going to cost a great deal more than one that left the drawing board in the mid sixties. The technical advances embodied in the XS 500 place it well up at the front of the four stroke vertical twin market — a machine that is both eminently rideable and a real knockout in the looks department.

And the Honda? Their 250 and 350 twins haven't been doing too well recently, but the 500T lives up to the reputation earned by its 450 cc forerunner. Those additional 50 cubes have overcome any ill effects current legislative restrictions may have imposed, producing a punchy, seemingly unburstable motor in the old Honda tradition. That, coupled with a healthy degree of stability and excellent braking make a machine whose example the Honda twin range could well do to follow.

Suzuki T500

2-stroke parallel twin
70 x 64 mm
492 cc
6.6:1
2 x 32 mm Mikuni
44 @ 6,000
gear
multi-plate, wet

13.75:1
8.59:1
6.36:1
5.25:1
4.78:1
12v alternator,
battery/coil ignition
35/25w headlight

57.3 in
—
6.3 in
43.5 in
—
3.1 gal
3.2 pints

Yes
No
Yes
Yes
No
No
No
Yes
No
Mirrors,fuel tank lock

3.25 x 19 Bridgestone
4.00 x 18 Bridgestone
8 in tls drum
7 in sls drum

110.70 mph
14.379 secs
3.11 secs
7.04 secs

28.17 mph
52.36 mph

34 ft
138 ft

52.0 mpg
—

£579.50 inc VAT

6 months/6,000 miles
parts and labour
Suzuki GB, 87 Beddington Lane,
Croydon CR0 4TD, Surrey.

GT500 Road Test

Road test report from Classic and Motorcycle Mechanics Aug 98

USER FRIE

Classic Ride

SUZUKI GT500A

The GT500 Suzuki lacks the kudos and bite of its illustrious ancestor, the T500 Cobra. But it's reliable, easy to maintain, boasts a broad spread of power and is not without character. If you are looking for a practical two stroke classic for riding rather than polishing, it could be the bike for you.

Report: Brian Tarbox.
Pictures: Mike Capps.

OLD age wreaks a terrible vengeance on youth. Bones creak, joints seize, skin sags in voluminous folds, we have to ask for everything to be repeated (I SAID, WE HAVE TO ASK FOR EVERYTHING TO BE REPEATED) and delude ourselves that the Isle of Wight is an exciting holiday destination.

The same fate befalls motorcycles that live too long. When born in 1967 the Suzuki T500 Cobra was a costly top-of-the-bill sports bike with blistering performance. By the time it went to its grave ten years later the GT500, into which it had evolved, was headlined as a cheap workhorse for Dayglo Dereks.

So what happened? Nothing really. The GT500 wasn't that much different from the original Cobra. The opposition just got better and our expectations rose.

The twin cylinder 500 two stroke owed its longevity to its popularity in America. Over here it never achieved more than a comparatively small following, albeit one that was wildly enthusiastic.

The original Cobra (it was called the Titan in The States) is the most sought after and collectable version of the family. Finding supporters for the GT500 is more difficult. Reader Phil Underwood is one.

He bought his 'A' model 14 years ago. It had covered just over 6000 miles and is now nudging the 27,000 mark. Although unrestored it hasn't lost its looks and the motor is in A1 health having undergone only minor surgery. Not a bad buy for £395. New it retailed for £650.

It may surprise you that the bike was first registered in October 1975. It did me. According to archive reports the GT500A wasn't launched until 1976. Still, Phil's got LNR 30P in his garage to prove them wrong.

The T500M was transformed into the GT500A by upgrading the front brake from drum to disc (lifted from the GT380), adding electronic ignition, shaving off a little weight (17lbs) and bumping up its fuel load by borrowing the tank from the GT750 Kettle. A number of minor styling changes were also introduced and a further dip into the cosmetics bag produced a final makeover for a B version before the undertakers were called in.

The Cobra's place in history

Right: Sticky tyres and good aftermarket shocks improve the handling no end.

Left: Unrestored but still looking pretty good for a bike now in its 23rd year on the road.

NDLY

is guaranteed. It was Suzuki's first biggie and daringly different in an era when two strokes were restricted to the smaller capacity classes. It is harder to make such a case for the GT500A. This is the one time hero as an OAP. A worthy classic or sad old has been? (I SAID, A SAD OLD HAS BEEN). Read on.

DURING my training as a journalist I was told there was a four-letter word I must never use. The adjective in question was totally taboo. I was assured that its appearance in an article would result in instant vilification and shock writers the world over. Sorry, but the time has come to employ that word. I have tried to think of an alternative. I can't. This word, and this word alone, describes the GT500A. Remove all children from the vicinity and look away now if you are easily shocked - the GT500A is NICE. I would go further - it's very nice; not brilliant, not diabolical; much better than average but some way short of outstanding.

The nice zone is occupied by the likes of Michael Palin, Simon and Garfunkel ditties, lager and lime, picnics and vanilla ice cream. The GT500A belongs in this company in all but one respect - it has a lot more character.

In *Mechanics* tests I harp on and on about practical classics - bikes that can be ridden every day the fancy takes us, bikes on which we can clock up a few thousand trouble-free miles in the Summer months, bikes that won't let us down when used for essential journeys, bikes to be ridden rather than polished and trailered to concours shows. Nine times out of ten they are the attributes that distinguish Japanese

Continued over

'In *Mechanics* tests I harp on and on about practical classics - bikes that can be ridden every day the fancy takes us, bikes on which we can clock up a few thousand trouble-free miles in the Summer months, bikes that won't let us down when used for essential journeys, bikes to be ridden rather than polished and trailered to concours shows. If you are looking for that kind of motorcycle I can highly recommend the GT500A'

Continued from page 11

classics from their British counterparts.

If you are looking for that kind of motorcycle I can highly recommend the GT500A. It's reliable, easy to service, good in traffic and has real personality. Not a verdict with which everyone would agree. Take, for example, the February 1976 issue of *Motorcycle Mechanics*, the old monthly from which we were genetically engineered with DNA from Bob Berry's beard and a jar of frog spawn. Phil snapped up the old mag for its GT500A test. Just as well I didn't read it before I rode his machine. If I had, I may not have bothered.

The bike featured was blue. The unnamed author of the piece didn't have anything bad to say about the colour. Just as well, because he hadn't got anything good to say about much else.

He complained of vibration, poor brakes, over sensitive steering, twitchy handling, dubious roadholding, an awkward riding position and weak headlight.

Both Phil and I agree with him on many of these points but minor mods can work wonders and the overall package is one helluva lot better than it appears in dissection. What's really puzzling about that old test is the poor performance figures recorded.

Our 1976 tester reported a top road speed of little more than 80mph. Mitigation? A 10mph headwind. Understandable under the circumstances, but on the track its best rose to just 92mph backed by a sluggish standing-start quarter-mile time of 16 seconds.

Pardon me? Had one of the carburettors fallen off? Did the tester think it had only three gears instead of five? Is he sure it was a GT500A he was riding, not a 350 Jawa?

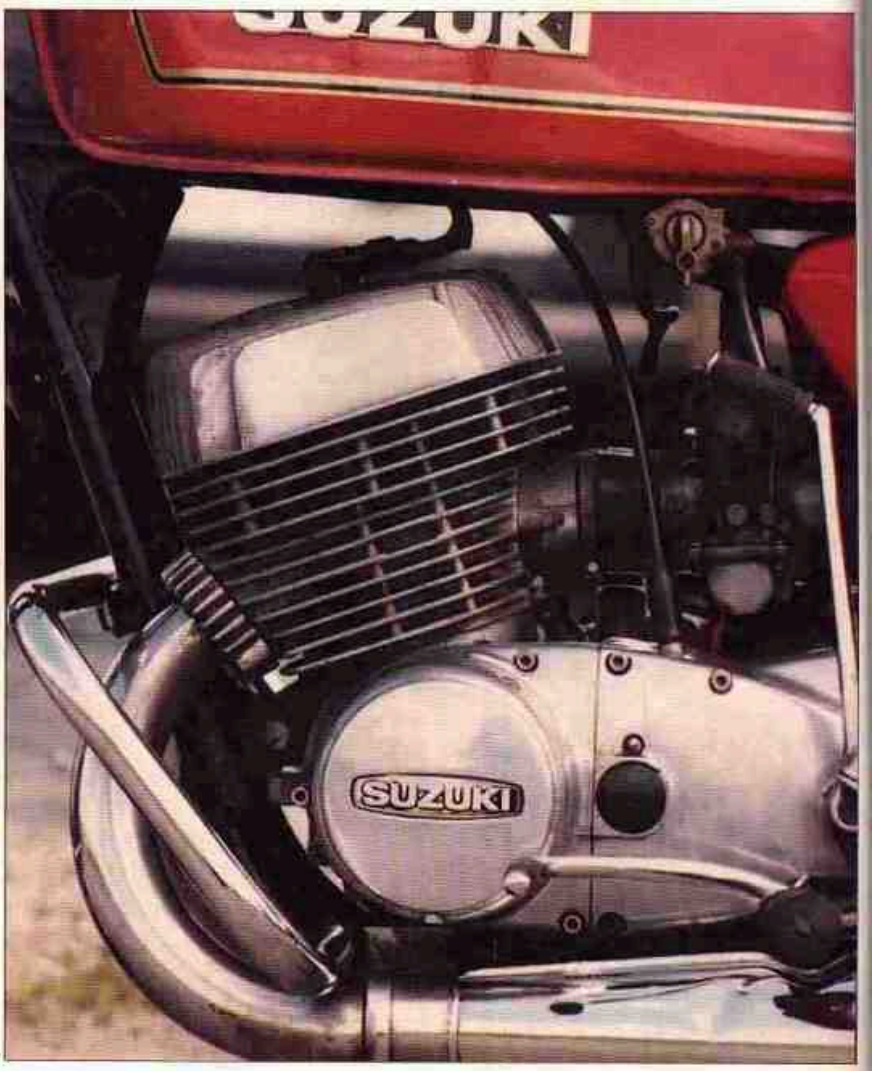
Those figures certainly don't appear to reflect the performance of the machine I rode. Sure, I found myself snarled up in heavy B road traffic most of the time and never got to push it above 80mph, but it seemed to have bags of zap in reserve and its acceleration made short-shrift of all the mobile chicanes clogging up the highway.

Back in 1967 the Cobra was one of the fastest 500cc production bikes money could buy - a big brother for the highly acclaimed T20 Super Six from which it was derived. Suzuki claimed a top speed of between 110-120mph thus giving themselves a wide margin for marketing hype and buyers plenty of room for exaggeration.

MCN clocked one at 110mph with a standing-quarter time of 13.8secs. Good 'uns could hit 112mph-plus and some impressive race successes were chalked up by a host of

Above: The bike is still running the pipes first fitted by the factory though Phil gives them the occasional rest in favour of a pair of Allspeeds.

Below: Kicking the heavily-finned motor over with your left boot takes a little getting used to but it needs only a gentle prod.



riders including a young man by the name of Barry Sheene. TT production wins were added to the score sheet by Stan Woods and Frank Whiteway, while the full-race TR500 version underlined the potential locked away in that softly tuned motor by storming to (an alleged) 150mph.

In original guise the heavily-finned Cobra engine was said to make 46bhp but a switch from 34m to 32mm Mikuni carbs and retuning quickly followed to lift mid-range performance and improve fuel economy. Speed suffered as a result but the GT500A was still only 2bhp down on the original, and it was lighter.

So where did all that performance go? It's a well known fact that the GT500 was no performance match for the original Cobra but a loss of 18mph from the top end and 2.2 seconds over a quarter-mile sprint takes some explaining. There are two possible explanations. 1) That '76 test bike was a dog. 2) The GT500A was way overgeared.

Our '76 tester reports that in adverse conditions the bike was quicker in fourth than fifth adding weight to the second theory. Were taller gear ratios introduced to improve fuel economy at some point in the model's evolution? I don't have the spec sheets to compare, but apparently not. Phil's bike didn't feel overgeared and in no way could fifth be described as an overdrive. To hit 100mph it would have to pull 6,780rpm in top, and I am confident it could.

A Classic you can ride and enjoy every day.

Some time ago Phil set out to discover his bike's maximum velocity. He slotted on some ace bars, swapped the standard silencers for a set of Allspeeds and set off for the nearby M1. Face buried in the clocks, bum in the air, the 6ft 4ins 16.5-stone rider got the needle to nudge 105mph. Okay, so the bike wasn't in standard trim, but the general consensus is that 101/2 is a realistic expectation.

Anyway, although top speed is important, in nine out of ten real riding situations a strong mid range is more useful. Full marks to the Suzuki in this respect. Due to a broad spread of power, the 500 was always a much better all-rounder than the anti-two stroke brigade believed possible.

The GT touches 70mph at 4,750rpm but is already pulling strongly from 3,000rpm with another 4000 revs to go before crashing into the redline. The value of this kind of flexibility was hammered home during my hour in the saddle battling against the kind of traffic congestion we face every day.

The gearbox is also a gem - crisp, positive and completely beyond reproach without any false neutrals hiding in ambush.

So far so good. Now the question of vibration. On the original Cobras it is said to have knocked out ignition coils with depressing regularity. Light bulbs, and other vulnerable equipment have escaped shock damage on Phil's machine but the use of rubber mountings for the handlebars is the only protection afforded the rider. Unfortunately the footrests are not similarly cushioned and that's where it gets you.

Apparently it's worse through the pillion pegs. Phil's wife Lorraine says the vibration and solid seat make the bike uncomfortable on long journeys. For the rider it's not nearly so bad but your feet take a bit of a pounding at certain speeds with a tank tingle or two occasionally thrown in for good measure. Not pleasant but largely avoidable by keeping your cruising speed out of the vibration zones.

Owners' comments about fuel consumption range from 'excellent' to 'diabolical'. Phil reports an average of about 45mpg and regards that as acceptable. The larger tank introduced on the GT increased capacity by five pints to 3.7 gallons but it's not sculptured and feels much bigger.

Our mystery scribe from '76 complained that this, along with the 'high', wide handle-

Left: The petrol tank is borrowed from the GT750 triple and raised complaints about its width.

Continued over

Continued from page 13

footpegs, felt awkward. He also suggested that the width and height of the bars had another more serious drawback in making the steering over sensitive. His recommendation that ace bars be fitted is one that Phil has taken up. He merely popped back in place the standard factory rudder for my benefit.

Oddly enough, when I rode a T500/GT500 special in October 1996, I said that its ponderous steering would be improved if its short, drop bars were replaced with a higher, wider alternative to increase leverage and improve sensitivity!

That hybrid was also equipped with heavier front forks from a GS750 and double front discs, so maybe owners of the standard GT should compromise by fitting low, wide bars! Personally I would stick with those Mr Suzuki provided. For a start they are not high - much closer to European flats than American skyscrapers - and I found them ideal for twisting and turning the bike through traffic. I liked the riding position too.

A common complaint directed against the Cobra was that it's TLS front stopper was hopelessly inadequate. The switch to a front disc on the GT500A was generally applauded. Our '76 tester thought otherwise and Phil has his doubts. It seemed efficient to me but he says you have to grab a big handful to cope with emergencies.

Handling was also criticised. Oh boy, how it was criticised! Everything about the rolling chassis was panned - frame, suspension and tyres. From the sound of it, the only remedy would be to throw it all away and start again. Not so. Supporters claimed quality after-market shocks and grippy rubber were enough to transform matters. And it seems they were right.

How do I know? Because Phil has followed this recipe, running Hagon shocks (fitted just days before the test), a Metzeler ME33 Laser on the front 19-inch wheel and an Avon Roadrunner on the back.

The result is not bad, not bad at all. The bike has a slight tendency to run wide if you don't heel it over a little harder than you may at first think necessary but it holds its line and negotiates bumps and potholes without being thrown into turmoil. Flexi-frame? Well, maybe, but ridden as a cruiser you are not going to suffer any problems. I certainly didn't.

Suzuki improved matters themselves by shortening the wheelbase early on in the Cobra's production run, and on the GT they took the pillion pegs off the swingarm - a simple change that can work wonders on two-up performance. They also had the confidence to junk the steering damper fitted to some earlier models. Absence of any handlebar shake proves it unnecessary.

Have you noticed how few tests nowadays mention headlamp performance? To be honest I wouldn't have done if Phil hadn't brought it up. He says main beam is adequate but dip is a bad joke. If you do a lot of night riding, go Halogen.

So, poor lights, another blot on the GT500 copybook, but somehow the total package works. I like the physical dimensions of the bike too. It's easy to manoeuvre but looks big, more like a 750 than a 500, and will suit taller, heavier riders who feel like bears on monkey bikes on some of the smaller alternatives. I even like its styling, something others have likened to Quasimodo with a hangover.

I must admit I would welcome the opportunity to try one flat out to see if ton-plus speeds really are possible. If not I might have to think again. No, I am not contradicting myself, mid-range performance is more important, but sometimes, just sometimes, 92mph is not going to be enough to deliver the smiles. If you own one - or have owned one in the past - please write in and put our minds at rest on that score.

The standard bars are perfect in my book.

SPECIFICATION

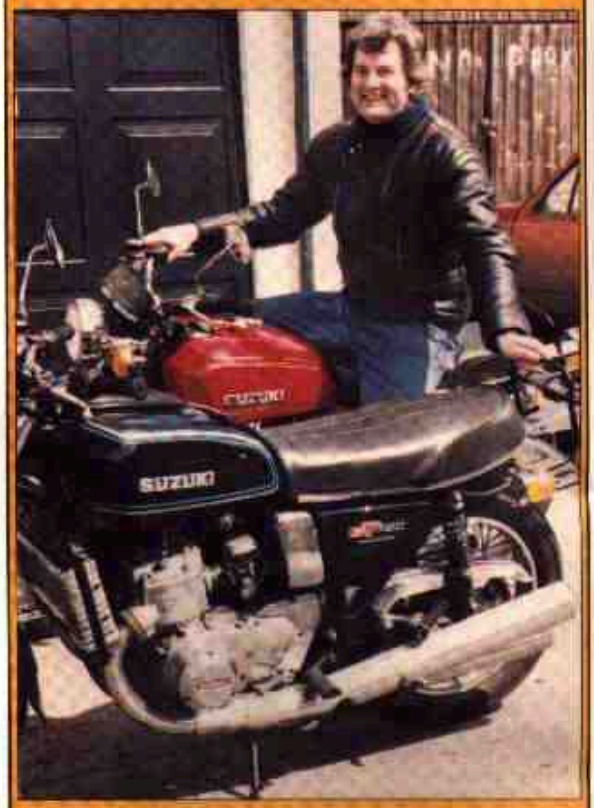
ENGINE: Aircooled twin cylinder two stroke with piston port induction and Suzuki CCI lubrication. Bore and stroke 70m x 64. Capacity 492cc. Compression ratio: 6.6:1. Carburation: Twin VJ28C Mikunis. Claimed maximum power 44 bhp at 6,000rpm. Claimed maximum torque 39ft-lbs at 5000rpm. 12-volt electrics, electronic ignition. Kick start.

TRANSMISSION: Five-speed gearbox with wet multi-plate clutch. Primary drive by gear, final drive by chain.

ROLLING CHASSIS: Tubular steel duplex cradle with tubular steel swingarm. Telescopic front forks and twin rear shocks with adjustable spring pre-load. (Test bike: Hagon shocks). Wheels, wire - 3.25 x 19, rear 4.00 x 18. Test bike tyres: Metzeler ME33 Laser front, Avon Roadrunner rear. Brakes: Hydraulically operated single front disc with drum rear.

WEIGHTS AND MEASURES: Dry weight 395lbs. Ground clearance 6.3ins. Wheelbase 57.7ins. Overall length 86.9 ins. Overall width 34.6ins. Fuel tank capacity: 3.7 gallons. Two stroke oil tank capacity: 3.2 pints.

Fourteen-year partnership



Phil with 500 twin and 750 triple.

PHIL Underwood's ownership of the GT500A didn't get off to a good start. It broke down on the way home from the dealer he bought it from.

Petrol? Okay. Plugs? Okay. He got it restarted after leaving it to cool down, but it died a second time a few miles later.

"I thought I had been sold a pup," said the 38-year-old from Sawley, Notts.

After nursing it home he took it to the Loughborough bike shop then run by racer Owen Greenwood. There the problem was diagnosed as the electronic ignition's pulser coil. The bike has suffered only one other breakdown since. Ignition failure was again to blame.

Still, not a bad record for 14 years ownership of a motorcycle that has now been on the road for 23 years. Phil bought it in July 1984, trading in a GSX250 against the £395 asking price.

He has owned other motorcycles since but has no intention of parting with the Suzuki which had been on his wanted list since he took up biking on an FS1E on his 16th birthday.

"It's a good workhorse, fairly economical, easy to work on and I like its looks," he said. "It would break my heart to part with it."

If anything, his affection for the machine has grown stronger over their 21,000-miles together.

He tackles all the routine servicing himself but came a little unstuck replacing a failed small end bearing some years ago. Result: One cracked piston. Don't you know the feeling?

Lighter pistons and rings from a GT750 were used in their place. Phil says they have made the engine feel crisper. The rear wheel has been rebuilt with stainless steel spokes and the bike is equipped with Hagon shocks, a Rickman crash bar and GT380 grab rail.

Although the factory handlebars were re-fitted for our test, Phil favours ace bars. Allspeeds are also kept in the garage for occasional outings but the original exhaust system is still looking good and he has run the same rear brake shoes since he bought the bike.

The Bridgestone tyres were the first thing he changed. He says they were awful. He has tried various rubber over the years and thinks Avon Roadrunners are best. The fact that he has a Metzeler ME33 Laser on the front rim is due to the fact that it was available at the right time for the right price.

Phil is a member of both the VJMC and Kettle Club (UK). A 1977 GT750 sits in his garage alongside the 500. He has owned it eight years but was planning to sell it at the time of writing. The money he gets for it is earmarked for a T500 or a second GT500. Seems you can't get too much of a good thing, though he is tempted to buy another Suzuki two stroke he once owned and loved - a GT380.

Ruud Duynisveld's GT500

Smokey Matt's GT500

T to GT500

I wanted to get my hands on a T500. My Dad rode one when I was a kid and I always loved to ride on the back. After lots of searching I met a guy who was selling a restored one. I went to have a look and it was lovely but way beyond my price range and it did not need anything doing to it. This bloke took me to his house, we made our way through the waist high grass to his back shed where he rolled out an assortment of bike bits and then between an old T250 and a rusty bathtub was this rather neglected GT. He told me the price and I bought it right away. he could not find they key but it was just what I wanted. Hours of work and as I found out later lots of money, but it is all worth it. .

The motor in the bike i had, had a bent conrod, due to hydraulic lock. The crank had filled with oil after sitting for 12 months. I stripped the whole bike with all nuts and bolts going into labeled ziplock bags (there's a tip you can have for free). I had to use a carefull mix of precision work and extreme violence with a hammer and a block of wood to remove the cylinder with the bent conrod. Now has anyone out there tried to located a conrod for a T500. Well you might know how difficult that can be unless you have squillions of dollars, you will end up with a crank worth more than the whole bike. A guy in Germany can offer some new ones, and someone in Sydney said they might have one. Still i manage to acquire another bike with a proper GT motor in it so hopefully my troubles would be over! here is a photo of the beautiful machine.

When I finally kicked it over it fired once and stopped with a mighty clang and a little puff of smoke. the engine would not turn over again, didn't matter though because I wanted to completely strip it down anyhow. Once I started taking covers off I found it had a set of points and on further investigation it was an old motor from a 72 T and not a proper GT motor. I know now that I should have spotted the closely mounted carbs and lack of electronic bits. But this was my first 500 project and so begins the process of learning about the bikes history and model differences. Where would I have been without Muzzas top site, everything I ever needed at the click of a button.

Maybe it looks like junk but not to any suzi 500 fan. When I opened it up however it was full of water and the crank rusted and worthless including conrods. Electrics were good and complete. So I bought a complete t500 crank from the same guy and had the GT end pressed onto it, well almost ready to go. The gears in the second bike were perfect and I couldnt be happier but I noticed a difference in that the gears had slots in them to help them carry oil, very effective as i tipped some oil on them to see. The GT motor also does not have bolts at the bottom of the cranks to drain our the sump, why do this? Hope I dont have an oil leak and bend another conrod.Another little gem I got off this bike was that funny bolt that the seat clips onto. Any wreck is valuable, dont throw anything away!

The final product....

SUZUKI

SUZUKI

REFLEX

SUZUKI
SUZUKI

SUZUKI
SUZUKI

SUZUKI
SUZUKI

A neat GT500A

Runar Lehne's GT500

Suzuki GT500 from Norway

Runar Lehne

I live in Geithus in Norway.I own two GT 500`s one A model and one B model.
I also have a Suzi VS1400 as a daily driver.

SUZUKI

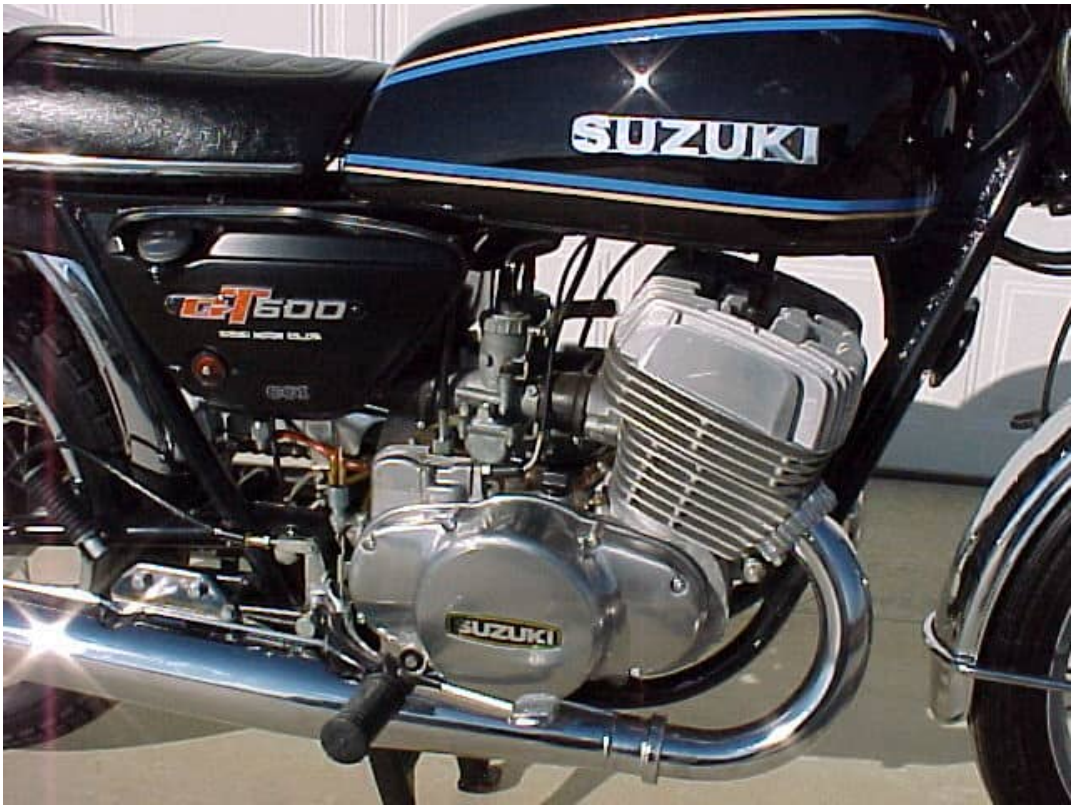
Dave Woodruff's NOS Suzuki GT500B

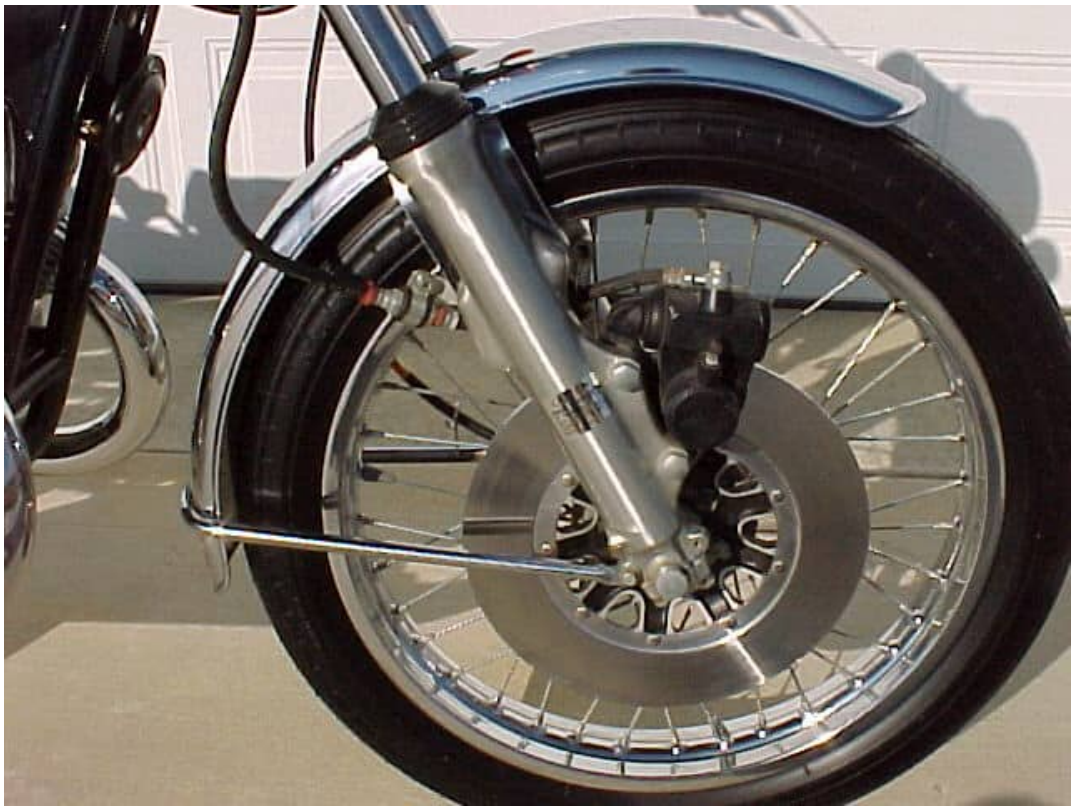
NOS SUZUKI GT500

Dave Woodruff from Charleston, AR. USA has sent us a series of photos of his NOS Suzuki GT500 which he just picked up from the original dealer, Never sold until now, the bike even came with the Original MSO, Keys & Tool Kit.

Suzuki fans may drool, now!

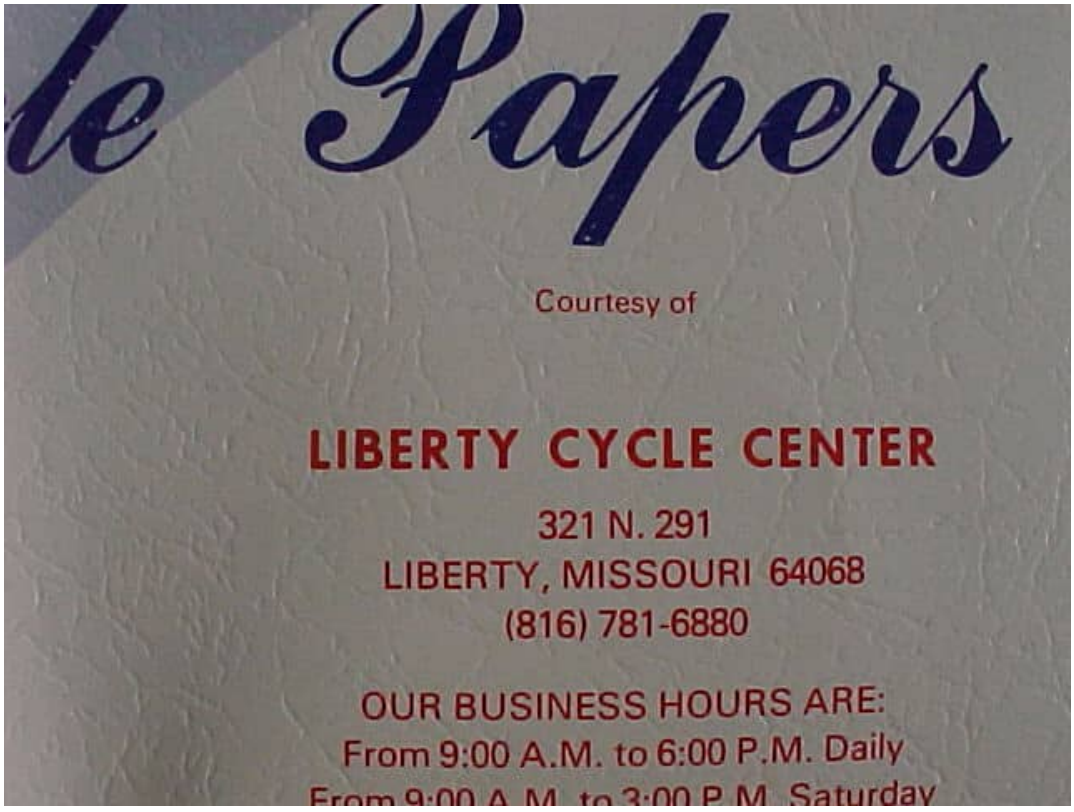
SUZUKI

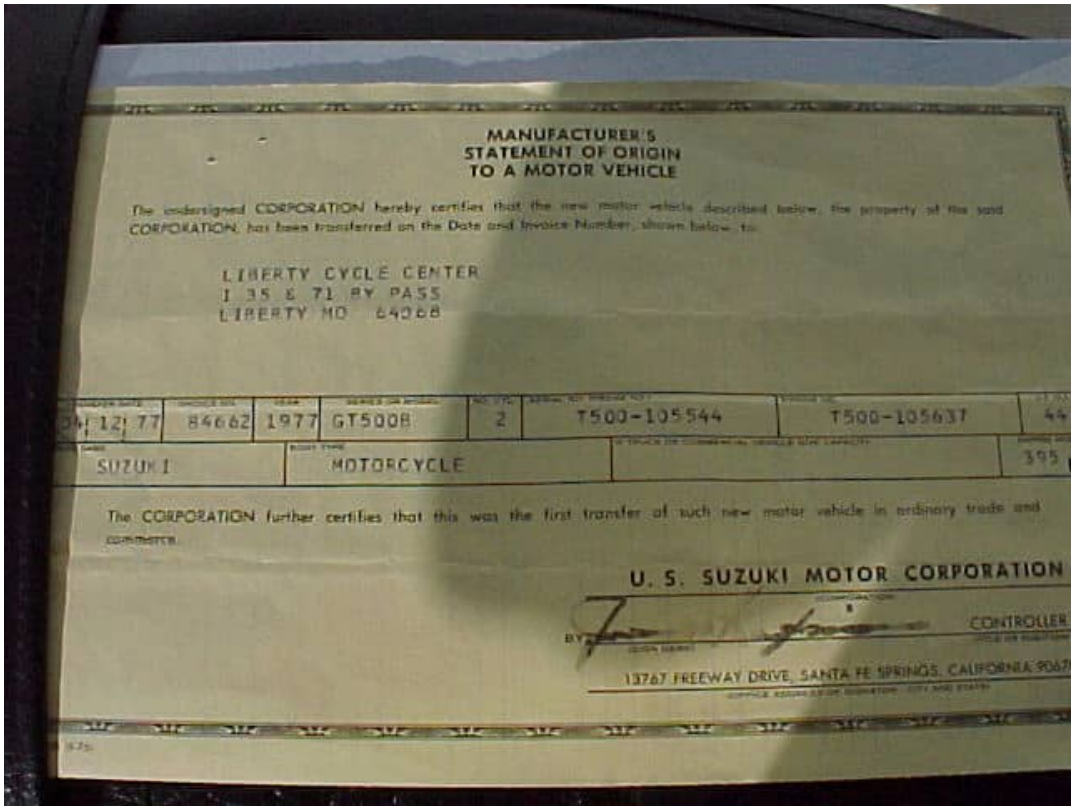

SUZUKI
GT600
SUZUKI



GT600
SUZUKI MOTOR CO., LTD.
GGII

SUZUKI
LIBERTY CYCLE
"The Dealer Who Cares"
781-6880 - LIBERTY, MO.
INFLATION PRESSURE
MODEL GT500
SOLO RIDING
DUAL RIDING
KG/CM²
LB/IN²
NORMAL
FRONT
1.75
25
1.75


le Papers
Courtesy of
LIBERTY CYCLE CENTER
321 N. 291
LIBERTY, MISSOURI 64068
(816) 781-6880
OUR BUSINESS HOURS ARE:
From 9:00 A.M. to 6:00 P.M. Daily



MANUFACTURER'S
STATEMENT OF ORIGIN
TO A MOTOR VEHICLE

The undersigned CORPORATION hereby certifies that the new motor vehicle described below, the property of the said CORPORATION, has been transferred on the Date and Invoice Number, shown below, to:

LIBERTY CYCLE CENTER
I 35 & 71 BY PASS
LIBERTY MO 64068

04 12 77	84662	1977	GT500B	2	T500-105544	T500-105637	44
SUZUKI	MOTORCYCLE						395

The CORPORATION further certifies that this was the first transfer of such new motor vehicle in ordinary trade and commerce.

U. S. SUZUKI MOTOR CORPORATION

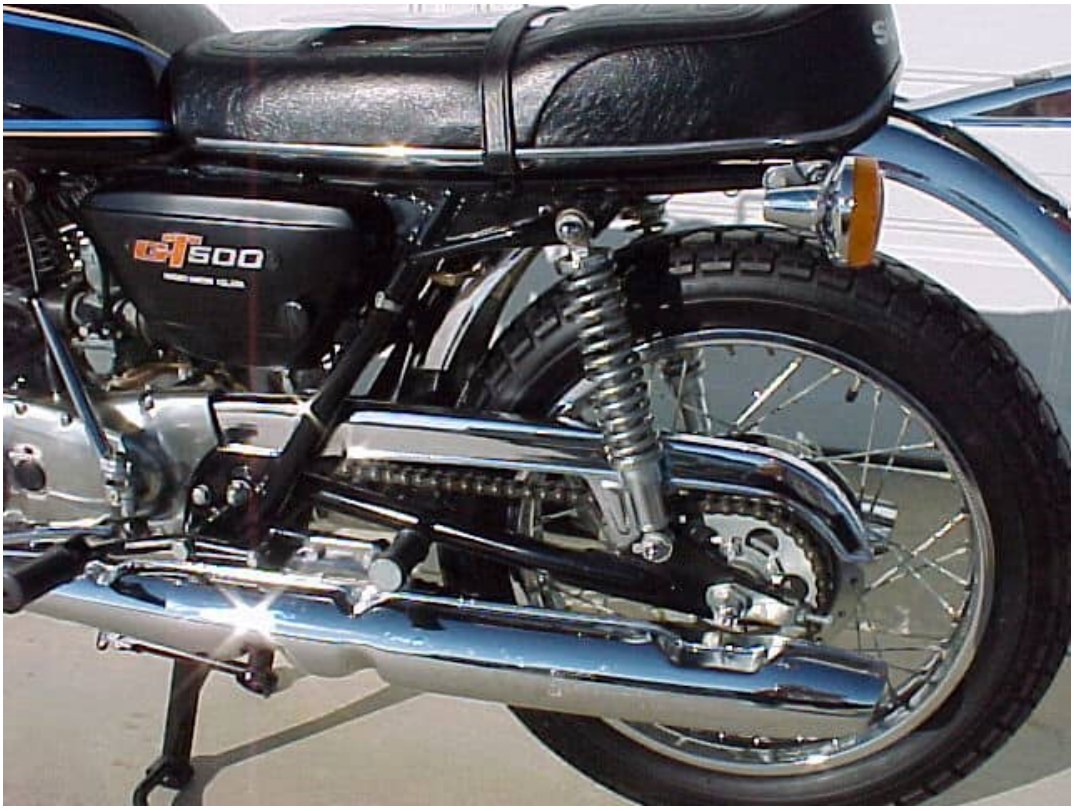
BY _____ CONTROLLER

13767 FREEWAY DRIVE, SANTA FE SPRINGS, CALIFORNIA 9067

MPH
NEUTRAL
HIGH BEAM
SUZUKI

SUZUKI

SUZUKI


GT500

LIBERTY CYCLE CENTER
"THE DEALER WHO CARES"
LIBERTY, MO 781-6880

Joe Eastmure and the controversial 1972 Castrol 6 Hour Production Race

Suzuki Snapshots

Joe Eastmure

and the 1972 Castrol Six Hour Production Race at Amaroo, New South Wales, Australia.

The giant-killing Suzuki 315 and the controversy that dogged the finish.

The 1972 Castrol 6 Hour Race

Recollections by Joe Eastmure

Joe Eastmure receiving line honours before the “sh.. hit the fan”

These are my recollections of the 1972 Castrol 6 Hour Race; but to do justice to the story I need to set the scene for the race first.

The late 1960’s and 1970’s were good times for motorcyclists keen on riding road bikes fast. The bikes of the era were comparatively simple compared with 1990’s roadbikes but they went reasonably fast and handled well enough. My road bikes routinely cruised at 100 MPH without incident.

The best thing about the era for a motorcyclist was the relative freedom of the roads in terms of traffic volume, the absence of boring freeways, unrestricted speed limits outside built up areas and the fact that police radar

hadn't been developed yet. Road racing to me was always an extension of my road riding and it's no coincidence that the hard core of touring riders in Willoughby Club, of which I was a member, were riders of the calibre of Paul Giles, Tony Hatton, Dave Burgess and Blair Harley, so it was natural that the 6 Hour concept was revived by Willoughby Club in 1970. In the inaugural race I not only partnered the winning 250 class Suzuki with Dave Burgess but as honorary Treasurer of the Club went home with about $20,000 in gate takings! Not to keep of course.

I had drifted into road racing using first my R60 and later my R75/5 BMW's as well as a 250 Suzuki specially bought for production racing. As a junior Customs officer production racing suited both my limited pocket and interest.

Leading up to the 1972 6 Hour I had the experience gained from some hundreds of thousands of road riding miles, a few years production racing and the lessons of the 2 preceding 6 Hours. Following the 1970 win Dave Burgess and I shared a 315 Suzuki for the 1971 race and this race was important for my subsequent 6 Hour rides.

In the 1971 race I was riding the bike at about the 3 hour mark and leading the 500 class, when the chain broke (luckily) at the pit entrance. Chains were a problem for the 315 as it ran a 525 size and we were unable to obtain a racing quality chain for the 1971 race. Compounding the problem was the fact that we used a 31 tooth countershaft sprocket which, while giving absolutely perfect gearing for Amaroo, meant that the standard chain had a very hard time. By the time the chain broke it was very loose and breakage came as no surprise.

For some reason fitting a new chain took forever and as the chance of winning the 500 class slipped away I grew steadily more upset so that by the time I got going again I was very angry. The spur of that anger seemed to tip me into a new approach to determination and calculated aggression which completely changed my approach to riding in the 6 Hour race. The 315 was blessed with virtually unlimited ground clearance and I simply threw the Suzuki past other bikes at every opportunity. In the following 2 odd hours I found that as my anger cooled off I could maintain the pace as a calculated tactic and while other riders seemed to be tiring or their bikes went off I could thread the Suzuki past most of them.

After reflecting on my experience in the latter part of the 71 race, for 1972 I elected to ride the whole six hours myself on a new (but now superseded) J model 315 Suzuki provided by NSW distributors Hazell & Moore. Dave Burgess had taken the 315 we raced in 1971 and converted it to a racing machine and had teamed up with Mike Steele on a 750 H2 Kawasaki for the 1972 race.

I was having trouble finding enough time to run in the Suzuki properly so I lent it to a mate who promptly ran it short of oil and lightly seized the pistons. Bob Burgess from Pittwater Motorcycles was preparing the bike and after boring the barrels had the bottom skirts of the new pistons chamfered by 1mm to bring the port timing up to full standard specification because of barrel liner/port misalignment. This turned out to be a disastrous move because it was the real reason why I was subsequently disqualified from the race results.

The 1972 race started with me in mid field as bikes were lined up according to capacity. The Suzuki was away quickly and I settled down with my only ambition to win the 500 class. Despite lapping in practice within 1 second of the unlimited bikes I had given no thought to an outright win.

After about half an hour the Suzuki began to settle into its racing stride characterised by a peculiar whining yowl which developed as the induction and exhaust harmonics stabilised at racing temperature. For a mere 315 cc the Suzuki really did go well at Amaroo Park when settled into racing pace because the gearing options allowed every bit of power to be used to the full. It was nowhere near as quick as the 750s or the full 500s in a

straight line but as a total package of power, handling and braking it was perfect for Amaroo where the emphasis was on cornering.

Starting from the hairpin exiting in second gear I would go up to fourth for the right hander onto the straight, changing to fifth at the control tower and sixth at the kink going up the hill. At the left hander over the top of the hill the bike was absolutely screaming at around 8000 – 8500 RPM and if I had a clear run and set up the apex right I could just get through without having to feather the throttle. Coming out of the loop in 5th gear I would go to 6th and if everything was right I could get through the next fast right hand bend with only a faint easing of the throttle. Down a few gears at the tight left hander against the inside concrete wall and after a short sprint beside the lake, late braking for the hairpin again.

My technique for the race was simple – head down, throttle against the stop and never get slowed down by traffic. I think the secret of riding the Suzuki fast was to avoid delay as much as possible to maximise the bike's high cornering speed potential. No other bike in the race could stay with the Suzuki around corners and I simply rushed inside or outside other bikes to maintain corner speed on every possible occasion. Any check to follow another rider through a corner, especially a larger capacity bike with better acceleration, meant that the Suzuki's comparatively poor acceleration trapped me until they either went away up the straight or I got past at the next corner.

After the race settled into a pattern I tried to offset the Suzuki's straight line speed disadvantage by trying to slipstream the bigger bikes at every opportunity and slipping past at the next corner. If they went past again I would repeat the tactic until either I cleared away or they did. Then I would wait for another big bike and repeat the process.

Because I did not do a lot of road racing during the year it took an hour or so to really get into the groove and in that first hour I was racing for the 500 class lead with Les Kenny (H1 Kawasaki) and Peter Stronach (RD350 Yamaha). The outright lead was being fought over by H2 Kawasaki riders Geoff Lucas, Gregg Hansford and Mike Steele and Yamaha 750 riders like Ron Toombs and Brian Hindle.

The H2 Kawasaki's were handicapped by having to stop 5 times for fuel while all the serious 750 Yamahas had time bombs ticking away in their engines which would put all of the serious contenders out of the race.

After a couple of hours I was in the groove and started to lap consistently in the low 62 second mark which was right on the Unlimited bike's pace. My fastest lap when everything must have clicked was 61.4 which was within a fraction of the outright production lap record.

My favourite passing spots were:
The loop at the top of the circuit which as a double apex corner allowed me to pass up the inside under brakes leading into the first apex or, entering the first apex faster than a bike I was about to pass, I could come inside and block out the other bike as I would be first to the second apex. It's true that I must have given quite a few riders the horrors here as, just as they were about to line up for the second apex, my Suzuki would come up on the inside at a rate of knots, taking them by surprise.

I never made contact during the race but sometimes the speed difference at this point was so great I worried about the rider in front making a sudden change of line, unaware that I was fully committed to passing. I was left with fleeting impressions a number of times of riders wrestling with a bike trying to tie itself in knots because I had forced them to make a sudden direction change or braking manoeuvre.

Exiting the back loop became a personal test to progressively nail the throttle earlier and harder on leaving the second apex and still just stay on the road as the track curved right around to the fast loop at the back of the circuit. It took about 1 hour of racing to gradually increase my confidence to the point where I could exit the second apex at my own limit.

The fast curve around the back of the circuit was another good spot for me to pass because with a good run out of the loop and up the short back straight I could just about take this corner flat out. I found that riders of H2 Kawasaki's and similar bikes ridden by good riders could out accelerate me in the short connecting straight but because they would have to brake and I didn't, I could achieve a higher apex speed and pass them coming out of the corner on the run down to the tight left hander. The Suzuki had quite good drum brakes (provided green Ferodo racing linings were used) and I could outbrake the bigger bikes leading into the tight left hander before the run along the dam to the hairpin.

The mental and physical effort of keeping at this race pace was substantial and I had to do a lot of physical conditioning in the previous months including road running, weights and using a spring loaded hand squeezer at every opportunity. I spent many hours at work using the squeezer while working on Customs import entries.

The ability to never fall off the pace was essential for a good six hour place and showed up after about 2 hours when many riders began to tire. I had the capacity to keep my concentration pretty well focussed for the whole 6 hours whereas I noted that many riders would begin to visibly slow after an hour or so. Riders like Kenny Blake and Tony Hatton had the same approach as me but there were not too many others who could keep up full race pace from start to finish. Strangely, keeping focussed was difficult despite the high level of risk and I would have to constantly tell myself to keep alert and concentrate on the race. However, I often found my mind kept drifting away onto other matters and it would show on your lap times.

To keep alert I would note each lap time displayed by my crew and if it showed I had slowed and I could not blame slower riders or an error, I would screw up my concentration to attack each corner as best I could until the lap time came down to the low 62's.

At around 1.30pm I was presented with some very unexpected news when my pit signalled I was in the lead outright! Now I knew I was going pretty well from the race pattern because so few bikes were passing me, but to be in the lead was not in the race plan. I can remember doing a double take and wondering if my pit was playing a joke after reading this news, but as I had also been given my best lap speed of 61.4 around this time I realised I must be doing OK.

The news certainly gave me plenty to think about and I began to redo fuel consumption figures in my head as this would be very important from here on. The 315 had a big 3.7 gallon tank and could just last one and a half hours at full race speed, but with the reserve tap set on there was no second chance if we misjudged things. I had made the first stop at 11.30, the next stop at 1 pm and was scheduled to make my last stop at 2.30pm. Having to make only 3 pit stops obviously helped me keep up with the Kawasakis while the top 750 Yamahas were steadily destroying themselves.

With the race some 23 years in the past I find it hard to remember the ebb and flow of the whole race but the memory of the sheer effort of the thing is still clear. At 3pm I was looking forward to the race ending and at the 3.30pm mark when I was quite tired, I really needed the pit signals telling me I was in the lead again to spur me on as Mike Steele on the H2 Kawasaki closed in with about 10 minutes or so to go.

When Mike caught me I was determined to fight it out by slipstreaming as much as possible up the straights and retake him around the corners so that we changed positions a number of times. With about 5 minutes to go

I finally pressured him into a mistake and he dropped the H2 around the loop. While Mike was on the deck I lapped him about 3 times and was happy to finish the race absolutely knackered but feeling pretty pleased with the effort.

Of course it was all for nothing in the end because of my disqualification.

Why was I disqualified? The missing horn became the accepted reason but it really was because the scrutineers considered the barrels and pistons had been doctored beyond acceptable limits.

However, remember that for 1972 Willoughby adopted more stringent standards than in previous years, perhaps spurred on by the outrageous oversized Ducati that was also disqualified, but I think marketing reasons had a big role in the decision. The previous year's Chief Scrutineer, Blair Harley, stated he would have passed the Suzuki and my belief is that a win by a discontinued 315 Suzuki did not fit the new marketing image for the 6 Hour race as a race for "superbikes".

I later learned that one of the placing bikes also did not have a horn and Dave Burgess,

who was my best mate, later confided to me that because of chronic pinging on the winning H2 Kawasaki, his crew took a punt the evening before the race and put in extra head gaskets to try and control it. The vigilant scrutineers somehow failed to notice this.

One of the scrutineers later earnestly told me he had conducted tests on a 315 and had found that the horn interfered with cooling air and caused a noticeable drop in power. What bunkum as proved in the following year's 6 Hour race.

In the 1973 6 Hour race I rode the same 315 Suzuki after taking over engine preparation myself to avoid any further trouble. After a precautionary crankshaft rebuild, new barrels and pistons AND a horn, I won the 500 class completing 234 laps – the same lap total that won the 1972 race!

The 1973 win came despite race regulation changes which required using the Suzuki's standard 3.00 size front tyre and the fitting of new footrests and rubbers for the start of the race. In the 1972 race I used a 3.50 front tyre for extra ground clearance and the footrests for the race were mere pegs after practice wear.

The 1973 changes meant I lost time in the first hour grinding the footrests away to achieve reasonable racing clearance plus I had an unscheduled pit stop in the first quarter hour to let off a rear brake which began to bind because the cable had not been properly secured. Despite these extra handicaps, especially the reduction of ground clearance caused by the smaller front tyre, I still did the same number of laps as in 1972 when the bike was supposed to be illegal.

It's all ancient history now but you can see that the episode still irritates me. Hazell & Moore gave me the bike and I continued to use it as my road bike until 1984 when I bought my Honda CX500EC.

I've always ridden a bike to work every day and the old 315 had notched up about 150,000 km by the time I retired it. The Suzuki sits in my garage today in very good condition just waiting for the dollars to restore it to concourse condition. I must dust it off one day and give it a fling on a club run.

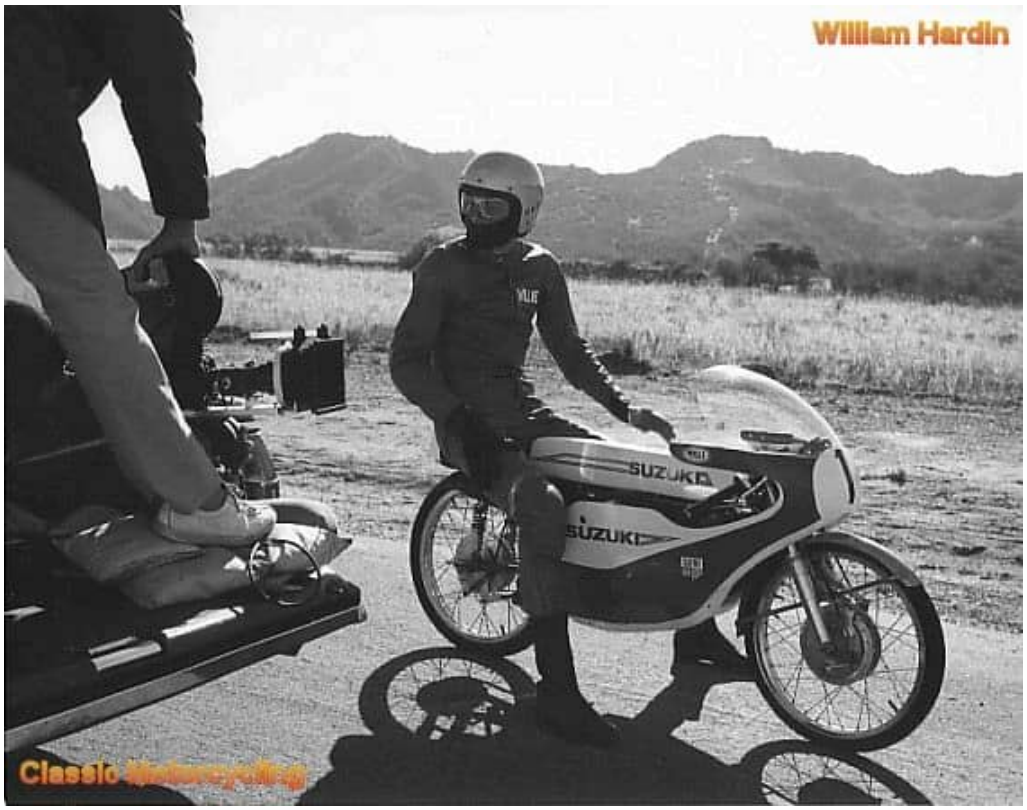
Willie Hardin & US Suzuki in the late 60s/early 70s – Photo Gallery 1

Suzuki Snapshots

William Hardin

William (Willie) Hardin worked for U.S. Suzuki Motor Corp. from 1969-74 and has shared the following photos with us.

Above photo is from the early 70's. It was taken at Orange County Raceway in Sth'n California. Ron Grant and Art Bauman had competed on a couple of new TR500s before the trip to Daytona. From L-R tuner Bud Parker, me, Ron Grant, Art Baumann, tuner Chris Young, Nat'l Advertising Mgr. John Butcher.



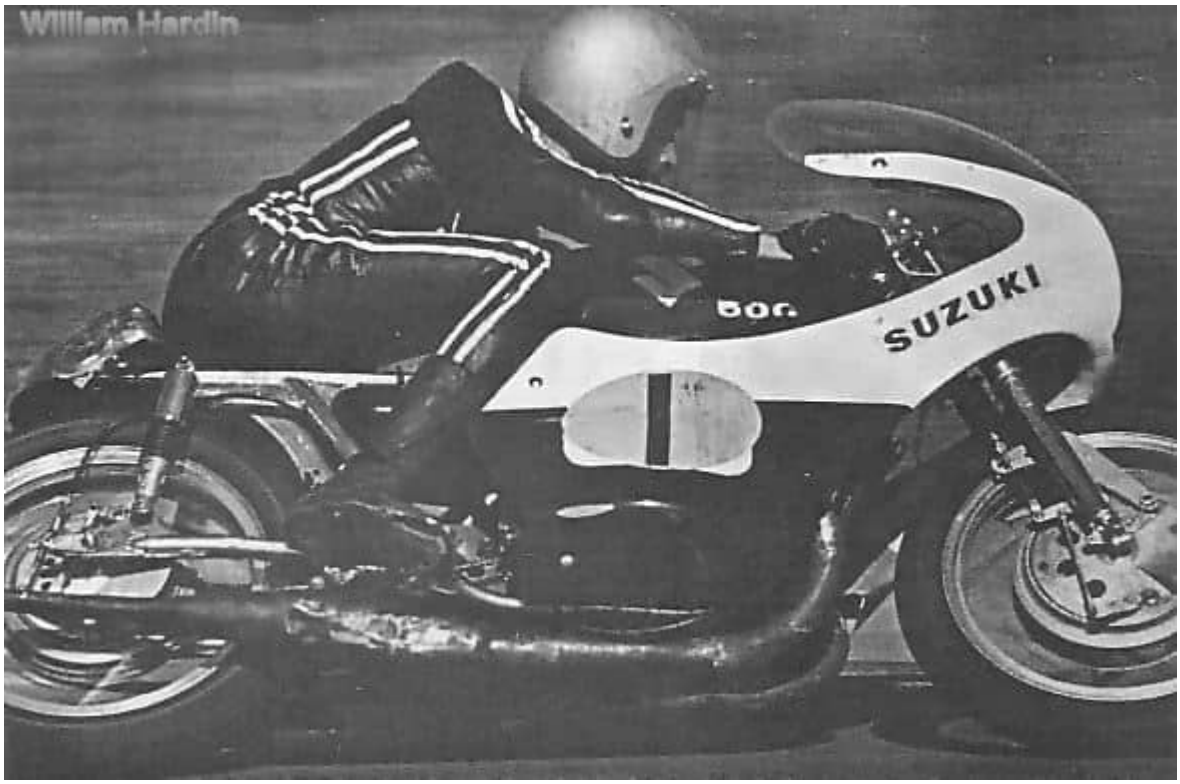
Suzuki TR50 (RK67)

The road racer I am sitting on is a piece of world motorcycle history. It is the motorcycle that won the 50cc class at the Isle of Man in 1963 ridden by Mitsuo Itoh, the first Japanese rider to win on the Isle. I feel bad that during preparation for the commercial, I repainted the gas tank and fairing which took away from the authenticity of

the motorcycle. It had been on display in the pagoda at the entrance to the national offices of U.S. Suzuki Motor Corporation in Santa Fe Springs California. The engine had twin rotary valves mounted on either side of the engine. I saw a photo of the crankshaft and it was being held in two hands tightly pressed one side against the other. The crankshaft barely over lapped the hands. The pistons were about the size of a U.S. quarter. A co-worker from U.S. Suzuki who I worked with at the time this picture was taken said that this bike is in the Suzuki museum in Hamamatsu.

Isle of Man winning 50cc rotary valve twin 12 speed that M. Itoh rode. The paint scheme is not correct. It was beginging to look a little “Ratty”, so I painted it. They were taken at Indian Dunes Cycle Park in 1971 for a TV commercial. Ron had raced it at an Orange County club race and it was said that he looked like a spider on a fly when sitting up at the end of the front straight. You can see how small it is (I’m 6 feet 1 inch tall). Definitely designed for a Japanese rider!

Riding the 50cc twin cylinder bike required you to hold the rpm's at 17,000 and slip the clutch "a lot" to get the bike rolling. Once under way, if the rev's dropped below 15 or 16,000, the motor would fall flat on it's face. It had a 12 speed gear box to deal with a powerband that was about 2,500 rpm's wide. There were other transmissions rumored to exist for the 50, some with 14 speeds or as many as 16! Very busy bike to ride!!!



Ron Grant on an early TR500 – 1968

Below: Ron Grant on the TR500 – 1970

SUZUKI SWEEPS 12HR. PRODUCTION ENDURANCE RACE

Willow Springs, Calif. In one of the most grueling endurance races of the year, Suzuki motorcycles established many unprecedented records over the 900 mile course.

There were over 60 production motorcycles entered in this, the first 12 hr. Endurance race held in the U.S. Suzuki machines, completely stock, (some right out of the dealers showroom) proceeded to walk away with 1st, 2nd, 3rd overall plus 1st in the 100cc, 200cc, 250cc, 350cc and 500cc classes.

With over 5,500 gear changes and running at full race speed, it's easy to see that Suzuki builds the strongest production motorcycles in the industry .... and backs them up with their famous 12 month/ 12,000 mile warranty. See your Suzuki dealer and ride the winner.

1ST OVERALL WINNER
SUZUKI 500cc — Ron Grant/Ron Pierce

2ND OVERALL WINNER
SUZUKI 350cc — Don Emde/Steve McLaughlin

3RD OVERALL WINNER
SUZUKI 500cc — Dennis Degraff/Hide Sozaki

SUZUKI CLASS WINNERS

100cc	200cc	250cc	350cc	500cc
1st and 3rd	1st and 2nd	1st	1st	1st, 2nd, & 3rd

SUZUKI

Suzuki makes it!
So make it Suzuki!

U. S. SUZUKI MOTOR CORP. • 13707 FREEWAY DRIVE • SANTA FE SPRINGS, CALIF. 90670

Ron Grant wins 1968 12 Hour Endurance Race, on a T500/5 (Suzuki Cobra), at Willow Springs

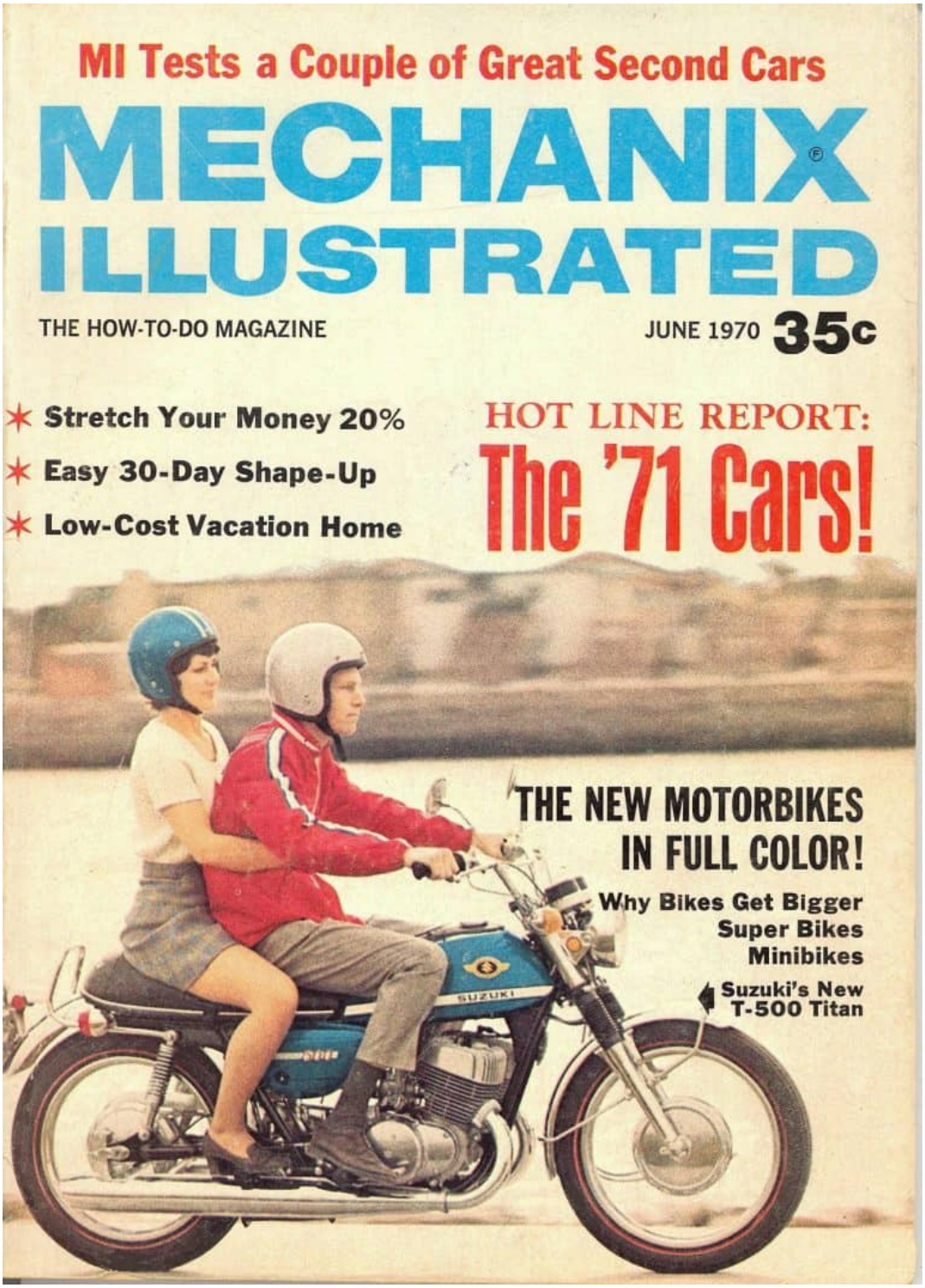
Above: 1968 A100 Suzuki Production Roadracer: After finishing first in the 100cc class at the 1st ACA 12 Hour Production race in September 1968 at Willow Springs, my first roadrace, I wanted to go roadracing some more. I worked for the shop that sponsored Dale Hopkins and me for the 12 hour, Dale Brown Motors in Long Beach California. I was preparing the bike for the 1968 California International Grand Prix held at OCIR (Orange County International Raceway). Yeah, it was a drag strip, but they had a nice twisty return road and a real long straight!!

ORANGE COUNTY INTERNATIONAL RACEWAY
NOV-68 INTERNATIONAL AND NATIONAL POINTS RACE

SUZUKI
WINS
12 hr. Production Grand Prix
Willow Springs

1st Place 100cc Class from Dale Brown Motors
Riders
DALE HOPKINS & BILL HARDIN
El Monte Long Beach

For All Suzuki See
DALE BROWN MOTORS
With this add we will pay the tax and licence on any motorcycle in our store.
Dale Brown Motors 2441 Long Beach Blvd., Long Beach, Calif.



Mechanix Illustrated June 1970 – T500

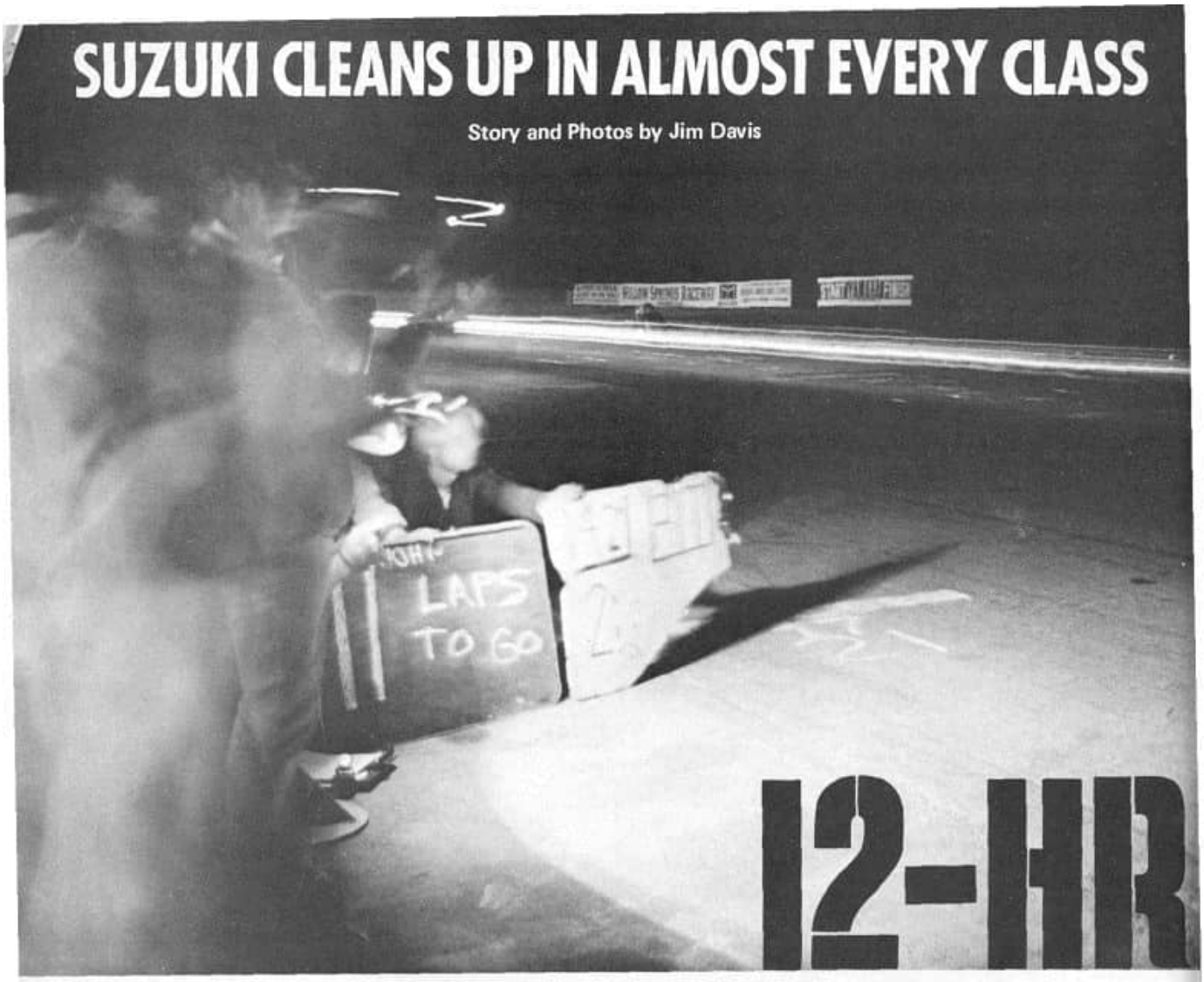
My first magazine cover shot. This was taken on the east side of the Marine Stadium in Long Beach California. The photographer's sister was on the back of the bike.

Suzuki sweeps the field in 1968 12 Hour Endurance Race – Willow Springs

Ron Grant won the 500cc Class on a Cobra T500, Willie Hardin won the 100cc Class on a Suzuki

SUZUKI CLEANS UP IN ALMOST EVERY CLASS

Story and Photos by Jim Davis



THERE SEEMS to be some sort of an unwritten rule that automobiles and automobile racing should never be mentioned in a motorcycle magazine; but in this case, even if it is *verboten*, I've got to do it so you can get some sort of an idea of what I'm describing. I'm sure most of you have heard of the famous Le Mans automobile race held every year in France. Ferrari, Ford, Maserati, Porshe, Alfa Romeo and many other fantastic racing cars run for a full day over this gruelling road-race course that tests the endurance of both man and machine. To see the cars booming down the long straight with headlights and taillights blazing at speeds sometimes over 200 miles an hour is a sight never to be forgotten. Try to imagine a 12-hour race for strictly production motorcycles, and you'll see why I just described Le Mans.

Events of this type are not only rare, but just about non-existent; so when we heard that the American Cycle Association was going to put one on, I was ready to go. It didn't surprise me at all when they announced that it would be run on what I consider to be the bumpiest and windiest track in the nation, Willow Springs Raceway near Lancaster, California. The race would run from 9:00 in the morning to 9:00 at night, but technical inspection was scheduled to begin at 7:00. Driving time in my old one-ton truck was about one hour, which meant that I would have to fall out of the rack at 4:00 a.m. in order to get breakfast and get my camera gear ready. I think 4:00 in the morning is one of the worst hours of the day.

Wes Cooley headed tech inspection, and he made it pretty tough. This I was glad to see, as a bike running at top speed for 12 straight hours tends to get a little loose in spots; and having your machine dissolve at seventy miles an hour doesn't seem like the way to go. The race started promptly at 9:00, right in the middle of the playing of the "Star Spangled Banner," and you haven't seen anything until you see 50 riders torn between patriotism and a racing motorcycle. To add to the confusion at the start, Wes Cooley was out in the middle of the track howling at the top of his lungs; but, at this point, nobody seemed to be listening. Other than the usual rider who had to push his bike to get it started, everyone was under way and blasting down the straight before the first turn. By the time nasty old turn six came into view, Steve McLaughlin (didn't his father ride years ago?), aboard a hauling 350 Suzuki, was in the lead. Steve and some of the other boomers went right on thru, but then there were some of the others who forgot that they were running stock mufflers. At that speed, when you drag a stock, fat, bulging muffler, you've got a problem. Some of the "endos" I witnessed were completely out of this world. One rider and his bike did a complete flip in the air before he hit the ground, and then slid in so gently that it seemed as if he did it at five miles an hour. As my old daddy used to say, "We learn by doing!" By the second lap, everyone had become

ABOVE: Greene/Wilvert 350 Honda took 2nd in its class, and made 12-Hour Race look just like a trip to the store.

LEFT: Even when nightfall came, lap speeds only dropped 5 to 10 seconds. Bikes show in this photo as streaks of light down straightaway. Zigzag line above pit men's heads are bike headlights at far end of course.

ABOVE RIGHT: What could have been a tragedy was narrowly averted by quick thinking of several people with fire extinguishers. Hibachis and gasoline just don't mix in pit area.

RIGHT: 2nd overall bike, an immaculately prepared 350 Suzuki, comes into pits for change of riders. Getting off is Steve McLaughlin, son of famous racer John McLaughlin. Relief rider is Don Emde.

RACE

cool, and again the area near the escape road had become a safe spot for photographers.

As the race progressed, the goers stretched their lead more and more; and as the bikes began to sort themselves out, it was easy to see that the Suzuki's were just about the fastest machines there. Everyone kind of giggled up there sleeves, as the fastest machine in an endurance race just doesn't hack it. Everyone stood around and waited for the iron from Suzuki to blow.

Meanwhile, two BMW's were humming (you sure can't say roaring) around the track in their usual prestigous manner. One of them was even equipped with a luggage rack for touring purposes. Both bikes were evenly matched for speed, but certainly not for looks. One machine was very clean and the rider spotless. The other bike and rider looked as if they had been shagging blueprints in Los Angeles for the past five years. Would you believe, though, that both machines finished? One bike had lighting problems after the sun had set, but still not anything that would disqualify it.

The story was that BSA would field the fabulous new three-cylinder model with Jody Nicholas and Don Vesco aboard, but I sure didn't see it. The BSA that was there may not have won trophies for newness or looks, but it ran and ran and ran and ran, and then ran some more. In fact, when the final flag was dropped, it was still running strong. Those BSA reliability ads must be true! This machine was ridden by Dave Eichert and Mike Moore, and the sponsor was Walt Ownby. In a way, it was kind of funny to see this tired-looking BSA come into the pits; and there was only one or two people at the most to get it ready to run again. The "little people" behind this elderly machine must have been believers, because it ran and ran, and, as I said earlier, RAN! Because of their effort, this bike cleaned up on the open class with just about no opposition except that of the two BMW's. The Harley-Davidson Sportster, which ran for most of the day, encountered problems but still provided some of the prettiest sounds of the day as it thundered down the sweeping turn before the pit straight.

Don't ever put down the miniscule 50cc models; they managed to accomplish something that no other class could during the entire 12 hours: Every bike that started finished! Let's face it, the idea of seeing a 50cc shrieking by, turning 28 million rpm may not seem like the most exciting thing in the world; but, by golly, every one of them finished. How do you explain that? You've probably never even heard of the bikes, but just for the record, they were Tarbo and Cimatti. There was one Suzuki running, and, in the true Suzuki tradition, it finished. I think I'll enter a 50cc in next year's race. It seems to be the only way to fly.

I'm sure that when it comes to stock car racing, all of you have heard the big automotive factories proclaim that they will not be involved in racing this year; but when the cars run,

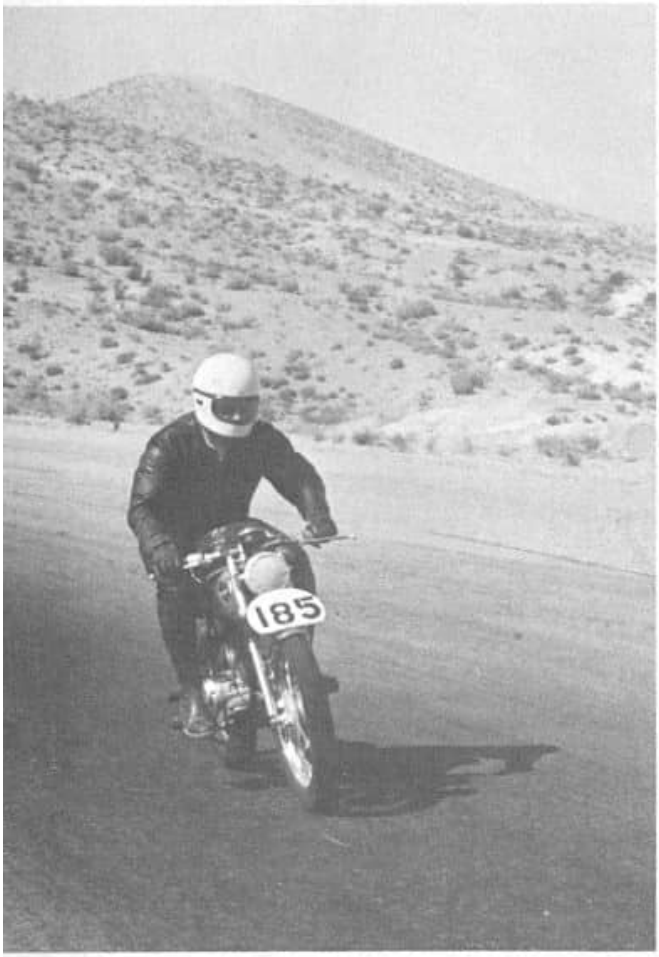
it's easy to see that thousands upon thousands of dollars have been sunk into the machinery. Let's face it, even if a dealer's name from Podunk, Alabama is painted on the side, you know that this particular dealer doesn't have the loot to drop into a racing car of this type. The story is that the factory is there, but just not talking about it. If the car wins, though, just watch those two-page ads in the national magazines. This is exactly what happened at the 12-hour production race; but don't ask me to prove it, because I can't. I hope that next year, just as they do in England, the factories get behind the bikes and dealers and enter some worthwhile iron. Most of the stuff out there, this year, was privately owned and looked like surplus parts from a boiler factory. This run is coming up again next year about this time, so why don't some of you out there give some thought to entering and supporting your brand?

I didn't see anything that said the Suzuki factory was around, but there were lots of Suzuki dealers running about grinning like skunks. Suzuki took 100cc 1st and 3rd place, 200cc 1st and 2nd, 250cc 1st place, 350cc 1st place and 500cc 1st, 2nd and 3rd place. Congratulations, Suzuki! I'm glad to see that someone didn't let the petty politics bother them.

I suspect that Kawasaki was there in force also; and you should be able to gather the same thing from peeking at the results. Here again, I can't prove it, but, wow, did some of their machinery scream! One bike that completely turned me on was the Nelson and DeLong Bushwacker 175 that ran like a mechanical toy on rails. It ran so well, in fact, that it was boring to watch. When darkness came, there was no fiddling with lights, just a flick of the switch and the lights were there. When the flag dropped, Kawasaki ate up the 175cc class without any problems.

I've been in the motorcycle thing so many years that I don't even discuss it anymore; but to this day the sound of a big "thumper" does it to me. The team of McWorthy and Salton had a Velocette 500 out there that sounded absolutely beautiful as it boomed around the track. It ran for most of the day, but finally retired when the crank thumped one too many times. Velo has always done beautifully over in Europe when it comes to endurance events, and it was a sad thing to see them pushing the big banger in off the course. Maybe next year? Who knows!

One of our famous desert racers, Steve Hurd, competed in the 350cc class aboard a Kawasaki; and most of the other riders in that class are happy that he doesn't do it more often.



ABOVE: Up to time of this event, Kawasaki Bushwacker 175 was pretty much of an untried, new model. The 175 class win by Nelson and DeLong really gave Kawasaki something to crow about.

RIGHT: As they come onto straight, the 175 Honda of Cangemi/Schmidt closely follows Greene/Wilvert 350 Honda. Both bikes took second in their class.

Without dwelling on the subject, I'll just say that Steve looked like more of a roadracer than many of the roadracers.

A spectator made the comment that watching a 12-hour race was just about as exciting as watching grass grow; and this is the truth. Endurance races are for the racers, pit crews, manufacturers and the true motorcycle enthusiasts. Other than the "endos" at the beginning of the race and watching the pit crews perform, there was one little bit of unscheduled excitement that I don't think I'd like to see too often. About 8 o'clock, a machine was being fueled, and someone was cooking on a hibachi in the pit area. You can probably guess the rest of the story. If you can't, check the photo with this story. Nobody was hurt other than one man with minor burns on his hand, but it was a heck of a fire while it was burning.

By 3:00 in the afternoon, roughly one-half of each class was still running. This says a lot for the reliability of modern motorcycles. If this race had been held ten years ago, by that time of the day, the pit area would have looked like a motorcycle wrecking yard. Suzuki figured that their largest winning bike went 800 miles in 325 laps, changed gears 5500 times, and applied the brakes 1500 times. There are street bikes that don't do this in an entire year's running.

As far as I could tell, the best lap of the day was turned in by Ron Grant aboard a 500 Suzuki while dicing with Dennis DeGraff also aboard a 500 Suzuki. It's 2.6 miles around Willow Springs, and Ron tore around it in 1 minute, 50½ seconds which, as you can see, is really hauling on a course like this one.

Nighttime was when things began to get hairy. I expected all sorts of super crashes, but not one occured. In fact, speeds dropped only 5 to 10 seconds over those run during the day. It was weird to see those lights flash by and then the taillights go on at the end of the straight. It was also neat to see these guys do the old sportscar stunt of faking each other out by popping the taillight while keeping the throttle screwed on. All's fair in love, war, and racing!

A 12-hour race for production motorcycles, like this one, is an event I'd like to see more of here in the United States.

Everyone there, including the manufacturers and the ACA, learned something that they can use for next year. I'm sure, by that time, more manufacturers will show interest in letting the public know that they have a reliable product for sale. Will I see you there?

ABOVE: Down long straight, only BSA entered bombs past a 50 Suzuki for a class win.

LEFT: 350 Yamahas of Fisher/Pierce and McCarty/Dillon battle it out.

BELOW: McWorthy/Salton 500 Velocette brought note of nostalgia to event, and prior to time it thumped out its crank, was right up with leaders.

1st OVER-ALL

RON GRANT / RON PIERCE — SUZUKI

50cc

1—C. Anderson / D. Wicks — Tarbo
2—J. Mathel / B. Buzzelli — Cimatti
3—E. Kelly / L. Singer — Tarbo
4—M. Knotts / F. Newbury — Cimatti
5—C. Oswald / M. Steven — Cimatti

100cc

1—B. Hardin / D. Hopkins — Suzuki
2—J. Dauk / D. Falcone — Bridge
3—B. Marchant / M. Kruse — Suzuki

125cc

L. Fallscheer / N. Parmerter — Yamaha
2—G. Riley / B. Stankey — Yamaha
3—A. Spears / G. Zitharpoules — Kawasaki

200cc

1—G. Mazon / R. Littlefield — Suzuki
2—D. Doan / J. Weigel — Suzuki

250cc

1—D. Damron / P. Hynan — Suzuki
2—R. Giles / R. Tyger — Kawasaki
3—J. Stroik / J. Manning — Ducati

350cc

1—S. McLaughlin / D. Emde — Suzuki
2—J. Greene / H. Wilvert — Honda
3—M. Lane / J. Lane — Yamaha
4—R. W. Ring / R. Mills — Yamaha
5—J. Pasternak / D. Lacey — Kawasaki

175cc

1—B. Nelson / R. De Long — Kawasaki
2—R. Schmidt / T. Cangemi — Honda
3—V. Campbell / P. Henderson — Bultaco

500cc

1—Ron Pierce / Ron Grant — Suzuki
2—Hide Sezaki / D. Degraff — Suzuki
3—L. Williford / N. Summey — Suzuki

Open

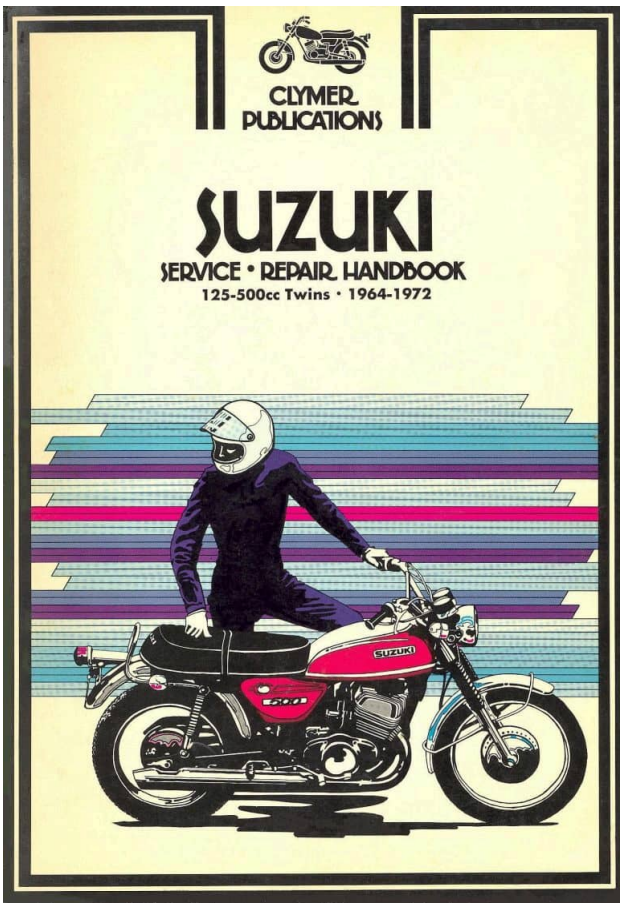
1—M. Moore / D. Eichert — BSA
2—D. Bolan / H. Calkins — BMW
3—P. Bolinger / M. Fleming — BMW

Willie Hardin & US Suzuki – Photo Gallery 2

Willie on a 1970 Suzuki TS90 at Adelanto Raceway

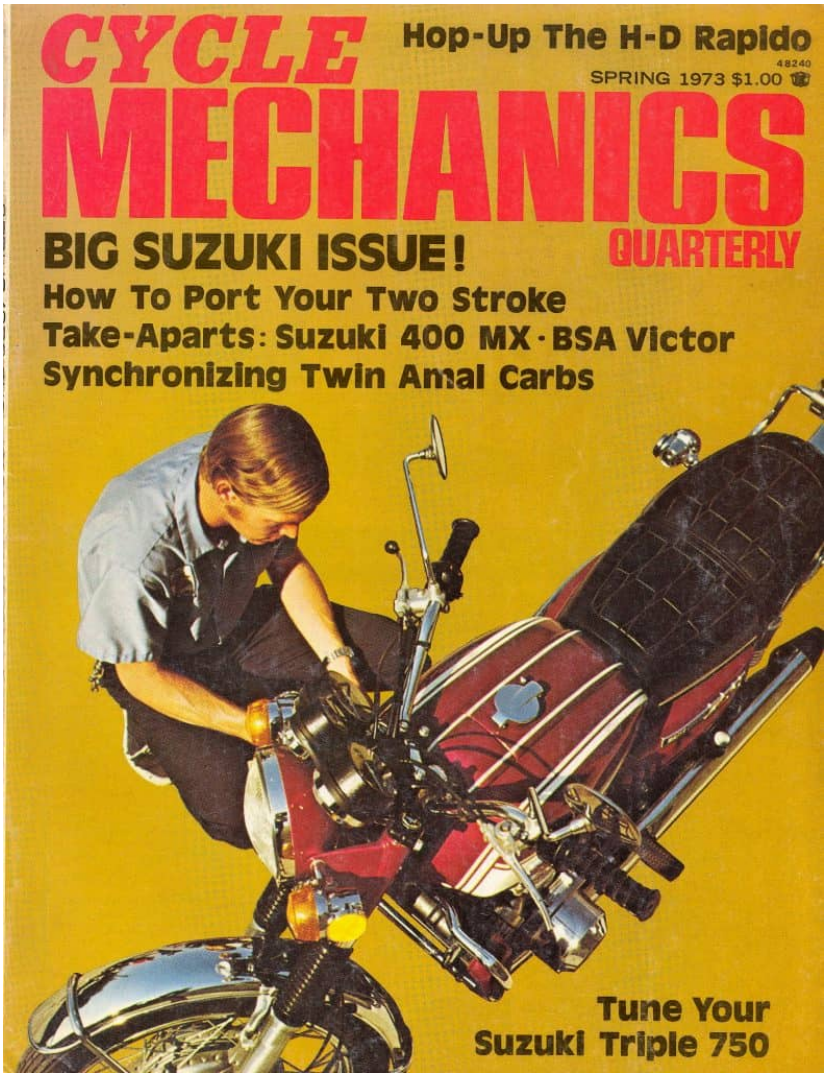
April 13, 1969 Suzuki TS250 at Adelanto Raceway

April 13, 1969 – I was still working at Dale Brown Motors in Long Beach Callifornia when I bought my first 250. I put it in the back of my '69 Ford Econoline and headed for Adelanto after I got off work on a Saturday afternoon. My buddy Jerry drove the van while I was pulling lights and other street stuff off. I didn't have anything to block off the tach and speedo drives, so I left them on the bike. The "Universal Trials" tires didn't work too awful bad, but it was a stock motor, so traction wasn't really an issue… 'cept in the corners!! This is how the bike got it's "Break In"… Ride it like you stole it!!

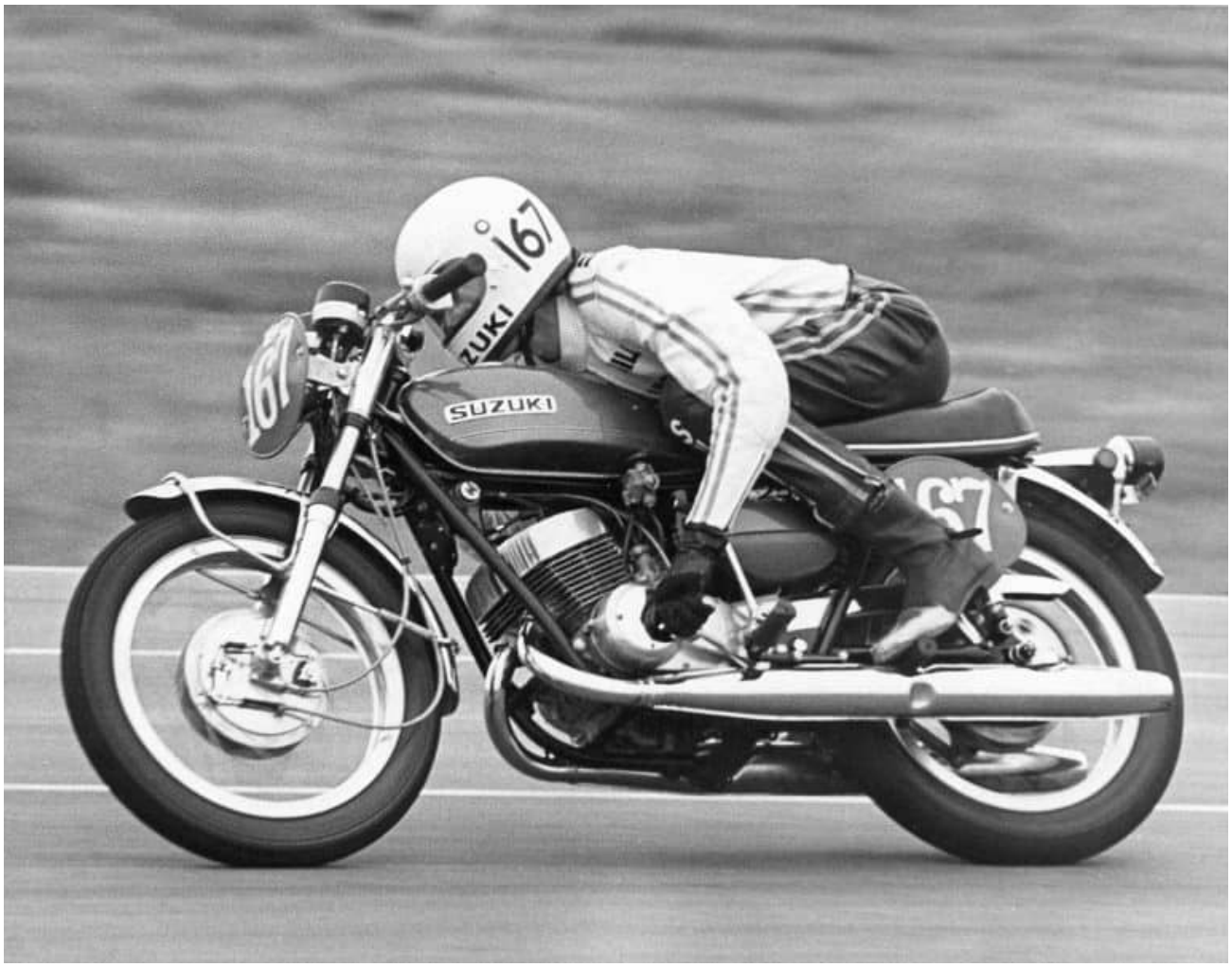


Willie featured in the cover art for the Clymer T500 manual. The picture on the cover came from a T500 modification article in Cycle Guide Magazine. Willie never got paid for the pic.

Willie on the cover of Cycle Mechanics – 1972 & below in 1973 with a GT750 Suzuki



Willie racing the T250 Hustler in 1972


SUZUKI
167

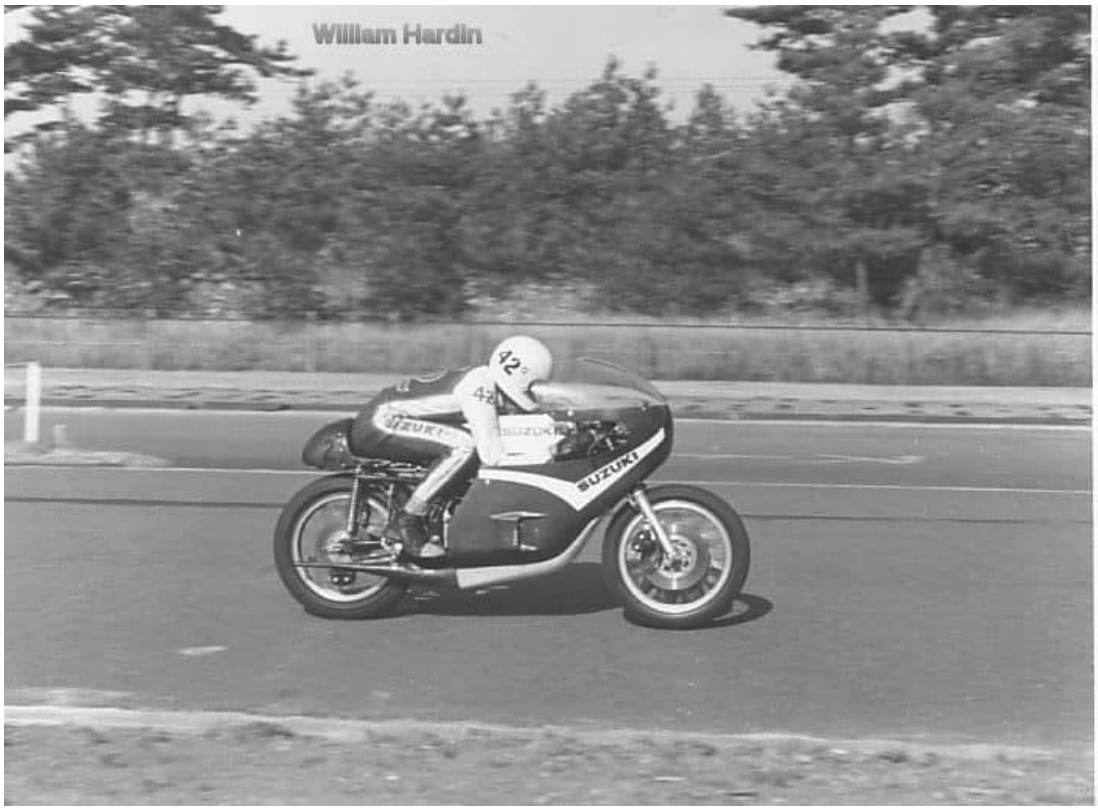
HARDIN
167
167

Suzuki RK67 (TR50)

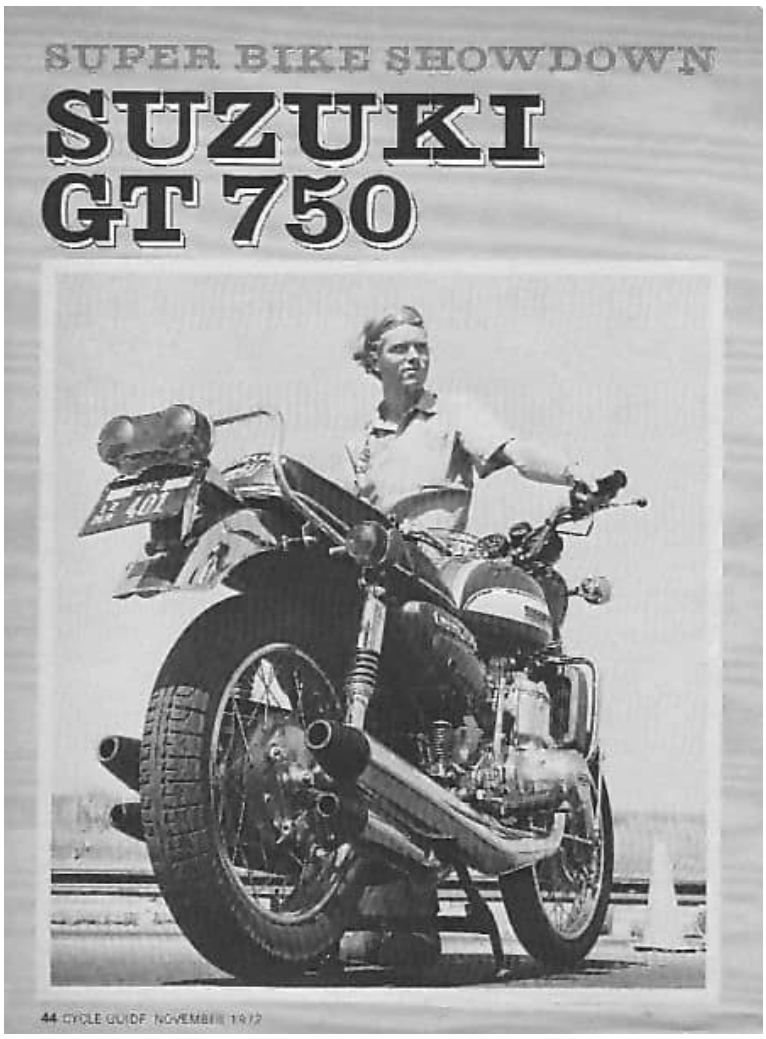
The 1967 Suzuki RK67 (14 speeds). It's one of the few Suzuki factory 50cc racers still running. Its twin cylinder (32.5mm x 30mm bore and stroke) produced 17.5bhp @ 17,300 rpm. Riders were Hans-Georg Anscheidt, Yoshimi Katayama and Stuart Graham, who took the top 3 places in the 50cc World Championship that year. Mitsuoh Itoh rode the RK67 too and finish 6th in the World Championship.

Willie Hardin & US Suzuki – Photo Gallery 3

Factory photo of the Suzuki TR750



Track testing the TR750

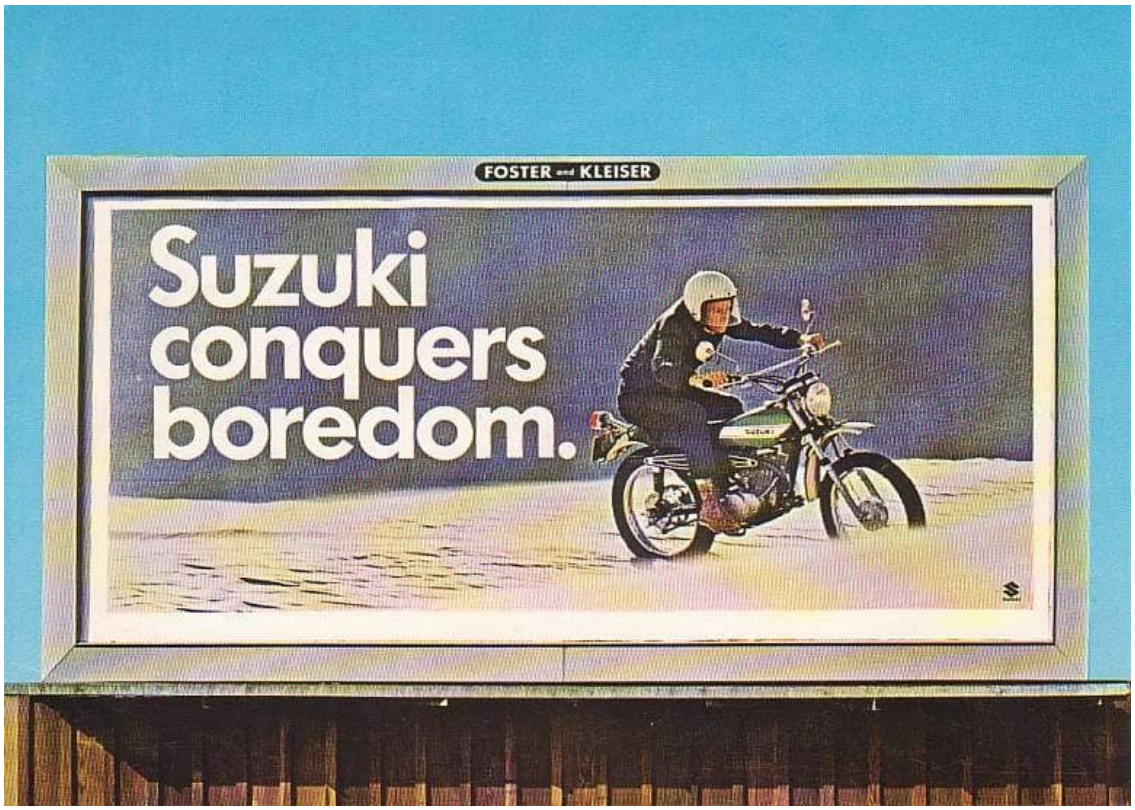


GT750

Trackmaster framed 500 – San Jose Mile

Willie Hardin on a T250 Suzuki at Ontario

“These are a few “Vintage” photos. We were in the studio in Los Angeles shooting Sportswear. We got thirsty, so I “Jumped” out of the set so there would be no marks on the set. Had to jump back in after tossing in the beers! The billboard is from 1971. That’s me at Pismo Beach, California on a TS185.”



Willie and his TS185 featured on a Suzuki billboard

GT550 road test

1970 – Factory testing pre-release models of Suzuki off road machines – T250, TS250, TS 185 & TS125

1969 T250 Hustler

The world champion Hustler is back. Only bigger. Faster. Racier.

32 hp at a cool 8000 rpm. A 15.3 in the SS¼. And an easy 100-105 speed range.

The X-6R Hustler offers more than ever before. More power from a re-designed Dual-Stroke engine. More features: double leading shoe brakes; a new, faster reacting 6-speed gearbox; Vol-U-Matic carburetion for more responsive power.

New flashy colors. New chrome. Turn signals front and rear.

The new X-6R Hustler looks like the fastest 250cc bike in the world. Because it is.

The world champion Hustler is back. Only bigger. Faster. Racier.

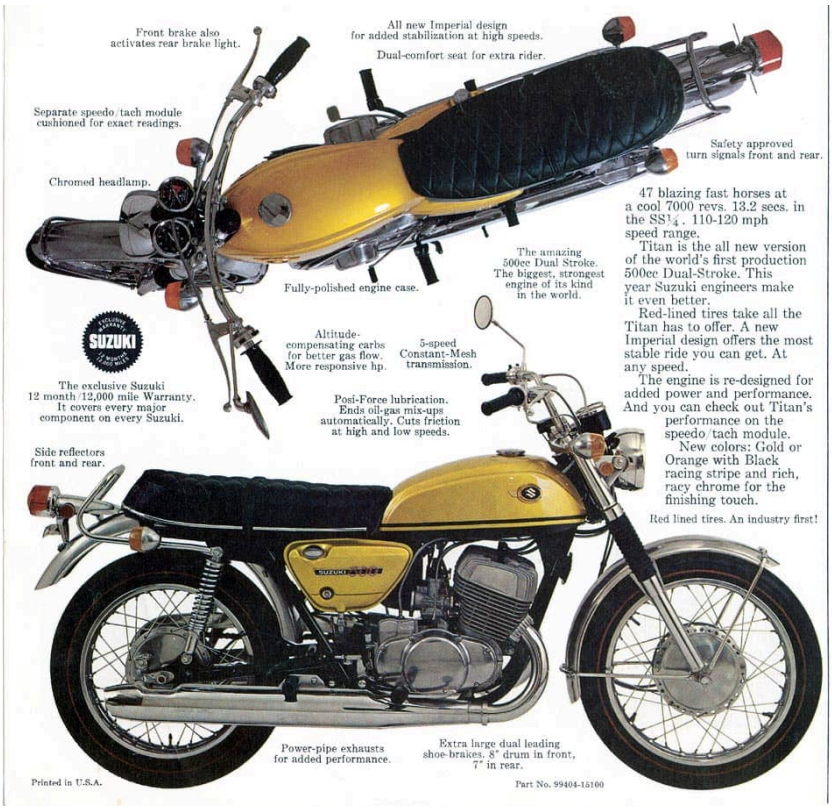
32 hp at a cool 8000 rpm. A 15.3 in the SS¼. And an easy 100-105 speed range.

The X-6R Hustler offers more than ever before. More power from a re-designed Dual-Stroke engine. More features: double leading shoe brakes; a new, faster reacting 6-speed gearbox; Vol-U-Matic carburetion for more responsive power.

New flashy colors. New chrome. Turn signals front and rear.

The new X-6R Hustler looks like the fastest 250cc bike in the world. Because it is.

1969 T500-II Titan



47 blazing fast horses at a cool 7000 revs. 13.2 secs. in the SS¼ . 110-120 mph speed range.

Titan is the all new version of the world's first production 500cc Dual-Stroke. This year Suzuki engineers make it even better.

Red-lined tires take all the Titan has to offer. A new Imperial design offers the most stable ride you can get. At any speed.

The engine is re-designed for added power and performance. And you can check out Titan's performance on the speedo/tach module.

New colors: Gold or Orange with Black racing stripe and rich, racy chrome for the finishing touch.

Red lined tires. An industry first!

Suzuki T-500 II Titan

Length	85.5"
Width	32.9"
Height	44.3"
Wheel base	57.2"
Road clearance	6.3"
Dry weight	407 lbs.
Engine type	2-stroke, air-cooled twin-cylir
Bore & Stroke	2.76" x 2.
CC	492
Compression ratio	6.6:1
Carburetion	Two-VM32
Acceleration	13.2 SS¼ mi.
Maximum Output	47 hp./7000 rpm
Speed range	110-120 mph
Transmission	5-speed
Clutch	Multiplate wet disc
Starter	Kick
Brakes, front	Right hand, internal expanding double cam
Brake, rear	Right foot, internal expanding
Suspension, front	Telescopic oil damp
Suspension, rear	Swinging ... oil dampened
Tires, front	3.25x19-4PR Red lined
Tires, rear	4.00x18-4PR Red lined
Colors	Colorado Gold Black Stripe Mesa Orange Black Stripe
Fuel capacity	3.7 gals.
Oil capacity	3.8 pts.
Instruments	Speedometer Tachometer

All prices and specifications subject to change without notice.

For more facts, write: U.S. Suzuki Motor Corp. 13767 Freeway Drive Santa Fe Springs, Cal. 90670

SUZUKI

47 blazing fast horses at a cool 7000 revs. 13.2 secs. in the SS¼ . 110-120 mph speed range.

Titan is the all new version of the world's first production 500cc Dual-Stroke. This year Suzuki engineers make it even better.

Red-lined tires take all the Titan has to offer. A new Imperial design offers the most stable ride you can get. At any speed.

The engine is re-designed for added power and performance. And you can check out Titan's performance on the speedo/tach module.

New colors: Gold or Orange with Black racing stripe and rich, racy chrome for the finishing touch.

Red lined tires. An industry first!

Suzuki T-500 II Titan

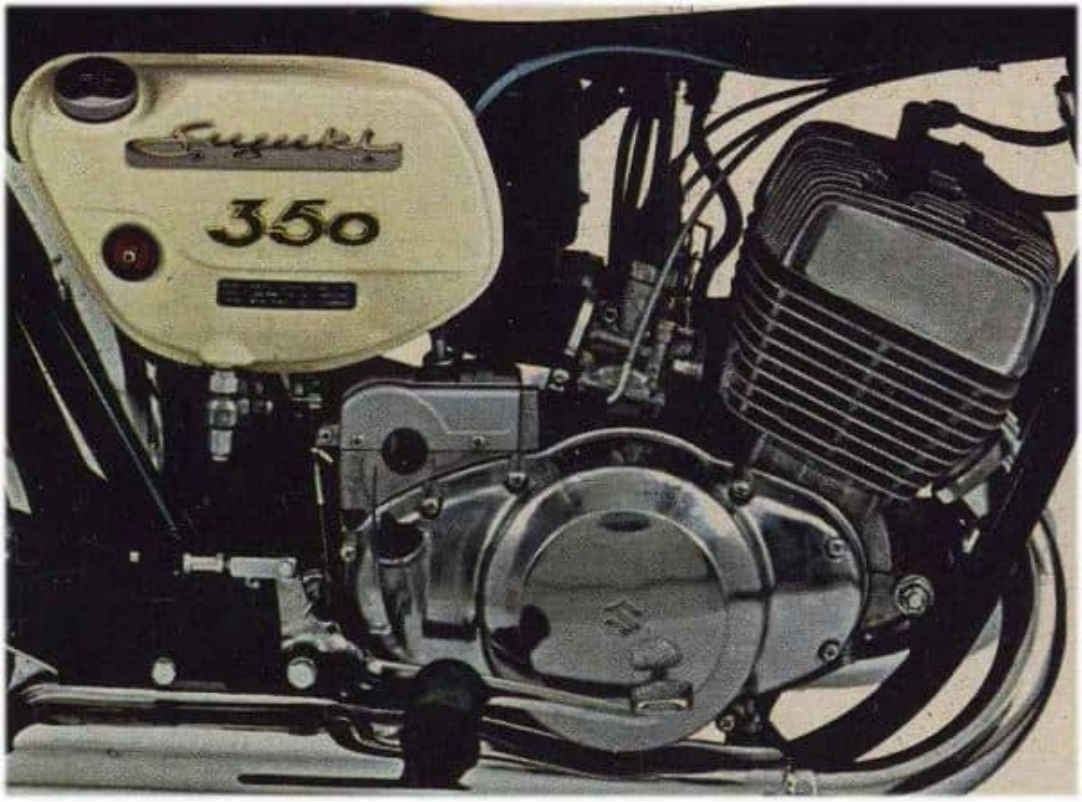
Length 85.5"
Width 32.9"
Height 44.3"
Wheel base 57.2"
Road clearance 6.3"
Dry weight 407 lbs.
Engine type 2-stroke, air-cooled twin-cylir
Bore & Stroke 2.76" x 2.
CC 492
Compression ratio 6.6:1
Carburetion Two-VM32
Acceleration 13.2 SS¼ mi.
Maximum Output 47 hp./7000 rpm
Speed range 110-120 mph
Transmission 5-speed
Clutch Multiplate wet disc
Starter Kick
Brakes, front Right hand, internal expanding double cam
Brake, rear Right foot, internal expanding
Suspension, front Telescopic oil damp
Suspension, rear Swinging ... oil dampened
Tires, front 3.25x19-4PR Red lined
Tires, rear 4.00x18-4PR Red lined
Colors Colorado Gold Black Stripe Mesa Orange Black Stripe
Fuel capacity 3.7 gals.
Oil capacity 3.8 pts.
Instruments Speedometer Tachometer

All prices and specifications subject to change without notice.

For more facts, write: U.S. Suzuki Motor Corp. 13767 Freeway Drive Santa Fe Springs, Cal. 90670

SUZUKI

The 1969 T350 Rebel



A great looking bike with heaps of spirit

Classic
Motorcycling

Arne Markussen's Suzis

Arne lives in Norway and is keen on 70's Suzukis

1973 GT750

1975 GT250

1971 T350

Fork Fix – GT380/500/550/750

Easy Fork Fixes You Can Do At Home, Part II

This Month: Suzuki's 380, 550 and 750; Honda's 400 and 750

By Bob Atkinson

CYCLE WORLD has been dyno testing suspension for about a year now. Our original goal was to analyze the contribution of suspension to overall handling characteristics and then pass that information along to you in our road tests. As we developed our test procedure with Number One Products, curiosity got the best of us. Instead of simply analyzing stock components, we started modifying them in an attempt to correct shortcomings that were being revealed by the routine tests.

We modified street bikes, dirt bikes, anything we could get our hands on. In most cases, we were able to soften up the ride. Occasionally handling improved with changes in fork and/or shock length and spring rates.

Then it dawned on us. Virtually no one was passing this information on to the consumer, especially as it relates to road machines. Our article on the subject, entitled "Easy Fork Fixes You Can Do At Home," began last month. In it we explained our methodology and modified some popular Yamahas and Kawasakis. This is a continuation of that article and will concern itself with Suzuki and Honda models.

Our intention is to correct the damping rates where necessary and to improve the ride. At anything approaching sane speeds, the softer suspension we are recommending will not affect handling, assuming you have compensated for the increased fork length by sliding the stanchion tubes upward in the triple clamps. For racing, the damper rod modifications we suggest still apply, but higher viscosity oil to raise the damper curve, and an increase in spring rate to handle the increased loading in turns and during braking, will be necessary.

CYCLE WORLD'S TESTING PROCEDURE

Before any modifications were begun, all of the machines chosen were ridden and evaluated for both handling and comfort. Next, each machine was taken to Number One Products and disassembled. HD-315 oil was substituted for stock in the forks. Both the shocks and forks were then dyno tested to determine compression and rebound damping. Springs were evaluated on a separate spring tester.

After a brief discussion, forks were modified, spring rates were altered, the bikes were reassembled, and reevaluation began.

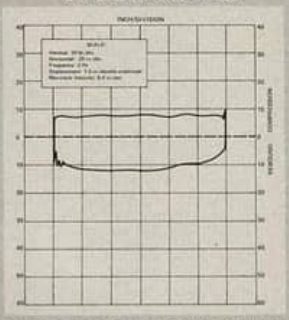
INTERPRETING THE CHARTS AND DRAWINGS

Dyno charts presented are identical to the ones in CYCLE WORLD road tests. The important considerations are compression and rebound damping. The rate of compression damping is graphically represented by the area above the zero line. Rebound damping is represented by the area below the zero line. This information, as well as spring rate and travel, also appears in the explanation below each graph. For a more detailed explanation, please refer to the initial fork fixes article in the July '76 CW.

The drawings represent damper rods and/or other fork components that control the rates of compression and rebound damping. With the exception of the Honda 750, altering the diameter of the compression or rebound holes is the method used to alter damping rate. The stock damper rod is represented on the left. The individual components that make up the complete rod are labeled. With the exception of the Honda 750, the modified rod is represented in the center and on the right. The actual alterations are described on this drawing to eliminate any confusion when you modify your own bike. The Honda 750 is an exception because rebound

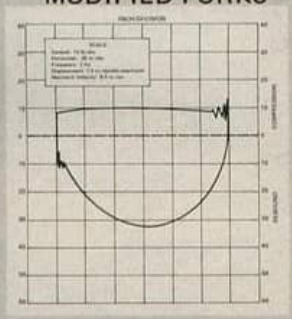
SUSPENSION DYNO TEST SUZUKI 380/550

STOCK FORKS



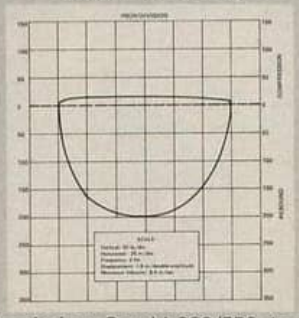
Description: Suzuki 380/550 fork, HD-315 oil
Fork travel, in.: 4.5
Spring rate, lb./in.: 37
Compression damping force, lb.: 8
Rebound damping force, lb.: 12
Static seal friction, lb.: 12-14

MODIFIED FORKS



Description: Suzuki 380/550 fork, Number One Products damper rod, HD-315 oil
Fork travel, in.: 5.5
Spring rate, lb./in.: 26, with 1 in. more preload than stock
Compression damping force, lb.: 10
Rebound damping force, lb.: 32
Static seal friction, lb.: 12-14

REAR SHOCKS



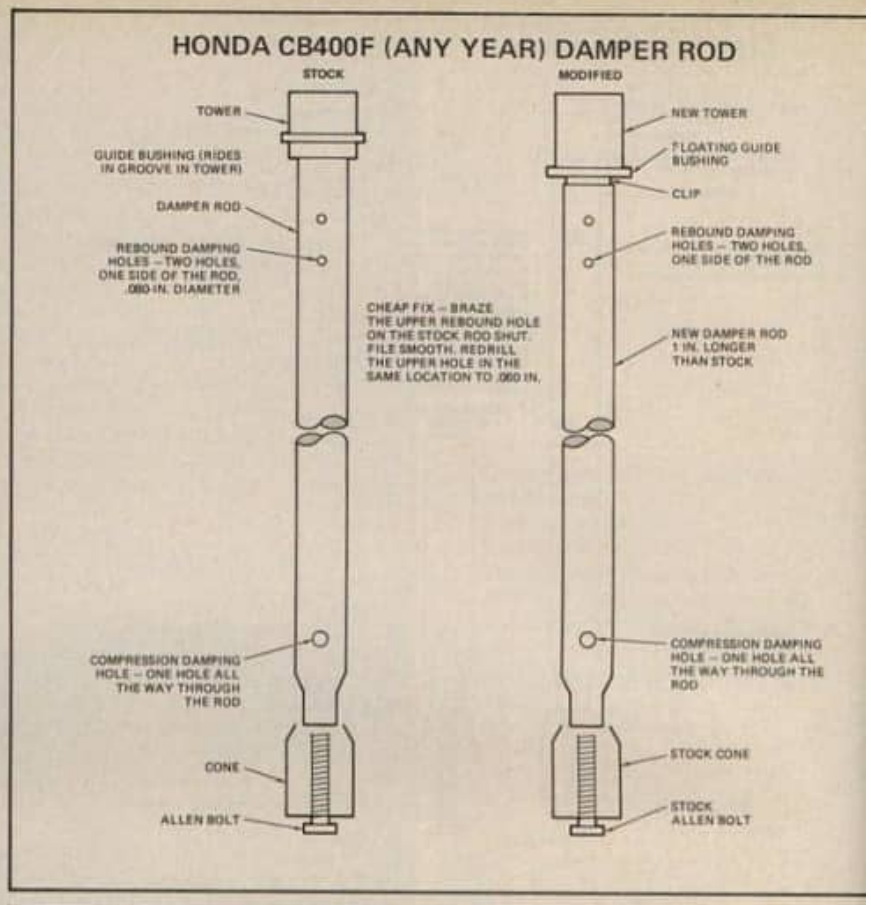
Description: Suzuki 380/550 shock
Shock travel, in.: 2.5
Spring rate, lb./in.: 133
Compression damping force, lb.: 15
Rebound damping force, lb.: 200

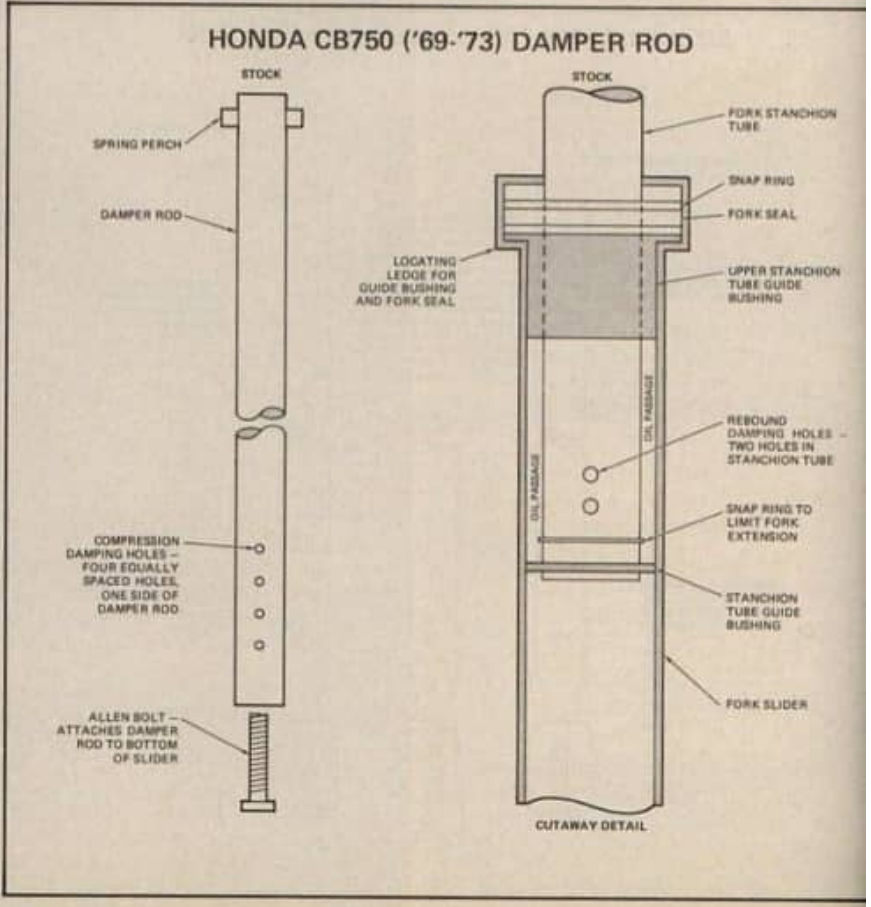
damping as well as rebound. Therefore, the best inexpensive fix is as follows: Clean the stock damper rods in soap and water. Braze the upper rebound hole shut on each rod and file smooth. This will increase rebound damping by roughly 50 percent, which is pretty close to what is needed. Travel is marginal, as well. To remedy this, make a 1-in. spacer out of a length of 1/2-in.-outer-diameter by 5/16-in.-inner-diameter steel tubing. Insert the spacer in the stock cone and slide the cone back onto the damper rod. Everything is held in place by a 1-in.-longer Allen bolt once the slider is reinstalled. It's a good idea to Loc-Tite the Allen bolt to prevent it from working loose. If price is not a major consideration, a 1-in.-longer damper rod is available from Number One Products with the damping modifications already performed. The Number One rod also has a tower and guide bushing design that is superior to the original's. With this rod, the stock Allen bolt and cone are used.

Fork Springs: The stock 37-lb. spring rate is way too high. On the Suzuki, this is the primary reason the forks do not react properly to small bumps in the road. For solo riding or packing double without much luggage, we found a 26-lb. spring more to our liking for the 380. With this spring, we used a 1-in. spacer under the fork cap to increase preload. On the heavier 550, we recommend a 28- to 30-lb. spring.

Suggested Rear Suspension Modifications: The damping curve on the stock shocks is not too bad, but rebound is a little heavy. Travel is minimal, which pretty much prohibits use of a more appropriate, softer spring. Because of the limitations in the stock shocks, we opted for a set of Konis, part number 76F1307. For both machines we chose 90-lb. springs. The weight difference in the bikes can be compensated for by the spring preload adjustment on the shock. Springs can be purchased from Ken Ross, S&W, Koni, or Girling. Boge Mulholland makes a good shock for the 380/550 that is adjustable in terms of compression and rebound damping. The part number is SS1175. Boge recommends 81/100-lb. progressive springs for the 380. For the 550, use 90-lb. straight-wind units.

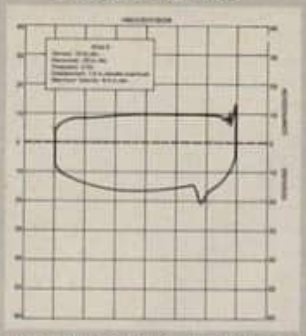
Results And Cost: Altering the damping rate adds marginally to stability, especially in turns on rough roads. Extending the forks for a 1-in. increase in travel also helps the ride, but it is necessary to slide the forks upward 1 in. in the triple clamps because you don't want to alter the geometry on either the 380 or 550. Modifying the stock damper rods should cost you under $10, even if you have to have someone else braze the rebound holes shut. If you don't want to do the actual modifications yourself, cost of the Number One Products kit is $44.95. The kit includes





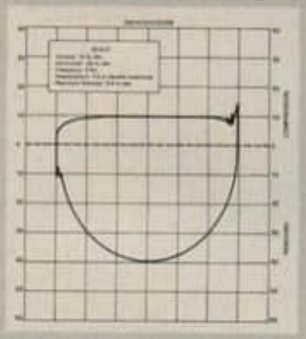
SUSPENSION DYNO TEST
SUZUKI GT750

STOCK FORKS



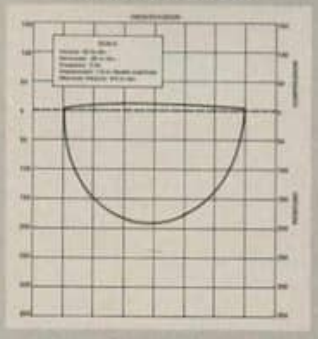
Description: Suzuki GT750 fork, HD-315 oil
Fork travel, in.: 4.375
Spring rate, lb./in.: 54
Compression damping force, lb.: 10
Rebound damping force, lb.: 16
Static seal friction, lb.: 12

MODIFIED FORKS



Description: Suzuki GT750 fork, Number One Products damper rod, HD-315 oil
Fork travel, in.: 5.4
Spring rate, lb./in.: 38
Compression damping force, lb.: 10
Rebound damping force, lb.: 40
Static seal friction, lb.: 12

REAR SHOCKS



Description: Suzuki GT750 shock
Shock travel, in.: 2.5
Spring rate, lb./in.: 146
Compression damping force, lb.: 10
Rebound damping force, lb.: 190

springs. Part Number is S380/14 or S550/14, depending on which bike you have. Koni shocks for either bike will cost $34 each. Springs should cost around $8.40. Either the Konis or the Boges are worthwhile for their greater oil capacity and travel. Boges cost $59.95 a pair. Springs are another $16.95.

SUZUKI GT 750 TRIPLE

Initial Impressions: The GT750 is a very smooth, very quiet, very heavy motorcycle. Like other Suzuki Triples, the "waterpumper," as it is called, steers pretty well, has good stability and reasonable cornering clearance. It could be a Cadillac as far as touring bikes go if it weren't hampered by harsh suspension with very limited travel.

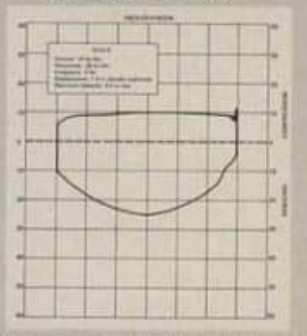
Damper Rod Modifications: First of all, 4.3 in. of fork travel is not adequate for good control on rough country or mountain roads and it prevents the use of a softer spring, which is necessary to improve the ride. Without adequate travel, a softer spring would let the front end bottom easily. The easiest solution is substitution of a 1-in.-longer damper rod from Number One Products. As with the smaller Suzukis, this rod corrects damping and offers a superior tower/guide bushing arrangement. If cost is a consideration, fixing the stock damper rods is not difficult. Clean both rods in soap and water. Go to a welding shop and have the top rebound hole brazed shut. File the brazed area down until it blends smoothly with the rest of the rod. Travel can be extended in the same manner as on the other Suzuki Triples. Make a 1-in. spacer out of a length of 1/2 by 5/16-in. steel tubing. Insert the spacer in the stock cone and slide the cone back onto the damper rod. A 1-in.-longer Allen bolt holds everything together once the slider is reinstalled. Loc-Tite the Allen bolt.

Fork Springs: We achieved a soft yet controllable ride with a 38-lb. spring. Preload will vary according to rider weight and whether or not your machine is equipped with a fairing, touring bags, etc. If the bike settles more than an inch when you sit on it, you need more preload. The easiest way to achieve it is to insert a spacer under the fork cap. Begin with a 1/2-in. spacer, then increase to an inch, etc., if necessary.

Suggested Rear Suspension Modifications: Damping rates aren't bad on the stock shocks, but travel is again too limited. We recommend replacement with a set of Koni shocks and 120-lb. springs. Part number for the appropriate Koni is 76F1307. Springs are available from Ken Ross, S&W, Koni or Girling. If you prefer shocks that can be altered with respect to both compression and rebound damping, try a pair of Boge Supersports, part number SS1175 and a pair of 110-lb. springs. >

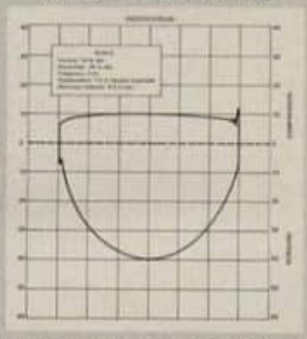
SUSPENSION DYNO TEST
HONDA CB400

STOCK FORKS



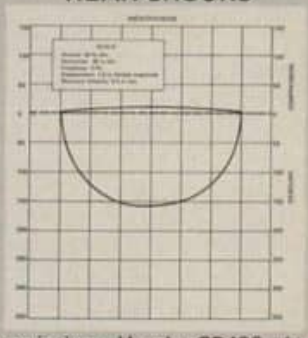
Description: Honda CB400 fork, HD-315 oil
Fork travel, in.: 4.25
Spring rate, lb./in.: 40
Compression damping force, lb.: 10
Rebound damping force, lb.: 25
Static seal friction, lb.: 10

MODIFIED FORKS



Description: Honda CB400 fork, Number One Products damper rod, HD-315 oil
Fork travel, in.: 5.25
Spring rate, lb./in.: 24, with 2 in. preload
Compression damping force, lb.: 10
Rebound damping force, lb.: 40
Static seal friction, lb.: 10

REAR SHOCKS



Description: Honda CB400 shock
Shock travel, in.: 3.0
Spring rate, lb./in.: 107
Compression damping force, lb.: 6
Rebound damping force, lb.: 156

Results And Cost: Extending the forks and altering the spring rate improved ride a great deal, especially on concrete roads or rough surface streets. We didn't want to alter the geometry so we slid the forks up an inch in the triple clamps to compensate for the additional length required for the 1-in. gain in travel. With Konis in place, handling improved on rougher streets. There is a little wallow in high-speed turns, but not enough to cause alarm. Nose-dive increased during braking, but this did not affect braking distance. Except under hard braking, cornering clearance remained the same. Modifying the stock damper rods should cost less than $10. The complete Number One Products kit with springs goes for $59.95. Part number for the kit is S750-15. Koni shocks are $34 each. Plan on an additional $8.40 for springs. Boge Supersport shocks are $59 per pair. Springs are another $16.95.

HONDA CB400 SUPERSPORT

Initial Impressions: Honda's smallest Supersport is a compact machine that isn't overly comfortable to ride for long distances. In addition, it wiggles some when pushed, particularly when the road surface is not smooth. There are three reasons for this. First, there isn't enough rebound damping in the front forks. Second, the front forks flex too much because of insufficient stanchion-tube diameter. Finally, the rear shocks lack sufficient oil capacity to prevent overheating and subsequent loss of damping control. Correcting the rebound damping and changing rear shocks helps handling a great deal, but does nothing for the harsh ride. Softer spring rates help here but the effect is minimal due to limited fork travel. The forks cannot be extended using the stock damper rod because the standard guide bushing causes the forks to bind as they flex under frontal loading. In other words, this is a difficult bike to fix.

Damper Rod Modifications: Handling can be improved by increasing rebound damping. To do this, braze the upper rebound hole shut in each damper rod. File the damper rods smooth and redrill the top hole in the same location to .060 in. A 1/16-in. drill bit is roughly equivalent to that diameter. If you are not content with improving handling alone, you must exchange the stock damper rods for ones that will not bind in the stanchion tubes as the forks flex. Number One Products has designed a rod with a floating guide bushing that does not bind nearly as easily as the stock rod. With the binding problem lessened, it was possible to use a longer rod that extends travel 1 in. This complete damper rod is available in a kit that includes springs.

Fork Springs: If you choose to modify the stock rods in the interest of handling, use the stock springs. The Number One Products kit includes progressive springs with an average weight in the vicinity of 30 lb. No preload spacers are required with this set-up.

Suggested Rear Suspension Modifications: Without question, the spring rate is too high. Even if the stock shocks are retained, substitute 90-lb. springs the same length as stock. Better yet, replace the stock shock with a Koni, part number 76F1302. Again 90-lb. springs should be used. Springs are available from Ken Ross, S&W, Koni or Girling.

Results And Cost: Koni shocks with 90-lb. springs and an increase in fork rebound damping help handling considerably. There is no wallow in turns and the bike will hold a line when pushed to the limit. Ride, however, remains harsh. Because of fork flex, fork action remains less than perfect, even with a complete damper rod and spring change. Nevertheless, the improvement in ride on rough roads is considerable. On smooth streets there is little difference. If you want to go the handling route, modifying the stock damper rods should cost around $10. Koni shocks are $34 each. Springs again start at $8.40. If you like to ride long distances or commute on rough surface streets, the Number One damper rod kit and springs are worthwhile. Part Number is H400-14. Cost is $44.95.

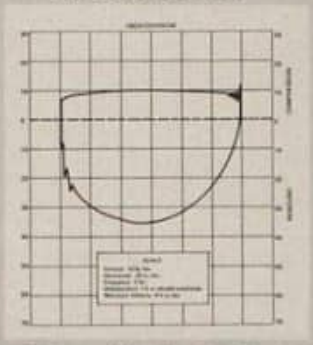
HONDA CB750 K1 to K3

Initial Impressions: Honda 750s have always been popular, and for good reason. They are smooth, cruise very easily at high speed, and are not effected much by changes in weight distribution resulting from the addition of luggage, fairings and the like. Handling at low speed, especially on the early models, is not very good. They feel top heavy and want to fall over in turns. Once underway, they are fine, even when pushed well in excess of posted speed limits. Ride has improved over the years, but remains harsh when compared to that of the new Yamahas or recent BMWs.

Damper Rod Modifications: There are two types of Honda 750 forks. K1 to K3 models (1969 to 1972/3), have a complicated system in which rebound damping is controlled by the stanchion tube and slider, and compression damping is controlled by the damper rod. Beginning with the K4 model (late 1973), Honda 750s have a conventional damper rod system with compression damping holes at the bottom of the rod and rebound holes at the top. If you have an early model (K1 to K3), the ratio of compression to rebound damping is good. It's a good thing too because there isn't any practical method of alteration. As we mentioned earlier, compression damping in this system is

(Continued on page 103)

SUSPENSION DYNO TEST
HONDA CB750
STOCK FORKS



Description: Honda CB750 fork, HD-315 oil
Fork travel, in.: 4.625
Spring rate, lb./in.: 41.5
Compression damping force, lb.: 10
Rebound damping force, lb.: 35
Static seal friction, lb.: 9

REAR SHOCKS

Description: Honda CB750 shock
Shock travel, in.: 3.0
Spring rate, lb./in.: 103
Compression damping force, lb.: 10
Rebound damping force, lb.: 180

Fork Fixes

Continued from page 50

controlled by four oil flow holes in the bottom of the damper rod. There are no rebound holes in the rod. Rebound is controlled in the following manner: The upper stanchion tube bushing and the lower stanchion tube bushing form an oil gallery of varying capacity between the outer wall of the stanchion tube and the inner wall of the slider. As the forks rebound toward full extension, the volume of the oil gallery is reduced and oil escapes through two rebound holes in the bottom of the stanchion tube. The diameter of these holes regulates the amount of damping. The damping rate can be altered slightly by changing the viscosity of oil. We found 10-wt. good for touring. Travel cannot be extended because moving the snap ring that limits fork extension would allow the rebound holes in the stanchion tube to pass under the upper guide bushing prematurely and that would hydraulic-lock the forks. Travel can be extended in late model Hondas (K4 on), by installing a longer damper rod available from Number One Products.

Fork Springs: The standard spring rate is too high. A good replacement is a 28/38-lb. progressive made by S&W. It can be ordered through Webco. The part number is 896. If you have a late model Honda (K4 on), and decide to purchase the damper rod kit from Number One Products, a separate spring purchase is not necessary. They are included in the kit.

Suggested Rear Suspension Modifications: The standard spring rate on the Honda is good. For fast touring or carrying heavy loads, more control can be obtained by fitting a better quality shock with more oil capacity than stock. Two good choices are Koni and Boge Mulholland. The Koni features adjustable rebound damping. The part number is 76F1296. One-hundred to 110-lb. springs should be used. Both compression and rebound damping may be altered on the Boge Supersport shock. The manufacturer recommends use of 110-lb. springs. Part number of the shock is SS13010.

Results And Cost: The single best thing you can do with early model Honda 750s is to change to the S&W spring. The lower progressive rate improves the ride without any sacrifice in handling. Cost of a pair of springs is $19.95. Touring riders with K4 and later models can benefit from the extra travel and soft ride offered by the Number One Products Kit. Part number is H750-18. Cost including springs is $59.95. With this kit, it is advisable to slide the forks up an inch in the triple clamps. Otherwise steering becomes too heavy at low speed. Handling improves in high-speed turns with either the Koni or Boge shocks. Koni shocks sell for $34 each. Springs should cost approximately $8.40. Boge Supersport shocks run $59.95 per pair. Springs are another $16.95 per pair.

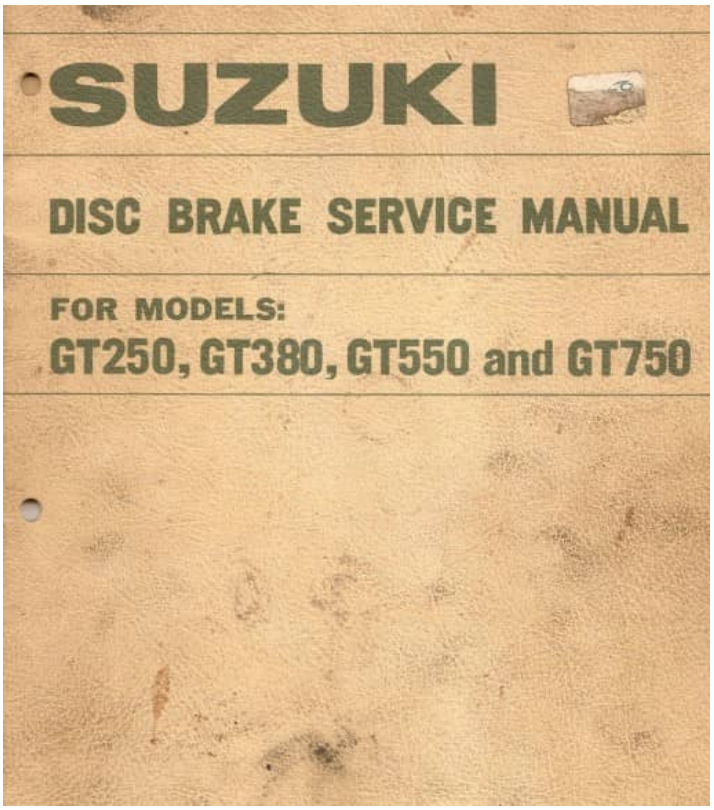
None of the modifications we've suggested are very difficult. For the most part they require normal hand tools. Welding, when required, takes very little time and should not cost much. If there are any questions, or if you wish to modify a machine not covered here, please contact either CYCLE WORLD magazine or Brian Fabre at Number One Products. We will be glad to offer suggestions.

CYCLE WORLD Magazine
1499 Monrovia Ave.
Newport Beach, CA 92663.

Number One Products
4931 Encinita Ave.
Temple City, CA 91780.

Fork fix review kindly prepared by Jim Winters:

Suzuki Disc Brake Manual: GT750, GT550, GT380, GT250



SUZUKI

DISC BRAKE SERVICE MANUAL

FOR MODELS:

GT250, GT380, GT550 and GT750

FOREWORD

The purpose of this service manual is to provide a detailed description on the construction, operating principles, adjusting and operating methods of the hydraulic disc brakes which have been recently adopted to Models GT250, GT380, GT550 and GT750.

To ensure a safe operation of these models capable of high-speed performance, an adequate maintenance of the brakes is vital. This manual is presented in a simplest possible manner so that the materials included are easily comprehensive to you. We hope that correct maintenance of these disc brakes will be facilitated most effectively by utilization of this manual.

Because this manual has been compiled on the models of the motorcycles available as of November, 1972, it is possible that the contents of this manual may not necessarily correspond to the motorcycles delivered to you due to possible changes of their specifications.

November, 1972

Export Service Section

SUZUKI MOTOR CO.,LTD.

FEATURES OF DISC BRAKE

Compared with the conventional drum-type brakes, the hydraulic disc brake has the following features:

1) Heat radiation from the friction surfaces is quite effective since the discs rotate in direct contact with the air. Therefore, stable brake power can always be provided, even if the disc brake is used repeatedly at high speeds.
2) A brake lever stroke remains always constant since none of the disc brake parts is subjected to any deformation due to elevated temperatures.
3) Replacement of pads is simple and no troublesome adjustment is required.
4) Steady brake performance is ensured, since, even if the disc is wet during running in rainy weather or on muddy road, the restoring ability of brake power is excellent due to the extreme pressure characteristics for pushing pads.
5) It has a smooth operation, since it has little portion to be mechanically abrased.

INDEX

1. SPECIFICATION AND SERVICE DATA 4
2. TROUBLE SHOOTING 5
3. OUTLINE OF HYDRAULIC DISC BRAKE 6
   - 3–1 General 6
   - 3–2 Operation of Master Cylinder 7
   - 3–3 Operation of Caliper 8
4. INSPECTION AND REPAIR 9
   - 4–1 Brake Fluid and Its Handling 9
   - 4–2 Inspection and Replacing Method of Pads 10
   - 4–3 Master Cylinder, Brake Hose and Brake Pipe 13
   - 4–4 Caliper 18
   - 4–5 Brake Disc 21
   - 4–6 Periodic Replacement Parts 22
5. TIGHTENING TORQUE 23
6. SPECIAL TOOLS FOR DISC BRAKE 24

3. OUTLINE OF HYDRAULIC DISC BRAKE

3-1 General

The hydraulic disc brake adopted in Suzuki's models GT250, GT380, GT550 and GT750 consists of four main portions, i.e., brake discs mounted on a front wheel hub, master cylinder for pressurizing, brake pipe line for fluid pressure, and caliper which presses pads to brake disc by means of hydraulic pressures.

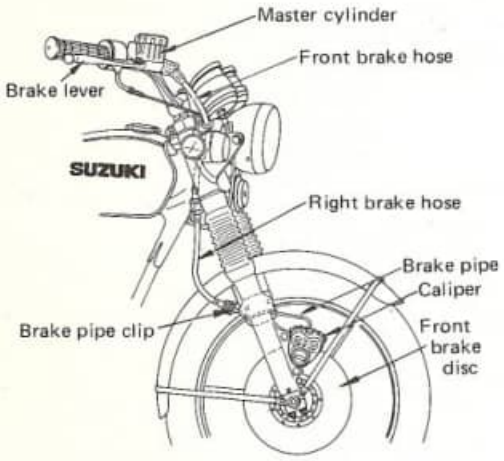


Fig. 3–1–1 (GT250, GT380 and GT550)

Fig. 3–1–2 (GT750)

3-2 Operation of Master Cylinder

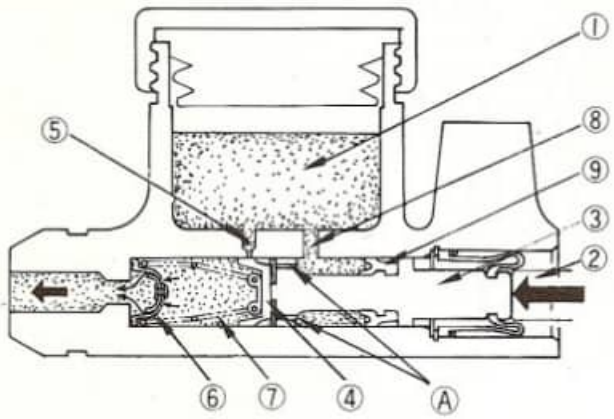


Fig. 3–2–1

1 Reservoir
2 Brake lever cam
3 Piston
4 Primary cup
5 Return port
6 Check valve
7 Spring
8 Inlet port
9 Secondary cup

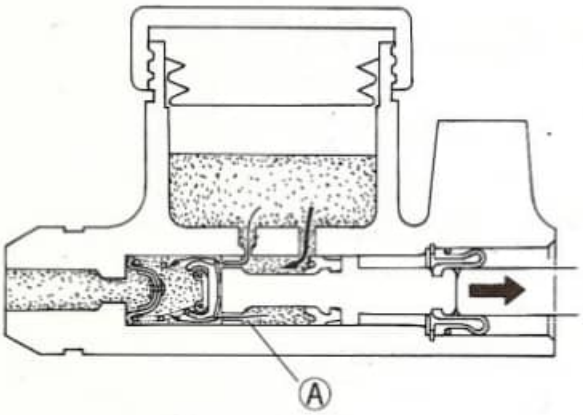


Fig. 3–2–2

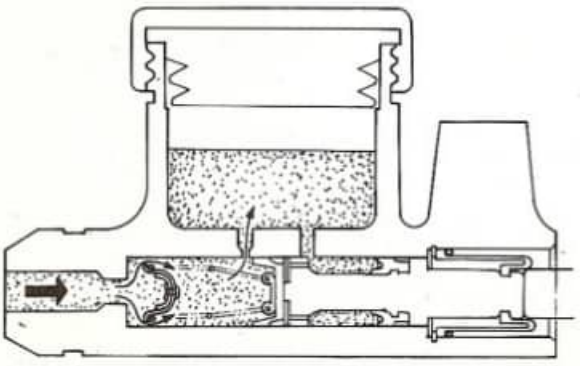


Fig. 3–2–3

3–2–1 Squeezing brake lever

The piston ③ is pushed in the direction of arrow by the brake cam ② when the brake lever is squeezed. The primary cup ④ also moves together with the piston and when it closes the return port ⑤ which is provided at the master cylinder body, brake fluid in front of the primary cup begins to be pressurized and delivered to the caliper by opening the check valve ⑥ with its pressure.

3–2–2 Releasing brake lever

As soon as the brake lever is released, the piston is pushed back by the spring ⑦ . Because the brake fluid from the caliper may not return to the master cylinder immediately due to its flow resistance, hydraulic pressure inside the cylinder is reduced momentarily and fluid flows from the reservoir to the front section of the primary cup through the inlet port ⑧ , three small holes Ⓐ on the piston flange and the circumference of the primary cup.

Then high pressure brake fluid from the caliper releases the check valve body from its contact with the outlet part allowing to have the clearance for a fluid passage. A small amount of the fluid returns from the caliper to the master cylinder through the clearance thus made by the movement of the check valve body.

3–2–3 After completing return stroke of brake lever

A large amount of the brake fluid having been delivered to the caliper returns to the reservoir through the clearance behind the check valve base and the return port on the master cylinder body.

As the brake fluid from the caliper returns to the reservoir, hydraulic pressure in the brake hose is reduced gradually and the spring tension surmounts the hydraulic pressure of the brake hose resulting in closing the clearance behind the check valve base. However, some fluid pressure still remains in the brake hose because of the initial tension of the spring. Brake fluid continues to flow into the reservoir through a small notch provided around the periphery of the check valve body and the return port. The master cylinder completes its operation when residual pressure in the brake hose vanishes completely.

3-3 Operation of Caliper

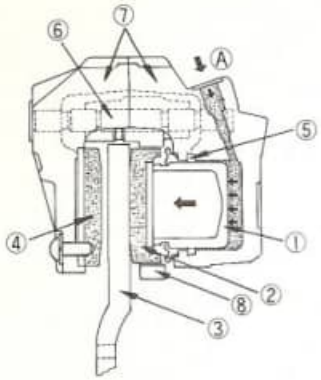


Fig. 3–3–1

1	Piston	5	Piston seal
2	Pad No.1	6	Caliper axle
3	Brake disc	7	Caliper body
4	Pad No.2	8	Caliper holder

3–3–1 Squeezing brake lever

Brake fluid from the master cylinder delivered under pressure flows into the caliper cylinder through inlet portion Ⓐ of the caliper and pushes piston ① in the direction of arrow.

The pushed piston moves together with the pad No. 1 ② in this direction until it can not move any further forward due to the pad No. 1 hitting brake disc ③ .

As soon as the pad No. 1 touches the brake disc so that the piston may not move any further, the caliper body floating on the caliper axle is pushed in reverse direction by the fluid pressure in the cylinder and moves in the right side direction as shown in Fig. 3–3–2.

Since the pad No. 2 ④ is mounted to the caliper body, the disc is subjected to a powerful braking force with pads Nos. 1 and 2 depressing the disc from opposite directions respectively.

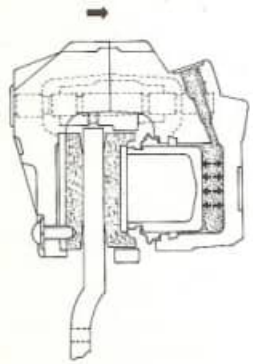


Fig. 3–3–2

3–3–2 Releasing brake lever

When the brake lever is released and fluid pressure in the caliper cylinder vanishes, the piston moves in the direction of arrow in Fig. 3–3–3, being pushed by piston seal ⑤ which was pressed onto the piston by fluid pressure and is now restoring its original shape with fluid pressure released. Therefore, the pads pressed to the disc part from the disc since the piston moves as much as the piston seal displacement, thus setting the brake disc free.

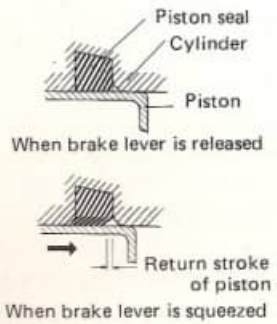


Fig. 3–3–3

3–3–3 Self adjusting of clearance between pads and disc

If the traveling distance of piston exceeds the displacement of the piston seal, the piston is moved as far as the braking stroke while the piston slides between itself and the piston seal, whereas a return stroke of the piston due to the piston seal restoration after brake release is always constant and the returned position of the piston relatively varies with the wear of pads.

Consequently, clearance between the pads and the piston, or between the pads and the brake disc is always kept constant regardless of the condition of pad wear.

4. INSPECTION AND REPAIR

4-1 Brake Fluid and Its Handling

4–1–1 Replenishing brake fluid

Be sure to check brake fluid level in the reservoir after removing the reservoir cap ① and diaphragm ② . In inspecting brake fluid, first mount your motorcycle firmly onto the center stand with its handlebar kept straight up without fail. If the level is found to be lower than the level mark ③ provided on the reservoir, replenish the reservoir with motorvehicle brake fluid graded "DOT 3" or "DOT 4" in U.S.A. and equivalents in other countries.

Note : Since the brake system of these motorcycles is filled with a glycol base brake fluid by the manufacturer, do not use or mix different types of fluid such as silicone-based and petroleum-based fluid for refilling the system, otherwise damage sustained will be serious.

Do not use any brake fluid taken from old or used, or unsealed containers.

Do not squeeze the brake lever while the reservoir cap is removed, otherwise brake fluid will sometimes spout out. Brake fluid will damage the paint surface and instrument gauge lenses.

Take due care especially so that water may not enter brake fluid on rainy day particularly duing replacement or in handling a brake fluid container, because brake fluid has hygroscopic property, and its boiling point falls excessively if water is mixed with it.

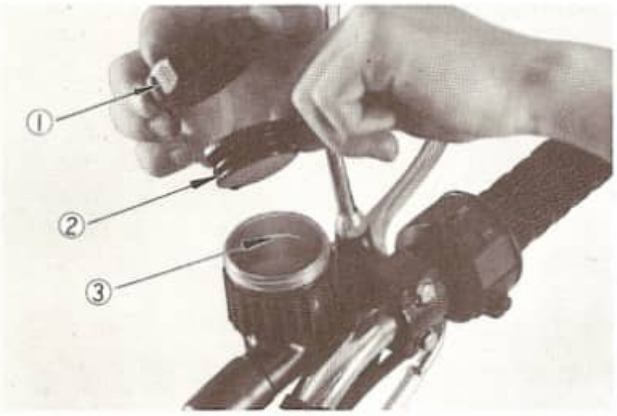


Fig. 4–1–1

Fig. 4–1–2

4–1–2 Air bleeding from brake system

If the brake lever travel becomes excessive or the lever feels a soft or spongy feeling, you must carry out air bleeding from the brake system in the following procedure:
It is best if two persons perform this.

1) Attach the bleeder tube to the bleeder valve after removing the bleeder valve dust cap as shown in Fig. 4–1–2. A transparent tube is useful in finding air bubble expelled from the system.
2) The tube must be submerged in a clean container partially filled with brake fluid.
3) Fill the reservoir with the aforementioned brake fluid.
   Note : Keep at least one half full of fluid in the reservoir during the bleeding procedure.
4) Screw in the cap on the reservoir to prevent a spout of brake fluid and entry of dust.
5) Allow the pressure in the hydraulic system by squeezing rapidly the brake lever several times and then holding the lever tight.
6) Unscrew (open) the bleeder valve by one half turn and squeeze the lever all the way down. Do not release the lever until the bleeder valve is screwed in (closed) again.

7) Repeat steps 5) and 6) until air bubbles disappear in the bleeder tube or container and screw in (close) the bleeder valve securely.
8) Remove the tube and install the bleeder valve dust cap.
9) Check the fluid level in the reservoir and replenish if necessary, after the bleeding operation has been completed.
10) Reinstall the diaphragm and the diaphragm plate and tighten the reservoir cap securely.
Caution: Do not reuse the brake fluid drained from the system.

For model GT750, bleed air at first from the left-hand side caliper and then from the right according to the aforementioned procedure.

4–1–3 Changing brake fluid

Boiling point of brake fluid falls considerably with absorption of moisture which may take place during a long period of use. Therefore, it is recommended to exchange old brake fluid with new one periodically.

Exchange interval : One year

On changing brake fluid, extreme attention should be paid so as not to mix any foreign materials because they would block the return port of the master cylinder resulting in the brake dragging or squeaking.

When brake fluid is to be changed, perform the following procedure.
1) Attach a bleeder tube to the bleeder valve. Drain out old brake fluid by squeezing the brake lever with the bleeder valve opened until the brake fluid disappears in the bleeder tube.
2) After old brake fluid is drained out from the system completely, carry out the same procedure as described "4–1–2 Air bleeding".

4-2 Inspection and Replacing Method of Pads

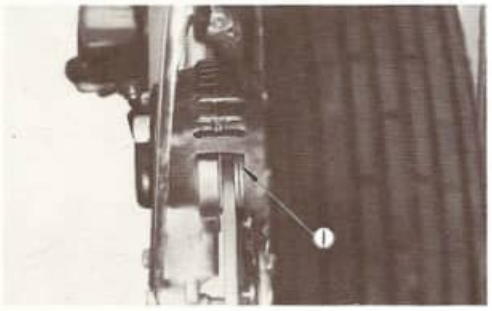


Fig. 4–2–1

4–2–1 Inspection of pads

Check worn condition of the friction pads. If any of the friction pads is worn out up to the red limit line ① marked on its circumference, replace it following the procedure of "4–2–2" or "4–2–3".

Caution : Wash mud and dust off around the front wheel and/or caliper prior to the replacing operation.

Fig. 4–2–2

4–2–2 Replacing of pads for models GT250, GT380 or GT550

1) Set up the center stand and load at the rear portion to let the front wheel free.
2) Remove the front wheel assembly.
3) Unscrew the pad fastening screw, and take off pad No. 2.

Fig. 4–2–3

4) Squeeze the brake lever two or three times gradually to force out pad No. 1 by fluid pressure while observing the motion of pad.

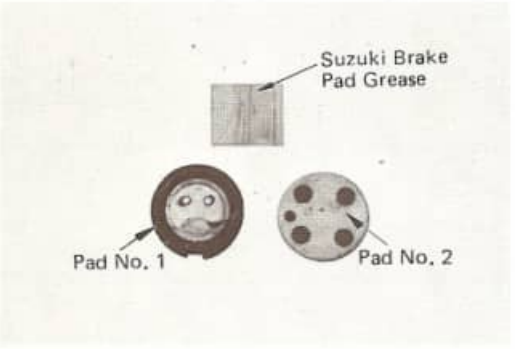


Fig. 4–2–4

5) Apply Suzuki Brake Pad Grease, which is provided as a component of Pad Set as shown in Fig. 4–2–4, onto the periphery and back plate of pad No. 1 as illustrated in Fig. 4–2–5 in a very thin layer.

Caution : **Do not use another grease.**

Apply grease thinly so as not to flow out resulting in reduced brake performance.

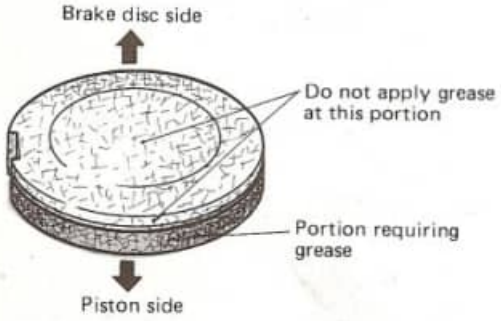


Fig. 4–2–5

Fig. 4–2–6

6) Push in pad No. 1 into the caliper holder.
7) Mount pad No. 2 to the caliper body.

Caution : **Do not apply any grease to the pad No. 2, and take care not to mount it inclined.**

8) Install the front wheel assembly to the front fork.
9) Squeeze the brake lever two or three times to confirm its operation, and bleed air if necessary.

Fig. 4–2–7

Fig. 4–2–8

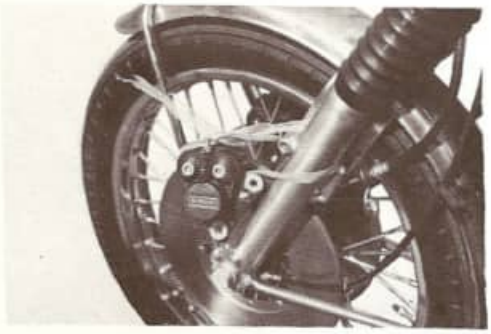


Fig. 4–2–9

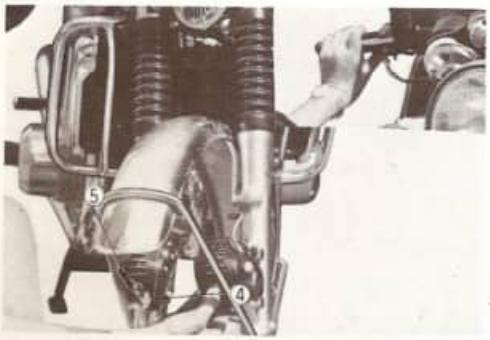


Fig. 4–2–10

4–2–3 Replacing of pad for model GT750

1) Take off the left brake pipe cover ① and pipe guide ② as shown in Fig. 4–2–7.

2) Loosen the two left caliper fitting bolts ③ as shown in Fig. 4–2–8.

3) Detach the left caliper with the brake pipe connected and fix it on the front fork by string or hold it unmoved so as not to bend the brake pipe as shown in Fig. 4–2–9.

4) Take off the front wheel assembly.

5) Mount the removed left caliper to the front fork.

6) Insert a spacer ④ between pads Nos. 1 and 2 of the right caliper to stop piston movement and clip it with an elastic rubber ring ⑤ to prevent it from falling as shown in Fig. 4–2–10.

7) Replace pads Nos. 1 and 2 of the left caliper in the same method as for models GT250, GT380 and GT550.

8) Remove the spacer from the right caliper, and insert it in the left caliper.

9) Replace pads Nos. 1 and 2 of the right caliper.

10) Take off the left caliper and hold it.

11) Install the front wheel assembly to the front fork.

12) Mount the left caliper to the front fork.

13) Mount the left brake pipe cover and guide.

14) Squeeze the brake lever two or three times to confirm its operation, and bleed air if necessary.

Note : **When replacing the front tire or repairing puncture, it is necessary to remove the left caliper before removing the front wheel assembly.**

4-3 Master Cylinder, and Brake Hose and Brake Pipe

4–3–1 General

Index No.	Description	Q'ty
1	Master cylinder assembly	1
2	Secondary cup	1
3	Primary cup	1
4	Stop plate	1
5	Circlip	1
6	Boot	1
7	Check valve	1
8	Diaphragm	1
9	Diaphragm plate	1
10	Reservoir cap	1
11	Washer	2
12	Bolt	2
13	Master cylinder boot	1
14	Bolt	1
15	Washer	2
16	Brake front hose	1
17	Right brake hose	1
18	Brake hose guide	1
19	Nut	1
20	Lock washer	1
21	Grommet	1
22	Brake hose grommet	1
23	Brake hose clamp	1
24	Hose clamp lock plate	1
25	Grommet	1
26	Lock washer	1
27	Screw	1
28	Brake pipe cover	1
29	Brake pipe	1
30	Spring	1
31	Piston	1
32	Boot plate	1
33	Boot stopper	1

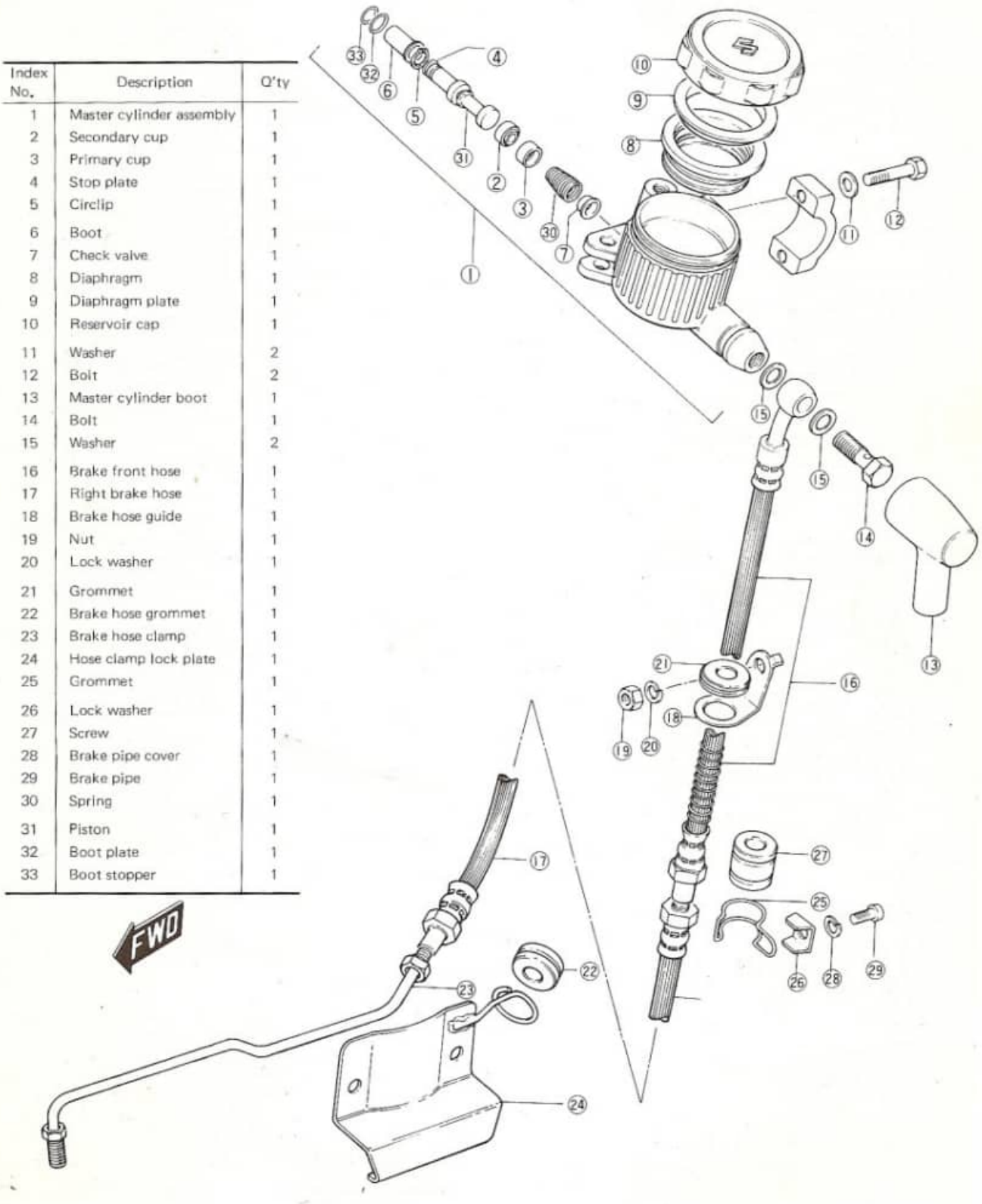


Fig. 4–3–1 (GT250, GT380 & GT550)

Index No.	Description	Q'ty
1	Master cylinder assembly	1
2	Secondary cup	1
3	Primary cup	1
4	Plate stop	1
5	Circlip	1
6	Boot	1
7	Check valve	1
8	Diaphragm	1
9	Diaphragm plate	1
10	Reservoir cap	1
11	Washer	2
12	Bolt	2
13	Master cylinder boot	1
14	Union bolt	4
15	Washer	8
16	Front brake hose	1
17	RH & LH brake hose	2
18	Brake hose guide	1
19	Grommet	1
20	Grommet	2
21	RH brake pipe	1
22	LH brake pipe	1
23	RH brake pipe cover	1
24	LH brake pipe cover	1
25	LH brake pipe guide	1
26	Screw	1
27	Lock washer	1
28	Three way joint	1
29	Spring	1
30	Piston	1
31	Boot plate	1
32	Boot stopper	1

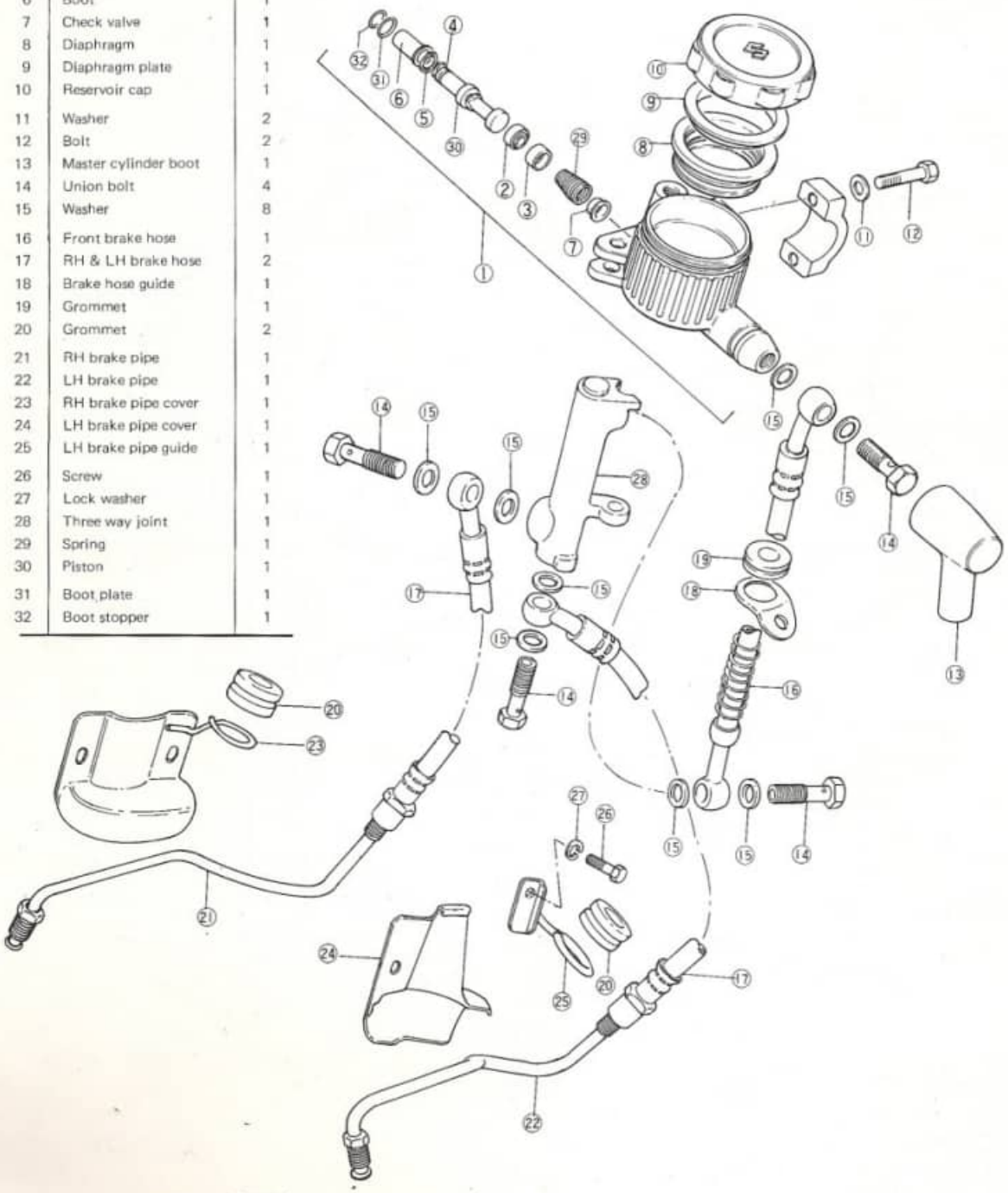


Fig. 4–3–2 (GT750)

Always check the master cylinder, brake hose and the brake pipe for operation and leakage of brake fluid since they are very important parts for safe riding.

If any abnormal condition is found, repair or replace. Though every part is made of material rigidly selected under high degree quality control, periodically replace the master cylinder piston cup and its related parts in order to always keep the motorcycle in its best condition.

Fig. 4–3–3

4–3–2 Removing master cylinder

1) Remove the stop switch from the master cylinder (only for U.S.A. and Canadian specification).

Fig. 4–3–4

2) Put a piece of rag beneath the union bolt on the master cylinder to catch drops of brake fluid. Unscrew the union bolt and disconnect the connection between the brake hose and the master cylinder as shown in Fig. 4–3–4.
3) Unscrew two master cylinder fastening bolts and remove the master cylinder body from the handlebar.
4) Empty brake fluid out of the reservoir.

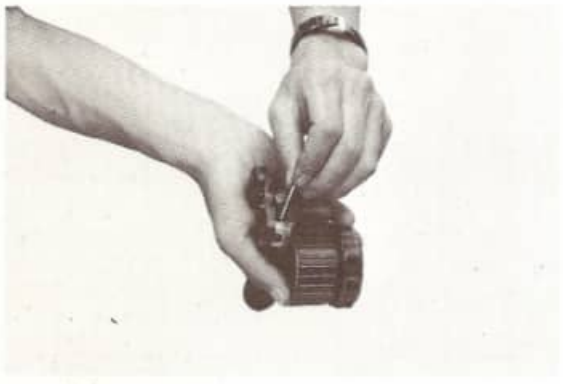


Fig. 4–3–5

4–3–3 Disassembling master cylinder

1) Remove the brake lever.
2) Remove the boot stopper while taking care not to damage the boot and then remove the boot as shown in Fig. 4–3–5.

4–3–7 Assembling brake hose and pipe

When connecting the brake hose and pipe, pay attention to the following points.

1) Be sure to use new brake pipe at all times when the brake pipe is assembled, because the cut end of the used brake pipe has been flared along the shape of the caliper inlet or the brake hose outlet as shown in Fig. 4–3–13. If the used pipe is reinstalled as it is, the air-tightness of the connection decreases, causing the brake fluid leakage.

2) When tightening two brake hose joints for models GT250, GT380 and GT550, be sure to be free either hose so that may not be twisted.

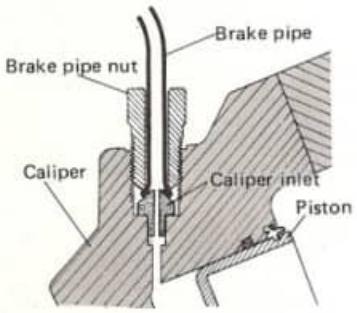


Fig. 4–3–13

3) When connecting the brake pipe to the caliper body, screw the nut in with your fingers to prevent stripping the threads, then tighten with a wrench to the specified torque.

4) Check that there is a generous space between each of them and the fuel tank, the front fork or other parts, and correct if any abnormality is found. Check that the hose or pipe does not contact any other parts particularly when the handlebar is turned fully to the right or left or when the front fork is brought down to the bottom.

5) After the assembling, check for no brake fluid leakage at any connection while holding the brake lever tightly.

4-4 Caliper

4–4–1 General

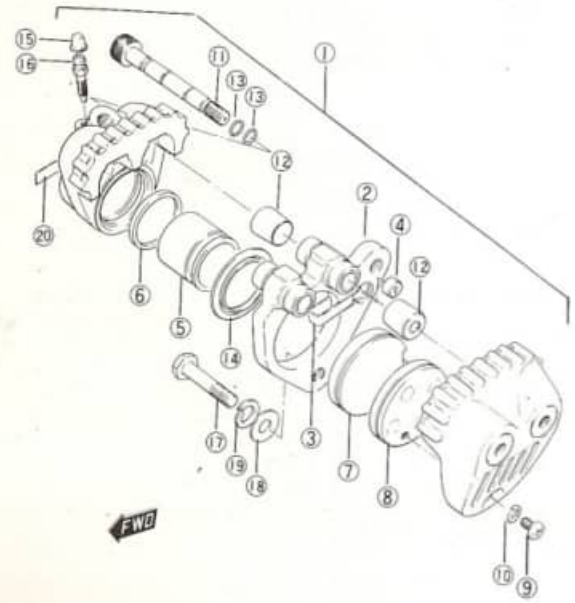


Fig. 4–4–1

Index No.	Description	Q'ty
1	Caliper assembly	1
2	Caliper holder	1
3	Caliper stopper	1
4	Stopper rubber	1
5	Piston	1
6	Piston seal	1
7	Pad No. 1	1
8	Pad No. 2	1
9	Screw	1
10	Lock washer	1
11	Caliper axle	2
12	Axle dust cover	4
13	Caliper axle "O" ring	4
14	Piston boot	1
15	Bleeder cap	1
16	Bleeder	1
17	Bolt	2
18	Washer	2
19	Lock washer	2
20	Caliper emblem	1

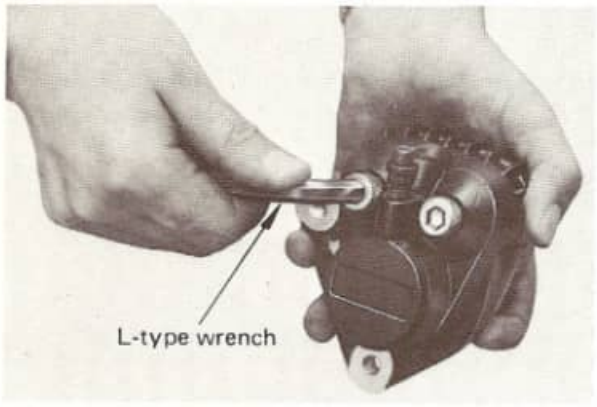


Fig. 4–4–2

4–4–2 Removing

1) Unscrew the brake pipe nut and caliper fastening bolts.
2) Pull out the caliper body from the disc plate.

4–3–3 Disassembling

1) Unscrew the caliper axle bolts with a special tool (8 mm hexagon L-type wrench 09900–06904) and separate the inner caliper body from the outer body as shown in Fig. 4–4–2.

Fig. 4–4–3

2) Remove the caliper holder.
3) Remove "O" rings on the caliper axle.
4) Remove the caliper axles.
5) Remove the piston boot.
6) Push out the piston with compressed air while holding it with finger to prevent it from blowing out as shown in the figure.

Fig. 4–4–4

7) Remove the piston seal.

Fig. 4–4–5

8) Wash the piston, piston boot, piston seal and "O" rings of the caliper axles with new brake fluid.

Caution : **Never use gasoline or petroleum; otherwise rubber parts will be damaged.**

Do not wash the pads and also take care that brake fluid is not splashed onto the pads.

Fig. 4–4–6

Fig. 4–4–7

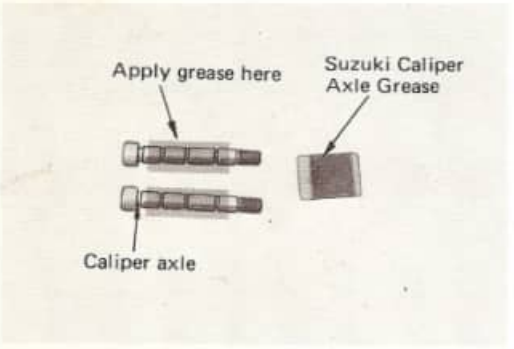


Fig. 4–4–8

Fig. 4–4–9

4–4–4 Checking

When disassembling the caliper, check the following points and replace if any abnormality is found.

1) Cylinder: Its inner diameter is not worn out of its limit.

Standard	Limit	Model
38.18 to 38.20 mm (1.503 to 1.504 in.)	Over 38.22 mm (1.504 in.)	GT250 GT380 GT550 GT750

2) Piston: Its outer diameter is not worn out of its limit.

Standard	Limit	Model
38 15 to 38.18 mm (1.502 to 1.503 in.)	Under 38.10 mm (1.500 in.)	GT250 GT380 GT550 GT750

3) Piston seal: No damage nor excessive wear
4) Piston boot: No damage nor settling
5) Pads Nos. 1 and 2: Not worn out of its limit (refer to page 10).
6) Caliper body: No crack

4–4–5 Assembling

Follow the removal procedure in the reverse order. When assembling them, pay attention to the following points.

1) Apply Suzuki Caliper Axle Grease with property of high heat resistance onto the caliper axle as shown in Fig. 4–4–8.
2) Apply a generous amount of brake fluid onto the inner surface of the cylinder and periphery of the piston and then assemble.
3) Do not assemble the piston seal with it inclined or twisted.
4) In installing the piston, push it slowly into the cylinder while taking care not to damage the piston seal.
5) Apply Suzuki Brake Pad Grease onto the periphery of pad No. 1 (refer to page 11).
6) Bleed air after assembling (refer to page 9).
7) After bleeding air, check for brake fluid leakage while holding the brake lever tightly.
8) After a test run, check the pads and brake disc do not press each other excessively by turning the front wheel by hand.

4-5 Brake Disc

4–5–1 General

The brake disc, made of stainless steel having excellent heat-resistance and abrasion-proof properties, is fastened to the front hub with six high tensile strength bolts.

Runout or wear of the brake disc may not only reduce braking performance but also cause the brake to squeak.

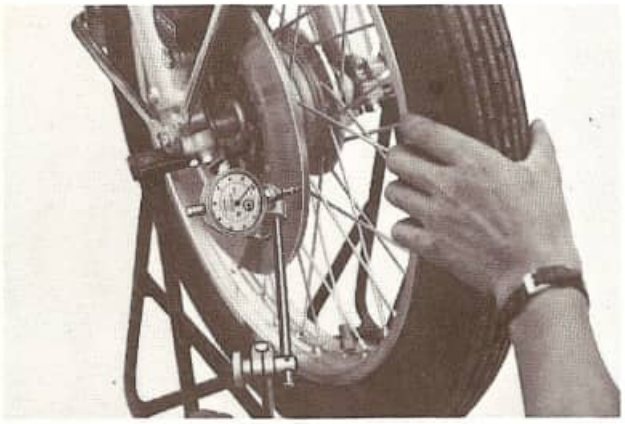


Fig. 4–5–1

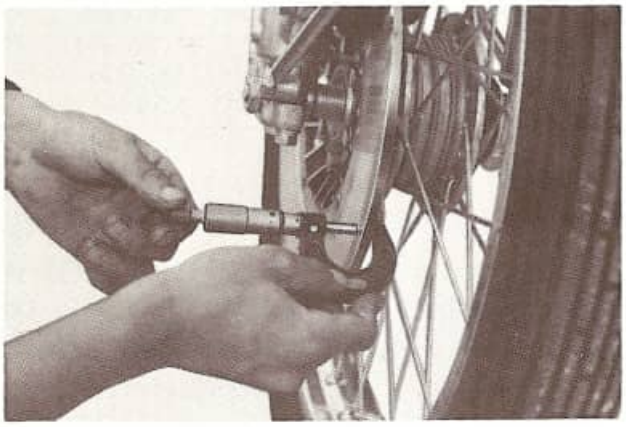


Fig. 4–5–2

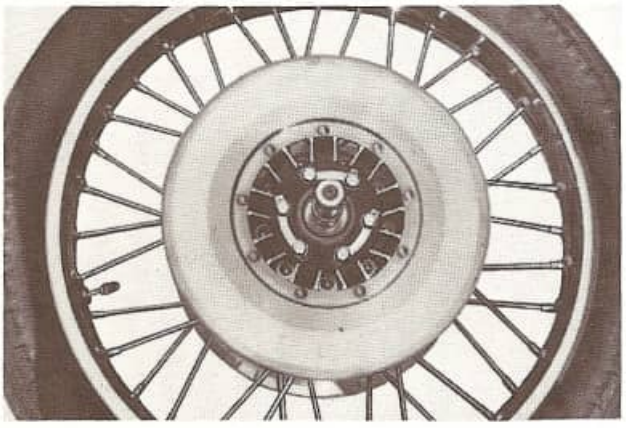


Fig. 4–5–3

4–5–2 Checking

1) Runout of the brake disc should be not greater than the limit. Measure brake disc runout with a dial indicator as shown in Fig. 4–5–1. If the runout is over the limit on the largest periphery of the disc plate, check whether the cause lies in the front wheel bearing or the brake disc itself, and replace defective parts.

Standard	Limit	Model
0.1 mm (0.004 in.)	0.3 mm (0.012 in.)	GT250 GT380 GT550 GT750

2) Thickness of the brake disc should be not less than the limit. Measure its worn portion with a micrometer as shown in Fig. 4–5–2 and replace the brake disc if the thickness is less than the limit.

Standard	Limit	Model
7.00 mm (0.276 in.)	Under 6 mm (0.236 in.)	GT250 GT380 GT550 GT750

3) Surface of the brake disc should be free from oil. Take care that no oil is adhered on the brake disc surface, since oil adhesion there is very dangerous. If oil is placed on the disc by mistake, wipe off the oil with a soft waste-cloth soaked with alcohol.

4) The brake disc fitting bolts should be securely tightened with the specified torque and should be secured with lock washers.

4-6 Periodic Replacement Parts

The component parts of the master cylinder assembly and the caliper assembly may be worn and deteriorated in function in long period of use, however, it is generally difficult to foresee how long each component will further work with proper function thereafter, since deterioration of function much depends upon usage of brake by individual motorcycle.

Then, from safety points of view, the following is defined as periodic replacement parts in order to prevent unforeseen trouble caused by wearing of component.

Replace all the following parts at a time with Suzuki genuine parts sets.

Exchange interval: Two years

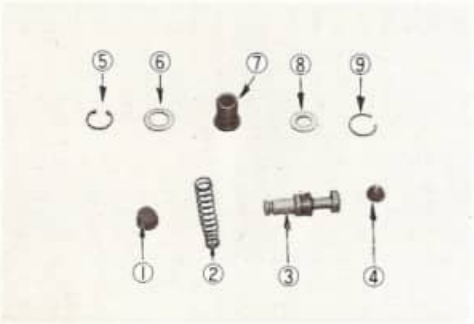


Fig. 4–6–1

1 Components of master cylinder assembly (Use Suzuki Genuine parts: Master cylinder cup set)

1	Primary cup	4	Check valve	7	Boot
2	Spring	5	Circlip	8	Stop plate
3	Piston	6	Boot plate	9	Boot stopper

Fig. 4–6–2

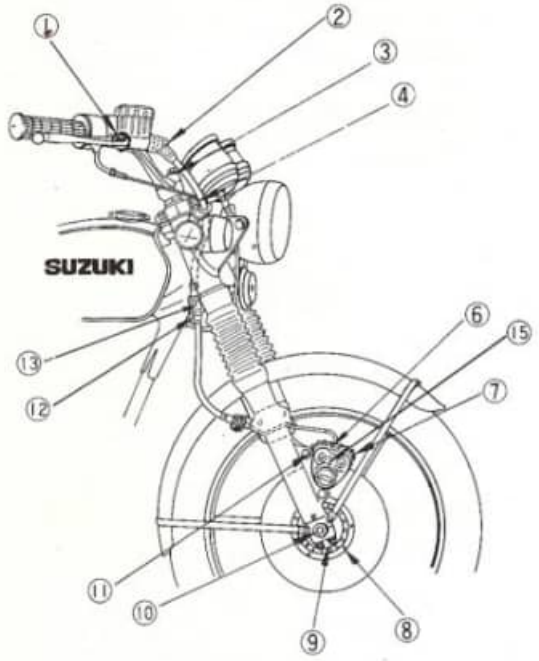
2 Component of caliper assembly (Use Suzuki Genuine parts: Pad and piston set)

1	"O" ring	5	Piston	8	Pad No. 1
2	Stopper	6	Suzuki Caliper Axle Grease	9	Pad No.2
3	Piston seal			10	Suzuki Brake Pad Grease
4	Boot	7	Axle shaft dust cover		

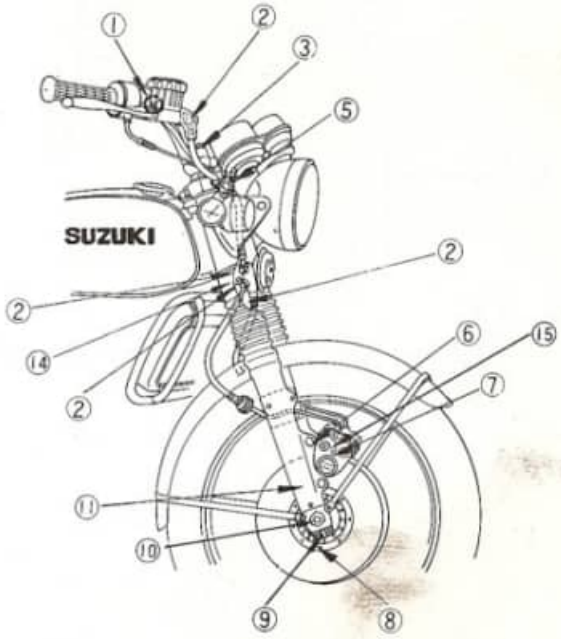
Note : Pad and piston set includes two kinds of grease packed in pouch. Grease in the pouch printed "Caliper Axle Grease" should be used for the caliper axle and printed "Brake Pad Grease" for the pad No. 1.

Caution : Be sure to wash all component parts in the above sets with clean brake fluid before installing them into the master cylinder or caliper.

5. TIGHTENING TORQUE



GT250, GT380, GT550



GT750

Item No.	Description	Bolt and nut diameter	Q'ty	Tightening torque	
		mm		kg-cm	ft-lb
1	Master cylinder clamp bolt	6	2 (2)	50 to 80	3.6 to 5.8
2	Union bolt	10	1 (4)	150 to 250	11 to 18
3	Handlebar clamp bolt	8	4 (4)	120 to 200	9 to 14
4	Brake hose guide nut	10	1 (0)	200 to 300	14 to 22
5	Brake hose guide nut	8	0 (1)	90 to 140	6.6 to 10
6	Brake pipe nut	10	2 (4)	130 to 180	9.5 to 13
7	Caliper axle bolt	10	2 (4)	250 to 350	18 to 25
8	Brake disc fitting bolt	8	6 (12)	150 to 250	11 to 18
9	Front axle holder nut	8	4 (4)	150 to 250	11 to 18
10	Front axle shaft nut	12	1 (1)	360 to 520	26 to 38
11	Caliper fitting bolt	10	2 (4)	250 to 400	18 to 29
12	Brake hose joint	10	1 (0)	250 to 350	18 to 25
13	Brake hose clamp bolt	6	1 (0)	60 to 100	4.4 to 7.3
14	Three way joint fitting bolt	6	0 (1)	40 to 70	2.9 to 5.1
15	Bleeder bolt	7	1 (2)	60 to 90	4.3 to 6.5

Note : The figure in the parentheses is for model GT750.

6. SPECIAL TOOLS FOR DISC BRAKE

The following special tools are necessary for disassembling and reassembling disc brakes. Please use these special tools to ensure your operation.

Parts No.	Description	Used for
09920–73110	Special circlip openner	Disassembling master cylinder
09900–06904	8 mm hexagon L-type wrench	Disassembling caliper

Special circlip opener

8 mm hexagon L-type wrench

259

World's largest manufacturer of 2-stroke motorcycles

SUZUKI MOTOR CO.,LTD.

Head Office: P.O. Box 116, Hamamatsu, Japan

Printed in Japan © 73-1

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-3
Date: May 1, 1975

Read and Initial

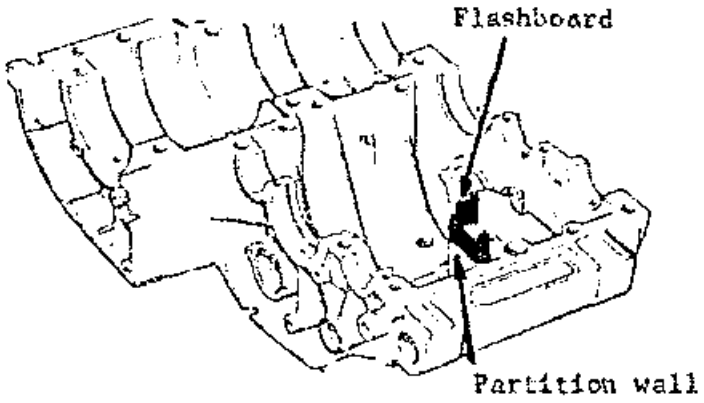
Manager_____
Parts_____
Service_____

Subject: T500 INCREASED TRANSMISSION OIL CAPACITY

To effectively increase the durability of the T500 4th and 5th gears, the transmission oil capacity has been increased from 1200cc to 1400cc. The increased oil capacity has been applied to the T500 since the beginning of the 1974 "L" model production.

A rubber flashboard applied to the primary oil transfer chamber in the lower crankcase half is used to accommodate the increased oil capacity. The flashboard keeps the additional oil from entering the primary case, and therefore protects the clutch from excessive drag.

The flashboard in position is illustrated below.



The T500's manufactured after December 1973 production will have the primary oil transfer partition cast 10mm higher instead of using the rubber flashboard.

The rubber flashboard is now available from the U. S. Suzuki Parts Department for T500's prior to the 1974 "L" model. Its application is strongly recommended whenever the crankcases are disassembled.

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

The flashboard's PART NUMBER is: 99104-08800

To install the flashboard:

1. Clean the surface on which the flashboard is to be applied.
2. Apply a quick setting adhesive (such as Suzuki Thread Lock,etc.) on the mating surfaces of the flashboard and the chamber wall.
3. A metallic adhesive tape with 1400cc printed on it is supplied with the flashboard and should be placed over the embossed 1200cc on the upper crankcase half.
4. When the crankcases are re-assembled pour 1400cc of Suzuki Transmission Oil or a high quality 20W-40 motor oil.

U. S. SUZUKI
TECHNICAL SERVICE DEPARTMENT

SUZUKI
2-Stroke
Service Bulletin

Bulletin No: T-4
Date: Oct. 24, 1975

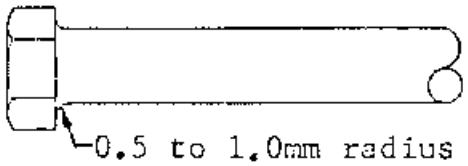
Read and Initial

Manager
Parts
Service

Subject: T500 SWING ARM PIVOT SHAFT
REFERENCE: Service Bulletin #TC/TS-17

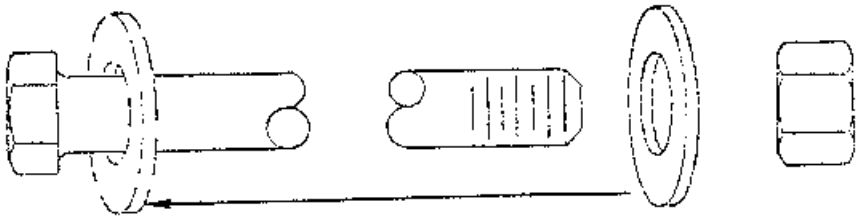
NOTICE:

The shoulder radius of the T500 swing arm pivot shaft has been increased from 0.5mm to 1.0mm.



To accept the new type pivot shaft, the frame boss chamfer has also been increased 0.5mm.

NOTE: Should it be necessary to install a new type pivot shaft through an old type frame boss, simply move the washer from the nut side to the head side of the swing arm pivot shaft. The washer will conform to the shoulder radius of the pivot shaft.



PARTS:

The new type pivot shaft is now available from U. S. Suzuki's Parts Department. The part number is listed below:

DESCRIPTION	PART NUMBER
T500 swing arm pivot shaft	61211-15006

APPLICATION:

The new type swing arm pivot shaft has been installed on and from the following Frame Number:

T500-84046

U.S. Suzuki Motor Corp. • 13767 Freeway Drive • Santa Fe Springs, California • 90670 • (213) 921-4461

SUZUKI
2-Stroke
Service Bulletin

Subject: T500 TRANSMISSION REPAIR

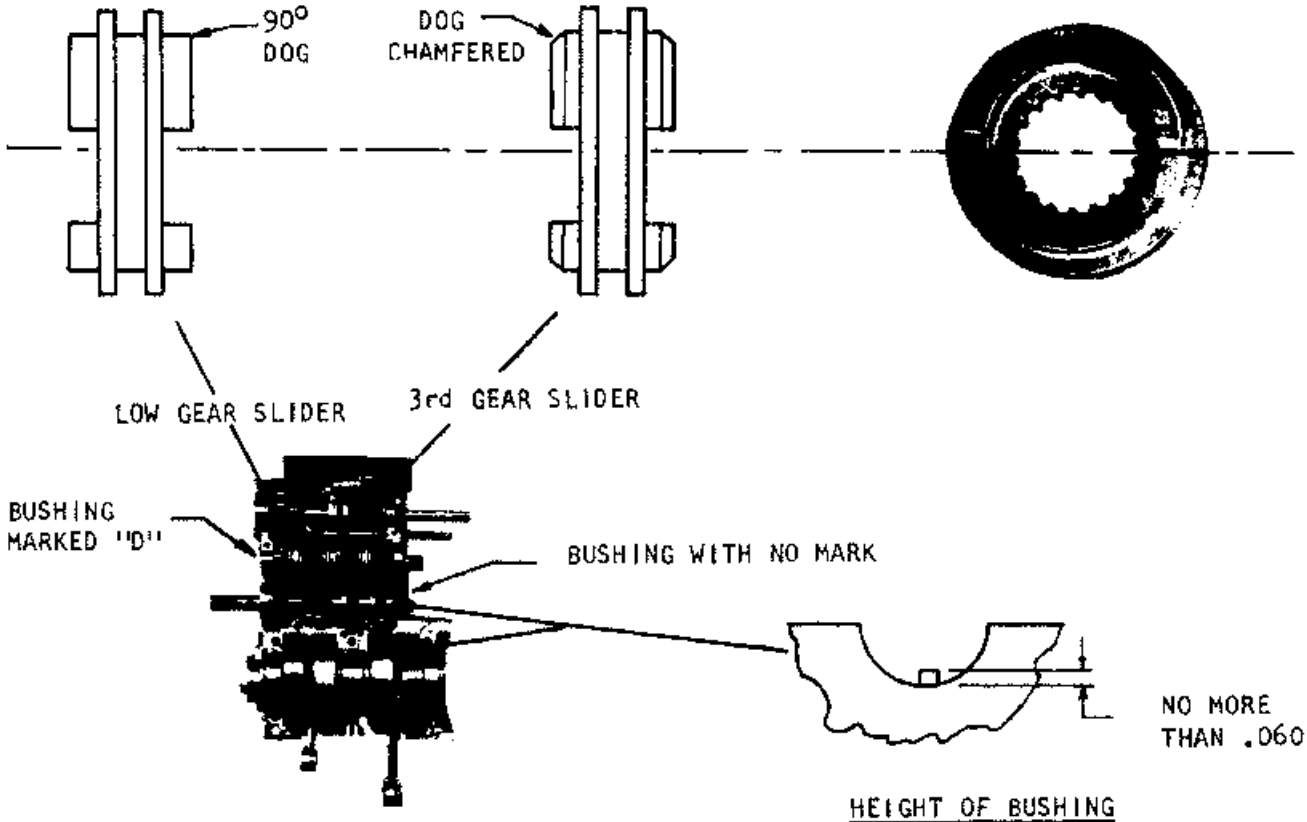
Bulletin No: T-1
Date: May 1, 1975

Read and Initial

Manager
Parts
Service Mgr

We would like to caution our service mechanics of the following problem areas when reassembling T500 transmissions:

A. Do not interchange low gear slider wheel with 3rd gear slider wheel. If the transmission is assembled this way, the bike will jump out of first gear under any load. The difference between the two wheels is shown below:



HEIGHT OF BUSHING PIN IN CASE

B. Do not switch the small needle bearing bushings on the ends of the transmission shafts. One is marked with a "D", this should be installed on the driveshaft (shaft with sprocket). The height of the two bushing pins in the case should not be more than 1.5mm (.060"). File off any excess height.

T500 Transmission Repair

C. Be absolutely sure that all bushings and bearings are properly located over the pins in the lower crankcase. We have had ruined crankcases from failure to follow this simple step. This is not a factory defect and we expect the servicing dealer to bear the expense of repair for this type of damage.

D. Use new snap rings when assembling gear locating rings to transmission shaft.

E. Locate the gap in the snap ring away from the notches in the gear. This keeps the snap ring from popping loose if the tabs move over. Be sure that the ends of the snap rings do not butt. If they do, cut off until there is at least a 1/16" gap.

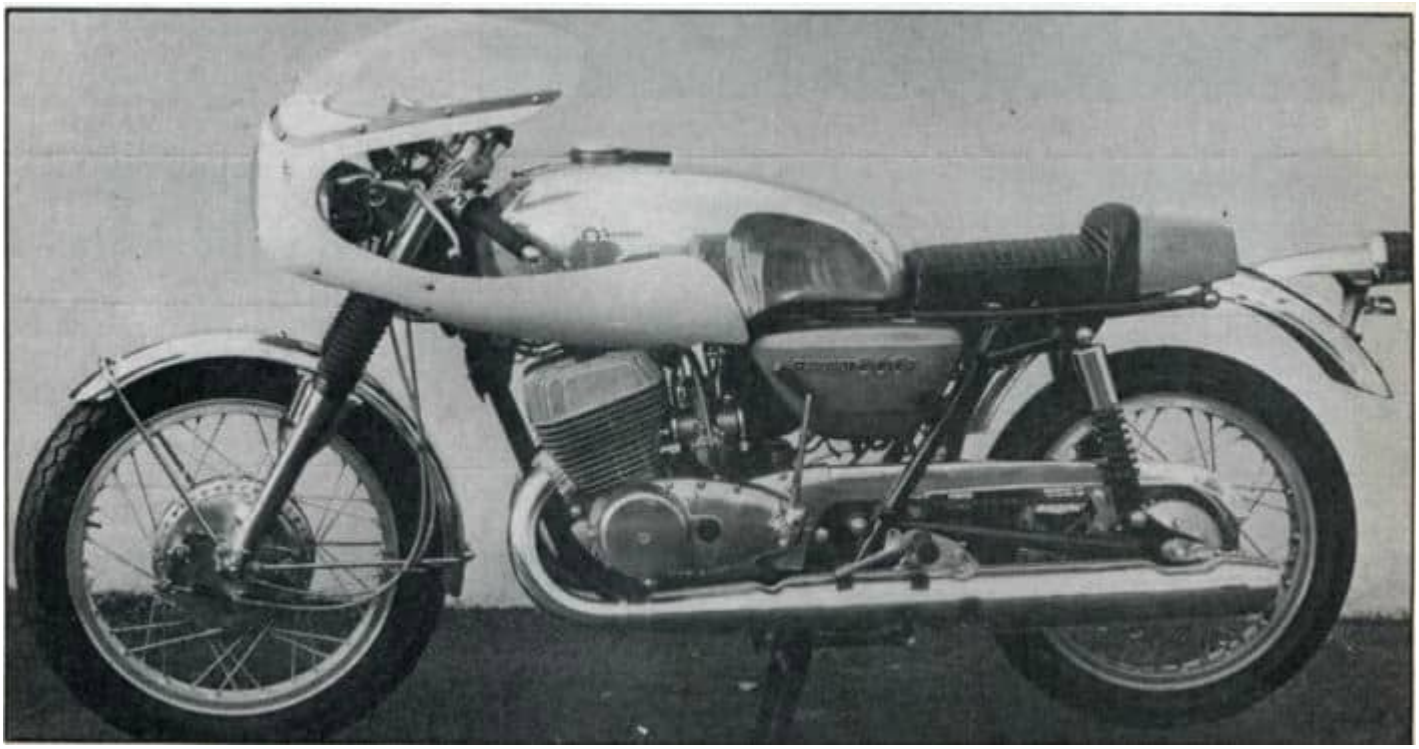
RIGHT
RING GAP CENTERED
BETWEEN GEAR NOTCHES

WRONG
GEAR LOCATING RING
TABS CAN POP OUT

F. In event of transmission problems, inspect:

1. Pin in shift forks which rides in shift cam for galling. Remember that a little wear is inevitable.
2. Shift cam grooves.
3. Shift cam ratchet stop plate in right case for damage from hard shifting.
4. Shift ratchet pawls and springs for wear or weak tension.
5. Engagement of dogs and slots for wear or "rounding - off."
6. Bent shift fork rod.

Crooks Suzuki T500 race review – 1971



RACE TEST:

THE CROOKS SUZUKI T500

By RAY KNIGHT

THE SMALLER CLASSES IN production races tend to be a little overlooked, the glamour of sheer ccs and bhp tending to hog most of the limelight when it comes to press coverage. Added to this, the technical development that has provided three and four cylinders in the 750 class has received more prominence than the equally exciting things happening in, for instance, the 500 class.

While the two-stroke *versus* four-stroke battle has yet to hit the big division, though it can't be far away, it must, for the technically minded, be just about the most interesting phase of engine development at the moment. In classes under 500 the war is on with a vengeance and in the last couple of years it has been possible to see adverts setting out why the biggest manufacturer of four-strokes thought you ought to be buying one instead of a nasty smelly, smoky abomination – though perhaps not in quite those words.

The aforementioned battle has gradually worked its way up the capacity scale to the point where, even in the 500cc class, you can choose a two-stroke twin, or three, and for four-stroke enthusiasts the choice can be four, two or one pot. Whichever you choose, the 500 class provides the greatest variety and it is the most successful 500cc two-stroke that is the subject of this particular test. Which is that? The one which has won the class in the 500-Miler and the T.T. – the Suzuki Cobra T500.

This delectable piece of hardware came to us courtesy of Eddie Crooks, and it was this particular 'bike that was clocked in the T.T. at 120.4 mph in the speed trap. It was by 0.4 mph the fastest bike in the race, ridden by Graham Bailey.

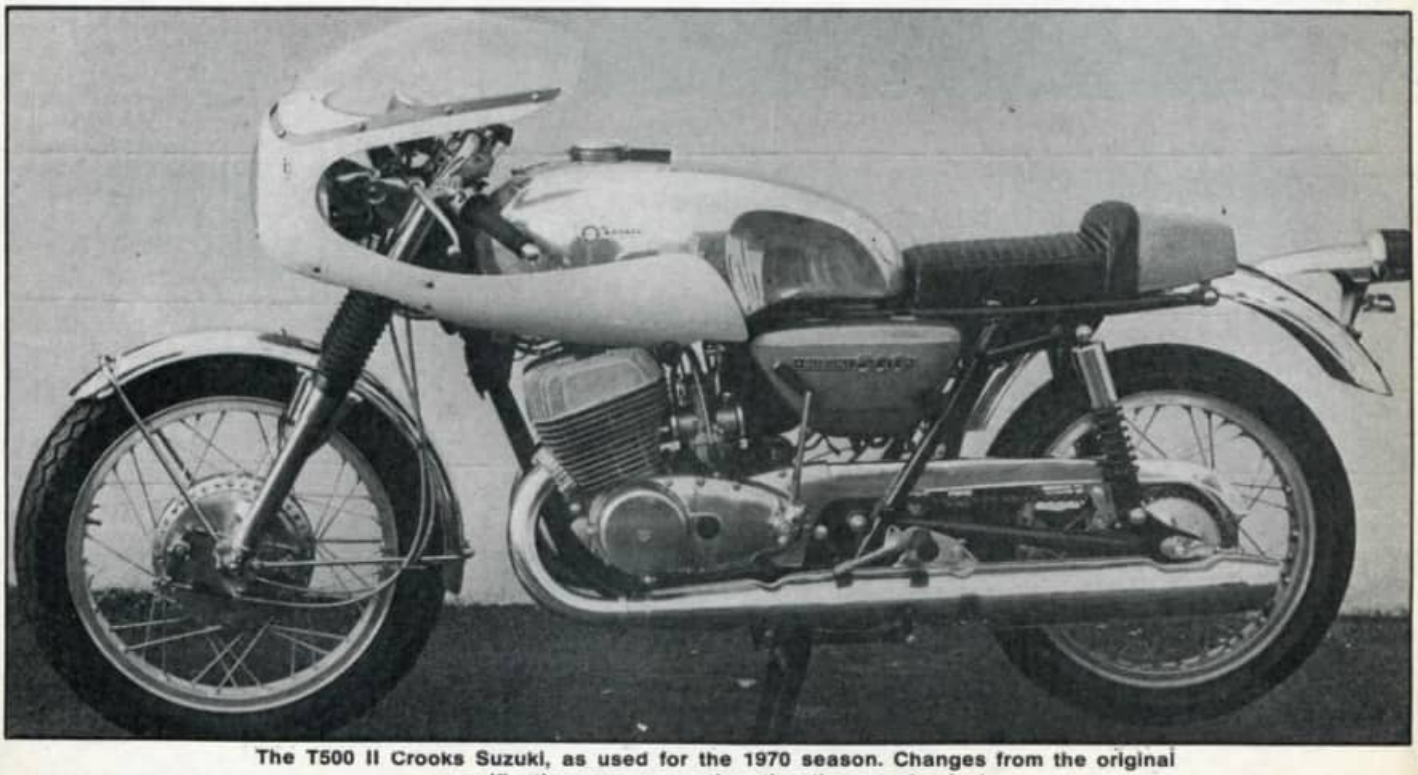
When it arrived at Snetterton in the Crooks van it was essentially the same as when it finished in fourth place in the T.T. race. It managed to look businesslike at the same time as also looking pretty standard, which brings us to how standard the bike is.

John, Eddie's mechanic, says that – as the saying goes – the motor is absolutely bog standard. Other items that differ from the original spec. are the AM4 Ferodo linings in the front brake, which also boasts, as the regulations say it may, an air scoop. Alloy rims grace the wheels and these are shod with Dunlop T.T. 100 tyres. Changes at the rear end are that the suspension units are, like several other foreign 'bikes, fitted with Girling suspension units while at the front end a 90 grade "straight" oil is used to control the movement of the wheel. One last mod. is that silencer baffles fitted permit a little more than the usual amount of exhaust noise. This is because Graham, while riding the machine in the Island, and not being used to Suzukis, found it difficult to judge just what the engine was up to without looking at the rev-counter – and in the Island there is not always time to do that. So Eddie fitted baffles that, while letting a little more noise out, do not actually add anything to the performance – John says.

The Bemsee meeting at which our test was to be conducted fielded a full grid of 40 riders for the production race, of which no fewer than 12 were 500s. These included Alan Dunscombe on Vic Camp's Mach IIID Ducati – that's the 450 with desmodromic valve operation; Tony Hall from Zambia with a Kawasaki three; and Andrew Barr riding what was Garry Green's old Daytona which has a phenomenal turn of speed and is about the fastest I've ever come across. It was going to be fun and a real test of the Suzuki's capabilities.

But first to practice. I collected the bike from John who relieved my feelings more than somewhat by telling me that the gearchange was one up and four down, just the same as my Trident. There were no tricks, John said, just switch on and kick it. Mmmm! Left side kickstarter and just missing the left footrest but even with only

continued on page 18



The T500 II Crooks Suzuki, as used for the 1970 season. Changes from the original specification were cosmetic rather than mechanical.

Eddie Crooks (above), winner and traffic policeman Graham Bailey (right).

RACE TEST:

THE CROOKS SUZUKI T500

continued from page 16

half a kick – to make sure I missed the footrest – it gurgled into life. Now I could understand why two Suzukis had beaten me away from a superb start (though I say so myself) in the T.T. It really was that easy.

The Suzy and I burbled off down to the collecting area, trickling along in bottom gear, slow enough for a traffic jam, and joined a collection that comprised just about every sort of machine, not just production 'bikes. Rather unlike Bemsee to be a bit disorganised. With a watchful eye on the gate marshal I was nearly first out on to the track as he waved us on. Just one machine was quicker, a 500cc open racer. In fact, a 441 BSA single ridden by Clive Hunt, that I was to remember. And I set off in pursuit.

So I gave it lash, as the saying goes. Flat in one, two and three with the revs rising just into the red band which was at 7000 rpm. Then we arrived at Riches' bumpy right-hander to lean cautiously over, as I'd been warned by both Graham Bailey and John that the silencers might ground. Indeed, they already bore mute evidence that this was so, with flats and scratches right up both sides. Anyway, I pointed the T500 after the BSA, not really expecting to be able to do much with a stripped and tuned racer. Surprise, surprise! The big two-stroke was actually making ground when I'd got the thing really wound up. Then we came to the hairpin.

This is where he made some back as, not yet sure of the brakes available, I applied them rather early. Though the action of the front seemed a little on the spongy side the stopping was there. Never mind, wait until next time, after the Beesa and into the Esses. I think that if I were not used to heaving a 470 lb Trident about I might have found the Suzy's 450 lb noticeable when flipping from left to right. But I didn't, and since you can get used to it anyway, it obviously is no problem.

Into Coram's long, long, right-hander, I put the bike down until I heard the scrape that denoted nil clearance between silencer and track, in spite of which the humming "stroker" never deviated from the chosen path. The T500R, to give it its proper title, turned out to have quite a bit more power at the top end than the racer, and it got near enough to pass it down the straight several times, only to get outbraked. But it and fun and augered well for the race. I was beginning to get over some of the lack of ground clearance by doing a "Smart", climbing off it on the bends. Nobody else had come by during practice but Dave Potter on the big Norton and since he was out of my class, that didn't matter. Still, I did get a flying start, so mustn't get to complacent.

Unleashing the Crooksmobile

THE DRAW FOR GRID POSITIONS for the race resulted in number 18, third row – not too bad. With left boot poised over the crank and adrenalin coursing through the veins, I jabbed (all that's needed) the starter, got instant response, shifted to balancing on the left foot and engaged first, screwed the ears off the motor and fed the clutch in fast. The action was nearly too rapid, as the man in front still had his 650 in the way. As the fast men on the front row blasted off under the bridge I got the Cobra round some delaying machinery and unleashed the "Crooks-mobile" to such good effect that I made about eighth into the first corner.

After practice John had said that I could in fact use more than the 7000 revs at which the "bloodline" was drawn – 8000, if I wished. So when the motor went up to about 7200-7300 there was no worry. I found there was really no point in hanging on until eight as there was little to be gained in the way of acceleration; about 7400 was plenty. The motor was dead flexible all the way up the range and with five gears to use, why abuse it?

The 300-yard marker board went by on the approach to the hairpin where I had to get from somewhere about 110-115 mph down to about 40 to get round the corner. It really sorts out the brakes. Two-fifty yards and bang everything on. Well, I won't pretend that the results were great. The front anchor has green AM4 Ferodo linings and an airscoop, and I guess it does pretty well. I think it would stop 450 lb of 'bike as well as any other touring brake – but it's not designed for the rigours of racing and absolute crash stops that you would never get on the road. But it stopped in the required distance and did not fade, with a bunch of 650s around me all jostling for the best line round the hairpin, the best exit, and off down the road to the Esses.

Some of the fast 750s really went by, as you would expect them to, but some that were rather ordinary, rather than really on top tune, only just got away from the 500 as it was lashed through the gears. Could not see a 500 in front. I could see just about all there were as they started to string out as superior performance told, and the fastest men went to the front. Not unnaturally, though, I'd been keeping an eye out for those yellow numberplates that denoted the 500cc class colours and all those that I

SUZUKI in *Wales* means Two Wheel Services

All customising equipment supplied from stock

79 Nolton St., Bridgend, Glamorgan, Tel: Bridgend 5496

All models in stock for immediate delivery

The 500 Suzuki has a particularly fine record as a long-distance runner. For instance, Martyn Ashwood (above) and Mick Chatterton rode such a model to tenth in this year's 500-Miler.

had been able to spot had been black on white, 1000cc colours. Could not be bad.

However, the momentary complacency, a thing that you should never get in racing, was shattered as just before the Esses the Cobra was passed by a Triumph Daytona ridden by Andy Barr. No ordinary one this, but just about the fastest one around. Though I followed it out of the bends and around Coram Curve, the fact that he could just it over and screw it on meant that he gradually got away. Not quick, but in racing the odd yard or two on each corner looks like a mile or two when you are trying for the inch or two, which is what I could have used between the "cans" and the road.

I meet a Mach III

BY DINT OF HANGING OFF THE thing and trying a little more than I am happy to do on somebody else's 'bike I managed to keep Andy in sight, fairly close for a couple of laps. Then he got involved with a bunch of 750s and I got dropped from the bunch, but then more fun. Screwing out of Sears Corner, sharp right-hander just before the Norwich straight, the three exhaust pipes of Tony Hall's Kawasaki Mach III suddenly appeared in front.

This was really interesting as we compared two-stroke twin with three, and out of that sort of slow corner the three certainly had the edge, though there was little in it for top speed. But the brakes were rather better than I'd thought, it seemed, as when Tony put the brakes on at the end of the straight I got the Cobra back in front and scratched round the hairpin in front only to have him again blast by with his better bottom-end acceleration.

This sort of thing went on for about three weeks. Well, it seemed like a fortnight, in fact it could only have been about three laps before the fun became even better as Vic Camp's 450 Ducati went by going into a corner, that front disc brake giving Alan Dunscombe a real edge. I blasted the "Duc" down the straight without any bother and was just trying to get into the Kawasaki's slipstream again when Tony's right hand shot into the air to signal that he was in trouble – the "Kwacker" had blown.

So we were back in second spot in the class again. It was still possible to catch a glimpse of Andy in front now and again, as I went into a slow corner and the bunch he was with went out. Though it looked close, in fact it was just that too much to be really in the hunt. Braking for the hairpin again – at least I and the Suzy were – Alan was still on the tank, his disc brake was worth that much. Well, consider that the Ducati must have been over 100 lb lighter, Alan is few pounds lighter than me to boot and the result gave his disc more than just an edge. Each bit of straight and I could "blast" him. Each corner and he got it back and as we took Coram he laid the Ducati over about 90° more than the ground clearance on the Cobra permitted and just banged it against the stop, making yards.

Conclusion of a dice

WELL, THERE I WAS STAYING close enough to kid myself that it might be possible to blow him off in the rush for the line when a fellow competitor threw his Trident up the road in a big way, parked the bike in the middle of the road and himself unconscious on the side. The plethora of yellow flags displayed by the marshals did credit to their zeal, but it meant that Alan had to knock it right off to keep clear of the debris and marshals on the track. In situations like that one expects anyone with any sense to keep station and resume racing when it's safe to do so which we did, for the last couple of laps, but it really concluded our dice which, in all, had been one helluva load of fun.

This was the end to an enjoyable race. One that could easily have been blest with more success, like a first, in another meeting, or to put the other face on it – fourth instead of third at this one. I say this because there is only one Daytona, that I'm aware of, that goes quite like that one, so you won't meet it too often. There is only one disc-braked Ducati 450 about with Alan Dunscombe riding it. And, of course, Tony Hall's Kawasaki could have kept cracking, which would have meant fourth place. But there aren't many of those racing either.

So it always comes down to – would you buy one if you wanted to go production racing a 500? Leaving aside personal preferences like do you prefer two-strokes, or anything else for that matter, the answer must be that it certainly has the sheer performance for the right result. If one just organised a little more ground clearance, and production racing regulations permit the altering of the line of the pipes, then you could be on a winner. Even without, look at the success it's achieved so far.

ENGLAND'S NO. 1 SUZUKI SHOP FOR YOUR NEW T500R

T500R COD spares service ★ ★ ★ T500R engine units

T500R Renolds chains and Girling units

T500R G.T. fairings

T500R Production Racers built to order

CROOKS SUZUKI

For spares tel. T.T. Production winner Frank Whiteway

T500R fibre tank & seat units in ivory colour

T500R 6 gal. alloy racing tanks and racing seats

★ ★ ★

EDDIE CROOKS 36-42 CRELLIN STREET BARROW-IN-FURNESS 22342

Suzuki T500J 1972 Owner's Manual

Murray Barnard - Nov 1972

SUZUKI T500J

OWNER'S MANUAL

Foreword

We sincerely thank you for choosing this fine Suzuki motorcycle from among the many models available. Suzuki motorcycles, with high performance and modern lines resulting from top design and exhausting tests, are world champions.

You are assured of satisfactory performance in a Suzuki machine which is manufactured with high engineering techniques such as won the Isle of Man T.T. and many Grand Prix races, is based on the company's rich experience gained since 1936 when it began making motorcycles and automobiles, and is produced by modern factory equipment.

Even an excellent machine, however, cannot maintain peak performance unless it is maintained properly.

Read this rider's handbook and follow its instructions carefully. Treat your Suzuki motorcycle properly and ride it correctly. Enjoy the comfort and exhilaration of riding a Suzuki world champion machine.

We thank you for your confidence in this Suzuki motorcycle and wish you "happy riding".

SUZUKI MOTOR CO.,LTD.

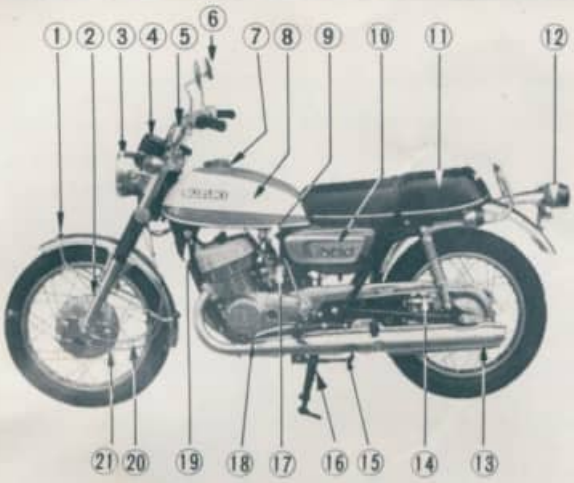
CONTENTS

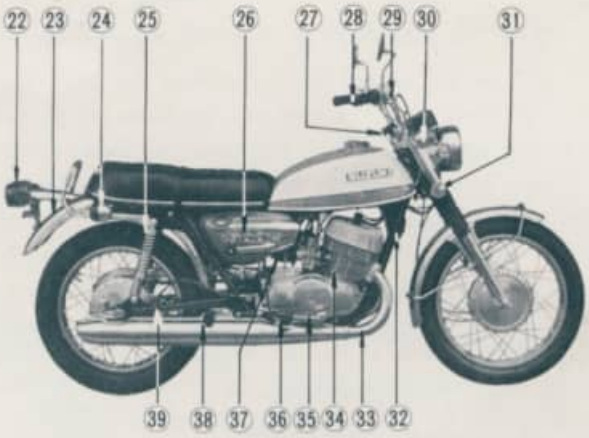
Page

1. Location of Parts 3
2. Revolutionary "Suzuki C.C.I." 4
3. Specifications 8
4. Consumer Information 10
5. Tips on Operation 12
6. Operation of Important Parts 14
7. Tips on Riding 25
8. Inspection and Maintenance 29
9. Trouble Shooting 57

Wiring Diagram

1. LOCATION OF PARTS





1 Front Fender
2 Front Fork
3 Headlamp
4 Speedometer & Tachometer
5 Clutch Lever
6 Rear View Mirror
7 Fuel Tank Cap
8 Fuel Tank
9 Fuel Cock
10 Battery & Tool Cover
11 Dual Seat
12 Tail/Brake Lamp
13 Muffler
14 Chain Guard
15 Side Stand
16 Center Stand
17 Kick Starter Lever
18 Gear Shifting Lever
19 Ignition Switch
20 Speedometer Cable
21 Front Brake Cable
* 22 Rear Side Reflector
23 Rear Fender
24 Rear Turn Signal Lamp
25 Rear Shock Absorber
26 Oil Tank
27 Steering Damper Knob
28 Throttle Grip
29 Front Brake Lever
30 Front Turn Signal Lamp
* 31 Front Side Reflector
32 Horn
33 Exhaust Pipe
34 Power Unit
35 Brake Pedal
36 Front Footrest
37 Tachometer Cable
38 Rear Footrest
39 Swinging Arm

Asterisk (*) shows special specifications.

2. REVOLUTIONARY "SUZUKI C.C.I."

The "Suzuki C.C.I." is the most advanced lubrication system for 2-cycle engines.

Oil is not mixed with gasoline for this 2-cycle engine or fed through the carburetor or manifold as seen in some 2-cycle engines, so that oil is not thinned by gasoline before it reaches its destination, assuring more effective and positive lubrication.

Oil is supplied through two oil pipes by an oil pump under pressure. Each oil pipe is separated into two at a junction, one of which leads to the crankshaft and the oil lubricates the crankshaft side bearing, connecting rod big end and then sprayed into the crankcase, the other leads to the cylinder and the oil combines with the oil sprayed from the connecting rod big end to lubricate the connecting rod small end, piston and cylinder wall. The middle crankshaft bearing alone is lubricated by the transmission oil.

The oil pump is driven by the engine crankshaft through the reduction gears and the discharging amount of oil is controlled by the throttle grip, therefore the amount of oil fed to the engine is determined by both engine speed and throttle opening angle.

Thus the engine is fed just with the right amount of oil that it requires. This revolutionary "Suzuki C.C.I." does away with problems of carbon accumulation, smoky exhaust and oily engine as well as reducing oil consumption.

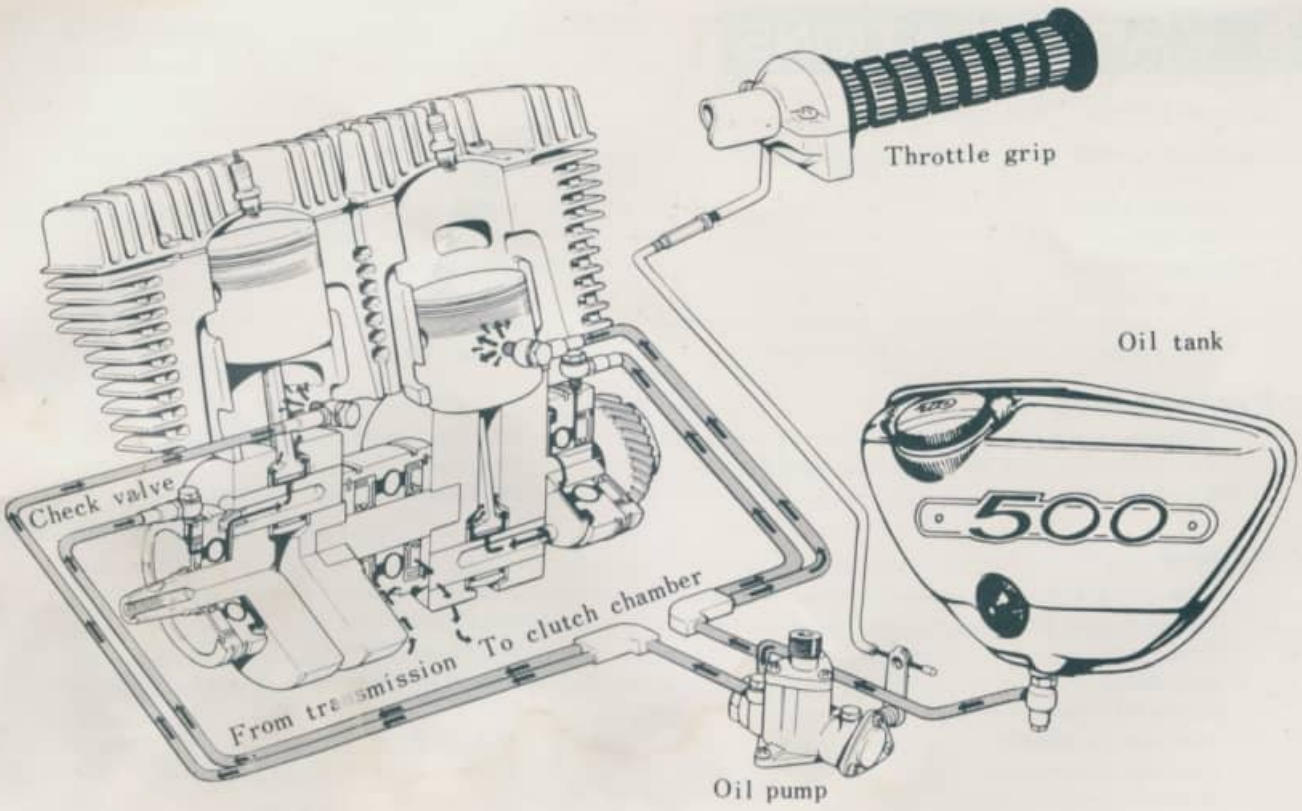


Fig. 1—"Suzuki C.C.I."

3. SPECIFICATIONS

◇Dimensions, Weight

Overall length	2,195 mm (86.4 in)
Overall width	880 mm (34.6 in)
Overall height	1,105 mm (43.5 in)
Wheelbase	1,455 mm (57.3 in)
Road clearance	160 mm (6.3 in)
Tires, front	3.25—19, 4PR
rear	4.00—18, 4PR
Dry weight	187 kg (408 lb)

◇Performance

Maximum speed	168—176 kph (105—110 mph)
Acceleration (0—400 m)	13.6 sec.
Climbing ability	25° (Sin θ = 0.423)

◇Engine

Type	2-cycle, air cooled gasoline engine
Piston displacement	492 cc (30.01 cu in)
Bore × stroke	70 × 64 mm (2.75 × 2.52 in)
Cylinders	sleeved aluminum twin, forward inclined
Corrected compression ratio	6.6 : 1
Maximum horsepower	47 hp @ 7,000 rpm
Maximum torque	5.3 kg-m (38.3 lb-ft) @ 6,000 rpm
Starter	kick

◇Fuel System

Carburetors	two VM 32 SC
Air cleaner	resin-processed fibrous tissue
Fuel tank capacity	14 ltr (3.7/3.1 gal, US/Imp) including 2 ltr (4.2/3.6 pt, US/Imp) reserve

◇Lubrication System

Engine	"Suzuki C.C.I."
Gearbox	oil bath, 1.2ltr (2.5/2.1pt, US/Imp)
Oil tank capacity	1.8ltr (3.8/3.2pt, US/Imp)

◇Ignition System

Ignition	battery
Ignition timing	24° (3.4 mm) before top dead center
Spark plugs	NGK B-77HC

◇Transmission System

Clutch		wet multi-disc
Gearbox		5-speed constant-mesh
Gear shifting		left foot, lever-operated return change
Primary reduction ratio		2.50 : 1 (65/26)
Final reduction ratio		2.20 : 1 (33/15)
Gear ratios	low	2.50 : 1 (30/12)
	second	1.56 : 1 (25/16)
	third	1.16 : 1 (22/19)
	fourth	0.95 : 1 (21/22)
	top	0.87 : 1 (20/23)

Overall reduction ratios

low	13.75 : 1
second	8.58 : 1
third	6.38 : 1
fourth	5.23 : 1
top	4.79 : 1

◇Suspension

Front suspension	telescopic fork with hydraulic damper
Rear suspension	swinging arm with hydraulic damper

◇Steering

Steering angle	40° (right & left)
Castor	61°
Trail	130.5 mm (5.14 in)
Turning radius	2,300 mm (90.6 in)

◇Brakes

Front brake	right hand, internal expanding, double cam
Rear brake	right foot, internal expanding

4. CONSUMER INFORMATION

(I) Vehicle Stopping Distance

This figure indicates braking performance that can be met or exceeded by the vehicle to which it applies, without locking the wheels, under different conditions of loading and with partial failures of the braking system.

Notice: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.

Description of vehicle to which this table applies:
Suzuki Motorcycle model T 5 0 0 J

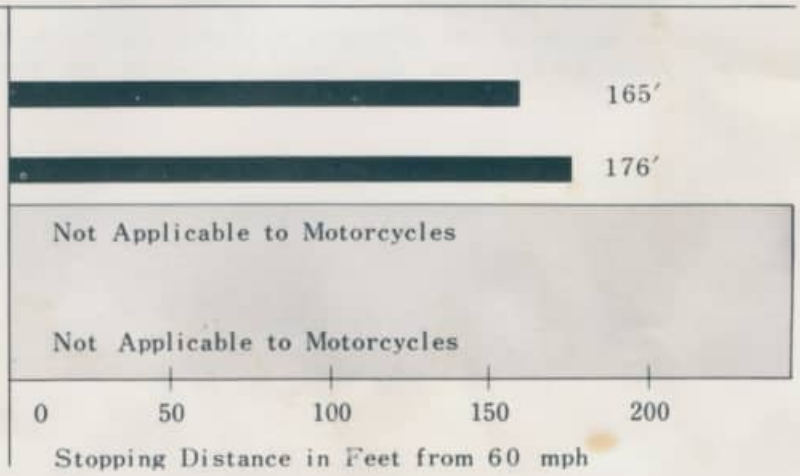
A. Fully Operational Service Brake

Load / Light — 165′

Maximum — 176′

B. Emergency service brakes (with partial service brake system failure) — Not Applicable to Motorcycles

C. Brake power unit failure
Maximum load — Not Applicable to Motorcycles



(2) Acceleration and Passing Ability

This figure indicates passing times and distances that can be met or exceeded by the vehicle to which it applies, in the situations diagrammed below.

The low-speed pass assumes an initial speed of 20 mph and a limiting speed of 35 mph. The high-speed pass assumes an initial speed of 50 mph and a limiting speed of 80 mph.

Notice: The information presented represents results obtainable by skilled driver under controlled road and vehicle conditions, and the information may not be correct under other conditions.

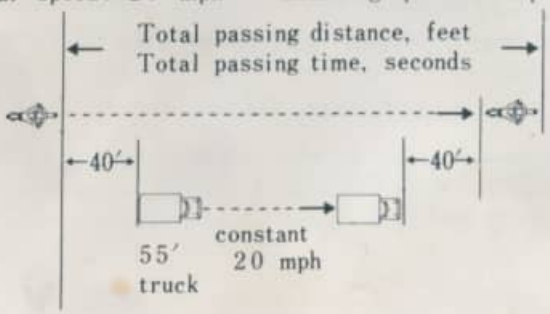
Description of vehicle to which this table applies:
Suzuki Motorcycle model T 5 0 0 J

Summary table

Low-speed Pass	340 feet,	6.8 seconds
High-speed Pass	988 feet,	9.9 seconds

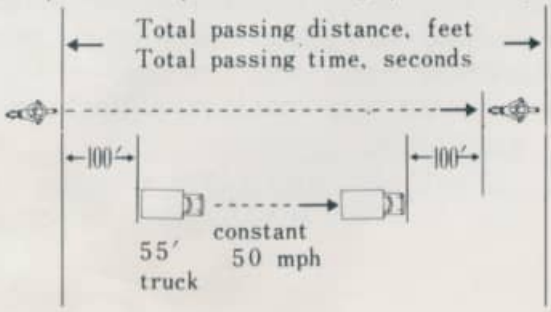
Low-speed

Initial speed: 20 mph Limiting speed: 35 mph



High-speed

Initial speed: 50 mph Limiting speed: 80 mph



5. TIPS ON OPERATION

Follow these tips to keep the motorcycle in peak condition and it will give top performance at all times.

◇ The T500J engine requires no gas/oil mixture as fuel unlike conventional 2-cycle engines. The engine's moving parts such as crankshaft, crankshaft bearings, con-rods, pistons and cylinder walls are positively lubricated by fresh oil which is separately pressure-delivered from the variable displacement oil pump.

This unique forced oiling system is called "Suzuki C.C.I". Put gasoline only in the fuel tank and lubrication oil in the oil tank.

As for lubrication oil, use of **Szuki CCI Oil** is highly recommended, but it is not available, non-diluent (non-self mixing type) **Two Stroke Oil** with around SAE #30 may also be used.

◇ BREAKING-IN

The life of the motorcycle depends on the breaking-in of the engine and the way in which the motorcycle is treated. Just as with a newborn baby, the engine must be given the best care possible.

During the breaking-in period, be sure to observe the following instructions.

◆ DO NOT RIDE THE MOTORCYCLE AT HIGH SPEEDS.
◆ DO NOT OPERATE THE ENGINE AT HIGH R.P.M IN LOW SPEED GEARS.
◆ DO NOT RACE THE ENGINE.
◆ KEEP TO THE SPECIFIED BREAKING-IN R.P.M. LIMIT.

*BREAKING-IN PERIOD:

FIRST 500 MILES (800 KM)·····BELOW 4,000 R.P.M.
UP TO 1,000 MILES (1,600 KM) ·····BELOW 5,000 R.P.M.

NOTE : FOR THE FIRST 100 MILES (160 KM), DO NOT RAISE THE ENGINE R.P.M. OVER 3,500 R.P.M.

First 100 miles
(160 km)

Up to 500 miles
(800 km)

Up to 1,000 miles
(1,600 km)

◇ Additionally, do not overload or labor the engine on uphill grades or against headwinds. **If engine response is poor in 4th or Top gear, that is if turning the throttle grip does not produce an immediate gain in speed, you are in too high a gear for engine power to be utilized efficiently downshift to 3rd or 4th gear.**

◇ **When replacing parts, always use genuine Suzuki Parts, which are precision-made under severe quality control.** If imitation parts (not genuine parts) are used, good performance cannot be expected from the motorcycle and, in the worst case, they can cause a breakdown.

6. OPERATION OF IMPORTANT PARTS

◇Engine and Frame Numbers

The engine and frame numbers of your machine are given on the identification plate. These numbers are required especially for registering the machine and ordering spare parts. When writing to your dealer, never fail to mention them as well as the milage reading.

There is such a machine that is fitted with the certification plate instead of the identification plate by the different traffic regulation of the different country.

Fig. 2—Identification/Certification plat

◇Fuel Cock

Before starting the engine, turn the fuel cock lever to the **"ON"** position where the fuel flows from the fuel tank into the carburetor as the engine is rotating. If you run low on fuel, turn the lever to the **"RES"** position which opens a tap to **approximately 2 ltr (4.2/3.6 pt, US/Imp) of reserve supply**. Only when no fuel is in the carburetor, turn the lever to the **"PRI"** position, which allows the fuel to flow directly to the carburetor even with the engine at a stop.
When the engine has started, be sure to return the lever to the **"ON"** position.
CAUTION: **Don't disassemble the vacuum chamber lest the diaphragm valve system in this chamber should not work properly after reassembled.**

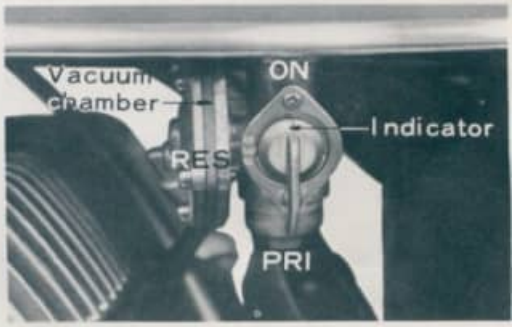


Fig. 3—Fuel cock

◇Fuel Tank Cap

The fuel tank cap of this model is of a flip-up type.

To open the fuel tank cap, push the knob and it can be opened easily.

Fig. 4—Fuel tank cap

◇Oil Tank

The oil tank holds lubricant oil for the engine.

Be sure to check the oil level in the oil tank before starting the engine. If the oil level is found below the oil level inspection eye, replenish the recommended oil into the oil tank.

For the Suzuki C.C.I. system, use of **SUZUKI C.C.I. Oil** is highly recommended, but if it is not available, non diluent (non-self mixing type) Two Stroke Oil with around SAE #30 may also be used.

The oil tank capacity is **1.8 ltr (3.8/3.2pt. us/Imp)**.

Fig. 5—Oil tank

◇Ignition Switch

The ignition switch has three positions such as **OFF**, **ON** and **PARKING**. it switches the engine ignition system and the electrical equipments on and off.

When the key is in ON position, the engine can be started and the electrical equipments work as shown in the following table. When parking the motorcycle, turn the key to PARKING position and the tail lamp lights and the key can be taken out from your motorcycle.

Fig. 6—Ignition Switch

	OFF	ON	PARKING	
Turn signal lamp		○		When the turn signal switch knob is slid
Turn signal indicator lamp		○		When the turn signal switch knob is slid
Horn		○		When the horn button is pushed
Brake lamp		○		When the brake pedal is depressed
Neutral indicator lamp		○		When the transmission is in Neutral position
Head lamp		○		When the lighting switch knob is slid to "ON" position
High beam indicator lamp		○		When the lighting switch knob is "ON" position and the dimmer switch knob is slid to "H" position
Speedometer lamp		○		When the lighting switch knob is slid to "ON" position
Tachometer lamp		○		When the lighting switch knob is slid to "ON" position
Tail lamp		○		When the lighting switch knob is slid to "ON" position
Tail lamp (for parking)			○	

◇Carburetor Starter System

The carburetor starter system allows easy starting even in cold weather by supplying a rich fuel air mixture to the engine. This system is operated by a lever fitted on the carburetors. **When starting a cold engine, push starter lever. Be sure to return it to its original position when the engine warms up and the motorcycle is run.**

Do not open the throttle when this lever is pushed.

If the throttle grip is turned even a small amount, the engine becomes hard to start.

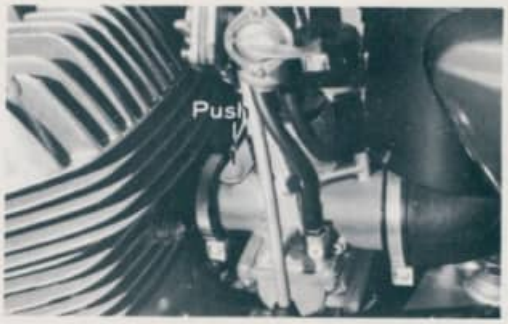


Fig. 7—Carburetor starter lever

◇Engine Starter

The engine can be started easily by depressing the kick starter lever. Always shift the gears into Neutral before depressing the kick starter lever.

Fig. 8—Kick starter lever

◇Clutch Lever

The clutch lever is used to disengage the engine with the rear wheel when starting or shifting the transmission gears. **Squeezing the lever disengages the clutch and releasing it connects the engine with the rear wheel.**

Fig. 9 — Clutch lever

◇Throttle Grip

Engine speed is controlled by the throttle grip on the right end of the handlebar. **If the throttle grip is twisted inward toward you, engine speed rises.** The racing type quick action throttle grip is so sensitive that a quarter turn of it opens the throttle valves fully. A throttle tension adjuster is provided on the underside of the throttle housing.

Fig. 10 — Throttle grip

◇Gear Shifting Lever

A transmission system is installed as the motorcycle requires more torque than speed when starting, accelerating or climbing up-hills and more speed when running. **This motorcycle is equipped with a 5-speed transmission.**

The gear shifting lever operates the transmission system. **As Neutral is located between Low and Second, depress the gear shifting lever for Low and then raise the same for higher gears.** As seen from the illustration, it is not necessary to operate the gear shifting lever twice so as to shift the transmission from Low to Second because the transmission jumps over Neutral.

When Neutral is wanted for stopping, depress or raise the lever half a stroke from Second or Low respectively. The lighting of the Neutral indicator lamp tells you that the transmission is shifted into Neutral.

When shifting the gears, never fail to turn the throttle grip outward away from you to reduce the engine speed and pull in the clutch lever to disengage the clutch and then operate the shifting lever gently.

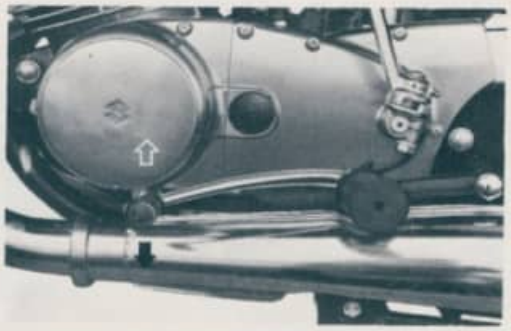


Fig. 11 – Gear shifting lever

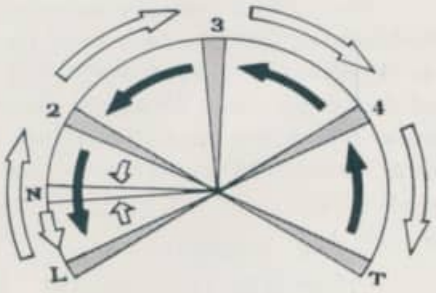


Fig. 12 – Gear shifting operation

◇Steering Damper

The steering damper is provided to adjust the steering properly to the road conditions for increasing stability. **Turn the knob clockwise when running down a straight course at high speed or riding on bumpy roads.**

Fig. 13 – Steering damper knob

◇Rear shock absorbers

The T500J mounts three-way adjustable rear shock absorbers so that the tension of the rear shock absorber springs can be adjusted in accordance with rider's weight, load, speed and road conditions. To adjust the tension, insert the cross head screw driver provided in the tool kit bag into the hole in the lower cover, and then turn the lower cover to change the cam position.

For example
Position (1) is for normal use.
Position (2) is for running at high speeds or with heavy loads.
Position (3) is for running at low speeds.

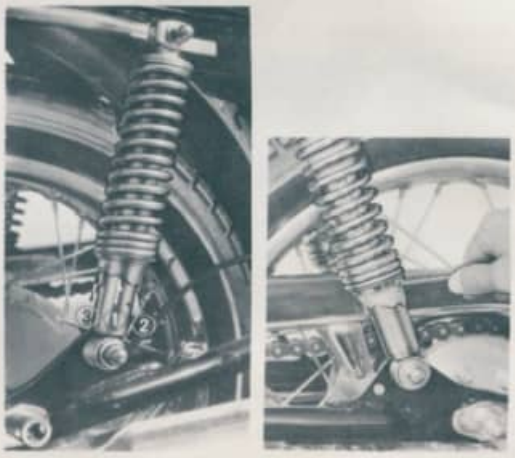


Fig. 14 – Rear shock absorber

◇Lighting/Dimmer Switch

The lighting switch has ON and OFF position.

When the ignition switch key is in ON position and the lighting switch knob is slid to ON position, the headlamp and tail lamp light and the headlamp beam can be changed both downward and upward by sliding the dimmer switch knob to "L" or "H" position

The headlamp cannot be lit regardless of the ignition switch key position when the lighting switch is in OFF position.

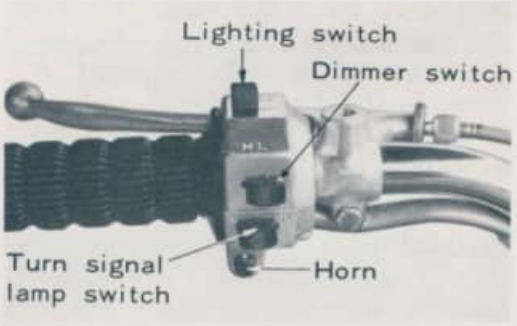


Fig. 15 —Lighting & dimmer switch

◇Turn Signal Lamp Switch

Slide knob to R position·····flashes right turn signal lamps

Slide knob to L position·····flashes left turn signal lamps

※ Adjusting Headlamp Beam

The headlamp beam can be adjusted both horizontally and vertically if necessary.

1. **To adjust beam horizontally:-**
   Turn the cross head screw located on the ieft side of the headlamp unit clockwise or counter-clockwise.
2. **To adjust beam vertically:-**
   Remove the headlamp rim first. Loosen the headlamp housing fitting bolt nuts inside the headlamp housing and moving the housing up and down as required.

Fig. 16—Adjusting beam horizontally

Fig. 17—Adjusting beam vertically

◇Tachometer

The tachometer helps the rider to handle the motorcycle properly and extract the maximum performance from the engine.

For instance, if you want to attain maximum acceleration, you should shift the transmission gears at 7,000 rpm when the engine develops the maximum horsepower. **To avoid unnecessary damage to the engine, it is advised to always keep the engine rpm below the red zone (7,000-9,000 rpm).**

◇Trip Meter

The trip meter is provided in the speedometer. To return the mileage to "O", turn the knob clockwise.

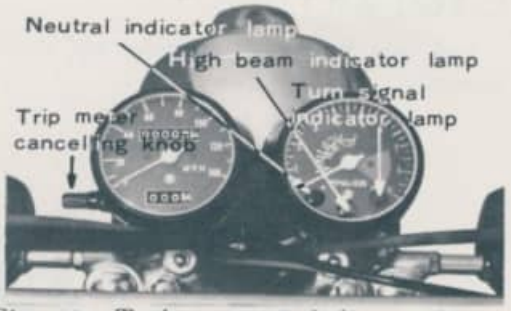


Fig. 18 – Tachometer & Indicator lamps

◇Indicator Lamps

There are three indicator lamps in the tachometer. **The green neutral indicator lamp** turns on when the gears are in Neutral. **The red high beam indicator lamp** turns on when the headlamp is on the high beam.

The orange turn signal indicator lamp turns on when the turn signal lamps are operated.

◇Steering Lock

An anti-theft steering lock is installed near the frame head pipe.

To lock the steering, turn the steering handlebar all the way to the left and then insert the ignition switch key into the steering lock and turn clockwise.

Don't forget to lock the steering when parking the motorcycle.

Fig. 19 – Steering lock

◇Tool Kit

A tool kit which includes all tools needed for daily maintenance is fitted inside the battery & tool cover.

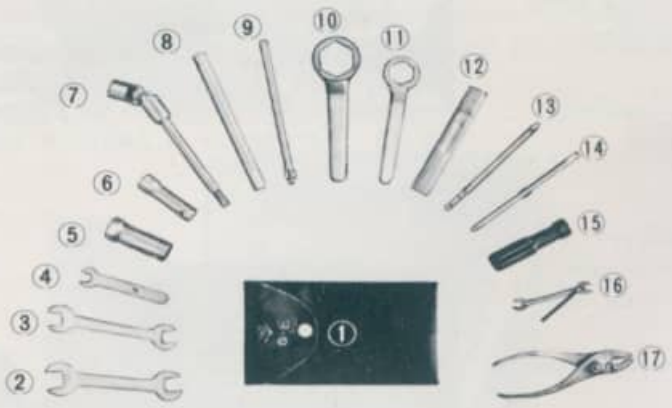


Fig. 20—Tool kit

(1) Tool Bag
(2) 14×17 mm Open End Wrench
(3) 10×12 mm Open End Wrench
(4) 8 mm Open End Wrench
(5) 21 mm Box Wrench
(6) 14 mm Box Wrench
(7) Universal Box Wrench
(8) Box Wrench Handle
(9) Box Wrench Handle Bar
(10) 32 mm Offset Wrench
(11) 22 mm Offset Wrench
(12) Offset Wrench Handle
(13) Cross Head Screw Driver
(14) Combination Screw Driver
(15) Screw Driver Handle
(16) Contact Point Wrench
(17) Pliers

7. TIPS ON RIDING

◇Starting Engine

When engine is cold:

1. Check to see if there is sufficient oil in the oil tank.
2. Assure that the fuel cock lever is in the "ON" position.
3. Insert the key into the ignition switch and turn it to the right one notch to the "ON" position, and the green neutral indicator lamp will turn on if the transmission gears are in Neutral. (If the indicator lamp does not turn on, shift the gears into neutral by operating the gear shifting lever while pushing the motorcycle back and forth, with the clutch lever squeezed.)
4. **Push the carburetor starter lever.**
   Close the throttle completely.
5. Depress the kick starter lever, and the engine will start.
6. **After the engine starts, let it warm up at idling speed for 1-2 minutes. Do not pull the starter lever back to its original position until the engine has warmed up.**

When engine is already warm:

1. **When the engine is already warm by residual heat after having run or in hot climates, it is not necessary to operate the starter lever.**
2. Opening the throttle 1/8 to 1/4, depress the kick starter lever.

◇Starting Motorcycle

1. Pull in the clutch lever to disengage the clutch and depress the gear shifting lever to shift into Low.
2. Twist the throttle grip inward toward you and at the same time let out the clutch lever slowly. The

motorcycle will start.
(If the engine is run at too high speed or the clutch lever is released rapidly, the motorcycle will start with jerky spurts or the engine will stall.)

3. When the speed of the motorcycle reaches about 30 kph (18 mph), twist the throttle grip outward away from you to reduce the engine speed, at the same time pull in the clutch lever promptly to disengage the clutch and then raise the gear shifting lever to shift into Second.
Let out the clutch lever slowly and smoothly and slowly open the throttle again.
Follow the same procedure to shift into higher gears.
The tables below show the moment when the gears should be shifted.

For normal use in city traffic

Shifting	Engine rpm	Motorcycle speed (Approx.)
Low → Second	3,000	30 kph (18 mph)
Second → Third	3,000	40 kph (25 mph)
Third → Fourth	4,000	60 kph (37 mph)
Fourth → Top	4,000	80 kph (50 mph)

For maximum acceleration in competition

Shifting	Engine rpm	Motorcycle speed (Approx.)
Low → Second	5,500	45 kph (30 mph)
Second → Third	5,500	75 kph (50 mph)
Third → Fourth	5,500	100 kph (65 mph)
Fourth → Top	5,500	125 kph (80 mph)

NOTE : THIS TYPE OF ACCELERATION SHOULD NOT BE ATTEMPTED UNTIL THE ENGINE IS COMPLETELY RUN IN.

◇Riding Tips

1. **If the speed of the motorcycle decreases when riding up a steep hill, shift down into a lower gear so that the engine may always be operating in its power range.**
   Shift the gears rapidly to prevent the motorcycle from losing momentum.
2. **When riding down a hill, don't depend upon brakes alone but leave the motorcycle in lower gear and close the throttle completely to utilize engine brake.** The lower-geared the transmission is, the more effective engine brake is, in other words engine brake is more noticeable in Low than in Second. Hence select the most suitable gear considering the degree of the descent inclination.

◇Stopping

1. Turn the throttle grip outward away from you to close the throttle completely.
2. **Apply the front and rear brakes evenly at the same time.** The motorcycle will stop smoothly and safely.
   Using only the front or rear brake is dangerous and can cause skidding and loss of control.
   Make it a rule to always apply both brakes simultaneously.
3. **Apply the brakes lightly and with great care on wet highway pavement or other slippery surfaces and on corners.** Abrupt braking on slippery roads or corner is particularly dangerous.
4. **Just before the motorcycle stops, be sure to shift the gears into Neutral.** Confirm this by observing the neutral indicator lamp in the tachometer.
5. Turn the ignition key to the "OFF" or "PARKING" position to stop the engine. **Turning the key to the "PARKING" position switches on the tail lamp which assures safety on night time parking.**
   Don't leave the igintion switch at the "PARKING" position for more than 3.5 hours continuously to prevent the battery from getting over-discharged.
   If it is found to be over-discharged, lose no time in giving it supplemental charge at your dealer.
   Bear in mind that if the over-discharged battery is kept in service it will become useless.
6. Remove the ignition key from the switch.
7. Lock the steering to prevent theft.

8. INSPECTION AND MAINTENANCE

Daily Inspection

Check these things on the motorcycle yourself every day before riding it.

(1) Is there enough **oil** in the oil tank?
The oil tank capacity is 1.8 ltr (3.8/3.2pt, US/Imp).

(2) Is there enough **fuel** in the fuel tank?
The fuel tank capacity is 14 ltr (3.7/3.1 gal, US/Imp) including 2 ltr (4.2/3.6 pt, US/Imp) reserve.

(3) Do the **front and rear brakes** work effectively?
Both the front brake lever distance and rear brake pedal travel are 20~30 mm (0.8~1.2 in).

(4) Is the **tire pressure** correct?
The standard front tire pressure is 1.6 kg/sq cm (23 lb/sq in).
The standard rear tire pressure for solo riding is 1.9 kg/sq cm (27 lb/sq in) and that for dual riding is 2.3 kg/sq cm (33 lb/sq in).

(5) Does the **clutch** operate smoothly?
The clutch lever play is 4 mm (0.16 in).

(6) Do the **head lamp, tail lamp and brake lamp**, etc. light properly?

(7) Does the **horn** sound properly?

(8) Does the **handlebar** turn to both right and left smoothly without any play in the steering stem?

(9) Is the **drive chain** correctly adjusted?

Periodic Inspection

Periodic inspection is the most important thing to prolong the life of the motorcycle and to ensure your safety driving.

Take your motorcycle to your Suzuki dealer for these inspections without fail.

Odometer Reading	Operation
First 1,000 km (750 mi)	● Check operation of oil pump ● Clean spark plugs ● Change transmission oil ● Adjust play of throttle cables ● Adjust engine idling with carburetor throttle valve adjusting screws and pilot air adjusting screws ● Check contact breaker point gap and ignition timing - adjust if necessary ● Lubricate contact breaker cam oil felt ● Retighten cylinder head nuts ● Check battery electrolyte solution - add distilled water if necessary ● Adjust clutch ● Adjust and lubricate drive chain ● Adjust play of brakes ★ ● Retighten bolts, nuts and spokes ● Adjust fork stem and crown bearings ● Test ride
Every 3,000 km (2,000 mi)	● Check operation of oil pump - adjust control cable if necessary ● Clean spark plugs, adjust gap if necessary ● Change transmission oil ● Overhaul and clean carburetors ● Check contact breaker point gap and ignition timing - adjust if necessary ● Lubricate contact breaker cam oil felt ● Check battery electrolyte solution - add distilled water if neceseary

★	● Clean fuel strainer ● Clean oil tank outlet cup ● Clean air cleaner ● Adjust clutch ● Remove carbon from combustion chambers and exhaust ports ● Remove carbon from exhaust pipes and muffler baffle pipes ● Adjust and lubricate drive chain ● Adjust play of brakes ● Retighten bolts, nuts and spokes ● Lubricate cables ● Test ride
Every 6,000 km (4,000 mi)	● Replace spark plugs ● Put grease in grease nipples and throttle grip, and lubricate other cables ● Wash and lubricate drive chain
Every 12,000 km (8,000 mi)	● Overhaul and clean carburetors ● Replace contact points

★ See page 56.

◇Adjusting Carburetors

The throttle cables, pilot air adjusting screws and throttle valve adjusting screws can get out of adjustment from vibrations when the motorcycle is running, so periodic inspection and adjustment are necessary.

Remember to retighten the mixing chamber caps to prevent dust and dirt from finding their ways into the carburetors each time adjustment of carburetors is necessary.

Also be sure that the throttle cable ends are fully seated in their seats in the throttle valves.

Fig. 21—Retightening mixing chamber cap

Adjusting Throttle Cables

1. Start the engine and allow it to idle. Turn the handlebars from extreme left to right. Idle speed should stay constant. If the engine speed increases, first adjust at the throttle grip cable adjuster to allow **0.5-1.0mm (.020-.040 in) play** in the throttle cable.

2. To insure balanced charge induction to both cylinders, synchronize the carburetors:

Turn ignition off and adjust the throttle cables by the adjusters on the top of each carburetor until there is no play found when pulling up the cables with the throttle grip opened completely.

Fig. 22—Throttle cable play

Turning adjuster out ..... **decreases play**
Turning adjuster in ..... **increases play**

Take the air cleaner tube off of the carburetors and check to see, with hand mirrors or with your fingers inserted into the air intakes of the carburetors simultaneously, if the throttle valves move up and down smoothly and simultaneously when the throttle grip is turned inward and outward. If the movement is not smooth, lubricate the cables and make sure they are not bent or twisted. If the throttle valves are not raised equally, readjust the play. After adjustment, tighten the throttle cable adjuster lock nuts firmly and reattach the air cleaner tube.

Fig. 23 – Adjusting throttle cable play

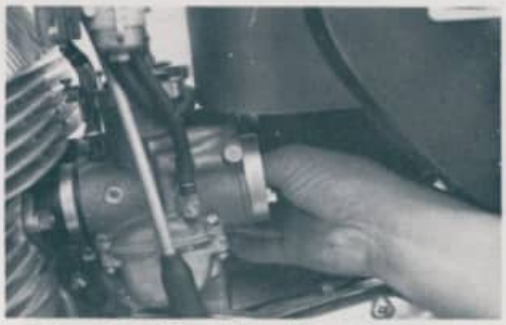


Fig. 24 – Checking throttle valve movement

Adjusting Engine Idling

The pilot air adjusting screws regulate the mixing ratio of fuel and air at low speed.

In case the mixture is on the lean or rich side, adjust the carburetion with the pilot air adjusting screws in the following manner:

○ Start the engine and allow it to warm up at idling speed for several minutes.

○After the engine warms up, stop it momentarily to remove one of the spark plug caps. Now screw the pilot air adjusting screw all the way in and then back it out 1 1/4 turns.

○Start the engine, with one cylinder firing and adjust it with the throttle valve adjusting screw so that it runs at the lowest steady speed.

○Screw the pilot air adjusting screw in and out within 1/4 turn from the standard setting (1 1/4 turns) to find the optimum position where the engine runs most smoothly.

○**When the pilot air adjusting screw has been adjusted, obtain the proper engine idling speed with the throttle valve adjusting screw.**

○After the carburetion has been adjusted on one side, next adjust the carburetion on the opposite side in the same manner.

○When the carburetion has been adjusted on both sides, start the engine with both plug caps in position, that is, with both cylinders firing. The idling speed will be considerably high. Adjust the engine idling speed by screwing both throttle valve adjusting screws in the same amount. **The engine idling**

Fig. 25 – Turning pilot air adjusting screw

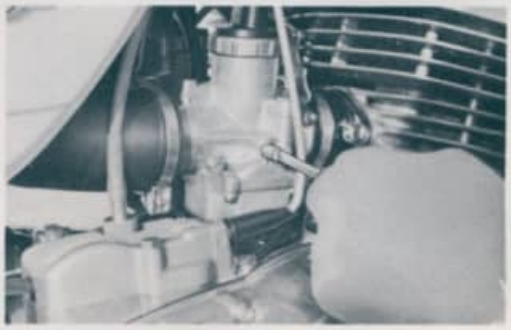


Fig. 26 – Turning throttle valve adjusting screw

speed should be as low as possible (about 1,200 rpm).

***Turning pilot air adjusting screw in ·····makes mixture rich**
***Turning pilot air adjusting screw out ·····makes mixture lean**
***Turning throttle valve adjusting screw in ·····raises engine rpm**
***Turning throttle valve adjusting screw out·····lowers engine rpm**

Synchronizing Right and Left Cylinders

Lastly, it is necessary to check whether exhaust fumes from the mufflers on both sides are indentical in shade and volume. If difference is found, adjust the carburetion in the following way.

○Loosen the pilot air adjusting screw on the side where exhausted gas is denser and irregular, but it must be born in mind the pilot air adjusting screw should not be loosened more than 2 turns from the innermost position. Tighten the pilot air adjusting screw on the opposite side. Never tighten it more than 3 turns out from the innermost position.

○Note that the pilot air adjusting screw of one carburetor should not be set differently from that of the other carburetor by more than 1 turn. Considerable difference between the two pilot air adjusting screws leads to overheating and increased fuel consumption.

◇Adjusting Oil Pump Control Cable

The oil pump control cable must be adjusted with the adjuster so that the adjusting marks A & B as shown in Fig. 27 may align when the throttle is twisted inward all the way.

If "A" is on the right side of "B", it can cause insufficient lubrication. If "A" is on the left side of "B", it can cause consumption lubrication.

To adjust the oil pump control cable, remove the oil pump cover, loosen the control cable adjuster lock nut with a 12 mm wrench and then turn the adjuster in or out until proper adjustment is obtained. After adjustment, be sure to secure the adjuster with the lock nut.

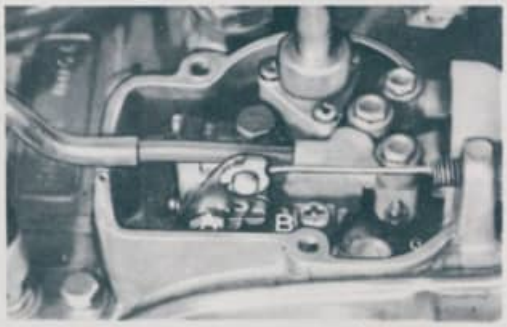


Fig. 27—Control lever adjusting marks

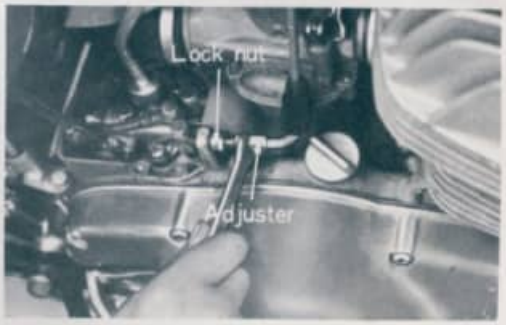


Fig. 28—Adjusting oil pump control cable

◇Adjusting Ignition Timing

Incorrect ignition timing decreases engine performance and shortens the life of the engine. Therefore, it is necessary to check the ignition timing periodically. **When adjusting ignition timing, be sure to adjust the contact breaker point gap first and then adjust the ignition timing.**

Check and adjust in the following manner:

○Remove the crankcase left cover by loosening three fitting screws first.

Left Cylinder

1. Turn the rotor with a 14 mm wrench and find the position where the left side point gap is the largest.
2. Check the point gap with the feeler gauge (0.35 mm thick) fitted on the point wrench provided in the service tool bag. **The standard point gap is 0.3-0.35 mm (0.012-0.014 in).**
3. Loosen screw "a" in Fig. 31 and adjust the gap to the standard by moving the stationary contact point with a screw driver.
   Retighten screw "a" securely after the adjustment is made.
4. And so to the adjustment of ignition timing. Turn the crankshaft counter-clockwise to the point at which the contact points just begin to open.
5. **Check to see if the red score "b" on the rotor aligns with the red score "c" on the stator.**

Fig. 29—Turning rotor

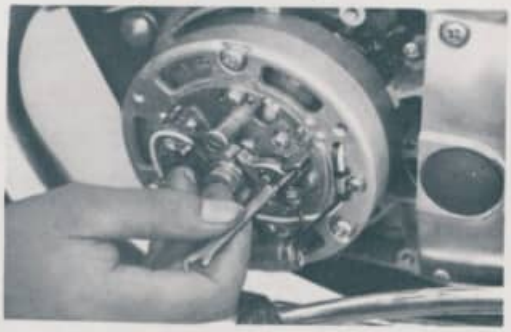


Fig. 30—Checking point gap

If "b" is on the right side of "c", ignition timing is advanced.

If "b" is on the left side of "c", ignition timing is retarded.

6. **If the ignition timing is found to be advanced,** loosen two screws "d" and move the contact point base to left with the plain screw driver put into the notch of the contact point base. until the points begin to open just as "b" aligns with "c".
7. **If the ignition timing is found to be retarded,** move the contact point base to right and adjust to the correct ignition timing.

After the adjustment is made, tighten screws "d" firmly.

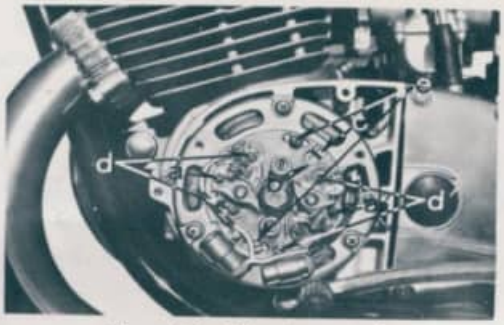


Fig. 31—Timing marks

Right Cylinder

○Turn the rotor 180° and adjust the point gap first and then the ignition timing in the same manner as the left cylinder.

○But in this case **you must adjust it so that the right side point begins to open when the black score on the rotor aligns with the red score "c".**

There is another method to adjust the ignition timing which should be taken place when the correct adjustment can't be obtained in the way outlined above.

○Loosen two screws "e" and turn the circular mount by pushing with a screw driver.

○Turning it clockwise advances the ignition timing of both right and left cylinders and counter-clockwise retards the same.

Caution:

Point surfaces which are burnt, pitted or coated with oil cause defective engine operation. Check the

points periodically and clean them if they are dirty.

Polish the points with a sand paper when they are burned. Keep the points clean at all times. Be carful not to let oil get on the points.

◇Spark Plugs

The NGK B-77HC spark plug with a 14 mm (0.55 in) thread diameter and a 12.7 mm (0.5 in) reach is standard for the T500J. Bear in mind that the spark plug must be correct in what is called the "heat range" as well as the size of the threaded part. The wrong heat range spark plug causes overheating, hard starting, etc. **When the heat range is correct, the spark plug shows a light brown appearance, sometimes with grayish deposits. If the standard spark plug (NGK B-77HC) is apt to overheat (white appearance), try a colder plug (NGK B-8HS or B-9H). If the standard plug is apt to get wet or dirty with carbon (black appearance), try a hotter plug (NGK B-7HS).** This hotter spark plug may be necessary during the breaking-in period to avoid fouling, but should not be used under high load or high speed conditions at any time.

Thread size	Heat Range	NGK	Champion	AC	Autolite	Bosch	Nippondenso	Lodge
14 mm	Hot	B-7HS	J5, L81	42FF	AE2	W240TI	W22FS	2HN, 3HN
×	↑	B-77HC	—	—	AE23	W240P11S	W24FS	—
½in	↓	B-8HS	—	MC41F, M42FF	—	—	W24FS	—
Reach	Cold	B-9H	L4J	—	—	W260TI	—	HH14

When carbon accumulates on the spark plug, a hot, strong spark will not be produced. Remove carbon deposits with a wire or pin, wash with gasoline and wipe off with a dry rag. **Be careful not to damage the porcelain core when removing carbon from inside the spark plug. Gently striking or prying the side electrode, adjust the spark plug gap to 0.4-0.5 mm (0.016-0.020 in).** Measure with a

feeler gauge. Do not sandblast spark plugs, as the spark plug retains some grit which enters the engine and may cause damage. Nothing performs as well as a new spark plug.

Fig. 32 — Measuring spark plug gap

Fig. 33 — Cleaning spark plug

Caution:

When putting in the spark plug, first clean the seat in the cylinder head. Be careful not to let dirt or dust fall into the cylinder through the spark plug hole. Be sure the spark plug gasket is in good condition. If the spark plug gasket loses flexibility, compression will leak.

Use a new gasket. Next screw the spark plug with your fingers, not a spark plug wrench, to prevent stripping the threads. After you set it lightly with your fingers, tighten with a wrench.

◇Cleaning Air Cleaner

If the air cleaner is clogged with dust intake resistance will be increased with a resultant decrease in output and increase in fuel consumption. **Check and clean every 3,000 km (2,000 mi).**

○Remove the battery & tool cover by unscrewing the knob.

○Unscrewing two fitting bolts and loosening the air cleaner tube clamps, dismantle the air cleaner.

○Remove the air cleaner cover by unscrewing a nut and washer.

○Use air pressure or a brush to clean dust and dirt from inside and outside the air cleaner element.

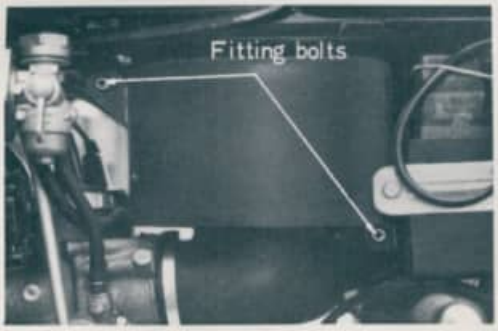


Fig. 34—Air cleaner

Fig. 35—Cleaning air cleaner element

Caution:

Washing the air cleaner element with water or gasoline decreases its performance, so do not wash the air cleaner element. If the motorcycle is run without the air cleaner in an ill-advised attempt to get more power from the engine, wear of engine parts will be hastened, in addition to overheating.

Removal of the air cleaner voids your warranty and actually reduces engine power. Avoid it.

◇Cleaning Fuel Strainer

If the fuel strainer is clogged with impurities, fuel flow to the carburetors becomes insuffic causing poor engine performance.

○Loosen the strainer cup with 10 mm wrench and remove by turning with your fingers.

○Wash the strainer cup and cleaner throughly with gasoline.

Fig. 36－Removing fuel strainer cup

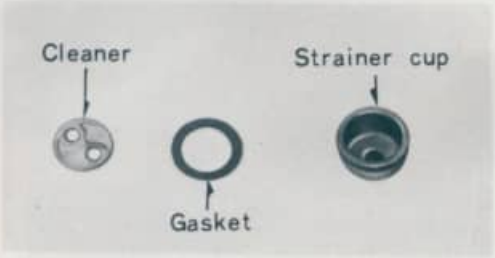


Fig. 37－Fuel strainer

◇Cleaning Oil Tank Outlet Cup

A piece of magnet is provided in the oil tank outlet cup to attract iron dust and prevent it from getting into the oil pump. **Remove and clean the oil tank outlet cup every 3,000 km (2,000 mi).**

To clean the oil tank outlet cup, use compressed air or tweezers.

Fig. 38 – Oil tank outlet cup

◇Changing Transmission Oil

Oil in the transmission deteriorates and its lubricating performance decreases if it is used too long.

Change oil after the first 1,000 km(750 mi) and every 3,000 km (2,000 mi) after the first oil change.

○Remove the oil filler cap and the two oil drain plugs located on the bottom of the engine and drain all the used oil.

To accomplish this completely and quickly, drain the used oil while the engine is warm and the oil viscosity is low.

○Replace the two oil drain plugs and measure **1.2 ltr (3.8/3.2 pt, US/Imp)** of SAE 20W/40 multi-grade motor oil by a gauge and pour it into the transmission slowly.
Please choose a good brand oil.

○Replace the oil filler cap.
Be sure to refit the gaskets when replacing the oil drain plugs.

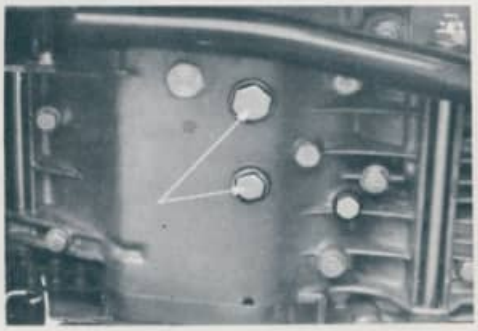


Fig. 39 – Oil drain plugs

Fig. 40 – Oil filler cap

◇Adjusting Clutch

The clutch inner wire stretches and the clutch plates wear as the bike's milage increases, with a consequent change in the amount of clutch lever play.

So the clutch should be adjusted periodically. **Adjust the clutch with both the clutch cable adjuster and release adjusting screw until about 4 mm (0.16 in) of play measured at the clutch lever base is available.**

To adjust the clutch, first screw in the clutch cable adjuster which is fitted to the clutch lever stop and give sufficient play to the clutch cable. Next remove the clutch release adjusting rubber cap and temporarily loosen the lock nut to turn back the release adjusting screw.

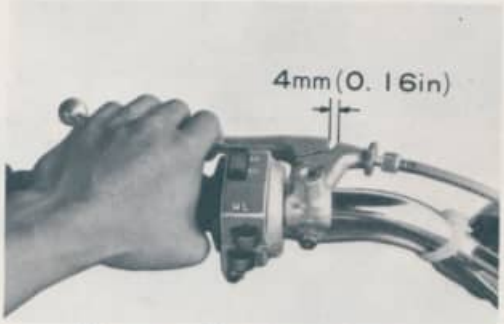


Fig. 41—Clutch lever play

Now turn in the release adjusting screw until it seats the push piece and then back it out half a turn. Fix the release adjusting screw with the lock nut after the adjustment is made.

Finally adjust the clutch cable adjuster again until about 4 mm (0.16 in) of play measured at the clutch lever base is left in the cable.

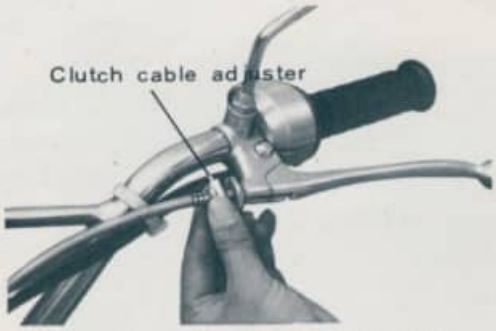


Fig. 42 – Adjusting clutch cable

Fig. 43 – Adjusting release adjuster screw

Caution: When the clutch play is too large, the clutch fails to be completely disengaged even if the clutch lever is pulled in. If there is no play, the clutch slips. So, it must be adjusted to a proper amount (4 mm).

◇Removing Carbon

○Remove the baffle pipe fitting screw and pull out the baffle pipe with pliers.

○Wash the baffle pipe with gasoline or cleaning solvent. If the carbon deposit is hard and cannot be removed from the baffle pipe by washing, heat it with a burner or welding torch until flames ceases to be seen on the baffle pipe and then strike it gently. The carbon can be removed in this manner.

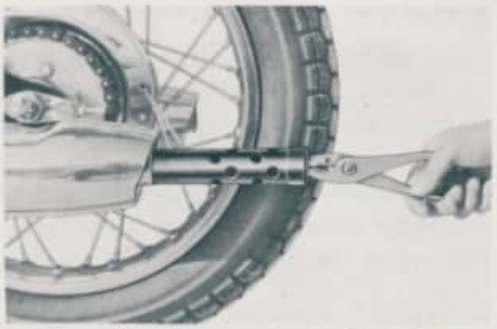


Fig. 44 – Extracting baffle pipe

Fig. 45 – Burning carbon deposit

Caution:

Some riders remove the muffler baffle pipes so that their motorcycles will make more exhaust noise. **With a two-cycle engine, however, the muffler baffle pipes not only silence engine exhaust noise but also prevent the blow-by of fuel mixture.** Running without the muffler baffle pipes installed reduces engine output. **When baffle pipes are removed the warranty on your motorcycle is invalid.**

◇Battery

The battery for this model is 12 V 7 AH.

Battery electrolyte solution decreases gradually from evaporation. **So it is necessary to check the battery electrolyte solution level every two weeks.** The battery is installed inside the battery & tool cover. The solution must be kept above the lower limit line at all times. **If the solution level is found below the lower limit line, add pure distilled water up to the upper limit line. Do not add diluted sulphuric acid.** A loose battery wire connection results in insufficient battery charging. When inspecting the battery, always check the battery wire connections to see that they are fastened firmly.

Caution:

Be careful not to bend or pinch the battery breather tube and never fail to insert it through the hole of the tube security strap on the engine as shown in Fig. 47. If it is bent sharply, gas generated in the battery during operation cannot be exhausted and sometimes the battery case will crack. Be sure the tube's end is open and exhausts well below the rear swinging arm pivot.

Fig. 46 – Battery solution level

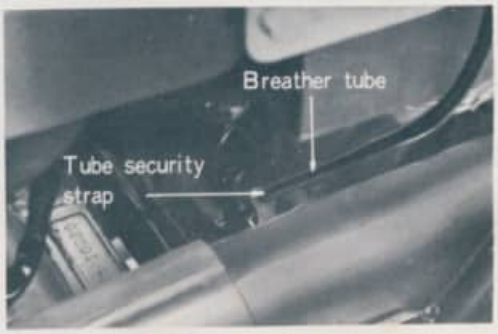


Fig. 47 – Battery breather tube

◇Servicing Drive Chain

If the drive chain is too tight, it results in increased mechanical loss of power. A drive chain which is too loose causes unpleasant noise. **Either a tight or loose drive chain wears fast.**

- ○Put the motorcycle on the center stand.
- ○Removing the cotter pin, loosen two nuts (A & B) shown in Fig. 48.
- ○**Adjust the drive chain by turning the right and left chain adjuster bolts until it has 15-20 mm (0.6-0.8 in) of play midway between the sprockets when pushed up and down by fingers.**

***Turning adjuster bolt in** ·····**tightens chain**
***Turning adjuster bolt out**·····**loosens chain**

Marks on both chain adjusters must indicate the same position to align the rear wheel correctly.

- ○After the drive chain is adjusted correctly, tighten the nuts (A & B) and fix with a cotter pin. Otherwise the rear axle could become loose while you are riding the motorcycle.

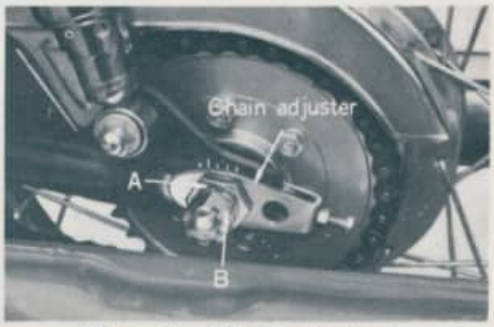


Fig. 48 – Chain adjuster

Caution:

Dirt on the drive chain hastens wear of the drive chain itself and also the sprockets, so wash the drive chain in cleaning solvent or gasoline and then lubricate with chain lube oil **every 1,000 km (750 mi).**

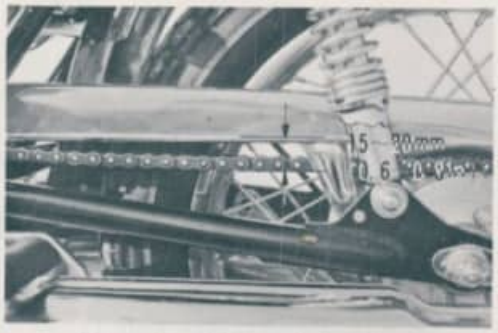


Fig. 49—Drive chain play

◇Adjusting Brakes

Brakes are most important for safe riding. Always check the brakes before riding the motorcycle.

Front Brake

Adjust the brake lever play with the brake cam adjusting nut so that there is 20-30 mm (0.8-1.2 in) of distance between the brake lever and the throttle grip when the brake begins to operate.

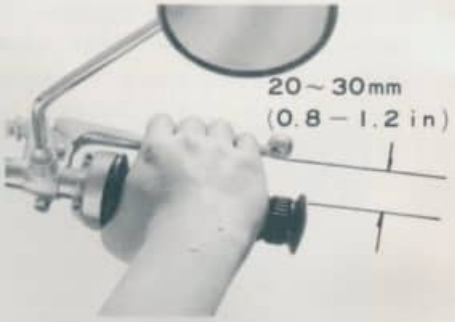


Fig. 50—Brake lever distance

***Turning adjusting nut in**·····**increases distance**
***Turning adjusting nut out** ·····**decreases distance**

Fig. 51—Adjusting front brake

Rear Brake

Before adjusting the brake pedal travel, adjust the brake pedal position with the brake pedal adjuster until the most suitable position is obtained for quick operation.

***Turning adjuster in**·····**raises pedal**
***Turning adjuster out** ·····**lowers pedal**

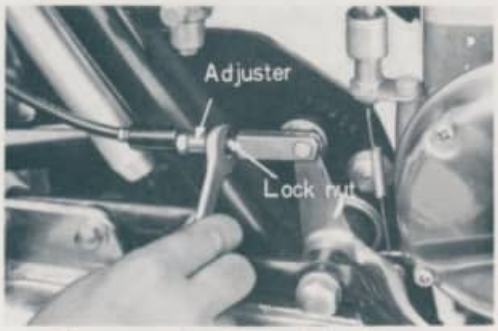


Fig. 52—Brake pedal adjuster

After the adjustment of the brake pedal position is completed, adjust the brake pedal travel with the brake rod adjusting nut to 20-30 mm (0.8-1.2 in).

*** Turning adjusting nut in·····decrease travel**

*** Turning adjusting nut out ·····increases travel**

Fig. 53 – Brake pedal travel

◇Adjusting Brake Lamp Switch

The brake lamp lets traffic behind you know the rear brake has been applied, so be sure that the switch works properly at all times. Loosen the switch lock nuts and move the switch up and down to adjust it **until the switch operates and turns on the brake lamp about 5 mm (0.2 in) before the brake pedal is fully depressed.**

Fig. 54 – Adjusting brake pedal travel

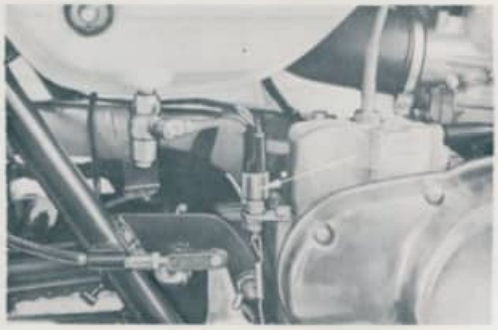


Fig. 55 — Brake lamp switch

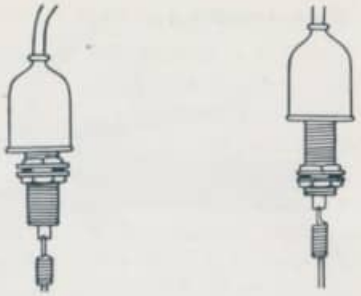


Fig. 56 — Brake lamp switch adjustment

◇Tire Pressure

Insufficient air pressure in the tires hastens tire wear and increases road resistance which increases fuel consumption and adversely affects the performance of the motorcycle. Soft tires also make smooth cornering difficult. Over-inflated tires decrease the amount of tire in contact with the ground and cause skids when the brakes are applied, as well as subjecting the tire to stress, which is bad for it. Hard tires also tend to throw the motorcycle into slides on corners. Be sure that tire pressure is correct at all times.

Front.....**1.6 kg/sq cm (23 lb/sq in)**
Rear .....**solo riding** .....**1.9 kg/sq cm (27 lb/sq in)**
dual riding .....**2.3 kg/sq cm (33 lb/sq in)**

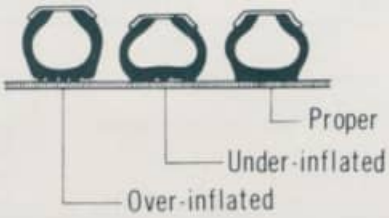


Fig. 57 — Tire pressure

Note: The standard tire of your motorcycle is 3.25-19 for front and 4.00-18 for rear and the use of tire other than the standard may cause troulbes on your motorcycle. It is highly recommeded to use the Suzuki Genuine Tire or the well-known brand with specified size.

◇Changing Front Fork Oil

The front fork is a telescopic type with oil dampers. When changing oil in the front fork:

○Remove the drain plug at the end of one leg. Dump the front end to force all of the oil out. Refit the drain plug when the oil inside is completely drained out.

○Repeat the same procedure on the other leg.

○Loosen the two fork fitting bolts and **pour in 10w/30 motor oil, about 220cc (7.4/7.7 OZ. US/Imp) for each leg.**

The more oil in the fork the stiffer the suspension becomes, while the less oil in the fork the softer the suspension becomes.

Too little oil, however, causes an abnormal noise and rapid wear when running on bad roads.

Fig. 58—Front fork oil drain plug

◇Lubrication

Rotating and rubbing parts must be lubricated periodically. Insufficient lubrication will cause rapid wear and severe damage can result.

Lubricate these parts periodically.

What to lubricate	When to lubricate	Lubricant	Remarks
Front brake cam shafts	every 3,000 km (2,000 mi)	motor oil	
Rear brake cam shaft	every 3,000 km (2,000 mi)	grease	
Clutch, brake and throttle cables	every 3,000 km (2,000 mi)	grease	
Drive chain	every 3,000 km (2,000 mi)	chain lube oil	
Throttle grip	every 6,000 km (4,000 mi)	grease	
Kick starter lever grease nipple	every 6,000 km (4,000 mi)	grease	one push of grease gun

Caution: Be careful not to apply too much grease to the brake cam shafts because grease gets on the linings resulting in brake slippage.

Fig. 59—Front brake cam shafts

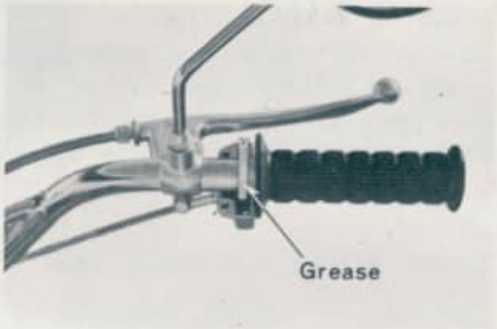


Fig. 60—Throttle grip

Fig. 61—Kick starter lever grease nipple

◇Tightening Bolts & Nuts

Bolts and nuts on the engine and frame may become loose from vibration during riding. Tightening bolts and nuts is essential to keep your machine in best condition and items with ★ mark must be tighten to ensure your safety driving with the regulated torque according to the inspection chart of page 30 and 31 at the authorized Suzuki dealer.

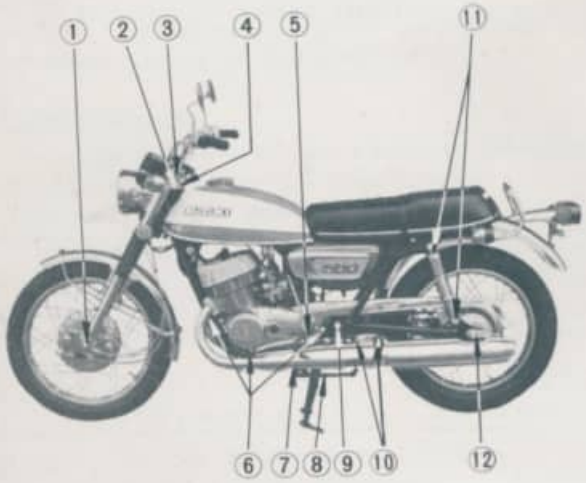


Fig. 62 – Points to be tightened

	Item	Q'ty
★(1)	Front Axle	1
★(2)	Steering Stem Head Fitting Bolts	3
★(3)	Handlebar Clamp Bolts	4
★(4)	Steering Stem Lock Nut	1
(5)	Kick Starter Lever Bolt	1
(6)	Engine Mounting Bolts	3
(7)	Side Stand Bolt Nuts	1
(8)	Center Stand Bolt Nuts	2
★(9)	Swinging Arm Pivot Shaft Nut	1
(10)	Muffler Fitting Bolts	4
★(11)	Rear Shock Absorber Nuts	4
★(12)	Rear Axle Nut	1

9. TROUBLE SHOOTING

Regardless of how excellent the design and manufacture may be, all machinery is subject to wear and occasional breakdowns. The following trouble shooting list will help you find the cause of most troubles.

IF ENGINE DOES NOT START

When the engine is hard to start or does not start, there is something wrong with the fuel system or ignition system.

1. **Check to see if the spark plug porcelain insulator and electrodes are wet or dirty with carbon.** If so, clean the inside of the spark plug completely. In case the engine does not start even if the engine is turned with the kick starter lever, **check to see if there is fuel in the tank and the fuel cock is not clogged.**
2. Place the spark plug, with cap connected, on the cylinder head **after removing from the spark plug** hole. Turn on the ignition switch and **check to see if strong blue sparks jump between the electrodes** by turning the engine with the kick starter lever.
   In case no spark is produced, check the fuse and the contact point surfaces.

Fig. 63 – Checking ignition

IF ENGINE FAILS TO DEVELOP POWER

1. When the engine fails to develop power and the engine gets

dirty excessively, there can be loose connections which allow compression to leak in the engine. Check the following points shown in the right figure.

- ○ **A loose spark plug causes the portion** (1) **to get dirty.**
- ○ **Loose cylinder head nuts cause the portion** (2) **and** (3) **to get dirty.** Have your dealer inspect.

The cylinder head gasket and/or base gasket must be replaced if compression still leaks after the above-mentioned parts are properly tightened with a torque wrench. **Cylinder head nuts of 8 mm and 10 mm should be tightened to 130~230 kg-cm (9.4~16.6 ft-lb) and 250~400 kg-cm (18.1~28.9 ft-lb) respectively.**

2. Holding your palm at about 15 cm (6 in) from the muffler end, check to see if the fumes are exhausted vigorously. If not, carbon may be collected in the cylinder exhaust port, exhaust pipe and on the muffler baffle pipe and take your motorcycle to your dealer for inspection and cleaning.

IF ENGINE STOPS SUDDENLY

1. Check to see if there is **fuel** in the tank and **the fuel cock** and **fuel tank cap air vent** are not clogged.
2. Check to see if the **spark plug electrodes** are not bridged with carbon.

Fig. 64 – Diagnosing loose points

Fig. 65 – Checking exhaust pressure

BAD STABILITY AND STEERING

1. Check to see if the **front and rear tire pressures** are proper.
2. Make sure that there is **no play in the front fork fitting.**
3. Check to see if the **rear axle** is fitted squarely to the swinging arm and the **front and rear wheels** are perfectly aligned. If not, adjust by using the drive chain adjusters.

4. Check the **swinging arm pivot nut** for looseness.

Note: Correct wheel alignment is very important on the T500J not only to secure safety driving but to prevent one-sided wear of tyres while running at a high speed. It is recommended for you to check and adjust the wheel alignment by getting the wheel alignment gauge at your dealer.

Fig. 66 – Checking front fork fitting

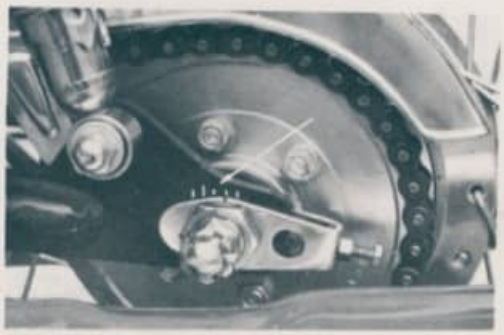


Fig. 67 – Rear wheel alignment marks

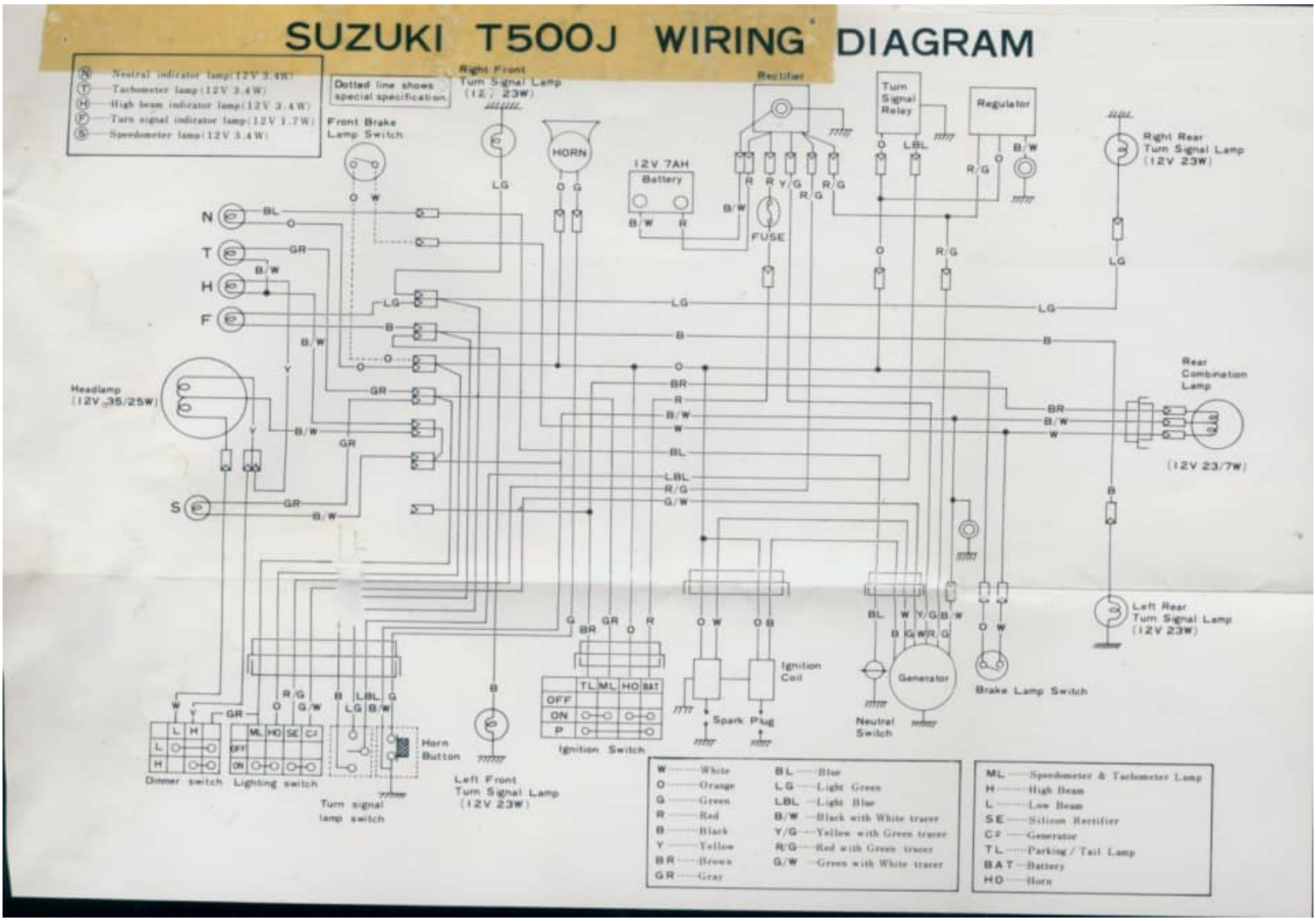
IF THE TRANSMISSION GEARS FAIL TO SHIFT SMOOTHLY

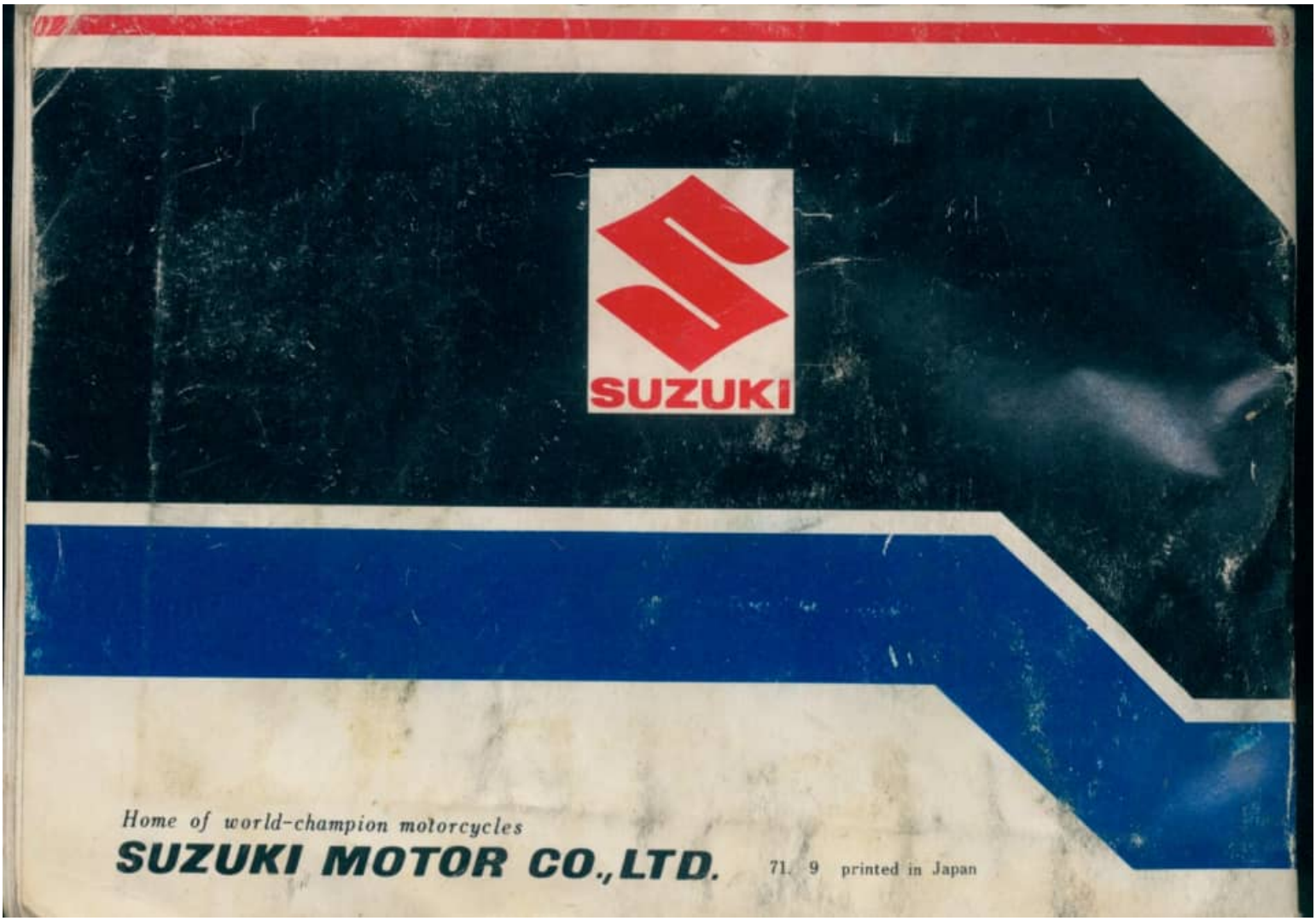
1. Check to see **if the clutch is disengaged completely** when the clutch lever is squeezed.
2. In case the gear shifting is not smooth until the engine is warmed up enough, **check the viscosity of the transmission oil.** The standard transmission oil is SAE 20W/40 multigrade motor oil.
3. **Check transmission oil level.**

Home of World Champion Motorcycles

SUZUKI MOTOR CO.,LTD.

SUZUKI T500J WIRING DIAGRAM



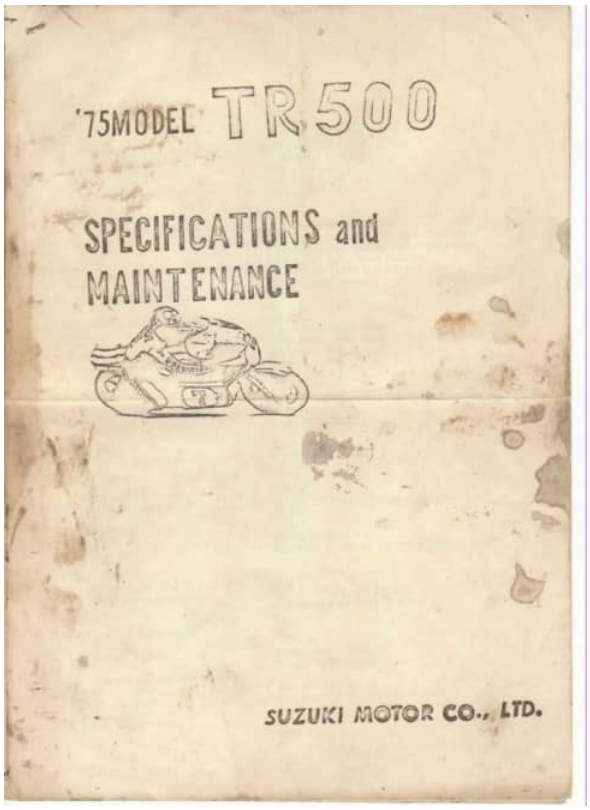


Home of world-champion motorcycles

SUZUKI MOTOR CO., LTD.

71. 9 printed in Japan

1975 Suzuki TR500 Spec Sheets



'75MODEL TR500

SPECIFICATIONS and MAINTENANCE

SUZUKI MOTOR CO., LTD.

SPECIFICATION

Dimensions and Weight	
Overall length	1,999 mm (78.7 in)
Overall width	553 mm (21.8 in)
Overall height	1,192 mm (46.9 in)
Wheelbase	1,373 mm (54.1 in)
Road clearance	195 mm (7.7 in)
Tyres, Front	3.25 - 18
Rear	3.50/5.20 - 18
Dry weight	135 kg (297 lb)
Engine	
Maximum horse power	Over 75 ps at 9,000 rpm
Maximum torque	6.05 kg-m (43.7 ft-lb) at 8,750 rpm
Engine type	2 cycle, water cooled gasoline engine
Cylinder	Twin alloy cyl. SCEM plating
Bore x Stroke	70 x 64 mm (2.76 x 2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.4
Transmission and Clutch	
Transmission	6 speed constant-mesh
Gear shifting	Left foot lever operated return change
Clutch	Dry mutli-disc type
Primary reduction ratio	1.882 (64/34)
Final reduction ratio	2.333 (35/15)
Gear ratio low	2.417 (29/12)
2nd	1.706 (29/17)
3rd	1.368 (26/19)
4th	1.211 (23/19)
5th	1.105 (21/19)
6th	1.043 (24/23)
Overall reduction ratio	4.579 (at 6 speed)
Fuel	
Carburetor	VM38SC
Fuel tank capacity	24 ltr (6.3/5.3 US/Imp gal)
Lubrication	
Engine	Mixed fuel 20 : 1
Gear box	Oil bath 1,200 cc (2.5/2.1 US/Imp pt)
Ignition	
Ignitiom system	C.D.I.
Ignition timing	20° at 8,000 rpm B.T.D.C.
Spark plug	NGK B-10EP or B-10.5EP
Frame and Suspension	
Frame	Tubular
Brake, Front	Double disc brake
Rear	Single disc brake
Suspension maximum stroke	
Front	125 mm (4.9 in)
Rear	135 mm (5.3 in) (on rear axle)
Drive Chain	DAIDO 530 TR (5/8" x 3/8")

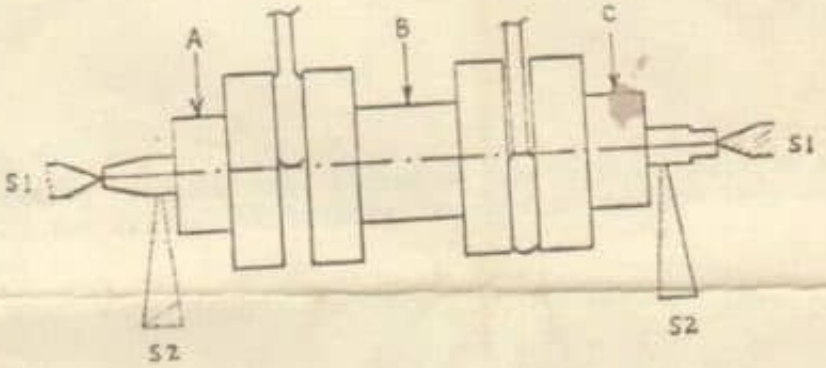
Cylinder Dimension

Exhaust Port	:	32 mm (1.26 in) from cylinder top surface
Transfer Port	:	49 mm (1.93 in) from cylinder top surface
3rd Transfer Port	:	50 mm (1.97 in) from cylinder top surface
Intake Port	:	110 mm (4.33 in) from cylinder top surface
Bore	:	70.20 to 70.35 mm (2.764 to 2.770 in)

Breaking-in for Cylinder and Piston

The engine has been run-in for half an hour at factory. In case of installing the new replacement cylinder or piston, perform the breaking-in for half an hour at 7,000 rpm and raise it afterward to the maximum (8,750 to 9,000 rpm).

Radial Runout of Crankshaft



In overhauling the engine, check the crankshaft for radial runout at A, B and C points holding it at S1 or S2 points. The crankshaft must be maintained so that the runout is below 0.05 mm.

Crankcase Seal

For perfect sealing of the crank chamber, the water jacket and the gear box, use "Suzuki Bond No. 4 (99000-31010) when assembling the engine.

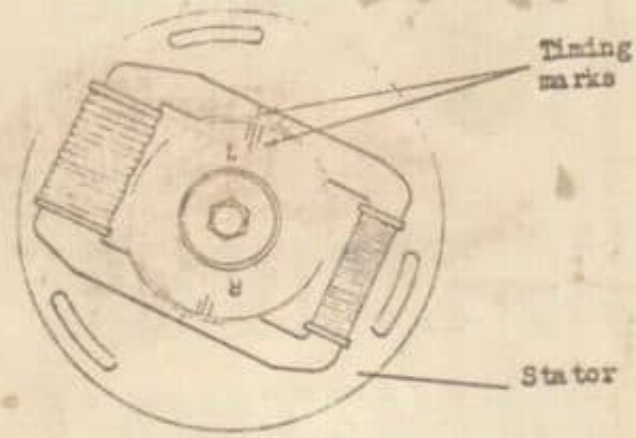
Fuel

Fuel oil mixture ratio	:	20 to 1
Recommended oil	:	Shell Super M or Castrol R-30

Transmission Oil

Shell Super M
Castrol R-30 or R-40

Ignition Timing



Set ignition timing by changing the position of the stator so that the timing marks are in line as shown in the drawing when the piston is at 2.3 mm (20°) before top dead center.

Tyre and Tube

The existing tyre and tube fitted on the original machine are not designed for racing. Therefore, be sure to replace them with those for racing.

Recommended tyre: Dunlop KR84/KR97 or 105 (Front/Rear)

Size ..... Front 3.25 - 18
Rear 3.50/5.25 - 18

Cooling Water

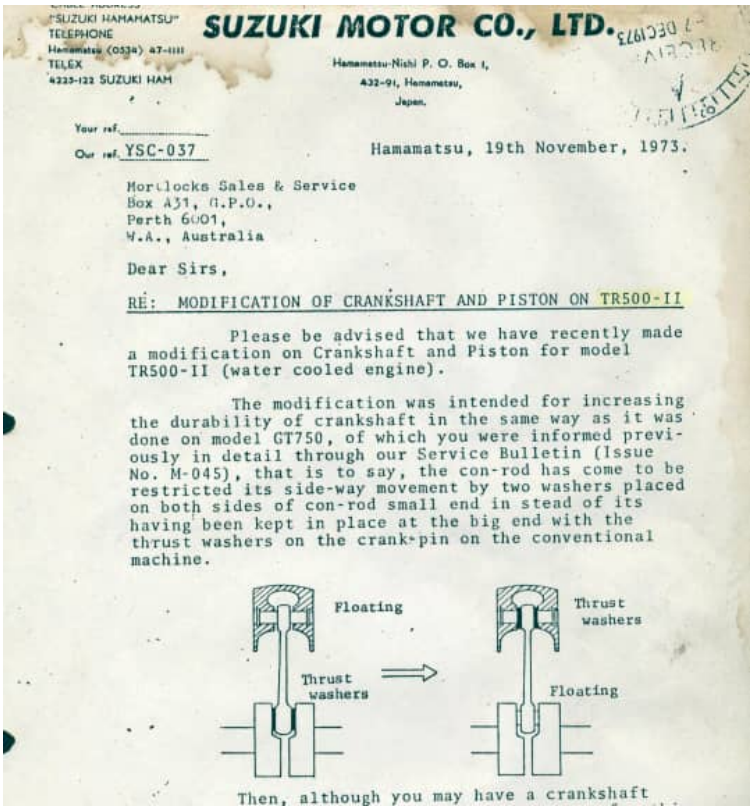
It is preferable to use the mixture of coolant and water.

Coolant : Golden Cruiser 1200 (99000-24120)
Water : Distilled water
Mixture Ratio: 70 (Water) to 1 (Coolant)

After filling the system with water, start engine and let it run till the water level lowers and becomes stable. Then, fill it up again.

1973 TR500-II Modification of crankshaft & piston – Tech Sheet

JUNE 1, 2023
CATEGORIES: TR500, RACING, SUZUKI SERVICE BULLETINS
TAGS: TR500 MKII



"SUZUKI HAMAMATSU"
TELEPHONE
Hamamatsu (0534) 47-1111
TELEX
4233-122 SUZUKI HAM

SUZUKI MOTOR CO., LTD.

Hamamatsu-Nishi P. O. Box 1,
432-91, Hamamatsu,
Japan.

Your ref.
Our ref. YSC-037

Hamamatsu, 19th November, 1973.

Morlocks Sales & Service
Box A31, G.P.O.,
Perth 6001,
W.A., Australia

Dear Sirs,

RE: MODIFICATION OF CRANKSHAFT AND PISTON ON TR500-II

Please be advised that we have recently made a modification on Crankshaft and Piston for model TR500-II (water cooled engine).

The modification was intended for increasing the durability of crankshaft in the same way as it was done on model GT750, of which you were informed previously in detail through our Service Bulletin (Issue No. M-045), that is to say, the con-rod has come to be restricted its side-way movement by two washers placed on both sides of con-rod small end in stead of its having been kept in place at the big end with the thrust washers on the crank-pin on the conventional machine.

Then, although you may have a crankshaft

CABLE ADDRESS
"SUZUKI HAMAMATSU"
TELEPHONE
Hamamatsu (0534) 47-1111
TELEX
4225-122 SUZUKI HAM

SUZUKI MOTOR CO., LTD.

Hamamatsu-Nishi P. O. Box 1,
432-91, Hamamatsu,
Japan.

7 DEC 1973
RECEIVED

Your ref.

Our ref. YSC-037

Hamamatsu, 19th November, 1973.

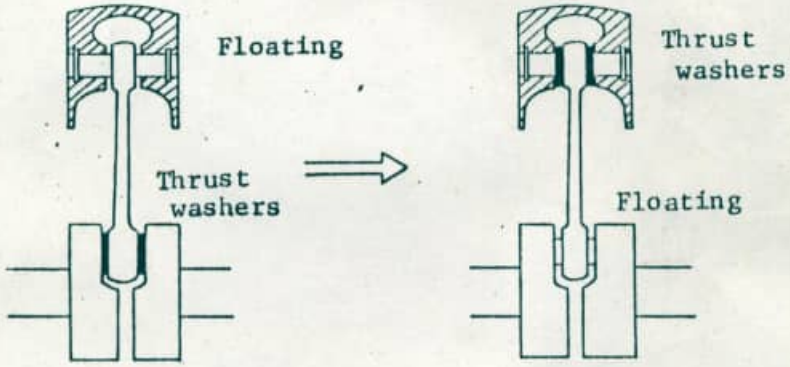
Mortlocks Sales & Service
Box A31, G.P.O.,
Perth 6001,
W.A., Australia

Dear Sirs,

RE: MODIFICATION OF CRANKSHAFT AND PISTON ON TR500-II

Please be advised that we have recently made a modification on Crankshaft and Piston for model TR500-II (water cooled engine).

The modification was intended for increasing the durability of crankshaft in the same way as it was done on model GT750, of which you were informed previously in detail through our Service Bulletin (Issue No. M-045), that is to say, the con-rod has come to be restricted its side-way movement by two washers placed on both sides of con-rod small end in stead of its having been kept in place at the big end with the thrust washers on the crank-pin on the conventional machine.

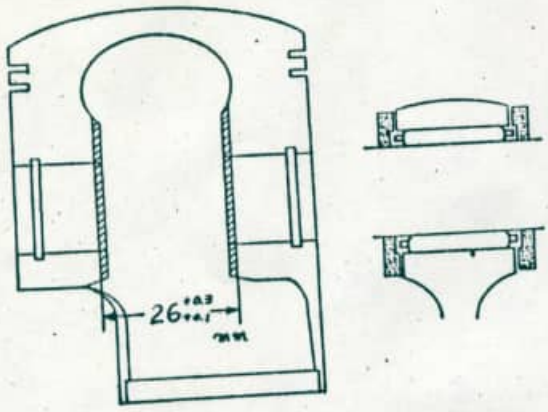


Then, although you may have a crankshaft assembly and several sets of pistons as spare for this model in stock, we send to you this modified crankshaft and pistons including the thrust washers free under separate cargo (By sea).

Part No.	Part Name	Q'ty
12200XR0521	Crankshaft Ass'y	1
12110-15200	Right Piston	2
12120-15200	Left Piston	2
09169-18001	Washer	8

- cont'd -

As you can learn from the above illustration, there is no interchangeability between the conventional and modified crankshafts, however if you cut off the end boss of piston pin hole of spare piston stocked so as to be the specified measure shown below, it can be used.



Please take note of the following points;

1. Never use the modified piston on the conventional crankshaft.
2. After cutting off the end boss of spare piston, finish the surface with the emery sand paper.
3. Be careful not to install the con-rod small end thrust washer in reverse direction.

We look forward to hearing from you any information in this regard in future.

With kind regards,

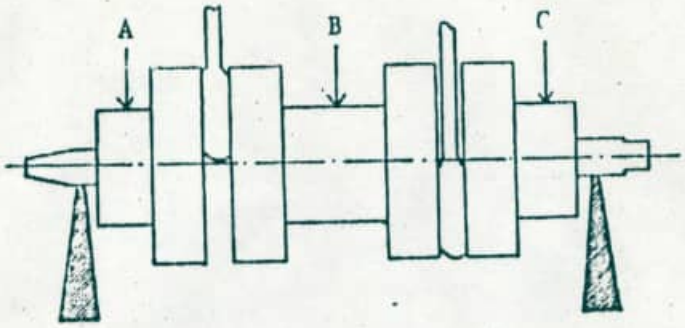
Yours faithfully,

SUZUKI MOTOR CO., LTD.

T. Miyashita, Manager
International Service Dept.

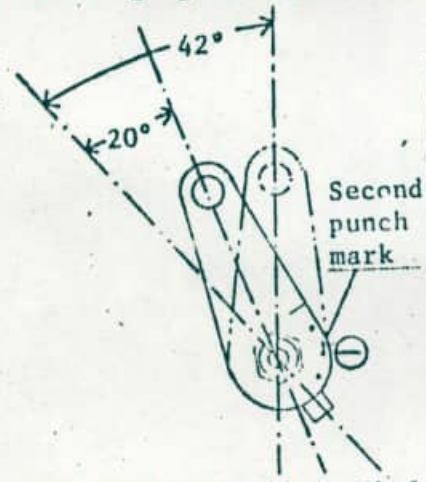
KN/to

* Deflection of crankshaft assembly
  Check the deflection of the crankshaft at the point A,B and C as illustrated with the crankshaft supported at the both end when disassembling the engine and keep the deflection within 0.05 mm (0.002 in.).



* Liquid gasket for the crankcase
  SUZUKI SEAL 99000-31010 is to be used as the crankcase gasket.

* Adjustment of engine oil amount
  Usually set the oil pump lever to the position that the second punch mark on the lever aligns with the mark line on the peg of the pump body as shown in the illustration. This is equivalent to approx. 20 degree of lever opening angle.
  During the engine breaking-in, however, it is recommended to set the lever at more than 20 degree of opening angle for protecting against piston scuffing.



Lever opening angle	Amount of oil pumped at 6,000 rpm
20 degree	126 cc/h (4.3/4.4 oz, US/Imp)
42 degree	300 cc/h (10.1/10.6 oz, US/Imp)

The specified oil is Shell Super M or Castrol R30.

* Fuel
  Gas and oil premixture with ratio of 30 : 1 is to be used.
  Specified oil is Shell Super M or Castrol R30.

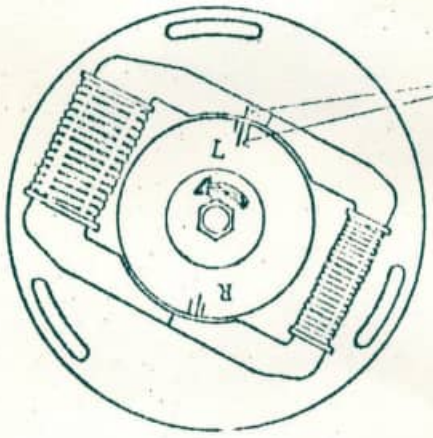
* Clutch drive plate
  When replacing clutch drive plates, it is to be observed to apply transmission oil to both faces of them before assembling.

* Transmission oil.
  The specified oil is Shell Super M or Castrol R30.

Amount of transmission oil	1,200 cc (2.54/2.11 pt, US/Imp)

* Adjustment of the drive chain
  Since the rear swinging arm is comparatively short in length and, in consequence, the drive chain tension varies much in accordance with depressed condition of the rear suspention, the special attention should be paid to the adjustment of the drive chain in its slack.
  Adjust the slack of the drive chain so that there is about 10 mm (0.39 in.) at the middle of two sprockets under the condition that the rear suspensions are depressed.
  In case the drive chain is brand new, adjust the slack less than 10 mm (0.39 in) in due consideration of primary stretch for it.

* Adjustment of the ignition timing.
  Adjust the ignition timing so that the "L" marked line on the inner rotor just aligns with the mark line on the stator when the left side of piston stroke is at 3.1 mm (0.122 in.) before T.D.C..



* Spark plug
  Standard spark plug is NGK B-10.5EP. But according to the racing condition, choose the best suitable spark plug from among B-9.5EP, B-10EP, B-10.5EP, B-11EP.
  In case the brand NGK is unavailable, BRAND CHAMPION may be used by following equivalent of heat range.

NGK		CHAMPION
B-9.5EP - B-10EP	are equivalent to	N59G
B-10.5EP- B-11EP	are equivalent to	N57G

* The specified tightening torque of Bolts and Nuts

1.	Cylinder head nuts	250-300 kg-cm (18.0-21.7 ft-lb)
2.	Cylinder head bolts	150-200 kg-cm (10.8-14.5 ft-lb)
3.	Crankcase bolts 10φ	250-300 kg-cm (18.0-21.7 ft-lb)
4.	Crankcase bolts 8φ	200-250 kg-cm (14.5-18.0 ft-lb)
5.	Crankcase bolts 6φ	100-150 kg-cm (7.2-10.8 ft-lb)
6.	Front axle nut	400-500 kg-cm (29.0-36.2 ft-lb)
7.	Rear swinging arm pivot shaft nut	450-700 kg-cm (32.5-50.6 ft-lb)
8.	Rear axle nut	540-800 kg-cm (39.0-57.9 ft-lb)
9.	Chain adjuster collar nut	700-900 kg-cm (50.6-65.1 ft-lb)
10.	Rear shock absorber nuts	200-250 kg-cm (14.5-18.0 ft-lb)

CARBURETOR SPECIFICATION

* Main Jet	#300 - #330
Needle Jet	Q-2 (primary choke height 8.2mm)
* Jet Needle	6DI6-4th or 3rd notch from the top
Cut-away	2.0
Pilot Jet	#35
Air Screw	1 & 1/2 turns
Valve Seat	3.3mm

* All machines are checked, after they are assembled, by bench-test and actual riding, then the best suitable main jet and jet needle clip position are decided. Therefore, each machine has the different carburetor specification for obtaining the best performance.

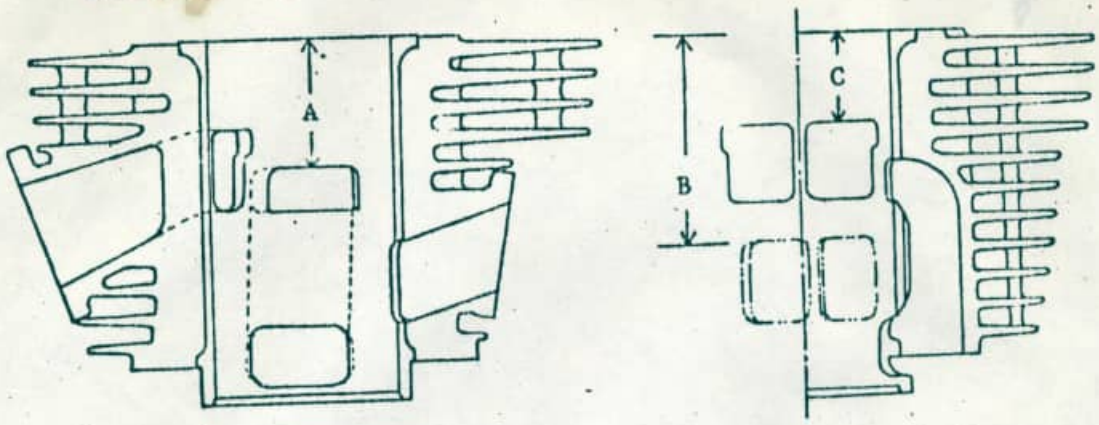
TR500

TR500I

MAINTENANCE

★ Cylinder

The cylinder port timing is as shown in the illustration.

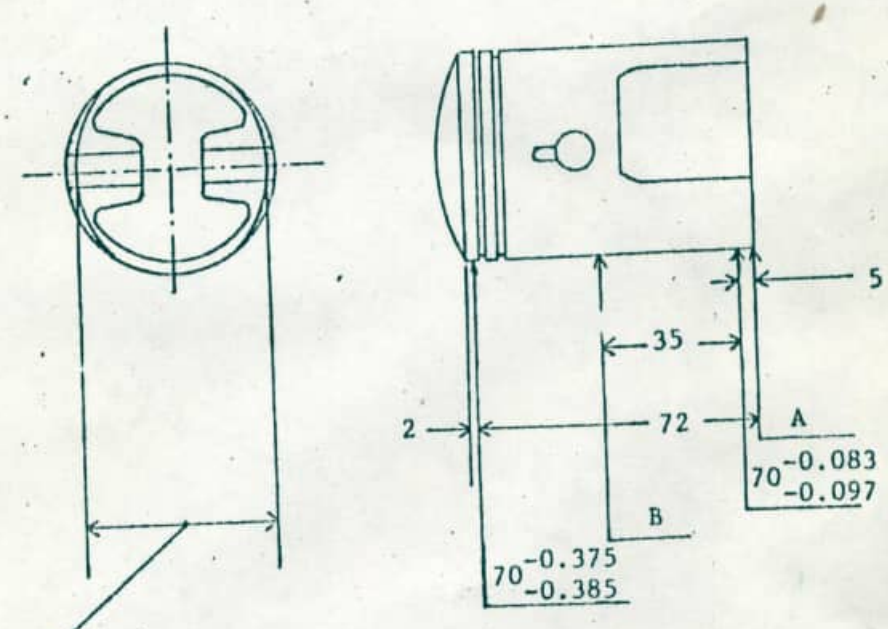


A : 49 mm (1.929 in) B : 110 mm (4.331 in) C : 34 mm (1.339 in)

Inside diametre: 70.05-70.065 mm (measured at 25-30 mm from top serface)

★ Piston

The measurement of the piston is as shown in the illustration.



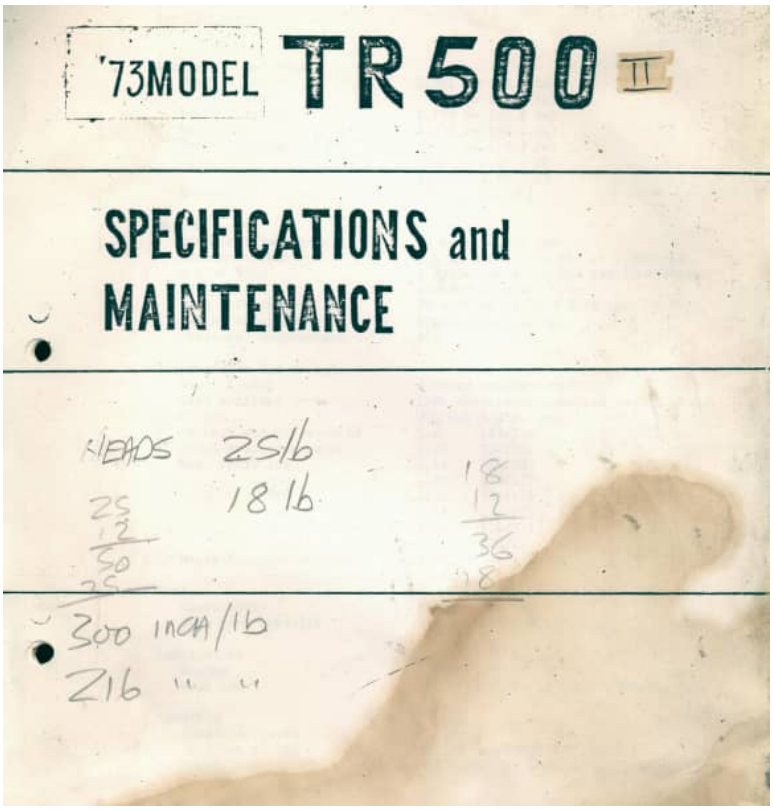
0.09 mm ovalness in diametre when measured at B.
0.07 mm ovalness in diametre when measured at A.

★ Breaking-in

When replacing the cylinder and the piston with new spare parts, it should be observed that the engine be operated with around 7,000 r.p.m. for minimum 30 minutes.
After taking this procedure, remove the cylinder and sand the cylinder and piston with # 400 emery cloth, whenever localized scuffing occurs or high spots are recognized.

1973 Suzuki TR500 Specifications & Maintenance – Tech Sheets

JUNE 1, 2023
CATEGORIES: TR500, RACING, SUZUKI SERVICE BULLETINS
TAGS: TR500 MKII



M. MODEL

'73MODEL **TR500** II

SPECIFICATIONS and MAINTENANCE

HEADS 25 lb
18 lb

25 18
12 12
50 36
25 18

300 INCH/lb
216 " "

SUZUKI MOTOR CO., LTD.

PRINTED IN JAPAN

SPECIFICATION

Dimensions And Weight	
Overall length	2,001 mm (78.8 in)
Overall width	631 mm (24.8 in)
Overall height	1,189 mm (46.8 in)
Wheelbase	1,373 mm (54.1 in)
Road clearance	178 mm (7.0 in)
Tyres, Front	3.00 or 3.25 - 18
Rear	3.25 or 3.50 - 18
Dry weight	138 kg (304 lb)
Engine	
Maximum horse power	70 ps at 8,000 rpm
Maximum torque	6.5 kg-m (47.0 ft-lb) at 7,500 rpm
Engine Type	2 cycle, water cooled gasoline engine
Cylinder	sleeved aluminum twin
Bore x Stroke	70 x 64 mm (2.76 x 2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.4
Transmission And Clutch	
Transmission	6 speed constant-mesh
Gear shifting	left foot lever operated return change
Clutch	dry multi-disc type
Primary reduction ratio	1.8 (63/35)
Final reduction ratio	2.27 (34/15)
Gear ratio low	2.42 (29/12)
2nd	1.71 (29/17)
3rd	1.35 (23/17)
4th	1.16 (22/19)
5th	1.04 (24/23)
6th	0.96 (23/24)
Overall reduction ratio	3.91 (at 6 speed)
Fuel	
Carburetor	VM36SC
Fuel tank capacity	31 ltr (8.2/6.9US/Imp gal)
Lubrication	
Engine	mixed fuel 20 : 1
Gear box	oil bath 1,200 cc (2.5/2.1US/Imp pt)
Ignition	
Ignition system	P.E.I.
Ignition timing	23° at 8,000 rpm B.T.D.C.
Spark plug	NGK B-10EP or B-10.5EP
Frame And Suspension	
Frame	tubular
Brake, Front	double disc brake
Rear	single disc brake
Suspension Maximum stroke	
Front	125 mm (4.9 in)
Rear	70 mm (2.8 in)
Drive Chain	DAIDO 530TR (5/8" x 3/8")

SPECIFICATION

Dimensions And Weight	
Overall length	2,001 mm (78.8 in)
Overall width	631 mm (24.8 in)
Overall height	1,189 mm (46.8 in)
Wheelbase	1,373 mm (54.1 in)
Road clearance	178 mm (7.0 in)
Tyres, Front	3.00 or 3.25 - 18
Rear	3.25 or 3.50 - 18
Dry weight	138 kg (304 lb)
Engine	
Maximum horse power	70 ps at 8,000 rpm
Maximum torque	6.5 kg-m (47.0 ft-lb) at 7,500 rpm
Engine Type	2 cycle, water cooled gasoline engine
Cylinder	sleeved aluminum twin
Bore x Stroke	70 x 64 mm (2.76 x 2.52 in)
Piston displacement	492 cc (30.0 cu in)
Corrected compression ratio	6.4
Transmission And Clutch	
Transmission	6 speed constant-mesh
Gear shifting	left foot lever operated return change
Clutch	dry multi-disc type
Primary reduction ratio	1.8 (63/35)
Final reduction ratio	2.27 (34/15)
Gear ratio low	2.42 (29/12)
2nd	1.71 (29/17)
3rd	1.35 (23/17)
4th	1.16 (22/19)
5th	1.04 (24/23)
6th	0.96 (23/24)
Overall reduction ratio	3.91 (at 6 speed)
Fuel	
Carburetor	VM36SC
Fuel tank capacity	31 ltr (8.2/6.9US/Imp gal)
Lubrication	
Engine	mixed fuel 20 : 1
Gear box	oil bath 1,200 cc (2.5/2.1US/Imp pt)
Ignition	
Ignition system	P.E.I.
Ignition timing	23° at 8,000 rpm B.T.D.C.
Spark plug	NGK B-10EP or B-10.5EP
Frame And Suspension	
Frame	tubular
Brake, Front	double disc brake
Rear	single disc brake
Suspension Maximum stroke	
Front	125 mm (4.9 in)
Rear	70 mm (2.8 in)
Drive Chain	DAIDO 530TR (5/8" x 3/8")

MAINTENANCE

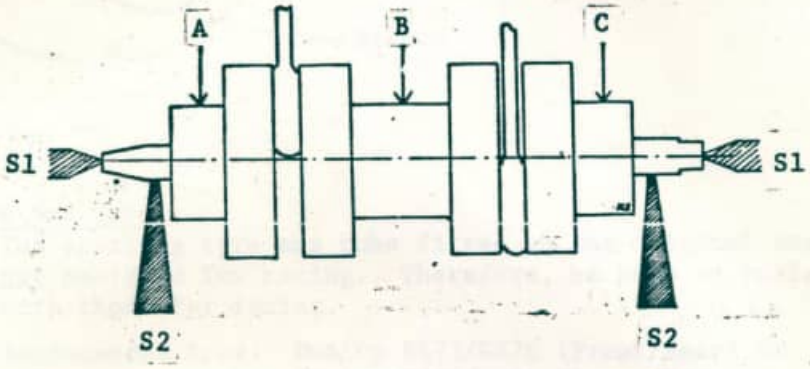
Cylinder Dimension

Exhaust Port	:	34 mm (1.34 in) from cylinder top surface
Transfer Port	:	49 mm (1.93 in) from cylinder top surface
Intake Port	:	108.5 mm (4.27 in) from cylinder top surface
Bore	:	70.20 to 70.35 mm (2.764 to 2.770 in)

Breaking-in For Cylinder And Piston

The engine has been run-in for half an hour at factory. In case of installing the new replacement cylinder or piston, perform the breaking-in for half an hour at 7,000 rpm and raise it afterward to the maximum (8,000 to 8,250 rpm).

Radial Runout Of Crankshaft



In overhauling the engine, check the crankshaft for radial runout at A, B and C points holding it at S1 or S2 points. The crankshaft must be maintained so that the runout is below 0.05 mm.

Crankcase Seal

For perfect sealing of the crank chamber, the water jacket and the gear box, use "Suzuki Bond No. 4 (99000-31010) when assembling the engine.

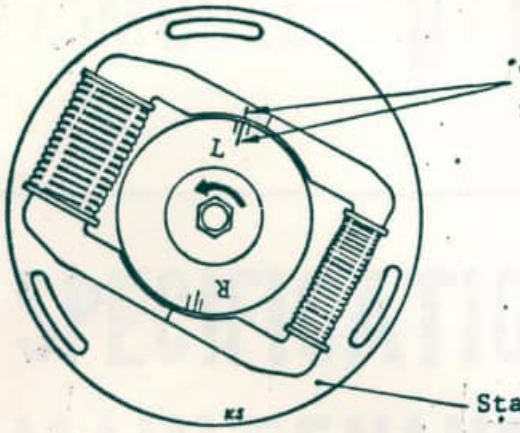
Fuel

Fuel oil mixture ratio	:	20 to 1
Recommended oil	:	Shell Super M or Castrol R-30

Transmission Oil

Shell Super M
Castrol R-30 or R-40

Ignition Timing



Set ignition timing by changing the position of the stator so that the timing marks are in line as shown in the drawing when the piston is at 3.1 mm (23°) before top dead center.

Tyre And Tube

The existing tyre and tube fitted on the original machine are not designed for racing. Therefore, be sure to replace them with those for racing.

Recommended tyre: Dunlop KR73/KR76 (Front/Rear) or
Dunlop KR83/KR84 (Front/Rear)

Size ---------- Front 3.00 - 18 or
3.25 - 18
Rear 3.25 - 18 or
3.50 - 18

Cooling Water

It is preferable to use the mixture of coolant and water.

Coolant	:	Golden Cruiser 1200 (99000-24120)
Water	:	Distilled water
Mixture Ratio	:	70 (Water) to 1 (Coolant)

After filling the system with water, start engine and let it run till the water level lowers and becomes stable. Then, fill it up again.

SUZUKI TWO STROKE ENTHUSIASTS

WITH A FOCUS ON T500/GT500/TR500/GT750/TR750

Guide to the T500/GT500 & TR500

Murray Barnard

ozebook.com