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Corey J. Beitler's

"Distelfink Airlines"

An Online Aviation Newsletter

John Jenkins Designs Sopwith F.1 Camel Model



Cessna 208B Grand Caravan EX

Matchbox Super Kings Fire Spotter Plane Transporter

InFlight 1/200 Scale Lockheed Martin HC-130H Hercules

Focke-Wulf Fw 190 F-8/R1

Sikorsky HH-60M Black Hawk

Modern Aerobatic Teams Bookazine

The toy soldier manufacturer John Jenkins Designs has created an excellent model of the Sopwith F.1 Camel British fighter aircraft for their "Knights of the Skies" product line of World War I figures, vehicles, and diorama accessories. The Sopwith F.1 Camel is one of the most famous fighter aircraft of World War I. Camel pilots are credited with destroying 1,295 enemy aircraft during the war.

FROM THE EDITOR'S DESK

Sopwith F.1 Camel Model, Fw 190, HH-60M, Fire Spotter Plane Transporter Set

Greetings Everyone:

Welcome to the January/February edition of "Distelfink Airlines" and the first edition of the newsletter for 2025. I am once grateful to have the opportunity to share my aviation photojournalism talents with all of you and publish photos and articles about aviation-related topics. Before I get into the highlights of this edition, I want to share some statistics with all of you. In 2024, editions of "Distelfink Airlines" were read by over 17,000 readers in 67 countries and territories worldwide. The newsletter's highest month of readership in 2024 was November with 2,073 readers. The highest single-day total for readers in 2024 was October 1st when 310 readers checked out an edition of the newsletter. I am extremely proud of these reader numbers for "Distelfink Airlines" and I'm excited to see the newsletter discovered and read by more people worldwide. I am looking forward to seeing "Distelfink Airlines" continue to grow this year as I cover aviation-related topics within the pages of the newsletter.

As it is the winter months and the airshow and aviation event off-season, this edition of the newsletter focuses on some aviation-related topics to start the year. The feature article for this newsletter edition highlights the excellent 1/30 scale model of the Sopwith F.1 Camel British World War I fighter produced by the toy soldier manufacturer John Jenkins Designs. This company is noted for its excellent World War I aircraft models, and the Sopwith F.1 Camel does not disappoint. Realistic rigging, photo-etched metal detail parts, and accurate colors and markings make this model an excellent replica of the famous fighter. Included with the article about the model is a brief history of the Sopwith F.1 Camel in service as well.

Also featured in this newsletter edition is an article about the Focke-Wulf Fw 190 F-8/R1 that is part of the National Air and Space Museum's collection. The Fw 190 was the only German fighter designed during World War II that used a radial engine. The Fw 190 was an excellent fighter, but it also saw service as a fighter-bomber and ground-attack aircraft, especially later in the war as the German military situation became more desperate. The Fw 190 in the National Air and Space Museum collection was an example brought to the United States after the war for evaluation and testing purposes as a war prize.

The "Aircraft of Special Interest" features the Sikorsky HH-60M Black Hawk, a medical evacuation variant of the UH-60 Black Hawk utility helicopter. These helicopters have been used extensively in recent U.S. military conflicts in the Middle East and Afghanistan to evacuate wounded soldiers from the battlefield.

The "Aviation Memorabilia" section of the newsletter features a replica of a tractor-trailer carrying a fire-spotting airplane. This item was made by Matchbox as part of a line of larger die-cast vehicles called "Super Kings". My grandfather purchased of this truck for me when I was a child at a now-closed local toy shop named London Bridge, which sold collectible die-cast vehicles. I have fond of gently playing with this truck as a child and memories of going to this store with my grandfather and always coming home with a present. With the recent wildfires in California and the resources on the ground and in the air being used to contain them, I thought this toy truck would be a nice addition to the newsletter for this edition.

Thank you again for supporting my aviation photojournalism efforts and "Distelfink Airlines" this year. Please feel free to share the newsletter with whoever you wish and invite them to join the newsletter's official social media pages listed below.

Regards,
-Corey

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Modern Aerobatic Teams Bookazine

Tempest Books has published a bookazine that is an excellent quick reference guide to the world's military aerobatic teams and features color aircraft profiles drawn by renowned aviation illustrator JP Vieira.

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Cessna 208B Grand Caravan EX



A Cessna 208B Grand Caravan EX operated by Southern Airways Express on approach to the Washington Dulles International Airport in Chantilly, Virginia. Introduced into service in 1984, variants of the 208 Caravan and 208B Grand Caravan have been popular with operators as utility aircraft worldwide. The 208B Grand Caravan EX is an updated variant of the 208B Grand Caravan and was introduced into service in 2012. This 208B Grand Caravan wears the livery of Mokulele Airlines, a Hawaiian regional airline owned by Southern Airways Express.

The Cessna 208B Grand Caravan EX is an updated variant of the Cessna 208 strutted, high-wing, unpressurized, fixed landing gear, single-engine turboprop utility aircraft produced by Cessna since 1982. Since its introduction in 1984, over 3,000 examples of the 208 Caravan and the 208B Grand Caravan have been built. The type has flown over 24 million flight hours in flight training, commuter airline, air cargo, skydiving, and humanitarian roles.

The project to build the Cessna 208 began in 1981 and was the idea of John Berwick, chief engineer at Cessna's Pawnee engineering facility. Berwick envisioned a high-wing, single-engine aircraft capable of carrying a large payload. After approval to proceed from Cessna executives, Berwick designed the 208, with the prototype flying for the first time in 1982. Deliveries of the Cessna 208 began in 1984. An unexpected break for Cessna came when FedEx flew and surveyed the prototype 208. FedEx was impressed with the aircraft and asked Cessna to design a freighter version, becoming one of the type's primary operators. Another cargo variant designed for FedEx, with a longer fuselage and cargo pod under its belly, was developed as the 208B Super Cargomaster and flew for the first time in 1986. A passenger version designed for commuter airline service, the 208B Grand Caravan, entered service in 1990. Since its introduction, the Caravan has undergone numerous design changes and upgrades. The newest version of the aircraft is the Grand Caravan 208B EX. This version of the Caravan has a glass cockpit with the Garmin 1000 avionics system and a more powerful Pratt & Whitney Canada PT-6A-140 turboprop engine.

The Cessna 208 has been popular with operators due to its versatility. The 208B Grand Caravan can accommodate nine passengers in a standard airline seating configuration. The aircraft can be fitted with conventional landing gear, floats, or skis for operations in remote areas. An underbelly cargo pod can be used to hold baggage or cargo. When the 208 is operated as skydiving aircraft, the left side cargo hatch is often converted to a roll-up door.

The Cessna 208B Grand Caravan EX pictured here is operated by Southern Air Express but carries the livery of Mokulele Airlines, a Hawaiian regional airline, which Southern Airways Express owns and operates. This airplane was delivered new to Southern Airways Express in November 2024.





Matchbox Super Kings Fire Spotter Plane Transporter



This die-cast vehicle set featuring a Peterbilt 359 tractor and trailer transporting a Noorduyn Norseman utility aircraft was released in 1985 by Matchbox as #K-112, Fire Spotter Plane Transporter, in the Super Kings product line of large-scale die-cast vehicles geared toward collectors. The set has an emergency theme, with the Norseman utility aircraft decorated as an airplane used to spot and observe wildfires.

Matchbox is a toy brand introduced by Lesney Products in 1953 and owned by Mattel Inc. since 1997. The brand received its name because the original Matchbox toy die-cast toy vehicles were sold in boxes similar to those in which matches were sold. Although the original matchbox-style packaging has been retained for special collector's editions vehicles, most Matchbox die-cast vehicles are now sold in more conventional cardboard and plastic "blister packs". Since its introduction in the 1950s, the Matchbox brand has grown to include larger die-cast toy vehicles, slot car racing sets, model kits, and special collector's edition die-cast vehicles.

In 1960, Matchbox began offering larger die-cast 1/43 scale trucks and tractors under a "King Size" product line. This product line expanded to include die-cast sports and race cars, and the larger vehicles with more detail became popular with collectors. In 1971, Matchbox split the "King Size" product line into two separate product lines, "Speed Kings", which focused on die-cast sports and race cars, and "Super Kings", which featured tractors, and emergency, commercial, and construction vehicles. Eventually, Matchbox merged the "Speed Kings" product line back into the "Super Kings" product line to simplify the marketing of these larger die-cast vehicles.

The Fire Spotter Plane Transporter was one of the Super Kings vehicle sets available. The first version of this set appeared in 1985 as Super Kings #K-112. The set featured a Peterbilt 359 tractor with a flatbed trailer transporting a Noorduyn Norseman utility aircraft decorated as a fire spotter airplane. The tractor and flatbed trailer are made of die-cast metal and plastic, while the airplane is made entirely of plastic. The airplane's propeller turns, and its floats are removable, revealing conventional landing gear for land operations. The Peterbilt tractor featured steerable front wheels in later versions of the set. This Super Kings set was reissued from 1986 to 1988 as Super Kings #K-134 with a new paint scheme. The set was released for the final time by Matchbox from 1991 to 1993 in a series of emergency-themed vehicles for the overseas market. The set was product-coded #EM-11 for this series, featured another new paint scheme, and was renamed Peterbilt 359/Norseman A/C.

Pictured here is an example of Matchbox Super Kings set #K112. My grandfather purchased this example of #K112 set for me as a child at a long-gone local toy shop named London Bridge, which sold collectible toys and die-cast toy vehicles.





The wings of the Norseman were removable so the airplane could fit in a realistic position on the flatbed trailer. The Norseman's floats snap into the plastic attachment mounted to the trailer. The wings are stored on the side of the trailer attachment using small clips.



The tractor and trailer are made of metal, but the airplane is made of plastic and lacks the paint and mold detail of the tractor and trailer. This vehicle was offered in three paint variations, with the later versions having improved paint details. This set is the first version of this Super Kings vehicle, sold in 1985 and 1986.



InFlight 1/200 Scale Lockheed Martin HC-130H Hercules



Die-cast model aircraft manufacturer InFlight has produced an excellent 1/200 scale model of a Lockheed Martin HC-130H Hercules in the markings of CAL FIRE. CAL FIRE recently acquired seven HC-130Hs from the U.S. Forest Service and plans to operate these aircraft as air tankers to fight wildfires. Recently, one of the CAL FIRE HC-130Hs was used to drop several loads of chemical retardant on the Palisades Wildfire that devastated areas near Santa Monica and Malibu.

The Lockheed C-130 Hercules is an American four-engine turboprop military transport aircraft designed and built by Lockheed (now Lockheed Martin). Designed to use unprepared runways for takeoff and landing, the C-130 was initially designed as a troop, medical evacuation, and cargo transport aircraft. The C-130 also featured a rear loading ramp that could be used to drop paratroopers or cargo and drive vehicles into the cargo hold. In the years following its introduction, the C-130 has proved to be a versatile airframe adaptable to many roles, including gunship, search and rescue, weather reconnaissance, aerial refueling, and aerial firefighting. Over 40 military and civilian variants of the C-130 Hercules are operated by more than 60 nations worldwide. Since its introduction, over 2,500 C-130s of all variants have been built, and the type has been in production for 70 continuous years, making it the world's longest continuously produced military aircraft.

The C-130A Hercules entered service in 1956 with the U.S. Air Force. The improved C-130B followed, with auxiliary fuel tanks built into the wing center section and

four-blade Hamilton Standard propellers replacing the original three-blade units from Aero Products that equipped the A-variant. The next model introduced was the E-variant in 1962. The E-variant featured more powerful Allison T56-A-7A turboprop engines, avionics upgrades, structural improvements, and increased fuel capacity. Originally produced as the C-130F, the KC-130 was built as an aerial refueling tanker for the U.S. Marine Corps. The C-130G, built for the U.S. Navy, had increased structural strength for a higher gross operating weight.

Introduced in 1964, the C-130H was improved substantially over previous variants. The C-130H featured improved Allison T56-A-15 turboprop engines, a redesigned outer wing, and updated avionics. H-variants built later in the production run had a redesigned center wing section for improved fatigue life. H-variants produced from 1992 to 1996 were designated the C-130H3 by the U.S. Air Force. These C-130Hs had GPS receivers, a partial glass cockpit, APN-241 color radar, and night vision device-compatible instrument lighting.



The C-130H remains in widespread use with the U.S. Air Force and many other nations worldwide for airlift operations of cargo and personnel. A modified variant, the HC-130H, is used by the U.S. Coast Guard for long-range maritime patrol and search and rescue missions.

In 1996, the redesigned Lockheed Martin C-130J Super Hercules entered service. The new C-130J variant features Rolls-Royce AE2100D3 turboprop engines, Dowty R391 six-bladed composite scimitar propellers, and digital avionics. The improvements give the C-130J an increased operational range and a higher maximum top speed than previous variants of the C-130. Many operators of the C-130 Hercules have replaced older variants of the aircraft with the C-130J. The U.S. Air Force and the U.S. Marine Corps have used the C-130J extensively in operations in Iraq and Afghanistan. Similar to earlier variants of the C-130, special variants of the C-130J have been developed for search and rescue operations and other special mission requirements. The U.S. Coast Guard is in the process of replacing their HC-130H fleet with the updated HC-130J. Over 500 C-130Js have been delivered to 26 operators in 22 countries worldwide.

InFlight is a die-cast model airplane manufacturer focusing on models of commercial and military aircraft in

1/200 scale. This scale is one of the standard scales for die-cast models of larger aircraft such as commercial airliners. InFlight models are known for excellent detail. InFlight models feature antennas, high-quality graphics, rolling landing gear wheels, and a display stand.

The InFlight model featured here represents a Lockheed C-130H Hercules operated by the California Department of Forestry and Fire Protection (CAL FIRE). CAL FIRE is the fire department of the California National Resources Agency in the state of California. CAL FIRE is responsible for fire protection of 31 million acres of land which is considered state responsibility in California. CAL FIRE's foremost role is to fight and prevent wildfires.

To fight wildfires in California, CAL FIRE operates a fleet of over 60 aircraft for aerial firefighting. From 13 air attack bases and 13 helitack bases statewide, CAL FIRE fixed-wing and rotary aircraft can reach most wildfire scenes within 20 minutes. The agency operates 23 Grumman S-2T Trackers as aerial firefighting aircraft, 14 North American Rockwell OV-10A Broncos as observation and command and control aircraft, and 12 Bell UH-1H Super Huey helicopters to transport attack crews to fire areas. These helicopters can perform drops of water or chemical retardant.



The InFlight CAL FIRE Lockheed Martin HC-130H Hercules model has incredible detail and several moving parts. The model features optional position landing gear, rotating propellers, rolling wheels, and an opening and closing rear loading ramp. InFlight also did an excellent job replicating the color scheme used on the CAL FIRE HC-130Hs on their model.





The 1/200 scale InFlight CAL FIRE Lockheed HC-130H Hercules features a high-quality metal display stand and optional landing gear parts to display the model with its landing gear extended or retracted. Unfortunately, the parts used to display the model with its landing gear retracted are one of the few weak points of the model. These parts are a tight fit on the model and are difficult to remove once installed.

In recent years, CAL FIRE has also begun operating new fixed-wing and rotary aircraft to replace aging aircraft in the fleet and to be equipped to respond to the growing threat of wildfires in the state. Recently, CAL FIRE purchased several examples of the Sikorsky S-70i Firehawk helicopters for their air program. The agency plans to acquire up to 12 Firehawk helicopters for aerial firefighting support, including water drops, to replace the aging UH-1H Super Huey fleet.

In 2013, the U.S. Forest Service was given seven ex-U.S. Coast Guard HC-130H Hercules aircraft to convert into air tankers for aerial firefighting. Millions of dollars in funding were authorized for the U.S. Air Force to perform maintenance on the aircraft for the U.S. Forest Service. The U.S. Forest Service eventually lost interest in the project, citing costs and other operational issues. In 2018, CAL FIRE submitted a request and secured approval to acquire the HC-130Hs. In December 2023, the U.S. Congress approved legislation that officially transferred the seven HC-130Hs to CAL FIRE. CAL FIRE spent most of 2024 beginning to retrofit the HC-130Hs for the air tanker role. The retrofit includes adding new wiring to each aircraft and a chemical retardant tank in the HC-130H's cargo hold. Each CAL FIRE HC-130H will also

have a new center wing box installed to improve the structural strength of the wing and support higher operational gross weights. The first CAL FIRE HC-130H became fully operational in September 2024.

All seven CAL FIRE HC-130Hs will operate from the agency's facility at McClellan Air Force Base in Sacramento. It is hoped the HC-130H's 4,000-gallon (15,142 liters) chemical retardant capacity, 800-mile (1287 kilometers) range, and 330-mile-per-hour (531 kilometers per hour) cruise speed improves the CAL FIRE aerial response to wildfires. During the recent Palisades Wildfire, the first operational CAL FIRE HC-130H made eight separate drops on the fire and dropped over 32,000 gallons (121,133 liters) of chemical retardant.

This InFlight model of a CAL FIRE HC-130H Hercules represents the HC-130H Hercules T-118 in the CAL FIRE fleet. This HC-130H is not currently operational as an air tanker but has been used for CAL FIRE crew training flights. T-118 was also one of the first aircraft painted in the livery that CAL FIRE will use on their HC-130H fleet. The model is made primarily of die-cast metal and is fully assembled and ready to display. The model can be displayed on its extended landing gear or the included desktop display stand.



The InFlight 1/200 scale CAL FIRE Lockheed HC-130H Hercules model has many fine qualities. InFlight did an excellent job replicating the color scheme CAL FIRE uses on all their HC-130H aircraft. The bright and colorful red, white, and black color scheme on this model will stand out in any collection of die-cast model airplanes. The tampo graphics used for the lettering and numbering on the model are also clearly rendered with bright colors.

InFlight also included several interesting working features on the model. The HC-130H features optional position landing gear parts to display the model's landing gear in the extended or retracted position. The extended landing gear pieces have rolling wheels. The model also has rotating propellers, and the rear loading ramp opens and closes on the model.

Finally, InFlight does an excellent job with the overall presentation of its models. The model comes in a sturdy cardboard box with foam packing inserts cut to fit the model. Plastic sheets placed around the model within the foam packing inserts prevent paint damage. The box can also be used to store the model if a collector does not want to display it. InFlight also includes metal display stands with their models. These display stands

have a plaque on the base with the name of the airplane and the organization that operates it.

The only weakness of this excellent InFlight HC-130H Hercules is the design of the pieces used to display the model with its landing gear retracted. These parts snap into the model tightly. On this model, the piece used to represent the nose gear retracted never fit correctly on the model. The tight fit of these parts on the model makes them nearly impossible to remove. The risk with these parts is as a collector struggles to remove them, their hands accidentally break off one of the numerous antennas or one of the propeller blades. InFlight should revise the design of these parts on future models so their fit is improved on the model and they are easier to remove.

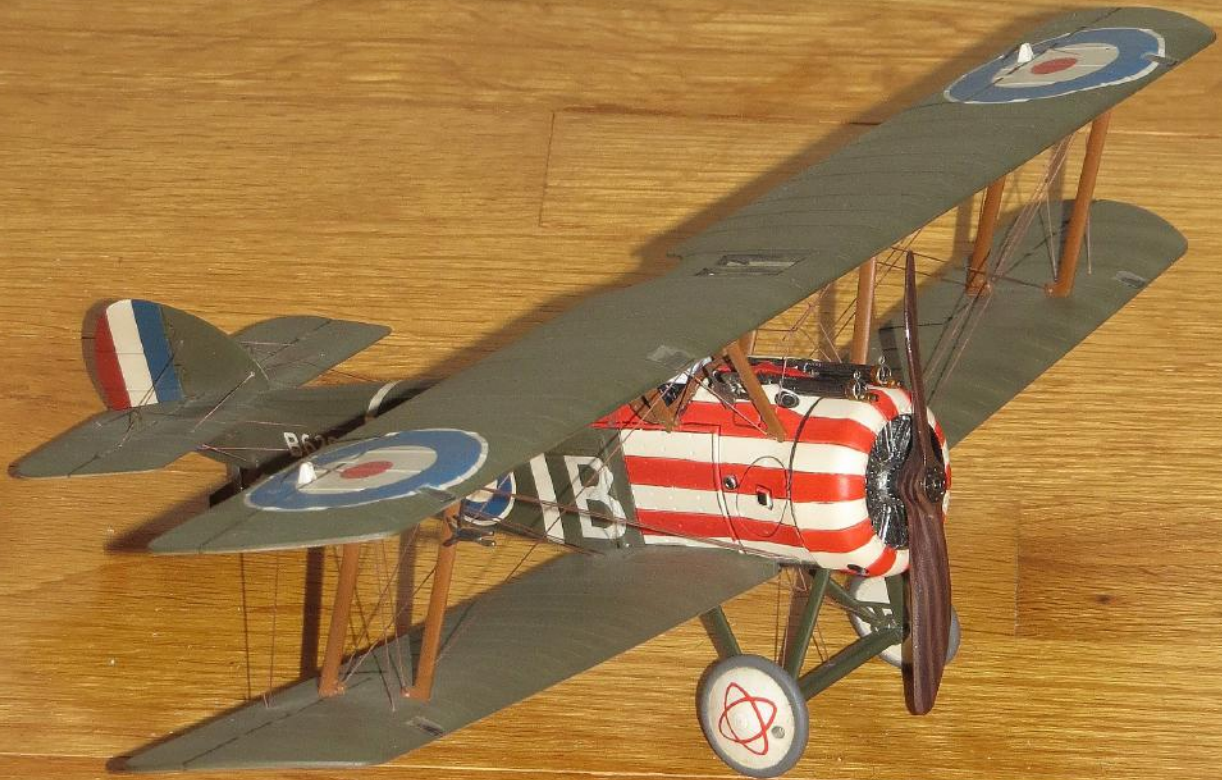
The InFlight CAL FIRE Lockheed HC-130H Hercules is an excellent model of one of the most versatile military transport aircraft produced. At 1/200 scale, the model fits perfectly on a desk or bookshelf. The model's bright color scheme and excellent detail will be appreciated by any die-cast model aircraft collector. Finally, the model is a wonderful tribute to the aerial firefighting crews of CAL FIRE and all the work they are doing to bring the recent California wildfires under control.



The 1/200 scale InFlight CAL FIRE Lockheed Martin HC-130H Hercules is an excellent model of an aircraft that will be an important part of CAL FIRE's future aerial firefighting efforts. The model's bright color scheme and its perfect size for a desk or bookshelf make it a wonderful addition to any die-cast model airplane collection.



John Jenkins Designs Sopwith F.1 Camel Model



The toy soldier manufacturer's excellent model of one of the most famous British fighter aircraft of World War I features colorful markings and incredible realistic details.

The John Jenkins Designs Sopwith F.1 Camel is an excellent model of the famous British World War I fighter. The model has a high level of detail and features photo-etched metal parts for the Vickers machine guns, rotary engine, engine cowling, fuselage fuel tank caps, cockpit flight instruments, and pilot's seat.





The Old Rhinebeck Aerodrome, an aviation museum in Red Hook, New York, has a replica of a Sopwith F.1 Camel painted in the markings of #B6299 flown by Flight Lt. Norman Miers MacGregor in their collection. This aircraft is powered by an original Gnome rotary engine and has been flown in the weekend airshows held at the museum in the summer and fall months.

The Sopwith Camel is a British single-seat, single-engine biplane fighter aircraft that saw service during World War I and was introduced on the Western Front in 1917. Developed by the Sopwith Aviation Company as a successor to the successful Sopwith Pup fighter, the Sopwith Camel became one of the most famous and well-known fighter aircraft of the First World War. Pilots flying the Sopwith Camel were credited with shooting down 1,294 enemy planes, more than any other Allied fighter aircraft that flew in the war. Near the end of the conflict, Camels were relegated to ground attack duties, as they had lost their edge as fighters to more modern designs.

Development of the Camel began in 1916 when it became clear that the Sopwith Pup and the French-built Nieuport 17s were no longer effective against the newer German fighters, such as the Albatros D.III. Herbert Smith, the chief designer of the Sopwith Camel, realized the new fighter needed to be faster and more heavily armed than its predecessors. The prototype Camel flew for the first time in December

1916, with Sopwith test pilot Harry Hawker at the controls. In early 1917, the British War Office issued a production contract for 250 F.1 Camels. Throughout 1917, additional production contracts were authorized, and over 1,300 examples of the F.1, the most common variant of the Camel, were produced.

The Sopwith Camel had a conventional design for its era, with a wooden box-girder fuselage structure, aluminum engine cowling, plywood panels around the cockpit, and a fabric-covered fuselage, wings, and tail. Although similar to the Pup in design and layout, the Camel had a distinctively bulkier fuselage. For the first time on a British fighter aircraft, the two 0.303 in (7.7 mm) Vickers machine guns were mounted right in front of the cockpit and synchronized to fire through the propeller. The machine gun breeches were covered by a raised metal fairing to prevent the guns from freezing at altitude. This fairing had a distinctive hump shape that gave the Camel its nickname. In addition to its machine guns, the Camel could be equipped with bomb racks on the lower wings to carry four Cooper bombs for ground attack missions.



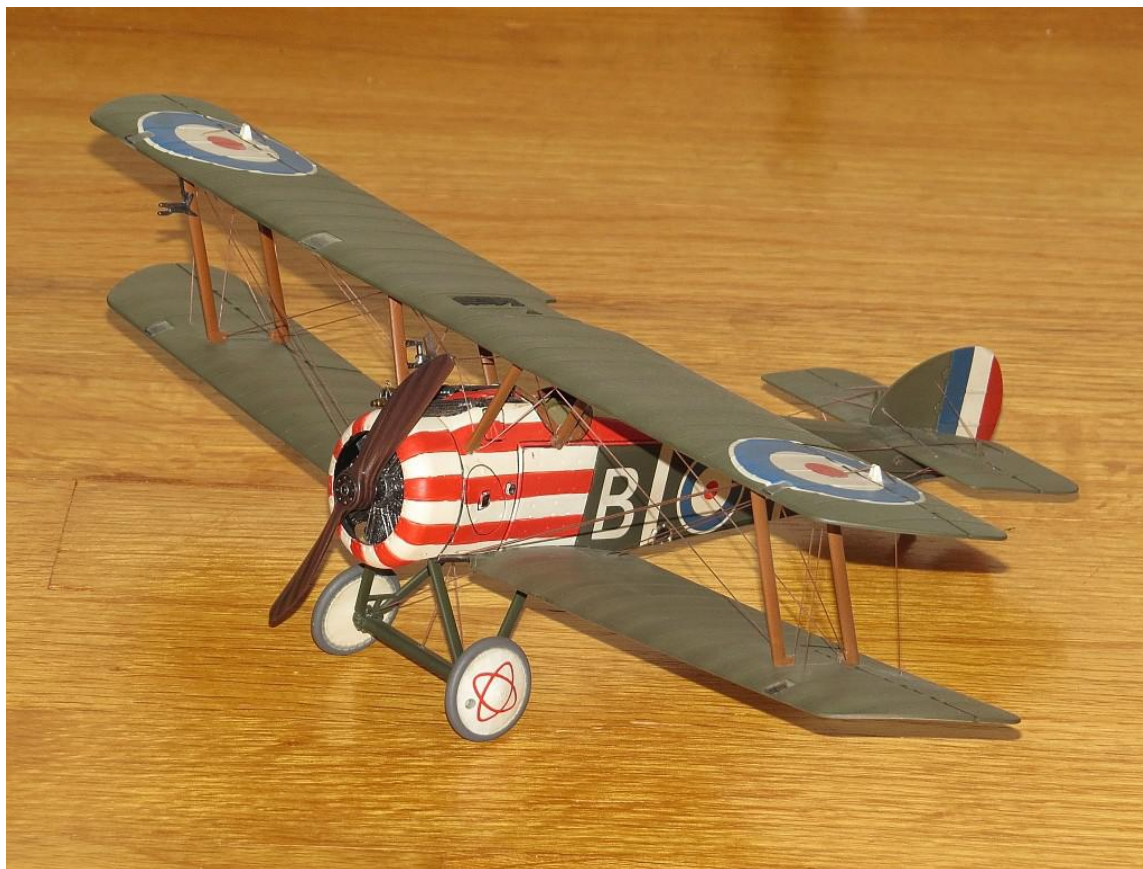
Other notable features of the Camel were the lower wings rigged with 5° dihedral, and the upper wing had a cutout in its center for improved pilot visibility. Similar to other Sopwith fighters, the Camel had clear inspection panels in the leading edges of its wings so ground crews could inspect pulleys and cables inside the wings. Several rotary engines were used to power the Sopwith Camel depending on availability, the most common being the Clerget 9B or Bentley BR1.

Unfortunately, the Sopwith Camel's flight characteristics would cause problems when the type entered operational service. Unlike the Sopwith Pup, which was docile and had gentle flight characteristics, the Sopwith F.1 Camel had light and sensitive controls, and almost 90% of its weight was within the first seven feet of the airframe. These design features, combined with the gyroscopic effects produced by the rotary engine, made the Camel difficult to fly.

Due to the rotary engine's torque, the Camel turned more slowly to the left than the right. When being

turned to the left, the Camel tended to have a nose-up attitude. When being turned to the right, the Camel tended to have a nose-down attitude. The Camel was also noticeably tail-heavy in level flight and required constant pressure on the control stick by the pilot to maintain level flight. Any stall in the Sopwith Camel led to a dangerous spin. Many new Sopwith Camel pilots crashed on takeoff when a full load of fuel and armament pushed the aircraft's center of gravity beyond its rearmost safe limit.

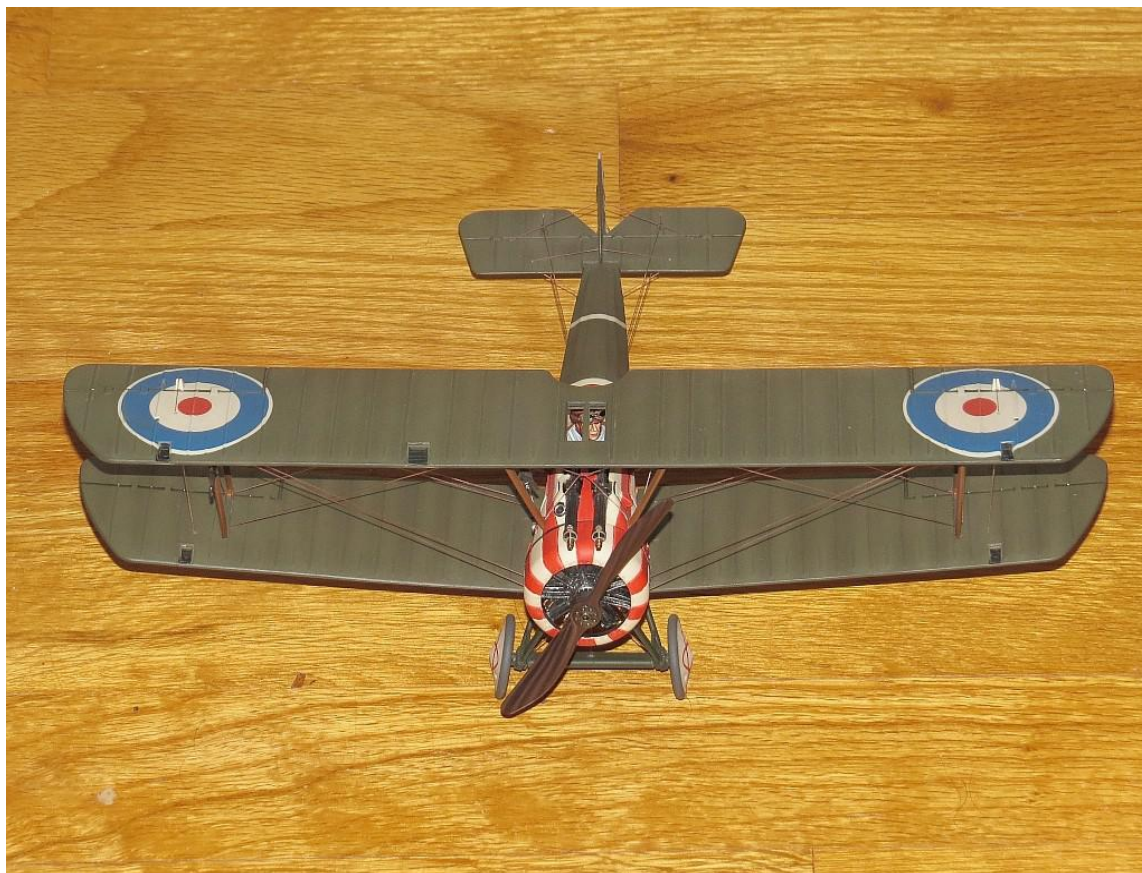
Two-seat training versions of the Camel were constructed to ease the transition to the type for student pilots. This was accomplished by taking the main center fuel tank out of the Camel's fuselage and replacing it with a smaller tank. The space saved by installing the smaller tank allowed for a second seat and a second set of controls to be fitted to the Sopwith F.1 Camel. Pilots who were able to master the Sopwith Camel and its flight characteristics praised its agility in combat, and its maneuverability was an attribute in the low-speed, turning dogfights of the era.



The 1/30 scale John Jenkins Designs Sopwith F.1 Camel accurately replicates many design attributes of the actual aircraft. The model has an accurate shape for the fuselage and the wings. A large number of photo-etched metal parts were used on the model to replicate smaller parts in excellent detail such as the rotary engine and the twin Vickers machine guns mounted in front of the cockpit.



This view of the John Jenkins Designs Sopwith F.1 Camel model shows that the original aircraft had lower wings with noticeable dihedral, and the landing gear had a slightly splayed stance. Another unusual design feature of the Sopwith F.1 Camel was the section cut out of the center of the top wing to improve upward visibility for the pilot.



The first Sopwith F.1 Camels entered service with the No. 4 Squadron of the Royal Naval Air Service (RNAS) based at Dunkirk, France, on the Western Front in 1917. By July, the fighter also equipped the No. 3 and No. 9 Naval Squadrons and the No. 70 Squadron of the Royal Flying Corps (RFC). By February 1918, the Sopwith Camel equipped 13 squadrons. In service, the Camel was more maneuverable than the Albatros D.III and D.V. Together with the Royal Aircraft Factory S.E. 5a and the French-built Spad S.XIII, the Camel helped the Allies regain air superiority over the Western Front.

The Sopwith Camel was also used as a home defense fighter for interception of German daylight bombing raids over England. No. 44 Squadron of the RFC was the first home defense squadron equipped with the Sopwith F.1 Camel. By August 1918, seven home defense squadrons were equipped with the Camel. The Camels stationed on home defense duty were used to intercept German bombers on raids over England throughout 1918.

When the Germans switched to nighttime bombing raids, the Camel proved it could be flown at night. The Camels assigned to home defense were modified with navigation lights for night flying. A few Camels underwent a modification where the cockpit was moved rearward, and the twin Vickers guns were removed and replaced with twin Lewis guns mounted on the top wing. This modification, known as the “Sopwith Comic”, allowed the pilot to fire without affecting his night vision. The Lewis machine guns could also fire incendiary ammunition that the Vickers machine guns could not.

During the final nighttime bombing raid by German bombers on the evening of May 20 and 21, 1918, a combined force of over 70 Sopwith Camels and Royal Aircraft Factory S.E. 5as intercepted 28 Gothas and Zeppelin-Staaken R.VI bombers. Three of the bombers were shot down by the fighters, with two being downed by anti-aircraft fire from the ground and another lost to engine failure. These losses were the heaviest suffered by German bombers on a single nighttime raid over England during the war.





The John Jenkins Designs Sopwith F.1 Camel model features crisply molded wings with simulated rib and fabric texture. Another highlight of the model is the replicated rigging wires throughout the model. Wire tinted in an earth color was used to simulate the rigging, and it is all tightly stretched and secured for a realistic appearance on the model.

Due to its small size, the Sopwith Camel was also suitable for use as a shipboard or parasite fighter. A variant specifically for this purpose, the 2F.1 Ship's Camel, was operated by the RNAS in this role. The 2F.1 Ship's Camel had a slightly shorter wingspan than the standard Sopwith F.1 Camel, and these aircraft also used the Bentley BR1 exclusively as their standard engine. In addition to these changes, the 2F.1 Ship's Camel had one of its Vickers guns exchanged for a Lewis gun mounted above the wing. This armament change allowed the 2F.1 Ship's Camels to shoot down German Zeppelin airships used as bombers with incendiary ammunition.

The Sopwith 2F.1 Ship's Camels were flown by the RNAS from platforms mounted on top of the turrets of major warships and the *H.M.S. Furious* aircraft carrier. These Camels could also be flown off barges called aircraft lighters. These barges were located in the English Channel and coastal inlets and towed fast enough so the fighters could take off. These barges were strategically positioned so the 2F.1

Camels aboard them could be launched to intercept enemy aircraft on bombing raids quickly and be in an advantageous position to attack them.

Late in the war, the Sopwith Camel became obsolete as a fighter as its performance was outclassed by newer German fighters. Squadrons flying the Camel switched to the ground attack role to provide infantry support to Allied ground forces. For the ground-attack role, a Sopwith Camel with extra armor plating on the underside of the fuselage and its machine guns angled downward for more accurate strafing runs, the T.F.1 Camel, was developed. Conducting bombing and strafing runs on German lines, Camels caused heavy losses to German ground forces but suffered significant losses of their own. Camels provided extensive aerial support to the retreating British Fifth Army during the German spring offensive in 1918. Due to development and production delays with the Camel's successor, the Sopwith Snipe, the Camel remained in use in the ground attack role until the signing of the Armistice on November 11, 1918.



In the postwar years, Sopwith Camels continued to see frontline action. Squadrons of British Camels were deployed to Russia to assist in the Allied Intervention in the Russian Civil War. These operations were designed to secure ammunition and supply depots and prevent them from falling into German hands. These squadrons and their Sopwith Camels also began directly supporting White Russian Forces in 1919 by flying reconnaissance, ground attack, and escort operations.

During World War I, over 5,400 Sopwith Camels of all variants had been built by Sopwith and licensed contractors. After the war, the Camel was rapidly phased out of service. The last examples of the Camel in British service were retired in 1920. During the war, the Camel was flown in large numbers by pilots from England, Canada, Australia, Belgium, and the United States. The Camel was also flown in smaller numbers by other nations throughout the early 1920s. Today, a few original Camels survive in museums worldwide, and the type is one of the most

famous fighter aircraft from World War I. Several aviation museums have also built replicas of the Sopwith Camel, some powered by original rotary engines, and fly them in World War I-themed airshows and aerial demonstrations.

The 1/30 scale model of a Sopwith F.1 Camel featured in this article is manufactured by the toy soldier company John Jenkins Designs and part of the company's "Knights of the Skies" product line of World War I aircraft, figures, vehicles, and diorama accessories in 1/30 scale. This model, product coded ACE-46, retails for \$269 and was released in late 2022. As is usual for John Jenkins Designs 1/30 scale model aircraft, the model comes in a sturdy cardboard box with foam packing inserts surrounding the model for shipping protection. The model is made of mixed media materials, including resin, metal, and plastic. The model is fully assembled and painted and is ready to display straight out of the box. For an additional cost, a display stand can be purchased separately and attached to the model to display on a desk or bookshelf as if it were flying.

An interesting design attribute of many Sopwith aircraft was the installation of clear panels along the leading edges of the wings. These clear panels allowed ground crews to inspect the pulleys for the control cables in the wings without removing any fabric. John Jenkins Designs faithfully recreated this detail on their 1/30 scale Sopwith F.1 Camel model.



ACE-46 represents the Sopwith F.1 Camel #B6299 flown by Flight Lt. Norman Miers MacGregor of the No. 10 Naval Squadron when based at Tétégham, France, in late 1917. MacGregor became an ace while flying with the No. 10 Naval Squadron, one of his confirmed victories being a Fokker Dr.I Triplane flown by 33-victory German ace and leader of Jasta 11, Kurt Wolff. Flight Lt. MacGregor gained his final two victories with #B6299, bringing his total to seven victories during the war. In February 1918, MacGregor was awarded the Distinguished Flying Cross (DFC) for his actions in combat.

The John Jenkins Designs 1/30 scale Sopwith F.1 Camel is a stunning replica of one of the most famous fighter aircraft of World War I. John Jenkins Designs use of mixed media materials throughout the model allows for details to be replicated with high levels of accuracy and realism. Photo-etched metal parts used for the twin Vickers machine guns permit the detail of the barrels and gunsights to be captured in miniature form. Photo-etched metal

parts were also used to recreate an authentic-looking rotary engine in a simulated aluminum engine cowling. This engine turns when the propeller is rotated, just like on the real aircraft. The rotating engine and propeller are the only two moving parts on the Sopwith Camel. The propeller's simulated wooden texture is another excellent feature of the model.

The cockpit also features an amazing level of realism and detail. John Jenkins Designs accurately reproduced the Camel's control stick and flight instruments in the cockpit. Also present in the cockpit is a seat with seat belts. John Jenkins Designs also simulated the leather trim around the edge of the cockpit and the foothold in the fuselage the pilot would have used to step up and climb into the cockpit. The filler caps for the fuel tank, located just behind the cockpit, are also correctly positioned on this model. The cockpit is large enough that most John Jenkins Designs half-bust pilot figures designed for their World War I aircraft models can fit inside it. These figures are sold separately through the John Jenkins Designs



The John Jenkins Designs Sopwith F.1 Camel model has many smaller details that make it an exceptional model of the British World War I fighter. Some of these details include tires painted the correct grey color, a simulated wood grain propeller, and a cockpit with a pilot seat and seat belts, a control stick, and flight instruments.



Another angle of the John Jenkins Designs Sopwith F.1 Camel 1/30 scale model. The model is finished in the color scheme of an aircraft flown by Flight Lt. Norman Miers MacGregor when he flew as a part of the No. 10 Naval Squadron in late 1917. The color scheme of Sopwith F.1 Camel #B6299 is well-documented by World War I aviation historians. John Jenkins Designs did an excellent job replicating the famous scheme on the model.



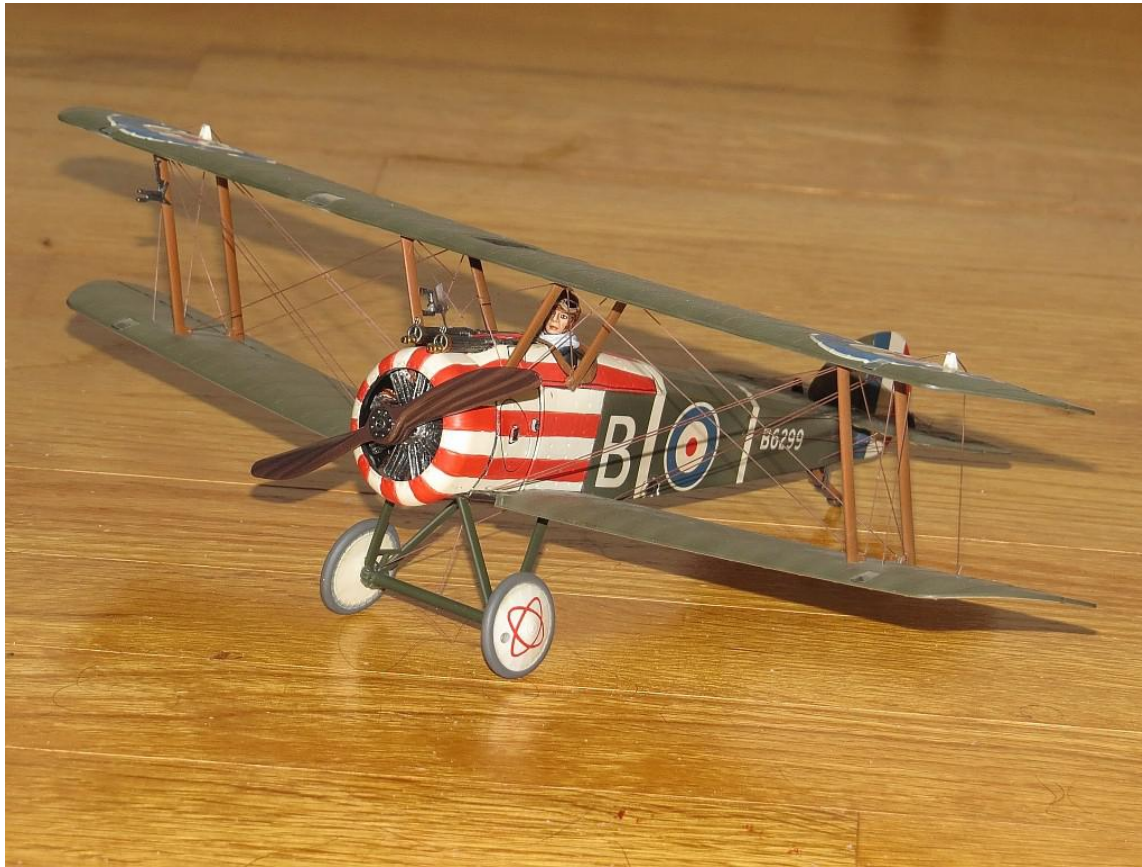
Another highlight of the John Jenkins Designs Sopwith F.1 Camel model is the overall accuracy of the shape and appearance compared with the actual aircraft. The lower wings have the correct angle of dihedral, a detail that is difficult to replicate and often missed on models of the Sopwith Camel. The top wing correctly has the open section cut out of the center of it, just as the original Sopwith Camel did for improved pilot visibility. Both wings also feature the clear panels ground crews used to inspect the control wire pulleys and cables, the same as the actual aircraft. The landing gear on the model also has the correct stance, splayed slightly outward to simulate the landing gear supporting the fighter's weight.

A final highlight of this excellent model of the Sopwith F.1 Camel is the paint scheme. The model is well-researched and has the correct colors and markings for the Sopwith F.1 Camel flown by Flight Lt. Norman Miers MacGregor. John Jenkins Designs also did an excellent job of simulating weathering and fading on the model. Throughout the model,

paint detail simulates exhaust and oil stains, as well as metal and fabric that have been exposed to the elements. John Jenkins Designs correctly painted the tires of the model grey to replicate the vulcanized rubber used for aircraft tires during World War I.

Finally, the model has all the appropriate rigging wires throughout. Early John Jenkins Designs models were manufactured using clear fishing lines for the rigging wires. These wires were not realistic and stood out over the details on the models. The newer John Jenkins Designs aircraft models are manufactured using a tinted rigging wire with a more earth color tone. The switch to this earth-toned rigging wire has added to the realism and detail of the John Jenkins Designs aircraft models. The only drawback of this new wire is that it is thinner and more fragile than the stronger and more durable fishing line used previously. As a result, these new wires are prone to breakage if the models are not handled with care. On this Sopwith F.1 Camel model, all the rigging wires were tight and secure, and none were damaged in transit.





The John Jenkins Designs Sopwith F.1 Camel with one of the manufacturer's half-bust pilot figures in the cockpit. The half-bust pilot figures are sold separately from the John Jenkins Designs aircraft models. Unfortunately, these pilot figures are out of production from John Jenkins Designs, and collectors new to the "Knights of the Skies" may have trouble finding the pilot figures for their models.

Although the John Jenkins Designs 1/30 scale Sopwith F.1 Camel is an excellent model, some aspects could be improved. On most Sopwith Camel fighters, a small windshield was installed in front of the cockpit. A few different windshields were used on the Sopwith Camel depending on available inventory from manufacturers and pilot preference. John Jenkins Designs omitted a windshield from the model for some reason, and the windshield not being included is unusual when other parts of the model are so extensively detailed. The one surviving photograph of #B6299 does not clearly show if a windshield was installed on this particular Sopwith F.1 Camel. Regardless, the windshield would have been a nice detail piece to add to the model.

Another part of the model that could be improved is the quality of the paint finish. Although the paint scheme is well-researched and accurate for #B6299, the overall quality of the paint finish has some issues. The green paint, in particular, shows minor scuffs and scratch marks throughout from rubbing

the foam packing inserts that the model is surrounded by within its box for safe transit in shipping. This problem seems to be a more recent issue with John Jenkins Designs aircraft models and may occur when the models are packaged at the factory for shipment. These scuffs and scratches, although minor, take away from a beautiful model with lots of realistic details and should not be present on a premium model sold at a high price point.

The final minor inconvenience with this model is that no pilot figure or display stand is included and must be purchased separately. Most model aircraft manufacturers include display stands and pilot figures with their models, whereas John Jenkins Designs does not. Another issue is that the half-bust pilot figures and display stands designed to fit the John Jenkins Designs "Knights of the Skies" model aircraft are out of production and difficult to find from John Jenkins Designs dealers and on the secondary market. It would be excellent if John Jenkins Designs could reissue these items for new collectors who want to use them when displaying their models.



The excellent detail of the John Jenkins Designs 1/30 scale Sopwith F.1 Camel makes it a great diorama display piece with some of the British ground crew figures and accessories previously released in the “Knights of the Skies” product line. These figures and accessories can be used to create a realistic scene in which the ground crew uses its equipment to prepare the Sopwith F.1 Camel for its next mission over the Western Front.

These figures and accessories can be combined with 1/30 scale diorama accessories and display bases from other manufacturers to make the scene even more realistic. The toy soldier manufacturer Thomas Gunn Miniatures has made several sets of crates and tarps that work well as additional diorama pieces. This company also made a grass display mat made of hardwearing foam board that makes a great diorama base. Unfortunately, the company recently discontinued most display mats it sold as part of its diorama accessories offerings. An excellent alternative is model display bases from a United Kingdom-based

company called Coastal Kits. This company makes several different diorama display bases simulating concrete, dirt roads, paved roads, stone roads, grass and dirt, snow, and water. These bases are available in several dimensions and scales, and the scenery is printed directly onto the foam board base for a no-mess setup. The diorama accessories and display bases from these manufacturers combined with the John Jenkins Designs “Knights of the Skies” figures will let any collector put the Sopwith F.1 Camel into a realistic display scene in their collection.

The John Jenkins Designs Sopwith F.1 Camel is an excellent replica of one of World War I’s most famous fighter aircraft. The model is a great addition to the company’s “Knights of the Skies” series of World War I aircraft, vehicles, figures, and diorama accessories in 1/30 scale. The Sopwith F.1 Camel is well-detailed, and its colorful markings make it a wonderful model to display on a desk or bookshelf or in a realistic diorama setting with other John Jenkins Designs and other toy soldier manufacturers World War I 1/30 scale vehicles and figures.

The John Jenkins Designs Sopwith F.1 Camel is prepared for its next mission in this diorama featuring the model. The model of the British World War I fighter looks terrific displayed with some of the John Jenkins Designs British ground crew and mechanic figures and their tools and other equipment. These figures were released several years ago as part of the “Knights of the Skies” product line from the toy soldier manufacturer.



Focke-Wulf Fw 190 F-8/R1



A rare surviving Focke-Wulf Fw 190 D-8/R1 on display in the German World War II Aircraft Exhibit at the National Air and Space Museum's Steven F. Udvar-Hazy Center. This Fw-190 was one of several captured by the Allies at the end of World War II and brought to the United States for evaluation after the war ended. The Fw 190 F-8/R1 is restored in the markings it wore in October 1944 when it was serving on the Eastern Front with SG 2 (Schlachtgeschwader 2 r Ground Attack Wing 2) and based in Hungary.

The Focke-Wulf Fw 190 is a German single-seat, single-engine fighter aircraft introduced in 1941 and used throughout World War II. The Fw 190 has the distinction of being the only German fighter aircraft used during the war that was powered by a radial engine. Along with its well-known counterpart, the Messerschmitt Bf 109, the Fw 190 became the backbone of the Jagdwaffe (Fighter Force) of the Luftwaffe. In addition to its use as a day fighter, the Fw 190 was used as a fighter-bomber, ground-attack aircraft, and night fighter.

In 1937, the Reich Air Ministry issued a contract to the Focke-Wulf Airplane Company for a single-engine fighter to supplement the Messerschmitt Bf 109 that was entering service as the standard day fighter in the Luftwaffe. A team led by Professor Kurt Tank submitted two proposals for a new fighter. The first proposal used the same Daimler-Benz DB 601 liquid-cooled engine found in the Messerschmitt Bf 109, and the other used a BMW 139 fourteen-cylinder, air-cooled, radial engine. With the production of the DB 601 engine allocated to the Bf 109 and the twin-engine Messerschmitt Bf 110

heavy fighter, the Reich Air Ministry selected the radial engine design proposal for development, despite the Ministry's and Luftwaffe's preference for aircraft designs with liquid-cooled engines. The new aircraft was designated the Fw 190 but unofficially nicknamed Würger (English: Shrike) in the field by German pilots and ground crews and "Butcher Bird" by Allied pilots. In addition to being the only German fighter of the war to be powered by a radial engine, the Fw 190 was also notable as the only fighter aircraft of the war equipped with electrically-operated flaps and landing gear.

The prototype Fw 190 flew for the first time on June 1, 1939, with experienced test pilot Hans Sander at the controls. Sander reported the Fw 190 flew well, but cockpit and engine temperatures were high. The problem stemmed from a tight cowling that reduced drag but choked airflow to the engine. Installing a cooling fan geared to the propeller and switching to the more powerful BMW 801 engine worsened the overheating issues. Installing additional cooling vents behind the engine cowling partially solved the overheating issues.



As Professor Kurt Tank and his team at Focke-Wulf tried to solve the overheating problems, the first Fw 190 As entered service with JG 26 (Jagdeschwader or Fighter Wing) in France in August 1941. In September, pilots flying the Fw-190 began tangling with Supermarine Spitfires from the Royal Air Force (RAF) sent on fighter sweeps over France. The new Fw-190 proved superior to the Allied fighters it encountered in every performance attribute except turning radius. Until the RAF introduced the improved Supermarine Spitfire Mk. IX in late 1942, the Allies had no fighter equal in performance to the Fw-190. The improved Fw-190 A-2 and A-3 entered service in late 1942. Five Focke-Wulf plants were involved in the production of the fighter and manufacturers Ago, Arado, and Fiesler also built the Fw-190 under license to increase production capacity.

The next production variant, the Fw-190 A-4, introduced a new BMW 801 D2 engine capable of producing 2,100 horsepower for brief periods. This horsepower was achieved using a methanol-water injection system on the engine called MW-50. On the next Fw-190 sub-

type, the A-5, Tank and his team moved the engine forward 15 inches on the airframe. This design change finally solved the cooling problems that had plagued the earlier subtypes of the Fw 190. The A-5 subtypes of the Fw 190 were used against unescorted U.S. bomber raids into Germany in 1943, inflicting heavy losses on the bombers. The A-7 and A-8 subtypes of the Fw 190 incorporated heavier armament designed to be devastating against large enemy bombers.

As newer Allied fighters, such as the Republic P-47 Thunderbolt and North American P-51 Mustang, entered service, the Luftwaffe struggled to keep pace with developing improved versions of the Fw 190. The A-8's heavier armament added weight and reduced its top speed, making it vulnerable to Allied fighters in combat. The Fw 190 B and C variants never made it beyond the prototype stage. The Fw 190 D, introduced in 1944, incorporated a powerful Junkers Jumo 210 liquid-cooled engine but arrived too late to compensate for the loss of experienced pilots and fuel shortages that plagued the Luftwaffe in the last months of the war.





The basic Fw 190 design also led to the development of an entirely different airplane. Powered by a liquid-cooled Junkers Jumo 213 engine, the Focke-Wulf Ta 152 H was designed as a high-altitude interceptor to counter possible U.S. Boeing B-29 Superfortress raids over Germany. Ground-attack and high-altitude reconnaissance versions of the Ta 152 were also planned for production. The Ta 152 H entered limited service with the Luftwaffe in January 1945, but production stopped just a month later due to Germany's declining position in the war and shortages of raw materials.

The Fw 190 excelled on the war's Eastern Front, where its wide-track landing gear and air-cooled radial engine were ideally suited to the harsh climate conditions and extreme temperatures of the theater. Operations on the Eastern Front led to several variants of the Fw 190F fighter-bomber, designed by Kurt Tank with special emphasis on ground-attack missions. The Fw 190 F carried over 790 pounds (360 kilograms) of armor plating behind the pilot's head, on the lower engine cowling, and the landing gear wheel well doors. The F-8 was the most

important subtype of the Fw 190 F variant. Using kits supplied by Focke-Wulf, front-line units could adapt this subtype of the Fw 190 F to carry combinations of heavy cannons, bombs, rockets, and even torpedoes for use against enemy shipping.

Although the Fw 190 excelled as both a fighter and a bomber, the German aircraft industry could not build enough of both types to meet the demands of the Luftwaffe as the war progressed. By 1944, units flying both fighter and ground-attack variants of the Fw 190 could only muster small hit-and-run attacks against Allied bomber raids and ground forces advancing from both the East and the West. Shortages of fuel and experienced pilots and ground crews made the situation worse for the Luftwaffe. By the war's end, over 20,000 Fw 190s of all variants had been produced by Focke-Wulf and other German aircraft manufacturers under license. The Fw 190 A-8 was the most produced fighter variant of the aircraft, with over 6,600 examples built. The Fw 190 F-8 was the most produced ground-attack variant of the aircraft, with over 6,100 examples built.



The National Air and Space Museum's Fw 190 left the production line in late 1943 and was built as a Fw 190 A-7 fighter. After suffering combat damage, the Fw 190 was repaired and remanufactured by Focke-Wulf into an F-8 fighter-bomber. The conversion process included fitting a new wing and bomb racks to the original fuselage and adding armor plating to the airframe. The airplane was reissued to the Luftwaffe and sent to the Eastern Front in late 1944. It was likely based in Hungary and operated by SG 2 (Schlachtgeschwader 2 or Ground Attack Wing 2). At some point in the war's last days, it was flown to an airfield in Germany and handed over to Allied forces.

After Germany's surrender, the Fw 190 and several other captured German aircraft were loaded aboard the British aircraft carrier *H.M.S. Reaper* in Cherbourg, France, and sent to the United States. The Fw 190 eventually ended up at Freeman Field, Indiana, a collection point for captured enemy aircraft, and received foreign equipment code FE-117. By September 1945, the Fw 190 was joined by eleven other examples of the Fw 190

that had been captured at Freeman Field.

The end of the war rendered flight testing unnecessary, and Fw 190 #FE-117 was placed into storage in 1946. Unlike other captured German aircraft, Fw-190 #FE-117 was never flown in the United States. By 1949, the Fw 190 joined other captured military aircraft at a storage facility in Park Ridge, Illinois. The Korean War forced the closure of the Park Ridge facility, but the Fw 190 escaped scrapping and was donated to the Smithsonian Institution. The airplane arrived at the National Air and Space Museum's Suitland, Maryland facility in the 1950s and was placed in outdoor storage.

Museum specialists began restoring the Fw 190 in 1980. During restoration, it was discovered the Fw 190 started life as an F-7 fighter but was rebuilt as an F-8 fighter-bomber and assigned a different serial number after the rebuild. The Fw 190 had also worn at least three camouflage paint schemes during its service with the Luftwaffe. The Fw 190's restoration was completed in 1983. The restored fighter is now displayed in the Steven F. Udvar-Hazy Center.



Sikorsky HH-60M Black Hawk

(2008)



The Sikorsky HH-60M Black Hawk is a medical evacuation variant of the UH-60 Black Hawk four-blade, twin-engine, medium-lift utility helicopter manufactured by Sikorsky Aircraft that initially entered service in 1979. The HH-60M is a modernized variant of the Black Hawk and entered service in 2008. The HH-60M features many improvements over earlier models of the Black Hawk, including composite wide-chord rotor blades, more powerful turboshaft engines, and an all-glass cockpit featuring a GPS/inertial navigation system. The helicopter's cabin has a built-in medical interior that includes an ECG system, oxygen-generating system, and health monitors for patient care while en route to a medical facility. The U.S. Army plans to acquire up to 427 HH-60Ms through 2026 to replace older HH-60L variants of the Black Hawk.

Sikorsky HH-60M Black Hawk

Crew: 4 (Pilot, Copilot, Crew Chief, Flight Medic)

Patient Capacity: 6 (on stretchers) or 11 (seated)

Length: 64 ft 10 in (19.75 m), including rotors

Height: 16 ft 10 in (5.13 m)

Rotor Diameter: 53 ft 8 in (16.36 m)

Powerplant: General Electric FADEC-equipped T700-GE-701E turboshaft engines (x2)

Combat Range: 320 nmi (590 km)

Maximum Range: 1,199 nmi (2,221 km) with ESSS stub wings and external fuel tanks

Cruise Speed: 175 mph (282 km/h)

Maximum Speed: 183 mph (294 km/h)

Empty/Maximum Takeoff Weights: 14,470 lb/22,000 lb (6,563kg/9,979kg)

Service Ceiling: 19,000 ft (5,800 m)



Battlefield Medical Evacuation

Operations

The HH-60M Black Hawk is designed to provide medical evacuation (MEDEVAC) of wounded troops from the battlefield day or night and in all weather conditions. The helicopter is also used for long-distance and high-speed flights to transport patients to medical care facilities. In addition to performing medical evacuation missions, the HH-60M can be reconfigured to fly search and rescue, reconnaissance, cargo transport, personnel transport, and wildfire suppression missions.

Powerplant

The HH-60M Black Hawk is powered by a pair of FADEC-equipped General Electric T700-GE-701E turboshaft engines. These engines are the latest version in the long line of T700 turboshaft engines produced by General Electric for use in military helicopters and feature a Full Authority Digital Engine Control (FADEC) system for improved performance and efficiency. The engines are designed to be easy to maintain and cheap to operate, as well as be able to operate in harsh combat environments and extreme temperatures. These engines are powerful enough that the HH-60M can fly safely even if one engine is not operational due to combat damage or mechanical failure.

Rotor Blades

The HH-60M Black Hawk has improved and redesigned rotor blades that have a wide-chord structure and are constructed of lightweight composite material. The redesigned rotor blades give the HH-60M Black Hawk improved performance in speed, range, and lifting capability over the earlier HH-60L variant of the Black Hawk. The rotor blades are connected to a gearbox designed for improved durability and linked to an Integrated Vehicle Health Management System (IVHMS).



ESSS Stub Wings

All versions of the UH-60/HH-60 Black Hawk can be equipped with the ESSS Stub Wings, which are used to fit the helicopter with additional external stores. On UH-60 variants of the Black Hawk, these stub wings are often used to carry extra weapons systems such as gun pods, rocket pods, and air-to-air or air-to-ground missiles. The ESSS Stub Wings can also be fitted with external fuel tanks to increase the Black Hawk's range. On the HH-60M, the ESSS Stub Wings are primarily used to carry external fuel tanks. These fuel tanks can increase the Black Hawk's fuel capacity by 400 gallons (1,514 liters) and give the HH-60M the range to perform long-distance medical evacuation or ferry flights.

Cockpit

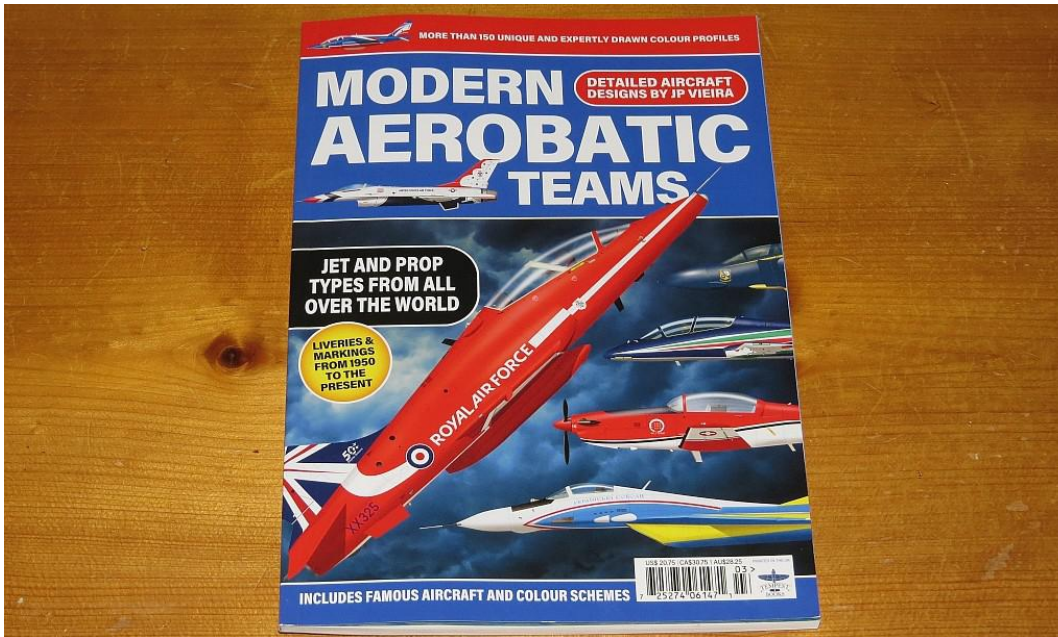
The HH-60M Black Hawk has an upgraded, all-glass cockpit. The cockpit has a fully digital avionics suite with an autopilot and a flight management system. The cockpit has four multi-function color displays for increased situational awareness for the flight crew. The cockpit is also equipped with a digital flight control computer, moving map, storm scope, radio systems, and a GPS navigation system. A recent upgrade to the HH-60M Black Hawk has been an FLIR sensor system mounted to the nose of the helicopter for increased visibility during search and rescue missions.

Passenger Cabin

The HH-60M Black Hawk is equipped with an integrated electronically-controlled litter system developed by Air Methods United Rotorcraft division. This litter system can carry up to six patients on stretchers or provide ambulatory seating for up to 11 patients. The HH-60M has an integrated oxygen-generating system for onboard patient care. The plastic-sealed bubble windows on the side of the helicopter provide a sterile environment for medical care for the patients. Additional equipment fitted to the HH-60M Black Hawk for medical care includes an ECG machine, an environmental control system, suction, and patient monitors. The HH-60M is also fitted with an integrated rescue hoist so the helicopter can perform search and rescue missions and lift seriously injured patients on board.



Modern Aerobatic Teams Bookazine



Modern Aerobatic Teams is a new bookazine published by Tempest Books that features color profiles of over 150 aircraft from 115 military flight display teams from 57 countries worldwide. The color profiles were drawn by world-renowned aviation illustrator JP Vieira. This bookazine is an excellent quick reference for any aviation enthusiast.

In recent years, bookazines have become a popular item on the shelves of newsstands and bookstores worldwide. Bookazines combine elements of a magazine and a reference book. They feature everything people love about magazines, such as high-quality paper, vivid images, and easy-to-read, exciting layouts with the niche subject matter of books. Previously called special editions by publishers, bookazines are offered at a higher price point than traditional magazines and typically cover specific subject matter in a quick reference format. Bookazines have been successful for publishers in re-engaging readers at newsstands and increasing sales of periodicals. They can be published quickly to cover current trends in reader interest and to capture a specific event.

Tempest Books recently released a new aviation-themed bookazine titled *Modern Aerobatic Teams*. The bookazine is a collaborative project by production editor Dan Sharp and renowned aviation illustrator JP Vieira. *Modern Aerobatic Teams* features 130 pages of over 150 color profiles of aircraft drawn by Vieira and covers the types of aircraft and liveries used by 150 military flight display teams in 57 countries from 1950 to the present day. World-famous aircraft from display teams such as the U.S. Navy “Blue Angels” Flight Demonstration Squadron, U.S. Air Force “Thunderbirds” Air Demonstration Squadron, the Royal Air Force “Red Arrows” Aerobatic Team, and the French Air Force “Patrouille de France” Aerobatic Team are featured in the publication. Also featured in the bookazine are profiles of aircraft from teams that are no longer in existence, such as the Peruvian Air Force “Red Devils” Aerobatic Team and the Singapore Air Force “Black Knights” Aerobatic Team. The highlight of *Modern Aerobatic Teams* is the excellent illustrations created by JP Vieira of the aircraft used by the military flight display teams featured within the bookazine. Brief descriptions of the display teams and the aircraft depicted accompany the illustrations. The bookazine follows an easy-to-read format and is arranged in chapters with the aerobatic teams presented by continent. The illustrations featured in the bookazine are exquisite, and the accompanying text is presented concisely and clearly.

Modern Aerobatic Teams is now available from newsstands and booksellers worldwide. In the United States, most Barnes and Noble bookstores are now stocking this bookazine in their magazine/newsstand sections in limited quantities. *Modern Aerobatic Teams* is an excellent quick reference guide for anyone interested in aviation and military flight display teams.





CANADAIR CT-14 TUTOR
 Canadair CT-14 Tutor, 1400115, Snowbirds, 2018. The aircraft is shown in the current livery scheme of the team.



CANADAIR CT-14 TUTOR
 Canadair CT-14 Tutor, 1400115, Snowbirds, 2018. The aircraft is shown in the current livery scheme of the team.



SNOWBIRDS, ROYAL CANADIAN AIR FORCE
 The Snowbirds aerobatic team is the only aerobatic team in the world to fly a single aircraft. The team consists of four pilots and a ground crew. The aircraft is a Canadair CT-14 Tutor, a high-wing, twin-engine turboprop aircraft. The team was formed in 1972 and has since performed over 100,000 flights. The team's livery is red, white, and blue, with a Canadian maple leaf logo on the fuselage. The team's name, 'Snowbirds', is written in large letters on the side of the aircraft. The team's website is www.snowbirds.ca.



MCDONNELL DOUGLAS F-4J PHANTOM II
 McDonnell Douglas F-4J Phantom II, 158000, Blue Angels, 2018. The aircraft is shown in the current livery scheme of the team.



LOCKHEED C-130J HERCULES
 Lockheed C-130J Hercules, 12000, Blue Angels, 2018. The aircraft is shown in the current livery scheme of the team.



MCDONNELL DOUGLAS/BOEING F/A-18E SUPER HORNET
 McDonnell Douglas/Boeing F/A-18E Super Hornet, 108000, Blue Angels, United States Navy, 2021. The aircraft is shown in the current livery scheme of the team.



ARCTIC GLADIATORS, USAF
 The Arctic Gladiators aerobatic team is the only aerobatic team in the world to fly a single aircraft. The team consists of four pilots and a ground crew. The aircraft is a McDonnell Douglas F-16 Fighting Falcon, a high-wing, single-engine fighter aircraft. The team was formed in 1992 and has since performed over 10,000 flights. The team's livery is blue and yellow, with a white star on the fuselage. The team's name, 'Arctic Gladiators', is written in large letters on the side of the aircraft. The team's website is www.arcticgladiators.com.

BLUE ANGELS US NAVY
 The Blue Angels aerobatic team is the only aerobatic team in the world to fly a single aircraft. The team consists of four pilots and a ground crew. The aircraft is a McDonnell Douglas F-4J Phantom II, a high-wing, twin-engine fighter aircraft. The team was formed in 1946 and has since performed over 100,000 flights. The team's livery is blue and yellow, with a white star on the fuselage. The team's name, 'Blue Angels', is written in large letters on the side of the aircraft. The team's website is www.blueangels.com.





**Distelfink
Airlines**

Est.
2013



My late grandfather, John Brey, and I at the 2007 Geneseo Airshow. This was one of the few times that we had our photo taken together at an airshow.

ABOUT

DISTELFINK AIRLINES

The story of "Distelfink Airlines" begins in the early 1990s when my late grandfather, John Brey, began building and flying remote control model aircraft in his retirement. He enjoyed the hobby and quickly amassed a large fleet of model airplanes, which filled his garage and woodworking shop. He gave a name to his fleet of aircraft, "Distelfink Airlines". For the symbol of his fleet, he chose the Pennsylvania Dutch/German hex sign featuring the "Distelfink", a colorful bird that is a symbol of good luck and happiness. This hex sign and symbol is very common on Pennsylvania Dutch/German barns in Eastern Pennsylvania and is an important part of our local culture. He had custom "Distelfink" decals made for all his airplanes and had T-shirts made with "Distelfink Airlines" printed on them. It wasn't long before curious people began asking about "Distelfink Airlines" and what it was. My grandfather told anyone who asked that "Distelfink Airlines" was a new startup airline that was going to be offering service between the Lehigh Valley International Airport and Philadelphia International Airport with more routes to come soon.

In addition to flying his model airplanes, my grandfather enjoyed attending airshows and we traveled to airshows together for almost 20 years. He also enjoyed local aviation history and was particularly fascinated by the history of the Consolidated TBY Sea Wolf, a torpedo bomber that was built locally in Allentown, Pennsylvania during World War II. He also remembered when famous aviator Amelia Earhart visited the Lehigh Valley in the early 1930s to raise funds for her failed attempt to become the first woman to fly around the world.

Established in 2013 in memory of my grandfather, "Distelfink Airlines" is an online aviation newsletter that carries on a tradition of sharing a love for aviation that my grandfather shared with me. This newsletter features photographs and writings on a variety of aviation topics. The logo that was chosen for "Distelfink Airlines" is the hex sign that my grandfather chose for his fleet of remote control model aircraft many years ago. This proud symbol of local Pennsylvania Dutch/German culture is joined by a pair of Consolidated TBY Sea Wolf torpedo bombers, the aircraft that was built locally in Allentown during World War II and is such an important part of our local aviation history. Thank you for reading "Distelfink Airlines" and sharing in the passion for aviation that my grandfather shared with me.

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