



WELCOME TO THE RC44

Welcome to the new guide to our beloved RC44 yacht and 44Cup yacht racing circuit.

It is now 17 years since Russell Coutts encouraged me to join his fledgling RC44 class, setting me up with my long term tactician Cameron Appleton and what has since grown to become the Team Aqua extended family.

I have come to learn that racing the RC44 ticks so many boxes for an owner. Firstly it is a grand prix race boat, but one conceived for an amateur owner-driver. Steering it is straightforward for the novice yet still fulfilling for the experienced. In strong conditions it is deceptively fast, able to point high on upwind legs and surf with exhilarating speed downwind.

An issue with a wind-driven sport is when the wind doesn't blow or blows too strongly. Fortunately the RC44's design addresses this: we may be on the edge in 25 knots, but we can still race - and meaningfully too - in 4-5 knots when other classes cannot, thereby minimising non-sailing days.

Most fulfilling - when it comes together - is the team aspect of RC44 racing. To be successful on the 44Cup you and your crew must

WELCOME

operate as a cohesive machine in manoeuvres with the split second accuracy and the co-ordination of an orchestra. Congestion at the start and top mark can be exhilarating and tense, requiring a combination of nerves and skill plus a knowledge of the rules of the road about which your tactician will certainly advise you on! 44Cup crew are typically experienced and accomplished and it is a great privilege to sail both with and against some of the sport's greatest talents.

With Team Aqua we quickly moulded as a team racing the RC44. After coming second in 2009, it was a huge achievement when we won the fleet racing series four years in a row (2011-14).

The RC44 is a World Sailingrecognised class which means we are officially permitted to hold an annual World Championship, a much coveted title that eluded me until 2019. While the racing is cut-throat on the water, the atmosphere is far more relaxed ashore. Many RC44 owners have been racing for years now and we are friends and often dine together, while our crews have become like our second families.

There is also a comraderie between the teams which I understand doesn't exist in many other classes.

17 years on, the RC44 class is having a new lease of life with the launch of two new boats; the fleet is getting upgraded again with, this time, a new generation of Harken winches; and revised rules encouraging female crew on to each boat. It is also great to see a new generation of sailors coming through with many of us racing with our children on board.

I hope the RC44 and the 44Cup can bring you as much enjoyment as it has brought me.

Chris Bake 44Cup President





BACKGROUND

The RC44 was originally conceived in 2005 by New Zealand America's Cup legend Russell Coutts with naval architecture carried out by Slovenian Andrej Justin.

As expected given Coutts' credentials, the RC44 is an uncompromised race boat that happens to be a one design.

As a race boat it lacks nothing. Built by Pauger Carbon Composites in Hungary, its construction is in state of the art carbon fibre. Weighing just 3.5 tonnes, it is light, with a relatively narrow hull, but also stiff, drawing 2.9m with a CNCmachined bulb ensuring the keel's centre of gravity remains as low as possible.

It also has performance features like a trim tab on its keel, providing exceptional pointing ability and for the keel foil's size to be reduced, while an articulating bowsprit permits deeper running - features found on no other one designs.

The RC44 is designed to sail in the widest range of wind strengths. Unlike other racing yachts it can sail well in 5 or 25 knots, minimising days lost due to adverse conditions. And it is fast - in 25 knots of breeze it has been known to reach 25 knots on surfs. As it is a one design, no team can achieve a technological advantage. This prevents the 'arms race' and rapidly escalating costs, that so frequently destroy yacht racing classes. For example choice of sailmaker is not restricted, but replacing sails is. The RC44 also packs down into a 40ft flat rack container, vastly reducing shipping costs, aided further by the class managing logistics centrally.

Reflecting Coutts' America's Cup background, RC44 events used to combine match racing (two boats) with full fleet racing, but since 2017 it has focussed only on the latter.

Annually the 44Cup holds five events, each comprising one practice day and four race days. These are typically self-contained, laid on with the help of local yacht clubs. To maintain consistency, the 44Cup has its own PRO, measurer, chief umpire and regular group of umpires, plus class and event managers and media team.

Most impressive is the RC44's longevity. Getting on for 20 years old it is as rewarding, challenging and exhilarating to sail as ever and seems future-proof. In the truest sense it has become a 'modern classic'.









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JOHN BASSADONE

PENINSULA RACING

IGOR LAH CEEREF POWERED BY HRASTNIK 1860

The RC44 is my first boat which I got after I sailed with Russell Coutts in 2006. He organised a crew for me so I started off with Jimmy Spithill as my tactician and Michele Ivaldi as trimmer. I picked it up guite guickly - it didn't seem too complicated, but perhaps that was because I didn't know anything! Today I understand more about what is going on, but not everything. In the right wind and waves it is extremely exciting - a lot of adrenalin, but I think if you are sure of what you are doing, it is not a problem. To do this you need to get someone, like a tactician, who will help recruit the rest of the crew. I sail with my son. It is a great class to do that as it keeps us close. The rest of my family often comes too, although my wife doesn't like coming far north.

I joined the RC44 in 2010 and 13 years on I am still here! When Russell Coutts conceived the RC44 with Andrej Justin, he thought of everything. The result is a very well-designed boat, which is exciting to sail and steer and can be raced in the widest range of conditions - from very light air to heavy conditions. On the helm it is rewarding and at times exhilarating and the competition is among the tightest you can experience as an owner-driver. The class management is experienced and being well organised makes it much simpler and pleasurable to be a part of the circuit. The 44Cup has a very social environment and encourages owners to develop close friendships. If you like racing yachts I would strongly recommend the RC44.



CHRISTIAN ZUERRER BLACK STAR SAILING TEAM

I was looking for a class where I could help young sailors get into professional sailing. The RC44 provided the best value, compared to other 40-50 footers which required much larger budgets. I went to Lanzarote to see the class and sailed Nika and Artemis. Then I decided to get a new boat. While I've sailed cats mostly before, I'd also raced the Mumm 30 and other one designs. When you start it is important to get a good bunch of people around you. After that it is about spending time on the water. The RC44 is a grand prix race boat which looks and performs fantastically and is exciting to helm. Everyone in the crew has their job to do and you have to work together to achieve good results - it is not just a bunch of people sitting on the rail.





VITAL STATISTICS







A key feature of the RC44 is its removable bow and stern. Removing the stern allows the RC44 to fit into the footprint of a 40ft container (see p15), but crucially having ends that can be easily replaced maintains the integrity of the hull proper and makes the RC44 easily repairable in the event of being damaged in a collision.



While it may be a 18-year-old design, the RC44 has throughout its life been subject to continual upgrades. Most recently this has included replacing the primary and mainsheet winches as well as the internal mechanism of the pedestal grinder with the latest state of the art. Fitted in the early summer of 2023, the new winches are Harken Air 180s, of the same family of winches used on grand prix yachts from supermaxis, down to Maxi 72s, IMOCAs and TP52s. Replacing the winches fitted to the RC44s from the outset, the Harken Air 180s offer numerous improvements including lighter weight, a wider, more robust footprint and almost twice the line speed, resulting in substantially faster manoeuvres.





Hydraulic pump for the forestay with gauge to its left. This permits increased forestay tension for improved pointing ability and for the rig to be moved forwards when sailing downwind. The forestay is fitted with a release valve (set at 440 Bar) to help prevent the rig being over-stressed.



The new Harken Air 180 primary winch and the adjustable fore and aft car system for the J1 headsail.

SAILS

The sail inventory for the RC44 is simple comprising one mainsail, three headsails (jibs and a genoa) and two gennakers. While the RC44 is a strict one design, there is some latitude in terms of the sail design.

They have measurement restrictions but can be designed and made by anyone. At present three major race boat lofts are represented in the RC44 fleet: North Sails, Quantum and Doyle. This competition benefits the class providing continual development of the sail wardrobe.

While there are almost no limitations to materials, sail buttons are limited to six per year with an extra one permitted for teams completing a whole season. New teams joining the 44Cup are permitted to have eight sail buttons.

Another performance feature is the drop line system for the gennaker: this comprises a rope attached to centre of the sail, then led down the forehatch, over a roller, back to the transom and out into the cockpit onto a primary winch. Originally technology developed by Team New Zealand for the America's Cup, this enables the gennaker to be dropped in a fraction of the time it takes to perform a drop manually.

The sail inventory/controls have evolved over the years. For example, the mainsail has had its square top enlarged and the fairlead system for the J2/3 was improved. Jib Cunningham and checkstay adjustment systems have also been added.





RIG: The RC44's carbon fibre mast comes in two pieces to facilitate transportation. Its standing rigging is in continous Future Fibres PBO.



TRIM TAB

A performance feature from the America's Cup, but found on no other one-design race boat, is the trim tab on the trailing edge of the keel foil. Operated from on deck, this effectively makes the keel foil asymmetric which enables a reduction in the RC44's leeway (how much it drops sideways to leeward, especially when sailing upwind) by around 2°. Typically it is only used upwind and whether it is used or not, or by how much, gives tacticians several 'modes' for sailing upwind.



FOREDECK

The RC44 does not have stanchions or lifelines so the foredeck is covered in a rubberised material. Dating back to when the RC44 was regularly used for match racing, the foredeck hatch is offset to starboard (this faciliates bear-away sets after rounding the top mark to port). The hatch helps to prevent excess water ingress below.





ELECTRONICS: Another update to the RC44 has been its performance instrument package. It is currently fitted with a B&G Hercules 5000 system including mast unit, GPS, electronic compass, speed and depth transducers, plus trim tab and rudder angle transducers. Information is shown on 20/20 mast-mounted maxi displays, plus another, showing rudder and trim tab angles, fitted to the pedestal grinder.





GOLDEN WHEELS: The equivalent of the Tour de France leader's yellow jersey is the RC44's 'golden wheels', fitted to whichever yacht is currently leading the 44Cup.

BOWSPRIT: While many modern yachts have a fixed bowsprit, the arrangement on the RC44 is far more versatile. Not only can the bowsprit retract and extend when a gennaker is deployed, but the



bowsprit can be canted up to weather by up to 10°. This pulls the luff of the gennaker to windward enabling the boat to be sailed at deeper angles downwind (depending upon wind strength).





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1 TACTICIAN

Advises the owner/ driver and manages the crew.

3 **OWNER/DRIVER** MAIN TRIMMER

Helms the boat Operates the main, from one of two traveller, trimtab, steering positions. vang and outhaul.

HEADSAIL TRIMMER Keeps the jib/spinnaker set and operates the sheets in maneouvres.

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OFFSIDE TRIMMER Eases jib in tacks, takes a side prestart, tails halyards and drop line.

GRINDER Drives the winches via a pedestal grinder during manoeuvres.

6

FLOATER Spare pair of hands to help during manoeuvres.

7

8 PIT Handles halyards and runners in

hoists and drops.

9 BOW

Swaps out headsails and spinnakers; counts down into the start line.



Obviously yacht racing is entirely dependent upon the wind and racing may not happen in the rare instance of there being too much or too little wind. In the event of a day or a partial day being lost, attempts will be made within reason to make up the schedule by holding more races on a subsequent day. While typically racing starts daily at 1200, which usually coincides with the arrival of a sea breeze, this timing may be varied if the wind is not cooperating. On the final day there is usually a cut-off time after which starts cannot be held.



Central to 44Cup events is of course the racing. The format for events is that they run over five days, from Wednesday to Sunday, although some crews arrive a day or two prior to this to get in some additional practice time.

The first day is laid on for official practice racing, in which the full fleet takes part and is valuable for both crews and race officials alike. This is followed by four days of racing.

FORMAT

Typically, three races are held each day. The race course is consistently two laps of a windward-leeward (upwinddownwind) course. There are some nuances: for safety reasons, to alleviate congestion and prevent collisions at the top mark there is an 'inner mark'. Boats on port tack approaching the top of the course must leave this to port, as must those wishing to gybe after rounding the top mark.

At the end of the first downwind there is a gate (ie two marks) and crews have the option of rounding either before heading on to the second upwind.

To finish, teams cross the start line (but in the opposite direction). Race distance is varied to stay within a 35-40 minute duration.

RACE MANAGEMENT

While the 44Cup visits different venues through the season and works with local yacht clubs, who provide some race officials such a mark layers, the circuit has its own permanent race officials. These are led by the Principal Race Officer (PRO) Maria Torrijo (right) from Spain. Maria holds the same job with the 52 Super Series and has been a race officer four times at the Olympic Games and for the last America's Cup in Auckland.

44Cup racing also has a regular set of umpires led by the Chief Umpire, the highly experienced Marco Mercuriali from Italy. For consistency, the 44Cup uses a regular group of umpires, always of the highest calibre, usually having worked on the 44Cup for many years. The 44Cup has always avoided lengthy protests ashore post-racing in favour of on-the-water umpiring, where the umpires follow the fleet around in RIBs giving penalties with flags according to the Racing Rules of Sailing.

To ensure the integrity of the RC44 one design and fairness of competition, the Class also employs its own measurer.







ROBOTIC RACING MARKS

The 44Cup was an early adopter of robotic racing marks. These are especially useful in venues where the water is deeper and it is harder to anchor racing marks. Instead the robot marks remain on station, locked into GPS co-ordinates. These marks make it especially easy for the PRO to change the axis of the race course in the event of wind shifts or to adjust the length of the course should the wind drop or build.





44CUP 2023

In 2023 the 44Cup visits some of its most popular destinations like Muscat (Oman), Marstrand (Sweden) and Puerto Calero (Lanzarote, Spain). It will be only the circuit's second visit to Cowes, while it will be the first time to Alcaidesa Marina near Gibraltar.

RC44 owners decide the venues the 44Cup visits. Future plans include a possible return to the Caribbean.

As the RC44 is a World Sailing-recognised class, it is permitted to hold a World Championship every year.



EASY MOVING

CONTAINERISATION

Shipping of the RC44s, team and class containers between event venues, as well as all the logistics involved with this, are handled centrally and seamlessly by the class. This spares teams the worry and considerable hassle of undertaking this themselves as well as saving substantial costs.

In fact the transportation of the RC44s was also addressed in a more fundamental way from the very outset. When conceiving the class and its circuit, Russell Coutts envisaged RC44 racing regularly taking place on different continents. To date the circuit has ventured afar afield as the US West Coast, Caribbean and Middle East.

As a result, another advantage of the boat having a sacrificial bow and stern, plus a two-piece mast, is that, despite being 44ft long, it can fit into a standard 40ft flat rack container. This enables the RC44 to be shipped for around one third of the price it would typically cost to go assembled as deck cargo. It also permits more cost-effective long term winter storage.

Its ingenuity does not stop there. Its unique flat rack container is also cleverly designed so that the RC44 can be assembled and taken apart without the need for a crane or a forklift truck: Four vertical beams plug into the flat rack and, with



these acting as leverage points, the hull can be elevated by 4m. The keel foil is then dropped on to the bulb, bolted in and the hull dropped on to the foil and attached. Key to this is the construction of the keel foil being entirely in carbon fibre (rather than a steel strut with a carbon or steel fairing). As a result it weighs just 120kg and can be muscled into position by three people.

Typically assembling a RC44 takes three to four days while its breakdown takes two.





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TEAM AQUA

CAMERON APPLETON



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DYLAN FLETCHER ARTEMIS RACING

In 17 years I have not missed a 44Cup event yet - it is one of the most exciting, enjoyable classes that I race in whether that is the teams, owners, venues we go to, the race management, organisation, etc. While racing we push each other, but then are very social. The RC44 is very rewarding for owners to drive. They are very responsive, but also crew-intensive - everyone has a role at all times and needs to perform. All the crew contribute to your success, not just a few people. I think Russell [Coutts] futureproofed the RC44 massively. 17 years on, they are still amazing to sail, in both light or strong breeze and perform exceptionally in each. We have upgraded the boat continuously as things have aged out. As a result these boats still hit the sweet spot. Being part of this fleet is fantastic.

It is incredible how close the competition is on the 44Cup and the range of wind speeds in which you can still race the RC44s competitively - that is what really sets them apart. For the owners to be able to compete at this level is unbelievable - it is so high. The starts are interesting and we are all reaching marks nose- to-tail. Ultimately that is down to crew work. For the owner-driver, they are as much part of the team as everyone else - one cog in the bigger machine. We are all each trying to do our own job as well as we can and this makes it exciting and enjoyable for everyone. The RC44s are fantastic boats. They are a lot of fun to sail, especially downwind in big breeze, when it is windier, when it feels like it is on rails doing 18-20 knots and everyone is enjoying it. But they will bite you when you get it wrong.



ADRIAN STEAD CEEREF POWERED BY HRASTNIK 1860

The 44Cup provides great grand prix one design racing. To win, and especially to win a series, you need to put it all together: be consistently good at starting; speed; tactics; boat handling; changing gears, etc. There is no discard so every mistake is reflected in your overall points. Yet four out of five regattas are decided on the last lap of the last race - that is how intensive it is and why we all return every year: Because we love it. The RC44 is a highly controlled one design, has excellent class management and all the boats are very similar in speed. Ours is one of the oldest but we aren't at any disadvantage even though it is our 15th season! They remain a thoroughbred racing machine with a trim tab; adjustable rig; big genoas and jibs so we can race in five knots or cane it around in 25.







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the crew dinner, which is attended by everyone. Each 44Cup event concludes with a prizegiving ceremony where trophies are awarded.

GUEST PROGRAM

While some RC44 owners generously fund 44Cup events in their countries, others are supported locally. Something the class can offer in return to these backers and sponsors is hospitality, both ashore and on the water.

On land there is usually a VIP area or lounge where guests can mingle with the sailors before and after racing.

Afloat at some events there is a hospitality boat and the chance for the lucky few to sail on board the RC44s during actual races.

Unlike Formula 1 for example, sailing is one of the few 'mechanical' sports that allows a third party to be on board and witness up close how a crew functions while racing. During racing the guest sits on the RC44's aft deck, just behind the helmsman and tactician. However guest sailing is completely dependent upon conditions – if there is too much wind then the Principal Race Officer will call a halt to it for safety reasons.







TEAMS



ALEPH RACING Owner: Hugues Lepic (FRA) Tactician: Michele Ivaldi (ITA)



CHARISMA Owner: Nico Poons (NED) Tactician: Hamish Pepper (NZL) **ARTEMIS RACING** Owner: Torbjörn Törnqvist (SWE) Tactician: Dylan Fletcher (GBR)

Artemis

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PENINSULA RACING

Owner: John Bassadone (GBR) Tactician: Vasco Vascotto (ITA)



lack St

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TEAM AQUA Owner: Chris Bake (NED) Tactician: Cameron Appleton (NZL)



CEEREF POWERED BY HRASTNIK 1860

Owner: Igor Lah (SLO) Tactician: Adrian Stead (GBR)



TEAM NIKA Owner: Vladimir Prosikhin (BUL) Tactician: Nic Asher (GBR)

STARTING YOUR CAMPAIGN

Step one is research: You will find the cost of the RC44 is modest compared to the few other one designs of this size and tiny compared to a similarly-equipped custom race boat built to a box rule or to a rating rule.

Boats are available both new or secondhand (usually including boat container and spare 20ft container for use as a workshop, for storage, sails, spares etc).

A greater expense are the annual running costs, but as the RC44 is a one design with fewer than 12 people in a team, this is small compared to other classes. Annual running costs are similar from team to team. For example new sails are limited to six per year with an extra one permitted for teams competing for the whole season. New teams joining the 44Cup are permitted eight new sails.

The RC44 Class Association is happy to advise on whether to buy new or secondhand and can link up new owners with boat captains/ project managers and crew.





44CUP PEOPLE

Bertrand Favre RC44 Class Manager

Jessica Gray **Event + Communications Manager**

Urska Margon Hospitality Co-Ordinator

Béla Decsi **Technical Support**

Ákos Nagy **Technical Support**

Maria Torrijo PRO Marco Mercuriali Chief Umpire <u>n</u>

> **Guy-Roland Perrin** Measurer Pablo Ferrer Measurer

James Boyd Journalist/commentary ىب Nico Martinez

Photographer

Pedro Martinez Social media/creative

Icarus **TV** production

Bertrand Favre P Ch.Sablet 4 <u>ה</u> ו 1110 Morges Switzerland +41 76 324 05 39 ക bertrand.favre@44Cup.org

www.44cup.org











PAST RESULTS

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