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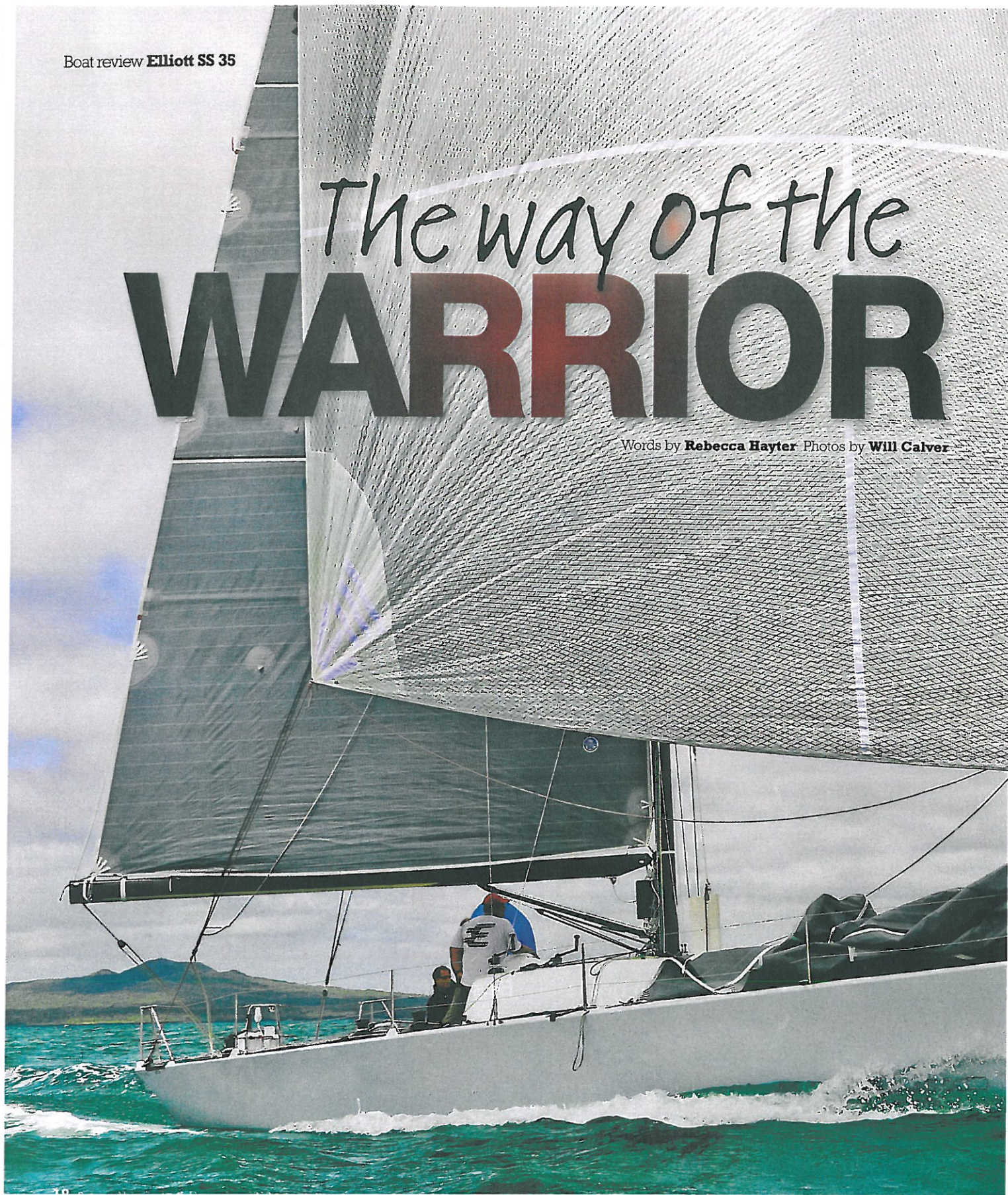


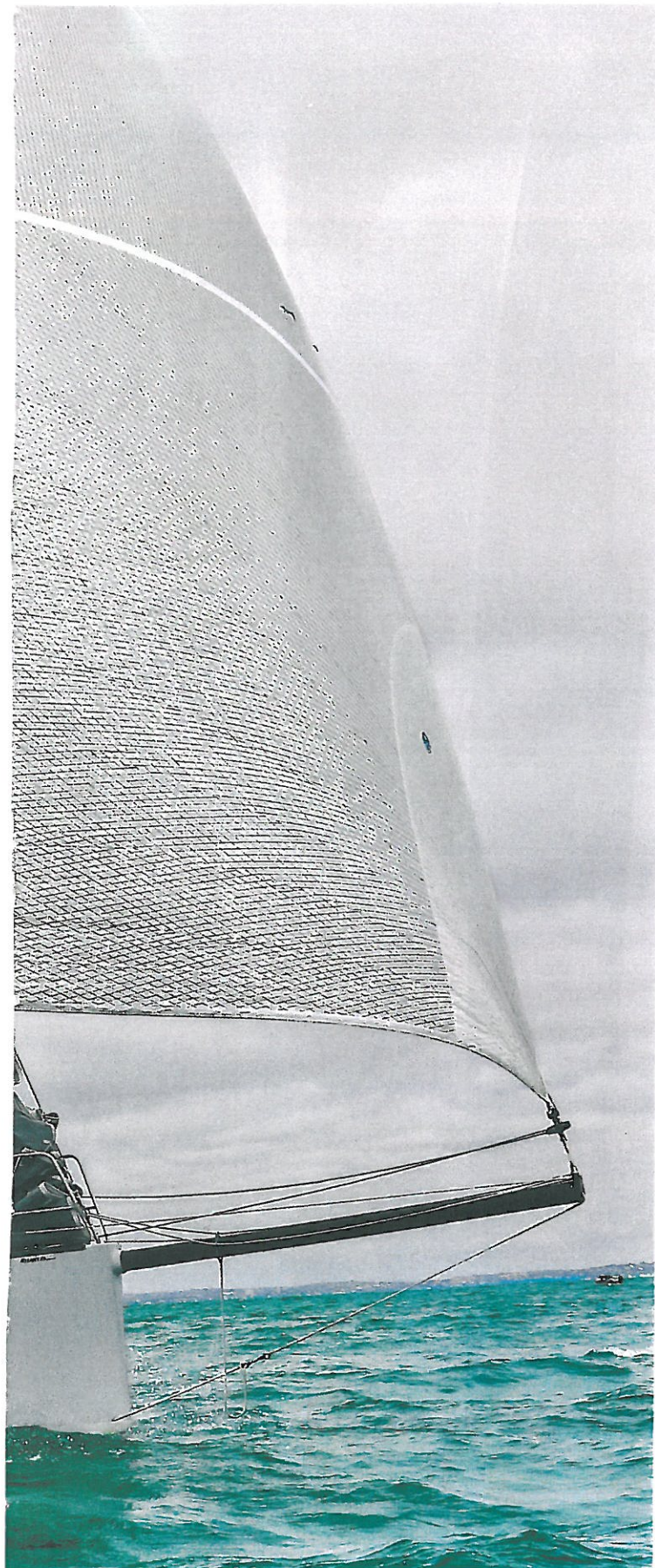
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Boat review **Elliott SS 35**

The way of the **WARRIOR**

Words by **Rebecca Hayter** Photos by **Will Calver**





A second Elliott SS 35 is flexing her maritime muscle: a canting keel and a powerhouse of sails for serious, shorthanded offshore racing

When you crank up the righting moment, you can stack on a whole lot more sail area. That means power and that equals speed. It's the magic formula of canting keels and it's seducing racing yacht owners worldwide. It sure beats texting, phoning, emailing and Google-spreadsheeting the equivalent of half a rugby team and hoping they all show up on race day.

When the Elliott SS 35 *Crusader* appeared on the Hauraki Gulf last year, she met the medium-size market in canting keelers. Now, she is joined by her Greg Elliott-designed sistership *Bushido*, owned by Wayne Woods of Auckland and built by NZ Yachting Developments.

At 35ft these yachts are relatively easy to handle – by relatively, it's still a canting keeler so even a tack activates a job list of at least seven items – and relatively easy to budget. Again, this is high-performance racing but a canting keel, 35-footer can outsmart a 40-footer, so you get



Wayne Woods on his new Elliott SS 35 *Bushido*. He sailed 50,000nm on his Elliott 16m, *Bushido 2*

a lot of boogie for your buck.

I joined *Bushido* for the 45-mile Haystack Race organised by Royal New Zealand Yacht Squadron on 2 November. Onboard were Wayne Woods; designer Greg Elliott; Richard Bicknell of North Sails; Brett Elliott, bowman; Dan Welch, regular crew; and Richie Rigg on runners

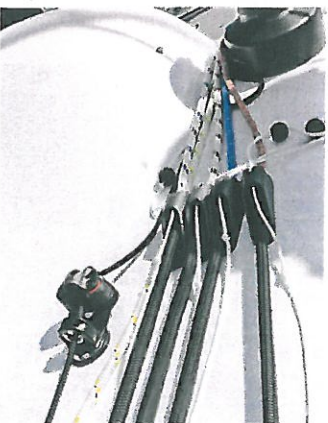
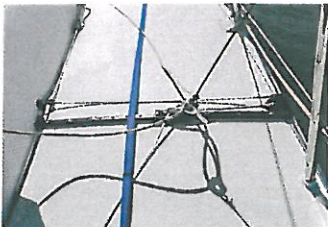
With me helping out on runners, we were seven crew – five more than *Bushido* will carry when Woods and



The cockpit features a stick-on non-skid which Yachting Developments sourced from the USA

Elliott rock up for the 2014 Round North Island Race in February 2014. They used the 2013 PIC Coastal Classic and return for their RNI qualifying miles and finished first in their division on line and handicap. Déjà vu: *Crusader* smashed her division, up to 10.66m, last year.

Bushido and *Crusader* are identical twins from the same hull and deck moulds, but they differ in sailing systems. *Crusader* is set up to crusade fully crewed; *Bushido* is set up for short-handed sailing while being suitable for fully crewed racing.



TOP: The athwartships track for the jib sheeting; MIDDLE: Greg Elliott on the Panasonic Toughbook at the nav station; ABOVE: Ronstan's new cleating system at the keyboards

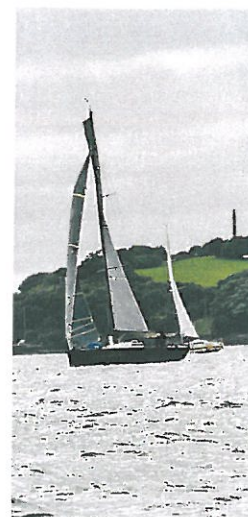
Bushido's sail inventory

UPWIND

- mainsail 3Di 3 reefs, 3 full length, 4 short battens 61m²
- J2 3Di 1 reef, 4 x battens 39m²/32m² reefed
- J1 3DL light jib 40m²
- J4 3DL free flown furling headsail hoisted on its own stay in the luff. It locks in the mast, stay tension is achieved on a 2:1 at the tack, 25m²

DOWNWIND

- A4 Nylon top down furling, 180m²
- A3 Aramid laminate top down furling, 140m²
- A5 Aramid laminate top down furling, 95m²
- FRO Aramid laminate bottom up furling, 56m²





"It's the cutting edge of a 35-foot race boat... as fast as you want"

TOP DOWN, BOTTOM UP

All of *Bushido's* flying sails are on furlers, like code sails, so that the crew can douse one sail and deploy another without touching a halyard or tackle metres of Aramid on the foredeck. Gybing a kite is a tricky manoeuvre in short-handed but this will enable them to furl, then gybe, then unfurl.

"There are lots of things to think about when you're short-handed," Woods says: "push the button for the canting keel, runners, canard. As you see, there are ropes everywhere. It's the cutting edge of a 35-foot race boat and it's pretty much as fast as

you want it to go."

Bushido's A4, A3 and A5 sails, like gennakers, are all top-down furling sails. These A-sails have a massive area high up which, if the sail is furled from the bottom, develops into a flogging bulge of trouble.

Furl them from the top down, and the wide part of the sail furls first. After that, the lower part obediently follows. See sidebar.

On *Crusader*, two foredeck crew furl the kites; on *Bushido*, the furling lines come aft so the trimmer – who is really a co-skipper if the boat is sailing two-handed – can use a winch.



Dan Welch making good use of furlers and doing a peel from the A3 to the fractional code O (FRO), which is already hoisted

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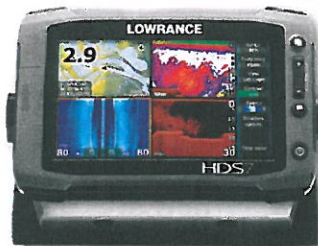
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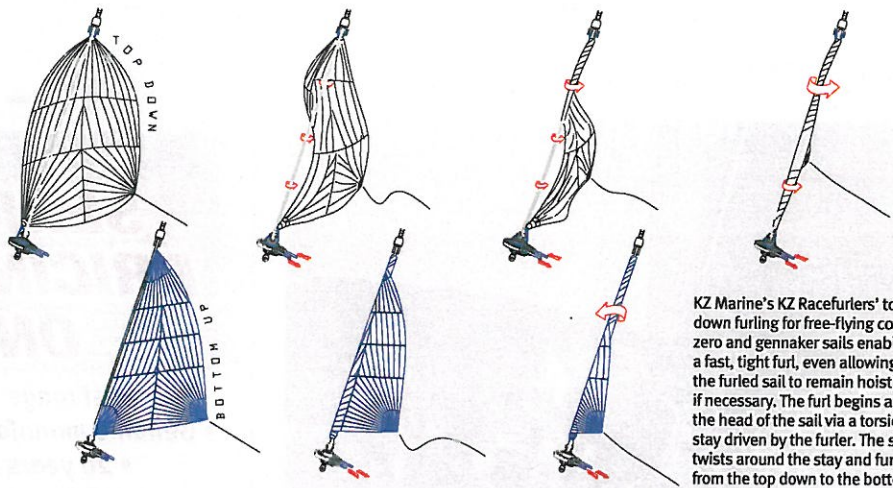
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KZ Marine's KZ Racefurlers' top-down furling for free-flying code zero and gennaker sails enables a fast, tight furl, even allowing the furled sail to remain hoisted if necessary. The furl begins at the head of the sail via a torsional stay driven by the furler. The sail twists around the stay and furls from the top down to the bottom.

These systems may be a little around the buoys but will pay off in shorthanded races.

Elliott says the staysail is also on a furler, for short-handed sailing. "If the breeze gets up, we can just drop the number one headsail, roll the staysail out and we're away. And the other key point is that we can roll the staysail out while we're reefing and still be on the autopilot because you've got to be doing five to six knots for the pilot to

be able to control the boat and work the rudder."

RACING THE HAYSTACK

The Haystack Race started from outside the Royal New Zealand Yacht Squadron in a west-sou-westerly that was doing the Waitemata gust'n'lull from 12 to 20 knots. We started under full mainsail and the 56m² FRO (fractional code zero). The FRO furls from the bottom up, in the



Crusader, the Elliott SS35 launched last year, now has an identical sistership in *Bushido*. *Crusader* is set up for being fully crewed; *Bushido* for shorthanded

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conventional way, with the furling drum beneath the tack.

At North Head we peeled to the A4, a grand white powerhouse, to bear away to Haystack in Rakino Channel. Although one of the babies of A Division, we were already putting distance on the fixed keel boats we were racing, and it was hard not to grin stupidly as we sped past B Division.

As boat speed flicked between 13 knots and more than 17 knots, Woods was a busy man, correcting for the lulls and puffs with the tiller and the canting keel. As on *Crusader*, the keel is controlled on a small panel of coloured buttons. The green button cants the keel to starboard; the red button cants it to port. The blue button engages the PLC (programmable logic computer) to swing the keel through a tack or gybe in 10 seconds. Hitting the yellow button drops the keel to centre.

In more than around 18 knots wind, the keel is usually canted to its full 45-degrees for maximum righting moment; in lighter conditions it is adjusted between mid and full cant



5 YEARS and going strong

VITAL STATISTICS:

Boat name and design:
'Runa Mai'
35ft Don Senior

Moored: Bayswater Marina

Date coated with
Coppercoat:
June 2008

How was it coated:
MEC Marine managed
application

Yearly use: Regular trips to
Coromandel, Great Barrier
and Bay of Islands.



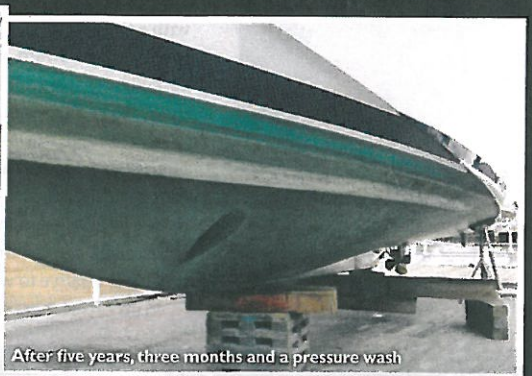
Launch day

Forres McPheat owner of the 35ft Don Senior 'Runa Mai' is now onto his second launch with Coppercoat anti-fouling paint. In 2008 'Runa Mai' had Coppercoat applied to her by the MEC Marine team, with 100 hours of yearly use and now into her fifth year, the owner believes it has been another great investment. So much so he is having a yacht rebuilt for his family and has booked in Coppercoat for her already!

Currently moored at Bayswater, where marine growth is considered high, McPheat maintains "Coppercoat is as good, if not better than any traditional anti-fouling he has tried in the past". He believes "Coppercoat gives the boats underwater surface the protection of four coats of epoxy resin while acting as an effective anti-fouling. Unlike conventional anti-fouling you can clean Coppercoat with water blast or scrub with no deterioration of the surface".

McPheat's verdict to date on Coppercoat "it has been excellent. I have saved approximately \$4500 over the last five years already and see getting a full ten years use from one application".

Forres McPheat's has been another success story of a New Zealand boat with Coppercoat, his yearly maintenance is a simple lift twice a year for inspection and clean, with annual costs being a minimal \$360. He regularly endorses Coppercoat to other boat owners and looks forward to many more summers on the water with Coppercoat.



After five years, three months and a pressure wash

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Bushido racing three-handed on 9 November, with Wayne Woods on helm, Josh Tucker on pit and Dan Welch on bow



depending on wind strength. As the breeze increases, the helm starts to load up, then the keel corrects the yacht's heel and the boat speed dials up, taking the power in the sails, rather than easing them to depower.

During races, two large, gel batteries power the keel, which operates with a gentle hum.

Elliott was feeding Woods target boat speeds as *Bushido* hungrily converted apparent wind into speed. As a stiff, carbon boat, she's nimble with a flicky motion. In the lulls, she leaned to windward, obeying the keel canted to that side. It's a bit freaky until you get used to it.

Brett Elliott, the designer's nephew, was adjusting the canard, for'ard of the mast. In the absence of a fixed keel, the canard generates lift. On a reach, the canard is adjusted as required, relative to weather helm.

In an offshore race, two-handed

sailing is basically single-handed, because one person is usually off-watch, so the for'ard part of the cockpit is Trim HQ.

The traveller controls are led for'ard from the transom; the mainsheet runs under the coamings and exits near the trimmer. The coachroof is string city: halyards, reefing controls, jib in-haulers, cunningham, outhaul, tackline and retracting prod controls all arrive here – but there are no labels. Elliott banned them so that he and Woods would have to learn the ropes – literally – for when they are working in the dark in the RNI Race.

Instead of jammers at the keyboards, *Bushido* sports a quick-release system from Ronstan.

"Because we've got a carbon mast and 3di sails and rod rigging, all the loads are on that little parrot claw of the jammer and they just don't hold it," Woods says, "so we looked at the Open 60s which use a French design and now Ronstan is marketing it. We load-tested them at KZ Marine before we bought them."

Rather than a flush deck, Elliott has stuck with his rounded, narrow coachroof to accommodate athwartships jib car tracks, rather than the usual fore and aft track for boats of this size. *Bushido* sails at

up to 32 degrees apparent, thanks to her close jib-sheeting angle of 8.5 degrees. The athwartships jib sheeting enables instant adjustment from inboard to outboard sheeting.

In Rakino Channel, we hoisted the J2, furlled the A4 and dropped it before rounding the Haystack and reaching to Gulf Harbour across a choppy sea and a building breeze. This was a wet ride for those on the rail, as spray came over the bow and along the sidedecks into the cockpit.

The breeze built to the early 20s at Gulf Harbour buoy, so Brett Elliott zipped a reef in the J2 – literally – and we rounded the mark to come hard on the wind for Mackenzie Buoy. We trucked along at around 6-7 knots as the ride got even wetter for those on the rail.

From Mackenzie it was to Cable Buoy off Takapuna, then a fast reach that touched 17 knots to Northern Leading. We turned for home as the wind hit the mid-20s, and reefed the main which we carried to the finish. We finished the 45nm race in 4.5 hours, a 10kt average speed.

Woods and Elliott will do the White Island Race as part of their training. "It's good to work up the boat with the designer," says Woods. "Just to have him sailing as well as sharing his knowledge is a real privilege."



Home sweet home, with the keelbox in the foreground. The custom-made header tank for the canting keel's hydraulic fluid is installed with the pumps in the keel compartment, which reduces the amount of piping