

SCORING GOALS

Anthony Leighs and his new Elliott-designed, 35-foot canting keel yacht are on a crusade of fast, offshore racing. That's why he's called her *Crusader*, but the name also scores well with his home province, Canterbury, home of rugby's Crusaders.

Words Rebecca Hayter Photos Gareth Cooke

My first view of *Crusader* was in the pre-start of a Royal Akarana Yacht Club race in particularly blustery weather. The 10.6m, 3.5-tonne, sleek grey yacht was clearly a design by Greg Elliott of Elliott Marine in Auckland. From her generous sail area and the way she heeled out of a tack then settled smoothly to a flatter angle, there was a canting keel involved. Excellent.

Finally there is a yacht in New Zealand in the size-range between the inshore canting keelers such as *Overload*, the Elliott E9 SS and those in the 50-foot (15.25m) plus range such as Elliott's *Ran Tan2* and V5, the TP52. However, *Crusader*'s true big sister is the Elliott E52 SS *Outsider*, based in Germany.

The SS denotes Elliott's super sport range of canting keelers, ie the turbo version with high-tech construction, full carbon mast and PLC management of the keel system. Those features do justice to *Crusader*'s projected campaign for 2013: Bay of

Islands Regatta Week in January, the 140km Nexus Gold Cup race in February, the 800km Three Kings Race in February, the Auckland Regatta in March, and the Auckland-Tauranga Race at Easter. From there, yet to be confirmed, *Crusader* may be shipped in a custom-designed cradle in her own container to Los Angeles for the 4100km Transpac from Los Angeles to Honolulu in July 2013. The mast and keel will be removed for shipping.

Crusader's owner Anthony Leighs says the ability to fit the yacht in a container is a major saving.

"All of a sudden that opens the opportunity to do a whole lot more races offshore."

Crusader is the first canting keel yacht which Leighs ever stepped on board. He got into yacht racing just five years ago with a Young 88, but was soon hankering for a fast, offshore yacht. He considered a 40-footer but, after consulting Greg Elliott, commissioned a 35-footer with a canting keel.

Simply, a canting keel can provide small-boat





advantages with big-boat power. During the design phase, Leighs says he had his doubts.

"I was scratching my head, looking at the big mainsail [on the design drawings] and saying, 'We're not overdoing it, are we?'"

But his first sail on *Crusader* erased

his concerns.

"I was just blown away. It feels as if it's a much bigger boat than 35 feet. The stability and the power are amazing. We sheeted the sails in, headed upwind and straight away we were into good speeds

[usually in the mid-to-high sevens] in very little wind, and the boat felt fantastic. We put up a kite and the thing was a rocket."

That rocket-like ability served *Crusader* well on her third outing in the 119km Coastal Classic in October. Her elapsed

time of 10 hours, two minutes and 51 seconds smashed the record for her division, monohulls up to 10.66m, and for the 12.19m monohull record.

"We saw a lot of 25 knots boat speed in the Coastal," Leighs says. "We had our A5 [asymmetric] up in a big squall close on 40 knots and we think we saw 28 knots boat speed but that was just before we headed pretty much underwater."

In more than around 18 knots wind, *Crusader's* keel is usually canted to its full 45-degrees for maximum righting moment, but in the lighter conditions of our sail, around 12-14 knots, mainsail trimmer Brett Elliott frequently adjusted the keel between mid and full cant depending on wind strength.

It feels as though a giant hand is steadying the yacht. As the breeze increases, the helm starts to load up, then the keel corrects the yacht's heel and the boat speed dials up on the B&G H7000 instruments. Speed-wise, it's more effective than easing the mainsail because it doesn't depower the sails.

Control of the yacht's most powerful force – the hydraulic ram on the canting keel – is done on a small panel of coloured buttons between the main trimmer and

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Sails wardrobe

The North Sails wardrobe was designed by Gautier Sergent who designed the sails for Volvo winning boat *Groupama*. The 64.5m² mainsail and 40m² number two jib are a 3di blend of carbon and Dyneema for durability and performance in offshore and coastal racing. The number two jib has soft hanks and zipped reefing, which reduces the number of sails carried on board. The number four jib is a panelled sail with taffeta for durability. The trysail hoists on an internal track within the main track. For downwind, all sails are asymmetric: a 180m² A4 runner, a 140m² masthead A3 and 93.5m² fractional A5.



helmsman. 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,

which takes about 10 seconds. Hitting the yellow button immediately drops the keel to centre. Presumably yellow is for when things turn to custard. If the system fails, the crew can override the PLC and divert

the hydraulic fluid to a hand-operated system like a car jack.

Since a canted keel doesn't provide lateral stability, there is a canard for'ard of the mast to generate lift for upwind

Canting, or swing, keels

A canting keel exerts more righting moment than a conventional fixed keel because it can be canted up to windward by, in *Crusader's* case, a hydraulic ram. This creates a stiffer platform and allows the yacht to carry more sail which equals speed.

sailing. *Crusader* sails at up to 32 degrees apparent. Elliott has kept the coachroof narrow to achieve a close jib-sheeting angle of just 8.5 degrees; an in-hauler is to be fitted. The jib sheets via cross tracks which lie athwartships, allowing instant adjustment between inboard and outboard sheeting. On a reach, the canard is adjusted as required, relative to weather helm. It is raised for downwind sailing, where *Crusader* generates significant apparent wind. In just 14 knots true, we were making 11 knots at 95 degrees apparent wind angle in 140 degrees true, a bend of 50 degrees.

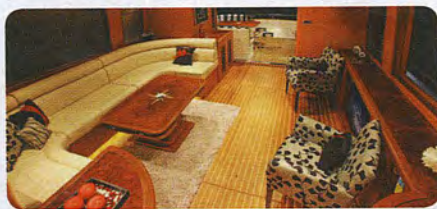
Leighs says that while the Elliott SS 35 is "reasonably affordable" he's gone for high spec where it counts. For example, it has the PLC and the full carbon mast and boom built by Hall New Zealand, with Hall

A life of good memories is a life well lived! Anon.

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SCR continuous Airfoil carbon rigging which looks wonderfully slender in tiny aerofoil-shaped sections to minimise drag. The total mast weight is 121kg.

The double-purchase main halyard exits the mast below decks to keep all the cordage off the deck and to prevent it tracking water inside, something Elliott refuses to accept in ocean racing. Another advantage is that it reduces the number of exit points in the mast just above the deck, which is a high-load area.

Below decks is carbon-black, without paint, to save weight. There is no sole so moving around is like stepping through an egg carton, but there is decent headroom. The galley is a tiny swing primus and a plastic bowl. The head is forward to starboard, with no concessions to modesty. There are two pipe berths a-side, aft.

Offshore, *Crusader* will sail four-up, with two off-watch on the windward side. She has eight crew around the cans. Motive power is a Yanmar shaft drive with a Gori two-bladed propeller.

As Focus Marine, Brett Elliott project-managed *Crusader's* superbly finished construction at Salthouse Boats in Greenhithe, which has built several high-profile racing yachts in recent years, under the racing expertise of Greg Salthouse. *Crusader's* construction is foam core with carbon skins for a light, stiff, strong construction and all components are carbon. *Crusader* has a Designer and Builder's Certificate verifying her design and construction to ISAF Category A Plan Approval for Offshore Racing Yachts.

As the only canting keel yacht in her size range in New Zealand, *Crusader* has already scored and converted plenty of tries. Her performance in the Coastal Classic certainly got the attention of bigger, fixed-keel boats. The smaller costs and crew numbers for similar-sized performance to bigger boats is a tempting combination, and the next few years may see more owners adopt a similar game plan.

specifications

- loa 10.6m
- beam 3.5m
- displacement 3500kg
- draft 2.7m
- sail area
- mainsail 64.5m²
- J2 40m²
- A4 180m²
- A3 140m²
- A5 93.5m²

Photo Richard Gladwell