

Elliott 15.2m Ocean Racer



Schooner Revisited

Every now and then a new boat comes along to nudge the state of the art and define the designer. For Greg Elliott, his own ocean racer Party Pro, which burst on the scene in 1986, was one such defining project. The new schooner Elliott Marine is another. Story and photos by Ivor Wilkins.

Party Pro announced the arrival of a creative thinker prepared to move outside the square and follow his own instincts. Party Pro, with its pugnacious, slope-shouldered appearance, ignored the aesthetics of the time and certainly ignored the dictates of the IOR, which was the predominant racing arbiter of the time. This was definitely a boat with an attitude, although it hardly had time to demonstrate its real performance before it was wrecked on a reef while comfortably leading the Fiji race in 1987.

Now, nearly a decade later, Elliott has come up with something different again. And while this may not exactly redefine the designer - some of its features have been seen in his earlier boats - it does present an amalgamation of concepts in a single, highly individualistic project.

Elliott Marine is a project very close to Elliott's heart. This was not a commission built to the demands of a client. This is the designer's own, although he does have two partners in the boat. Tom McCall, who has been a faithful Elliott supporter for some years, has backed the project with his customary irrepressible enthusiasm and delight. And Tauranga yachtsman Brian Petersen, who has sold his well travelled Lidgard design Dictator, has also taken a slice of the action.

And action is the operative word. On its debut sail on a clear, windy Sunday afternoon in mid-July, Elliott Marine demonstrated a blistering turn of speed. In a brisk 20-22 knot westerly, the boat lifted its bow and hurtled along in the flat, sheltered waters off East Coast Bays.

With just a #4 headsail and the two distinctive mainsails up, but not drawing properly because of a headboard problem, the boat was tracked at 16.5 knots with the wind at 60' apparent.

"This boat has huge potential", grinned a delighted Elliott afterwards.

The Auckland waterfront became acquainted with this boat somewhat by degrees. The hull was launched in late May and it sat unrigged for more than a month in Westhaven Marina. Passersby stood and gazed at the expansive deck ("like a tennis court", commented one) and noted the beam carried well forward on deck, promoting considerable flare from the waterline. Questions about the displacement met with the answer "very light", although that much was self-evident from the way the hull was in constant motion even on the dock, shifting and bobbing like a bubble. The small blister coachroof denoted a boat with serious offshore work in mind and the shape and character of the hull made it clear that no handicap rule had influenced the designer's pen. This was an unrestrained ocean speed machine.



When the rigs went in, the picture became more complete. Two equal length carbon fibre wing masts, both rotating through 180' with diamond stays for column strength and all Kevlar standing rigging, created something of a stir: certainly the schooner configuration was getting a modern shakeup. High performance schooner rigs became a talking point a couple of years ago when futuristic plans for giant round-the-world-in-80-days boats were all the rage, but not many have seen the light of day. The masts are well separated, with the aft mast considerably raked to maximise the separation for the efficient use of staysails. The ample deck beam forward provides an efficient staying base for the forward mast. Between them the masts represent 200 square feet of sail, before any Kevlar comes into sight.

Then came the first outing and the sailplan, developed with North Sails, was revealed. The two mainsails feature squared headboards made of Kevlar and carbon, which project the roach well back from the mast and maximise the sail area on relatively short masts - big horsepower with low centre of effort. On the first sail the angle of the headboards was not quite right, allowing the top of the sails to open up. A simple realignment of the board angles cured the problem instantly.

The full sail inventory has not yet been worked out. The programme is for the working sails to be perfected before the extras are developed. At present, the boat has a conventional 1.5oz spinnaker, but gennakers will obviously come into play with the speed pushing the apparent wind forward. 'We will get the extras sorted out at the front of the boat before we look at the gap between the masts and see what we can put in there as well', says Elliott, 'but we are not like an IOR maxi where you need huge sail area to get the boat going'. In fact, with such an easily driven hull, the bigger priority might be to get sail off. 'Depowering the boat will be a key issue', says Elliott, and to this end very deep reefs have been built into both mains. Both mains will be reefed simultaneously to maintain balance and will sail very efficiently without any headsail.

"I am really pleased with the way the boat has come together", says Elliott. "There is plenty of power in the hull and there is a lot of driving force in the rigs to match it. You go through the whole design and building process and you can't help wondering; but I am very happy with the way it has turned out.



"The original idea was a dream of mine. I have always had the ambition to be involved in another ocean racing boat. I started on the concept about 18 months ago. I really wanted to get further into the speed aspect of sailing, rather than the rating rules and handicap side. There are few boats like this around. It was a very interesting exercise and technically it was quite challenging. All of the engineering on the boat was done in-house by Elliott Boat Design."

At 50ft, Elliott Marine obviously has to find races where size bands rather than handicap rules apply. The BOC single handed round the world race springs to mind, as does next year's Melbourne-Osaka Two-handed Race. The cockpit layout, with most of the major controls falling to hand close to the helmsman, suggests short-handed sailing is on the itinerary, but Elliott says the boat is not built with a narrow focus.

"My philosophy today is that you cannot afford to just go down one track", he says. "There has to be room for more than one type of racing". Water ballast, for example, confines the boat to too few events (the BOC and the Globe Challenge), so Elliott Marine does not have water ballast. Its stability comes from a very deep keel (exactly how deep we are not told, but it is more than 3m), which is made up of a carbon fibre strut with a bulb.

The plans are for the boat to complete in the Melbourne-Osaka Race and Elliott makes a prediction designers rarely risk: "I believe this is the boat that will win the Melbourne-Osaka Race. I believe that very strongly".

But Elliott Marine is also destined for fully-crewed racing as well. "With careful designing and planning you can do both", says Elliott. "Short-handed boats are never sailed to 100% of their potential. Two people, or one person, simply cannot do the work of 12. The design has been set up so the management of the boat is kept close to the helmsman, but there is enough space in the members' stand for a crew to work efficiently as well".

For the first sail, the controls for rotating the rigs had not been completed and a jury arrangement was used. But the system will work from short struts at the base of the mast connected by control lines to the boom. Once the boom-to-mast angle has been set for the prevailing conditions (usually with the mast over-rotated to promote a foil shape), the mast will rotate automatically in response to the mainsheet and traveller adjustments.

With only Kevlar standing rigging to hold up the masts, it all sounds like a major engineering feat, but Elliott insists it is not a complex arrangement. "Actually it is very simple. It is far simpler than the multi-spreader, multi-stay arrangements you see on an IMS boat with all the rig tension and compression that goes with it. With this setup, once the stay is attached that's all there is to it. It's just a question of getting the angles right."

Elliott has had success with rotating rigs on monohulls before: Sneaky Frog, Excess and several of his fixed-rig designs feature no backstays, so getting the angles right is not new to him. The benefits of rotating masts - more drive, less drag - are well established on multihulls, where a wider staying base is available, but Elliott sees no reason not to do the same on monohulls. "Bear in mind", he says, "catrigged boats have been around for a long time and they keep their masts up with no stays at all."

If the boat is different above the water, it is also interesting below the water. The two masts are matched by two foils. The main keel, raised on a portable gantry for getting in

and out of shallow harbours (but not for sailing), is situated behind the mid-point of the boat between the companionway and the steering position.

"Putting the keel in the back third of the boat promotes exceptional reaching and running performance", says Elliott. For upwind efficiency, a retractable canard foil just ahead of the forward mast comes into play.

The hull construction comprises a carbon and Kevlar outside skin over a Divinycell core with a Kevlar inner skin. For the bottom of the hull, the Divinycell is replaced by a balsa core. The hull shell is well supported with bulkheads and frames inside. "It is a girder and diaphragm arrangement like the old aeroplanes used", says Elliott. "The panels are kept small, not like some modern boats where the bulkheads are removed and they rely on the core for stiffness. I don't believe that's the way to go".

While the panels get plenty of support, the humans go without. The interior is spartan even by modern racing standards with a single-burner LPG cooker and a plastic tub making up the galley, a minimal stand-up navigation centre opposite and the familiar pipe berths down the side.

The Elliott gastronomic philosophy is to make plenty of sandwiches for a race and freeze them. Hopefully, you finish so quickly that the last of the sandwiches are still defrosting. If the race goes on long enough for the sandwiches to get stale, you fry them. But this is a boat in a hurry and from its early showing, that won't be happening too often.