BOAT TEST

Heaps Better, Half the Cost

Hamish Willcox finds himself at home on a big dinghy.

Excess is a boat designed and built for speed. It is full of original and innovative ideas from people who knew what they wanted and were not afraid to put their ideas into practice.

Steve Thompson had a much larger than usual input into his Elliott design. This was his fourth keel boat and he decided that he really wanted a dinghy that could be raced off-shore.

Having represented Poverty Bay in two Tanner Cups, his reward upon arriving in Gisborne, after racing there in *Excess* this New Year, was his original P Class - Steve's first boat, which he had helped his father build a "few" years ago. The full circle completed, Steve now has his big dinghy.

My impressions of *Excess* are definitely dinghy orientated. The only similar type boat I've ever sailed as a full-blown 35ft IOR Threequarter tonner. *Excess* feels heaps better at half the cost.

We had 0-8 knots for the "test day." Up with the fully battened large-roach mainsail and 150% overlapping genoa. 7.2 knots was attained in the puffs upwind.

The crew say that by steering a few degrees lower, to about a two-sail reach, in 15 knots wind, 10 knots boatspeed is easy.

The masthead is 15 metres off the deck and the mast is a rotating wing section. It's held in place with conventional 3/4 rig forestay and runners. But sideways? Well, that depends which way is sideways. The main shrouds run through a boomerang-type spreader positioned at the 3/4 or I (genoa hoist) point, allowing the mast to rotate inside. The section is held in column by three sets of swept-back diamonds. It all looks beautifully engineered and is a credit to Bruce Elliott, who designed and built the mast.

It sure seems strong enough, having weathered plenty of hard tests during gales encountered off East Cape during the Gisborne race. The crew completely submarined *Excess*, surfing at 20 knots with only the double reefed mainsail up.

But back to the 8 knot inner harbour breeze we had for our trial. The cockpit layout was extremely well organised, with channels running forward for the trimmers and the helmsman's position right outboard thanks to the extremely wide aspect of the cockpit floor. The genoa was simply

Which way is sideways? Over-rotating mast is unusual on a keelboat.

trimmed to the inboard fore-aft track and adjusted by a Harken Magic Box for inshore upwind racing. Offshore and reaching, trimmers used the snatch block ready on pad-eyes at the rail.

The mainsheet was also Harken with 6 to 1 on the coarse trim but the fine tuning creating 24 to 1 purchase. With full battens and large roach on the mainsail, just how much twist to use seemed very important, especially as the main's maximum draft position was over a foot further to leeward, due to the over-rotating mast. Once you had figured out twist with the 24 to 1 fine tune, the main could be simply adjusted by the Harken traveller from the rail.

The learning curve of this rig is tremendous. The only bench-marks are the rotating wing masts of multihulls, like *Steinlager 1*. Finding the correct mast rotation and stiffness, combined with mainsail shape, will take more time than with conventional rigs.

We next reached off and hoisted the huge masthead spinnaker. I felt the twitching of past 18-footer experience to see the size of this kite. Unfortunately the wind refused to fulfil what could have been great downwind excitement. But even with these large sails the gear needed to handle it all was small boat stuff; including end-for-ending the pole during gybes, and winches like those of your average 32-footer cruiser.

Sails are from Sobstad and Steve Thompson wanted to take a step by step approach to the sailmaking. The rig concept was new and to minimise the cost of experimentation, a cautious approach was specified. Initial sailmaking involved cutting down a Sobstad Genesis medium No1 and No3 Airframe genoa from Thompson's previous yacht, *Pig Hunter*. The main was an old Kevlar one from *Exador* and rehashed to add 500mm to the foot and 700mm to the luff and increasing the roach to a catamaran-style profile. The main was fully-battened and reshaped.

After trials he ordered a new masthead .5oz full radial chute, scrim Kevlar light/medium no.1 genoa and a hounds height .75oz chute for reaching. The 1.5 oz from *Pig Hunter* is the heavy runner and fresh-air reaching sail.

Excess is also a first regarding hull construction methods, an invention of High Modulus. They call it the "strip plank foam" method and boat builders Geary and Sherson were the first to use it.

Geary & Sherson felt it to be both practical and extremely cost effective, resulting in an extremely strong, light, hull form.

Above: Cockpit with side trenches and wide floor provides for a comfortable layout.

Below: Styling and paintwork provide exciting looks for this Elliott speedster.

Peter Geary feels this method may well revolutionise the building of this type of one-off boat. High Modulus confirm this with orders from yachts in Australia and a high speed, multi-hull power cat in New Zealand.

Excess was built by first constructing foam ring frames for the length of hull spaced at 800 centres. These are shaped to 100mm across and 15mm wide then glassed both sides. Next the foam planks are made. Starting with Divinycell foam sheets, first uni-directional glass is laid out to cover one side of foam 35-feet long. This is cut into 50mm wide strips. These foam planks are laid over the frames and edge-glued. Glass tape is also applied over the coving inside at each frame. With the foam still exposed outside, fairing *Excess'* hull was no problem. The outside was then glassed over using Kevlar, uni-directionals and machinery developed for the America's Cup Boats by Marten Marine and Cooksons which makes "on-site" Pre-Preg (the fibreglass is fed through machines to result in a pre-determined resin content). Next the hull was turned right side up and glassed between frames using double bias cloth. Epiglass HT9000 resin was used throughout.

The hull is ABS certified, meaning *Excess* can enter the Australian racing scene, which is governed by the ABS regulations. ABS certified means a certain standard of hull lamination and construction, keel plus keel joint engineering, and rudder plus stock construction.

The result of using this innovative construction method means large cost savings are made by removing the need to build a male mould. Comparing this hull with one in full-blown IOR Nomex honeycomb and carbon fibre, it is 20% heavier, but more

Above: Excess has full-sized chart table and a host of electronics.
Left: Typically racing interior - the head would be exciting at 20 knots!

than half the cost. *Excess* is finished in stunning Steinlager red from Epiglass.

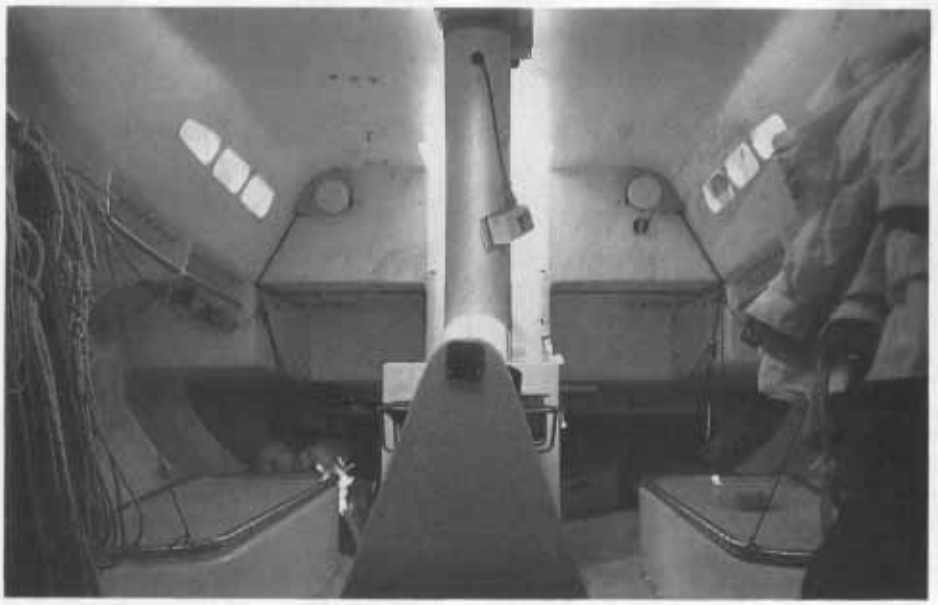
Down below, *Excess* has your typical stripped-out racer finish. I liked the full-size chart table which could be folded up out of the way behind the navigation seat. It has full instrumentation which has Steve working to capacity to correctly install. Apparent wind angles and rotating wing masts don't work easily together!

Steve plans to install an on-board computer similar to those seen aboard BOC and Whitbread yachts. This will assist with tuning *Excess* to maximum potential, being fully interfaced with wind, log etc. Computer navigation and evaluation of performance will all be possible when the system is completed with the new GPS before the Auckland to Suva race start in May.

The auxiliary engine is a Yanmar GM10 modified to take an 85 amp alternator to run the electrics; should the full power of the engine be needed to drive *Excess*, the switch to kill the alternator is easily accessible. The motor installation is a conventional shaft set-up to a folding two-bladed prop.

What also appeals below decks is the toilet forward. What a sensation, I can imagine, when surfing at 20 knots plus!

Interior view, looking aft.



Conclusion

It seems Steve has just what he wanted in design, construction and rig. He has succeeded in finding the right people and combining their special creative skills, resulting in a yacht well ahead of the times. Presently it is a yacht for boating with 40-45 footers round the harbour in Division A. What I would like to see is how she would go in the Suva Race...especially if they get plenty of the reaching and running usually experienced. ❑

EXCESS

LOA	10.65m (35ft)
LWL	9.8m (32ft)
Beam	3.6m (11ft 8in)
Draft	2.1m (6ft 8in)
Displacement	3000kg (6614lbs)
Price	$130,000

Designer Elliott Yachts.
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