

Hunting



The Ron Given-designed *Tigre* was built by owner Bob Huntingdon, above, to the new 8.5-metre class rules established by the NZ Multihull Yacht Club. The class is intended to encourage people into multihulls, with quite a bit of latitude in the interpretation of the design. Huntingdon first commissioned a cat from Ron Given nearly 30 years ago.

instincts

DRIVEN BY ITS BIG WING MAST AND EXPENSIVE LOOKING RACING SAILS, the yellow racing catamaran *Tigre* certainly looked the part, as she tacked out of the Weiti River mouth – bright, light and fast.

Built or, more accurately, handcrafted by boat-builder Bob Huntingdon for his own use, *Tigre* is a Ron Given-designed racing catamaran. Given and Huntingdon's first joint catamaran project was nearly 30 years ago – the 8.0m cruiser/racer *Gulf Tiger*. The *Tigre*, French for tiger, project demonstrates the quantum leap in experience and craftsmanship the pair has travelled since then.

CONCEPT

Always the enthusiast, Given outlined the philosophies underpinning *Tigre* at her launching party six

months ago and impressed me with his depth of thought behind every detail, big and small.

For example, a biggie – overall beam. Although originally designed to Formula 28 rules, *Tigre* also meets the New Zealand Multihull Yacht Club's (NZMYC) 8.5m class rules, which allow catamarans a maximum beam of 5.5m. Contemporary racing catamaran design has it that the wider the cat, the more stability, more power and more speed. So, building right to the beam limit seems obvious – but *Tigre* is only 5m wide, and Given has good reasons.

STORY AND LAUNCHING PHOTOS BY JOHN MACFARLANE ■ PHOTOS BY MIKE HUNTER



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ABOVE CENTRE: The outboard pod allows maximum clearance with the outboard up and maximum prop depth when outboard is down.

A catamaran with a length overall of 8.5m, with 5.5m beam, has beam equalling 65% length overall (loa). When hit by a wind gust, such an over-square catamaran tends to drive its leeward hull deeper into the water – this increases drag, resistance and wetted surface area, in turn increasing burying and tripping forces on the leeward bow.

Tigre's beam, at 5m, is 59% of loa, slightly narrower than many contemporary performance designs. When hit by a wind gust, such a catamaran tends to lift its windward hull and drive out from under the gust, reducing pressure on the leeward hull and bow. With the windward hull just skimming the water, total wetted surface area is hugely reduced.

Given claims other benefits. Because there's less loading on its structure, *Tigre* has been built lighter and proportionally stiffer. As well, it balances and

steers better because of less separation between its rig – the driving force, and its hulls – the resistance.

Naturally, there's a downside. A slightly narrower catamaran such as *Tigre* readily flies its windward hull, so sail handling and trimming must be spot-on. Additionally, fore and aft stability is critical, because the boat must respond immediately and accurately to the helm with only one rudder in the water.

But, get these issues right and Given is emphatic the slightly narrower cata-

maran can be confidently driven harder in stronger breezes and gain a huge reduction in wetted surface area in moderate conditions, making it faster overall in a broader range of conditions.

There are other subtleties within *Tigre's* genes: a fine entry for wave penetration, flattened aft sections for reaching, displacement pushed towards the ends to counter pitching, a tucked-up longitudinal profile aft to suck the sterns down at speed, and the depth of forward freeboard to counter pitchpoling.

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Given was happy to talk about all the above, but a little coy about *Tigre's* foils, the rudders and daggerboards. However, he did mention the foil design was strongly influenced by discussions with Martin Fischer, who is closely associated with foil design of many French racing multis, including the Class 1 (18.2m) racing trimarans. There's obviously a secret or two here which time may reveal.

CONSTRUCTION

Quietly spoken and self-effacing, Huntingdon has spent many hours crafting *Tigre* to be strong, stiff and as light as possible, without resorting to truckloads of expensive exotics. The bulk of the hulls are six-millimetre marine plywood, tortured to shape, the bows exhibiting the now standard, Given trademark clipper curve. The hull sides are strengthened with two foam-and-glass stringers per side, topped with a little carbon, further supported by plywood web frames.

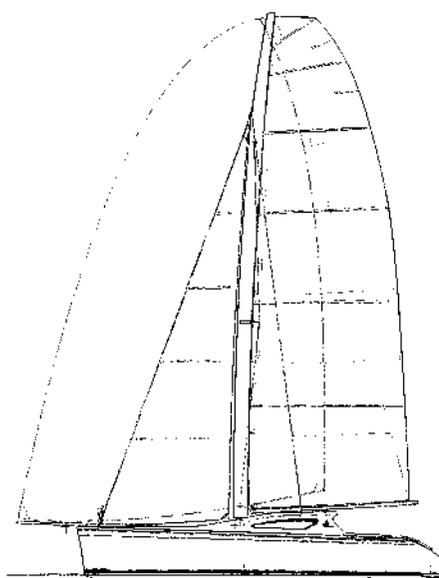
The underwater area is strip-planked cedar, as is the gunwale, while the cabin tops are GRP/foam. The daggerboard case

is a lightweight GRP/epoxy with lockers added outboard as a box section to take the loads from the chainplates. The hatches are deck cutouts, with hinges and locks added later, and incorporate drains.

The main and aft beams are sophisticated plywood structures, with some Kevlar stiffening top and bottom, making *Tigre* considerably diagonally stiffer than if aluminium beams had been used. Additionally, *Tigre's* main beam does not require a dolphin striker, ie, the strut and wire brace system beneath the aluminium main beams on catamarans which handle mast compression loads. Eliminating the need for a dolphin striker eliminates a source of wave interference and drag.

A little additional stiffening comes from the twin carbon tubes bracing the main beam back to the outboard pod, although these tubes are there mainly to provide lateral adjustment for the genoa sheet blocks.

Although a little trickier to use, *Tigre* has a wing mast to maximise perform-



ance. The forward section of the mast is 1.5mm glass, built in sections over a mould, with a second mould for the tapered top section. The after section of the mast is 1.5mm plywood, with a plywood web athwartships holding it together, and localised carbon stiffening. It weighs 60kg complete, and has 170mm pre-bend built into the luff for quick and positive mainsail camber adjustment. The mast is incredibly stiff fore and aft, but less so sideways; aerofoil spreaders and diamonds were added after the first sail.

The outboard pod is interesting and innovative. Huntingdon wanted maximum wave clearance with the outboard up, and conversely, maximum propeller

NZMYC 8.5M CLASS RULES:

loa	8.5m max
boa: trimarans	6.5m max
boa: catamarans	5.5m max
mast height	11.6m max
headroom	1.6m over 1.0m in length min
engine	8hp min
weight	no min
sail area	unlimited

The boom shall not overhang the transom
The boat must be capable of reaching
Yachting New Zealand Category 3
requirements.

depth with the outboard down. The typical system of a fixed pod and standard outboard tilt mechanism compromises either wave clearance or propeller depth so Huntingdon designed and built a hinging pod off the main beam. The outboard is bolted to the pod, which, when in use, angles down 90 degrees, controlled by a multi-purchase rope and block. Simple and effective in operation, the Mercury 15 can push *Tigre* up to nine knots if required.

Accommodation is minimal, with canvas pipe berths either end of both hulls and a little storage midships. There's no main hatchway as such; access below is a crawl-through hole in

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Tigre bounds over a gentle swell under her working sails; she is well set up for club racing.

the aft bulkhead, which works adequately in practice, although is easier to exit than enter.

At the launching party, *Tigre* rested so lightly in the slings of the travel lift that they hung in a curve between the hulls. The total net weight ready to sail, including sails, outboard, fuel and ground tackle, is only 860kg.

SAILING

The scheduled day for our sea trial on *Tigre* was a glorious sunny morning, with a sou-east of 12 to 15 knots and a light wind-generated chop. Joining Huntingdon and myself onboard *Tigre*

were Gautier Sergent and Nick Crabtree from North Sails, keen to see how their company's products performed on *Tigre*.

Huntingdon's long experience with catamarans immediately showed in the set up of the sailing controls. The sheets are duplicated and mounted on the inboard cockpit coaming, worked by twin non-self tailing winches, and a battery of jammers. The main and jib sheets are normally jobs for the trimmer but the helmsperson can reach them if required.

At the enthusiastic urging of Sergent and Crabtree, ropes have been added to adjust every possible sail function. Perfect for a racing catamaran, the maze of controls was initially confusing, but made perfect sense after an hour's sail.

Expecting a wet ride, I'd boarded *Tigre*

fully Musto'd, but this was wasted; she's a dry boat, at least for the helmsperson.

She is designed to be raced by three. The trimmer sits on the coaming forward of the helmsperson, with the third crewmember moving their weight to trim the boat. Upwind, this would normally be just aft of the main beam, and further aft for the downhill legs. The outboard cockpit seats are comfortable, and I found the cockpit easy to work from, although the boom is low to maximise sail area, so it's a squeeze under job when tacking.

At the helm with Crabtree trimming for every little variation, we regularly matched windspeed upwind, with a best of 16.5 knots. As I've come to expect from Given catamarans, the helm was

beautifully light – considering the less-than-500mm leverage provided by the tillers, this is a real testament to hull balance. There was just the occasional smidgen of lee helm, which a little more mast rake will eliminate.

Upwind, *Tigre* felt sensitive and responsive, and although she sat beautifully in the groove, it was necessary to concentrate to keep her there and *Tigre* let me know immediately if I mentally goofed off. It felt to me the racing sails have a reasonably tight envelope within which to work, and require constant trimming – as one would expect from a performance racing catamaran.

The wind strength was there to fly the windward hull – just – and in this mode *Tigre* felt stable fore and aft and, confirming Given's philosophies, easily controllable via helm or main traveller. Wind gusts translated into immediate boat speed; compared with aluminium-beamed catamarans of this length, *Tigre* felt noticeably stiffer diagonally. Tacking was instant and positive; the self-tacking

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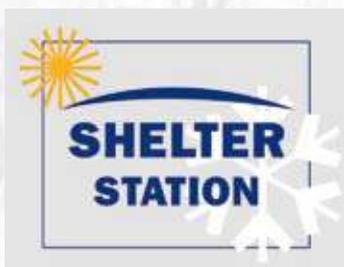
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Area:	82.5 m2 (888 sq ft)
Door Dimensions:	W3.5 x H4.1 (mechanical door one end) W11.5" x H 13.4" (other door can open completely)
Frame:	Powder coated steel tube
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Tigre has a 5m beam, less than the 5.5m allowed. Given believes it will improve performance in gusty conditions.

photos – this was due to the new ropes slipping in the jammers.

CONCLUSION

headsail made it a cinch for the crew.

Unfortunately, we didn't have nearly long enough under gennaker; within a couple of minutes of hoisting it, the attachment for its halyard block sheered off inside the mast. The issue wasn't serious and Huntingdon had it fixed days later, but it ended our downwind testing for the day.

However, in that two minutes *Tigre* had hauled the apparent wind from 170 to 30 degrees and zipped up to 16 knots – I predict downwind performance will not be an issue.

Huntingdon requested North's make *Tigre* as fast as possible, with as few sails as possible. Chief sail designer and multihull enthusiast Gautier obliged with a relatively small but high tech wardrobe of main, working jib, big jib, fractional screecher, masthead gennaker and a yet-to-come masthead code zero.

The working sails, main and small jib, are an extremely strong Kelvar/Spectra/Mylar laminate, and cut flat to suit the wing mast. For ease of handling when reefing, the main is attached to the mast with slugs up to the third reef position, with a boltrope above.

The mainsail employs America's Cup technology to support the almost metre-wide square top. As wing mast and mainsail are designed to work together, mast rotation is critical. To prevent mast rotation altering luff tension, all halyards terminate on the mast, with downhauls for luff tension. You may notice the main is not quite to the top of the mast in some

With at least five new boats launched or under construction, the NZMYC 8.5m racing class has received good support from Auckland's multihull fraternity. *Tigre* is the first of the five to hit the water. While it's impossible to predict how she will perform against her peers, which are yet to be launched, the Given/Huntingdon gauntlet has been thrown down with a vengeance.

If what looks right is right, she should be a winner, but we'll keep readers posted of the only valid test – results on the water. In the meantime, hopefully *Tigre* will inspire others to join this growing class – dollars per knot, an NZMYC 8.5 makes a lot of sense and thrills galore. ■■■

SPECIFICATIONS

design	Given 8.5
designer	Ron Given
builder	Bob Huntingdon
loa	8.5m
lwl	8.3m
boa	5.0m
draft, board up/down	1.8/0.4m
weight, net	860kg
displacement, sailing	1200kg
sail area, upwind	46m ²
*bruce number	1.6
engine Mercury	horsepower 15hp

* Edmund Bruce's measurement of power to weight ratio for multihulls can be used to compare boats of different sizes. Calculated by the square root of working sail area (m²), divided by the cube root of sailing displacement (kg), multiplied by 2.53.

Suppliers to *Tigre* include – Bob Huntingdon: owner, builder; Rog Given: designer; North Sails: sails; Anzor: stainless steel fastenings; Steve McCabe Rigging: cordage; Adhesive Technologies: resins; Plywood and Marine Supplies: plywood; 121 Marine: hardware fittings; International Paints: paints; Lusty and Blundell: Raymarine instruments; Foster and Co: Harken deckgear; Mike's Marine: Mercury outboard; MGA Enterprises: stainless steel; Burnsko Marine: safety gear; BEP Marine: lighting; Signs at Work: signs; So-Pac: hatches.