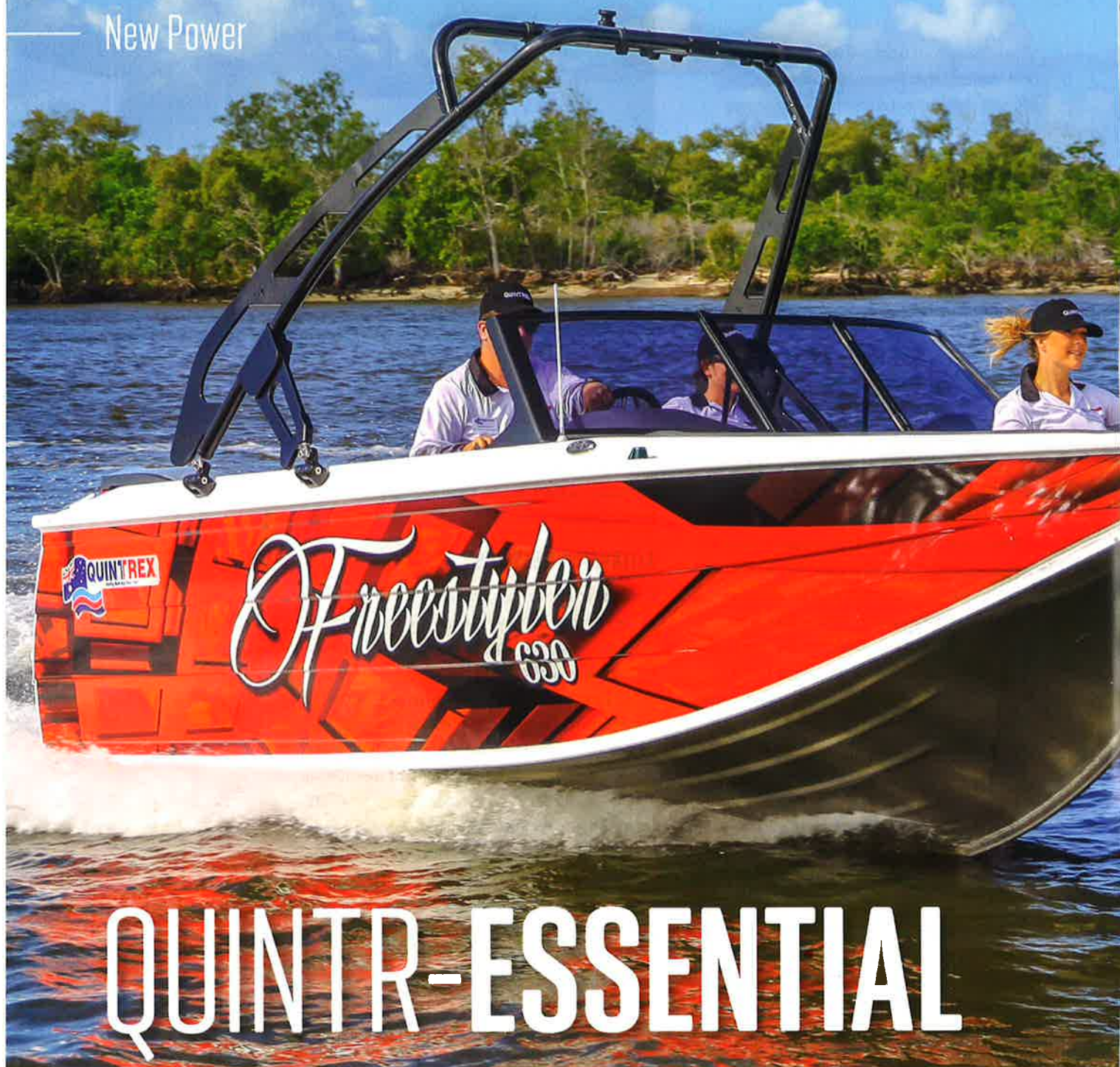


New Power



# QUINTR-ESSENTIAL

**Quintrex comes to a fork in the road with its new Apex hull.**

By Chris Beattie

Telwater, Australia's largest manufacturer of aluminium boats, conducted its most significant new-model launch in recent times with the release of its new forked-bow Apex range of Quintrex hulls.

Conducted at Sanctuary Cove on the Gold Coast in early April, the launch also saw the official unveiling of Quintrex's new Freestyler range of bowriders and an all-new Frontier side/centre-console fisher, plus updates and revisions to various existing model ranges, including the Stealth Hornet, Renegade, Top Ender, Yellowfin and Runabouts.

Two years in development, the Apex represents a radical departure from the





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company's more conventional monohull shapes. The 'pickle-fork' style of bow presented a number of challenges to the company's R&D staff (see *The Apex of design* P170) requiring the building of new hull dies – a process that, on its own, took the best part of a year of educated trial and error to complete.

The flare on the Apex is carried further aft to maintain continuous contact with the water when on the plane, for a smoother ride, says Quintrex.

Wider, sweeping chines allow more flaring at the front of the hull, which improves rough-water performance, according to staff at the launch.

Other claimed benefits of the new hull include improved stability and grip in turns, while more surface area at the bow provides greater lift and a more level attitude underway.

Viewed from front-on, the difference in the hull shape is obvious, with the chine lines on the Apex running all the way up to the gunwale at the bow to create the pickle-fork effect. One obvious advantage is that it creates more width at the bow,

*Quintrex's mass launch included the new Freestyler range (left and top), and revised Stealth Hornet (above), all incorporating the new Apex hull design.*





Top and right: The redesign has resulted in more space.

Below: Meet the revised Frontier – the Apex hull delivers in ride terms.



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allowing for more internal space, which comes in handy for bowriders and also anything with a forward casting platform. Quintrex says internal volume is increased by a substantial 20 per cent, while a new Raised Side Deck (RSD) increases freeboard by 80mm for improved safety and protection for occupants.

The overall footprint of the Apex hull has also been increased by five per cent and all Apex models come with a more modern windscreen design.

Quintrex staff stressed that while the Apex hull will be available in Freestyler, Frontier and Stealth Hornet ranges, its popular Blade hull will remain an option for the time being.

An afternoon session on a fairly flat Broadwater confirmed claims that the new hull provides a smoother, flatter and softer ride and all the Apex models I tried exhibited great turning ability and kept occupants dry in a light chop and while wake jumping.

The Freestyler 630 bowrider was a particularly impressive craft, with all of the features you'd expect of a family fun boat in a budget-conscious package. Presentation and fitment quality was better than what you'd expect of an aluminium craft in this category, and it came with plenty of bells and whistles, including a stylish tower and 175hp Evinrude E-TEC G2. According to the specs, base boat-motor-trailer price for this model, as provided by Caloundra Marine, begins at \$69,990,





including 12-month Qld boat and trailer rego, which is pretty good value these days.

Spending time aboard the big Freestyler reinforced how far aluminium hulls have come in the last decade in terms of ride, fitment and comfort. Blindfolded, you'd be hard-pressed to tell whether you were riding in a fibreglass or aluminium boat, which is a credit to the design and production team at Telwater.

With the additional interior and storage space, deck area and freeboard offered by the Apex design, I think Telwater's predictions of strong buyer interest will play out over the coming boat shows this season.

We were also introduced to a new Yellowfin Southerner plate aluminium offshore fisher, which features an extended cabin that has been stretched 300mm, with added side rain deflectors for better protection from the elements.

Our Yellowfin 7600 HT Southerner also came equipped with a new comprehensive optional bait station, including a barn-like tackle drawer that I'm sure will be an option ticked by hardcore fishos.

For more information, contact your local Quintrex dealer or go to: [quintrex.com.au](http://quintrex.com.au).



*The revised Yellowfin Southerner fishing boat features a tackle drawer to write home about.*

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# APEX OF DESIGN

New model releases tend to run to a formula focused on the clever new designs, stunning and unrivalled performance, flash colour schemes and bold predictions of buyer enthusiasm. Seldom is there any time devoted to the nitty gritty, behind-the-scenes efforts that go into bringing an all-new design from desktop to dealership.

So I was keen to spend some time with Telwater's head of Research and Development, Stuart Morgan, as he ran me through the complete in-house process from concept to reality that led to the new Apex hulls.

Employed by Telwater for around 20 years, Morgan heads a department with eight staff, comprising computer designers, fabricators, welders and boat testers. At any given time, they can be working on a range of projects across

Telwater's various brands and model ranges, although the Quintrex Apex hull took up



much of the last two years from computer-generated drawings to actual boats on the water.

Introducing a new model or design begins with in-house meetings during which a design will be discussed, with managers from various departments having their say. Sales staff also contribute feedback from dealers and customers.

If R&D gets the nod, then a scale model is produced – normally around 2ft in length. The hull is produced in aluminium sheet, while the various components, such as consoles and seats, are 3D printed. The idea is to produce a model that is as true to scale as possible to ensure that proportions and lines look right.

"With the Apex, we actually showed off the pickle fork with a couple of Explorers at a dealer conference a couple of years ago and everyone loved them," explained Morgan. "So once we'd established that there was a market for them, it was back to the factory to begin serious development."

Among the many challenges facing the R&D team was making a hull with such a deep vee that would also be stable – and this was where the swept chines came into play. Another major challenge was creating the dies over which the 4mm aluminium sheeting is stretched to produce the hull bottomsides.

"We use SolidWorks software to design our boats and this helps us to produce the dies," said Morgan. "In the case of the Apex dies, we had to produce around 100 separate pieces to get the final die shape, but until we actually stretch a sheet over the die we don't know if it's going to come out exactly the way we want."

Just getting the dies right took close to nine months and involved two complete sets being produced before the shape was exactly right.

Once the hull sheets are produced, staff can set about producing a prototype boat, which is typically a bare hull and floor, with a temporary driver's console and seat. Weights are placed at various places around the boat to simulate weight distribution on whatever model is being developed, whether it's a bowrider, runabout or tournament fisher.

"We'll generally move the weight around here and there as we test them out on the water to ensure the boat rides at its optimum. In, say, a cabin boat, we might move weight down to the



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back to represent a full fuel tank to offset the extra weight of the cabin."

Once weight distribution is finalised, on-water testing moves on to handling, performance, turning, stability and comfort testing, with tests conducted on nearby rivers, out on the Broadwater or in the ocean.

Test parameters are measured according to the American Boat and Yacht Council (ABYC) standards, which are applied over a variety of vessel types and sizes.

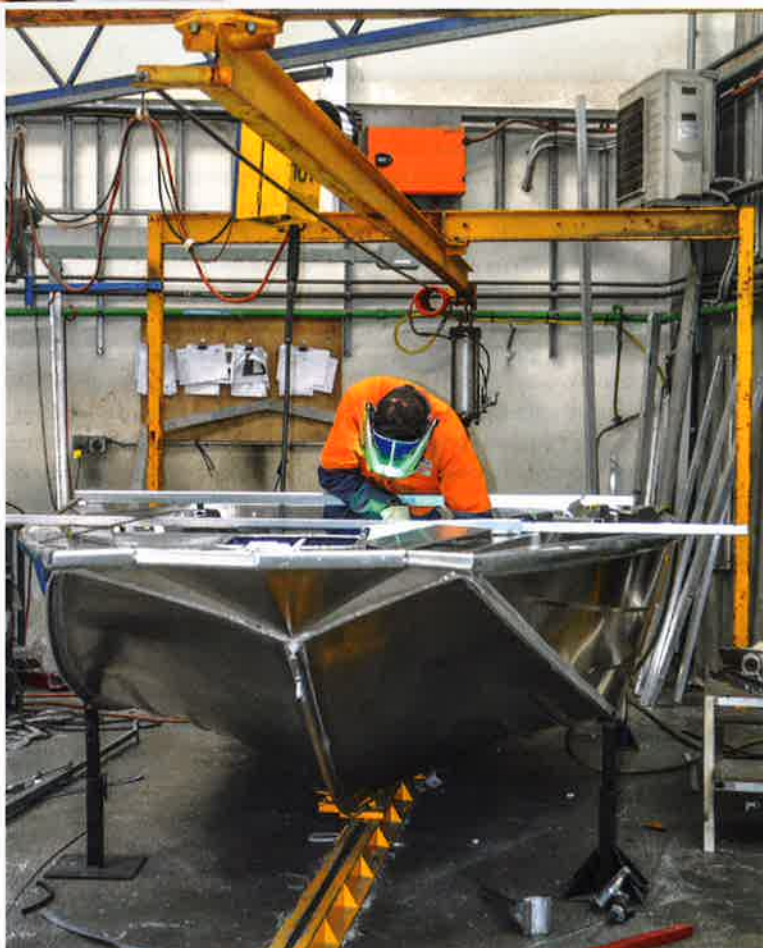
"The ABYC standard might say, in the case of a Yellowfin, that at 41 knots, and based on its width, length and horsepower, it needs to do a turn at full noise in a radius of 20m. So we'll set up marker buoys and we'll test it to those specifications to ensure it meets the standard.

"We'll really put them through their paces and go out in all kinds of weather, like 5m ocean swells, to do broach testing and make sure they can handle extreme conditions safely."

Once the team is satisfied with a particular model, a member of the factory production team is brought aboard to produce a complete boat in the R&D department to identify any problem areas in the production process and provide training for other staff.

This is also when any special production jigs are made to ensure the complete boat goes through the entire production process without any hold-ups or complications.

Typically, new-model development costs run well into six figures and, apart from R&D time and production of dies, there are added costs for an all-new hull – including purchasing new robotic



plasma cutters to cut the sheets once they've been formed on the die.

Morgan says the Apex hull has been his biggest and most satisfying R&D project to date, although he still has warm memories of developing the Hornet range.

"There's never been a boat like them," he says fondly.

*The aluminium sheeting is stretched over a purpose-built die to create the hull.*