

Boat Test AMF 11.7 RIB

Super-RIB expands **rescue** **boundaries**



Photo: Andy Belcher



Hawke's Bay Coastguard's new search and rescue vessel is an 11.7m purpose-designed RIB that gives its crews the ability to respond to emergencies further away, more quickly, and in much greater safety and comfort.

Lawrence Schäffler reports.

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Until now, Hawke's Bay Coastguard (based in Napier) has operated an 8.5m Naiad RIB, and while it has served the unit well, it has never been ideal given that the unit's responsible for one of the largest operational areas in the country.

And as Alex Smith – one of the skippers – points out, recreational boaters are going further afield in search of more rewarding fishing grounds.

“With improved electronics and the trend to bigger boats, increasing numbers of fishermen are heading to the reef some 75 nautical miles east of Napier – and often even further afield. Responding to an emergency out there in rough conditions with the Naiad is a tall order.”

The unit's aspirations for a new, bigger and more powerful boat received a major boost when it became the beneficiary of an estate (Celia Knowles) and these funds have assisted in the building of the new vessel.

Smith – who has a mechanical engineering background and has been a Coastguard skipper for many years – had a fairly clear idea of what the ideal boat would look like. His investigations took him to Tauranga's AMF boats, and, together with designer David de Villiers, they nussed out the specs for the new vessel.

The result is unquestionably unique. Designed for a crew of four to six, the *Celia Knowles* is powered by twin 480hp Cummins six-cylinder diesels, and with a fuel capacity of 1100 litres, she has a range of 230 nautical miles at a cruise speed of 30 knots.



Each of the three stations sports a 12" NavNet 3D screen

She's equipped with an impressive array of high-tech electronics to facilitate her search and rescue missions, and carries enough paramedic kit to cater for just about any emergency.

But the RIB's most unusual design feature is the pair of HamiltonJet 322 units coupled to those big diesels, and for me, they are one of the vessel's most impressive attributes. They bring out the best in the engines, providing remarkable handling and responsiveness – all courtesy of the HamiltonJet's blue ARROW steering technology. Sheer driving magic. More about this in a minute. >>





Construction

As is to be expected in a vessel that's likely to spend much of its time pounding through horrendous conditions for hours on end, AMF has built one tough boat. The entire structure is fashioned from 5083 marine grade alloy, with 8mm for the bottom plating. Hull sides are 6mm, with 5mm and 6mm frames and stringers. The heavy-duty tubes are Hypalon.

Perhaps the clearest clues to the vessel's punishing role however, are the three internal watertight bulkheads – each with a heavy-duty, industrial-strength hatch. There's another in the centre of the cockpit floor – the access to the engine room.

It's also difficult to ignore the tow-post built into the rear of the cockpit – its base is firmly secured to the internal framing down below. Smith says its rating is yet to be tested, but you get the sense that she'll happily tow a tug, and keep going even if she disappears under a mother of a breaking wave.

Propulsion

Smith selected the Cummins diesels because "they have a good history in this industry, and parts and service availability in this area is great". They are also, he points out, exceptionally quiet.

"When a crew is at sea for hours at a time in tough conditions and things get tense, the

Plenty of room in the forward cabin

non-stop drone of the engines can be sapping. Even with modest insulation in the engine room, we have only 63dB in the cabin, with doors wide open. Low noise is a huge bonus for rescue crews."

The engines also offer pretty good fuel efficiency. Fully loaded with fuel and crew, the boat weighs nearly nine tonnes, and at peak revs the engines drive her to 40 knots. At a more sedate cruise

speed (30 knots), the engines are turning over at 3200rpm, each consuming 61 litres per hour.

Smith was emphatic that the new boat would have water jets.

"One of the biggest problems for a rescue crew is retrieving people from the water. It is usually dark so visibility is limited, and it's often in rough seas, so manoeuvrability is compromised. Spinning props are very dangerous in such situations. Water jets eliminate that issue – we can be far more aggressive about getting close to people in the water."

Still, for someone who'd had very limited prior experience with water jets, opting for the units was a huge leap of faith – but one that's been richly rewarded. Smith says he has "fallen in love" with the technology.

The engines are coupled to large HamiltonJet 322 units, controlled by the company's remarkable blue ARROW steering control system.

"The advertisements say even a child can use it, and I believe it. The jets are perfect for precise, slow-speed manoeuvring. They take a bit of getting used to – you have to throw away everything you've learnt about props and rudders and start again, but they're a pleasure to use."

For those unfamiliar with the blue ARROW system, think "computer mouse". It's an electronic, fly-by-wire system, all controlled by

micro-processors via a wireless mouse at the helm station. You simply point or shift the mouse in the direction you want the boat to move, and it responds – forward, back, sideways, diagonally. It's great for slow, close-quarter manoeuvring, and as you'd imagine, ideal for getting close to a distressed boatie in the water.

Helming at conventional speed, the jets also offer what is without doubt the lightest boat steering I've ever experienced – period. Hamilton's technology allows you to adjust the helm's settings to individual preferences. Smith has the RIB's set at 270° lock-to-lock.

And it takes a bit of getting used to. The big RIB responds instantly to the tiniest movement on the wheel, so my sharp, unannounced flick to starboard saw everyone re-introducing themselves on the port side. Whoops...

In rescue mode, once the boat is in position and ready to bring victims on board, they can be pulled over the tubes. More likely though, they'll come over the transom. It's fitted with a robust, fold-down boarding platform that will facilitate recovery. And because the cockpit will probably be receiving a generous dose of water during the recovery, the floor's fitted with non-slip tread to help crew maintain their footing.

Action stations

Safety, search and rescue are the key words in the RIB's design brief, and it's clearly reflected in simple but functional layout inside, and down in the forward cabin. The interior layout revolves around three independent



The best thing since sliced bread – the blue ARROW mouse system

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Boat Test AMF 11.7 RIB



Specifications AMF RIB *Celia Knowles*

LOA	11.7m
BEAM	4.28m
DRAFT	0.728m
ENGINES	2 x 480hp Cummins
JET DRIVES	2 x HJ 322 Hamilton Jets
TOP SPEED	40 knots
CRUISE SPEED	26-30 knots
RANGE	230 nautical miles at cruise speed)
WEIGHT	8700kg including fuel and crew
CREW	Four to six
FUEL	1100 litres



stations – the helmsman, the navigator and the communications/radar operator.

All three stations are equipped with spring-loaded, high-backed seats offering plenty of support, and tellingly, they're fitted with seat belts...

The helm (or Boat Management Station, as Smith likes to call it) features an impressive display of electronics, but what catches your eye are the forward-slanting windows. Smith specifically made these part of his design brief.

"They offer greater visibility because they're less likely to collect rain or dew, but perhaps more importantly, they create much more headroom for the helmsman. There is less chance of banging your head in a big sea."

While the crew is likely to stay strapped into their seats, there are plenty of grabrails for when they *have* to move around. There is even a grabrail at each station, next to each of the big 12" NavNet 3D screens.

"In a big sea, it can be difficult for the crew to

select settings and modes on the screens," says Smith. "Having a grabrail next to the right-hand side of each screen allows the operator to hold on, and use his thumb to scroll or select different modes."

The vessel's also equipped with a heater, and it serves as a demister to keep the helmsman's view crisp.

Each rescue team includes qualified medical personnel, and the new RIB provides much more space for their equipment than the Naiad, as well as an area for tending to victims. Equipment includes kit for treating hypothermia, a defibrillator and oxygen, as well as a stretcher that can be airlifted off the boat by chopper.

Up front is a large vee-berth with heaps of headroom, and just aft to starboard is the bathroom with electric toilet and basin. As you'd expect, it's a fairly simple layout, but supremely functional. Opposite the bathroom is a quarter berth, where any victim requiring attention will be treated.

Electronics

Central to the RIB's successful missions is the crew's ability to *find* boaties in distress. And the >>

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three, identical Furuno NavNet 3D units are more than up to the task. They're all interfaced – so all three crew members are able to keep track of what the others are doing – without continual verbal updates.

Smith says the diversity of information presented on the helmsman's screen is ideal for rescue missions.

"It can be difficult – on a conventional vessel – trying to keep tabs on a compass, the chart, engine instruments – particularly when you're bouncing around. With the Furuno screen, all of this information is presented in one place, and it makes your job much easier."

In radar mode, the Furuno technology also allows the operator to monitor two ranges simultaneously – ideal for finding a nearby boat in the dark and monitoring land masses further out.

The RIB has also been equipped with a camera in the engine room, and its view too is presented on the helmsman's screen.

"At night, in rough seas," says Smith, "you don't want to have to lift engine access hatches to check for water ingress or fire. Instead, we have lights in the engine room, and with the permanent camera I can keep an eye on what's going on down there – at a glance."

Performance

In a word – solid. AMF's hull rides the swells smoothly and disperses the water cleanly. It's supremely comfortable, something the crew will appreciate during gruelling missions, as they will the muted throb from the Cummins diesels.

More importantly, those engines offer huge reserves of power, so if (when) the RIB has to get to a scene in hurry, it can. And when it gets there, that blue ARROW control system will help with a clean recovery.

Smith and his crew are delighted with the vessel – "she's everything and more than we hoped for. She's the ideal vessel for rescue missions".

Their *real* problem, I suspect, will be rescuing the boat from heavy-handed journalists on the helm, or better still, keeping them off it in the first place. ↴



Photo: Andy Belcher

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De Villiers Design is proud to congratulate the Hawke's Bay Volunteer Coastguard on the launching of their new Rescue Vessel

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