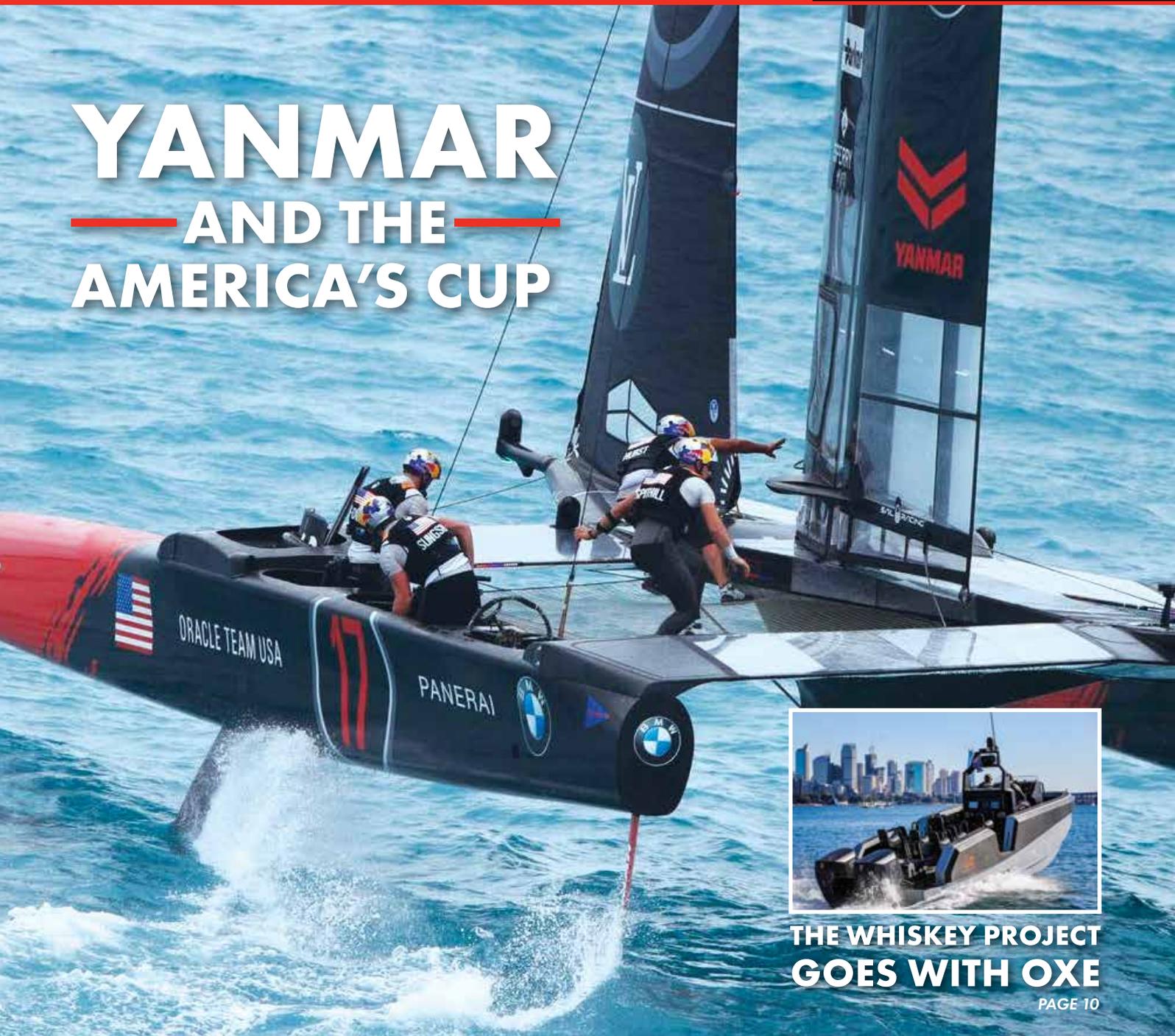


Power*news* MAGAZINE

A PUBLICATION OF POWER EQUIPMENT: AUSTRALIA, NEW ZEALAND & THE SOUTH PACIFIC

YANMAR — AND THE — AMERICA'S CUP



THE WHISKEY PROJECT GOES WITH OXE

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SUCCESS STORY
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YANMAR

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New Zealand Coastguard **WINS** from America's Cup & Yanmar partnership

Yanmar's involvement in the America's Cup this year was a perfect showcase of the brand's brilliant marine power, but has also provided valuable donated assistance to New Zealand's Coastguard groups.



A Yanmar powered RHIB support vessel with twin 6LPA-STZP engines



The super fast America's Cup yachts go head to head

The America's Cup is all about innovation and technology – much the same as the Yanmar philosophy around marine propulsion. It was perhaps the perfect combination this year then to see Yanmar taking a key role with the 36th America's Cup in Auckland, New Zealand as the Official Marine Partner for the event.

Emirates Team New Zealand retained the Cup after taking line honours against the Luna Rossa Prada Pirelli Team (Italy) in the tenth race on day 6 of the Cup finals series. In the end, the New Zealand team's boat was just too quick for her competition, taking around a 500 metre lead in the final race. A hallmark of the world's oldest international sports trophy has long been that "the team with the fastest boat always wins".

The final six days of racing saw wind speeds averaging from 5 to 14 knots, but with the AC75 class of boats used in the America's Cup capable of combating wind speed, there was still plenty of fast sailing on show.

Yanmar put on its own impressive displays during the event too, both for spectators and race officials alike.

Yanmar X47 Express Cruiser – flagship speed and class on the water

A special America's Cup edition of the company's latest flagship, the X47 Express Cruiser, was made available for the event.

Designed by Yanmar's Ken Okuyama and built by Azimut Yachts, the X47 was designated the official VIP cruiser of the 36th America's Cup and was at the heart of the action from 2020 in the World Series events and during the Cup match in 2021.

It features 3 x 8LV-370 Yanmar engines that can deliver a 40knot top speed and an easy 33knot cruising pace. The X47 was more than a showcase of brilliant marine propulsion. It effectively introduced a new class of vessel onto the market – sleek powerboat lines on the outside, but more the feeling of a spacious and luxurious cruiser on the inside.

Yanmar-powered on-water umpires

While Yanmars delivered "express" luxury to a handful of lucky onlookers and officials onboard the X47, the serious business of umpiring the AC75 class foiling monohull racing yachts was also made possible via Yanmar power.

Two on-water RHIB umpire vessels, (one follows each racing yacht per match), were each powered with twin Yanmars and their performance allowed officials to keep up with the racing.

Officials were glowing in their praise of the Yanmar-powered chase boats:

"To do our job, we have to have the confidence in the RHIBs we are driving and with the Yanmar engines we are able to do our job to the highest level," said on-water umpire Sophia Truchanowicz.

Said on-water umpire Craig Mitchell: "It's lucky Yanmar have come on board and provided us with some fantastic horsepower in the engines."

Both of the Yanmar-powered on-water umpire RHIBs, along with a fleet of other vessels used during the Cup series are being **donated to New Zealand Coastguard groups across the country after the event** – a lasting and reliable local legacy for Yanmar following superb international exposure for the brand.



Yanmar X47 Express Cruiser featuring triple 8LV-370 engines

NOOSA MARINE

AYANA

Yanmar 6LY440

The latest Roger Hill-designed catamaran out of Noosa Marine in Queensland is a combination of beautiful clean lines and clean power thanks to its unbeatable Yanmar 6LY440 common rail engines



Beauty proves far more than skin deep in Noosa Marine's latest project - Ayana

Ayana, named after a native American word meaning "eternal beauty", is the latest Roger Hill designed power cat built by Noosa Marine.

With light coffee-coloured hulls and oozing a very stylish, light-filled interior, this latest Yanmar-powered beauty is certainly destined to live up to her name.

With a year and two months of build behind her launch day, (and some 12 months in planning and design prior to that), this 14m work of art is proving better than just something to look at with her Yanmar 6LY440 common rail diesel engines.

Destined ultimately for Western Australian waters, Ayana will have her Yanmars run-in alongside the eastern states of Australia before her owner intends a trip home via the Kimberleys.

A neat engine with better control says builder

Noosa Marine's Julian Griffiths is only just starting to relax a little after initial sea trials of Ayana have proven another successful project for the experienced custom boat builder.

"You're always nervous on that first run," says Julian, "because ultimately, it's a boat – and it's a custom boat – there's so much involved."

Julian was very pleased to open engine room hatches during sea trials whilst Ayana was being tested to see "the Yanmars sitting there dead still underway, with no vibration".

"Even at flat-stick yesterday out on the water, we opened up the hatches and they were solid as a rock, no vibration, nothing – it's beautiful!"

No doubt Yanmar branded Barry mounts help with smooth power delivery. However the six-cylinder Yanmars in their new 6LY format are renowned already as a smooth engine – a pleasant surprise for refits and new builds alike.

Ayana is running five-bladed propellers with a variable pitch flaring system that required no tweaking in their match with the 6LY440's coupled to KMH61-V2 transmissions (with a 2.43:1 ratio).

Noosa Marine's last Roger Hill catamaran build also utilised Yanmars and the new 6LY440's are proving equally classy in their performance.

Ayana has been built to meet commercial survey requirements. This required additional lamination in critical hull sections and extra bracing, not to mention supplementary equipment including fire fighting gear, extra shut-off valves and bilge pumping.

In all, Julian estimates around an extra tonne of weight has gone into Ayana, she still delivers an easy 22knots at economical cruising revs.

With an owner who is experienced with boating and intending to cover larger distances across the water, range-stretching economy in the 20 to 22 knot range was his preference. This performance expectation was also a driver towards the Yanmar 6LY440 decision.



POWER PROFILE

Vessel Name	Ayana
Application	Pleasure Craft
Construction	ATL Composites
Length	14m
Weight	14 tonnes
Engine Model	Yanmar 6LY440
Power Rating	324kW / 440mhp @ 3300rpm
Top Speed	28 knots
Cruise Speed	23.5 knots @ 3000 rpm



Ayana cruising the waters off Queensland

These Yanmars deliver virtually smokeless running and have power curves that – when viewed in combination with their weight (just 585kg per engine) - get tongues wagging in marine engine circles.

A 5.8 litre engine with direct injection via a Denso common rail system, the 6LY440 delivers all its torque and the majority of its power curve at just over the 2000rpm mark.

Considering at those revs that fuel consumption is in the 20's (litres per hour) on this 324kW/440mhp @ 3,300rpm engine, you start to understand how Yanmar is winning the game with this new technology powerplant.

At just 2,100rpm, the 6LY440 is giving around 280 of those maximum kilowatts at its crankshaft, going some way to explaining why such good, powerful performance comes relatively fuel efficiently.

They are a true "plug and play" technology wonder too, with electronic control and the relative ease of set wiring harnesses taking headaches away from boat builders and making engine control a skipper's dream.

Julian explained that the 6LY440 engines were able to be fitted towards the end of the project, making for a better build process.

"It's good to be able to fit the engines late, because you don't have to work around them in later stages of the build," Julian said.

With electronic control, the fitting process becomes significantly simpler according to Julian, and can easily cater for a secondary station, JC20 inboard joystick and full NMEA2000 compatibility.

"The controls are very responsive, they're just amazing," enthuses Julian, "and straight out of the box the control system worked perfectly."

"The engines themselves are also a nice, simple, compact engine, (just over 1.4m long and around 750mm in width), without a lot hanging off them," he said, "so that makes for a better fitting, neater engine room space too."

"Frankly, they're a simpler engine to fit – and if ever necessary to remove."

Unbeatable power to weight

Ayana's stylish three cabin, two bathroom layout masks an impressive electrics and electronics fitout.

"While it's one of the smaller craft of this type we've built, it's probably one of the more complex boats in terms of things like the survey requirements and extras in electrics and electronically like solar and satellite domes," Julian says.

"For example office space in the main cabin is set up to cater for equipment so that the owner can run his business wherever he is."

But while it bristles with technology and equipment, her owner has been careful to ensure her beauty does not come at the expense of enjoying a day or weeks out on the water.

There is no carpet in the saloon or flybridge interiors (a practicality the owner likes in terms enjoying on-water activities in swimming gear) and both common areas can provide sleeping options if her surveyed 12 person capacity requires extra beds for the night.

Intended for extended coastal cruising, practical touches like those will serve Ayana well as her Yanmars help her forays around Australia's wild and (in Western Australia's case particularly) often remote coastlines.

"The owner also knew the results from the previous Roger Hill catamaran design and he was aware that the Yanmars very much suited the design," Julian said.

"And while I can't insist on what brand of engines owners should have, I don't know why anyone would bother with any other engine platform," he said.

With unbeatable power-to-weight performance in her class, the Yanmar 6LY440 emissions also deliver a nice synergy with Australia's clean coastlines.

RCD 2, IMO Tier 2, EPA Tier 3, EPA Tier 3C and BSO II are just a few of the 6LY440's emissions certifications and make their mark (or lack of it!) with cleaner hulls and air around vessels like Ayana at low or high revs.

Custom underwater exhausting has doubled-down on the quiet delivery of the already low-noise 6LY, but for Julian Griffiths the real win is "the fact that the power to weight ratio on this type of vessel is unbeatable."

"It will be nice to see the owner and his family get out using those Yanmars for what the boat is intended to do," Julian says. We couldn't agree more!

Find out more about Noosa Marine's services at www.noosamarine.com.au.

Aussie Pumps and Power Equipment continue a partnership of expertise and innovation that is not only delivering some of the best pumping equipment in the world, it is relied on in some of the most hazardous situations humans can find themselves embroiled in.

Yanmar engines have earned the trust to be used in such vital equipment and continue to deliver when the chips are down!

Aussie Pumps



YANMAR



Australians taking the best pumps to the world – Aussie Pumps and Power Equipment

When Australian Pump Industries, (commonly known as Aussie Pumps), got started around 27 years ago, their research indicated that the days of the old small air-cooled diesel engines were over. The requirement was for lightweight, portable air-cooled engines that were cost efficient, compact and of course, reliable.

Enter the Yanmar range of portable diesel engines including the L48, L70 and L100 – the heroes of a brilliant ongoing partnership between two Aussie companies with the best products to the world!

Aussie Pumps originally built a series of prototypes, trialling various brand engines, including fire pumps, heavy duty transfer pumps up to 6-inch in port diameter and trash pumps for Australia's growing mining and construction markets.

"Another feature we looked for was support, not just in Australia but throughout the South Pacific," said Aussie Pumps' Chief Engineer, John Hales.

Great pump design deserved the best engine

With the support of Power Equipment's engineering advice, Aussie Pumps carried out a series of competitive engine matching tests against products from both Japan and Germany.

Such testing soon revealed that the Yanmar L series, correctly matched to the right pump performance, yielded excellent results, enabling them to develop new and innovative products that are now sold globally.

"One example was our Aussie Seamaster", said Hales. "Using a robust 30% glass filled polyester material for pump bodies, impellers and volutes, we were able to match it to an L48 4.8 horsepower engine and put a product on the market that was capable of handling seawater and even oily waste.

That combination gave us the ability to offer the Australian Navy a self-priming centrifugal portable pump for both emergency firefighting and salvage work", said Hales.

The unique pump now comes with a stainless steel frame and is available with both recoil and electric start options.

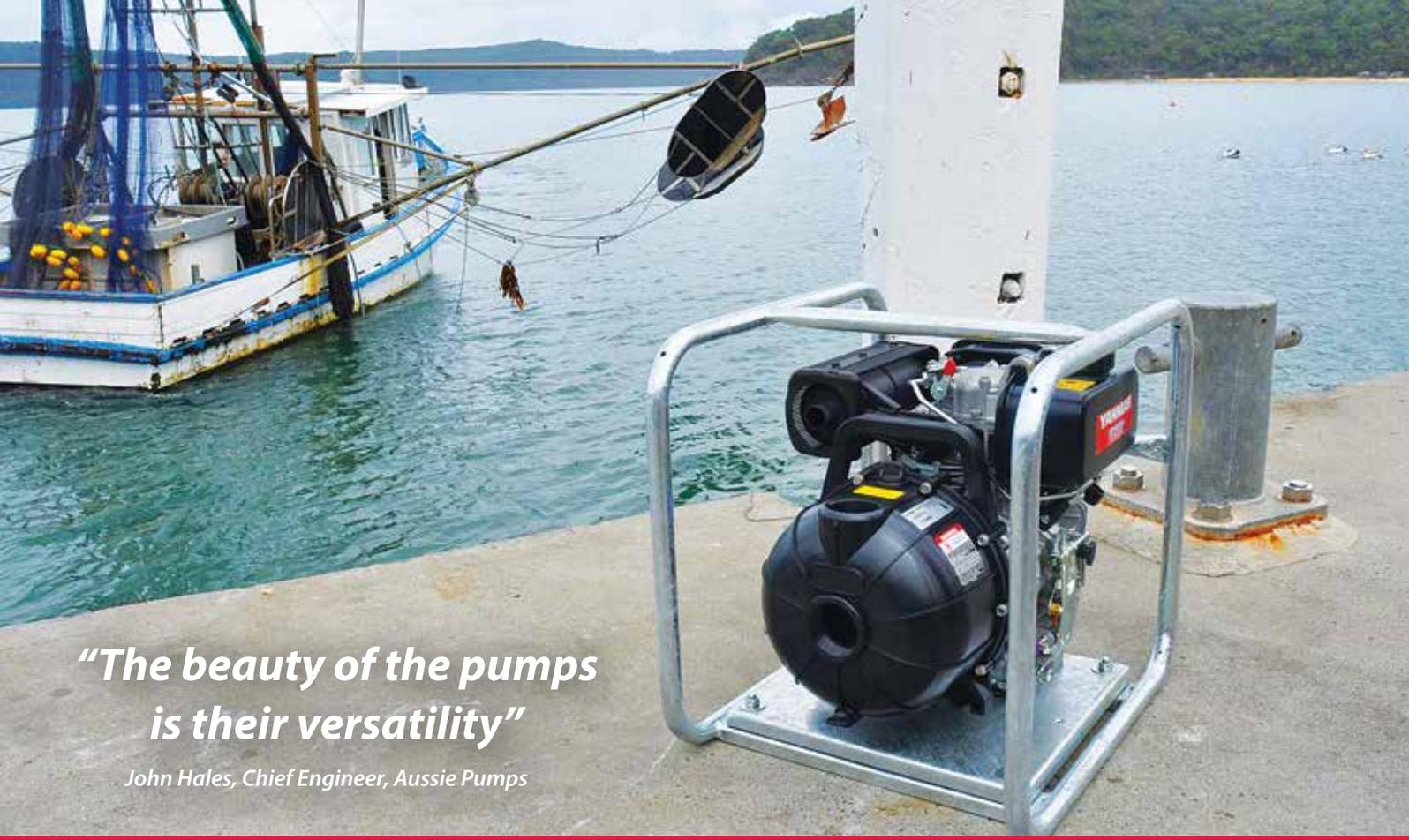
"We do a huge amount of work with the Navy to provide real capability to damage control teams in the event of a fire at sea", said Hales.

Giving Aussie farmers a Yanmar-driven advantage

Australia's agricultural community has to put up with a lot. They face fires, droughts and floods. Aussie Pumps matched their high-pressure firefighting pumps, already leading in design and performance, to Yanmar L series engines to give farmers a fighting chance in a challenging environment.

Combining the talents and experiences of both Power Equipment engine specialists and Aussie Pumps' top engineering team, the lightweight portable fire pump diesel version of the Aussie Fire Chief has proved to be another true success story.





“The beauty of the pumps is their versatility”

John Hales, Chief Engineer, Aussie Pumps

Now specified by key government departments as standard equipment, this combination provides real performance with heads as high 75 metres (100-psi), combined with a compact design and an ability to self-prime from depths of 7.6 metres.

“That combination of top-quality components, performance and matched with our five year warranty put our product firmly in proving itself to be superior to all others!” said Hales.

The Yanmar power delivered the right combination of torque and performance, allowing us to match a perfect hydraulic design of impeller and volute to get the best possible performance without overloading the engine”, he said.

These pumps quickly became popular with farmers. Fighting a fire or protecting a crop with a petrol engine drive pump can be a hazardous activity. It is considered to be far safer with diesel because of the lower ignition point. The Fire Chief single impeller pump, used by NSW National Parks and Wildlife, does great service but some applications require even more pressure!

The L100 Yanmar diesel combined with Aussie Pump’s unique twin impeller “Mr T” pump provided the answer. This hefty 2” pump uses super-efficient Yanmar power for even bigger pumping performance and reliability.

Part of the company’s QP series of pumps, (QP stands for “Quick Prime”), comparing the Aussie Pumps’ self-priming range utilising Yanmar engines with any competitor quickly shows the difference. The extra priming capability, (some pumps 8.4 metres of direct vertical lift), indicates a superior design and real capability.

“The beauty of the pumps is their versatility. Our transfer pumps will move lots of water fast over long distances. Our high-pressure fire pumps are unbeatable for a wide range of applications and our Mine Boss trash pumps are a unique Australian innovation,” said Hales.

Enter the Boss

Aussie Pumps’ Mine Boss range started with a request from one of Australia’s biggest hire companies for pumps that could go out on hire and come back without being broken. Construction sites and mine sites have one thing in common - nobody is gentle on equipment.

Developing these unique high-performance products with help from Power Equipment’s Yanmar expertise really worked for Aussie Pumps.

Using 38mm tube, hot dipped galvanised and with integrated anti-vibration mounts and lifting bar, Aussie pumps set a new world standard.

Powered by Yanmar 10hp electric start diesels (the L100 Yanmar), with recoil start backup, they are now working in the far-flung corners of the mining industry from Mali to Mongolia, and Papua to Peru!

Used by Australia’s leading mining companies including Newcrest, BHP and Rio, the range has grown to include Mine Spec fire pumps and high pressure self-priming centrifugal pumps.

An Aussie company leading the way

As you can probably tell, Aussie Pumps are proud of their product and focusing their attention on self-priming portable pumps.

“Sometimes we let our head go”, said Hales. “We keep finding new applications and communicating with end users in a way that gives us the inspiration to develop products that are simply more capable, more efficient and safer than others developed anywhere else in the world. We’re proud of our international business and the way Australia’s mining engineers, working around the globe, act as virtual ambassadors for our company’s products”, he said.

Further information on Aussie Pumps’ products and dealer locations can be find at aussiepumps.com.au.

WHISKEY ALPHA 85

&

OXE DIESEL OUTBOARD

It doesn't get much more "mission critical" at sea than what tactical watercraft need to do. With two new Oxe Diesel Outboards onboard, the game-changing Whiskey Alpha 8.5, launched in 2019, was developed by two highly decorated Australian ex-servicemen to provide versatility and safety beyond anything in the world.



SHOCK AND AWE! delivery for tactical watercraft with Oxe Diesel outboards

There is a technique commonly used in battlefield tactics called "shock and awe", which refers to the use of overwhelming power, speed and spectacular display of force to conquer your target or enemy.

In what seems a perfect synergy, a newly developed carbon fibre Australian tactical watercraft utilising two new OXE Diesel outboards is certainly delivering the "awe" and the "rapid" of this tactic.

The Whiskey Project – a collaboration that has delivered a vessel unlike any you will see in the form of the Whiskey Alpha 8.5 – has utilised the OXE Diesel 200hp outboard with superb results.

Ryan Carmichael, co-founder and Chief Operating Officer of The Whiskey Project says the Whiskey Alpha 8.5 has been spending more time on the water than in recent months, with her pair of OXE Diesel outboards delivering above expectations for this next-generation tactical watercraft.

'Next generation' is no cute marketing slogan, this boat is truly beyond anything in its class at the moment.

Says Ryan of The Whiskey Project: "We wanted to present a vessel to the market that offered

greater safety and performance and provided operators with a competitive advantage."

"There are currently more than 25 different variants of small vessels in service with the Australia Defence Force which is inefficient and hampers operational agility.

"We wanted to present a totally modular platform that through its fit-for-purpose design could fulfil most small watercraft mission sets and be more effective in each role," Ryan said.

Australia's Defence leadership were quick to recognise the potential of this watercraft, and The Whiskey Project received a Defence contract in April 2021.

A decision on powering a vessel that is breaking so much new ground was never going to be a simple one, but the real-world naval and special forces experience of Ryan Carmichael and The Whiskey Project co-founder and managing director Darren Schuback made the OXE Diesel the obvious standout.

High performance hull demanded high performance diesel

"The higher performance of the OXE Diesel put it far and above the other diesel outboard options for a start," says Ryan.

The OXE Diesel 200hp outboard uses a proven 2.0 litre, turbo intercooled common-rail diesel engine that produces torque (415Nm@2,500rpm) that is simply head and shoulders above anything a petrol outboard can produce.

Another factor that fits nicely with the



Whiskey Alpha 8.5 is that the outboard is very "modular" meaning primary components are relatively quickly replaceable if required.

There are key differences in the OXE Diesel outboard design that set it apart – the biggest being belt-driven power delivery from engine to propeller shaft. This not only caters for increased crash-stop robustness, but also transfers the engine's torque to the bottom of the leg better and allows fast interchangeable gear ratios.

Steering and skeg stability that comes from an outboard application on a small craft was pivotal in the OXE Diesel outboard choice too.

Ryan explained: "I have been involved with a lot of small vessels either as the guy in the water, or deploying from such boats in counter terrorism and anti-piracy training and missions."

"Many of the RHIB-based 7.2 metre and 11 metre boats use jet propulsion, which has



The Whiskey Alpha 8.5 conducting on-water demonstrations

some advantages but directional stability is compromised at low speed – particularly in a messy sea.”

“I have seen the injuries and near-misses that can happen as a consequence of harder-to-control craft, particularly alongside ships in deployment or recovery of such boats, with many instances of capsizes that could have been avoided with a more stable craft,” Ryan said

“One of the other considerations of outboards is their ease of maintenance and ability to efficiently swap engines out if required - an operational limitation of inboards,” he said.

What are THOSE engines?!!!”

The Davidson boat ramp near the Roseville Bridge in the upper reaches of Sydney’s Middle Harbour is often where you will find the Whiskey Alpha 8.5 launching for demonstration purposes.

“We’ve been hosting quite a lot of stakeholders and key players in the industry to demonstrate the Whiskey Alpha’s abilities and get feedback,” Ryan said.

“We get a lot of queries at the boat ramp from people not just wanting to know about the boat, but more often than not “what are those engines?!!”

Little do many of those onlookers realise that while they are looking at cutting-edge technology, the stealth black OXE Diesels are perhaps one of the most maintenance-friendly marine engines available with easy-access to service points, and boasting a 200 hour service interval.

However those lucky enough to go for a ride with Ryan at the helm of the Whiskey Alpha (this guy really does put the “operating” into his chief operating officer job title!) are no doubt more impressed with performance than oil-change regimes.

“Our initial goals included a vessel that could achieve 35knots with relative ease. We have been delighted to see the OXE deliver around 40knots consistently,” Ryan explained.

The Whiskey Alpha design is looking to outperform just about any vessel of her size too, with carrying capacity that has exceeded the expectations of even some experienced naval pundits.

“We expect a craft the size of Whiskey Alpha should comfortably be capable of carrying 12 personnel with full operational load out, in a seaway, with speed and good stability.”

“Some said a one tonne payload simply wasn’t feasible in an 8.5 metre boat – but Whiskey Alpha is capable of nearly twice that and the workable deck space is also significantly larger, offering an incredible size to effect ratio advantage.”

That sounds like a fair amount to ask of 400hp in propulsion, considering the Whiskey Alpha platform with a 550litre fuel tank comes in at around the 3,000kg mark (with engines).

Continued >>



“...they are a very capable pair of engines.”

Ryan Carmichael, co-founder and Chief Operating Officer of the Whiskey Project



continued from previous page

“The performance characteristics that have impressed us the most are its effortless ability to handle sea conditions and carry the loads we needed it to,” Ryan enthuses.

“I was particularly impressed with how it handled initially when we took it out into rough conditions.”

Ryan says the OXE Diesels offer all the traditional benefits of a refined turbo diesel engine and “you feel like you can just run all day at the 3,800rpm mark - they are a very capable pair of engines.”

“There is no ‘hole’ getting up onto the plane either – it’s a very level build of speed, no doubt also thanks to the hull design that promises that ability.”

Probably some 900Nm of torque at the propeller shaft from belt gearing helps in that task too!

But while the OXE Diesel proves unbeatably frugal on fuel even at WOT (around 45 litres per hour, per engine), at lower speeds this engine has unrivalled abilities for an outboard.

Made possible through an electro-hydraulically operated clutch system, the OXE Diesel employs what its manufacturers call Quick Shift Capability and Low Speed Control (LSC).

In short, these features use a twin multi-friction plate clutch (electronically controlled) that not only allows the user to throw the outboard from forward straight into reverse with no risk of gearbox damage, but also delivers more positive control and shifting at lower manoeuvring speeds.

Consider also that this gearbox is actually mounted above the waterline, and you start to realise just how much of a leap ahead the OXE Diesel is.

Whiskey Alpha – the Australian future of tactical craft

While this is a serious vessel with clear military applications, it is perhaps a sign of our times that non-military expertise has provided some of the key components for the Whiskey Alpha design demonstrator – and not just her OXE Diesel outboards.

This imposing vessel has carbon fibre expertise behind it that includes an America’s Cup winning composites lead engineer and Farr Yacht naval architecture. Ryan readily admits: “We’ve used the technology that is used in some of the fastest and strongest racing boats in the world”.

“You can’t get rid of all the potholes in the ocean, but the Whiskey Alpha 8.5 levels most of them out, vastly reducing the slam loading and is the driest boat I’ve ever been on,” says Ryan.

He is referring to the Sea Blade hull design that was integral to one of the overarching philosophies of the Whiskey Alpha project – personnel protection.

“The Sea Blade hull reduces slam loading by up to 40 per cent,” says Ryan “If you’ve ever worked on small boats you know how significant that is.”

“Not only does it ensure far greater protection and safety for the men and women who rely on these boats to do their job, it also means they can arrive at their task fit and ready for the job at hand.”

The Whiskey Alpha watercraft has also been designed to be a true multi-role vessel, with a modular fit out that enables rapid reconfiguration so it can be optimally deployed for a broad range of generalist or specialist tasks. This is a step-change in design innovation compared to the operational problem Defence faces of having too many different types of vessels that can only do one job - or the bigger problem in-service watercraft face where they are modified beyond their design abilities.

Ryan had worked for more than 3 years with the Australian Navy setting up systems for autonomous vessel capability – a huge advantage for any on-water force in areas such as surveillance and mine warfare for example.

No doubt the OXE Diesel outboard will help cater for such design given it has CANbus shift and full electronic power steering or

joystick capability (as well as traditional hydraulic steering).

“When we planned to present the Whiskey Alpha 8.5 at Pacific 2019, we wanted to truly deliver a “shock and awe” unveiling of a fully operational demonstrator vessel – not just a prototype,” Ryan says, “I believe we definitely achieved that”.

“But our biggest driving philosophy ultimately with this vessel is one where we want to help our old network and colleagues.

“We want to give them the watercraft we wish we’d had when we were in the service. We want to give them an operational advantage!”



POWER PROFILE

Vessel Name	Whiskey Alpha 8.5
Application	Modular Tactical Watercraft
Construction	Carbon Fibre
Length	9.3m
Weight	3.3 tonnes (loaded)
Engine Model	2 x OXE200 Diesel Outboards
Power Rating	200mhp @ 4100rpm 415Nm @ 2800rpm
Top Speed	37 knots





No substitute for **POWER** and **EXPERIENCE** in tactical watercraft

Co-founders of The Whiskey Project Darren Schuback and Ryan Carmichael are former Australian Navy officers and clearance divers with resumes that help explain their passion for developing the tactical watercraft they have delivered.

Darren Schuback has 24 years experience in areas such as operational warfare command, naval warships and counter terrorism. Ryan Carmichael did 16 years with the military in roles that included mine warfare and clearance diving, counter terrorism and distinguished tenure with the Australian Special Forces 2nd Commando unit and the Royal Navy (UK).

Ryan also did a six month stint in anti-piracy operations off the Horn of Africa (Somali coast) where he says, in his own words, "there were some interesting days on that tour".

It's suffice to say these guys know a thing or two about war at sea.

"Our mission with The Whiskey Project was to deliver a sovereign-built and designed watercraft that not only has multi-role capabilities, but protects its personnel far

and beyond anything currently in use - I believe we've delivered that," Ryan said.

Ryan knows just how critical things get on the water when it comes to tactical vessels. He won't go into detail about too much of the 'real thing' for obvious reasons, but can share some hair-raising experience from his training operations experience:

"...getting onboard a target vessel, was a regular activity that carried immense risk."

Ryan Carmichael, co-founder and Chief Operating Officer of The Whiskey Project

"As an officer responsible for the safe deployment and operation of military boat teams in high-threat environments, the act of embarking/disembarking your personnel was a regular activity that carried immense risk," he said.

"Too often I witnessed our in-service RHIBs being operated right on the edge of their limits, with very little margin for error, placing our people at levels of risk that could be mitigated through higher-performing craft."

The Whiskey Project title is a nod to its co-founders' time with the 2nd Commando water platoon group who use the call sign "Whiskey".

No doubt the nods of thanks will be heading to Darren and Ryan from the men and women who may get to use the incredible new Whiskey Alpha 85 if it is half as good as it is proving to be with the Oxe Diesel outboards strapped on the back.

Find out more about The Whiskey Project and their next-gen watercraft at thewhiskeyproject.com.au.



**“ SOUTHWESTERN
FRESH FISH
BEGINS A NEW
GENERATION ”**

Southwestern skipper Jason Scimone acknowledges with pride the near 40 years fishing experience of his dad Brian Scimone. But Jason was keen to steer the family fishing business, (and choice of new engine brand for their fishing vessel), on a different course – decisions that have proven that new generation thinking and Yanmar’s dedicated marine engines like the 6HYM-WET can keep fishing businesses moving and improving.



“We’d been hearing a lot of people in our industry talk about Yanmars and how good they were.”

Jason Scimone, second-generation fisherman

Taking risks in the fishing game... but not on the water

Professional fisherman Jason Scimone took a big chance a few years ago, but it wasn’t the kind of risk usually associated with commercial fishing.

“I had this lightbulb moment you could say,” says Jason – a second-generation fisherman and son of the well-known Brian Scimone who has fished out of Bunbury and Augusta in Western Australia for many years.

“I realised that just about everyone was scrolling through their phones – through Facebook and other sites – to get all their news and everything.

“So I decided to start showing what we do as a commercial fishing operation and talking about our profession on social media, kind of like a diary to express myself I suppose.”

Thus the Southwestern Fresh Fish Facebook page was born. But not without trepidation.

“No one in our industry was doing it, and fishermen often don’t get a lot of good publicity,” Jason admitted.

If there was going to be a backlash to the Southwestern’s activities, (the dreaded “haters”), it was going to become a very public fight. Jason confesses his fears at the time in the same manner that many among pro fishers do – just exactly how it is!

“It was one of the biggest risks we took and yeah, I was worried it might bring criticism our way,” Jason said.

“But the exact opposite happened – within a day we had 1,000 or so “likes” and heaps of people following the page.”

In fact Jason’s foray into putting his business on show via social media has been so successful, he has much of the catch sold and retail customers lined up at the Southwestern Fresh Fish retail shop before the boat gets back to port!

“A lot of people in our industry talk about Yanmars”

Jason Scimone gets a little sheepish when it comes to saying how good the new Yanmars have been in the 1999 Fremantle-built Southwestern.

“Let’s just say we’re careful in fishing about saying how good things are going when they’re going good – as soon as you say that, things go bad,” Jason says with a laugh.

In fact, Jason gets a little superstitious talking about boat engines at all. The last time he put the question to his online followers about which brand to repower the Southwestern with, things went VERY bad!

The Scimones had been thinking about a repower for their remaining vessel Southwestern for some time, but couldn’t make a decision on whether to stick with the European brand of engine that had been running in the vessel since it was built, or try something new.

“We’d been hearing a lot of people in our industry talk about Yanmars and how good they were,” Jason said.



The Southwestern crew with their new Yanmar installed

“Dad knew about a cray vessel working down in South Australia that had clocked up something like 63,000 hours on its 900hp Yanmar without having a spanner touch it!”

“You get a bit interested when you hear stories like that.”

But the Southwestern’s old engines had been pretty good, so the decision was not an easy one.

“So I thought ‘I know, I’ll ask our online followers what they think,’” (Southwestern Fresh Fish had around 10,000 followers at the time).

“The night I posted the question to our followers on Facebook about what brand of engine to put into Southwestern, we got a phone call to tell us that the fire brigade were fighting an engine room fire in our boat at the wharf.”

So the re-power job suddenly became somewhat of a priority, even though a much larger engine room repair was now

in order after the wharfside mishap.

“We decided that the engines we were putting in had to be reliable and we didn’t want to be doing rebuilds every 10,000 hours, so the Yanmar 6HYM’s were our choice,” Jason said.

“I have to put a shout out to Nick Marsden from Power Equipment over here too – he really was brilliant and worked with us through the whole thing with no hassle.

“Power Equipment was also able to get us engines when no one else could. It was a huge help and nothing was a problem.”

As many already know in the boating industry, the Yanmar 6HYM series of commercial engines, (like most Yanmar boat engines), are a dedicated marine engine – not a re-purposed or “marinised” industrial or truck engine.

6HYM-WET “L” rated engines (478kW (650hp) @ 2,150rpm) were put into the Southwestern.

A 13.7 litre, 24-valve engine, these are an incredibly efficient diesel for their size and horsepower, utilising high volume twin turbos that give premium volumes of air to the intake mix.

It’s once that fuel and air mix gets into the business end of this industry-favourite engine that true Yanmar design brilliance shines.

Micro-sized multiple holes in the all-new injector design of the 6HYM produces an even finer fuel-oil mist than ever before, making for a more powerful, but cleaner burn.

So whilst still a mechanically-controlled diesel, the 6HYM still meets IMO Tier II emissions standards.

“At our usual cruise speed, around 9-10 knots (that’s running the Yanmars up to around the 1,200rpm in Southwestern) we’re using around 20 litres per hour, per engine,” Jason says.

The two mighty Yanmars will give the boat a 20knot sprint if needed, but Jason prefers the ease of positioning the boat that twin screws offer – particularly with Yanmar’s crisp and direct electronic control at the throttles.

“It’s pretty good, because we can put 1,000 litres of diesel in and run for four or five days without having to even think about fuel.”

It’s nice not having to worry about what your engines are doing and Jason is a big fan of the

Continued >>

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larger-sump, 500hour oil-change regime of the 6HYM's too.

"When the boat is working, we're easily putting 350 hours on the engines every three weeks, so having to change oil every 200 or 250 hours is a nuisance. The Yanmar's 500 hour oil change regime is a much better system."

The 6HYM-WET is designed with a dedicated PTO on the front of the engine, and Southwestern's port side Yanmar delivers all the hydraulic power needed for line and net drums onboard.

Doing things different pays off

"It's not good weather for fishing at the moment," a matter-of-factly explaining Jason Scimone says on the day Power Equipment is talking to him, "so most of the fishing boats are just floating around."

When those boats are working however, there is very little "just floating around" involved and perhaps none work harder than the Southwestern. Since the 2017 refit with its new Yanmars, the Southwestern has some 7,500 trouble-free hours on those engines.

A picture of Jason's dad standing beside one of the new Yanmar 6HYM-WETs that went into Southwestern hangs on the wall of the family seafood shop.

"The old fellas love seeing those big engines because they're pretty impressive-looking units," says Jason.

The Yanmars are a smooth-running diesel, helping with fatigue in applications where the engines are running for many hours of a working day onboard.

"I'd have to say the Yanmars definitely run smoother than the old engines, but that would also be helped by a quality fitting. That helps with good balance and vibration factors as well," Jason says.

But even though the engines are running sweet, the sea (and commercial fishing) is no place for complacency and at the not-too-salted age of 31, Jason is well aware of the vagaries of fishing for a living.

"When I started skippering (at just 19 years of age) we used to travel many miles," Jason said.

"I wanted to do things different, but don't get me wrong, Dad (Brian Scimone) is a very good fisherman and taught me everything I know, I just built on that knowledge."

Jason started fishing different areas, not necessarily further out to sea "just areas that maybe hadn't been fished as much."

"It was working and by 2015 we were having our best catches ever, but our returns on those catches were really only borderline," Jason said, "like, some trips you were hard up covering your bait and diesel, and then there are crews to pay."

Not wanting wholesale markets to dictate his family's fishing business future, Jason decided to gain experience in the full processing and retailing of his catch.

"I saw that people were really keen to buy local, fresh seafood – it's what everyone wants!" Jason enthuses.

And so the Southwestern Fresh Fish retailing business was born and accounts for a good proportion of the catch coming ashore from the family's fishing vessel - helped fabulously by a healthy Facebook fan following of course!

Jason says his son is showing a keen interest in the fishing game and may take the Scimone legacy into professional fishing for a third generation.

Some 13,500 followers on Facebook later, you've got to give it to the Scimones for being able to make things work! Even dad Brian – originally a sceptic of the social media gambit – regularly takes photos for their Facebook page.

The Southwestern's success is sure to continue if and when Jason's son takes over the helm, no doubt with the Yanmars still proving their longevity, reliability and efficiency into a third generation of their Facebook story.



POWER PROFILE

Vessel Name	Southwestern
Application	Commercial - Fishing Boat
Construction	Fibreglass
Length	19.2m
Weight	40 tonnes
Engine Model	2 x Yanmar 6HYM-WET
Power Rating	650mhp
Top Speed	22 knots
Cruise Speed	-



FV Southwestern docked and ready for another day on the water



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Around the World with Yanmar

Story by Melanie Piddocke, solo around the world sailor

When the time came to replace the ageing Volvo engine in my Sparkman & Stephens 34 Lorelei, the choice of engine was clear. The reliability, reputation, and availability of parts for the Yanmar 3YM30AE made it the obvious choice. As I am refitting Lorelei for a solo, non-stop, westabout circumnavigation of the world, these qualities are particularly important.

I bought Lorelei at the end of 2016 and knew its engine would have a limited life. As a saltwater cooled engine which had been fitted to the boat when it was built in 1979, it was beginning to show signs of its age. It had rust, leaked oil, and blew white smoke, but for the moment started every time and ran happily once it was going.

The list of tasks to tackle on Lorelei was long, and as the engine wasn't showing obvious signs of distress, replacement was pushed further down the list.

The old Volvo chugged along for another few years, until last year when it started to make strange noises and developed an oil supply issue. It also started occasionally sparking when starting up. I took this as a warning that it was on its last legs, so finally did what I always knew I would have to do – order a new Yanmar 3YM30AE.

Unfortunately, my old engine chose to die in the middle of a pandemic, so there were some inevitable and unavoidable delays in waiting for the new engine to arrive. It

finally reached Mackay at the in November 2020, and Lorelei was lifted to have it fitted at the beginning of December.

A new complication was added when the lifting straps were caught around the prop shaft during the lift, bending it nearly to right angles. This had also deformed the stern tube, which on Lorelei was stainless steel. So, before I could get on with the job of fitting the new engine, the old tube had to be removed and a new one fitted, together with a new shaft.



POWER PROFILE

Vessel Name	Lorelei
Application	Pleasure Craft
Construction	Fibreglass
Length	10.08m
Weight	5.89 tonnes
Engine Model	Yanmar 3YM30AE
Power Rating	21.3kW / 29.1mhp @ 3200rpm
Top Speed	7.5 knots (under engine power)
Cruise Speed	5-6 knots (under engine power)



The stern tube was finally extracted by line borers, and we could get on with the original job of positioning and fitting the new engine. At this point it became clear that I would need to cut out the old engine beds and have new ones made to fit the new mounts.

When Lorelei was built, they hadn't skimped on the fibreglass for the engine beds – they were about three centimetres thick of solid fibreglass – which meant a hard and itchy job to cut them out.

But it was a great opportunity to completely refresh the bilge, with a new coat of paint, and reposition and rerun all the hoses running to and from the bilge. The exhaust outlet was also moved from its position close to the water line to the transom, making it less vulnerable to flooding.

The engine fitting and structural work was carried out by Jim Runge of Mackay Marine Services and John Sticklan of Vindaloo Multihulls.

Lorelei finally went back in the water at the end of March, and I am thrilled with the new engine. Its quiet, clean, smooth operation is such a pleasure after the noise and smoke of the old engine, and it's a very neat clean fit in the boat.

I am also relishing the novelty of finally having confidence in my engine! In time I will need to consider finding a better match in my propeller, but for now I can enjoy getting to know my new engine.

Melville Equipment has built over 1000 rail profile grinders with Yanmar engines over the past 20 years. This Australian family-owned and operated business is “grinding” its way into overseas markets with well-designed, robust grinders using ever-reliable Yanmar engines that are not only light and easy-to-maintain, but provide cleaner diesel power too.

Melville Equipment



Grand achievement for Melville Equipment with Yanmar engines

Newcastle-based Melville Equipment hit a “grand” achievement just a few months ago, delivering its 1,000th rail profile grinder machine. Virtually all of Melville Equipment’s rail grinders have been powered by Yanmars, with Power Equipment nearing a 20-year association with Melville.

“I think all but about three of those 1,000 rail grinders have had Yanmars powering them,” said Andrew Melville, Managing Director of Melville Equipment.

Andrew, (and his parents Peter and Shirley Melville, who started the business), has had a long association with the Yanmar product and explained that the light and powerful Japanese-branded diesels first went into what are called Trackpack units for repair and construction of rail lines.

As specialist fabricators of equipment for the rail track construction, repair and maintenance industry, the Melville’s know exactly the kind of robustness and power is needed to perform in such work.

“When it comes to the rail grinding gear, we need plenty of torque, enough belt speed to ensure a capable grinding rate and of course reliability,” Andrew said of the FP-157-CV Rail Profile Grinder.

“The Yanmars have always been a good, reliable and (importantly) lightweight engine for the job.”

Welcome to the stage the Yanmar L48V – Yanmar’s single cylinder, air-cooled direct injection diesel engine delivering a solid 3.4kW (4.8 horsepower) of job-ready power all day, every day.

Yanmar in fact developed the first direct injection diesel system to ever go into an engine of this type. It is this kind of development expertise that has kept Yanmar engines ahead in their game for so long.

It uses manual decompression and Yanmar’s patented combustion system to make starting easy.

“When we were first building rail grinders, we were trying to use petrol engines, but the angles you need to run these machines on just made that too difficult,” Andrew explained.

“So we went down the path of modifying a Yanmar diesel to suit our machines.”

With the Melville design of rail grinder now recognised around the world as the mark to meet in such equipment, its Yanmar powerplant has been able to meet the demands of ever-stricter emissions rules overseas.

“We’re also ready for those rules, (emissions limits for off-road and stationary machinery), when they eventually come into Australia too,” says Andrew.

Yanmar efficiency in its use of every drop of diesel (and development of one of the world’s smallest fuel injection systems) are just the start of the story around its small engine cleanliness.



Melville Equipment rail grinders powered by Yanmar in action

“They’re an easily serviced machine...always easy to start.”

Andrew Melville, Managing Director of Melville Equipment

The L48V also uses EGR (Exhaust Gas Recirculation) to take some of its exhaust gas back into the air intake and re-burn contents. Add to this the L48V's exhaust emission reduction through its Diesel Oxidation Catalyst (DOC) and you have one of the cleanest diesel engines in its class – EU Stage V compliant in fact!

This emission compliance on the Yanmar L48V has helped Melville Equipment get its rail grinders into Europe already – and Andrew has plans for bigger shares of that market.

“I’ve got machines we sold into England in around 2013, (Yanmar powered), that are still going strong,” Andrew says proudly.

“And yes, I think we can get a market share in Europe. We’re definitely the preferred product for the Australian market and I know our overseas competitors are looking very closely at our gear – we’re a known and respected brand in this kind of equipment.”

“We’ve also sold around 45 of our machines into the USA with our gear out-performing our competitors there, but that’s a different market altogether.”

While not a highly technical piece of equipment to use, rail profile grinders re-shape rail lines after cracks are welded in the track, a common repair necessary on rail lines all over the world.

“There’s a bit of skill involved in getting the final profile right, but that comes from experience in doing that kind of work,” Andrew explained.

Andrew says he likes the Yanmars being used in his rail profile grinders because “we just don’t get any issues with them.”

“They’re an easily serviced machine and best of all they are always easy to start,” Andrew said.

Power Equipment’s John Mason, who has sold Yanmar engines and parts to Melville Equipment for the last 10 years, can attest to some personal connection with the rail repair business;

“My son in fact does this kind of work on rail lines, so I’ve got a fair idea of the demands on the equipment and engines,” John explained.

“We’re certainly glad we can provide Melville’s with the latest and best emissions-compliant engines via the Yanmar product.

“They are a great family business for sure and we’re looking forward to working with them towards getting into these bigger European markets with the Yanmar emissions-compliant engines onboard,” John said.

Building on a proud Australian brand

“I started with Dad in the business in 1993,” says Andrew of the continuing Melville Equipment success story.

“Mum and Dad, (Peter and Shirley Melville), created something that has provided me with a stepping stone that is a great brand – a known brand,” he said.

From humble beginnings under the family home back in 1982, Peter Melville built specialised rail maintenance machines that would become a number one brand in its field.

With 26 staff, (including three full-time engineers), the business now manufactures rail track maintenance equipment, geotechnical drilling rigs, portable hydraulic equipment and hand tools.

“I like to think that I engage with our customers well, but it is always a nice feeling when someone knows your brand already,” Andrew said.

“I’ve been to rail shows in Australia and Europe and had people I’ve never met from other countries say they know the brand – it’s a great thing.”

A great thing that Yanmar and Power Equipment can be a part of that success too. Congratulations on 1,000 rail grinders, and here’s to the next 1,000 machines!

For more information on Melville’s suite of products, visit melville.com.au



12 METRE CATAMARAN UTILITY VESSEL

NEREUS

**OXE DIESEL 200HP
OUTBOARDS**

A pair of OXE Diesel outboards on the latest Aus Ships build has delivered more than just a utility vessel that is a 'jack of all trades' - they have ensured Nereus will be king of the river in assisting and maintaining Brisbane's ferry infrastructure.



Nereus ready and waiting for her next job on Brisbane's waterways

OXE Diesels give work vessel versatile on-water ability and easy maintenance

Don't be fooled by the functional looks and work boat practicalities of Aus Ships' latest project Nereus.

Wearing two new OXE Diesel 200hp outboards, this is no slug of a work platform.

Designed primarily to deliver maintenance and fleet support for the terminals and ferries on the Brisbane River, the work vessel is yet another example of the versatility and game-changing abilities the OXE Diesel outboard platform is offering many boat builders and operators throughout Australia and New Zealand.

"As a support vessel, one of the main drivers towards going for outboards on the design was to keep maintenance low," explained Aus Ships Director Tommy Ericson.

"The OXE Diesel outboards solve the fuel safety and consumption question and they still give an equivalent performance to the City Cats that operate on the river," Tommy said.

The Nereus has been designed as a semi-displacement catamaran to deliver comfortable 17-20 knot cruise performance with minimal wake, and is doing that speed for a fuel burn of around 50-60 litres per hour (combined) according to Aus Ships.

Having operated the Nereus for quite a few of its 20-plus hours of trials, Tommy is pleased with the vessel's performance and handling.

"Compared to inboards, the noise and vibration is less – particularly at lower operating speeds," he explained.

Excellent torque and control

"And the difference is significant in torque and thrust compared to petrol outboards."

The fact that the OXE Diesel outboards on the Nereus are swinging 16X15 propellers is possible due to the stunning torque output of these 2.0litre, turbo intercooled common-rail diesel engines.

No less than 415Nm at the engine in fact, converted to around 900Nm at the propeller shaft via the unique belt drive system.

While the engine's top rpm is 4,200, the torque peaks arrive at around 2,000rpm.

"We believe it could spin even bigger props if they were available," Tommy added.

The Oxe Diesel outboard employs what its manufacturers call Quick Shift Capability (QSC) and Low Speed Control (LSC). Its gearbox, (which is above the waterline at engine level – another factor in ease of maintenance), uses a twin multi-friction plate clutch which is electronically controlled. This allows the user to not only throw the outboard from forward straight into reverse with no

risk of gearbox damage, but also delivers more positive control and shifting at lower manoeuvring speeds.

"You can comfortably 'walk' this vessel sideways," says Tommy, "the engine torque, electro-hydraulic steering with power steering pump and the fact that the motors are four metres apart make it easy to position."

Rivercity Ferries Maintenance Manager Shawn De Wit, who has recently taken delivery of the new utility catamaran, is quietly confident with what he sees of the OXE Diesel's abilities so far.

"I have worked with Yanmar diesel outboards in a previous job years ago up in Papua New Guinea," Shawn explained, "and I found diesel outboards to be good, reliable work horses."

"In terms of running outboards, they immediately solved the problems of the fuel cost and handling – we are all diesel in the fleet we work with so petrol outboards were a problem with fuel storage and cost."

"We're still in the trial phase of the vessel, but so far the choice has been good – and fuel consumption seems to be great."

Considering the OXE Diesel outboard uses a maximum of 45litres/hour at WOT according to its manufacturers, that's not a surprising conclusion. Run a 200hp petrol outboard at full noise for an hour and you will see a significantly bigger number!

Shawn says the majority of tasks performed by the Nereus will revolve around ferry terminal maintenance and "ferry crew transfers, among other duties".

"We work in a city where traffic is often congested, so the ability to move crews and equipment on the river makes things much more efficient."

Aus Ships' Tommy Ericson concurs with congestion-avoidance abilities of the Nereus, and says the vessel's design gives the maintenance flexibility of "two blokes and a van" with an entire self-contained work platform included.

"As a utility vessel it had to be able to do a number of things whilst also providing toilet and galley facilities for work crews onboard," Tommy said.

Lower maintenance just beginning of OXE advantages

With an estimated 1,000 working hours for the OXE Diesel outboards each year on the Nereus, outboard maintenance will be a minimal interruption.

All service points for daily maintenance are readily accessed on the front of the engine. The Aus Ships design has enabled easy access to the OXE Diesels' cowls – a nice provision to an already easy-to-maintain engine.

The outboard's scheduled service regime of 200 hours for routine services, (800 hours for extended services), mean this work boat can stay on the job for two to four times of an equivalent horsepower petrol outboard between services.

OXE Diesel 125 – 300hp engines can also be configured to run either clockwise or counterclockwise propeller rotation, meaning the user is free to place the engine on any side of the stern, thus reducing the need for several spare engines to ensure redundancy.

Tommy Ericson said the OXE Diesel outboards also shine in alternator output too – and not just at peak output.

The OXE Diesel 200hp can deliver 130amps from its alternator, "but even at idle the engine is delivering around 50amps, which is more than enough to maintain electrical systems on the vessel – even to run the crane if the batteries require support – you can't get that from equivalent horsepower petrol outboards," says Tommy.

"And at the end of the day, the motors can be tilted up out of the water – it just makes everything easier all round in this application."

What's in a name – Nereus

In Greek religion, Nereus was a god of the sea said to have the gift of prophecy, great wisdom and the ability to change his shape. Among his other feats in mythology, Nereus is said to have assisted heroes in their endeavours.

Given the multi-tasking abilities of Aus Ships' new build and her primary task of helping keep a ferry fleet running, there is perhaps no better title for this new vessel.



POWER PROFILE

Vessel Name	Nereus
Application	Commercial Workboat
Construction	Aluminium
Length	13.75m
Weight	11 tonnes
Engine Model	2 x OXE200 Diesel Outboards
Power Rating	200mhp @ 4100rpm 415Nm @ 2800rpm
Top Speed	21.3 knots
Cruise Speed	15 knots



Farmlink



Terry Starkie (second from left) and the Farmlink Rural team

Dealer Focus: Farmlink Rural



JOHN DEERE

Western Australia

Farmlink Rural has been selling John Deere engines with irrigation systems for more than a decade. Having sold a few Yanmars over the years too, Power Equipment was pleased to add Farmlink Rural to its official dealership list in 2019.

Managing director of Farmlink Rural Terry Starkie and his team have been building quality pump and engine combinations for years and do the job using the best match of John Deere or Yanmar diesel power. Better still, (and a great testament to both brands), he's never had any of those engines fail!

Enjoying your avocado on toast? Thank Farmlink Rural and Power Equipment!

Manjimup in Western Australia's southwestern corner is a small but bustling town at the centre of a broad range of farms and agricultural endeavours.

Healthy cropping includes avocado and truffle growing, among other primary industries such as potatoes, apples, cattle and marron.

Just a hundred metres or so off the South Western Highway that runs through town, you will find a business that is perhaps one of the most vital in supporting cropping and plantation operations in the region - Farmlink Rural.

Appointed as an official Power Equipment dealership in 2019, Farmlink Rural already had significant experience with John Deere diesel engines, having sold them as a distributor for nearly 12 years.

"People probably don't realise that around 30% of avocados sold in Australia come from this part of WA," explained Terry Starkie, Farmlink Rural's managing director and long-experienced rural supplies specialist.

"Our engine sales are primarily for irrigation installations," Terry said "and we've always really liked the John Deere product - we know them back-to-front!"

Farmlink's biggest sellers in the John Deere range include the 4 cylinder 70hp 4045D right up to the 6068 HF475 211hp.

The addition of Yanmar's full range of smaller diesel engines to Farmlink Rural's dealership arsenal help fill the gap for smaller, lighter engine needs.

"Yanmar engines are filling customer needs well where a smaller pumping or irrigation setup is required," Terry said.

"The Yanmars are simple, reliable and trouble-free engines. They really are a nice engine that is quieter too."

The Yanmar L series air-cooled diesels cover most of the needs for smaller and lighter pumping or irrigation needs, with Farmlink also able to match the TF and TNV Yanmars to power needs where preferred.



As good as John Deere and Yanmar are, many a diesel engine is only as good as its match to an application. This is where the expertise of the Farmlink Rural team truly shines and aligns with the philosophy of Power Equipment of the right advice and engineering for the engines it provides.

"There are a lot of factors that come into play with irrigation, including flow rates, pressures, head distances or heights and much more," explained Terry.

"A diesel engine will usually be comparable - actually sometimes cheaper - than electric powered pumping options these days depending on connection and tariff costs. With our knowledge of the engines we can let a farmer know exactly what their engine will cost them to run."

"It's then about matching the horsepower and rev range of the engine to deliver those elements of an irrigation system without over or under-working the engine. What's needed on a four or five acre irrigation setup can be a whole different thing to irrigating a 40 or 50 acre crop!"

Terry's team in fact match and build pump and engine combinations for their customers, "and then it's a matter of getting that combination on wheels or a skid, (depending on its size and application), and we provide it ready to go."

With the pump and engine accounting for up to 20 per cent or more of the total cost of an irrigation installation, Terry says matching the right machines to the job is vital.

That's the kind of advice that sits in line with Terry's original motivation for setting up the Farmlink Rural business back in 2004.

"We felt we could set up a business that could service growers better and apply our knowledge around irrigation systems to help those customers much more."

"We're a quality supplier who can match the right pump and engine combination, but the good distribution support and expertise from Power Equipment is also a big factor in that delivery," Terry admits.

So just remember, the next time you sit down to enjoy fresh Australian-grown avocado on your toast or in your salad, there's every chance that Farmlink Rural and Power Equipment's partnership has played a part in that delightful and healthy meal!

Visit farmlinkrural.com for more info on Farmlink Rural's products and services.

SIABO XLW PILOT BOAT

Norman R. Wright & Sons

Norman R. Wright & Sons are famous for building quality boats over the last 110 years that deliver on their design promise. A pair of Yanmar 6CXBM-GT engines in their latest pilot boat design has exceeded those expectations – and more!

Siabo delivering beyond expectations for Norman R. Wright & Sons

In yet another first for Yanmar Marine, Norman R. Wright & Sons' brilliant new XLW Class Pilot Boats being built for the PNG Ports Corporation of Papua New Guinea are using the proven propulsion power of Yanmar 6CXBM-GT engines.

The first of these state-of-the-art vessels, named Siabo, represents a significant advance in pilot boat design and seakeeping – utilising the XLW's composite construction techniques that include a unique combination of resin-infused and pressed GRP cored panels. Recent testing off the Queensland coast is proving their design with superb results in performance, stability and efficiency with the 6CXBM-GT's onboard.

Norman R. Wright & Sons Managing Director Tony Riek spoke with Power

Equipment about the company's new 14.2 metre pilot boat design and Yanmar engines;

"With 110 years of boat building experience, and having built literally dozens of pilot boats, you could say we understand what pilots and coxswains need in these applications," said Tony.

"Based on hull form work we've done for a long time, the XLW represents the latest improvements and a heap of time we've put into the overall structure."

Tony is referring to design improvements such as the XLW's lower centre of gravity and impressive new warped planing hull. A wheelhouse built as a separate component and attached via isolated rubber mounting blocks also makes for a kinder operating environment for those onboard.

The lower centre of gravity was achieved

with close attention paid to positioning key components of the vessel lower inside the hull, including the Yanmars, fuel tanks, water tanks and batteries.

At only 17.4 tonnes fully loaded, weight savings have been helped by the comparatively light weight of the 6CXB's, (at 856kg dry weight), and their slim overall dimensions.

"This boat also has a longer waterline, the equivalent of a 15+ metre boat really which increases performance," explained Tony.



POWER PROFILE

Vessel Name	Siabo
Application	Commercial - Pilot Boat
Construction	Foam Composite
Length	14.81m
Weight	17.51 tonnes
Engine Model	2 x Yanmar 6CXBM-GT M
Power Rating	294kW / 400mhp @ 2500rpm
Top Speed	24.6 knots @ 2540 rpm
Cruise Speed	17.6 knots @ 2000 rpm





Simple, easy to maintain engines

PNG Ports Corporation wanted Yanmars powering their new pilot boats, citing local support and good local acceptance for the brand as factors in this choice.

Other fleet operators, (especially those in remote territories), have had good results with the Yanmar 6CXB and like the uncomplicated design and low cost of ownership benefits that the 7.413 litre displacement Yanmar 6CXB series offers.

“They also wanted a simple engine that is easy to maintain and repair if necessary,” explained Tony.

The 6CXB series of engines, designed specifically as a marine engine, incorporate ease of maintenance features such as a 500-hour service interval, easy-to-replace spin-on type oil filters and large inspection windows on the side of the block that allow in-situ replacement of pistons if ever necessary.

Like the entire Yanmar range, they’re built tough and incorporate improvements over previous generation components like larger piston pins and bushes, an improved fuel injection pump, along with an increased capacity sea water pump and intercooler, just to name a few.

Yanmar even offer a high-capacity front PTO across their commercial marine engine range which is unlike many of their automotive based engine competitors.

Don’t be fooled however – this engine delivers far and beyond its PTO, easy-servicing and inspection benefits.

The “M” rated 6CXBM-GT Yanmar model going into the XLW Pilot Boats delivers a medium duty rating (applications up to 3000hrs per year) of 294kW @ 2500rpm of propulsion with alternative ratings of 341kW and 374kW @ 2700rpm available for applications with less annual utilization.



“This boat is using around one-third less fuel than any other pilot boat we’ve designed...”

Under load these engines deliver in spades with heaps of torque-rise in reserve, offering the advantage of minimal speed reduction against sudden load changes.

That makes for handy control capabilities when skippers are needing to position safely alongside big ships both at anchor and underway in pilotage transfers.

They can also be matched against a wide range of propeller variants, making them a favourite across multiple commercial applications. Propellers on the Siabo are a four-bladed design with 27.5 X 28.5 X 4 dimensions.

The 6CXBM-GT delivers its torque peak not far above 1500rpm, yet delivers superb power and efficiency performance right up to its full rated speed.

At WOT, Siabo delivered a consistent 25 knots in official sea trials and has hit around 25.8 knots according to Tony.

“Based on our calculations for this new design, we had a pretty good idea of how the boat would perform,” Tony says, “but with the Yanmars it is doing better than we predicted.”

Using around 76 litres per hour (combined) at 18 knots, Tony says fuel consumption is proving to be a shining standout bonus from the Yanmars.

“This boat is using around one-third less fuel than any other pilot boat we’ve designed,” Tony says.

“Of course good hull design and weight are factors in this, but the Yanmars are also delivering great economy.”

“That’s going to be very pleasing to a client like the PNG Ports Corporation, because such operators are always looking to improve efficiencies and reduce costs where possible.”

So impressed with Norman R. Wright & Sons’ new XLW and Yanmar combination, PNG Ports Corporation ordered another two!

RICOCHET YACHTING

ONLY THE BEST FOR THIS LUXURY CHARTER
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GORI PROPELLER
experience the difference

Repowering a high-performance cat with Yanmar 4JH57 engines and utilising the innovation of Gori propellers has yet again proven that experienced skippers know and stick with the marine excellence.

It is just after 8.30 on a typical Hamilton Island morning with tourists buzzing and anticipation high as guests wait to board the luxurious *SV Ricochet*.

Skipper and owner of Ricochet, Frank Hobson, is cheerily taking guests through a rundown of the day's cruise ahead – an impressive multi-stop journey covering up to 42 nautical miles with multiple stops at some of the more spectacular sights available in the Whitsunday Islands group.

The casual and relaxed approach to Frank's welcome aboard belies decades of experience as a professional skipper, experience that helped him make an important repowering decision to replace Ricochet's existing Yanmar engines last year.

Having successfully run Yanmars for several thousand hours on the high-performance sailing catamaran, Frank decided to increase horsepower to deliver certainty on travel times for his charter operation.

"I really wanted to improve motoring speeds and ability in local waters," explained Frank, "and with the new, higher-horsepower Yanmars we are in fact burning less fuel and getting exactly what we need out of the boat, with certainty, regardless of conditions".

Whilst built in 2005, Ricochet is still considered among the highest performance carbon fibre catamarans of her class. She boasted a reputation as the sailing machine to beat on Sydney harbour for many years.

"I've had her at close to 25 knots under sail," quips Frank "albeit just with the family onboard – we would never push the boat to that speed with guests."

The repower sees an increase to 57hp per hull and double-figure motoring performance. Coupled with Gori three-bladed folding propellers (with overdrive feature) Ricochet can now do 10.5 knots under engines alone at cruising revs and clocks close to 12 knots at WOT.



"And the new common rail engines sound much nicer, with no smoke, no smoke at all!"

The Yanmars punch well above their weight too – accounting for just over 400 kilograms (combined) of Ricochet's total 10.5 tonnes of displacement.

"We'll sit the new Yanmars usually at around 2,100rpm and she just plows along really well," Frank says of usual daily duties aboard Ricochet.

That operating regime is smart skippering by Frank, given that the consistent torque delivery of the 4JH57 hits its peak of just under 160Nm at 2000rpm.



POWER PROFILE

Vessel Name	Ricochet
Application	Sailing Catamaran
Construction	Carbon Fibre
Length	14.32m
Weight	10.5 tonnes
Engine Model	2 x Yanmar 4JH57
Power Rating	41.9kW / 57mhp @ 3000rpm
Top Speed	12 knots (under engine power)
Cruise Speed	10.5 knots (under engine power)



Skipper Frank Hobson

Such good torque ability gives the Gori propeller overdrive function more than may be expected of the horsepower – a perfect example of how to make the most of just one of the Yanmars’ strengths.

The Gori overdrive function, a second pitch which can be compared to the 5th or 6th gear in a car, is used when motoring in calm waters, or when motor sailing, and it can save you up to 20% in fuel.

“Sometimes we’ll run with one engine while we’re under sail, and regardless of conditions we can now get to the top end of Whitehaven Beach or up to Hook Island (around 20+ nautical miles) and return in time easily with the new Yanmars”.



The usual daily charter includes at least two hours of snorkelling and an hour stop for lunch, so the ability to cover ground quickly and efficiently has ensured Ricochet continues to impress as the only sailing charter of her kind in the Whitsundays.

“Regardless of conditions, the higher horsepower allows us to put the boot in and do the miles that give people an unforgettable experience among the islands here. We’re running charters every day and the new engines let us deliver our work with zero stress.”

The improved motoring performance has delivered more than just a certainty in covering

distance and arrival times during day charters. It has allowed an expansion of Ricochet’s charter earning potential with a sunset cruise now added to her daily schedule – an offering not always feasible before the repower.

Delivering its full 57 horsepower at 3,000rpm, the Yanmar 4JH57 is a four in-line cylinder common rail direct injection engine with natural aspiration displacing just 2.19 litres, (that’s around 134 cubic inches in traditional engine speak).

Since their introduction in 2016, the JH Common Rail series of Yanmars have been setting the standard and dominating both production yacht builders and repowers alike with best-in-class performance in everything from emissions, cleanliness, noise and vibration levels through to interconnectivity abilities with onboard electronics and fuel efficiency.

For the diesel powerhouse it is, the 4JH57 is a relatively light and compact engine (just 220kg), offering an obvious weight and size advantage in most engine room applications, particularly for sailing vessels.

It’s one thing to talk about a popular brand of marine engine, but another when the professionals are preferring it as their choice.

With an upbringing and professional yachting career that has seen Frank Hobson spend pretty much his entire life “on, under or next to the ocean”, the Yanmar choice for his charter operations is no accident.

Frank’s career has seen him command many vessels, including Richard Branson’s private superyacht Necker Belle. Such responsibilities have fostered a continued standard of excellence on Frank’s vessels.

“In pretty much all applications you want a light, robust engine that’s easy to service and you certainly get that with the Yanmars.”

Purchased in 2013 from the original owner who had her built at a cost of around \$2.5

million, Frank has been running Ricochet out of Hamilton Island since 2014.

Although the original owner had no intention of running the boat commercially, no expense was spared on her lines, inside or out.

Still considered one of the most beautiful craft of her type on the east coast of Australia, her silver sleekness and inside fit-out has to be seen to be appreciated. An architect’s eye and expertise was used for her interior and few vessels even to this day display such beautiful inside layout and curves.

An engine and running gear refit is a time-consuming job. It’s also time that a charter vessel is not earning her keep and as such Frank was keen to have the 4JH57’s in place quickly, but properly.

“I worked with two other professionals on the engine refit and we had it done in 29 days – including building new soft-hatching to provide access into the hulls,” Frank explained.

Opting again for the folding efficiency & quality of Gori three-bladed overdrive propellers, Frank is very happy with his running gear choice too. “The Gori’s are easy to operate and really quite simple to get into the overdrive position – they work well. They are also the lowest drag of all propellers when folded so that is what I needed!”

“She is now running on average 270 days per year and we’re putting around 1,300 hours per annum on the Yanmars.”

“We are so far in front now with the new engine regime, it was well worth the investment.”

Frankly Frank, we would have to agree!

You can find out more about Ricochet’s charter services at ricochetyachting.com.

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UPDATES FROM POWER EQUIPMENT

New members of our team



Daniel Linzer

It has been an exciting time over the past few months, with some new and major appointments to the Power Equipment team.

Within our sales and engineering division, **Daniel Linzer** has joined the team as our Internal Sales

Engineer and will be managing a range of projects and sales initiatives across both our industrial and marine divisions. Daniel will also be supporting the sales team to provide engineering solutions on complex projects.

Daniel brings with him over 10 years of power experience, having previously worked across the industrial and agricultural pump industry and electric engine and engineering sectors.



Matthew Wheare

Another addition to the wider team, **Matthew Wheare** joined us back in April and brings over 15 years of marketing experience and knowledge to Power Equipment. Matthew (or Matt) will head up our marketing and advertising

activities across both our marine and industrial divisions, and will be working closely with our partners, suppliers and dealer network to maximise sales and marketing opportunities. Matt will also be developing and introducing

some exciting new projects to our network in the near future.

A big Power Equipment welcome to both Matt and Daniel and we wish you the best of luck in your new roles.

Celebrating milestones galore

As a testament to our team members and our company culture, it was with great pleasure that we celebrated a number of staff milestones recently.

Congratulations to **Annie Lin** who celebrated 10 years within our Accounts team, **Pamela Draper** for 10 years in our QLD branch, and **Kathy Frew, Terry Winter** and **Steve Harvey**

from our Melbourne office who have all been with Power Equipment for 5 years.

Jenelle Miller from our Minards team also celebrated 10 years of service, along with **Nick Marsden** from our WA office for 15 years, and **Michael Blair** from QLD brings up a huge 20 year work anniversary with Power Equipment.



Terry Winter, Annie Lin and Kathy Frew with their years of service certificates.

Power Equipment further enhances green credentials

As a distributor for some of the world's most fuel efficient and emission compliant engines, we have taken another leap to reduce our impact on the environment.

In addition to our 99kW rooftop solar system that supplies the majority of our electricity needs, our Melbourne head office has recently installed an electric vehicle (EV)

charge point. This new fast charge point can fully charge an electric vehicle within just a couple of hours, far quicker than a standard plug in at home.

The best thing is, the EV charge point is also powered by our existing solar system, meaning we will save an estimated 4,000kg CO₂ and 2,000L of fuel per annum.



The Tesla EV Charge point at Power Equipment's Melbourne head office.





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