CRANKING AT CLOUDBREAK

WAGNERS SEE RED AT ROPER BAR

LADY TRADIES

QSK95 GENSET: JUST WHAT THE DOCTORS ORDERED

CRANKING AT CLOUDBREAK
The Cummins Power app has been launched by Cummins South Pacific, placing a variety of information at the fingertips of its on-highway truck engine customers in Australia and New Zealand.

Available for use with Apple iPhone and Android operating systems, the Cummins Power app is a valuable resource for customers and drivers wanting branch and dealer locations and routing to these locations, 24/7 access to the Cummins Support Centre, warranty information and engine fault code search and definitions.

“The app can be used as a service locator, finding the nearest Cummins branch or dealer to the vehicle location and then using the phone’s mapping function for routing to the facility,” says Nick Gorgievski who was behind the development of the app as a member of the Cummins South Pacific service operations team.

“This is just one of the features aimed at keeping Cummins customers connected, anywhere and at any time.”

From the start of the six-month development and testing process the aim was to build a functional app that added value for operators of Cummins-powered vehicles.

“Attention was paid to aspects such as the fault code and service centre search criteria to make sure that no matter where you are you can get the information you want. Even if out of internet range, the app can still be used by drivers who may be in remote country location,” says Gorgievski.

Cummins is working on adding more features in the future with the focus on giving customers further access to relevant information about their engine.

The ‘Cummins Power’ app is a free download available from the Apple App Store for iOS devices and Google Play for Android devices. [Image]
A new $1.8 billion public hospital on Queensland’s Sunshine Coast is the first commercial project outside North America to feature the largest Cummins diesel engine ever produced.

Power generation is the first commercial application for the QSK95, the highest horsepower diesel engine ever developed by Cummins, pumping out over 4000 hp.

A 95-litre V16, the QSK95 is a high-speed diesel (1200 to 1800 rpm) that achieves higher output from 16 cylinders than competitors’ 20-cylinder engines. Unveiled in late 2012, the QSK95 is slated for limited production in 2014 and full production in 2015.

Cummins’ new generator set powered by the QSK95 offers up to 2.8 megawatts (MW) at 50 Hz.

Four QSK95-powered generator sets will be at the heart of the standby power system at Queensland’s new Sunshine Coast Public University Hospital, a $1.8 billion project that will open in late 2016.

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Reliability of the standby system will obviously be critical because the Sunshine Coast isn’t immune to power outages. During the wet season, storms can disrupt power to thousands of homes and businesses. Power outages can last several hours, even longer.

The public hospital will open at the end of 2016 with around 450 beds and more than 3,300 staff, expanding to 738 beds and around 6,000 staff by 2021.

Located at Kawana, it will bring complex specialist services to the Sunshine Coast, including a comprehensive cancer centre, a range of surgical services such as neurosurgery, cardiac surgery and mandibular surgery, and a major trauma service.

The public hospital will also feature the first commercial installation of QSK95-powered generator sets outside North America, although one unit has been undergoing field testing by Cummins at a minefield power station in Western Australia since early this year.

Lend Lease is designing and building the hospital and selected Cummins to supply the standby power system.

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The QSK95 is set to change expectations of what can be achieved with high-speed diesel technology, marrying industry-leading power density with increased durability.

The 95-litre engine enables fast ramp-up to maximum power, taking advantage of faster transient response from a quad-turbocharging system, with one turbo for each four-cylinder quadrant.

Cummins’ latest generation modular common rail fuel system (MCRS) keeps the combustion event extremely efficient. The high-pressure injection – up to 2200 bar (32,000 psi) – results in smoother, quieter and more fuel efficient operation while eliminating visible smoke across the entire operating range.

The high power density of the QSK95 is achieved with a hardened power cylinder and single-piece forged steel piston. The increased strength also contributes to extended life-to-overhaul, with the QSK95 capable of achieving 4.4 million litres of fuel consumed before rebuild, with minimum mid-life intervention required.

Service intervals are a minimum 500 hours, with the option of much-extended oil change intervals using the Eliminator centrifugal oil filtration system.

Footnote: The hospital is a Queensland Government funded project, being delivered through a public private partnership contract with Exemplar Health, a consortium comprising Lend Lease, Spotless, Siemens and Capella Capital. The consortium will design, build and finance the public hospital as well as maintain it for 25 years.
Once the poor relation of minerals, iron ore now warrants the immense logistics of digging it up and getting it out. Australia’s glamour rock is the focus of a new mine in the remote Roper Bar region of the Northern Territory, 600 km south-east of Darwin and near the Gulf of Carpentaria. It’s tough, raw country that for many years defied the attempts of Australians to tame it.

Western Desert Resources (WDR) identified the hematite outcrops in 2008, got encouraged by what it saw and started feasibility studies into how to extract the iron ore for steel-hungry China.

WDR exported its first shipment of ‘Roper Red’ iron ore to China in January this year, and has a production target of 3.0 million tonnes per annum by year three. The Roper Bar resource is an estimated 600 million tonnes.

Critical to the success of the project is the pit-to-port logistics chain of which Wagners, one of Queensland’s largest mining services and construction materials companies, is a key link.

The Toowoomba-based company has commissioned a brand new fleet of roadtrains specifically for the Roper Bar project – 18 roadtrain triples that are punching along at gross weights of 210 tonnes, hauling the ore to Bing Bong port in the Gulf of Carpentaria.

The roadtrains are working 24/7 and shifting 9,500 tonnes a day on a 165 km private haul road that cost WDR in excess of $150 million to build – a road cutting through a contrasting landscape of both extreme beauty and harshness.

Wagners’ project manager at Roper Bar, Anthony Menhinnitt, reveals that a dedicated, experienced team of people spent eight months planning the brand and specification of the trucks and trailers that would need to endure in an environment where the demands are obvious – achieving cost-effective life from equipment, and maintaining this equipment in a harsh, remote region where summer temperatures reach as high as 48 deg. C.

The rugged simplicity of Kenworth’s C509 was chosen for the haulage task, its tractive effort generated by Cummins’ 650 engine rated at 550 hp.

“Longevity, longevity, longevity,” says Menhinnitt emphatically. “The final spec wasn’t about price, it was about what was going to last and who would support us best.”

“Our partnership with our equipment suppliers is critical. When you’re in the middle of nowhere, as we are at Roper Bar, you need to know your equipment is going to be supported, especially when you have to move 9,500 tonnes of ore a day.”

“We’re getting very good support from Cummins,” he states. “I seriously don’t think Cummins could do much more for us.”

Jamie Young, Cummins’ resident field service technician at Roper Bar, earns praise from Menhinnitt and Wagners’ maintenance superintendent Rob Dean for his engine diagnostic and tuning skills. “Jamie is an integral part of the Wagners team and gives us great technical support,” says Menhinnitt.

Wagners is serious about its maintenance scheduling. Each truck is brought into the workshops on a 10-day roster, and the full day dedicated to maintenance. Oil and filter changes are performed every 10 days/250 hours, while oil sampling is carried out at the same intervals. Tyre rotation is also carried out every 10 days on both the prime movers and Howard Porter trailers.
An engine using SCR (selective catalytic reduction) technology was Wagners’ preference for the Ripper Bar job, with the Cummins ISX heading the list and underpinning the choice of the CS95 Kenworth.

Menhinnitt is satisfied with the ISXe5 fuel burn figures, especially considering the energy-eating mass – 210 tonnes – of the machinery. The fuel is averaging 900 miles per gallon, while AdBlue consumption is around 2% mark. “This is a bonus,” he says. “We expected AdBlue consumption to be higher, at 5 to 7%, based on what we knew about other SCR engine brands.”

Wagners was using Cummins ISX 550 SCR engines in Kenworths and Western Stars prior to the arrival of the new fleet at Ripper Bar and these were typically running around the 900 miles/gallon mark – at 60 tonnes lighter gross weight.

“Driver acceptance is important for driver retention, and acceptance of the Kenworth and Western Star cabs is great.”

Wagners’ operation is just one small part – albeit an important part – of the incredible chain of events that goes into moving one mineral from one country to another to produce steel – steel that is achieved. To meet these targets it is important to have good support on the ground with skilled technicians based on site.

There are few issues with the 50-litre Cummins engines at Mt Whaleback. There are no problems with the AdBlue system and the company sticks with the Cummins ISX 550 engine for all the opencut machinery.

A Cummins’ site technician at Mt Whaleback, Alex Miles (next to vehicle) with, from left, product support representative Dean Yaggas, service operations manager Glenn Matthews and mining business manager Dave Abbott.

He takes pride in Cummins’ on-site support, and the relationship that has been built with the customer. The iron ore mines are no place for a weak spirit. They demand much from man and machine. Alex Miles enjoys the challenge and immense responsibility.

“I've got the reigns here,” he says, overlooking the spectacular Mt Whaleback pit. “It's a Cummins area and I'm the person they come to. I like the responsibility, I like picking up the jobs… at the end of the day it’s all about improving availability of the equipment.”

Miles has had two years at Mt Whaleback, a technician who learned his trade at Cummins Perth as an apprentice and then spent two years in the Master Rebuild Centre, reconstructing Cummins’ Highest Horsepower engines.
Caked in red dirt, excavators are one of the formidable images of iron ore mining. They’re the backbone of the operation, their diesel engines powering the hydraulic systems that pump thousands of litres of fluid every minute to generate immense breakout force. For all their monumental scale, these steel monsters demand particular care. They are very high maintenance if you let them go.

The results of a thorough performance regime are evident at Fortescue Metals Group where engine life has been in sharp focus, especially recently when a Cummins QSK engine, originally scheduled for replacement at 12,000 hours, reached 21,000 hours.

Fortescue has 18 excavators at its CloudBreak iron ore mine and 15 are typically operating at any one time in the seemingly endless deserts of the Pilbara in Western Australia. All but three of the 18 excavators are dual-engine 2400 and 3000 hp units.

CloudBreak is Fortescue’s first-established mine and has a production target of 40 million tonnes per annum.

“Excavator fleet at CloudBreak moves around 470,000 tonnes of ore and overburden in a 24-hour period. It’s a harsh land out there... one of Earth’s oldest landscapes parched by fierce heat where the brutal slog of digging iron ore is an accepted challenge for mining companies.”

“The availability target for the excavators is 85% and we’re averaging 87% across the fleet.” Ryan Wittorff, maintenance superintendent for Fortescue excavator fleet at CloudBreak.

The cost of having a machine down is enormous, escalating to hundreds of thousands of dollars a day. “If a digger stops you probably have six trucks parked up,” he says.

Fortescue’s excavator fleet at CloudBreak is entirely, Terex/Estus /Novap – new RH340s, all RH170s and three RH120s, all facing their breakthrough time generated by Cummins power.

“The K38 is basically bulletproof,” says Alistair Mullen. “We were initially changing the engines out at 15,000 hours but we’ve been able to get up to 16,000 hours with mid-life maintenance.”

Routine servicing of all Fortescue excavators is at 500-hour and 1,000-hour intervals when no problems are found. “We carried out oil sampling every 500 hours and replaced the oil every 1000 hours,” says Wittorff. “We got our reliability engineering team on board with the project and carried out strict condition monitoring,” says Wittorff.

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The 560-tonne RH340 has dual Cummins QSK45 engines pumping out a total 3000 hp, and it was one of these machines the “spare 4” version of the Cummins engine for extended engine life. “Cummins’ life-to-overhaul recommendation for the QSK45 was 15,000 hours but was set at a target of 20,000 hours,” says Ryan Wittorff.

Replacement of specific components at mid-life – including turbo, injectors, fuel pump and water pump – was also set down for 10,000 hours.

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Four women working at Cummins’ workshop facility at Carole Park in Brisbane are helping break down barriers that have long existed in a male-dominated industry.

“There’s a misconception that a workshop is no place for a woman, that it’s too dirty, that only blokes are strong enough for workshop tasks,” says Kristina Allan, regional apprentice program manager for Cummins South Pacific. Jen Payne, a fully qualified diesel technician, along with apprentices Belle Daniells, Hannah Jeynes and Zoe Bull have no regrets about their career direction at Cummins and praise the company for providing “the right work environment” – a safe, fair and diverse workplace.

The women are eager to ‘ambassador’ for Cummins, visiting schools to talk to students about ‘life as an apprentice/technician at Cummins’.

“Cummins has given me the confidence to back myself and overcome challenges in both my work and personal life,” says 22-year-old Jen Payne, now a fully qualified diesel technician, who started at Cummins as an apprentice in 2012.

“I was often told that ‘girls can’t be mechanics’ for a number of reasons. However, I’ve learned that if you strive for success and take every knockback or discouragement as motivation, you can overcome fears and doubts to become whatever you want to be.

“I’m now a tradesperson in a male-dominated industry and enjoy challenging every day. Cummins is a global company that has helped me set the foundations not only for my job but also a career.”

The skills and confidence Jen has gained at Cummins have given her other opportunities, like working with a high performance race team as a pit crew member on a top fuel dragster.

“The diversity of employees is welcoming and motivating environment which encourages and supports me to be myself and not just a female employee,” she asserts.

Belle Daniells, 26, started with Cummins in Brisbane as a mature age apprentice and became a fully qualified technician early in 2015.

“Being a mechanic doesn’t define who you are as a person. There’s a common misconception that you can lose your female identity by being a mechanic in what has traditionally been a male dominated trade. That’s not the case at Cummins because of the focus on the right work environment.

“Employees at the Cummins Wetherill Park branch must be commended for providing the ‘right work environment’ at Cummins,” Belle says.

“Some aspects of the job are physically challenging but I’ve never had a problem getting on with it. Everyone at Cummins is very supportive. I’m learning something new every day and I enjoy the company of my colleagues – both male and female. I feel I can talk to anyone and ask them for help.”

Louise Swarbrick (foreground) with Louise, effective coaching them through the challenges an apprenticeship presents.

“Employees at the Cummins Wetherill Park branch must be commended for providing ‘the right work environment’ at Cummins,” Belle says.

“When I finished school I knew that university wasn’t for me,” she says. “I’ve always been a tinkers and my father’s a mechanic so I had some exposure to what being a mechanic would be like.”

Zoe Bull, 23, is a mature age apprentice currently in the second year of her apprenticeship. When she left school after completing Year 12 she joined the navy and decided to become a marine technician.

“When I left school I knew that university wasn’t for me,” she says. “I’ve always been a tinkers and my father’s a mechanic so I had some exposure to what being a mechanic would be like.”

Tina Payne, a fully qualified diesel technician, left with Belle Daniells.

After a couple of years at sea, however, Zoe wanted a change of lifestyle and applied for an apprenticeship at Cummins Brisbane as a parts interpreter.

“The HR person I spoke to thought that with my background as a marine technician I would be better doing a mechanical apprenticeship so I took the opportunity.”

Zoe describes her apprenticeship as “awesome”. She says the job can sometimes be physically demanding but it is rewarding and the Cummins work environment is “very good” for women.

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“As ambassadors, they are committed to sharing their experiences as tradeswomen at media events, in video promotions and interviews with schools.”

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Andrew Penca has been appointed managing director and general manager of Cummins South Pacific. Penca joined Cummins Inc. in the USA in late 2007 as assistant to the president and CEO.

Andrew Penca

New MD for Cummins South Pacific

An urgent request for 20 Cummins Powerbox 20 diesel generator sets will help counter critically low water levels in hydro dams in Fiji.

Cummins South Pacific is supplying the Powerboxes to the Fiji Electricity Authority which is upgrading its power generation power because of its depleted water power because of its depleted natural resources.

Andrew Penca says the 20 Powerbox sets will be installed in two power stations in 2011. The Powerbox set will also be used as a demonstration for Cummins other power generation projects for Fiji.

The Cummins Powerbox is a 20 kilowatt unit that is fully contained, with all necessary components including the Cummins engine, alternator, fuel system, controls, exhaust, and cooling system. It is mounted on a galvanized steel frame and housed in a weatherproof fiberglass enclosure. The Powerbox set will be supplied to the Fiji Electricity Authority for installation at a power station in Levuka.

Cummins' power generation business has provided strong support for the 20 MW Powerbox project in Fiji, having taken delivery of commitments to the customer.

The Cummins Powerbox is a complete turnkey system that provides a reliable, efficient and environmentally friendly power solution for any type of application. It is designed to meet the needs of customers who require a reliable and cost-effective power solution.

Cummins South Pacific has set a goal of reducing energy use and GHG emissions by 25 percent and 27 percent, respectively, by 2015 compared to a 2005 baseline and adjusted to sales.

 Cummins has established a goal of increasing the proportion of renewable energy obtained from wind and solar sources to 90 percent in 2015.

 Cummins has a history of leadership in the area of energy efficiency and has set a goal of reducing the energy intensity of its products by 27 percent by 2020.

 According to the company, the new Powerbox sets will provide reliable and cost-effective power solution for customers in Fiji.

The Cummins Powerbox is available in a variety of configurations to meet the needs of its customers, including the 20 kW unit for Fiji.

Cummins South Pacific managing director Andrew Penca (left) with Chairman's Quality Award winners Paul Corbett and Danni Pietsch, and Peter Jensen-Muir, Cummins executive manager for the Asia Pacific region.

Chairman's awards for 6 Sigma winners

Two Cummins employees in Australia, Danni Pietsch and Paul Corbett, have won Chairman’s Quality Awards for their outstanding contribution to 6 Sigma projects.

Danni Pietsch is a field application engineer leader for Cummins Inc’s distribution business unit, while Paul Corbett is a project engineer for Cummins South Pacific’s high pressure business.

The Chairman’s Quality Awards are an annual global recognition by Cummins Inc for its 6 Sigma projects.

Cummins introduced 6 Sigma in 2003, and this year, the company is celebrating its 10th anniversary with an expanded 6 Sigma program.

Many of the world’s leading companies today use 6 Sigma for quality improvement.

20 Powerbox gensets for Fiji

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Cummins ISG powers new Foton Daimler truck

Cummins, Foton and Daimler have announced they will introduce a new truck in China called the Foton Daimler Auman GTF ‘Super Power’ truck.

Cummins' new ISG engine, which is under consideration for Australia’s next round of emissions regulations (RDERR-06), will power the Auman GTF, which will be built under a 50-50 joint venture between Daimler and Foton.

The ISG will initially be manufactured in China at the Beijing Foton Cummins Engine Co. (BFCEC), a 50-50 joint venture between Cummins and Foton. The ISG, a 6-liter, 4-cylinder engine, is available in 11 and 12-liter versions to meet a broad variety of global market requirements and emissions standards.

Design and development of the engine have been led by a team in the USA and supported by global technical resources.

The 12-liter ISG will deliver peak outputs of 375 hp and 1700 lb-ft of torque.

Cummins and Foton have signed a development agreement with the ISG to go on-highway Euro VI emissions standards.

Cummins and Foton have previously teamed up with the Cummins ISF light-duty engine platform (2.8 and 3.8 liters) introduced in 2008.
Cummins partners with college to develop future generation of apprentices

Cummins has partnered with a college in Melbourne as part of a program to develop the future generation of apprentices.

The new Trade Training Centre at Point Cook Senior Secondary College in Melbourne is equipped with diesel engines and other equipment donated by Cummins.

“Our aim is to influence the career pathways of students and recruit some of these students directly to Cummins’ apprentice program,” says Kate Evans, apprentice program manager at the Cummins Laverton branch in Melbourne.

Cummins employs over 200 apprentices in the South Pacific region and considers the new Trade Training Centre vital to encouraging apprentices to the industry.

The diesel engines donated by Cummins – one of which is a fully operational training module – are housed in the Trade Training Centre’s heavy diesel training facility named after the late Clarrie Malvern, a Cummins pioneer in Australia.

Malvern’s career with Cummins spanned 1955-1984 during which time he established the foundations for Cummins’ outstanding service support network in Australia which remains the benchmark in the diesel engine industry today.

Cummins has partnered with Point Cook Senior Secondary College since 2012 as part of the Young Ambassadors for Industry program, brokered by Wynbay LLEN (Local Learning and Employment Network).

Up to 10 apprentices from Cummins’ branch in Laverton (Melbourne) have been working as “Young Industry Ambassadors”, visiting the school and speaking to students and careers advisors about “life as an apprentice at Cummins”.

Cummins has also partnered with two other Melbourne schools as part of the program.

“Industry engagement with schools is vital to building a strong pipeline of skilled workers, with research showing that employers and schools must connect early and often to achieve the best outcomes,” says Kate Evans.

Cummins Laverton branch manager Mick Cristaldi (right) with Greg Sperling, principal of Point Cook Senior Secondary College.

Our online store gives you round-the-clock access to the entire range so you can get Cummins gear whenever it suits.

All stock is delivered direct from the Australian warehouse saving you time and money.
The latest shot in the race to build a bigger, better underground haul truck has been fired by Sandvik with its Cummins-powered TH663 which is now starting to appear in numbers in Australia in some of the world’s harshest hard rock mining conditions.

The 63-tonne capacity TH663 is an articulated hauler compared with its 60-tonne TH660 predecessor, a rigid dump truck. Articulation makes more sense because it allows for better manoeuvrability in tight underground spaces.

In fact, Sandvik claims the TH663 – powered by the Cummins QSK19 rated at 760 hp – offers a range of safety, productivity and fuel economy improvements over all TH660 generation trucks.

Although its early days for the TH663 at the Sunrise Dam gold mine in Western Australia, the design of the truck has already impressed the maintenance team of underground mining contractor Barminco.

Five TH663s are replacing Cat trucks at the mine. Barminco’s project manager at Sunrise Dam, Aaron Rankine, says a major review was carried out by Barminco of its underground mine truck requirements and the TH663 emerged as the preferred unit.

Further TH663s have been ordered for other Barminco operations in Australia.

Sandvik is targeting improved fuel efficiency as one of the features of the TH663 based on results achieved in testing at another gold mine in WA where average consumption over a three-month period was around 50 litres/hour. At the time of writing early figures from Sunrise Dam were showing consumption in the low-to-mid 50s – an improvement over the trucks the TH663s have replaced.

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Cummins QSK38 engines are at the heart of a new 34-metre, 338-passenger ferry being built in New Zealand by Q-West for Fuller Group, operator of Auckland’s ferry network.

The first new craft commissioned by Fullers in some years, the boat is designed by Australian cat specialist Incat Crowther and is scheduled for launch in the third quarter of 2014.

The twin 38-litre Cummins QSK38 engines, rated at 1400 hp each, will propel the ferry to a cruise speed of 26 knots. The electrical side of the vessel is being looked after by a pair of 100 kVA Cummins gensets.

It’s a massive project, with Q-West and Cummins winning their contracts in the face of stiff worldwide competition.

Q-West general manager Colin Mitchell sees the job as a reflection of the company’s reputation for quality work, a key factor of which is keeping construction in-house. “We do the entire vessel here, which means we can maintain high quality standards. Because every element is handled here, we are able to act very effectively as project coordinators.”

Mitchell appreciates the fact that Cummins has a direct factory representation in New Zealand, commenting that it significantly aids the building process. “The ability to talk with engine suppliers’ technical staff at an early stage and resolve potential issues like engine ventilation, exhausts and water plumbing is really handy. That means we’re not having to chase niggles that might pop up later.”

The QSK38 meets the most stringent marine emissions standards in the world. It is an evolution of the long established 38-litre V12 Cummins KV-series platform, a benchmark for reliability and durability in its horsepower class. A feature of the engine with its Quantum electronics is the modular common rail fuel system (MCRS) that ensures low emissions along with dramatically reduced engine noise and vibration.

Based in the North Island city of Wanganui, the Q-West boat manufacturing facility is impressive for the diversity of its output, and includes pleasure craft, catamarans, fishing and charter craft, pilot boats, monohulls, ferries, high speed foil assisted catamarans and work boats.

Today Q-West constructs its boats mainly in aluminium, but the factory began life under the title Steel Boats. Set up by British immigrant boilermaker Doug Wilde, Steel Boats concentrated originally on the commercial fishing market, soon establishing a reputation for rugged, well-built craft. Following Doug’s death from a hunting accident, production at the site lapsed for some time before being revived as Wanganui Boats by another company, Axiom.

With a decline in demand for traditional trawlers, production shifted to other applications and aluminium became the primary construction material.

Despite the change in ownership and output for the site, a constant has been the local workforce, says Colin Mitchell. “When Doug set up business initially it was with the principle of building a strong skill base for boatbuilding in Wanganui. His focus was on keeping all the work in house, meaning a full range of trades became involved with the work.

“That has carried through to today. Wanganui continues to provide a highly skilled workforce, which is why the city is still a significant centre in New Zealand boatbuilding. I trained under Doug Wilde, and we have several staff with a similar background. It’s also somewhat of a family tradition. For example, we’ve got two father and son pairings in our staff right now.”

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