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HINO HITS A CENTURY

Power Torque, National

FEATURE

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The 100th Hino joins the Century Batteries Fleet – Words by Chris Mullett. Images by Sarah Barnsley

Batteries are heavy, and when they don't work there's not much you can do to fix the problem other than by replacing them. Not only does the battery manufacturer have to produce a wide range of different types of battery to suit the prevailing operating conditions it has to endure, it also has to maintain a comprehensive distribution service to ensure the right type of battery is where it's needed, pretty much on a 24-7 basis.

For Century Yuasa batteries, the task of making sure the right battery ends up in a convenient location is down to the company's national fleet manager and group reporting accountant David Blackburn.

As you can imagine from his combined title, David is very much in tune with operating costs and when aligned with transport his choice of vehicles in the company fleet is based on effectiveness, efficiency and of course economy of operation.

"We distribute batteries to retail and wholesale outlets, plus individual mechanical repair and maintenance shops Australia-wide, across every state and capital city. Part of our fleet is also configured as fork lift service trucks and are fitted out with a hydraulic crane and a tray back to service the batteries used in fork lifts. These batteries are particularly heavy, and the crane removes any effort during loading or unloading.

"Our fleet comprises 50 trucks and is universally based on Hino products. We run 35-40 Hino 300s, plus Hino 500 FC10-22s with battery payloads of 4.5 tonnes and Hino 500



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GH 1828s that carry battery payloads of 11 tonnes. The Hino range of trucks is also used in our New Zealand based fleet operation.

“Now we are adding our 100th Hino to the fleet. This is a 700-Series 6x4 FS 2848 rigid that pulls a three-axled dog trailer and will be used to supply and service our new agency in Toowoomba, the Gold Coast, the Sunshine Coast and Northern NSW, from our head office and manufacturing facility here in Brisbane.

With a tare weight of 11,810 kg and a GVM extending to 28,300 kg, the 700-Series is powered by the Hino turbocharged and intercooled, six cylinder 13-litre E13C VG engine which produces maximum power of 353 kW (480hp) at 1800 rpm, with peak torque of 2157 Nm rated at 1100 rpm. The emissions system uses EGR and SCR to conform to Euro5 requirements.

The driveline features a ZF AS Tronic 16-speed automated manual transmission with a diff ratio of 3.9:1 which enables the engine to operate at 100 km/h at a low engine speed of just under 1700 rpm, promoting excellent fuel economy. With a semi-elliptical leaf sprung front suspension, the rear suspension features the Hendrickson HAS 460 airbag design.

“Fatigue management and reduced driver stress are very important factors in our vehicle selection, so we specify automated manual or fully fluid automatic transmissions throughout the fleet with very few exceptions.

“Just as the general public are moving to automatic transmissions in their cars, the transport industry is moving into this space and our drivers appreciate not having to constantly change gears manually, especially with a high amount of their daily work being in city suburbs.



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“When you compare the advantages of the Hino 500-Series, the gear shift pattern Allison six-speed automatic transmission is a case in point, the gear shift pattern of the Allison automatic transmissions in the Hino 500 Series is superior to any alternative truck on the market. With full power shifting differentiating it from an automated manual gearbox it means the vehicle can cross a junction without a delay and maintain progress with traffic flow.

“From a driver comfort perspective, the ISRI 6860 870 seat used in the GH and FS is fantastic, and the ISRI 6860/NTS2 seat used in the 500 FC is even better again. Driver comfort is very important to us.

“Every vehicle in our fleet is monitored by a mapping service so we know where they go and wherever they may happen to be at a given time. We have the ability to track and monitor our vehicles using Tom Tom and the system is customised to provide alerts such as engine idle time, start/stop time and door open and closed time. Each vehicle also features forward facing dash cams and reverse cameras, fitted by Sci Fleet HINO prior to the vehicle entering service.

The company fleet management programme results in replacement of the Hino 300s in a four-year cycle, during which time each truck will have travelled in the region of 120,000 km,

with up to 240,000 km for the 500-Series. It is anticipated the 700 Series will operate on a five year replacement cycle with a total distance travelled of approximately 900,000 km. The 28 vehicles operated in New Zealand run under a slightly different replacement programme, due to lower average distances travelled each year.

Maintenance requirements are completed on a 10,000-20,000 km basis, dependent on the vehicle type and duty service. Each service is completed at the closest appropriate HINO dealership to the vehicle operating location, such as SciFleet in Brisbane or CMI HINO in Adelaide.

Carrying batteries requires a particular design of fully welded, all-steel bodywork and this is completed by MiniBody Engineering of Acacia Ridge in Queensland. In the unlikely event of any potential acid spill the design of the bodywork provides for its complete containment. Any acid spill can be neutralised with soda ash to prevent any corrosion and the resulting mixture is washed into a tank on the vehicle for subsequent further treatment and disposal.



David Blackburn

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The Right Charge

When it comes to replacing a battery for your truck, van or ute, do you head for the cheapest unknown brand or do you ask advice from a battery specialist?

If the answer is to go for the lowest price option, then you probably buy Chinese tyres and reckon you know more than the fleet operators. Cheap to purchase. doesn't necessarily mean cheap to operate, and you'll find out the perils attached to this form of fleet management when your truck is sitting parked up somewhere remote because of a tyre or battery failure.

It's fair to believe that a tyre or battery specialist knows considerably more than you do about the products available. Just because one is black and round and the other product is black and rectangular and different brands look relatively identical from a casing perspective, doesn't mean that what's inside is the same level of technology.

PowerTorque asked Johnny Kennedy, the technical guru at Century Yuasa batteries in Queensland to explain the answers to the questions you've probably never asked.

"At our manufacturing facility in Carole Park, Queensland, we produce around 1.1 million batteries per year and are in the process of investing \$6,000,000 to increase production with the implementation of new equipment to raise that production level to 1.3 million," said Mr. Kennedy.

If you thought all batteries were equal, time spent with the technicians at Century Yuasa will soon convince you otherwise. For truck operators there's a different battery design for short haul, around town delivery trucks, compared to a battery for long haul interstate work in multi-trailer B-double and road train configurations.

Batteries that supply the internal power requirements for in-cab heating, ventilation and air conditioning systems require a battery design that can specifically handle long periods of supplying constant power without recharging. These deep cycle batteries are a totally different design from a typical auto battery.

In Europe batteries need to be able to cope with minimum temperatures as low as -18c. In Australia the upper limit of temperature tolerance for Century batteries is +80c.

Commercial vehicle batteries can be subjected to pretty torrid conditions. Not just extreme hot and cold temperatures, but endless corrugations and bumps while on road. These conditions create havoc for batteries, attacking critical internal components, which, for batteries of inferior design, can lead to early failure.

Century Batteries has addressed this with thicker full frame cast plates improving the strength and durability of the battery. Additionally, the company's exclusive Platelock™ Technology uses an adhesive that binds the battery plates securely together to provide superior vibration and impact resistance.

This is a vastly different construction from that of your normal "No-Name" brand retail battery, and essential if you want reliable power in your truck on typical rough roads to combat vibration, as well as high ambient temperatures while providing exceptional performance and longer life in heavy haulage applications.

Manufactured using some of the toughest internal components and materials available in the battery industry. Century Heavy Duty batteries are designed and built tough to provide superior power and performance in Truck, Bus and Heavy Equipment vehicles.



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In long haul, on-highway interstate truck operation the Ultra Hi-Performance Severe Service battery is designed to cater for starting and semi-cycling for onboard accessories. The design is highly resistant to vibration and features a Full Frame cast plate design with Platelock technology, glass mat separator and Labyrinth lid technology. It is backed by an 18-month warranty.

Century Hi-Performance Truck, Bus and Heavy Equipment batteries are designed to provide short haul, off-highway intrastate truck drivers with dependable performance and reliability. Manufactured using Calcium plate technology, this range of Hi-Performance batteries feature higher cranking capacity, lower self-discharge as well as reduced water loss. It is backed by a 12-month warranty.

In operating conditions where short haul, off-highway vehicles require extra starting power Century recommends the Ultra Hi Performance battery for its greater resistance to vibration. The construction design uses cast positive plates, expanded negative plates, PE Separators and labyrinth lid technology. It is backed by a 24-month warranty.

Finally, the Century Hi-Performance battery is designed for short haul, off-highway vehicles where vibration is reduced. The design incorporates expanded positive and negative plates, PE separators and labyrinth technology and the Hi-Performance battery is backed by a 24-month warranty.

Century's typical research and development programmes involve testing units such as the Overlander 4x4 battery at 75°C. It subjects the battery to much higher temperatures

than the universal battery test standard of 40°C, which is far more realistic to the under-bonnet temperatures of Aussie commercial vehicles.

Being able to resist the effects of extreme heat or cold are just part of the features and benefits of a Century battery.

The double layered lid and advanced labyrinth lid design assists in the retention and condensation of water vapour that is produced in the battery during operation and charging. It prevents leaks during tilting and vibration and if the battery is overcharged the excess gases it produces are safely discharged by the integrated central venting system.



The design incorporates an integrated flame arrester to prevent the risk of a reaction between oxygen and hydrogen. Water loss is reduced by 40 percent and this in turn extends the service life of the battery by up to 30 per cent.

Century has been making batteries in Australia for 90 years. The company's in-depth knowledge of the climatic and operating conditions that are unique to our country have been instrumental in the final designs of the batteries it makes here for our use.

When it comes to specifying a replacement battery *PowerTorque Magazine* has no doubt that the specialised research and development work completed by the Century team has produced a range of battery products that stand out from the crowd, and from the competition that simply imports units from overseas.

In celebrating 90 years of quality production the company can rightly congratulate its workforce for its achievements, and in particular for its recycling programmes that enable 98 per cent of the products they make to be recyclable.



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