

Yanmar Efficiency Drives Briteforce LED Lighting Towers

A massive swing to the latest technology LED lighting is the driving force behind the sustained growth of Western Australia based lighting tower specialist, Briteforce. Seeking greater efficiency, the Yanmar 3TNV70 has now become the diesel engine of choice at Briteforce.

Briteforce was established by Michael and Maria Maiolo in 2007. Quality was the cornerstone of the company and understandably success followed quickly. With success comes expansion and the new manufacturing facility was three times bigger than the original premises. Power Equipment has been supplying Briteforce with Yanmar industrial diesel engines since 2008, with Yanmar the exclusive power of choice for many years now.

Three years ago Briteforce was awarded a large contract with BHPB for the supply of Yanmar TNV powered lighting towers fitted with metal halide lights, this contract was again secured for a further five years recently highlighting the performance of the lighting tower and power pack. Yanmar engines were chosen on the basis of the reliability of the engine and excellent performance traits. Three different Yanmar 3TNV models were utilised by Briteforce, the 3TNV82, 3TNV84 and 3TNV88 in the original production models.



Above: Dave Duddington of Briteforce.



Above: In with the new – a fresh Yanmar 3TNV70 fitted to the BHP lighting tower built by Briteforce.

With the recent advent of LED Lights, Briteforce began development work with this new technology. It quickly became apparent that LED towers were far superior in performance and operational costs than the conventional metal halide lights.

“It was soon established that the LED Lights delivered very significant cost savings and performance benefits,” said Dave Duddington, Sales Manager at Briteforce.

“The LED units are slightly more expensive to purchase new, but there is a 70% fuel saving on operational costs and a 70% saving on maintenance. The market acceptance of LED towers is now so compelling, that we offer metal halide lighting towers but no longer sell any.”

Coinciding with the release of the new LED towers, the Australian mining industry moved from a construction phase into a maintenance mode. Mining companies began looking closely at their operational costs and readily accepted that there were massive savings to be had by replacing their entire fleet of Briteforce metal halide lighting towers, with the Briteforce LED models.

The BHP Iron Ore re-work encompassed much more than changing the lights. BHPB returned their fleet of existing Briteforce towers in batches. Some units had extremely low hours logged while others had recorded 5000 hours of operation. All units were between two to three years old and all were 100% operational and functional when returned to Briteforce. This highlights the cost benefits and payback over a short period making the refurbishment cost effective in the short term and provide major savings over the long term.



Above: The two models of lighting tower on offer from Briteforce, both Yanmar 3TNV70 powered and both with LED heads.



Above: A two year old BHP light tower as returned to Briteforce.

The re-work at the Briteforce factory in Perth required the lighting tower to be stripped back to the bare bones. The hydraulic mast, trailer, hydraulics and control panel were all recovered and used in the re-work.

All of the Yanmar 3TNV diesel engines were removed. A completely new Yanmar 3TNV70 engine matched to a new 48 volt/63 amp alternators were supplied and fitted to the re-worked lighting tower. The trailers were upgraded with a new 300 litre fuel tank (the old tanks were 125 litres) and a new fully bunded system was installed.

The switch to LED technology for BHPB has caused a reduction in the size of the alternator from 12 kVa to 48 volt/63 amps. As a consequence the Yanmar engine required to drive the alternator has also dropped in size to suit the power output.

Power Equipment supplies Briteforce with their 3TNV70 G-Drives completely built up with the radiators, air filters and exhaust system already fitted. This is a major time saver for Briteforce.

The Yanmar 3TNV70 is a three cylinder diesel engine rated at upto 19.4mhp at 3600 rpm. In G-drive configuration as used by Briteforce, the power developed is 9.0 mhp at 1500 rpm. Fuel economy and reliability are standout features of this model diesel engine.

“BHPB has benefitted enormously from the re-work on our lighting towers,” said Dave Duddington.

“The outcome is that these towers cost much less to operate. They only need servicing four times a year and they operate for three weeks before needing a fuel top up. The labour savings are significant.”

“We rate the Yanmar 3TNV series of engines very highly and that’s why we use Yanmar exclusively. There are no problems with the Yanmar engines and virtually zero warranty claims.”

“BHPB has been very happy with the performance of the Yanmar industrial engines and had no issue with Briteforce supplying Yanmar again with their re-works.”

Briteforce manufacture two models of the LED lighting towers. The mining spec’d “Lite Star” is the exact unit supplied to BHPB and others in the mining industry.

A more compact LED lighting tower, the “Compact Star”, is manufactured principally for the hire industry. This unit has the same hardware and components as the “Lite Star” but lacks some of the ‘heavy duty’ hardware. It is contained within a physically smaller trailer envelope. As a result seven “Compact Star” units can be fitted on a standard 40’ trailer and these are commonly used for events, traffic management and general hire applications.

Power Equipment is the exclusive and authorised Australian, New Zealand, Papua New Guinea and South Pacific Distributor of Yanmar Marine and Industrial diesel engines, JCB DieselMax, MASE diesel marine generators, Gori high quality folding sailboat propellers, PSS Shaft Seals and Northern Lights Gen Sets.

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EDITOR’S NOTE

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