

Tru-Marine develops turbocharger bearing technology

Tru-Marine, the Singapore based turbocharger repair specialist, has developed a new type of turbocharger bearing that has surpassed the industry standard performance of 16,000 running hours and achieved a new record high of 40,000 running hours.

The record is the result of an exclusive pilot project between Neptune Shipmanagement Services (Pte) Ltd (NSSPL) and Tru-Marine, initiated with the objective of comparing the quality of Tru-Marine turbocharger bearings to that of the maker's original bearings.

In March 2003, Tru-Marine blower and turbine bearings were fitted on one of the three ABB-VTR 14 turbochargers (turbocharger No 2] on board the container ship *APL Amazonite*. Not only have Tru-Marine's bearings matched the makers limit of 16,000 running hours, but in addition, by the end of May this year had clocked up more than 22,500 hours.

Tru-Marine's marketing executive Soy Pey Pey told *Marine Propulsion*: "The efficient running of our turbocharger bearings, vis-à-vis the original bearings, make an excellent testament of quality which translates into reassurance of durability and in turn, reduction of failure occurrence and operating costs for our customers, which, in the case of larger turbocharger types can amount to significant sums. To big players like NSSPL, one of the most respected ship management companies in the Far East and Asia, operating at full efficiencies and right-on-time is of paramount importance".

Tru-Marine describes its bearings as original equipment manufacturers' parts from Europe, made with the level of precision and quality demanded by the aerospace industry. Each bearing unit undergoes stringent precision checks at its workshops and comes with a certificate of performance with serialised tracking.



Tru-Marine balancing bay

For optimal efficiency, the condition of the bearings needs to be continually monitored. *APL Amazonite* has employed a proprietary method to measure, in real-time, the shock pulses generated from the rotating roller bearings. The shock signals are measured on a decibel scale and the characteristics of the shock pulses can be indicative of surface damages and other abnormalities on the bearings – for instance, damage causes strong pulses at irregular intervals. These pulses are plotted on a green/amber/red chart, which allows for easy graphical evaluation of the condition of the bearings: green for good condition, amber for caution, and red when the bearing needs to be changed.

NSSPL's managing director, Lim Tau Kok, commented: "We are pleased to inform that after more than 20,000 running hours, Tru-Marine ball bearings' performance is no different to that of other original installed bearings. Our target is to extend the running hours up to 40,000, using continuous performance monitoring. We will have no hesitation in using Tru-Marine ball bearings in our fleet".

Commenting on the collaboration with NSSPL, David Loke, managing director of Tru-Marine, told *Marine Propulsion*: "We are honoured by the opportunity to work on the trial with NSSPL. The success of the pilot project and NSSPL's acceptance of Tru-Marine bearings for their VTR 714 turbochargers is an excellent testament and encourages us to continue to provide quality spares and service".

Tru-Marine prides itself on its ability to provide innovative solutions to repair, and restore damaged, or worn parts, that might otherwise need to be replaced. By repairing rather than replacing whenever possible, the company helps customers reduce the often-high cost of turbocharger maintenance.

In Singapore, Tru-Marine currently represents Napier, Mitsubishi and Holset turbochargers and – in addition – operates extensive turbocharger servicing and repair bases in China and the Gulf at Sharjah, and is currently setting up a joint venture with Vietnam's Vinashin Shipbuilding Industry Corp near Hai Pong. **MP**