

— COMMUNICATION ON

# Increased lifetime bearings – ceramic technology

As part of our goal to achieve **superior reliability and durability** of Thermo King components; from April 2020 Thermo King has implemented a new technology: **Ceramic Bearings.**

Ceramic ball bearings have been introduced into the pulleys of **the clutch tensioner system.**

The life of a normal steel bearing can vary considerably based on the operation and application such as road conditions, run time, off time and varying environmental conditions experienced during the lifetime of the Thermo King unit.

As part of our validation process we have carried out extensive field testing, and have proven that Ceramic Technology can **increase the bearing life by at least three times** over the steel equivalent, **resulting in increased uptime for our customers.**



## CERAMIC TECHNOLOGY



① — Bearing grade steel rings

② — Bearings grade silicon nitride (ceramic) rolling elements

— THE ADVANTAGES

**Ceramic bearing Technology offers a reliable solution to extreme conditions, offering these advantages:**

- High resistance against static loading
- Higher resistance to electric static discharge
- Lower operating temperatures
- Better grease retention and coverage
- Improved surface wear of the rotating balls
- Lighter weight thus reducing dynamic loading



— FAQ

QUESTION	ANSWER
<p><b>Why is Thermo King not changing all the bearings used in the SLXi unit to ceramic technology?</b></p>	<p>This technology comes at a cost. After evaluating all the bearings used in the unit, it has been decided that the main benefit for increased uptime was to adopt ceramic technology in the two used by the clutch tensioner as these are operating in the most demanding conditions.</p>
<p><b>Is Thermo King moving to ceramic technology in other product ranges (T-Series, VP Truck,...)?</b></p>	<p>Not at this moment in time, but this technology will be evaluated in all the applications that may require it for superior uptime.</p>
<p><b>One pulley has failed in my SLX unit. Why is my Thermo King dealer replacing both pulleys?</b></p>	<p>The ceramic solution offers a life expectation three times longer. If only one is replaced, the other steel bearing will end its life at different time, creating the need for a repair that can be avoided. It is therefore important to replace both steel bearing pulleys at the same time when moving from steel to ceramic.</p>
<p><b>Can the bearing be replaced without changing the pulley?</b></p>	<p>No. The pulley assembly is manufactured with special tolerances and industrial tooling, so replacing only the bearing is not an option.</p>
<p><b>How can I see if my unit has ceramic or steel bearing?</b></p>	<p>The bearing is internal so it cannot be seen. The ceramic bearing pulleys are marked as 773216 (smooth) and 773217 (grooved).</p>
<p><b>Why is the pulley with ceramic bearing more expensive than the old one with steel bearing?</b></p>	<p>The materials and manufacturing processes used for ceramic bearings have increased costs in the supply chain. However, from a Total Cost of Ownership perspective, this will deliver value to our Thermo King customers due to an increased life cycle.</p>

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