

Service Information

Caterpillar Motoren GmbH & Co. KG product support information for medium-speed engines

Engine platform: M32 Engine assembly: Cylinder head

PAT

Engine type: HFO application Validity: Until revoked

No. 0013M32 - Issue 1; April 21, 2023

i Action: For information!

Corrosion of exhaust valve seat rings

Low-temperature corrosion is a phenomenon that can occasionally occur in combustion engines operated with heavy fuel oil. "Cold" surfaces can be attacked by the condensation of sulfuric acid.

During standard 15,000 h maintenance intervals, it was discovered that some M32 series engines operated on heavy fuel had corroded exhaust valve seat rings. Due to corrosion, the exhaust valve seat rings in question required replacement earlier than anticipated.

Through thorough investigation, it was determined that a wrongly adjusted cooling water system was the main root cause of the issue. To prevent further occurrences of this issue, it is recommended that the cooling water system be adjusted to maintain an outlet temperature between 80-90 °C and a temperature difference between engine inlet (after charge air cooler) and engine outlet of 5-7 K at 100 % engine load.

In addition, a new exhaust valve seat ring was designed using materials with higher corrosion resistance. The new exhaust valve seat rings are available as spare parts in standard size and oversize up to 1.5 mm. The newly designed exhaust valve seat rings should only be used in rare cases where our specification cannot be met, or other factors cause the exhaust valve seat rings to corrode.

If you are interested in obtaining these new exhaust valve seat rings for your M32 engines, please contact your authorized **Caterpillar** dealer.

Caterpillar Motoren GmbH & Co. KG, Kiel, Germany / E-mail: ju_tecservice@cat.com.