

CASE STUDY – MAIN ENGINE BEARING DAMAGE

1. Incident

In **December 2025**, during routine cleaning of the **main engine lubricating oil filter**, the crew discovered a significant amount of **metallic debris** accumulated in the filter. The vessel's technical management contacted **MTB Engineering Service** to investigate the condition.

Upon inspection, MTB engineers identified the debris as suspected **bearing material**. The main engine was subsequently opened for detailed inspection, revealing that **bearing shells No. 1, 2, 3, 4 and 5** had suffered **abnormal wear and damage**.

The vessel confirmed that the **correct lubricating oil grade** was being used and that the **lubrication system** was **operating normally**, with no abnormality detected.

Based on the inspection findings, the bearing damage was suspected to be related to the **quality or service performance of the bearing material**, rather than incorrect lubricating oil or a malfunction of the lubrication system.

2. Lessons Learned

The discovery of metallic debris in the lubricating oil filter served as an important **early warning of internal engine component deterioration**. Timely inspection allowed the bearing damage to be identified before it could develop into more serious damage to the main engine.

This case also demonstrates that the reliability of critical engine components depends not only on correct installation and lubrication, but also on the **quality and performance of the bearing material**.

3. MTB Recommendation

MTB recommends using **high-quality bearings** that comply with the engine manufacturer's technical requirements and selecting **suppliers with proven experience and expertise in the marine industry**.

For critical components such as main engine bearings, purchasing decisions should not be based solely on **low price**. Regular inspection of the lubricating oil filter should also be maintained to detect metallic debris and abnormal wear at an early stage.

Selecting the right bearing and an experienced marine supplier can significantly reduce the risk of premature bearing failure, minimize vessel downtime, and avoid costly

PROJECT FACTS

Vessel Type: Container Ship

Location: Cat Lai Port, Ho Chi Minh City, Vietnam

Service: Main Engine Bearing Inspection & Technical Support

Date: December 2025

