

CASE STUDY

GE LM2500 – Build Debris

Background

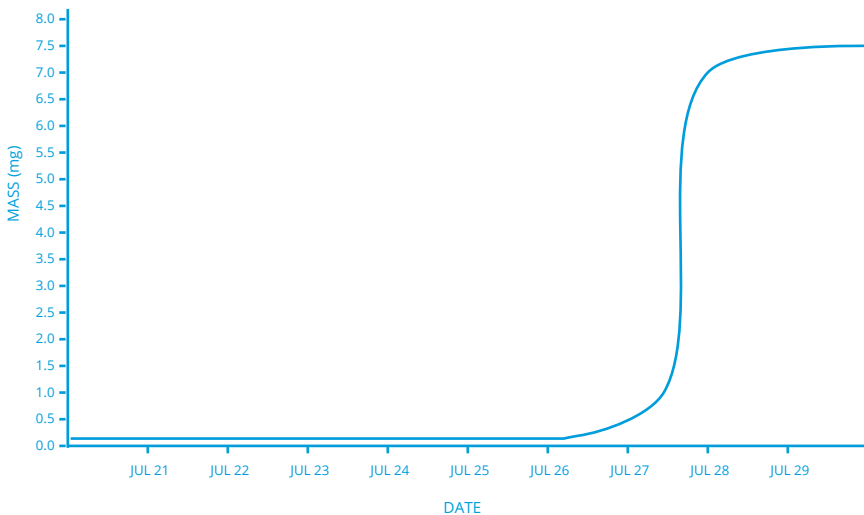
The operator has a LM2500 with six stage power turbine with MetalSCAN sensor monitoring five (5) individual sumps (A, B, C, D and AGB). The engine was being started for the first time after overhaul.

Event Description

The zero time overhaul engine was started on July 26th. After start-up, the D sump MetalSCAN sensor counted 38 particles with total mass of 7.5 milligrams. As the engine continued running, the counts remained well below under the D sump mass limits, and the count rate gradually began to reduce. By July 28th, the counting had reduced to the normal near zero level. The Gastops Remote Monitoring Team was in contact with the operator throughout the event reviewing the MetalSCAN data. Continued operation with close monitoring was advised to identify if this was a typical post-overhaul build debris flushing event. The reducing count rate trend confirmed this, the MetalSCAN counts were reset to zero and normal engine operation continued. The MetalSCAN detections resulted in an inspection of the D sump finger screen where some particles were found. ChipCHECK/debris analysis quickly confirmed the debris was cage plating and not M50 bearing steel. Normal engine operation continued.

Time History of Events

ENGINE WAS RUNNING CONTINUOUSLY THROUGHOUT THIS PERIOD



Benefits

- ✓ Only last 10 days shown
- ✓ MetalSCAN provides continuous online detection of individual debris
- ✓ Isolation of debris detection to the individual sump (D sump)
- ✓ Debris detections stopped increasing, indicating a build debris flushing trend
- ✓ Gastops Remote Monitoring team was in constant contact with the operator
- ✓ Critical LM2500 running continued, and troubleshooting time was greatly reduced
- ✓ Having MetalSCAN monitoring saved over \$100,000 for this single event

LONG LIVE EQUIPMENT



Head Office
1011 Polytek Street
Ottawa ON K1J 9J3
Canada

Halifax Office
65 John Savage Avenue, Unit 5
Dartmouth NS B3B 2C9
Canada

St. John's Office
146a Glencoe Drive
Mount Pearl NL A1N 4S9
Canada

Worldwide
+1 613 744 3530
North America
1 800 363 8658

gastops.com
C009771_001