Technical Service Bulletin

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Crankshaft Tone Wheel Malfunctions	

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Warranty Statement

The information in this document has no effect on present warranty coverage or repair practices, nor does it authorize TRP or Campaign actions.

Contents

Product Affected

- L9 CM2450 L126B

Issue Summary

Symptom:

- Engine noise
- Fault Code 689
- Fault Code 731

Root Cause:

- Crankshaft tone wheel to crankshaft capscrews back out, resulting in the crankshaft tone wheel detaching from the crankshaft.

Verification

- Verify that the engine has experienced Fault Code 689, 731, or a bottom end engine noise.

Service Instructions

- Remove the lubricating oil pan.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 007-025 in Section 7. (/qs3/pubsys2/xml/en/procedures/583/583-007-025.html)
- Verify the crankshaft tone wheel capscrew torque.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-071 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-071.html)
- If crankshaft tone wheel capscrews are found to be loose, proceed to Resolution section.

Resolution

- If the crankshaft tone wheel and capscrews are still in place, replace the crankshaft tone wheel capscrews **only**. See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-071 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-071.html)
- If the crankshaft tone wheel capscrews have backed out and the crankshaft tone wheel has come off, then inspect/replace the following components:
- Cylinder Block and Crankshaft
  - Visually inspect the cylinder block for damage.
  - If cylinder block and/or crankshaft is damaged and repair is being made under warranty, contact Cummins Care at 1-800-CUMMINS™ for assistance.
- Crankshaft
  - If the tone wheel capscrews have been sheared off, then the crankshaft **must** be replaced.
  - If the crankshaft is replaced, then the main bearing and connecting rod bearings and the crankshaft tone wheel and capscrews **mus**t also be replaced.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-016 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-016.html)
- Piston Cooling Nozzles
  - Visually inspect the piston cooling nozzles for damage.
  - If any piston cooling nozzles are damaged or missing, then those power cylinders **must** be inspected, and the damaged piston cooling nozzle(s) **must** be replaced.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-046 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-046.html)
- Piston(s)
  - Visually inspect the number 6 piston for damage and replace if any damage is found.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-043 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-043.html)
- Connecting Rod(s)
  - Visually inspect the number 6 connecting rod for damage replace if any damage is found.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-014 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-014.html)
- Cylinder Liner(s)
  - Visually inspect the number 6 liner for damage and replace if any damage is found.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-028 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-028.html)
- Camshaft
  - Visually inspect for damage and replace if any damage is found.
  - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-008 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-008.html)
- Cylinder Block Stiffener Plate
  - Visually inspect for any damage and replace if any damage is found.

    - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 001-089 in Section 1. (/qs3/pubsys2/xml/en/procedures/583/583-001-089.html)
- Lubricating oil and lubricating oil filter **must** be replaced.
    - Cut open the lubricating oil filter.
    - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 007-083 in Section 7. (/qs3/pubsys2/xml/en/procedures/583/583-007-083.html)
- Crankshaft Position Sensor **must** be inspected and replaced if damaged.
    - See L9 CM2450 L126B Service Manual, Bulletin 5613077. Refer to Procedure 019-365 in Section 19. (/qs3/pubsys2/xml/en/procedures/583/583-019-365.html)

Document History

Date	Details
2024-4-25	Module Created
2024-5-2	Added crankshaft to cylinder block section.

Last Modified: 02-May-2024