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Coding Information

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Title: Engine Crankcase Bedplate Oil Leak Diagnostics and Identification

Applies To: VT 365 , VT275, MaxxForce® 5 and MaxxForce® 7 Engines

DESCRIPTION

The purpose of this procedure is to improve the effectiveness of correctly diagnosing the source of an engine oil leak on VT365, VT275, MaxxForce®7 and MaxxForce® 5 engines, specifically when the first indication is the bedplate seam. The procedure below will help identify the source of an oil leak. Many engine oil leak sources are misdiagnosed due to oil tracking along the bedplate seam.

SYMPTOMS

- Oil leak
- Oil Seepage

RESOURCES

See Warranty [Policy Letter 09-011G - IK2800056](#) for Clarification of Oil Leaks versus Oil Seepage in determining a warrantable defect.



WARNING:

To prevent unexpected movement of the vehicle and possible serious personal injury or death, park the vehicle on a flat, level surface, set the parking brake, turn the engine off and chock the wheels to prevent vehicle from moving in both directions.



WARNING:

To prevent serious eye injury , always wear safe eye protection when you perform vehicle maintenance or service.

DIAGNOSTICS

Cleaning

1. Completely clean the engine using either hot water, hi pressure or steam washing system
2. Do not use detergent or chlorinated products as they may reduce the effectiveness of the sealing capability and products that may be used in a later procedure. A non-detergent non-chlorinated pre-wash may be applied to the engine. (Recommended products: 1st Ayd #971 water based non-chlorinated degreaser, Simple Green or equivalent)
3. Wash grease, oil and dirt from the valve cover down to and including the oil pan. If possible, pass the cleaning wand thru the openings in the exhaust manifold to clean the bedplate to block seam. Clean the valley of the engine.
4. Start and run engine to operating temperature to dry engine.

- If needed use compressed air to blow dry areas of collected water such as the bedplate seam area.

Dye Check

Use only the recommended Dye and Black light. This Dye and UV light has been tested and found to be the most effective.

Recommended Dye - TRATP3405 can be purchased online or at many auto/ truck parts distributors. Click here for additional product information

<http://www.toolweb.com/products/TRATP3405>

Recommended Black Light - SPX Robinair True UV leak detection light p/n 16345 (ZTSE4618) available for order from the [SPX / International Tool Catalog](#)

- Add Tracer Line Dye-Lite All in One Dye - TRATP3405 as recommended on the container to the engine oil.
- Start and run the engine at 2500 RPM for 30 minutes
- Inspect the engine area for oil leakage and the presence of dye using the recommended black light.

Potential Oil Leak Sources

| Location | Recommended Repair | Part Numbers |
|---------------------------------|---|--|
| Cam Sensor (CMP) O-Rings | Replace Cam Sensor O- Rings | 1836505C1 & 1837889C1 |
| Crankshaft Sensor (CKP) O- Ring | Replace the Crankshaft Sensor O- Ring | 1834005C1 |
| Dipstick Tube O- Ring | Replace the Dipstick Tube O- Ring | 1843258C2 |
| Power Steering Pump O- Ring | Replace the Power Steering Pump O-Ring | 1840824C1 |
| Valve Cover Gaskets | Replace Valve Cover Gasket | Use Parts Catalog for part number by engine and application |
| Glow Plug Boot | Replace Glow Plug Boot or Harness | Use Parts Catalog for part number by engine and application |
| Front Cover Seal | Replace Front Cover Seal- Warranty Authorization is not needed for this repair | Use Parts Catalog for part number by engine and application. |
| Rear Cover Seal | Replace Rear Cover Seal -Warranty Authorization is not needed for this repair | Use Parts Catalog for part number by engine and application. |
| Bedplate Seal | Submit an iApprove warranty pre-approval form with digital photos of the leaking area after Dye Testing. See IK1200241 for updated repair procedures after receiving approval for bedplate seal replacement . | Use Parts Catalog for part number by engine and application. |

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