



Technical Service Bulletin

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Injector Sleeve Seal Leakage Causing Fuel and Coolant Cross-Contamination: Optional Repair	

Injector Sleeve Seal Leakage Causing Fuel and Coolant Cross-Contamination: Optional Repair

Warranty Statement

The information in this document authorizes specific changes to the repair practice for failures covered under product warranty coverages.

Contents

Product Affected

- ISX CM570
- ISX CM870
- ISX CM871
- ISX CM871 E
- QSX CM570

Issue

Symptom:

- Fuel in coolant system
- Coolant in fuel system
- Fault Code 418: Water-in-fuel indicator
- Pressurized cooling system

Root Cause:

- Shrinkage of injector sleeve seal material can create a leak path between cylinder head cooling jacket and injector bore.

- Progressive damage could be seen on the lowest injector O-ring (green), Part Number 3347937.

Verification

- Injector sleeve seal material shrinkage is **only** one possible cause of symptoms discussed in this document. Published troubleshooting procedures **must** be followed to determine root cause.
- Inspection for fuel or coolant leakage past injector sleeve seal should **only** be completed when other possible sources of contamination, such as fuel heaters, have been ruled out.

Verification Step:

- Injector sleeve seal leaks are to be verified in-chassis by pressurizing cooling system. See corresponding Service Manual. Reference Procedure 002-014 in Section 2.

Note : If cylinder head has already been removed, injector sleeve seal leaks can be verified by leak testing coolant passage. See corresponding Service Manual. Reference Procedure 002-004 in Section 2.

Resolution

Note : If a cylinder head with base, extended, or parts warranty coverage is found to have leaking injector sleeves, the cylinder head **must** be replaced. The repair option described below is **not** for components in warranty

- Service O-ring, Part Number 5440257, can be used to replace the lowest green injector o-ring, Part Number 3347937, as an optional repair.
 - The replacement of the lowest injector o-ring **must** be completed on all injectors. For removal and replacement information as well as maintenance concerning injector o-rings, see corresponding Service Manual. Reference Procedure 006-026 in Section 2.
 - After injectors are installed, a leak check **must** be performed. See corresponding Service Manual. Reference Procedure 002-014 in Section 2.
- Inspect the fuel tank and filter for contamination.

Service Parts Availability

Service parts are available. See Table 1 below.

Table 1, Service Parts	
Part Description	New Part Number
Seal, O Ring	5440257

Publications Affected

Table 2, Publications Affected					
Manual Type	Engine	Bulletin Number	Procedure Title	Procedure	Section
Service Manual	ISX: CM570, CM870, CM871 QSX: CM570	3666239	Injector Sleeve, Cylinder Head	Refer to Procedure 002-014 (/qs3/pubsys2/xml/en/procedures/10/10-002-014.html)	2

Document History

Date	Details
2017-1-11	Module Created
2017-3-21	Updated part number from 3347939 to 3347937.
2017-3-28	Updated Service Procedure link.
2018-5-22	Updated with optional repair. Updated to "yes" warranty statement.
2019-4-15	Added "Inspect the fuel tank or filter for contamination."

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