Technical Service Bulletin Number	Revision Level	Date	Group Number
TSB140019			

Technical Service Bulletin

Subject

ISX15 CM2250 and QSX15 CM2250 ECF Fuel Pump - Ceramic Plunger and Tappet Roller Inspection and Repair

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

Procedure Title	Procedure Number	Service Model Name	Bulletin Number
Fuel Pump	Refer to Procedure 005-016	ISX15 CM2250	4022250
Fuel Pump	Refer to Procedure 005-016	QSX15 CM2250 ECF	2883557
Fuel Pump Head	Refer to Procedure 005-227	ISX15 CM2250	4022250
Fuel Pump Head	Refer to Procedure 005-227	QSX15 CM2250 ECF	2883557
Lubricating Oil Cooler	Refer to Procedure 007-003	ISX15 CM2250	4022250
Lubricating Oil Cooler	Refer to Procedure 007-003	QSX15 CM2250 ECF	2883557

Lubricating Oil Filter (Spin-On)	Refer to Procedure 007-013	ISX15 CM2250	4022250
Lubricating Oil Filter (Spin-On)	Refer to Procedure 007-013	QSX15 CM2250 ECF	2883557
Lubricating Oil Filter Bypass Valve	Refer to Procedure 007-014	ISX15 CM2250	4022250
Lubricating Oil Filter Bypass Valve	Refer to Procedure 007-014	QSX15 CM2250 ECF	2883557
Lubricating Oil Thermostat	Refer to Procedure 007-039	ISX15 CM2250	4022250
Lubricating Oil Thermostat	Refer to Procedure 007-039	QSX15 CM2250 ECF	2883557
Aftertreatment Testing	Refer to Procedure 014-013	ISX15 CM2250	4022250
Aftertreatment Testing	Refer to Procedure 014-013	QSX15 CM2250 ECF	2883557

This document, in conjunction with the information provided within the manuals listed in the table above, provides the inspection and repair practice when ceramic plungers are found to be fractured (see Figure 1) and/or tappet roller damage is found on fuel pumps with ceramic plungers (see Figure 2). Ceramic plungers can be identified by their white color. Refer to Procedure 005-227 in the Associated Procedures Table for removal of the fuel pump head.

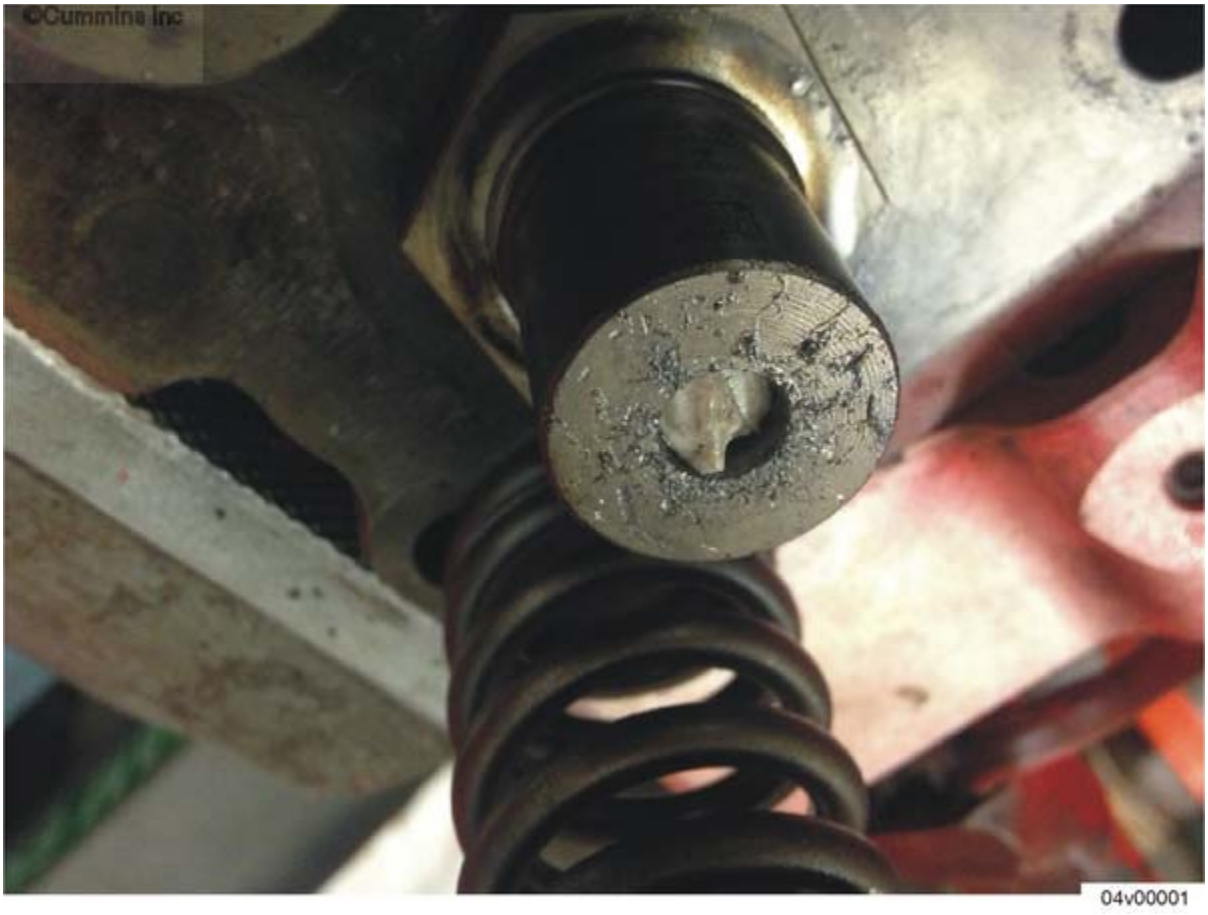

Figure 1: Fractured Fuel Pump Ceramic Pumping Plunger

Figure 2: Fuel Pump Tappet Roller Assemblies

If the ceramic plungers are fractured (see Figure 1), but no damage is found on the fuel pump tappet rollers (see Figure 2), no further inspection is needed. Perform the following steps for the appropriate engine (ISX15 CM2250 or QSX15 CM2250 ECF):

1. Replace the fuel pump. Refer to Procedure 005-016 in the Associated Procedures Table.
   a. Refer to TSB110064 (New Two-Cylinder High-Pressure Fuel Pump Assembly) if replacing a three-cylinder two-piston pump with a two-cylinder pump.
   b. New fuel lines are required if replacing a fuel pump gear pump with bottom mount fuel lines. Refer to TSB130044 (New Fuel Pump Gear Pump with Revised Fuel Line Locations).
2. Change the engine lubricating oil and lubricating oil filter. Refer to Procedure 007-013 in the Associated Procedures Table.

If the fuel pump tappet rollers are damaged (see Figure 2), perform the following steps for the appropriate engine (ISX15 CM2250 or QSX15 CM2250 ECF):

1. Replace the fuel pump. Refer to Procedure 005-016 in the Associated Procedures Table.
   a. Reference TSB110064 (New Two-Cylinder High-Pressure Fuel Pump Assembly) if replacing a three-cylinder two-piston pump with a two-cylinder pump.
   b. New fuel lines are required if replacing a fuel pump gear pump with bottom mount fuel lines. Reference TSB130044 (New Fuel Pump Gear Pump with Revised Fuel

Line Locations).

2. Drain the engine lubricating oil and remove the lubricating oil filter. Refer to Procedure 007-013 in the Associated Procedures Table.
3. Thoroughly clean the oil cooler housing. Refer to Procedure 007-003 in the Associated Procedures Table.
4. Replace the lubricating oil cooler element. Refer to Procedure 007-003 in the Associated Procedures Table.
5. Replace the oil filter bypass valve. Refer to Procedure 007-014 in the Associated Procedures Table.
6. Replace the lubricating oil thermostat. Refer to Procedure 007-039 in the Associated Procedures Table.
7. Install a new lubricating oil filter. Refer to Procedure 007-013 in the Associated Procedure Table.
8. Fill the engine with new lubricating oil.
9. Perform an aftertreatment diesel particulate filter regeneration. Refer to Procedure 014-013 in the Associated Procedures Table.
10. Perform a second lubricating oil and lubricating oil filter change. Refer to Procedure 007-013 in the Associated Procedures Table.

CAUTION

Immediately upon removal of the lubricating oil cooler assembly, a plug must be inserted into the housing and cylinder block oil passage drillings. Failure to insert the oil passage plug can result in a bearing failure, crankshaft failure, or both.

CAUTION

Do not allow dirt or foreign material to enter oil passages in the cylinder block when cleaning the gasket sealing surfaces. Connecting rod bearing failures can be caused if debris is introduced into the cylinder block or lubricating oil cooler housing oil passages. Therefore, use of power tools combined with abrasive pads to clean gasket surfaces is not recommended.

Document History

Date	Details
2014-2-14	Module Created

Last Modified: 17-Feb-2014