



Campaign Number	Revision Level	Date	Group Number
C1794	C	21-MAR-2017	
Expiration Date (U.S. and Canada)		Expiration Date (International)	
02-JUN-2017		02-JUN-2017	



## Warranty Field Campaign

# ISX15 CM2350 Fuel Pump Tappet Campaign

## Attention

- U.S / Canadian Distr./Branches and Div. Offices (Automotive)
- U.S / Canadian Dealers

This is to revise and replace ATC 1794-B, dated 06-Dec-16. This revision is to:

1. Add Retroactive Coverage for repairs made on or after 2 June 2015, and
2. Align the ESN count with reduced effectiveness.

If additional information is required, contact your Cummins Warranty Operations Group Leader.

## Description

This Campaign is being issued to upgrade certain ISX15 CM2350 High Pressure Fuel Pump Tappets. This field action provides authorization for certified repair locations to replace the brass roller pin tappets in the high pressure fuel pump with new diamond-like coated roller pin tappets.

**NOTE: Necessary parts must be on hand before beginning this field action.**

**NOTE: This field action provides for retroactive coverage for repairs, including customer billable repairs, completed by Cummins authorized repair locations prior to the release date of this field action. Repairs made on or after 2 June 2015 may be eligible for reimbursement.**

## Action

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In order to qualify for repair under this field action, an engine:

1. will be covered Regardless of coverage status, and
2. **must** show an OPEN status on QuickServe® Online.

After verifying that the engine meets the above requirements, perform the following actions:

- 1. Remove and inspect the fuel pump tappets. Please refer to Fuel Pump Head Procedure 005-227 in Service Manual 4310641. Based on inspection results, follow the appropriate repair direction outlined below.
  - **If no damage is found:**
- 2. Complete installation of new fuel pump tappets. Please refer to Fuel Pump Head Procedure 005-227 in Service Manual 4310641.

**NOTE: Warning! The tappet guide pins may rotate during the removal of the tappet. The tappet cannot be correctly installed if the tappet guide pin is out of position. Please refer to Attachment B for the proper orientation of the tappet guide pin.**

**NOTE: Use care when handling the roller tappet as the diamond-like coated tappet roller pin can fall out, resulting in damage to either the tappet roller or the pin. If the tappet roller pin does fall out during inspection, but the tappet roller and roller pin are not damaged, the roller pin can be reinserted.**

- 3. Mark the fuel pump head forging number with white paint, as illustrated in Attachment C, to signify completion of this field action.
- 4. File **one** claim for **only** the applicable parts and labor listed in this field action.
  - **If the tappets or fuel pump cam are found damaged:**
- 2. Refer to TSB140019 for repair direction.

**NOTE: Repairs done in accordance with TSB140019 cannot be filed to this field action and must be filed to applicable coverage. Per the TSB, there is a cost effective option to use a fuel pump short block service kit.**

- 3. Mark the fuel pump forging number with white paint, as illustrated in Attachment C, to signify completion of this field action.
- 4. File two claims:
  - File **one** claim to this campaign for **only** the applicable parts and labor listed in this field action.

- The remainder of the repair cost directed by TSB140019 should be filed to applicable Coverage, customer billed, or requested through Policy.

## Material Disposition

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Materials removed as a result of this field action **must** be scrapped.

## Reimbursements

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### Parts

**NOTE:** In accordance with fuel system clean care, sealing washer Part Number 3963988 **MUST** be replaced regardless of repair path. Please refer to TSB140159 for information regarding effects of not following clean care practices and failure to replace sealing washer Part Number 3963988.

The following parts are covered under this field action:

Part Number	Quantity	Description
287251300	1	GSK,PMP (OPTIONAL)
396398800	2	WSH,SNG
396399000	2	WSH,SNG (OPTIONAL)
435913400	2	TPT,PMP (OPTIONAL)
498828000	1	GSK,PMP (OPTIONAL)

**NOTE:** SRTs to gain access that are required to complete the repair, that are sufficiently explained in the claim narrative, may also be claimed on this action.

### Labor using applicable Access Code and Time:

SRT Code	Description	Time (hrs)
00-400	Steam Clean - Single Component Repair	
00-90X	Administrative time	
05-176	Fuel Pump Head - Remove and Install	
17-138	Power Steering Pump - Move for Access	
17-162	Power Steering Reservoir - Move for Access	
99-902	FUEL PUMP TAPPET REMOVE AND REPLACE (QTY 2)	.2 hrs

### Travel

Travel is covered under this field action. Towing is **not** covered under this field action.

**NOTE:** Please schedule the Technician's time to maximize the number of units that can be repaired on a single visit. When filing claims for multiple ESNs, where travel is required and authorized, travel can be filed to **ONLY** one (1) ESN.

## Other Claimables

Consumables are covered under this field action.

## Claim Instructions

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For Cummins Dealers, claims for this Field Campaign **must** be filed via **RAPIDSERVE™** Web (rsw.cummins.com). For information regarding **RAPIDSERVE™** Web, please reference the "Warranty" tab in QuickServe® Online. If there are additional questions, please contact your local Cummins Distributor.

Claim Codes	
Description	Code
Account Code:	65
Pay Code:	Distributor = X
Pay Code:	Dealer = D
Pay Code:	International = I
Failure Code:	WFHASO

## Attachments

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[Click here to see c1794-s\\_esn-list.xls](#)

[Click here to see c1794\\_fuel\\_pump\\_head\\_marking\\_attach-c.pdf](#)

[Click here to see c1794\\_tappet\\_guide\\_pin\\_warning-attach-b.pdf](#)

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**Last Modified: 21-Mar-2017**

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<b>Technical Service Bulletin Number</b>
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TSB140019
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## Technical Service Bulletin

### Subject

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Fuel Pump - Plunger and Tappet Roller Inspection and Repair

### Warranty Statement

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

### Contents

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#### Product Affected

- ISX12 CM2350 X102
- ISX12/ISX11.9 CM2250
- ISX15 CM2250
- ISX15 CM2250 SN
- ISX15 CM2350 X101
- PowerGen QSX15 CM2250
- PowerGen QSX15 CM2250 ECF
- QSX11.9 CM2250 ECF
- QSX15 CM2250 ECF
- QSX15 CM2350 X105
- QSX15 CM2350 X106

This document, in conjunction with the information provided within the manuals listed in Table 1 provides inspection and repair guidelines following the malfunction of a fuel pump pumping plunger and/or roller tappet assembly.

The level of progressive damage to the fuel pump and other engine components will vary with every incident; however, the repair direction will depend on **only** a few key criteria.

Previous versions of this document provided specific repair directions according to the vintage of the fuel pump and type of pumping plungers. Repair directions have now been made common and apply to all fuel pumps regardless of vintage, pumping plunger type, or tappet roller assembly type.



Figure 1, Fractured Fuel Pump Ceramic Pumping Plunger.

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Figure 2, Fuel Pump Tappet Roller Assemblies.

### Preliminary Inspection and Repair Direction for all Fuel Pump Malfunctions

Inspect and verify the condition of the fuel pump tappet rollers. Reference Figure 2 above and Procedure 005-227 in Table 3 below.

Scenario 1: The fuel pump tappet rollers are damaged:

- Remove, cut open, and inspect the lubricating oil filter for debris. See Procedure 007-083 in Table 3.
- Connect INSITE™ electronic service tool to the service tool data link and review any logged fault codes.
- Reference Table 1 below for repair direction.

Scenario 2: The fuel pump tappet rollers are **not** damaged:

- Connect INSITE™ electronic service tool to the service tool data link and review any logged fault codes.
- Reference Table 1 below for repair direction.

Table 1, Repair Direction Decision Matrix		
Symptoms	Are Any Symptoms Present?	Repair Direction to Follow
<ul style="list-style-type: none"> <li>• Non-wear debris or particles are evident in the lubricating oil filter element.</li> <li>• Fault Codes 415 or 143 are logged in the engine control module (ECM) within the last 8 hours of engine operation.</li> <li>• Engine is seized, or engine rotating assembly produces abnormal noise.</li> </ul>	Yes	Repair Direction A
	No	Repair Direction B

## 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.

### Repair Direction A:

1. Drain lubricating engine oil. See Procedure 007-037 in Table 3.
2. Remove lubricating oil pan, and clean thoroughly. See procedure 007-025 in Table 3.
3. Remove and inspect lubricating oil pump for reuse. See Procedure 007-031 in Table 3.
4. Remove number 1 and number 4 main bearing caps and main bearings. See procedure 001-006 in Table 3.
5. Inspect number 1 and number 4 main journals of crankshaft for reuse. See Service Bulletin Crankshaft Reuse Guidelines for Cummins® Engines, Bulletin 5411180.
  - If crankshaft meets reuse guidelines:
    - Inspect number 1 and number 4 main bearings for signs of significant debris embedding. If significant debris is found, remove number 1 and number 4 connecting rod bearings for inspection.
    - If damage is observed on number 1 and number 4 connecting rod bearings, roll new connecting rod bearings in on all six journals. See Procedure 001-006, 001-007, and 001-014 in Table 3.



- Roll new main bearings in on all seven main journals and install new thrust bearings on number 4 main journal.
- If crankshaft does **not** meet reuse guidelines:
  - Dealers should contact RAPIDSERVE™ Catastrophic group for pre-authorization if engine is under warranty.
  - Cummins® Distributors should follow their local catastrophic process or contact RAPIDSERVE™ for repair direction if engine is under warranty.
- 6. Replace fuel pump. Table 2 below **must** be referenced for specific instruction by product type. See Procedure 005-016 in Table 3 below.
- 7. Thoroughly clean lubricating oil cooler housing. See Procedure 007-003 in Table 3.
- 8. Replace following lubricating oil system components:
  - Lubricating oil cooler element. See Procedure 007-007 in Table 3.
  - Lubricating oil filter bypass valve. See Procedure 007-014 in Table 3.
  - Lubricating oil thermostat. See Procedure 007-039 in Table 3.
- 9. Install lubricating oil pan and other components removed to access main bearings. See procedure 007-025 in Table 3
- 10. Install a new lubricating oil filter. See Procedure 007-013 in Table 3.
- 11. Prime and fill the engine with new lubricating oil. See Procedure 007-037 in Table 3.
- 12. Perform an aftertreatment diesel particulate filter (DPF) regeneration. See Procedure 014-013 in Table 3.
- 13. Perform a second lubricating oil and lubricating oil filter change. Priming lubricating oil system a second time is **not** required. See Procedure 007-013 and 007-037 in Table 3.

### Repair Direction B:

1. Replace the fuel pump. Table 2 below **must** be referenced for specific instruction by product type. See Procedure 005-016 in Table 3.
2. Drain the engine lubricating oil and remove the lubricating oil filter. See Procedure 007-013 and 007-037 in Table 3.
3. Replace the lubricating oil filter bypass valve. See Procedure 007-014 in Table 3.
4. Fit a new lubricating oil filter and refill the engine lubricating oil system. Priming the lubricating oil system is **not** required. See Procedure 007-013 and 007-037 in Table 3.

Table 2, Fuel Pump Replacement Matrix		
Product	Fuel Pump Variation	Additional Action Needed When Replacing the Fuel Pump
ISX15 CM2250	Two-cylinder pumps and fuel pump gear pump top mount fuel lines	There is a cost effective option to use a fuel pump short block service kit. Reference TSB150033.
ISX15 CM2250 SN		
PowerGen QSX15 CM2250		
PowerGen QSX15 CM2250 ECF	Three cylinder, two piston fuel pumps	Reference TSB110064.
QSX15 CM2250	Fuel pump gear pump with bottom mount fuel lines	New fuel lines are required. Reference TSB130044.

Table 2, Fuel Pump Replacement Matrix		
Product	Fuel Pump Variation	Additional Action Needed When Replacing the Fuel Pump
ISX15 CM2350 X101	None	There is a cost effective option to use a fuel pump short block service kit. Reference TSB150033. If fuel pump head assembly, Part Number 4307004, does <b>not</b> meet reuse guidelines; replace.
QSX15 CM2350 X105		
QSX15 CM2350 X106		
ISX12 CM2350 X102	None	None
ISX12/ISX11.9 CM2250		
QSX11.9 CM2250 ECF		

Table 3, Associated Procedures			
Procedure Title	Procedure Number	Service Model Name	Bulletin Number
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	ISX15 CM2250	4022250
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	ISX15 CM2250 SN	4310736
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	ISX12/ISX11.9 CM2250	2883445
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	ISX15 CM2350 X101	4310641
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	QSX15 CM2250 ECF	2883557
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	QSX11.9 CM2250 ECF	2883561
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	QSX15 CM2350 X105	4332667
Fuel Pump	<a href="#">Refer to Procedure 005-016</a>	QSX15 CM2350 X106	4332712
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	ISX15 CM2250	4022250
Fuel Pump	<a href="#">Refer to Procedure 005-227</a>	ISX15 CM2250 SN	4310736

<b>Table 3, Associated Procedures</b>			
<b>Procedure Title</b>	<b>Procedure Number</b>	<b>Service Model Name</b>	<b>Bulletin Number</b>
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	ISX12/ISX11.9 CM2250	2883445
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	ISX15 CM2350 X101	4310641
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	QSX15 CM2250 ECF	2883557
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	QSX11.9 CM2250 ECF	2883561
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	QSX15 CM2350 X105	4332667
Fuel Pump Head	<a href="#">Refer to Procedure 005-227</a>	QSX15 CM2350 X106	4332712
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	ISX15 CM2250	4022250
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	ISX15 CM2250 SN	4310736
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	ISX15 CM2350 X101	4310641
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	QSX15 CM2350 X105	4332667
Lubricating Oil Cooler	<a href="#">Refer to Procedure 007-003</a>	QSX15 CM2350 X106	4332712
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	ISX15 CM2250	4022250
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	ISX15 CM2250 SN	4310736
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	ISX15 CM2350 X101	4310641

<b>Table 3, Associated Procedures</b>			
<b>Procedure Title</b>	<b>Procedure Number</b>	<b>Service Model Name</b>	<b>Bulletin Number</b>
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	QSX15 CM2350 X105	4332667
Lubricating Oil Cooler Element	<a href="#">Refer to Procedure 007-007</a>	QSX15 CM2350 X106	4332712
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	ISX15 CM2250	4022250
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	ISX15 CM2250 SN	4310736
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	ISX15 CM2350 X101	4310641
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	QSX15 CM2350 X105	4332667
Lubricating Oil Filter (Spin-On)	<a href="#">Refer to Procedure 007-013</a>	QSX15 CM2350 X106	4332712
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	ISX15 CM2250	4022250
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	ISX15 CM2250 SN	4310736
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	ISX15 CM2350 X101	4310641
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	QSX11.9 CM2250 ECF	2883561

<b>Table 3, Associated Procedures</b>			
<b>Procedure Title</b>	<b>Procedure Number</b>	<b>Service Model Name</b>	<b>Bulletin Number</b>
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	QSX15 CM2350 X105	4332667
Lubricating Oil System	<a href="#">Refer to Procedure 007-037</a>	QSX15 CM2350 X106	4332712
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	ISX15 CM2250	4022250
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	ISX15 CM2250 SN	4310736
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	ISX15 CM2350 X101	4310641
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	QSX15 CM2350 X105	4332667
Lubricating Oil Filter Bypass Valve	<a href="#">Refer to Procedure 007-014</a>	QSX15 CM2350 X106	4332712
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	ISX15 CM2250	4022250
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	ISX15 CM2250 SN	4310736
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	ISX15 CM2350 X101	4310641
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	QSX15 CM2350 X105	4332667
Lubricating Oil and Filter Analysis	<a href="#">Refer to Procedure 007-083</a>	QSX15 CM2350 X106	4332712

<b>Table 3, Associated Procedures</b>			
<b>Procedure Title</b>	<b>Procedure Number</b>	<b>Service Model Name</b>	<b>Bulletin Number</b>
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	ISX15 CM2250	4022250
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	ISX15 CM2250 SN	4310736
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	ISX12/ISX11.9 CM2250	2883445
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	ISX15 CM2350 X101	4310641
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	QSX15 CM2250 ECF	2883557
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	QSX11.9 CM2250 ECF	2883561
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	QSX15 CM2350 X105	4332667
Lubricating Oil Thermostat	<a href="#">Refer to Procedure 007-039</a>	QSX15 CM2350 X106	4332712
Aftertreatment Testing	<a href="#">Refer to Procedure 014-013</a>	ISX15 CM2250	4022250
Aftertreatment Testing	<a href="#">Refer to Procedure 014-013</a>	ISX12/ISX11.9 CM2250	2883445
Aftertreatment Testing	<a href="#">Refer to Procedure 014-013</a>	QSX15 CM2250 ECF	2883557
Aftertreatment Testing	<a href="#">Refer to Procedure 014-013</a>	QSX11.9 CM2250 ECF	2883561
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	ISX15 CM2250	4022250
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	ISX15 CM2250 SN	4310736
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	ISX12/ISX11.9 CM2250	2883445
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	ISX15 CM2350 X101	4310641
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	QSX15 CM2250 ECF	2883557
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	QSX11.9 CM2250 ECF	2883561

Table 3, Associated Procedures			
Procedure Title	Procedure Number	Service Model Name	Bulletin Number
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	QSX15 CM2350 X105	4332667
Main Bearings	<a href="#">Refer to Procedure 001-006</a>	QSX15 CM2350 X106	4332712

## Document History

Date	Details
2014-2-14	Module Created
2014-9-4	none
2014-10-24	Fixed broken link.
2014-10-29	Typo corrected.
2015-1-7	Procedure steps updated.
2015-3-17	Added the fuel pump short block service kit TSB reference.
2015-10-19	Modified the fuel pump tappet rollers are damaged section step 1 and options a, b, and c.
2016-4-5	Modified title. Added Product Affected section. Updated repair direction and Table 3.
2016-7-5	Removed "Ceramic" from title. Modified Table 2.
2016-12-6	Repair Direction A: moved Steps 1, 3, and 4 to step numbers 6, 7, and 8.
2017-1-10	Updated Table 3, Associated Procedures.

**Last Modified: 10-Jan-2017**

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