

Technical Service Bulletin Number
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TSB160017



Technical Service Bulletin

Subject

New Lubricating Oil Filter Bypass Valve

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

- ISM (All Versions)
- ISX12/11.9 (All Versions)
- ISX12/11.9 G (All Versions)
- ISX15 (All Versions)
- QSM11 (All Versions)
- QSX11.9 (All Versions)
- QSX15 (All Versions)

Issue

The lubricating oil filter bypass valve can leak. This is caused by improper sealing of the lubricating oil filter bypass valve plunger in the lubricating oil filter head.

The existing lubricating oil filter bypass valve plunger **must** seat on a machined surface within the lubricating oil filter head. As the result of variation in machining and casting tolerance, the lubricating oil filter bypass valve plunger may **not** fully seat and allow debris to enter the engine.

Resolution

A new single piece cartridge style lubricating oil filter bypass valve has been released to address this issue. Both the bypass valve plunger and spring have been replaced by the new single piece cartridge style lubricating oil filter bypass valve that uses an o-ring to seal the cartridge to the bore. The cartridge contains a bypass valve plunger which seals against a machined seat surface internal to the cartridge, which addresses the sealing issues of the old design. See Table 1 below for service parts information.

See Lubricating Oil Filter Bypass Valve Installation Instruction, Bulletin Number 4908439.

Part Description	Existing Part Number	Obsolete	Superseded	New Part Description	New Part Number	Product
Bypass Valve	3820320	Yes	No	Single Piece Cartridge Style Bypass Valve	4357177	ISX12/11.9, ISX12/11.9G, ISX15, QSX11.9, QSX15 (All Versions)
				Bypass Valve	4386023	ISM and QSM11 (All Versions)

Part Compatibility

ISX/QSX (All Versions):

- The threaded plug, which secures the lubricating oil filter bypass valve, varies depending on which lubricating oil filter head is installed on the engine.
- To properly secure the lubricating oil filter bypass valve, the correct threaded plug part number **must** be used.
- To determine correct lubricating oil filter bypass valve threaded plug selection:
 - Use a small ruler or scale to measure depth of lubricating oil cooler head bore. Measure depth from top of countersink to outside edge of lubricating oil filter head bypass valve bore. See Figure 1 below.
 - Measure length of threaded plug from underside of threaded plug head to end of threaded plug. See Figure 2 below.
- Use results of bore depth measurement to determine correct lubricating oil filter bypass valve threaded plug part number. Reference Table 2 below.

Engine Build Date (Reference Only)	Bypass Valve Bore Depth	Original Plug Part Number	Required Plug Part Number	Plug Length (Measured From Under Head to End)

Table 2, Lubricating Oil Filter Head Threaded Plug Selection: ISX/QSX (All Versions)				
Engine Build Date (Reference Only)	Bypass Valve Bore Depth	Original Plug Part Number	Required Plug Part Number	Plug Length (Measured From Under Head to End)
Before 10 May 2000	68 mm [2.68in]	3679770	4059434	19.5 mm [0.77in]
2000-2006		4059434		19.5 mm [0.77in]
After 2006	64.5 mm [2.54in]	4952760	4952760	16 mm [0.63in]
If Unknown	68 mm [2.68in]	If Unknown	4059434	19.5 mm [0.77in]
If Unknown	64.5 mm [2.54in]	If Unknown	4952760	16 mm [0.63in]



Figure 1, Measurement of Lubricating Oil Filter Head Bore.

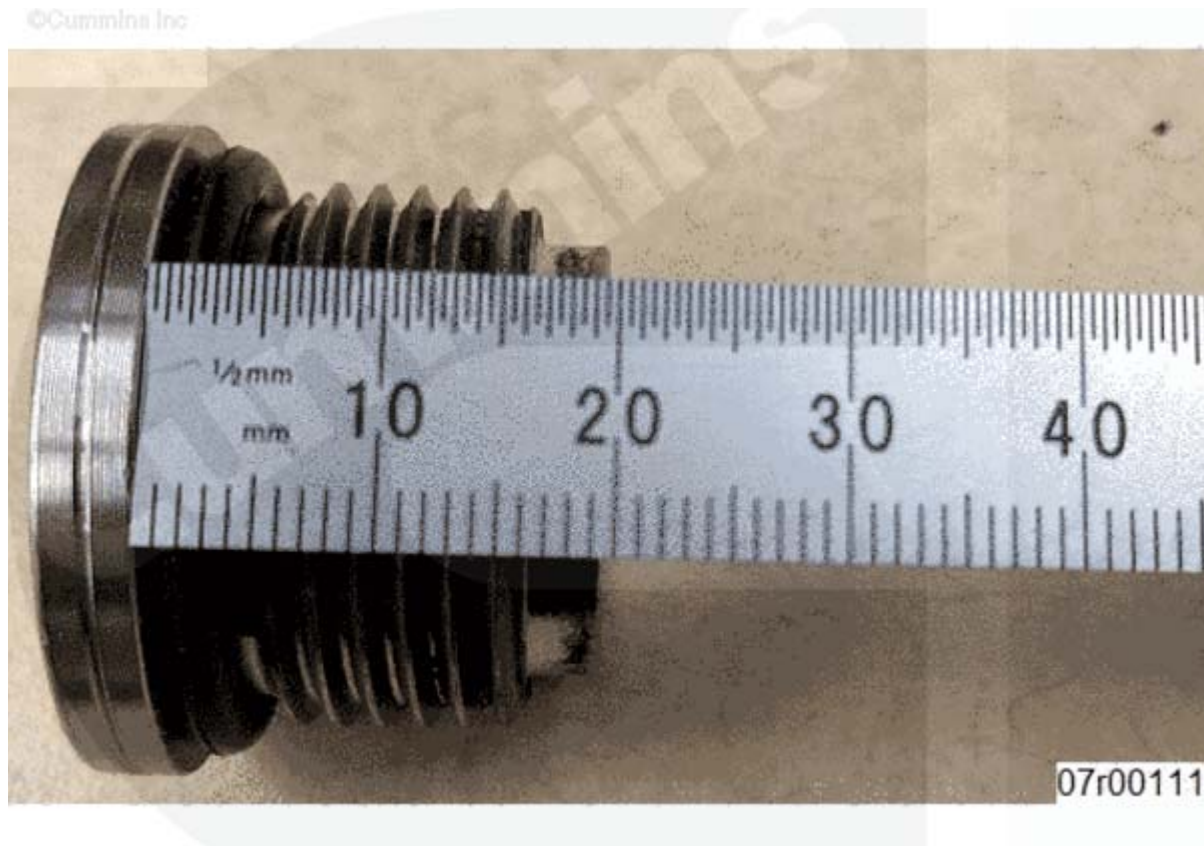


Figure 2, Measurement of Lubricating Oil Filter Head Threaded Plug.

Part Identification



Figure 3, Left: New Single Piece Cartridge Style Bypass Valve. Right: Obsolete Spring and Bypass Valve.

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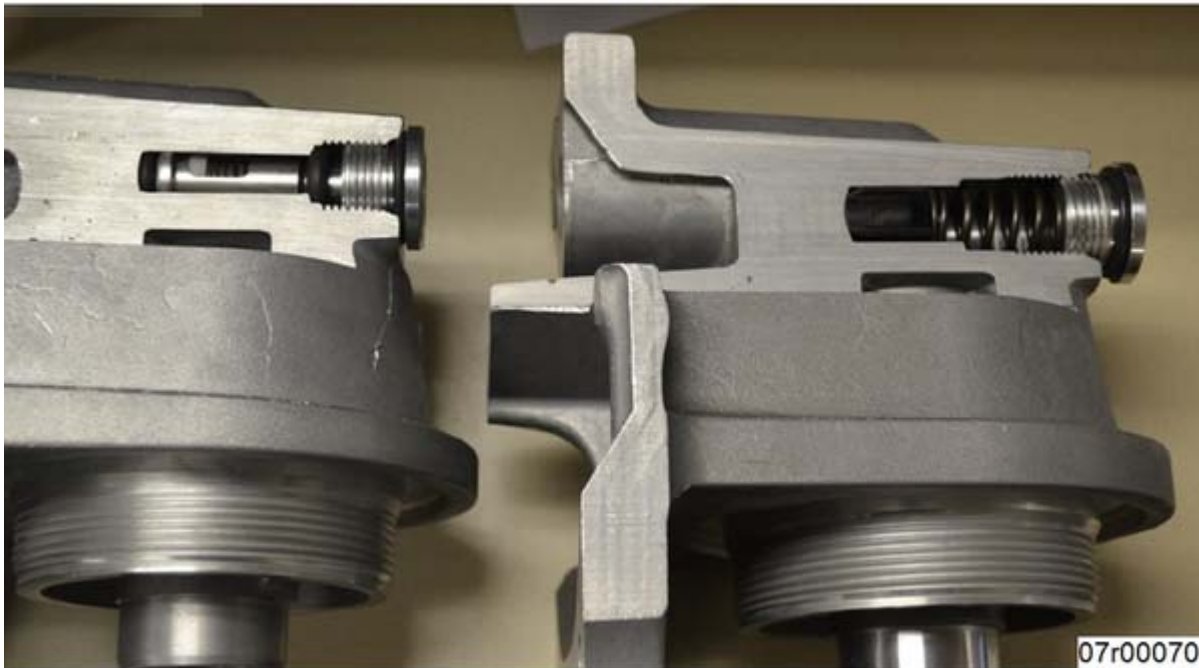


Figure 4, Left: New Single Piece Bypass Valve Installed. Right: Obsolete Spring and Bypass Valve Installed.

Document History

Date	Details
2016-2-16	Module Created
2017-3-17	Added Part Compatibility Section.

Last Modified: 20-Mar-2017

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