



# Technical Service Bulletin

**Technical Service Bulletin:**  
TSB160088

**Released Date:** 01-May-2018

**New Intake and Exhaust Rocker Levers**

## New Intake and Exhaust Rocker Levers

### 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

- ISX (All 15 Liter Versions)
- QSX (All 15 Liter Versions)
- X15 (All Versions)

#### Description of Change

This document announces the release of new intake and exhaust rocker levers with cam follower roller pin changes.

#### Reason for Change

The changes to the roller pins and lubricating oil feed in the new rocker levers improve robustness against corrosion and debris related damage in the roller to roller pin joint.

#### Service Instructions

#### **⚠ CAUTION ⚠**

**New and used rocker levers must be lubricated as directed in the Service Manual. Severe engine damage can result if rocker levers are not properly lubricated.**

Lubrication of the roller pins has **always** been advised for rocker levers but emphasis is placed on this guidance as the result of lubricating oil feed changes on the new rocker levers. See the corresponding Service Manual. Reference Procedure 003-009 in Section 3.

### Service Parts Availability

Service parts are available. See Table 1 for part numbers.

<b>Part Description</b>	<b>Existing Part Number</b>	<b>Obsolete</b>	<b>Superseded</b>	<b>New Part Number</b>
Front Exhaust Rocker Lever	4318204	Yes	Yes	4386045
Rear Exhaust Rocker Lever	4318205	Yes	Yes	4386046
Front Intake Rocker Lever	4318206	Yes	Yes	4386047
Rear Intake Rocker Lever	4318207	Yes	Yes	4386048

### Part Compatibility

The new rocker levers are interchangeable, and can be intermixed within an engine.

These components are backwards compatible per the compatibility table in TSB120053.

**Note :** Some engines built after the engine serial number (ESN) first may contain a mix of existing and new part numbers.

### Part Identification

Existing rocker lever design has:

- A bronze colored, solid pin. See Figure 1 below.

New rocker lever design has:

- A roller pin which is black in color. See Figure 2 below.
- A drilling on bottom leg of rocker lever. See Figure 3 below.

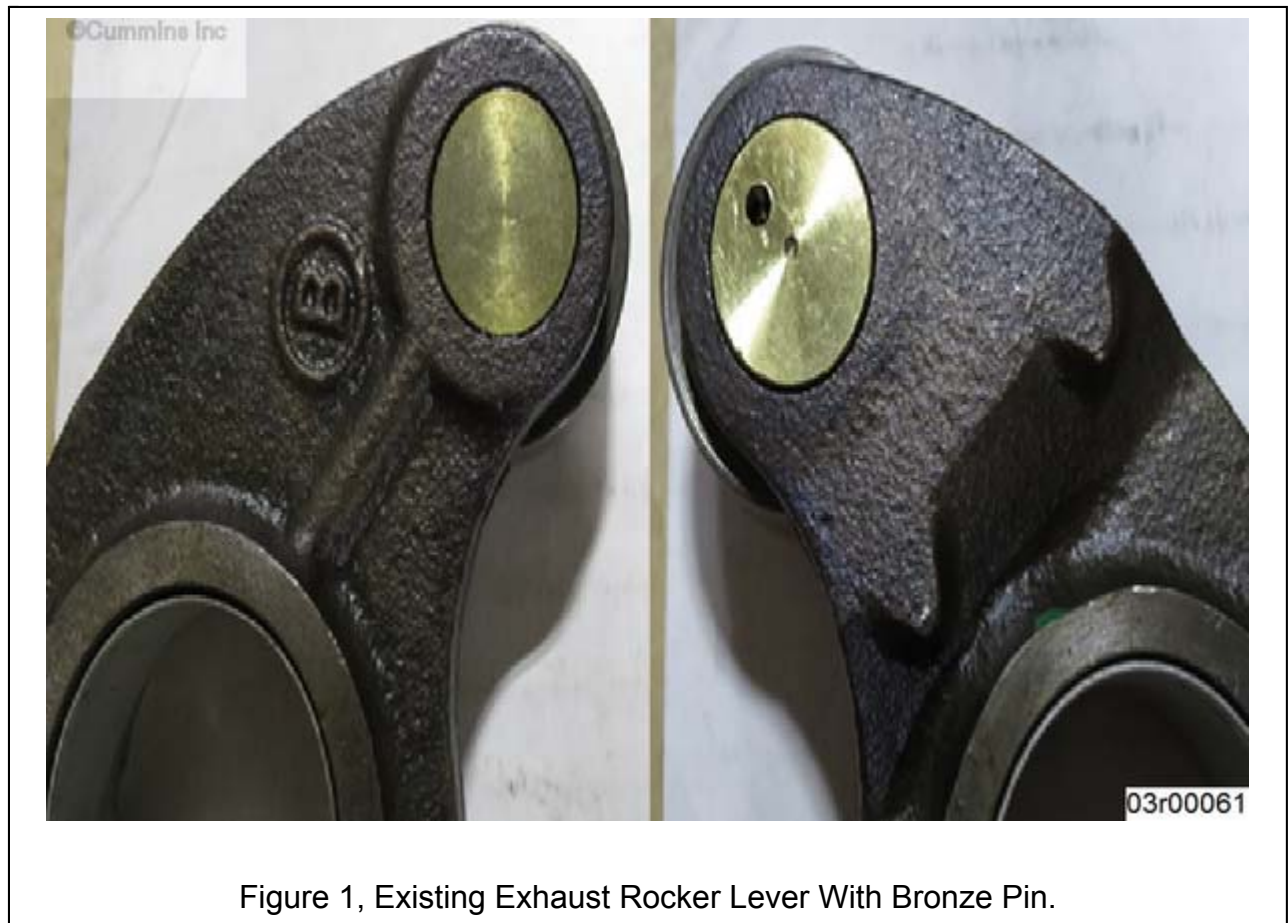


Figure 1, Existing Exhaust Rocker Lever With Bronze Pin.





#### Normal vs Abnormal Rocker Lever Appearance:

**Pin Protrusion:** Since the introduction of the new pin design, in some cases, it has been identified to have the cam follower pin to be protruding out of the side of the rocker lever cast surface. This condition is often associated with a pin and roller seizure issue (See Figure 3 below). Visual appearance condition does also exist on new production parts and is considered normal. Graphics below provide an anticipated range of pin position (See Figure 4 below). Amount of pin that protrudes may vary due to normal manufacturing processes. If rocker levers are found to exceed specifications provided, rocker lever may need replaced.



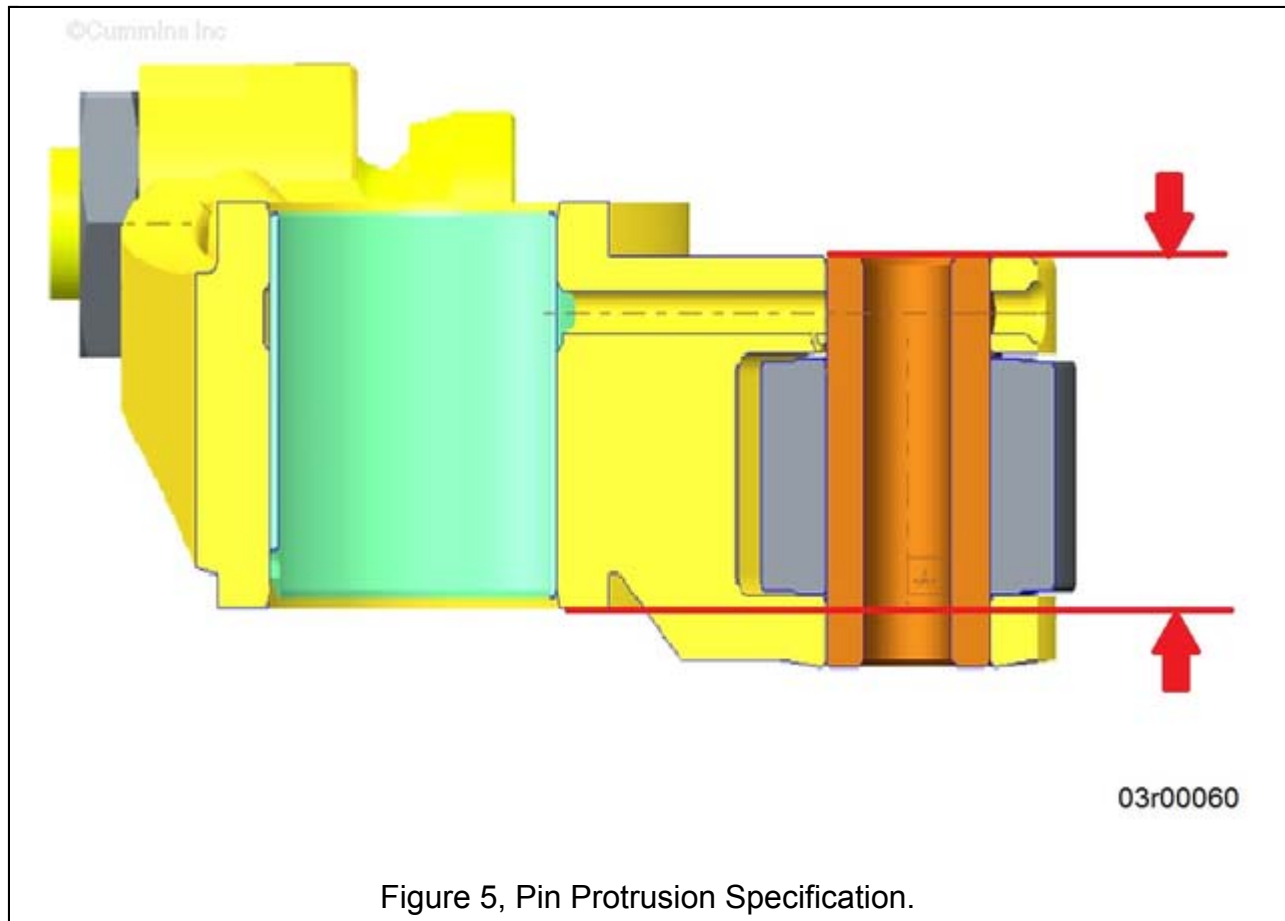


Figure 5, Pin Protrusion Specification.

**Pin Protrusion Measurement Method and Specification**

The pin location is determined by measuring the distance from the face of the cam follower pin from the side of the rocker lever that has the thick cast leg (it is also the surface that is on the same side of the lever as the adjusting screw) to the opposite thrust face of the rocker lever. The specification limit for this distance is 25.25 +/- 0.3 mm.

**Production Status**

Implemented for production. See Table 2.

Table 2, Plant Information		
ESN First	Build Date	Plant
79939646	1 September 2016	Jamestown Engine Plant
*Engine build date can be found on the engine dataplate		

**Publications Affected**

Lubrication guidance is emphasized in the publications shown in Table 3.

<b>Table 3, Publications Affected</b>					
<b>Manual</b>	<b>Engine</b>	<b>Bulletin Number</b>	<b>Procedure Title</b>	<b>Procedure</b>	<b>Section</b>
Service Manual	ISX15 CM2350 X101	4310641	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/1 73/173- 003-009-tr- prix13.html)	3
	ISX15 CM2250	4022250	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/1 32/132- 003-009-tr- mixar5.html )	3
	ISX15 CM2250 SN	4310736	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/1 75/175- 003-009- tr.html)	3



<b>Table 3, Publications Affected</b>					
<b>Manual</b>	<b>Engine</b>	<b>Bulletin Number</b>	<b>Procedure Title</b>	<b>Procedure</b>	<b>Section</b>
	QSX15 CM2350 X106	4332712	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/2 21/221- 003-009- tr.html)	3
	QSX15 CM2350 X105	4332667	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/2 50/250- 003-009- tr.html)	3
	QSX15 CM2250 ECF	2883557	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/1 32/132- 003-009-tr- vqxi6.html)	3
	Signature™ , ISX CM570/CM 870/CM871 /CM871 E	3666239	Rocker Lever Assembly	Refer to Procedure 003-009 (/qs3/pubsy s2/xml/en/p rocedures/1 0/10-003- 009-tr.html)	3

## Document History

Date	Details
2016-8-19	Module Created
2016-11-2	Added production status.
2018-4-27	Updated to reflect new roller design.

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**Last Modified: 01-May-2018**

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