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MANDATORY

SERVICE BULLETIN

DATE: October 8, 2026 Service Bulletin No. 639A
(Supersedes Service Bulletin No. 639)
Engineering Aspects are FAA Approved

SUBJECT: Inspection of Rocker Arm, Part Number LW-15014

MODELS AFFECTED: O-320-H2AD, O, LO, TO, LTO-360-E1A6D new, rebuilt, or overhauled engines shipped from Lycoming since June 2017 with less than 500 hours of operation or engines with less than 500 hours of operation since rocker arm replacement

TIME OF COMPLIANCE: At next scheduled oil change, then every 50 hours until 500 hours of engine operation

REASON FOR REVISION: Changed the “Rocker Arm Inspection Procedure” to the “Disassembly, Rocker Arm Inspection, and Reassembly”. Added Notice and updated step 4D. Added Hydraulic Lifter Body disassembly and inspection procedure to the “Disassembly, Rocker Arm Inspection, and Reassembly”. Added new “Visual Rocker Arm Inspection Procedure”. Added ICA statement.

This Service Bulletin provides Instruction for Continued Airworthiness (ICA).

NOTICE: Incomplete review of all the information in this document can cause errors. Read the entire Service Bulletin to make sure you have a complete understanding of the requirements.

This Service Bulletin is in response to field reports of damaged rocker arms found during an investigation of reported engine roughness. Lycoming has initiated an investigation into these instances. Until root cause and corrective action can be determined, as a precaution Lycoming is requesting the “Disassembly, Rocker Arm Inspection, and Reassembly Procedure” be completed at the initial 50-hour inspection interval. After the initial inspection, the “Visual Rocker Arm Inspection Procedure” should be completed at 50-hour intervals until the engine has reached 500 hours of engine operation since new, overhauled, or rebuilt or 500 hours since rocker arm replacement. Report any cracking found during inspection to Lycoming.

Disassembly, Rocker Arm Inspection, and Reassembly Procedure

1. Remove the rocker arms, push rods, shroud tubes, shroud tube seals, and hydraulic lifters per instructions in the Lycoming “76” Series Engines Overhaul Manual (60294-9). Discard the shroud tube seals and the self-locking nuts.

NOTICE: Hydraulic lifter body disassembly required whenever valve gear is disassembled resulting in load being removed from tappet.

2. Clean residual oil from the rocker arm.
3. Use a 10X power magnifying glass to inspect the pushrod socket and the outside of the rocker arm for cracks around the oil squirt hole (Figures 1 and 2).



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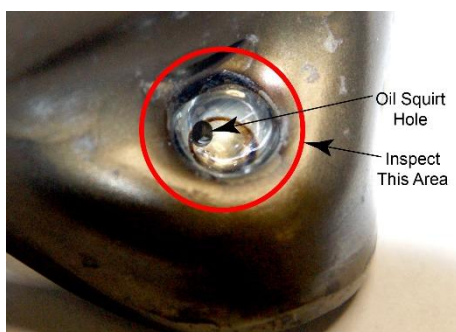


Figure 1
Area to Inspect

(Pushrod Socket Side of the Rocker Arm)



Figure 2

Area to Inspect
(Outside of the Rocker Arm)

4. If no cracks are found in the area to be inspected:
 - A. Inspect all removed components for damage.
 - B. Reinstall the hydraulic lifters, new shroud tube seals, shroud tubes, push rods, and rocker arms with new self-locking nuts, per instructions in the Lycoming "76" Series Engines Overhaul Manual (60294-9).
 - C. Check dry tappet clearance and adjust as necessary.

NOTICE: In order to set dry tappet clearance, disassemble the hydraulic lifter and bleed down the static oil.

- D. Complete the following inspection at next 50-hour oil change until 500 hours of engine operation. Rocker arm disassembly is not required after initial inspection.
 - a. Clean residual oil from the rocker arm.
 - b. Use a 10X power magnifying glass to inspect the outside of the rocker arm for cracks around the oil squirt hole (Figures 2 and 4).

5. If cracks are found in the area to be inspected (Figures 3 and 4):
 - A. Contact Lycoming Engines by completing and emailing the attached form to TechnicalSupport@Lycoming.com or call Lycoming Technical Support at the phone number on page 1 of this service bulletin.

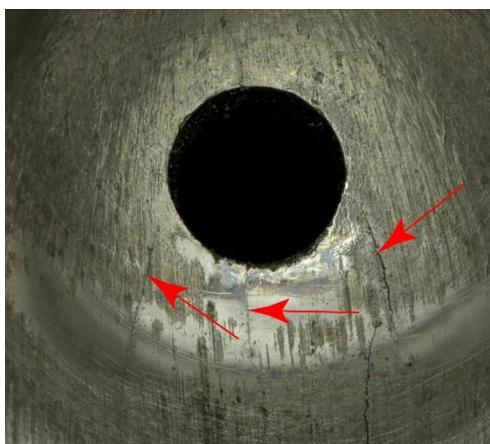


Figure 3

Cracks on the Pushrod Socket Side of the Rocker Arm, Around the Oil Squirt Hole

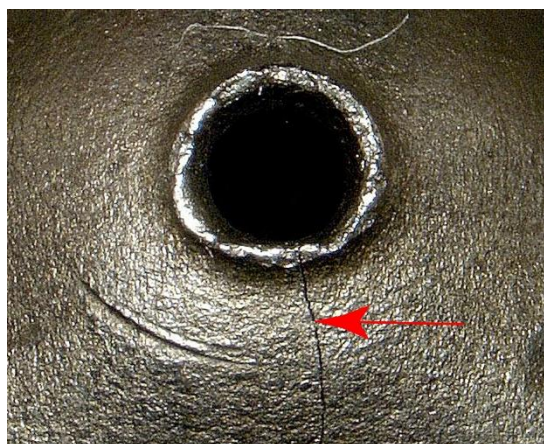


Figure 4

Crack on the Outside of the Rocker Arm, Around the Oil Squirt Hole

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- B. Replace the damaged rocker arms. Return the damaged rocker arms to Lycoming Engines.
- C. Inspect all removed components for damage.
- D. Reinstall the hydraulic lifters, new shroud tube seals, shroud tubes, push rods, and new rocker arms with new self-locking nuts, per instructions in the Lycoming "76" Series Engines Overhaul Manual (60294-9).
- E. Check dry tappet clearance and adjust as necessary.
- F. Complete this inspection again at next 50-hour oil change until 500 hours of engine operation after rocker arm replacement.

NOTICE: Once the investigation is complete and the root cause and corrective action has been determined, Lycoming will issue a revision to this service bulletin with the terminating corrective action.

Hydraulic Lifter Disassembly

1. Using proper tool, remove and discard the circlip (15B26468) from the hydraulic lifter and remove the push rod socket.
2. Insert expanders of extractor tool ST-474 in hydraulic plunger. Hold base knob of tool and turn expander knob clockwise. Tighten snugly (Figure 5).
3. Press plunger knob on tool ST-474 lightly to release check valve ball from its seat. This will bleed down the hydraulic plunger and allow it to be removed from the lifter body.

⚠ CAUTION: Under no circumstances should the check valve ball, spring and retainer be disassembled.

4. Remove tool ST-474 from hydraulic plunger by holding the base knob and turning the expander knob counter-clockwise.

NOTICE: Detail parts of hydraulic lifter body assembly are not interchangeable. If detail parts become damaged or lost, complete lifter body assembly must be replaced.

5. Clean all parts in clean solvent and reassemble by installing plunger return spring, hydraulic plunger and push rod socket in the lifter body. Insert a new circlip (15B26468) in groove of hydraulic lifter to secure plunger and push rod socket in lifter.

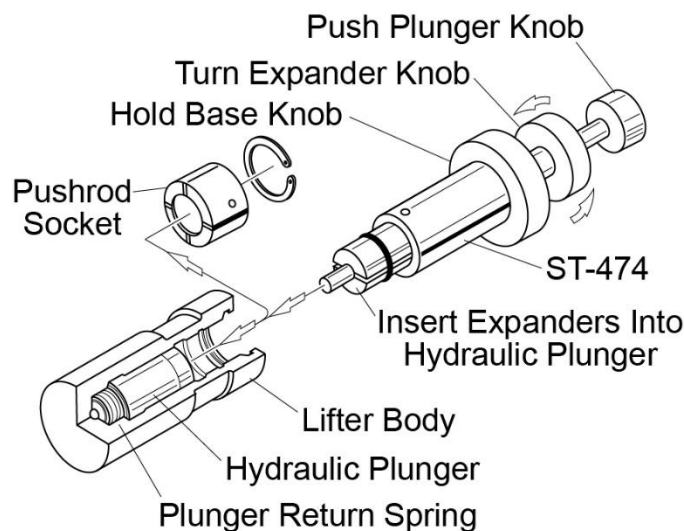
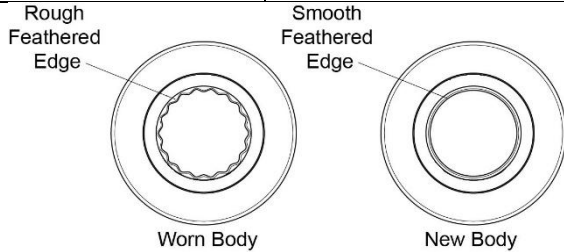


Figure 5
Extractor Tool for Removing Hydraulic Plunger

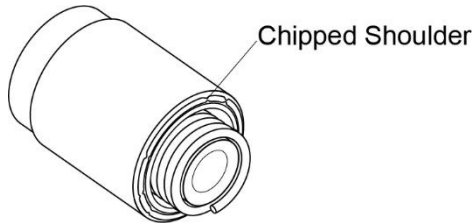
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Lifter Body Inspection Guidelines

Task	Findings	Corrective Action
1. Examine the interior bore of the lifter body. a. Look for wear at the interior shoulder. b. Look for a feathered or chipped edge around the shoulder (Figure 6)	Wear found at the interior shoulder and/or Feathered or chipped edge around the shoulder	If wear, feathering or chipped edge found, replace with lifter body of the same part number (15B28093)
 Figure 6 Comparison Between Worn and New Tappet Body		

Plunger Inspection Guidelines

NOTICE: This inspection is to be completed any time the lifter is removed from the crankcase during scheduled inspections or engine maintenance.

Task	Findings	Corrective Action
<u>⚠ CAUTION:</u> DO NOT USE A MAGNET TO REMOVE THE PLUNGER BECAUSE THE CHECK VALVE BALL COULD BECOME MAGNETIZED WHICH WOULD MAKE THE PLUNGER NOT OPERATE.		
1. Examine the plunger for chipping on the shoulder (Figure 7).		If chipping is found, discard lifter assembly and replace with new lifter assembly (15B28093*)
 Figure 7 Chipped Shoulder		
* Contains a non-replaceable plunger assembly and push rod socket. Replace this lifter as a complete assembly because of the matched fit between the body and the plunger.		

Assembly and Installation of the Hydraulic Lifter

1. When returning parts to service, all parts must be installed in their original location in the engine.
2. Liberally coat the tappet faces and cams with an approved lubrication identified in the latest revision of Service Instruction No. 1059.
3. Measure the dry tappet clearance and adjust as necessary in accordance with instructions in the Lycoming "76" Series Engines Overhaul Manual (60294-9).

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Visual Rocker Arm Inspection Procedure

1. Remove the rocker box cover and rocker box cover gasket per instructions in the Lycoming “76” Series Engines Overhaul Manual (60294-9).
2. Clean residual oil from the rocker arm.
3. Use a 10X power magnifying glass to inspect the pushrod socket and the outside of the rocker arm for cracks around the oil squirt hole (Figure 8).



Figure 8
Area to Inspect
(Outside of the Rocker Arm)

4. If no cracks are found in the area to be inspected, reinstall the rocker box cover with a new rocker box cover gasket per instructions in the Lycoming “76” Series Engines Overhaul Manual (60294-9).
5. If cracks are found in the area to be inspected (Figure 8), contact Lycoming Engines by completing and emailing the attached form to TechnicalSupport@Lycoming.com or call Lycoming Technical Support at the phone number on page 1 of this service bulletin.

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