

MANDATORY

SERVICE BULLETIN

DATE: March 17, 2009 Service Bulletin No. 585
Engineering Aspects
FAA Approved

SUBJECT: Incorrect Exhaust Valve Rotator Cap Shipped with Cylinder Kits P/N 05K21119, 05K21121, and 05K21122

MODELS AFFECTED: Rebuilt, overhauled, or repaired Lycoming engines with the following cylinder kits installed:

Engine Model	Cylinder Kit
O-320-H2AD	05K21119
(L)O-360-E1A6D	05K21121
(L)TO-360-E1A6D	05K21122

All Cylinder Kits P/N 05K21119, 05K21121, and 05K21122 that were shipped between November 20, 2008 and February 12, 2009.

TIME OF COMPLIANCE: For uninstalled cylinder kits - immediately
Engines with affected cylinder kits - at the next scheduled maintenance event, or at annual inspection, whichever occurs first.

Lycoming Engines has determined that a quantity of Cylinder Kits with the incorrect exhaust valve rotator caps may have been shipped from November 20, 2008 through February 12, 2009.

Cylinder Kits, P/N 05K21119, 05K21121, and 05K21122, may contain exhaust valve rotator cap P/N 17C19386 in lieu of P/N LW-15316. The correct exhaust valve rotator cap must be installed in the engine in order to maintain the correct upper exhaust valve spring seat to valve rocker arm dynamic clearance. If the correct dynamic clearance is not maintained, damage such as wear, pitting, or scoring to the upper exhaust valve spring and valve rocker arm may occur.

If you have any of these cylinder kits in stock that were purchased in the specified time frame, Lycoming Engines requires you inspect the cylinder kits for the possibility of incorrect exhaust valve rotator caps.

A. Instruction for Compliance of Uninstalled Cylinder Kits:

- A.1. Check the label on the outside of the cylinder kit box for the date. If the date is between November 20, 2008 and February 12, 2009, the cylinder kit must be opened and inspected. If the date is outside of the specified time frame, no further action is required.
- A.2. Check the exhaust valve rotator cap part number. The correct part number is LW-15316. The part number is located on the side of the exhaust valve rotator cap. However, it may be difficult to see the part number. See Figure 1 for physical identification of the correct rotator cap. See Figure 2 for an illustrative example of the cylinder head assembly.



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A.3. If the incorrect part number is found, please follow the normal Lycoming warranty procedure by contacting an authorized Lycoming distributor for replacement exhaust valve rotator caps and warranty reimbursement. Warranty part replacement is available through the authorized Lycoming distributor for a period of one year from the date of this Service Bulletin.

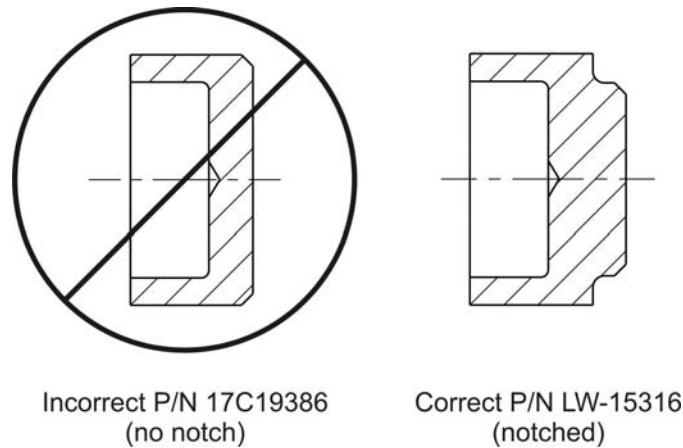


Figure 1. Physical Identification of Incorrect Exhaust Rotator Caps

B. Instructions for Compliance of Engines with Affected Cylinder Kits:

The rocker box covers must be removed to inspect for the correct exhaust valve rotator cap. If an incorrect one is found, then the upper exhaust valve spring seat and valve rocker arm must be inspected for evidence of interference or wear. If any indication is found on either part, then both parts must be replaced and the correct exhaust valve rotator cap installed. The instructions to accomplish this are as follows:

NOTE

This inspection must be done for each individual cylinder.

- B.1. Remove the rocker box cover.
- B.2. Check the exhaust valve rotator cap part number. The correct part number is LW-15316. The part number is located on the side of the exhaust valve rotator cap. However, it may be difficult to see the part number. See Figure 1 for physical identification of the correct rotator cap. See Figure 2 for an illustrative example of the cylinder head assembly.
 - B.2.a. If the part number is correct, no further action is required. Using a new gasket, reinstall the rocker box cover and make an appropriate engine log book entry.
 - B.2.b. If the part number is incorrect, the upper exhaust valve spring seat and valve rocker arm must be inspected. Continue to Step B.3.
- B.3. Inspect the upper exhaust valve spring seat and valve rocker arm for evidence of interference, wear, pitting, scoring, or other damage.
 - B.3.a. If there are no signs of damage, no further action is required for the rocker arm and upper exhaust valve spring seat. Reinstall all parts utilizing the proper exhaust valve rotator cap, part number LW-15316, and make an appropriate engine log book entry.
 - B.3.b. If there is evidence of damage, the parts must be replaced. Continue to Step B.4.
- B.4. Replace the upper exhaust valve spring seat, valve rocker arm (exhaust only), and exhaust valve rotator cap with new parts.

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- B.5. Check the dry tappet clearance as outlined in the applicable Overhaul Manual or Maintenance and Overhaul Manual.
- B.6. Using a new gasket, reinstall the rocker box cover.
- B.7. Make an appropriate log book entry.

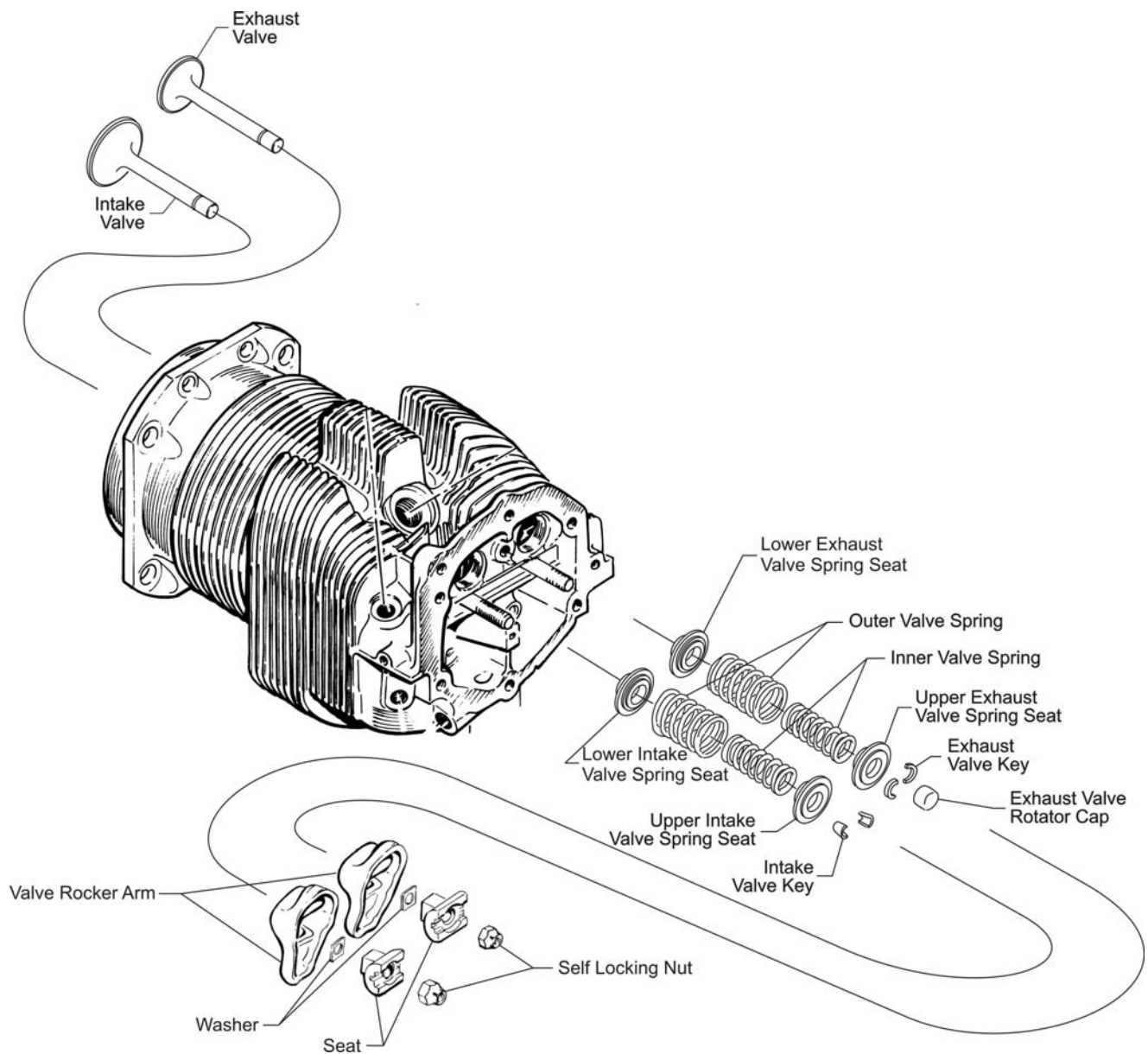


Figure 2. Illustrative Example of Cylinder Head Assembly

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