

## **MANDATORY**

**SERVICE BULLETIN** 

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Service Bulletin No. 240AA

(Supersedes Service Bulletin No. 240W)

Engineering design data in this service document is FAA approved.

SUBJECT: Mandatory Parts Replacement at Overhaul and During Repair or Maintenance

MODELS AFFECTED: All Lycoming reciprocating aircraft engines

TIME OF COMPLIANCE: As specified below

REASON FOR REVISION: Deleted footnote for hydraulic tappet plunger assemblies and added Piston

requirements. Added items to the at overhaul or upon removal list.

**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.

## AT OVERHAUL OR UPON REMOVAL:

Any time the following parts are removed from any Lycoming reciprocating engine, it is mandatory that the following parts be replaced regardless of their apparent condition:

- All 2-piece beaded exhaust flange gaskets
  - All circlips, lockplates, retaining rings and laminated shims
  - All counterweight washers
- All annular copper crush gaskets
  - All lockwashers and locknuts
- All main and connecting rod bearings (may also be referred to as "bearing inserts")
- All connecting rod bushings <u>without</u> the identifying notch (Figure 1 shows a connecting rod bushing <u>with</u> the identifying notch).

Any time the connecting rod is removed from the crankshaft or any time the crankcase is opened, and the connecting rods are accessible.



Figure 1 Connecting Rod Bushing with the Notch

- All V-band coupling gaskets
- Stressed bolts and fasteners, such as:
  - Stationary drive gear bolts (reduction gear)
  - Camshaft gear attaching bolts
  - Connecting rod bolts and nuts
  - Crankshaft flange bolts
  - Crankshaft gear bolt



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## AT OVERHAUL:

During overhaul of any Lycoming reciprocating engine, it is mandatory that the following parts be replaced regardless of their apparent condition:

- All engine hoses
- All engine hose assemblies
- All oil seals
- All cylinder base seals
- All gaskets
- Piston rings
- Piston pins (thin wall)\*
- Piston pin plugs
- Pistons ♦
  - 4 cylinder engines rated at 200 HP or greater.
  - 6 cylinder engines rated at 290 HP or greater.
  - All 8 cylinder engines
  - All Turbocharged engines. (factory installed or field installed)
- Propeller governor oil line elbow (aluminum)\*\*
- Propeller shaft sleeve rings
- Propeller shaft rollers (reduction gear pinion cage)
- Propeller shaft thrust bearings (all geared drive engines)
- Supercharger bearing oil seal (mechanically supercharged series)
- All exhaust valves (replace with current exhaust valves)
- All intake and exhaust valve guides
- All exhaust valve retaining rings
- Rocker arms and fulcrums (O-320-H, O, LO, TO, LTO-360-E Series)
- Aluminum push rod assemblies (O-235 Series)
- Cylinder fin stabilizers
- Magneto drive cushions
- Magneto isolation drive bearings
- Thermostatic bypass valves
- Damaged ignition cables
- Crankshaft sludge tubes
- Counterweight bushings in crankshaft and in counterweights (See latest revision of Service Instructions No. 1142 and 1143 for instructions.)
- Accessory drive coupling springs (supercharged and VO-540 engines)
- AC diaphragm fuel pumps
- Fuel pump plunger for diaphragm fuel pumps
- Oil pump bodies (two-piece)
- Oil pump gears \*\*\* (Refer to the latest revision of Service Bulletin No. 524 for replacement gear service kit, if necessary, and Service Instruction No. 1164 for individual impeller part numbers.)
- All V-band couplings and gaskets
- Roller tappet assemblies ■
- Hydraulic tappet plunger assemblies

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Requirements for replacement of parts for accessories such as magnetos, carburetors, fuel injectors, AN fuel pumps, and turbochargers are described in the applicable manufacturer's manual.

- \* Heavy-wall piston pins P/N LW-14078 may be reused; all other may not be reused. See the latest revision of Service Instruction No. 1340 and No. 1267 for replacement data.
- \*\* P/N MS20822-6D aluminum propeller governor oil line elbow must be replaced with P/N MS20822-6 steel elbow at overhaul. It is not necessary to replace a steel elbow. See the latest revision of Service Instruction No. 1435 and Service Bulletin No. 488.
- \*\*\* Nitrided/carburized steel oil pump impeller gears can be examined during overhaul and can be re-used if they pass inspection as per the latest revision of Lycoming Direct Drive Overhaul Manual 60294-7 and Table of Limits SSP-1776.
- Roller tappet assemblies must be replaced at overhaul and after a propeller strike. See latest revision of Service Instruction Nos. 1011 and 1514 for instructions.
- ♦ Pistons from lower horsepower engines may continue in service during overhaul at the owner's discretion provided the pistons pass the required inspections found in the latest revision of the applicable Overhaul Manuals and the Service Table of Limits SSP-1776.
- Refer to the latest revision of Service Instruction No. 1480.

Carry out the dimensional inspections in accordance with measurements and tolerances as listed in "Table of Limits" (SSP-1776) for all parts approved for use.

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