

MANDATORY SERVICE BULLETIN

DATE: November 16, 2007

Service Bulletin No. 579
Engineering Aspects are
FAA Approved

SUBJECT: Clearance Between Oil Sump Assembly and Oil Sump Baffle

MODELS AFFECTED: New, rebuilt, overhauled, or repaired Lycoming IO-540-L1C5; TIO-540-S1AD; IO-580-B1A series engines.

TIME OF COMPLIANCE: Whenever rivets or screws are found in the oil suction screen.

Lycoming has determined that on the above affected engines there may not be enough clearance between the oil sump assembly P/N 77517 or P/N LW-14492 and the oil sump baffle P/N 56G23399 or P/N LW-13383. The oil sump baffle may rub against the oil sump assembly causing a wear groove on the inner surface of the oil sump assembly. Deformation of the oil sump baffle may further result in loosening of the rivets used to attach the oil sump baffle vertical deflectors and of the screws used to attach the oil sump baffle to the oil sump supports. If either the rivets or screws become unattached it may lead to metal contamination in the engine.

INSTRUCTIONS FOR COMPLIANCE:

1. Drain the oil from the oil sump assembly.
2. Remove all attaching hardware that holds the oil sump to the crankcase.
3. Remove the oil sump from the crankcase.
4. Remove the six 10-32 pan-head screws that secure the oil sump baffle P/N 56G23399 or P/N LW-13383. Remove the baffle.



For handling, storage, use, and disposal of materials, comply with all Federal, State, and Local regulations.



Use of other than hydrocarbon-based solvents can be harmful to aluminum and magnesium. Any water-based degreasing solutions containing caustic compounds or soap are potentially dangerous to aluminum and magnesium. The pores of the metal may become impregnated by such compounds and cause oil foaming when the engine is returned to service. Whenever it is necessary to use water-based solutions, it is imperative that the parts be completely and thoroughly rinsed in clean, boiling water after degreasing.

5. Examine the baffle. If the baffle is damaged, it must be replaced before reassembly. Examples of damage may include, but is not limited to, a deformed baffle plate, deformed fins, cracked attachment holes, or missing rivets. See Figure 3.
6. Examine the oil suction screen for the presence of rivets or other large pieces of metal. If found, remove the particles and clean the oil suction screen.
7. Clean the oil sump by either immersing it or spraying it with a suitable hydrocarbon-based solvent to remove grease or oil residues, dirt, and soft carbon.
8. Thoroughly examine the inner surface of the oil sump for wear grooves.
9. If a wear groove exists on the bottom inner surface of the oil sump, towards the front of the crankcase, then an additional clearance cut must be made. If a wear groove does not exist, proceed with step 10. Affected sumps that already have been reworked at Lycoming will have the clearance cut at the centerline of the sump. If the clearance cut exists proceed to step 10.
 - a. Using Figure 1 and 2 in conjunction with the outline of the existing wear groove, use a die grinder or other similar equipment to remove the material. Maintain existing surface finish. Deburr all edges.
 - b. Thoroughly clean the oil sump to remove all debris from the grinding process. Failure to do so may lead to metal contamination in the engine.
 - c. Once the sump is ground for clearance, the dichromate surface passivation is removed. If the sump is not going to be immediately installed after rework, coat the ground areas with oil to protect the surfaces from oxidization.
10. Reinstall the oil sump baffle.
11. Reassemble the oil sump assembly to the crankcase.
12. Replace the oil in the engine to the quantity specified in the appropriate operator's manual.
13. Make an appropriate logbook entry indicating compliance with this Service Bulletin.

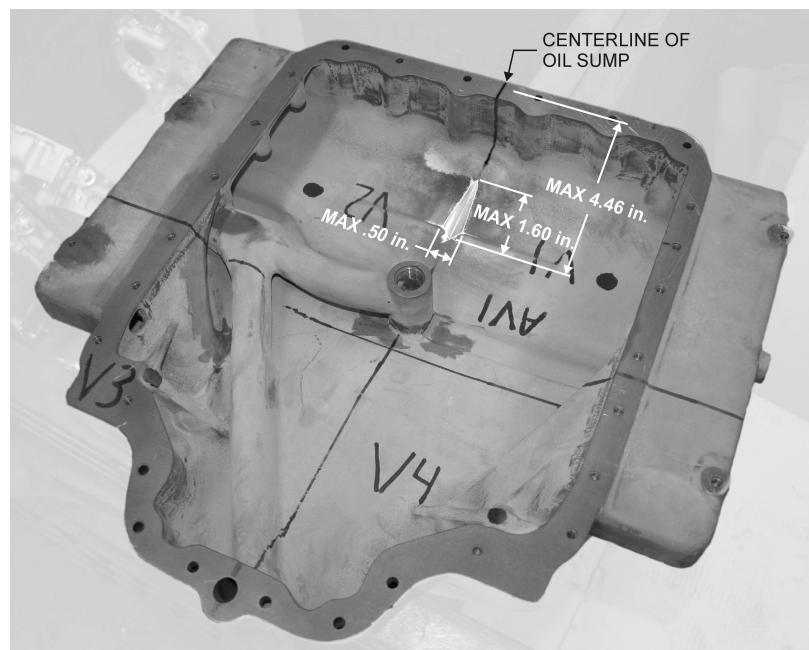


Figure 1. Sump Showing Acceptable Location of Wear Groove Clearance Cut

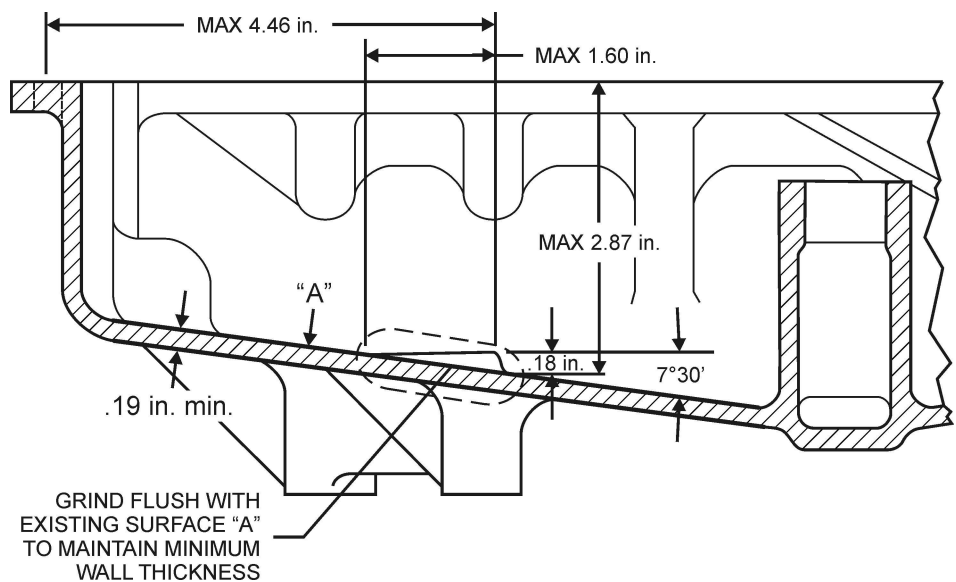


Figure 2. Cross Section of Sump Showing Reference Dimensions

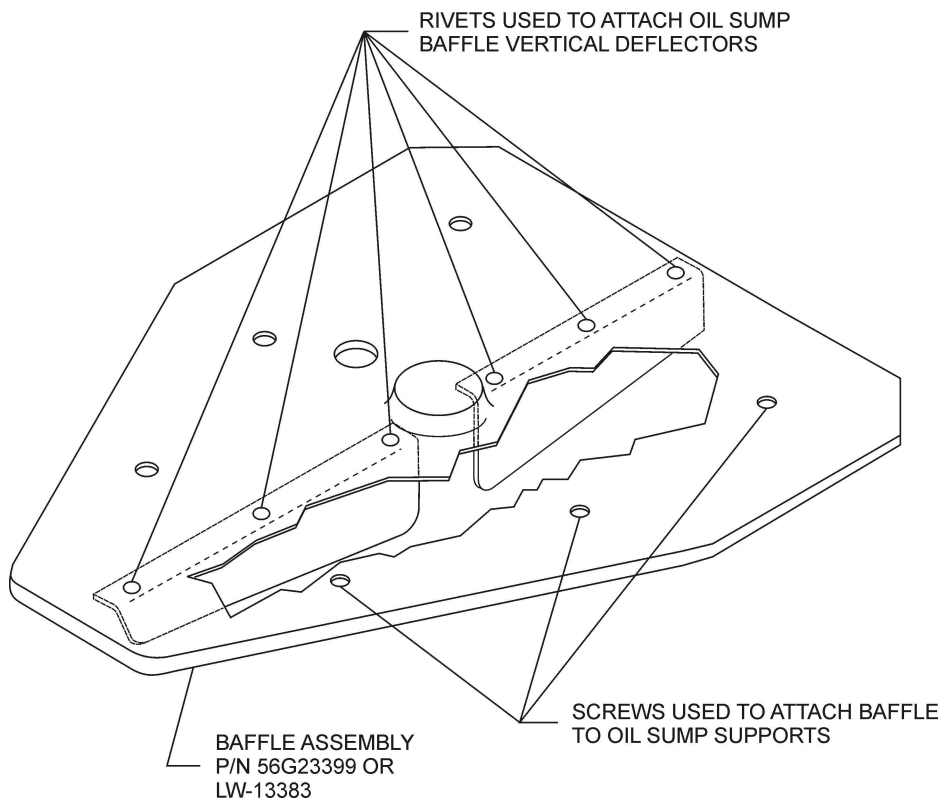


Figure 3. Example of Oil Sump Baffle