

MANDATORY
SERVICE BULLETIN**DATE:** January 2, 1987Service Bulletin No. 454B
(Supersedes Service Bulletin No. 454A)
Engineering Aspects are
FAA Approved**SUBJECT:** Replacement of Oil Pump Impellers**MODELS AFFECTED:** All HIO-360-D1A, -E1AD, -E1BD and -F1AD up to and including serial number L-22579-51A except the following: L-22311-51A thru L-22313-51A, L-22396-51A, L-22397-51A, L-22416-51A, L-22546-51A thru L-22549-51A, L-22563-51A, L-22568-51A thru L-22571-51A.

Any of the above engines that were overhauled in the field prior to April 1, 1981.

All remanufactured engines of the above models shipped prior to April 1, 1981.

TIME OF COMPLIANCE: Within the next 25 hours of operation.

A recent manufacturing improvement to the above mentioned Avco Lycoming Textron engines include the use of new hardened steel impellers for the oil pump. These impellers will increase the life of the oil pump.

This modification consists of replacing the oil pump driven impeller and shaft with hardened steel impeller and shaft P/N LW-18110. Replacement of driving impeller with impeller P/N LW-18109.

The procedures for the installation of the oil pump impellers are as follows:

1. Remove the magneto.
2. Remove the sump.
3. Remove the fuel pump.

NOTE

Care must be taken when removing or reinstalling a diaphragm type fuel pump. The actuating arm of the pump must be on the base circle of the cam, or pressure exerted on the arm of the fuel pump could cause damage to the mounting bolt threads.

4. Remove any other accessories from the housing.
5. Remove the accessory housing from the engine.
6. After the accessory housing has been removed, disassemble the oil pump and inspect both the housing and oil pump cover for damage.
7. Reassemble the oil pump using the hardened steel driven impeller and shaft assembly P/N LW-18110 and drive impeller P/N LW-18109. Be sure all parts are lubricated thoroughly during assembly. As the slotted nuts are tightened to a torque of 17 foot pounds make sure that the oil pump impellers are free by rotating the oil pump shaft. Correct any problems before proceeding.
8. Before reinstalling the accessory housing check to make sure that the crankshaft to camshaft timing is correct. See Overhaul Manual No. 60294-7 for this procedure.
9. Reinstall the accessory housing using a new gasket.
10. Reinstall the oil sump using a new gasket. Reinstall any clamps and hoses that were removed.
11. Reinstall the fuel pump.

12. Install the magneto or magnetos. Consult the proper magneto timing procedure in Overhaul Manual No. 60294-7.

Check oil pressure and magnetos for drop-off.

13. Reinstall any other accessories removed under paragraph 4.

15. Check for any oil leaks prior to release for flight.

14. Following completion of assembly, run the engine.

NOTE

An entry must be made in engine log book that compliance to this service bulletin was accomplished.

PARTS DATA:

Kit (P/N LW-18270) Oil Pump Impeller Replacement for Engine Model (HIO-360-D1A) consists of the following parts:

QTY.	PART NO.	DESCRIPTION
*1	05K19423-S	Oil Pump Impeller Kit (1) Steel Driving Impeller (P/N 18109) (1) Steel Driven Impeller Assembly (P/N 18110) (1) Caution Tag (SSP-285)
2	LW-12681	Magneto Gasket
2	62224	Magneto Adapter Gasket
1	60096	Fuel Pump Gasket
1	73818	Accessory Housing Gasket
1	LW-13353	Sump Gasket

Kit (P/N LW-18269) Oil Pump Impeller Replacement for Engine Models (HIO-360-E1AD, -E1BD and -F1AD) consists of the following parts:

*1	05K19423-S	Oil Pump Impeller Kit (1) Steel Driving Impeller (P/N 18109) (1) Steel Driven Impeller Assembly (P/N 18110) (1) Caution Tag (SSP-285)
1	LW-12681	Magneto Gasket
1	LW-13353	Sump Gasket
1	8313	Vacuum Pump Gasket
1	73818	Accessory Housing Gasket
1	69164	Fuel Pump Adapter Gasket

* If the oil pump impellers are to be changed during engine overhaul and the gaskets that are supplied with the Oil Pump Impeller and Gasket Kits P/N LW-18270 and P/N LW-18269 are not required, order Oil Pump Impeller Kit P/N 05K19423-S which contains 1 ea. P/N LW-18109 Driving Impeller and 1 ea. P/N LW-18110 Driven Impeller only. These impellers are available only by ordering either of the above mentioned kits and must be used together in all instances.

CAUTION

Although the steel driving impeller P/N 60746 is superseded on all models except GO-435 and GO-480 and is still a functional in-service item on these engines, it must not be used with new impellers.

In Parts Data above, Driven Steel Impeller Assy. P/N LW-18110 supersedes Aluminum Driven Impeller and Shaft Assy. P/N LW-13775.

Aluminum Driven Impeller and Shaft Assy. P/N LW-13775 is a discontinued item. In order to avoid confusion and prevent inadvertent mixing of gears, P/N LW-13775 must be returned to your authorized distributor along with the appropriate paperwork to receive full credit. This applies **only** to current "on shelf" inventory. It is not applicable to impellers already installed in any engines.

To insure new impellers are used together, they must be purchased in a Kit P/N 05K19423-S.

NOTE: Revision "B" revises text and adds CAUTION note.

21403A, 22330B — These numbers for Avco Lycoming Textron reference only.

