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SERVICE INSTRUCTION

DATE: September 24, 2010

Service Instruction No. 1299B
(Supersedes Service Instruction No. 1299A)
Engineering Aspects are
FAA (DER) Approved

SUBJECT: Magneto Drive Gear and Cushion Modification

MODELS AFFECTED: O-360 with serial numbers up to and including 19774-36A.
IO-360 with serial numbers up to and including 13275-51A.
LIO-360 with serial numbers up to and including 1062-67A.
O-540 with serial numbers up to and including 17269-40.
IO-540 with serial numbers up to and including 12775-48.
TIO-540 with serial numbers up to and including 3536-61a; also 3538-61A and 3539-61A.
LTIO-540 with serial number 522-68A.

TIME OF COMPLIANCE: During overhaul or earlier at owner's discretion.

This revision of Service Instruction No. 1299 includes installation instructions for a new magneto drive gear **P/N LW-13899** and new matching drive cushion **P/N 68H22624** that are available to replace magneto drive gear LW-13642 and drive cushion LW-13641 as a matched set.

The new drive cushion P/N 68H22624 also is to be used as a matched set with the magneto drive gear P/N LW-13643. Refer to Table 1.

Table 1 Superseding Replacement Parts			
Qty	New Part No.	Nomenclature	Replaces P/N
1	LW-13899	Gear (used on O-540 series with dual magnetos)	LW-10302, LW-13642
1	LW-13643	Gear (used on O-360 series with dual magnetos)	LW-10301
2	68H22624	Cushions (used with LW-13899 or LW-13643 magneto drive gears)	LW-12136, LW-13641

The new magneto drive gear P/N LW-13899 and matching drive cushion P/N 68H22624 have a more convenient design intended to prevent the drive cushion from falling into the accessory housing during magneto removal.

The new magneto drive gear P/N LW-13899 has a slot which serves as a retainer for the new drive cushion P/N 68H22624. The new drive cushion fits into the slot of the new magneto drive gear. Tangs or flanges have been added to the new drive cushion to engage the slots on the new magneto drive gear. That is why they must be installed as a matched set.



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NOTE

Replacement of the old magneto drive gear P/N LW-13642 and drive cushion LW-13641 with the new magneto drive gear and cushion is not mandatory. Replacement with the slotted magneto drive gear P/N LW-13899 or LW-13643 and matching drive cushion P/N 68H22624 can be done during overhaul or as needed for the applicable affected engine models identified in this Service Instruction per the procedure below.

Either magneto drive gear **P/N LW-13643** and matching drive cushion **P/N 68H22624** or new magneto drive gear **P/N LW-13899** and matching drive cushion **P/N 68H22624** must be installed in complete sets as follows:

1. Be sure the Master switch is off to prevent the engine from starting and the engine is cool to the touch.
2. Disconnect the P-lead and any other wires from the magneto, as necessary, to allow for removal of the magneto.

NOTE

Use care not to drop the magneto drive cushions in the engine.

3. Remove the magneto from the accessory housing.
4. Remove and discard the gasket.
5. Remove the magneto drive gear and cushions.
6. Install the new magneto drive cushions **P/N 68H22624** into the magneto drive gear **P/N LW-13899** or **LW-13643** with the tang of the cushion in the slot of the magneto drive gear as shown in Figure 1.
7. Install the new magneto drive gear with the cushions on the magneto.
8. Place the engine on the No. 1 firing position as directed in the Overhaul Manual. Refer to the engine nameplate for the correct magneto timing mark.
9. Remove the timing plug from the top of a single magneto. On a dual magneto, remove the timing plug from each side of the magneto.
10. Rotate the magneto drive gear in the direction of normal rotation until the painted tooth of the large distributor gear is centered in the timing window.
11. With a new magneto gasket in place, install the magneto on the engine and loosely clamp the magneto in position.

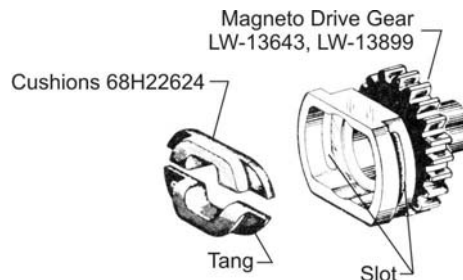


Figure 1
Dual Magneto Drive Gear and Cushions

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12. Attach the red lead of the timing light to the left switch terminal and the green lead to the right switch terminal. Attach the black lead to the magneto housing.
13. Rotate the magneto until the left main breaker is open.
14. Evenly tighten the magneto mounting clamps.
15. Rotate the crankshaft in the direction opposite to normal rotation about 10°. Carefully turn the crankshaft or propeller in the forward direction of rotation until the left main breaker is open which should be at the No. 1 firing position. The right main breaker should open within $\pm 2^\circ$ of the No. 1 firing position.
16. Tighten the magneto hold-down clamps by torquing to 204 in.-lbs. (23 Nm).
17. Install the timing plugs in the magneto and torque to 12 to 15 in.-lbs. (1.4 to 1.7 Nm).

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