

D-2000/D-3000 Series High Tension Magneto

CONTINENTAL IGNITION SYSTEMS

SERVICE SUPPORT MANUAL



Technical Portions Approved by the FAA

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2-3. Maintenance and Overhaul Periods

In addition to performing all magneto-related operational checks as specified by engine and/or airframe manufacturer, prior to each engine shut down, and prior to performing any maintenance on the engine, perform the Magneto RPM drop-off Test as detailed in the Pilot's Operating Handbook (Normally found under Preflight Engine Run-Up Procedures). Refer to "Hot Magneto Test" in Section 3-4 in the event of adverse indications.

If magneto timing is found to be outside engine manufacturer's limits for magneto-to-engine timing, check the contact assemblies (11, 12 & 13) according to the instructions in paragraph "Contact Assembly Inspection" in Section 6-2.1.

Pressurized Ignition Systems must be tested for integrity of the pressurization system at intervals not to exceed 100 hours in service in accordance with Textron Lycoming Service Instruction 1308D or later revision.

Inspect magnetos equipped with snap-ring impulse couplings (39) at the first 500 hours in service and every 500 hours thereafter according to the "Impulse Coupling Inspection" in Section 6-2.2. Inspect magnetos equipped with riveted impulse couplings (39) at the first 100 hours in service and every 100 hours thereafter according to the "Impulse Coupling Inspection" in Section 6-2.2.

Inspect all magnetos according to the "500 Hour Inspection" in Section 6-2.3, at the first 500 hours in service and every 500 hours thereafter. If the magneto has more than 500 hours, inspection as outlined above must take place within the next 100 hours, or at the next scheduled inspection period, whichever occurs first, and at 500-hour intervals thereafter. Make an appropriate logbook entry signifying compliance with this paragraph and referencing the magneto serial numbers involved after completing the inspections.

Ignition systems are subject to the same environmental conditions and wear as the engine. Therefore, overhaul the magnetos and replace the ignition harnesses at the same time as the engine. Engine overspeed, sudden stoppage or other unusual circumstances may require engine overhaul prior to engine manufacturer's recommendations. In such circumstances overhaul the magneto, regardless of "in service time", with particular attention focused on rotating parts, bearings and electrical components.

Inspect magnetos and harnesses for airworthiness at the expiration of four years, without regard to the accumulated operating hours since new or last overhaul.

2-4. D-2000 and D-3000 Magneto Operation

2-4.1. General Theory of Operation

The rotating magnet is of a four pole design. As the magnet is turned the polarity continually changes, thereby producing flux reversals in the magneto coil core. Four flux reversals occur during one complete revolution of the magneto.

With the contact assembly points closed, the flux reversals cause a current to be generated in the primary winding of the magneto coil. The flow of current through this coil produces a magnetic field around the coil. When the cam pushes the contact assembly points open, current ceases to flow and the magnetic field around the primary winding collapses, causing a high voltage to be induced in the secondary winding of the coil. The capacitor,