

SERVICE BULLETIN

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SB643A

**SUPERSEDES
SB632A & SB643
FAA APPROVED**

SUBJECT: MAINTENANCE INTERVALS FOR ALL TCM AND BENDIX AIRCRAFT MAGNETOS AND RELATED EQUIPMENT

PURPOSE: Required maintenance of TCM and Bendix Aircraft Magnetos and Related Equipment

EQUIPMENT AFFECTED: TCM and Bendix S-20, S-200, S-1200, D-2000 and D-3000 Magnetos, Ignition Harnesses, Ignition Switches and Starting Vibrators.

General Information:

The following outlines required maintenance, inspection, cleaning and overhaul intervals of the TCM and Bendix magnetos and related equipment listed under "Equipment Affected".

Detailed Instructions:

1. 100 HOUR, ANNUAL INSPECTION, OR PROGRESSIVE MAINTENANCE.

A. Magneto-to-engine timing checks must be conducted at the shortest of these intervals. Should the magneto-to-engine timing require adjustment due to exceeding the limits specified by the engine manufacturer, a visual inspection of the magneto contact assemblies must be performed. Follow procedures in the PERIODIC MAINTENANCE section of the applicable Service Support Manual, included in Form X40000 Master Service Manual. If internal magneto components require replacement or adjustment, the magneto must be removed from the engine.

B. Ignition Switches must also be functionally tested at the shortest of these intervals. This inspection may be accomplished by performing a "Preflight Magneto RPM Drop" test in accordance with the Aircraft Manufacturer's Pilot's Operating Handbook. Switch action must be smooth and free from sticking. For key type Switches, keys must be removable only in the "OFF" position and the switch must function in accordance with the requirements of Service Bulletins No. 636 and 653.

C. Also at the shortest of these intervals, all Ignition Harness spark plug terminals must be removed from spark plugs, cleaned and inspected. Clean Harness spark plug terminals following procedures in CLEANING section of the applicable Service Support Manual, included in Form X40000 Master Service Manual. Replace all parts found to be broken, brittle, cracked or burned, then lubricate and reinstall Harness following procedures in ASSEMBLY section of the applicable Service Support Manual.

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D. Spark plug condition has a major effect on the continued airworthiness of the engine and its ignition system. Therefore, the importance of proper spark plug maintenance cannot be overemphasized. At the shortest of these intervals, all spark plugs must be inspected and maintained in accordance with the spark plug manufacturer's instructions.

2. IMPULSE COUPLING INSPECTION.

A. Magnetos equipped with snap-ring impulse couplings must be inspected for wear at 500 hour intervals as specified in the latest revision of the applicable Service Support Manual, PERIODIC MAINTENANCE Section, Paragraph 6.2.2.

B. Magnetos with riveted impulse couplings must be inspected for wear at 100 hour intervals as specified in the latest revision of Service Bulletin 599D.

3. 500 Hour Inspection.

A. Magnetos, regardless of engine manufacturer application, must be inspected every 500 hours as outlined in the PERIODIC MAINTENANCE section of the applicable Service Support Manual, Paragraph 6.2.3.

B. Also, all Ignition Harness outlet plates, covers or cap assemblies must be cleaned and inspected at the same time. Clean grommets following procedures in CLEANING section of the applicable Service Support Manual. Replace all parts found to be broken, brittle, cracked or burned, then lubricate and reinstall harnesses following procedures in ASSEMBLY section of the applicable Service Support Manual.

4. Engine Overhaul or Four Year Interval.

A. Magnetos are electro-mechanical devices, which use rotating parts and are subject to the same service treatment, environmental conditions and wear as the engine. Therefore, magnetos must be overhauled when the engine is overhauled. Also at engine overhaul, Ignition Harnesses must be replaced. Ignition switches and starting vibrators must be inspected and tested for airworthiness in accordance with all current service information at engine overhaul.

B. Severe environmental conditions, engine overspeeds, sudden stoppage, immersion and other unusual circumstances may require complete or partial engine overhaul prior to the overhaul time recommended by the engine manufacturer. The magneto is an integral part of the engine and is subject to the same deterioration as the engine under the abnormal conditions listed above. In such circumstances the magneto, regardless of "In Service" time, must be overhauled with particular attention focused on all rotating parts, bearings and electrical components.

C. In addition to the guidelines listed above, magnetos must be overhauled or replaced at the expiration of four years without regard to the accumulated operating hours since new or last overhaul. Also at this time related components, including the High Tension Ignition Harness, Starting Vibrator Assembly and Ignition Switch Assembly, must be inspected for airworthiness in accordance with the procedures contained in their respective Service Support Manual.

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