

3.0 MAINTENANCE

3.1 MAINTENANCE SCHEDULE

3.1.1 100-HOUR INSPECTION

- A. Adjust timing to engine
- B. Inspections
 - 1. Wiring connections and conditions
 - 2. Vent holes (non-pressurized magnetos)
 - 3. P-lead attachment
 - 4. Retard breaker switch wire (retard breaker magnetos)
 - 5. Inspect tachometer drive wire (tachometer drive magnetos)
 - 6. Turbo filter used with pressurized magnetos
 - 7. Inlet nozzle (pressurized magnetos)
 - 8. Orifice vent (pressurized magnetos)
 - 9. Pressure check (pressurized magnetos, if required)

3.1.2 500-HOUR INSPECTION - DIRECT DRIVE MAGNETOS

- A. Cleaning
- B. Ball bearing assembly
- C. Rotor
- D. Coil
- E. Contact points
- F. Condenser
- G. Distributor block
- H. Carbon brush
- I. Lubrication

3.1.3 500-HOUR INSPECTION - IMPULSE COUPLED MAGNETOS

- A. Cleaning
- B. Ball bearing assembly
- C. Rotor
- D. Impulse coupling
- E. Coil
- F. Contact points
- G. Condenser
- H. Distributor block
- I. Carbon Brush
- J. Lubrication

3.1.4 500-HOUR INSPECTION - RETARD BREAKER MAGNETOS

- A. Cleaning
- B. Ball bearing assembly
- C. Rotor
- D. Impulse coupling
- E. Coil
- F. Primary contact points
- G. Retard breaker contact points
- H. Condenser
- I. Distributor block
- J. Carbon brush
- K. Lubrication

3.1.5 ADDITIONAL 500-HOUR INSPECTION PROCEDURES FOR PRESSURIZED MAGNETOS

- A. Inlet nozzle, orifice vent and turbo filter
- B. Inspect inside of magneto for turbocharger contaminants
- C. Frame gasket and screw gasket
- D. Harness cap O-Ring
- E. Pressure testing

3.1.6 500-HOUR INSPECTION - TACHOMETER DRIVE MAGNETOS ONLY

- A. Cleaning
- B. Ball bearing assembly
- C. Rotor
- D. Impulse coupling
- E. Coil
- F. Primary contact points
- G. Tachometer drive points
- H. Condenser
- I. Distributor block
- J. Carbon brush
- K. Lubrication

3.1.7 OPERATIONAL CHECK - ALL MAGNETOS

- A. Before flight or after routine maintenance observe engine operation while running on both magnetos and left or right magneto individually. Both magnetos should demonstrate normal operation and engine should operate within parameters outlined in the engine manufacturer's operating manual. DO NOT FLY AIRCRAFT IF MAGNETOS ARE NOT FUNCTIONING NORMALLY.
- B. Postflight magneto operational check should be performed after each flight. Observe engine operation while running on both magnetos and left or right individually. Both magnetos should demonstrate normal operation and engine should operate within the parameters outlined in the engine manufacturer's operating manual. DO NOT FLY AIRCRAFT IF MAGNETOS ARE NOT FUNCTIONING NORMALLY.

3.2 100-HOUR INSPECTION

The following maintenance procedures should be followed every 100 hours of service or at annual inspection, whichever comes first. Perform maintenance on each magneto.

3.2.1 ADJUST TIMING TO ENGINE

CAUTION: BE SURE IGNITION SWITCH IS IN "OFF" POSITION AND THE CONDENSER LEAD IS GROUNDED.

- A. Turn the engine crankshaft in the normal direction of rotation until the No. 1 cylinder is in the full-advance firing position, following engine manufacturer's procedure for timing of magnetos.

ISSUED			REVISED		
MO	DAY	YR	MO	DAY	YR
05	01	91	01	05	11

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4.0 OVERHAUL

Slick 4300/6300 Series Magnetos should be completely overhauled when conditions indicate. Magnetos must be overhauled at every engine overhaul. In no case should magnetos have in-service times greater than the TBO hour limit for the engine on which it is installed.

Magnetos must be overhauled after a lightning strike on the aircraft, a sudden engine stoppage, prop strike, or immersion.

The following parts must be replaced at overhaul. Additional parts may require replacement depending on conditions as determined during magneto inspection. Install only Champion Aerospace Replacement Parts.

ALL MAGNETOS

- Condenser
- Double Sealed Bearing
- Bearing Cap Assembly
- Coil
- Impulse Coupling
- Oil Seal
- Contact Point Kit
- Rotor Gear
- Distributor Block and Gear

PRESSURIZED MAGNETOS:

In addition to above parts, the following components must be replaced at every overhaul.

- Frame Gasket
- Housing Screw
- Harness Cap 'O' Ring

A complete list of parts that must be replaced at overhaul can be found in Table One (4300 Series) and Table Four (6300 Series). Refer to tables One through Seven as you overhaul your Slick Magneto.

Use only genuine Champion Aerospace manufactured parts obtained from Champion Aerospace approved sources. Genuine Champion Aerospace parts are produced and inspected under rigorous procedures to insure airworthiness and suitability in Slick magnetos. Parts purchased from sources other than Champion Aerospace, even though outwardly identical in appearance may not have had the required tests and inspections performed, may be different in fabrication techniques and materials, and may be dangerous when installed in a Slick magneto. Salvaged magneto parts, reworked parts obtained from non-Champion Aerospace approved sources, or parts the service history of which is unknown or cannot be authenticated, may have been subjected to unacceptable stresses or temperatures, or have other hidden damage, not discernible through routine visual or usual nondestructive testing techniques. This may render service work with this part, even though originally manufactured by Champion Aerospace, unsuitable or unsafe for use in a Slick magneto. Champion Aerospace expressly disclaims any responsibility

for malfunctions, failures, damage or injury caused by use of non-Champion Aerospace approved parts.

Slick magnetos are engineered so that mechanical parts wear at a balanced rate. Consistent and complimentary wear patterns establish the recommended maintenance intervals defined in Champion Aerospace service literature, therefore used, service worn parts should never be used to troubleshoot or repair a magneto, nor should original parts be replaced by used service worn parts on magnetos being returned to service. Further, non-Champion Aerospace manufactured parts may wear at uneven and different rates than original Champion Aerospace manufactured parts, making Champion Aerospace service literature an inappropriate guide to proper maintenance. Parts not manufactured by Champion Aerospace, even if FAA/PMA Approved, may not fit or operate like original Champion Aerospace manufactured parts. FAA testing of PMA parts does not require operation on an engine or flight tests and does not require the test duration to exceed the maintenance intervals called out in Champion Aerospace literature. For these reasons, used service worn parts or parts not manufactured by Champion Aerospace may adversely affect magneto reliability in ways not anticipated by Champion Aerospace and its service literature.

NOTE: AN ALTERNATIVE TO OVERHAUL IS COMPLETE MAGNETO REPLACEMENT WITH A NEW SLICK MAGNETO. NEW SLICK MAGNETOS INCORPORATE ALL THE LATEST DESIGN FEATURES AND ARE A COST EFFECTIVE ALTERNATIVE TO OVERHAUL.

4.1 OVERHAUL PROCEDURE - ALL MODEL MAGNETOS

4.1.1 REMOVE MAGNETO FROM ENGINE

Follow procedures in Section 5.0, Removing Magneto from Engine.

4.1.2 DISASSEMBLE MAGNETO

Proceed with magneto disassembly, following instructions in Sections 6.0.

4.1.3 DISCARD PARTS TO BE REPLACED

Reference Table One, 4300 Series Overhaul Parts Replacement List of Table Two, 6300 Series Overhaul Parts Replacement List. Discard all parts removed for overhaul replacement and REPLACE WITH NEW CHAMPION AEROSPACE PARTS.

Champion Aerospace does not authorize the use of "used" parts as replacement parts for other magnetos. In many cases, subcomponent parts are matched at the factory and will function improperly if used in conjunction with other similar parts.

ISSUED			REVISED		
MO	DAY	YR	MO	DAY	YR
05	01	91	01	05	11

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