

SLICK

Service Bulletin

SB3-08

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TO: Aircraft manufacturers, distributors, dealers, engine overhaul facilities, owners and operators of Slick Aircraft Products aircraft magnetos.

SUBJECT: Mandatory inspections on all Slick 4300/6300 and LASAR™ 4700/6700 magnetos

MAGNETO MODELS

- AFFECTED:
- Slick and LASAR™ magnetos with serial numbers beginning with 0409XXXX and UP.
 - Magnetos which have had carbon brush or distributor block replaced after September 1, 2004.

ENGINE MODELS

AFFECTED: Engines utilizing Slick and LASAR™ magnetos.

AIRFRAME MODELS

AFFECTED: Aircraft utilizing Slick and LASAR™ magnetos.

BACKGROUND INFORMATION:

Field reports indicate operators have experienced premature carbon brush wear. Premature brush wear can lead to failure of the magneto to provide consistent spark and possible loss of engine power. This bulletin describes an inspection schedule for specific serial number ranges and magneto and brush operating times due to observed variations in premature wear rates. The actions required by this Service Bulletin do not provide a solution or terminating action, but are aimed at detecting wear signs before damage grows and results in magneto failure.

COMPLIANCE:

- For all magnetos with serial numbers 0409XXXX through 0611XXXX, and all magnetos that have had a carbon brush or distributor block replaced between September 1, 2004 and November 30, 2006 perform Compliance Steps 2 and 3 only.
- For all magnetos with serial numbers 0612XXXX and UP, and all magnetos that have had a carbon brush or distributor block replaced on or after December 1, 2006, perform Compliance Steps 1 through 3.

COMPLIANCE STEPS

- * Total magneto operating time is defined as magneto engine operating time since new or since carbon brush replacement, whichever is less.
1. For magnetos with some engine operating time, but less than 50 hours of total magneto operating time*, inspect within the next 5 hours of operation. Re-inspect the magneto every 15 - 20 hours of operating time until the total magneto operating time* exceeds 50 hours.

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Subsequently, inspect magnetos to the following schedule:

2. For magnetos with greater than 50 hours to 250 hours of total magneto operating time*, or last inspected at 50 hours or less of total magneto operating time*, inspect at 250 hours ± 10 hours of total magneto operating time*. Subsequently, follow the recommended inspection schedule in the applicable Unison, or engine or airframe manufacturer's Maintenance and Overhaul publication(s). No further special inspections per this bulletin are required unless brush or distributor assembly is replaced. If these components are replaced, return to Compliance Step 1.
 3. For magnetos with greater than 250 hours of total magneto operating time* that have not yet been inspected pursuant to this Service Bulletin, inspect the magneto within the next 50 hours or at the next annual inspection, whichever occurs first. Subsequently, follow the recommended inspection schedule in the applicable Unison, or engine or airframe manufacturer's Maintenance and Overhaul publication(s). No further special inspections per this bulletin are required unless brush or distributor assembly is replaced. If these components are replaced, return to Compliance Step 1.
- The table below summarizes the applicable steps to be taken based on total magneto operating time and serial number range.

COMPLIANCE SUMMARY APPLICABILITY TABLE

Compliance Step	Applicable Inspection Sequence		
	Magneto or New Brush Operating Time (Hours) AT FIRST INSPECTION		
	1 to 50	>50 to 250	>250
Step 1	B		
Step 2	B	A, B	
Step 3			A, B

SERIAL NUMBER APPLICABILITY

A Serial numbers 0409XXXX through 0611XXXX, and all magnetos that have had a carbon brush or distributor block replaced between September 1, 2004 and November 30, 2006.

B Serial numbers 0612XXXX and UP, and all magnetos that have had a carbon brush or distributor block replaced on or after December 1, 2006.

NOTE: This Service Bulletin will be updated when terminating action is implemented by Unison. While work continues to identify such action, these Service Bulletin inspection requirements will continue to be in effect.

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PROOF OF COMPLIANCE: Appropriate logbook entries.

PARTS REQUIRED

PER BULLETIN: As required by inspections described in this Service Bulletin, do one or more of the following: replace magneto, distributor block (4-cylinder distributor kit K3822 or 6-cylinder distributor kit K3823), brush kit K3215, or coil kit K3975 or K5275 specified in Maintenance and Overhaul Manuals L-1363 or L-1503 as applicable.

TOOLS REQUIRED

PER BULLETIN: Slick T-100 Tool Kit, magneto timing light, T-300 SynchroLASAR™ and standard shop tools as applicable.

WEIGHT CHANGE: None.

REQUIRED SERVICE

LITERATURE: Refer to the following literature when performing the instructions listed below:

Slick 4300/6300 Magneto Maintenance and Overhaul Manual L-1363

LASAR™ 4700/6700 Magneto Maintenance and Overhaul Manual L-1503

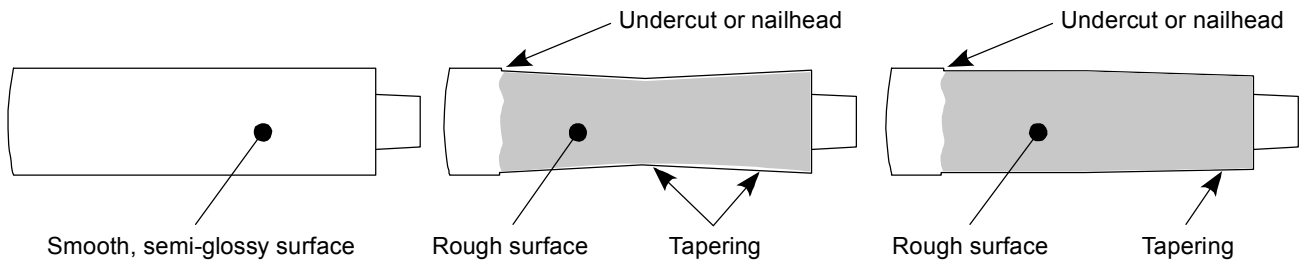
Slick Service Bulletin SB2-08 - Magneto Breaker Cam Inspection

WARRANTY INFORMATION:

If damage or premature wear listed in this Service Bulletin is discovered during inspection, and the magneto is within Unison's 1-year warranty period, the magneto may be returned through your point of sale for warranty replacement. For magnetos outside the 1-year warranty period in which components listed in this bulletin have failed, those components may be returned under warranty through your point of sale.

DETAILED INSTRUCTIONS:

1. Use lighted magnification (4X minimum) to inspect carbon brush for rough surface and possible tapering. **REPLACE CARBON BRUSH THAT SHOWS ANY OF THE UNACCEPTABLE CONDITIONS SHOWN IN FIGURE 1 PER THE APPLICABLE MAINTENANCE AND OVERHAUL MANUAL.**



Carbon Brush
Figure 1

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- Inspect coil tab for carbon residue coating left by carbon brush. See Figure 2. **REPLACE CARBON BRUSH PER THE APPLICABLE MAINTENANCE AND OVERHAUL MANUAL IF SUBSTANTIAL RESIDUE IS FOUND ON COIL TAB.** Use a cotton swab and alcohol to remove residue from coil tab, or replace coil if tab cannot be cleaned. Also inspect high tension coil tab for wear caused by carbon brush. Wear is indicated by a visible depression in the tab. If tab is worn, replace coil.



Acceptable



Unacceptable

Evidence of Improper Wear of Carbon Brush
Figure 2

- Inspect bearing bar for evidence of brush residue contamination, burning, or arcing. See Figure 3. **REPLACE DISTRIBUTOR BLOCK ASSEMBLY PER THE APPLICABLE MAINTENANCE AND OVERHAUL MANUAL IF THERE IS ANY EVIDENCE OF ELECTRICAL ARCING OR BURNING.**



Unacceptable
(Developing bearing bar failure)

Bearing Bar
Figure 3

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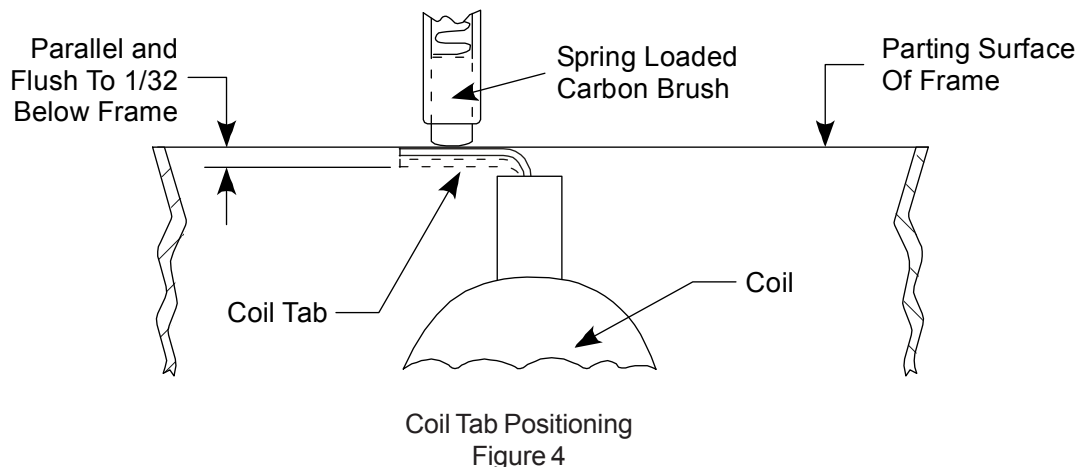
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- If bearing bar does not show evidence of burning or arcing, clean and remove any normal residue per the applicable Maintenance and Overhaul Manual and reassemble into the magneto.

CAUTION: IF THE COIL TAB PROTRUDES ABOVE THE MAGNETO FRAME, IT CAN MAKE DIRECT CONTACT WITH THE DISTRIBUTOR GEAR AXLE AND CAUSE THE MAGNETO TO MALFUNCTION.

- Prior to installing distributor block, make sure coil tab is parallel to and flush with frame mating surface to within 1/32 inch. See Figure 4.



Unison Piston Products Technical Support Hotline: 904-739-4081

Unison Technical Publications Web-site: www.unisonpubs.com

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