



# SERVICE LETTER

Customer  
Support

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**SUBJECT: IGNITION - DISTRIBUTION - SLICK MAGNETO  
SUPPLEMENTAL TIMING INSPECTION INFORMATION  
ATA SYSTEM: 74-20**

## **CHAMPION SLICK MAGNETO 4300/6300**

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**SL No. 4300/6300-74-20-001**

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The following information is provided as a supplement to Slick by Champion and engine manufacturers recommended ignition system inspection procedures.

## CHAMPION RECOMMENDATIONS

At annual or 100-hour inspections, check magneto to engine timing. If engine timing has advanced or retarded (timing drift) more than 4 degrees from the previous inspection set point or more than 5 degrees since original installation, refer to the Slick by Champion Master Service Manual, L-1363, for guidance on troubleshooting and correction.

If the timing drift is 4 degrees or less, re-time the magneto to the engine per the engine manufacturers recommended procedure. Record the set timing in the engine logbook inspection entry.

Note that timing drift of more than 4 degrees within any 100-hour period warrants immediate investigation and correction.

Example: On a 20 degree base timing engine, if the timing is found to be 15 degrees Before Top Dead Center (BTDC) or 25 degrees BTDC, in a 100-hour interval, this is considered excessive timing and should be investigated for cause.

## ADDITIONAL INFORMATION

Champion employs a magneto design where the wear of breaker cam surfaces and point surface erosion offset each other, resulting in minimal timing drift. However, uneven wear can occur, resulting in a larger drift in engine timing.

Timing retards when the cam surface wears more quickly than the point surfaces. Timing advances when the point surfaces erode more quickly than the cam.

When magneto timing drift exceeds 5 degrees, the magneto output may be diminished and ignition of the fuel-air mixture becomes less effective. Symptoms of this condition can include: hard starting, a rough running engine, and RPM/differential RPM drops exceeding the engine manufacturers' allowable preflight mag checks.

## REFERENCES

Reference L-1363 for complete servicing instructions for 4300/6300 series magnetos. Section 10 specifically addresses troubleshooting magneto-related issues including hard starting and rough running engines.

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