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MANDATORY SERVICE BULLETIN

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Service Bulletin No. 516A
(Supersedes Service Bulletin No. 516)
Engineering Aspects are
FAA Approved

SUBJECT: Inspection and Removal of TCM and Bendix S-20 and S-1200 Series Impulse Coupling Magnetos

MODELS AFFECTED: All Lycoming aircraft engines with TCM and Bendix S-20 and S-1200 series impulse coupling magnetos.

TIME OF COMPLIANCE: Within the next 10 hours of engine operation

REASON FOR REVISION Exclusion of Bendix Model S-20 or S-1200 magnetos with a snap-ring impulse coupling assembly from the 100-hour inspection and replacement requirement.

NOTICE: Incomplete review of all the information in this document can cause errors. Read the entire Service Bulletin to make sure you have a complete understanding of the requirements.

Required Action

1. Within the next 10 hours of engine operation, identify whether your magneto is a TCM or Bendix Model S-20 or S-1200 with an impulse coupling starting feature.
2. Determine if your TCM or Bendix Model S-20 or S-1200 with an impulse coupling starting feature has a riveted impulse coupling assembly or a snap-ring impulse coupling assembly. Magnetos with snap-ring impulse coupling assemblies have an “A” stamped in the lower-right quarter of the magneto identification plate (data plate).
3. If a riveted impulse coupling assembly is identified, immediately perform the riveted impulse coupling inspection procedure as detailed in the latest edition of Lycoming Service Bulletin No. SB-425.
4. TCM or Bendix Model S-20 or S-1200 riveted impulse coupling assembly must be replaced **no later than** the next magneto 500-hour inspection with a TCM or Bendix Model S-20 or S-1200 snap-ring impulse coupling assembly.

Lycoming will no longer provide TCM or Bendix Model S-20 or S-1200 magnetos with a riveted impulse coupling assembly on new, remanufactured, or overhauled Lycoming aircraft engines or as service parts for engines.

Refer to the latest edition of Lycoming Engines Service Bulletin No. SB-425 for a reprint of TCM Service Bulletin MSB645 which contains alternatives to the reoccurring 100-hour inspections of riveted impulse coupling assemblies and a listing of affected magneto part numbers.

BACKGROUND:

Presently, magnetos utilize two methods for generating and retarding the ignition spark required for engine starting. The mechanical method, called impulse coupling, uses the energy from a coil spring to snap the magneto through its firing position to produce a spark and to delay the event until the piston is near top dead center (TDC). The retard breaker or shower of sparks method accomplishes the same thing electronically using an ignition vibrator.

The TCM and Bendix S-20 and S-1200 series magnetos, which utilize a riveted impulse coupling, have demonstrated unsatisfactory service history. Impulse couplings and stop pins are subject to wear during use. **Service experience has shown that due to the design of the TCM and Bendix magnetos with a riveted impulse coupling, excessive wear of the impulse coupling components may lead to magneto seizure and resultant engine failure**

NOTICE: Starting performance is not an indicator of the coupling condition. The riveted impulse coupling will function adequately during engine start even though the coupling is worn.