AIRWORTHINESS DIRECTIVE

On the commencement date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below repeals Airworthiness Directive (**AD**) AD/ELECT/42 Amdt 1 and issues the following AD under subregulation 39.001 (1) of CASR 1998 and subsection 33 (3) of the *Acts Interpretation Act 1901*. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct an unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Electrical Equipment Miscellaneous (including Magnetos)

AD/ELECT/42 Amdt 2 — Bendix Impulse Couplings — 13/2017

Applicability: All Bendix Magnetos with type designations:

S4LN-21/1225/1227 S4RN-21/1225/1227
S6LN-21/23/25/1225/1227 S6RN-21/23/25/1225/1227
S4LN-200 P/N 10-163005-7 D-2021/2031,
D-3000 (all)

Except Bendix Blue Label Impulse Coupled Magnetos Serial Number 8236001 and above, or Bendix Red Label Impulse Coupled Magnetos with the following Serial Numbers and above:

S-20 Series:	B-001171 or A297043;
S-200 Series:	B-001732 or A297043;
S-1200 Series:	B-001162 or A297043;
D-2000 Series:	35550;
D-3000 Series:	B-000249 or 5806.

Requirement: For all applicable impulse couplings having less than 300 operating hours -

1. Remove magneto from the engine in accordance with engine/aircraft manufacturers published instructions;
2. Place the magneto in a suitable work stand with the impulse coupling facing up;
3. Use finger pressure to push inward on the toe of each flyweight so that the flyweight heel protrudes outward;
4. Using a fine number 1 double cut 1/2 inch wide file at least 3/32 inch thick pass the file across the heel of the flyweight attempting to remove material. If the flyweight has been properly heat treated the file will glide smoothly over the heel of the flyweight removing no material. If the flyweight is not properly heat treated (soft) the file will not glide easily across the surface of the flyweight heel and material will be removed;

Electrical Equipment Miscellaneous (including Magnetos)

AD/ELECT/42 Amdt 2 (continued)

5. If an improperly heat treated (soft) flyweight is found, immediately remove and replace the cam assembly and/or the impulse coupling assembly with an assembly meeting the requirement of this AD, following procedures in the Magneto Overhaul Instructions and paying strict attention to Notes and Cautions in those Instructions;
6. Inspect the impulse coupling stop pins for wear and replace as necessary;
7. After flyweights have been identified, stop pins inspected, and the impulse coupling reinstalled on the magneto; if the magneto was removed; identify the magneto by stamping a 1/16 inch letter F in the upper right corner of the identification plate to indicate that this AD and Bendix Service Bulletin No. 623 as in force from time to time have been complied with.;
8. Reinstall the magneto following the manufacturer's instructions for that task;
9. Make an appropriate engine log book entry for the above maintenance including recording the magneto serial number to certify that this AD and Bendix Service Bulletin No. 623 as in force from time to time have been complied with;
10. Inspect all spare impulse coupling assemblies, cam assemblies and magnetos following the same procedures described in Steps 3 and 4 of this AD. If both flyweights are found acceptable in accordance with Bendix SB 623 as in force from time to time, identify the cam assembly by applying yellow Dykem or yellow lacquer to the heel of each flyweight. Stamp F on Data plate as described in Step 7.

Note 1. The magneto should be removed from the engine only to the extent necessary to perform the inspection described herein. Depending on the engine application it may not be necessary to remove the harness from the magneto for the inspection procedure.

Note 2. All magnetos with the impulse coupling recessed into the magneto flange must have the impulse coupling removed from the magneto to perform the inspection. This is a bench operation and will require the magneto to be removed from the engine and the harness removed from the magneto.

Note 3. Whenever an impulse coupling is removed from a magneto, it must be removed following manufacturer's published procedures paying strict attention to Notes and Conditions. Follow manufacturers published procedures, cautions and torque settings upon re-assembly. Any cotter pin Bendix P/N 10-90751-18 removed during disassembly must be discarded and replaced.

Note 4. FAA AD 82-20-01 as in force at the time of issue of this AD specifies the above checks "For impulse couplings having less than 300 operating hours".

Note 5: The words "as in force from time to time" require compliance with the most recent version of the referenced document.

Note 6: FAA AD 82-20-01 as in force at the time of issue of this AD and Bendix Service Bulletin No. 623 as in force from time to time refer.

Electrical Equipment Miscellaneous (including Magnetos)

AD/ELECT/42 Amdt 2 (continued)

Compliance: Within 100 hours of engine operation after 30 November 1982.

Note 7: Compliance with AD/ELECT/42 Amdt 1 constitutes compliance with this AD.

This AD commences on 21 July 2017.

Background: Engine stoppage, attributed to failure of the magneto impulse coupling, has occurred in two aircraft (less than 200 hours operating time). It was found that the impulse coupling flyweights had been improperly heat treated (soft) and had worn rapidly and jammed. It is believed this damaged the engine accessory drive resulting in engine failure.

Amendment 1 of this Directive was issued to highlight the latest revision of the referenced Service Bulletin. Torque figures and procedures were revised.

Amendment 2 is issued to correct a typographical error in the number of the referenced FAA AD and to remove a reference to AD/ELEC/27B in Note 4 as AD/ELEC/27B has been repealed.

Ben Wilson
Delegate of the Civil Aviation Safety Authority

27 June 2017