



SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. 0063

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DATE: October 5, 1982

SUBJECT: Possible Bendix Impulse Coupling Defect as noted by Emergency AD issued on or about 9/9/82

MODELS: F-28C prior to S/N 480 (except S/N 465); 280C prior to S/N 1183 (except S/N 1172)

EFFECTIVITY: As noted in the text

This Service Directive Bulletin is required for all noted serial numbered helicopters with Bendix 2000 or 3000 series magnetos equipped with impulse couplings and having less than 300 hours of time in service.

Helicopters in the above series that have been modified for shower of sparks starting systems as described by Enstrom Service Information Letter No. 0091 or have magneto P/N LW-385144-112 or P/N LW-682605-17 are not affected.

Helicopters with the affected serial numbers which have not been modified as noted, with less than 300 hours of time in service, must have the following inspection performed prior to the next flight.

See pages 2 and 3 for inspection requirements.



**Engine Products
Division**

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Engineering Aspects are
FAA Approved**

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AIRCRAFT

- SUBJECT:** Inspection of impulse coupling cam assemblies.
- REASON FOR BULLETIN:**
1. To alert all users of possible impulse coupling failure, with resultant possible engine damage or failure.
 2. To provide an inspection procedure to preclude failure of the impulse coupling.
- EQUIPMENT AFFECTED:** All Bendix magnetos with type designations as follows:
- | | |
|--------------------------|-------------------------|
| S4LN-21/1225/1227 | S4RN-21/1225/1227 |
| S4LN-200 P/N 10-163005-7 | S6LN-21/23/25/1225/1227 |
| S6RN-21/23/25/1225/1227 | D-2021/2031 |
| D-3000 all | |
- (Refer to Bendix Publication L-1147 Aircraft Impulse Coupling Cross Reference Data as required.)*
- Except Bendix Blue Label magnetos above S/N 8236001.
- Except Bendix Red Label magnetos above serial numbers as indicated below:
- | | | | |
|---------|----------|----|---------|
| S-20: | B-001171 | or | A297043 |
| S-200: | B-001732 | or | A297043 |
| S-1200: | B-001162 | or | A297043 |
| D-2000: | 35550 | | |
| D-3000: | B-000249 | or | 5806 |

Maintenance (Spare) Parts Affected:

1. All impulse coupling cam assemblies.
2. All impulse coupling assemblies.
3. All spare magnetos incorporating an impulse coupling.

Compliance:

1. All magnetos having impulse couplings with less than 300 operating hours must be inspected and identified as having complied with this Service Bulletin prior to the next engine start.
2. All spare parts must be inspected and identified before being put into service.

General Information:

Some improperly heat treated (soft) flyweights have been reported on impulse couplings currently in service. If this condition exists and is not detected, impulse coupling failure could occur, causing possible engine damage or failure. The flyweights must be inspected in accordance with the instructions in this Service Bulletin and if defective (soft) the im-

pulse coupling or cam assembly must be replaced immediately.

Detailed Instructions:

(Refer to appropriate Bendix Magneto Overhaul Instructions for the magneto series being inspected.)

Note

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

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 completely removed from the engine and the harness removed from the magneto.



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Note

Whenever an impulse coupling is removed from a magneto, it must be removed following published procedures, paying strict attention to notes and cautions. Upon reassembly, the castellated nut securing the impulse coupling to the drive shaft must be torqued to 15-25 ft lb. The cotter pin, Bendix P/N 10-90751-18, removed during disassembly, must be discarded and replaced.

1. Following published procedures remove the magneto from the engine.
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 (see figure 1) of each flyweight so that the flyweight heel protrudes outward.
4. Using a fine # 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. (See figure 1). 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.

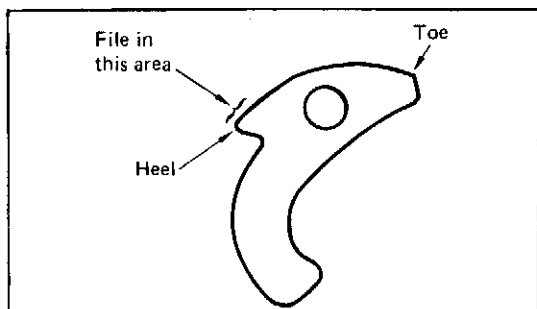


Figure 1

5. If an improperly heat treated (soft) flyweight is found, immediately remove and replace the cam assembly and/or the impulse coupling assembly following procedures in the magneto overhaul instructions, and paying strict attention to notes and cautions.
6. Inspect the impulse coupling stop pins for wear and replace as necessary.
7. After flyweights and stop pins have been inspected and the impulse coupling reinstalled on

the magneto (if removed), identify the magneto by stamping a 1/16 inch letter "F" in the upper right corner of the identification plate to indicate this Service Bulletin has been complied with.

8. Reinstall the magneto on the engine following published procedures.
9. Make an appropriate engine log book entry, recording magneto serial number, to indicate that this Service Bulletin has been complied with.
10. Inspect all spare parts assemblies, including magnetos, following the same procedures described in steps 3 and 4 of the Detailed Instructions of this Service Bulletin. If both flyweights are found acceptable, identify the cam assembly by applying yellow Dykem or yellow lacquer to the heel of each flyweight. On magneto spares, stamp a 1/16 inch letter "F" in the upper right corner of the identification plate to indicate this Service Bulletin has been complied with.
11. Any cam assembly with an improperly heat treated (soft) flyweight should be returned to the manufacturer through a currently Authorized Bendix Engine Products Division Distributor for warranty replacement or credit.

Warranty Consideration:

All impulse coupled magnetos in service less than one year will be covered by warranty for inspection of the impulse coupling cam assembly, allowing up to one hour at a maximum labor charge of \$22 for shallow flange magnetos, and allowing one and one quarter hours at a maximum labor charge of \$27.50 for deep flange magnetos. Compensation for the work involved in complying with this Service Bulletin will be made in accordance with established warranty policy upon submission of a Warranty Claim submitted no later than March 31, 1983 through a currently Authorized Bendix Engine Products Division Distributor.

Note

Warranty replacement of cam assembly will not be made if cam assembly passes the inspection described in this Service Bulletin.

Special Tools Required:

Refer to applicable manuals.

Man Hours Required:

1.0 hour per engine with shallow flange mag.
1.25 hours per engine with deep flange mag.

Weight Change:

None