



April 7, 1986

S/M

VENDOR SERVICE PUBLICATION

TO: All Owners/Operators, Piper Distributors, Factory
Direct Dealers and Piper Field Service Facilities

SUBJECT: AVCO Lycoming Service Bulletin No. 464A

MODELS AFFECTED:

PA-12 Super Cruiser
PA-14 Family Cruiser
PA-16 Clipper
PA-18 Super Cub
PA-20 Pacer
PA-22 Tripacer/Colt
PA-23-150/160 Apache
PA-23-235 Apache
PA-23-250 Aztec
PA-24-180/250 Comanche
PA-25-150/235/260 Pawnee
PA-28-150/160/180 Cherokee
PA-28-140 Cherokee
PA-28-161 Warrior II
PA-28-181 Archer II
PA-28R-180 Arrow
PA-28R-200 Arrow II
PA-28R-201 Arrow III
PA-28RT-201 Arrow IV
PA-28-235 Cherokee
PA-30 Twin Comanche
PA-32-300 Cherokee Six
PA-32-301 Saratoga
PA-34-200 Seneca
PA-36-300 Brave
PA-38-112 Tomahawk
PA-39 Twin Comanche
PA-44-180 Seminole
PA-44-180T Turbo Seminole

SERIAL NUMBERS AFFECTED:

12-02 through 12-4036
14-01 through 14-523
16-01 through 16-736
18-01 through 18-8309025
20-01 through 20-1121
22-01 through 22-9848
23-01 through 23-2046
27-505 through 27-622
27-01 through 27-2504
24-01 through 24-2387
25-01 through 25-8156024
28-01 through 28-7505261
28-20001 through 28-7725290
28-7716001 through 28-8516099
28-7690001 through 28-8590045
28R-30001 through 28R-7130019
28R-35001 through 28R-7635545
28R-7737001 through 28R-7837335
28R-7918001 through 28R-8218039
28-10001 through 28-7710089
30-01 through 30-2000
32-40001 through 32-7940290
32-8006001 through 32-8506021
34-7250001 through 34-7450220
36-7760001 through 36-8160023
38-78A0001 through 38-82A0122
39-01 through 39-155
44-7995001 through 44-8195040
44-8107001 through 44-8207031

COMPLIANCE TIME:

As specified in attached Bendix Service
Bulletin No. 623A.

PURPOSE: To distribute AVCO Lycoming Service Bulletin No. 464A to all Owners/Operators, Piper Distributors, Factory Direct Dealers and Piper Field Service Facilities.

The attached AVCO Lycoming Service Bulletin addresses a potential for impulse coupling failure. Failure of an impulse coupling can result in total loss of engine power. Affected AVCO Lycoming equipment may be installed in the above listed Piper airplanes.

AVCO LYCOMING DIVISION

WILLIAMSPORT, PENNSYLVANIA 17701

Service Bulletin



DATE:


October 18, 1985

Service Bulletin No. 464A
(Supersedes Service Bulletin No. 464)
Engineering Aspects are
FAA Approved

SUBJECT:

Bendix Service Bulletin Revision No. 623A.

Supplement No. 1 to Service Bulletin No. 464 is a revision of Bendix Service Bulletin No. 623.

	Bendix Engine Products Division Jacksonville, Fl. 32245-7880
SERVICE BULLETIN	JP- 00278
Engineering Aspects are FAA Approved	Bulletin No. 623A Date 9/1982 Revised 8/1984

SUBJECT:

Inspection of impulse coupling cam assemblies.

REASON FOR BULLETIN:

- 1. To alert all users of possible impulse coupling 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. The flyweights must be inspected in accordance with the instructions in this Service Bulletin and if defective (soft) the impulse 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.

CAUTION

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 ft. lbs. and cotter pinned with new pin. If unable to install pin, torque nut to next castle, not to exceed 25 ft. lbs. and install pin. Removed pin must be discarded and replaced with a new cotter pin (P/N 10-90751-18).

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.

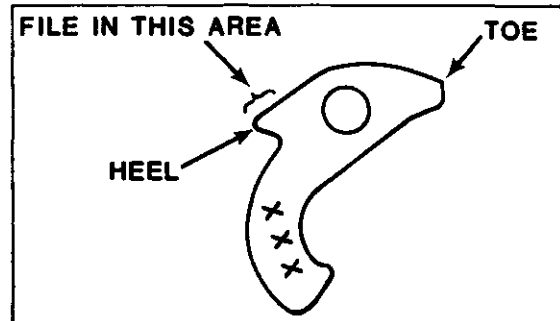


Figure 1.

Note:

XXX indicates heat treated flyweight by lot number

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.
12. A new method of marking is being implemented to permanently identify heat treated cam assembly flyweights. See figure "1" for location. Pending consumption of current inventory, there will be a mixture of assemblies identified by the following methods.
 1. Original method ---- Yellow paint (Dykern or Lacquer) on the heel of each flyweight.
 2. New method ---- Stamped numbers as indicated in figure "1" on each flyweight.

WARRANTY CONSIDERATION:

None applicable

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