



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:SERIAL NUMBERS AFFECTED:

PA-12 Super Cruiser	12-02 through 12-4036
PA-14 Family Cruiser	14-01 through 14-523
PA-16 Clipper	16-01 through 16-736
PA-18 Super Cub	18-01 through 18-8309025
PA-20 Pacer	20-01 through 20-1121
PA-22 Tripacer/Colt	22-01 through 22-9848
PA-23-150/160 Apache	23-01 through 23-2046
PA-23-235 Apache	27-505 through 27-622
PA-23-250 Aztec	27-01 through 27-2504
PA-24-180/250 Comanche	24-01 through 24-2387
PA-25-150/235/260 Pawnee	25-01 through 25-8156024
PA-28-150/160/180 Cherokee	28-01 through 28-7505261
PA-28-140 Cherokee	28-20001 through 28-7725290
PA-28-161 Warrior II	28-7716001 through 28-8516099
PA-28-181 Archer II	28-7690001 through 28-8590045
PA-28R-180 Arrow	28R-30001 through 28R-7130019
PA-28R-200 Arrow II	28R-35001 through 28R-7635545
PA-28R-201 Arrow III	28R-7737001 through 28R-7837335
PA-28RT-201 Arrow IV	28R-7918001 through 28R-8218039
PA-28-235 Cherokee	28-10001 through 28-7710089
PA-30 Twin Comanche	30-01 through 30-2000
PA-32-300 Cherokee Six	32-40001 through 32-7940290
PA-32-301 Saratoga	32-8006001 through 32-8506021
PA-34-200 Seneca	34-7250001 through 34-7450220
PA-36-300 Brave	36-7760001 through 36-8160023
PA-38-112 Tomahawk	38-78A0001 through 38-82A0122
PA-39 Twin Comanche	39-01 through 39-155
PA-44-180 Seminole	44-7995001 through 44-8195040
PA-44-180T Turbo Seminole	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.

	<b>Bendix Engine Products Division</b> Jacksonville, FL. 32245-7880
<b>SERVICE BULLETIN</b> 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.

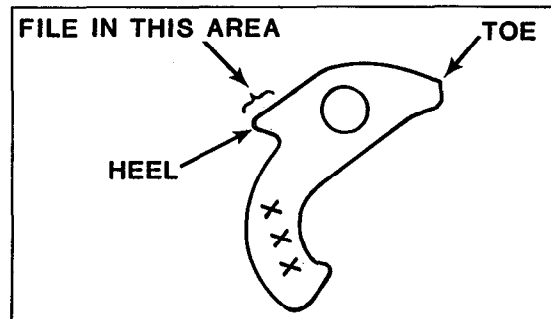


Figure 1.

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 (Dykem 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