



Piper Aircraft Corporation
Vero Beach, Florida, U.S.A.

SERVICE No. 836A

BULLETIN

* **PIPER CONSIDERS** *
* **COMPLIANCE MANDATORY** *

August 26, 1986

S/M

FAA Approved

Date

(Service Bulletin No. 836A supersedes and voids Service Bulletin No. 836, dated May 21, 1986)

SUBJECT:

Aluminum Wire Inspection/Replacement

REASON FOR REVISION:

To correct Serial Numbers Affected and Revise Instructions.

MODELS AFFECTED:

SERIAL NUMBERS AFFECTED:

- E-2/J-2 Series Cub
- J-3, NE-1, L-4 Series Cub
- J-4 Series Coupe
- J-5, J-5C, L-14, AE-1, HE-1 Series
Cub Cruiser
- PA-11 Cub Special
- PA-12 Super Cruiser
- PA-14 Family Cruiser
- PA-15 Vagabond
- PA-16 Clipper
- PA-17 Vagabond
- PA-18 Super Cub
- PA-19 Pacer
- PA-20 Pacer
- PA-22 Tripacer/Colt
- PA-23-150/160 Apache
- PA-23-235 Aztec
- PA-23-250 Aztec
- PA-24-180/250 Comanche
- PA-24-260 Comanche
- PA-24-400 Comanche
- PA-25-150 Pawnee
- PA-25-235 Pawnee
- PA-25-260 Pawnee
- PA-28-140 Cherokee
- PA-28-150/160 Cherokee
- PA-28-151 Warrior
- PA-28-161 Warrior II
- PA-28-180 Cherokee
- PA-28R-180 Arrow
- PA-28-181 Archer II

- All
- All
- All
- 5-01 through 5-1389
- 11-01 through 11-1678
- 12-01 through 12-4036
- 14-01 through 14-523
- 15-01 through 15-388
- 16-01 through 16-736
- 17-01 through 17-215
- 18-01 through 18-8309025
- 19-01 through 19-03
- 20-01 through 20-1121
- 22-01 through 22-9848
- 23-01 through 23-2046
- 27-505 through 27-622
- 27-01 through 27-7954121
- 24-01 through 24-3687
- 24-3642 through 24-6000
- 26-01 through 26-148
- 25-01 through 25-731
- 25-2000 through 25-8056038
- 25-4415 through 25-8156024
- 28-20001 through 28-7725290
- 28-01 through 28-4377
- 28-7415001 through 28-7715314
- 28-7716001 through 28-8216226
- 28-671 through 28-7505259 and 28-E13
- 28R-30001 through 28R-7130013
- 28-7690001 through 28-8290061

(over)
ATA: 2400

MODELS AFFECTED: (Cont'd)

PA-28R-200 Arrow/Arrow II
 PA-28R-201 Arrow III
 PA-28-201T Turbo Dakota
 PA-28R-201T Turbo Arrow III
 PA-28RT-201 Arrow IV
 PA-28RT-201T Turbo Arrow IV
 PA-28-235 Cherokee
 PA-28-236 Dakota
 PA-30 Comanche
 PA-31-300 Navajo
 PA-31-310 Navajo
 PA-31-325 Navajo
 PA-31-350 Navajo Chieftain
 PA-31P Pressurized Navajo
 PA-31T Cheyenne/Cheyenne II
 PA-31T1 Cheyenne I
 PA-32-301T Turbo Saratoga
 PA-34-200 Seneca I
 PA-34-200T Seneca II
 PA-34-220T Seneca III
 PA-36-285 Brave
 PA-36-300 Brave
 PA-36-375 Brave
 PA-38-112 Tomahawk
 PA-39 Twin Comanche
 PA-44-180 Seminole
 PA-44-180T Turbo Seminole

SERIAL NUMBERS AFFECTED: (Cont'd)

28R-35001 through 28R-7635545
 28R-7737001 through 28R-7837317
 28-7921001 through 28-7921091
 28R-7703001 through 28R-7803372
 28R-7918001 through 28R-8118082
 28R-7931001 through 28R-8131192
 28-10001 through 28-7710089 and 28-E11
 28-7911001 through 28-8211013
 30-02 through 30-2000
 31-228 through 31-511
 31-05 through 31-8012070
 31-7400990 through 31-8012070
 31-5001 through 31-8052153
 31P-03 through 31P-7730012
 31-7400001 through 31-7920094
 31-7804002 through 31-7904057
 32-8024001 only
 34-7250001 through 34-7450220
 34-7570001 through 34-8170092
 34-8133001 through 34-8233205
 36-7360001 through 36-7660135
 36-7760001 through 36-7960078
 36-7802001 through 36-7902051
 38-78A0001 through 38-82A0122
 39-01 through 39-155
 44-7995001 through 44-8195026
 44-8107001 through 44-8207020

COMPLIANCE TIME: At the next regularly scheduled inspection event, but not to exceed fifty (50) hours of operation.

PURPOSE: Field reports have been received of corrosion between the aluminum terminal and aluminum wire at the battery positive post, resulting in overheating of the wire due to high electrical resistance. If this condition exists and is left uncorrected, excessive heat build-up could result in an electrical fire. Corrosion and resulting high resistance can also occur in the battery to ground, battery to master relay, master relay to starter solenoid, starter solenoid to starter and engine return ground cables.

INSTRUCTIONS:

1. On each affected aircraft, locate and identify the following cables:
 - A. Battery to ground
 - B. Battery to master relay
 - C. Master relay to starter solenoid
 - D. Starter solenoid to starter
 - E. Engine return ground cable (engine to airframe)

INSTRUCTIONS: (Cont'd.)

2. Inspect the cables listed above for the presence of aluminum wire.
3. If aluminum wire is found, replace the affected cable(s) with copper cable(s).

NOTE: Replacement cables for AL-1 wire shall be fabricated of AN-4 copper wire; for AL-00 wire, fabricate from AN-2 copper wire, using copper wire listed below, all wire recommended is of 150 C. rating.

Copper Wire

| | |
|----------------|----------------|
| Mil-W-22759/4 | Mil-W-22759/41 |
| Mil-W-22759/8 | Mil-W-81044/5 |
| Mil-W-22759/13 | Mil-W-81044/6 |
| Mil-W-22759/16 | Mil-W-81044/8 |
| Mil-W-22759/34 | Mil-W-81044/9 |

Use appropriate terminals listed below or equivalent.

| <u>AN-2</u> | <u>AMP</u> | <u>AMP</u> | <u>Mil. Spec.</u> |
|-------------|------------|------------|-------------------------------|
| 1/4 | 51982 | 320383 | MS20659-113 |
| 1/4 | 51982-1 | 322870 | MS20659-147 |
| 5/16 | 51982-2 | 321600 | MS20659-114 |
| 1/4 | 324034 | - | MS20659-113 Requires 90° bend |
| 3/8 | 35249 | - | MS20659-114 Requires 90° bend |
| 3/8 | 321600 | - | MS20659-114 |
| 1/2 | 51982-3 | 321602 | MS20659-133 |

| <u>AN-4</u> | <u>AMP</u> | <u>AMP</u> | <u>Mil. Spec.</u> |
|-------------|------------|------------|-------------------------------|
| 1/4 | 321671 | - | MS25036-123 |
| 5/16 | 322010 | - | MS25036-124 |
| 3/8 | 322898 | - | MS25036-125 Requires 90° bend |
| 3/8 | 322011 | - | MS25036-125 |
| 1/4 | 33469 | - | MS20659-111 |
| 5/16 | 33470 | - | MS20659-132 |
| 3/8 | 33471 | - | MS20659-112 |
| 3/8 | 324102 | - | MS25036-125 Requires 90° bend |
| 3/8 | 321121 | - | MS25189-115 |

CAUTION: Use of proper crimping tool for copper cable/terminal combination utilized is required.

MATERIAL REQUIRED:

To be determined by inspection.

(over)

AVAILABILITY OF PARTS:

Your Piper Field Service Facility or local procurement.

EFFECTIVITY DATE:

This Service Bulletin is effective upon receipt.

SUMMARY:

Please contact your Piper Field Service Facility to arrange for compliance with this Service Bulletin in accordance with Compliance Time indicated.

NOTE: If you are no longer in possession of this aircraft, please forward this information to the present owner.