



Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida, U.S.A. 32960

SERVICE BULLETIN

NO. 1216B

BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

Date: September 5, 2012

(S)

Service Bulletin 1216B supersedes Service Bulletin 1216A.

NOTE: Service Bulletin 1216 superseded Service Bulletin 1011.

SUBJECT: AILERON RIB INSPECTION

REASON FOR REVISION: To provide a means of more easily visually identifying ailerons that have been replaced or reworked to eliminate the recurring inspection requirements mandated by this Service Bulletin.

Airplanes in compliance with Service Bulletin 1216A and Service Bulletin 1216 are already in compliance with Service Bulletin 1216B. Airplanes in compliance with Service Bulletin 1011 must also comply with Service Bulletin 1216B.

MODELS AFFECTED:

PA-32-301 Saratoga
PA-32-301T Turbo Saratoga
PA-32R-301 Saratoga SP
PA-32R-301T Turbo Saratoga SP
PA-32R-301 Saratoga II HP
PA-32R-301T Saratoga II TC
PA-32-301FT Piper 6X
PA-32-301XTC Piper 6XT

SERIAL NUMBERS AFFECTED:

32-8006001 thru 32-8606023, 3206001 thru 3206088
32-8024001 thru 32-8424002
32R-8013001 thru 32R-8613006; 3213001 thru 3213041
32R-8029001 thru 32R-8629006; 3229001 thru 3229003
3213029, 3213042 thru 3213103, 3246001 thru 3246244
3257001 thru 3257493
3232001 thru 3232074
3255001 thru 3255051

COMPLIANCE TIME:

For aircraft with 500 or more hours of time in service, compliance to coincide with the next regularly scheduled maintenance event, but not to exceed the next one hundred (100) hours time in service. Thereafter, compliance to be accomplished on a recurring basis, at a frequency interval not to exceed one hundred (100) hours time in service.

NOTE: The recurring inspection requirement described in this Service Bulletin can be relieved by accomplishing one of the following terminating actions:

- Replace the factory-installed ailerons with new Ailerons, Piper part number (P/N) 38650-007 (right side) and P/N 38650-008 (left side).

or

- Rework the factory-installed ailerons by replacing the existing outboard aileron nose ribs with new Outboard Aileron Nose Ribs, Piper P/N 86398-009 (right side) and P/N 86398-008 (left side).

ATA: 5755

(OVER)

PURPOSE:

Part I of this Service Bulletin provides instructions for identifying ailerons that require the recurring inspection mandated by Part II of this Service Bulletin.

Part II of this Service Bulletin provides instructions for the recurring inspection of the ailerons to identify cracks in the outboard aileron nose ribs.

Part III of this Service Bulletin provides procedures to eliminate the recurring inspection mandated by **Part II** of this Service Bulletin.

A service history review reveals that over time, cracks may develop in the aileron nose rib common to the outboard aileron hinge fitting. Left undetected, these cracks may lead to separation of the hinge fitting from the nose rib, resulting in impairment of aileron control.

INSTRUCTIONS:

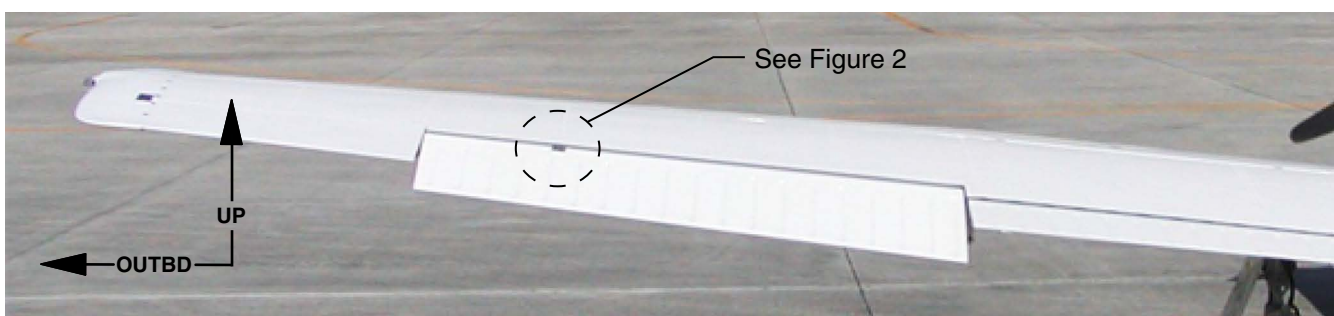
All instructions contained in this Service Bulletin are applicable to both the right and left side ailerons.

Part I. Identification of Mounting Hardware

Locate the area of the aileron shown in Figure 1, and examine the hardware that fastens the outboard aileron hinge fitting to the web of the aileron nose rib. (See Figure 2)

- If nuts are visible, along with a threaded portion of the bolts as shown in Figure 2, the aileron is acceptable for continued use without a recurring inspection or replacement. Proceed to **Part IV** Documentation of Compliance.
- If bolt heads are visible, carefully examine the adjacent area of the nose rib web for the presence of countersunk head rivets, as shown in Figure 3. These rivets indicate that a nut plate has been installed on the outboard side (hidden side) of the nose rib web, as shown in Figure 4. These rivets may be hidden by paint. If in doubt, use a borescope to examine the far side of the nose rib web for the presence of nut plates.
 - If the hardware that fastens the outboard aileron hinge fitting to the web of the aileron nose rib consists exclusively of bolts, washers and nuts (as determined by borescope inspection), the aileron is acceptable for continued use. No further inspection or replacement is required. Proceed to **Part IV** Documentation of Compliance.
 - If nut plates are installed on the web of the aileron nose rib, a recurring inspection is required. Proceed to **Part II** Recurring Inspection for Cracks.

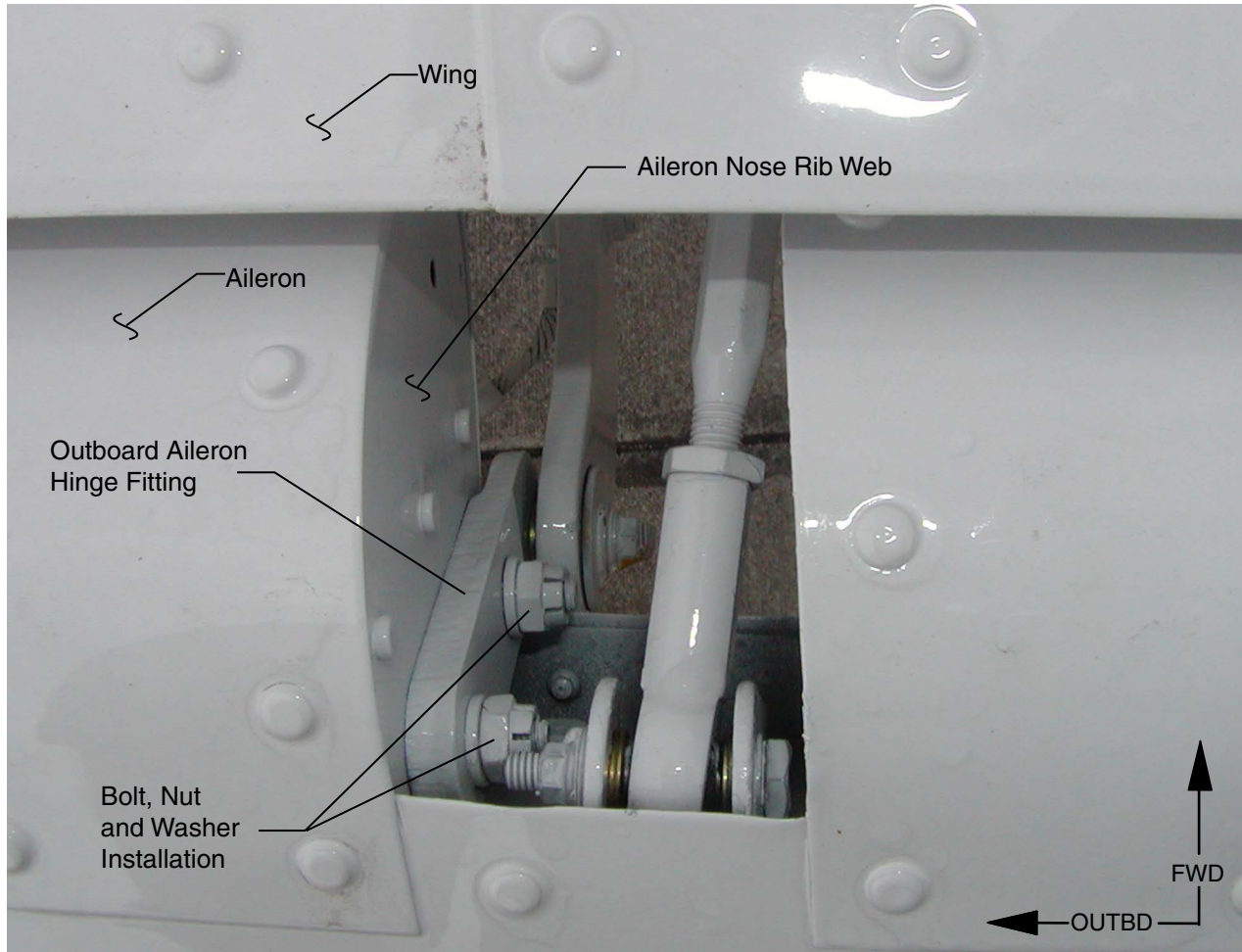
NOTE: New, replacement Ailerons, Piper P/N 38650-007 (right side) and P/N 38650-008 (left side) and new replacement Outboard Aileron Nose Ribs, Piper P/N 86398-009 (right side) and P/N 86398-008 (left side) feature a reinforcing plate installed between the rib doubler and the nutplates. This reinforcing plate can be identified by carefully examining the aileron nose rib from either the inside or outside surfaces. This reinforcing plate is designated by the cross-hatched areas shown in Figures 6 and 7. Note that figures 3, 4, and 5 show aileron nose ribs without a reinforcing plate. Aileron nose ribs with the reinforcing plate do not require a recurring inspection.



LOOKING FORWARD - LEFT WING

Figure 1

Outboard Aileron Hinge Location



LOOKING DOWN

Figure 2

Outboard Aileron Hinge Nose Rib Installed With Nuts, Bolts and Washers

Part II. Recurring Inspection for Cracks

- a. Remove aileron from aircraft.

NOTE: Refer to Chapter 57-50-00 of the applicable Maintenance Manual for procedures to remove and install ailerons.

- b. Unbolt the outboard aileron hinge fitting. Hardware in good condition may be reused.
- c. Remove paint from the nose rib, in the areas identified in Figure 5. (Use Cee-Bee A-202 paint stripper or equivalent).

NOTE: Paint must be removed using chemical processes only. The use of abrasives or other mechanical methods to remove the paint will hide the existence of any cracks, making an accurate inspection impossible. Use isopropyl alcohol to wipe clean the area of the nose rib where paint was removed. See Figure 5.

NOTE: Nutplate configuration may vary. Any configuration with nutplates at this location requires a recurring inspection.

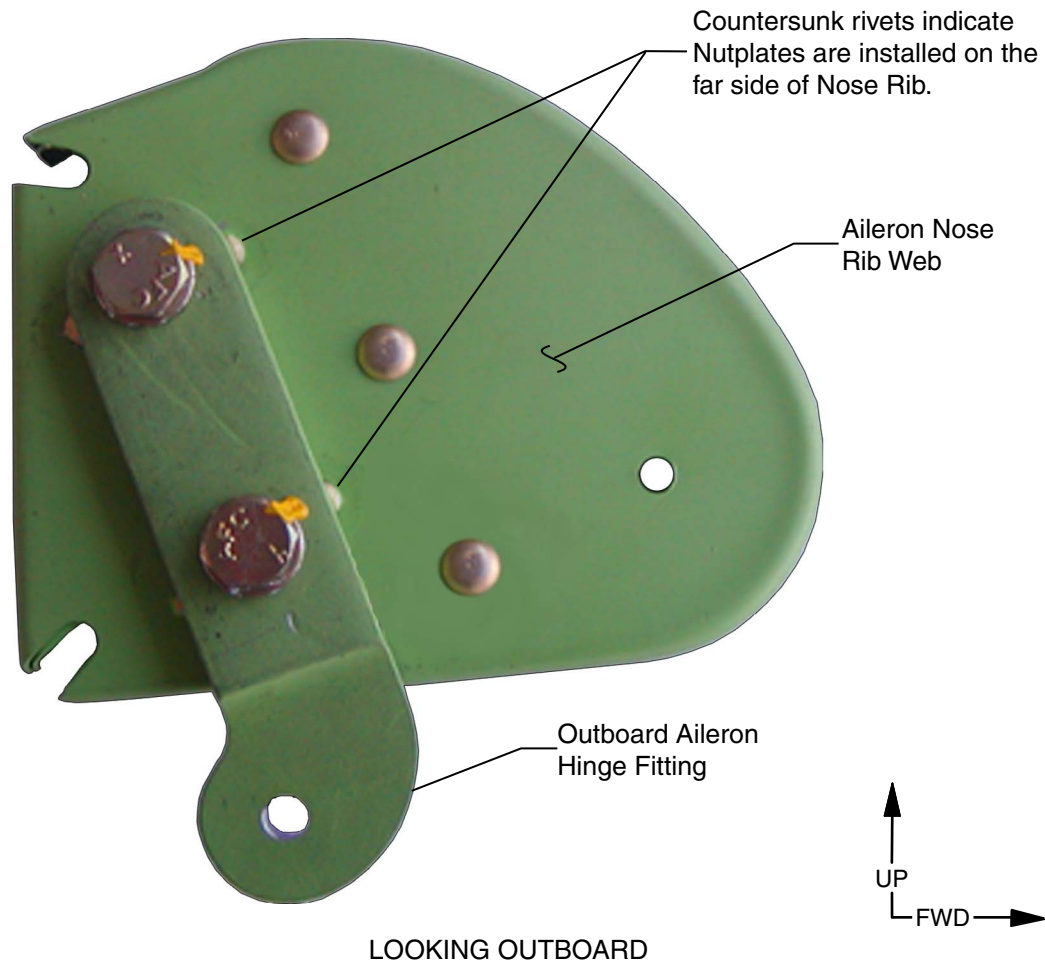


Figure 3
Outboard Aileron Hinge Nose Rib Installed With Nut plate

- d. Perform fluorescent penetrant inspection on the area identified in Figure 5, using procedures described in FAA Advisory Circular AC 43.13-1B.
 - If a crack is detected, proceed to **Part III** Terminating Action.
 - If no crack is detected during the inspection, wipe area of inspection clean with isopropyl alcohol. Apply primer to nose rib in area where paint was removed for inspection using MIL-PRF-85582D Type I Class C2 primer, ANAC 10P8-10 Fluid Resistant Epoxy primer, or any compatible epoxy primer. Apply a compatible top coat of paint such as DuPont Imron, color to match adjacent paint.
- e. Reinstall hinge fitting.
- f. Reinstall aileron.
- g. Proceed to **Part IV** Documentation of Compliance.

NOTE: Nutplate configuration may vary.

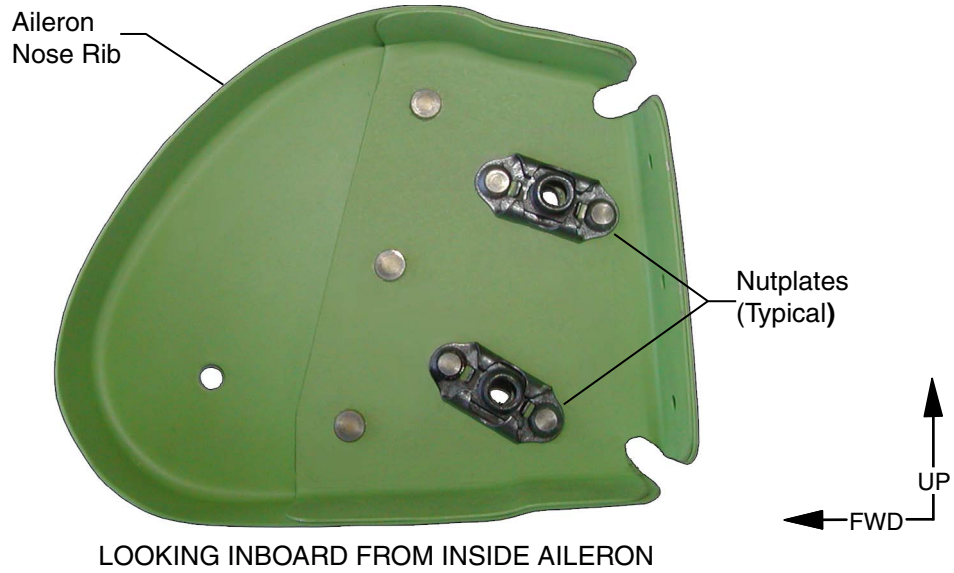


Figure 4
Nose Rib Nut Plates

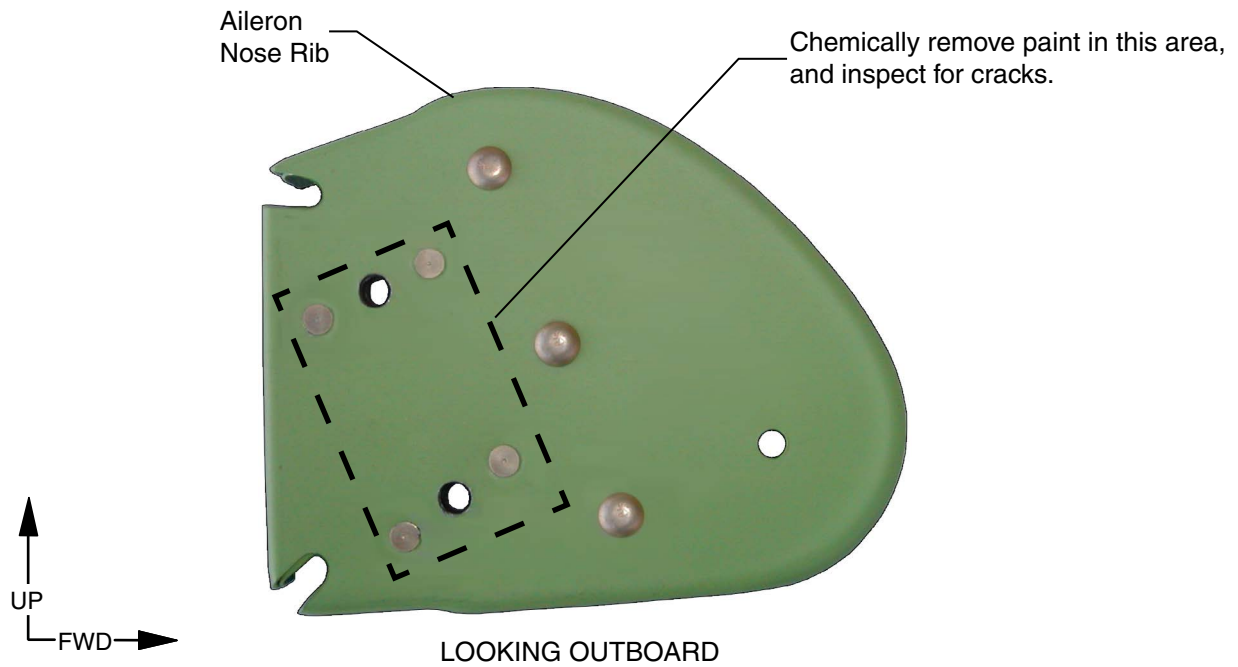
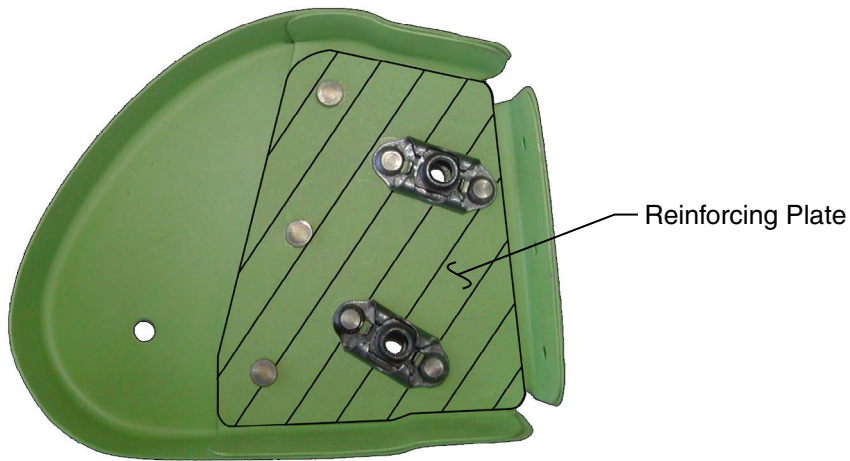


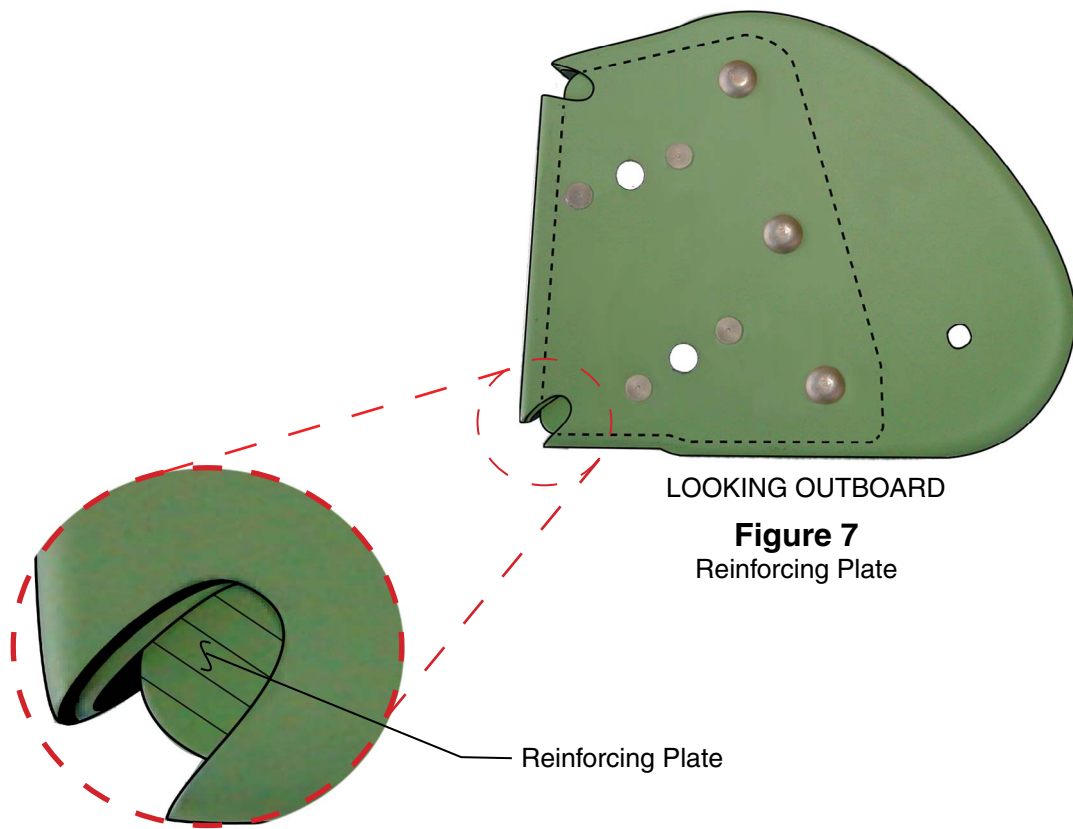
Figure 5
Inspection Area



LOOKING INBOARD FROM INSIDE AILERON

Figure 6

Outboard Aileron Hinge Nose Rib With Reinforcing Plate



LOOKING OUTBOARD

Figure 7

Reinforcing Plate

Reinforcing Plate

Part III. Terminating Action

The recurring inspection requirements mandated by **Part II** of this Service Bulletin can be relieved by accomplishing the instructions provided in **Option I** or **Option II** in **Part III** of this Service Bulletin.

NOTE: Refer to Chapter 57-50-00 of the applicable Maintenance Manual for procedures to remove, balance and install ailerons.

Option I. Aileron Replacement

- 1) Order Ailerons, Piper P/N 38650-007 (right side) and P/N 38650-008 (left side). Verify ailerons are marked with revision level Y or later.

NOTE: Some of the newer affected aircraft were delivered with Aileron P/N 38650-007 (right side) and P/N 38650-008 (left side). However, these ailerons are marked with revision level W or earlier, indicating that these ailerons do not contain the newer style Nose Rib Assembly, Piper P/N 86398-009 (right side) and P/N 86398-008 (left side).

- 2) Ailerons are supplied with metal surfaces primed. Apply a compatible top coat of paint such as DuPont Imron, color to match adjacent paint.
- 3) Balance ailerons.
- 4) Install ailerons.
- 5) Proceed to **Part IV** Documentation of Compliance.

Option II. Nose Rib Assembly Replacement

CAUTION: REWORKED AILERONS MUST CONFORM TO TYPE DESIGN. THEREFORE, THE FOLLOWING REQUIREMENTS MUST BE MET DURING THE NOSE RIB ASSEMBLY REPLACEMENT DESCRIBED IN **PART III, OPTION II:**

- A HOLDING FIXTURE MUST BE USED DURING REWORK TO ENSURE THAT THE AILERON MAINTAINS CONTOUR.
- REPLACEMENT FASTENERS MUST MATCH TYPE AND SIZE OF REMOVED FASTENERS.

- 1) Order new Nose Rib Assembly, Piper P/N 86398-009 (right side) and P/N 86398-008 (left side), one each, per airplane.
- 2) Nose rib assemblies are supplied with metal surfaces primed. Apply a compatible top coat of paint such as DuPont Imron, color to match adjacent paint.
- 3) Remove aileron from airplane.
- 4) Remove existing nose rib assembly from aileron, and discard.
- 5) Rework existing ailerons by installing new Nose Rib Assemblies, Piper P/N 86398-009 (right side) and P/N 86398-008 (left side). Secure with replacement rivets of same size and type; NAS1738B series rivets (qty 7) through Nose Rib flange common to aileron skin, and MS20470AD rivets (qty 3) through nose rib flange common to the web of the aileron spar.
- 6) Balance ailerons.
- 7) Install ailerons.
- 8) Proceed to **Part IV** Documentation of Compliance.

Part IV. Documentation of Compliance

Make a logbook entry indicating compliance with this Service Bulletin.

MATERIAL REQUIRED: One (1) right side, Piper P/N 38650-007 and/or one (1) left side, Piper P/N 38650-008, Aileron Assembly, revision level Y or later, per airplane, on condition.

or

One (1) right side, Piper P/N 86398-009 and/or one (1) left side, Piper P/N 86398-008, Nose Rib Assembly, per airplane, on condition.

AVAILABILITY OF PARTS: Your Piper Service Facility.

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

NOTE: Please notify the factory of any address/ownership corrections. Changes should include airplane model, serial number, current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960