



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

SERVICE *No. 977* BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

DATE: December 12, 1994

(S/M)

SUBJECT:

**Inspection of Wing Rear Attach Fitting
and Addition of Inspection Access Panels.**

MODELS AFFECTED:

PA-28-140 Cherokee
PA-28-150/160/180 Cherokee
PA-28-151 Warrior
PA-28-161 Warrior II & III

PA-28-161 Cadet
PA-28-181 Archer II & III

PA-28-235 Cherokee
PA-28-236 Dakota

PA-28-201T Turbo Dakota
PA-28R-180 Arrow
PA-28R-200 Arrow/Arrow II
PA-28R-201 Arrow III

PA-28R-201T Turbo Arrow III

PA-28RT-201 Arrow IV
PA-28RT-201T Turbo Arrow IV

PA-32-260 Cherokee Six
PA-32-300 Cherokee Six 300
PA-32-301 Saratoga

PA-32-301T Turbo Saratoga
PA-32R-300 Lance
PA-32RT-300 Lance II
PA-32RT-300T Turbo Lance II
PA-32R-301 Saratoga SP & II HP

PA-32R-301T Turbo Saratoga SP

PA-34-200 Seneca
PA-34-200T Seneca II
PA-34-220T Seneca III & IV

PA-44-180 Seminole

PA-44-180T Turbo Seminole

SERIAL NUMBERS AFFECTED:

28-20000 through 28-7725290
28-1 through 28-7505259 & 28-E13
28-7415001 through 28-7715314
28-7716001 through 28-8616057,
and 2816001 through 2816109
2841001 through 2841365
28-7690001 through 28-8690062,
2890001 through 2890205
28-10001 through 28-7710089 & 28-E11
28-7911001 through 28-8611008,
2811001 through 2811038, 2811040 through
2811046, and 2811048
28-7921001 through 28-7921095,
28R-30001 through 28R-7130013
28R-35001 through 28R-7635462
28R-7737001 through 28R-7837319,
2837001 through 2837060
28R-7703001 through 28R-7803374 and
2803001 through 2803012
28R-7918001 through 28R-8218026,
28R-7931001 through 28R-8631005
2831001 through 2831038
32-1 through 32-7800008
32-40000 through 32-7940290
32-8006001 through 32-8606023,
3206001 through 3206088
32-8024001 through 32-8424002
32R-7680001 through 32R-7880068
32R-7885001 through 32R-7985105
32R-7887001 through 32R-7987126
32R-8013001 through 32R-8613006
3213001 through 3213080
32R-8029001 through 32R-8629006,
3229001, 3229002 and 3229003
34-7250001 through 34-7450220
34-7570001 through 34-8170092
34-8133001 through 34-8633031, 3433001
through 3433088, 3448001 through 3448047
44-7995001 through 44-8195026,
4495001 through 4495013
44-8107001 through 44-8107066,
44-8207001 through 44-8207020

(OVER)
ATA: 5740

COMPLIANCE TIME: At the next regularly scheduled maintenance event, but not to exceed the next one hundred (100) hours time in service.

APPROVAL: The technical contents of this Service Bulletin have been approved by the F.A.A..

PURPOSE: Field reports indicate that some aircraft may be experiencing corrosion on the steel rear wing attach fitting. It appears that over time, should the seals for the windows and doors not be maintained, leaks may develop which, if not corrected, will allow an ingress of water. This water contamination will wet the insulation around the attach fitting creating a highly corrosive environment. In addition, inspection access is difficult on some early aircraft in the PA-28 Series and require that inspection access panels be installed to ease inspection in this area.

This Service Bulletin requires the following: Addition of two access panels to the rear floorboard; inspection to determine condition of the aircraft window and door seals and, if necessary, the corrective action needed; a one time inspection to determine the condition of the rear wing attach fittings; and addition of drain holes at the aft attach fitting area and inspection and modification of the insulation material around the affected area.

INSTRUCTIONS:

1. Gain access to the left and right wing rear attach fittings. Remove seats as required. Remove interior mouldings and carpet as necessary. Consult the applicable Service Manual as required.
 - a. For the PA-28 and 44 series aircraft, remove the rear seats and the rear floorboard.
 - b. For the PA-32 and 34 series aircraft, remove the center seats and the center floorboard.
2. On PA-28/44 series aircraft only, remove the carpet from the baggage area floor. If two oval inspection panels are located in the floor, continue these instructions. If not install access panels per Sketch A and the instructions on page 5 prior to continuing.
3. Inspect thoroughly the left and right rear wing attach fittings for evidence of flaking paint and/or corrosion. (Flaking paint may be a symptom of hidden corrosion.) If no corrosion exists, continue with these instructions. If corrosion is superficial and there is no metal flaking and/or pitting, clean and paint fittings. (Use good quality aircraft primer) If corrosion is found, consult the appropriate Illustrated Piper Parts Catalog for replacement part numbers and obtain and install new parts before continued operation. (See Sketch B and Instructions on page 7 for removal and re-installation.)
4. Upon completion of the inspection and after replacement or refurbishment of fittings, treat attach fitting area using DINOL AV 8 corrosion compound, Piper Part Number 89500-800. The treatment may be brushed or sprayed.
5. Inspect insulation in and around the rear fittings. If insulation is wet or matted down where it has been wet, it will be necessary to replace this insulation and it will be necessary to inspect all windows, doors and exterior panels leading to the cabin. Check door seals for deterioration, cracks and voids in adhesive. Check window seals for voids, cracks, and deterioration. Perform a leak check with water to determine where the water is entering. Cure all leak paths before continuing these instructions. Consult the appropriate Illustrated Piper Parts Catalog for replacement part numbers and obtain and install new parts before continued operation. If sealing windows, utilize Piper Part Number 279-058 Sealant (Bostik 1100 FS) or equivalent. If using insulation other than Piper original material, be sure that the insulation is flame resistant and conforms to FAR part 23.853.
6. If the insulation material has not been wet, or if new material is being installed, it is necessary to cut out a 6 inch clearance in the insulation in all directions around each attach fitting.
7. Locate and drill two each .191 inch drain holes, one beneath each rear attach fitting as shown on Sketch C. *NOTE:* When drilling from outside, use a drill stop set to 1 / 8 inch to advert possible interior damage.
8. Re-install floorboards, seats, interior panels, and other articles removed in step one. Perform a functional test of any system or component that may have been interrupted or removed.
9. Make an appropriate logbook entry of compliance with this Service Bulletin.

MATERIAL REQUIRED: One (1) each, Container DINITROL AV 8 corrosion control compound, Piper Part Number 89500-800. The following are as required by inspection only: One each left and/or right Rear Wing Attach Fitting and aircraft quality insulation as required (Refer to applicable Piper Parts Catalog for Correct Part Numbers), one (1) each, Container Sealant, Piper Part Number 279-058, and the applicable number of MS20470 AD rivets per aircraft. (Sealant and rivets may be obtained locally.)

AVAILABILITY OF PARTS: Your Piper Field Service Facility.

EFFECTIVE DATE: This Service Bulletin is effective upon receipt.

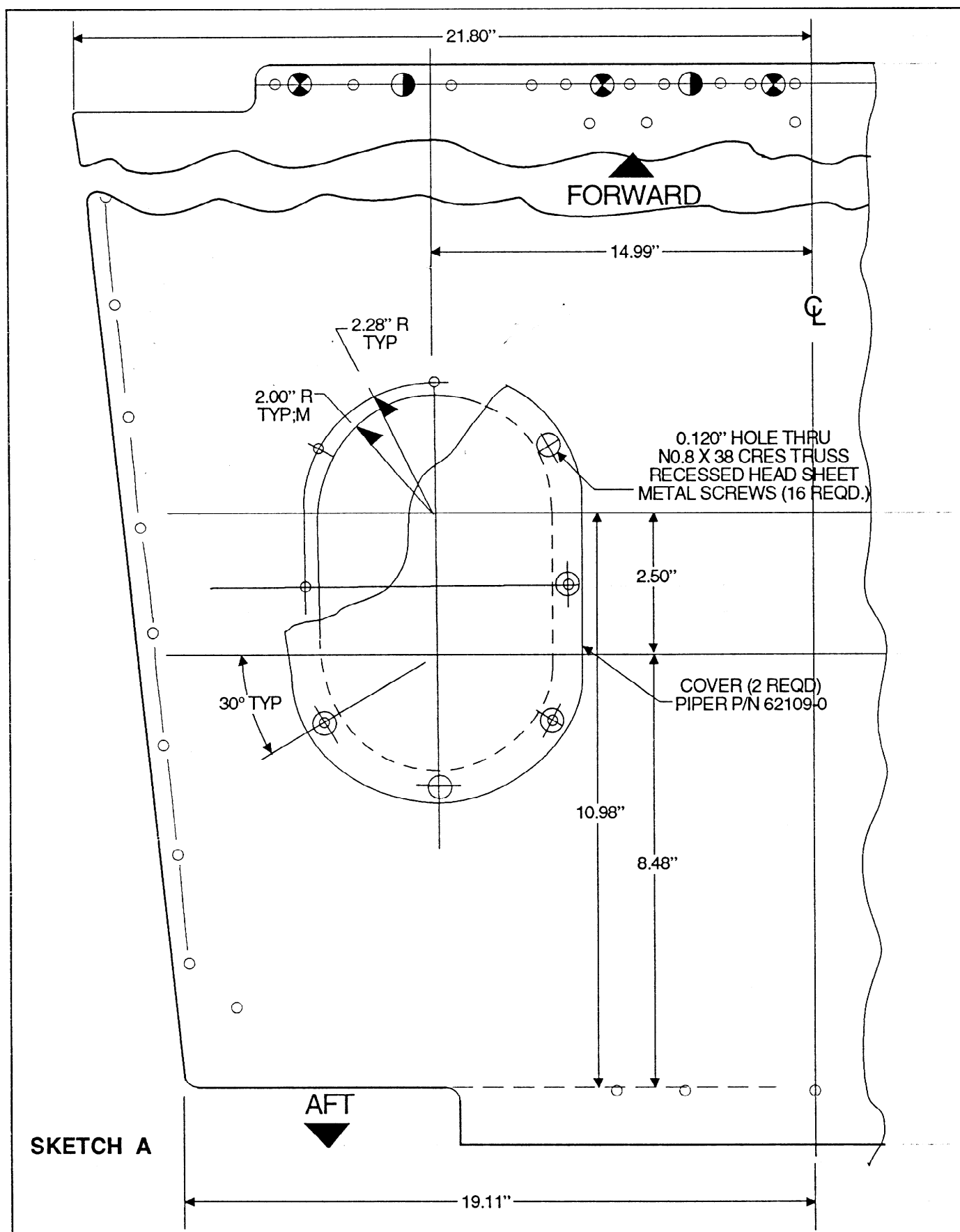
SUMMARY: Any applicable factory participation will remain in effect for a period of time not to exceed 180 days from the date of this Service Bulletin.

Please contact your Factory Authorized Piper Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the Compliance Time indicated and to obtain information concerning any applicable factory participation.

NOTE: If you are no longer in possession of this aircraft, please forward this information to the present Owner/Operator and notify the factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Correction/changes should be directed to:

PIPER AIRCRAFT CORPORATION
ATTN: Customer Service
2926 Piper Drive
Vero Beach, FL 32960



INSTALLATION OF INSPECTION ACCESS PANELS IN PA-28/44 SERIES AIRCRAFT

Baggage Compartment Inspection Holes Fabrication Procedure (Refer to Sketch A)

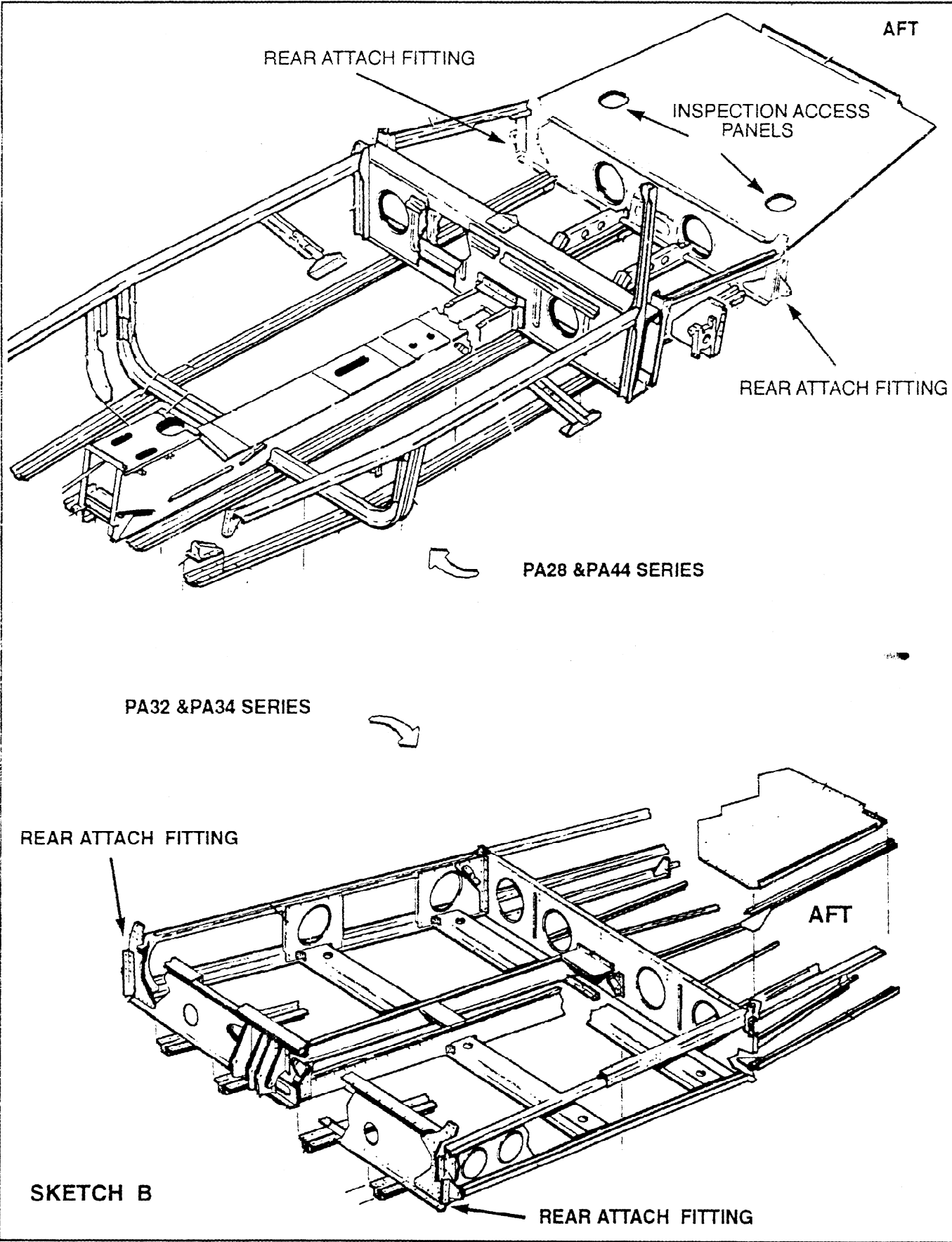
While Sketch A shows the hole in the left side of the baggage compartment, a similar hole is also cut out in the right side baggage compartment floor. Installation will require two each inspection access covers, Piper P/N 62109-0. (If desired, these covers may be fabricated locally.)

- a. Layout cut lines
 - (1) Gain access to baggage compartment.
 - (2) **Carefully** remove:
 - (a) Right side baggage compartment Royalite plastic close out panel.
 - (b) Rear close out panel.
 - (c) Carpeting from baggage compartment floor.
 - (3) Determine and mark a reference center line running through baggage compartment. Refer to Figure Sketch A for measurements.
 - (4) Measure two points 14.99 inches each side of the reference centerline. Joining these two points will form the centerlines of each inspection hole.
 - (5) Measure two points on each side of each centerline of both holes at distances of 8.48 inches and 10.98 inches from the aft edge of the baggage compartment floor.
 - (6) Connect the two 8.48" points and the two 10.98" points so that the resulting lines cross the centerline of each hole.
 - (7) Using the intersection of the lines constructed in step (6) with each hole's centerline as the center, scribe an arc having a radius of 2.00"
 - (8) Draw a line (~~four lines total~~) tangent to the each side of the arcs constructed on step (7).
 - (9) There should now be two ovals, like the one in Sketch A, laid out on each side of the baggage compartment floor.
- b. Cutting the holes.

— CAUTION —

Baggage compartment flooring is made of 0.025 inch thick aluminum. Use care when cutting through flooring so as not to damage cables and wiring routed below the floor.

- (1) Drill a 1/4 inch hole inside of, and adjacent to, one of the scribed lines layed out for each hole.
 - (2) Using a 1/8 inch router bit, cut out the two inspection holes by following the lines layed out on each side of the baggage compartment floor.
 - (3) Deburr each cut edge using a file or emery wheel.
- c. Installing covers.
 - (1) Lay one of the 62109-0 covers over one of the inspection holes. Using the screw holes in the cover, scribe the position for the screw holes on the baggage compartment floor.
 - (2) Drill a 0.120 inch hole in baggage compartment floor at each position layed out in step (1).
 - (3) Attach cover to flooring with No.8 X 0.38 corrosion resistant steel sheet metal screws.
 - (4) Repeat steps (1) through (3) on remaining hole.
- d. Install baggage compartment rear and side close out panels.
- e. Install baggage compartment floor rug.



**REMOVAL AND RE-INSTALLATION OF REAR
WING ATTACH FITTINGS (IF REQUIRED)****PA-28/44 SERIES (Refer to applicable Service Manual as necessary)**

1. Remove electrical power from aircraft by disconnecting the battery.
2. Place jacks under wings and tail - tie down to stabilize aircraft.
3. Remove seats, removable floorboards and interior panels necessary to gain access to the rear wing attach fittings.

Note:

If not already installed, add inspection access panels per Sketch A.

4. On L/H side, remove bus bar assembly from spar.
5. If necessary, drill off cargo compartment floor and remove from aircraft.

Note:

If both fittings are to be changed, remove and replace one fitting at a time.

6. Remove bolt from wing rear spar and fuselage attach fitting.
7. Carefully drill out the rivets that attach the fitting to the spar.
8. With all the rivets removed, remove wing attach fitting from the aircraft. Discard fitting.
9. Clean and inspect the areas that were under bracket for any signs of corrosion.
10. If corrosion is found, repair or replace parts as necessary. Coat the area with primer and allow to dry.
11. If no corrosion is found, coat the area with primer. Allow time to dry.
12. Install new wing attach fitting and align rivet holes. It may be necessary to ream open the bolt hole to proper size. The hole is close tolerance and should be .3115 / .3135 (5/16) or .3745 / .3765 (3/8) depending on model and year. Replace attach fitting bolt should there be any sign of wear or corrosion.
13. Re-rivet wing attach fitting into place with appropriate fasteners. (See note at bottom of page.)
14. Install wing spar and fuselage attach fitting bolt per appropriate section of the Maintenance Manual.
15. Seal edges of attach fittings with PRC PR1422 (or equivalent) before installing interior.
16. Complete same process to the opposite side.
17. Reinstall cargo door floorboard and interior and seats. Connect battery and check for operation.

PA32/34 SERIES (Refer to applicable Service Manual as necessary)**Note:**

The many variations in this model group may require more extensive disassembly to remove the rear attach fitting. Access the job prior to determining if additional steps or additional parts may be necessary. Consult the appropriate parts catalog for additional parts as required.

1. Remove electrical power from aircraft by disconnecting the battery.
2. Place jacks under wings and tail - tie down to stabilize aircraft. Provide support for fuselage in effected area.
3. Remove seats, interior panels and center floorboard to gain access to rear wing attach fittings.
4. Remove or relocate systems components to gain access to the attach fittings.
5. Remove bolt that attaches fuselage to wing spar.
6. Carefully remove rivets, screws, inner panels, channels and brackets necessary to remove attach fitting.*

Note:

In order to remove some channels, it may be necessary to remove the wings.

7. Clean and inspect the areas that were under bracket for any signs of corrosion.
8. If corrosion is found, repair or replace parts as necessary. Coat the area with primer and allow to dry.
9. If no corrosion is found, coat the area with primer. Allow time to dry.
10. Install new wing attach fitting and align rivet holes. It may be necessary to ream open the bolt hole to proper size. The hole is close tolerance and should be .3115 / .3135 (5/16) or .3745 / .3765 (3/8) depending on model and year. Replace attach fitting bolt should there be any sign of wear or corrosion.
11. Re-rivet wing attach fitting into place with appropriate fasteners. (See note at bottom of page.)
12. Install wing spar and fuselage attach fitting bolt per the appropriate section of the Maintenance Manual.
13. Seal the edges of the attach fittings with PRC PR1422 (or equivalent) before installing interior.
14. Complete the same process to the opposite side.
15. Reinstall center floorboard, interior panels, and seats. Connect battery and check for operation.

Note:

For hard to reach areas. It is permissible to replace the existing MS20470AD-5 rivets with HI Lok fasteners. Use HL30-5 with HL-94 HI Lok collars. Torque to 15 to 25 inch lbs. Observe standard practices for use of HI Lok fasteners.

