



# SERVICE BULLETIN

No. 682

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

FAA Approved (PA-31, PA-31-325, PA-31-350)

FAA DOA EA-1 Approved (PA-31P, PA-31T, PA-31T1)

July 24, 1980

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Subject: Main Landing Gear Inboard Door Hinge  
Inspection/Replacement

Models Affected:

PA-31, PA-31-325 Navajo  
PA-31-350 Chieftain  
PA-31P Pressurized Navajo  
PA-31T1 Cheyenne I  
PA-31T Cheyenne/Cheyenne II

Serial Numbers Affected:

31-2 through 31-8012077  
31-5001 through 31-8052168  
31P-3 through 31P-7730012  
31T-7804001 through 31T-8004040  
31T-7400002 through 31T-8020076

Compliance Time:

Within the next one hundred (100) hours of operation or at the next scheduled inspection, whichever occurs first, and every one hundred (100) hours thereafter unless/until acceptable replacement part is installed.

Purpose:

Field reports have been received of cracked or broken main landing gear inboard door hinges. Flight with a failed hinge could lead to failure of the second hinge, with subsequent separation of the gear door and the possibility of jammed landing gear or loss of hydraulic pressure.

This Service Release provides instructions for the inspection of main gear inboard door hinges and announces the availability of improved door hinge assemblies.

Instructions: Refer to attached Sketch/Instruction data.

Material Required:

Refer to attached Sketch/Instruction data for specific Material requirements.

Availability of Parts: Your Piper Field Service Facility.

Effectivity Date: This Service Release is effective upon receipt.

Summary:

Please contact your Piper Field Service Facility to arrange for compliance with the provisions of this Service Release in accordance with Compliance Time, above.

INSTRUCTIONS

1. Using the hydraulic hand pump, extend the inboard gear doors.
2. There are three types of hinges that may have been installed on the inboard gear doors:
  - a. One type is an aluminum forging which will have an identification number "PIPER 46652" as raised letters on the forging as shown on sketch. This type hinge requires inspection per step 3.
  - b. The other two types are made from .250 sheet aluminum or .250 sheet steel and do not have identification numbers. NOTE: A small magnet will determine if hinge is steel or aluminum. Hinges made of .250 aluminum require inspection per step 3. Hinges made of .250 steel do not require inspection and are acceptable.
3. Inspect the aluminum inboard gear door hinges for cracks, in the area shown on sketch. Inspect for cracks using the Dye Penetrant Method. (All paint must be removed from the inspection area.)
  - a. All door hinges that are cracked must be replaced with a new improved door hinge assembly (P/N 47529-32) prior to further flight. If new improved door hinge assembly (P/N 47529-32) is not available as a replacement, a new original equipment hinge assembly (P/N 46653-00) may be installed.

NOTE: New improved door hinge assembly (P/N 47529-32) consists of a new hinge (forging identification with PIPER 46652-2 in raised letters) and two attachment angles (P/N 42048-02 and P/N 42048-03). Original equipment hinge assembly (P/N 46653-00) does not include the two attachment angles and has been made from an aluminum forging (Forging identified with PIPER 46652 in raised letters) or made from .250 sheet steel (with no identification number or made from .250 sheet aluminum (with no identification number)).

SPECIAL NOTE

The installation of a new original equipment aluminum hinge (P/N 46653-00) does not relieve the requirement for a continued repetitive inspection. The installation of a new original equipment steel hinge (P/N 46653-00) does relieve the requirement for a continued repetitive inspection. The installation of a new improved hinge (P/N 47529-32) does relieve the requirement for a continued repetitive inspection.

4. Refer to sketch and measure the length of each hinge attachment angle (two on each hinge).
  - a. Hinge attachment angles which measure 4.00" long do not require inspection per step 5.
  - b. Hinge attachment angles which measure 3.75" long require inspection per step 5.
5. Inspect the 3.75" long hinge attachment angle(s), in the angle bend radius, for cracks. Inspect for cracks using the Dye Penetrant Method. (All paint must be removed from the inspection area.)

NOTE

All hinge attachment angles that are cracked must be replaced with new angle(s) (P/N 42048-02 and/or P/N 42048-03) or by installing new improved door hinge assembly(ies) (P/N 47529-32), which include the angles, prior to further flight.

6. Make proper Logbook entry of inspection and/or replacement requirements of Service Bulletin 682.

