



# SERVICE BULLETIN

No. 481A

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

"DOA EA-1 Approved"

November 3, 1975 M

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(This supersedes and voids Service Bulletin No. 481 dated October 20, 1975).

Subject: Elevator Assembly Inspection and Elevator Butt Rib Replacement.

Reason for Revision: Revised Serial Numbers Affected section, below.

Models Affected: Serial Numbers Affected:

PA-31T Cheyenne

31T-7400002 to 31T-7520020 Inclusive  
31T-7520022 to 31T-7520038 Inclusive  
31T-7520040 to 31T-7620012 Inclusive

Compliance Time:

At the next Programmed Inspection event, not to exceed the next fifty (50) hours of operation. NOTE: Affected aircraft having previously complied with Service Bulletin No. 481 dated October 20, 1975 are not required to comply with this revision.

Purpose:

Reports from the field indicate that cracks can occur in the Elevator Butt Ribs, Elevator Butt Rib - to - Elevator Spar attachment area, and Elevator Outboard Hinge Area.

This service release provides instructions and material to replace existing elevator butt ribs with new reinforced units; and to inspect the elevator assembly to preclude the above conditions and to extend the service life of the elevator assembly.

## WARNING

Cracks occurring in the butt rib could be progressive and could result in partial loss of elevator control.

Instructions: NOTE: Service Bulletin No. 477 dated August 19, 1975 or 477A dated November 3, 1975, Subject: Elevator Control Tube and Trim Tab System Modifications must be complied with prior to or in conjunction with this service release.

1. Remove Elevators, reference current PA-31T Service Manual, Section IV, Structures.
  2. Reference attached sketch "A"; remove existing Elevator Butt Ribs, part number 45933-04 and discard. CAUTION: Remove elevator identification plate (stamped metal tag with elevator part number, serial number, etc.) and stamp with letter "S" for revision. Retain for reinstallation on new Elevator Butt Ribs; reference step 6, below.
  3. Reference attached sketch "A"; with concentrated light, inspect inboard end of Elevator Main Spar, part number 45951-06, and Channel ("false spar") part number 45807-00 for cracks around bolt hole perimeters and in flange bend radii.
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Instructions (continued):

- a. If cracks are found in Elevator Main Spar Tab, remove tab and replace with clip Piper part number 45951-08 as shown on the attached illustrations (sketch "A" and "B").
- b. If cracks are found in Channel ("false spar"), part number 45807-00, replace with new like part.
4. Remove elevator tip (reference sketch "C");
  - a. Inspect Elevator Outboard Hinge Bearing Assembly, part number 51766-02 for looseness and/or evidence of cracks in the welded area; if loose and/or cracked, replace.
    1. Inspect attachment bolt (AN4-16A, Piper part number 400 011) for looseness and proper torque (refer to Service Manual, Table II-II, "Recommended Torques").
    2. Inspect Elevator Outboard Rib for cracks; if cracked, replace with new like part, part number 51775-02 (left) or part number 51775-03 (right).
  - b. Inspect Elevator Balance Weight Attachment Bracket, Piper part number 51773-02 for looseness and/or evidence of cracks at bend radii; if loose and/or cracked, replace.
  - c. Reinstall elevator tip.
5. Remove stabilizer tip (reference sketch "D");
  - a. Inspect Stabilizer Outboard Rib, Piper part number 46530-02 (aft, near the hinge attachment point and Elevator Hinge Arm Assembly, Piper part number 51767-02 for evidence of wear and/or cracks; if loose and/or cracked, replace.
  - b. Reinstall stabilizer tip.
6. Install new Elevator Butt Ribs, Piper part number 54755-02 (two each required per aircraft); NOTE: be sure to install elevator identification plates - marked with revision "S" removed per step 2, above.
7. It is recommended but not necessary for compliance with this bulletin to rebalance the elevators. (Reference Piper Service Manual 753 826, Section IV).
8. If any parts inspected per steps 3 through 5 inclusive (above) are defective, replace prior to next flight.
9. Make appropriate log book entry.

Material Required:

1. Two (2) each per aircraft Elevator Butt Rib, Piper part number 54755-02 per Instructions Nos. 2 and 6, above.

Material Required (continued):

2. Two (2) each per aircraft Elevator Spar Clip, Piper part number 45951-8 per Instructions No. 3. a., above.
3. Material identified in Instructions Nos. 3 through 5 inclusive (above), as required per inspection results.

Availability of Parts:

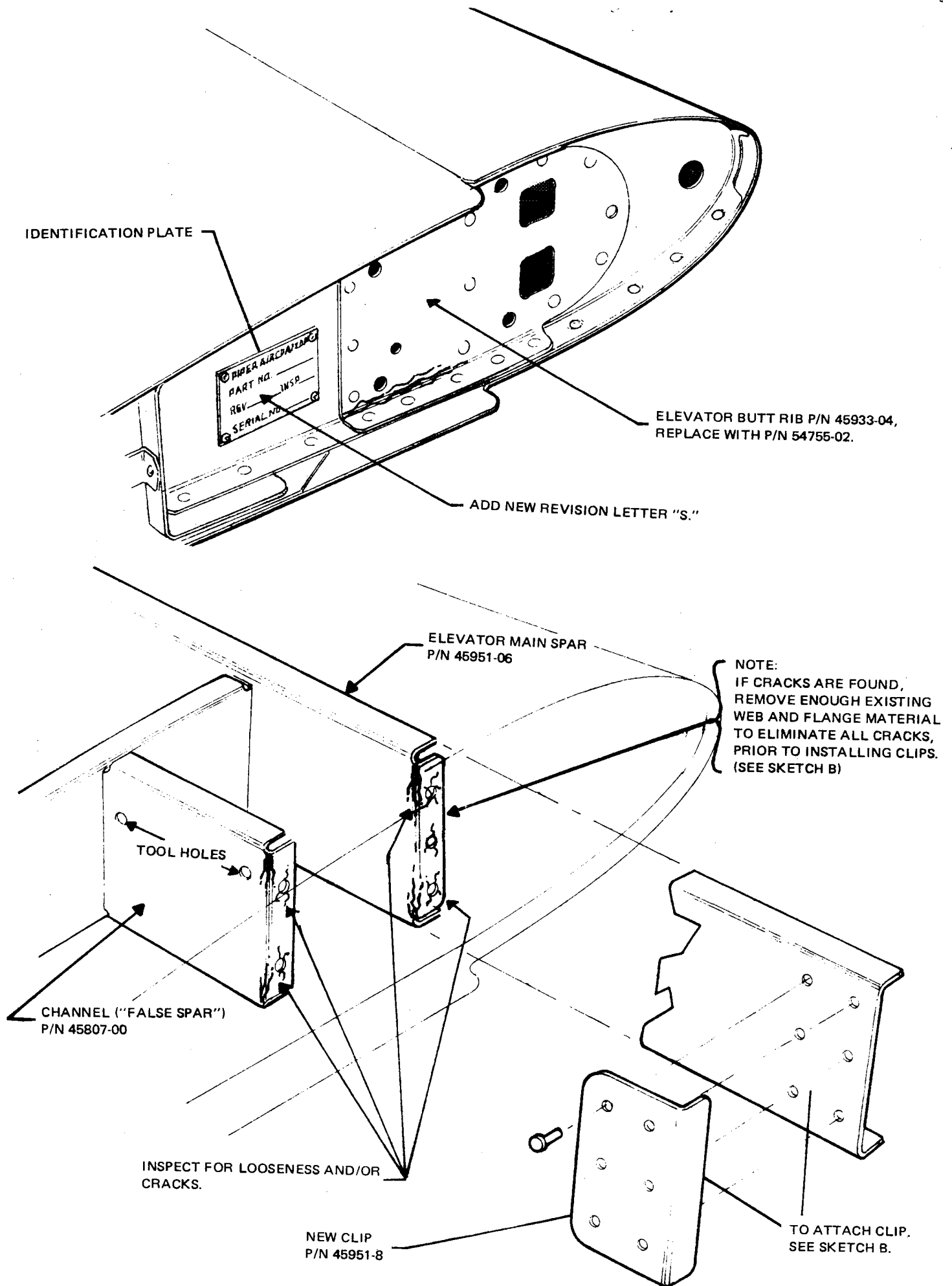
Your Piper field service facility.

Effectivity Date:

This service bulletin is effective upon receipt.

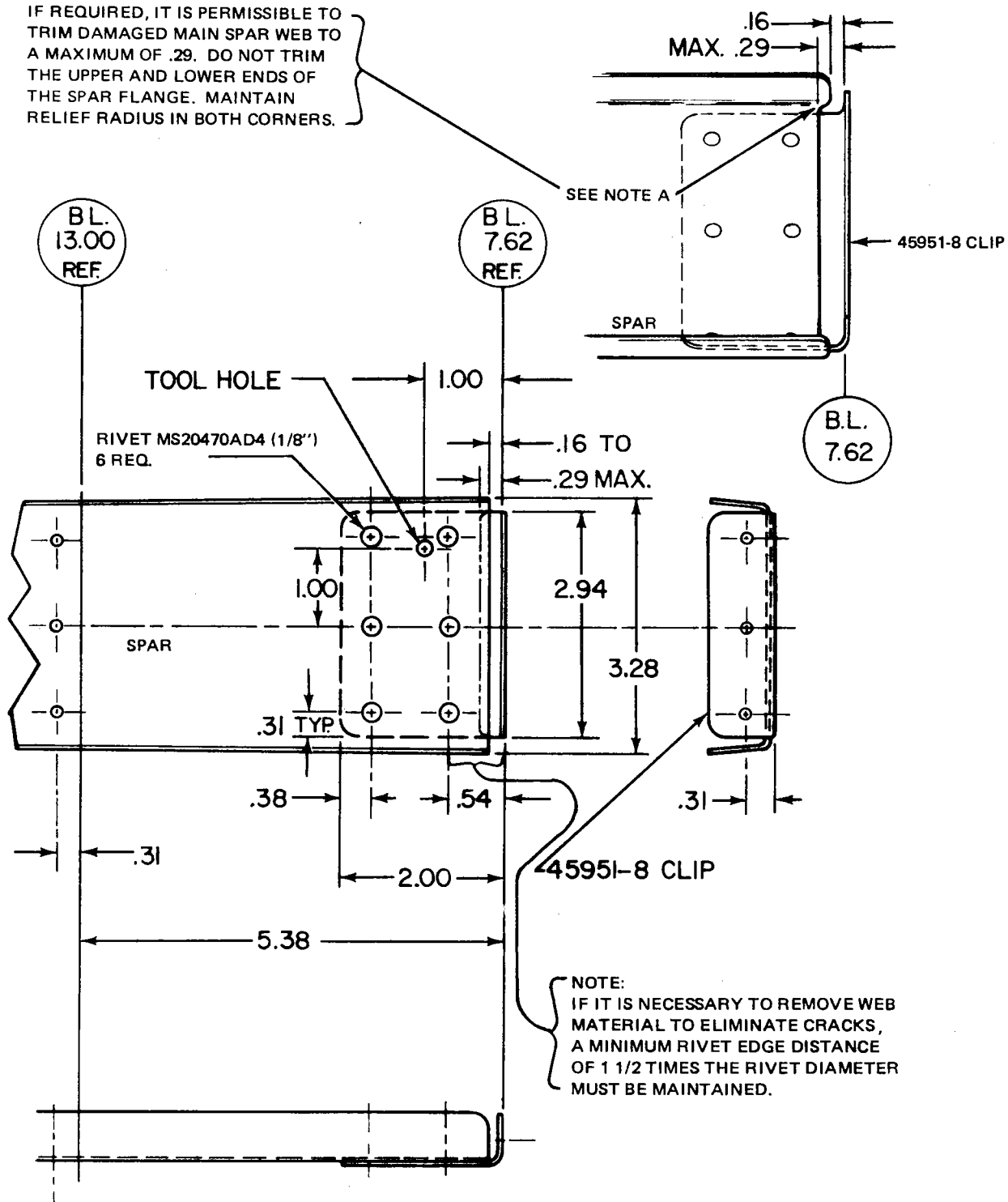
Summary:

Please contact your Piper field service facility to make arrangements for compliance with this service release in accordance with the provisions of Compliance Time, above. Replacement material required as stated above will be provided at no charge through your Piper field service facility.

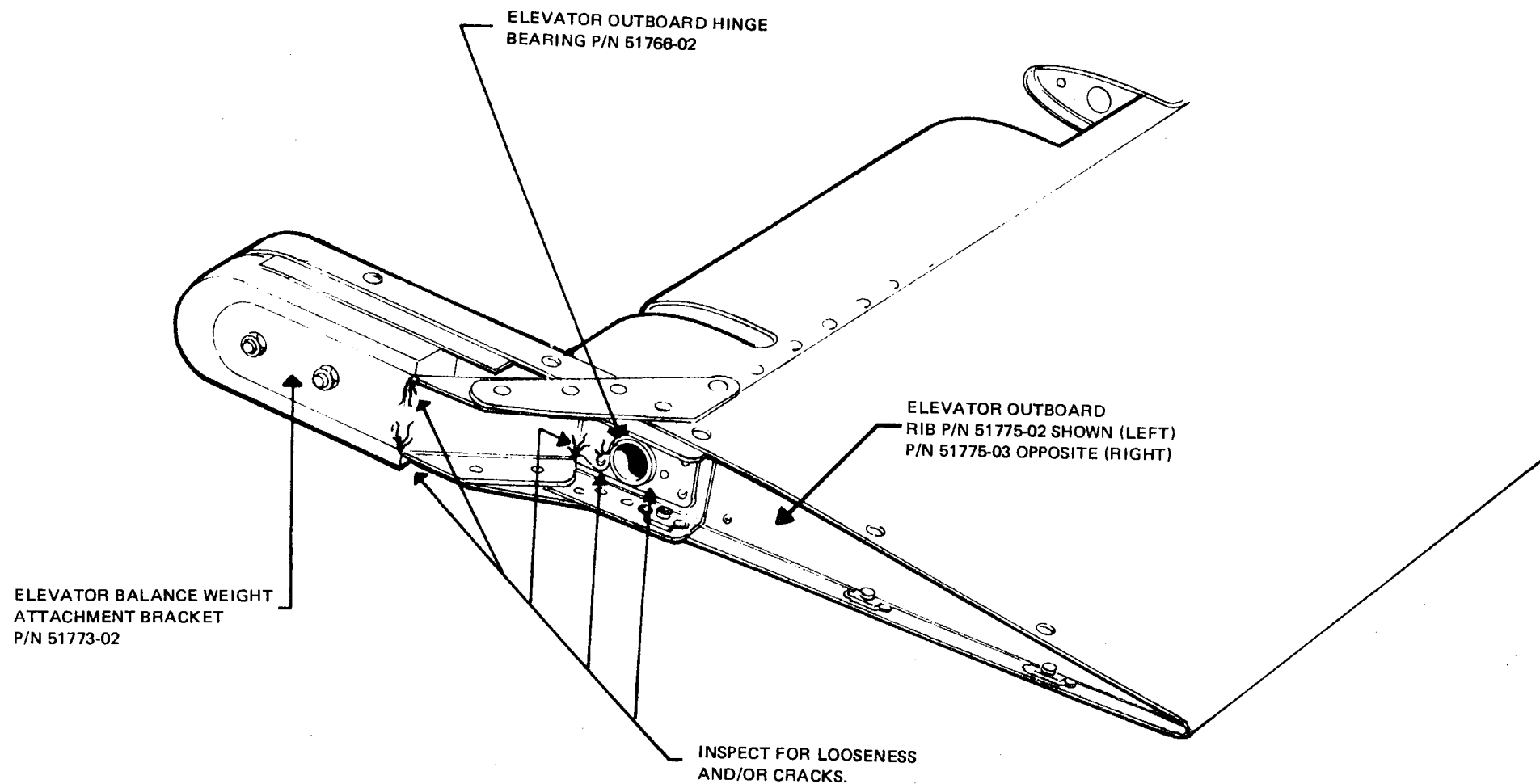


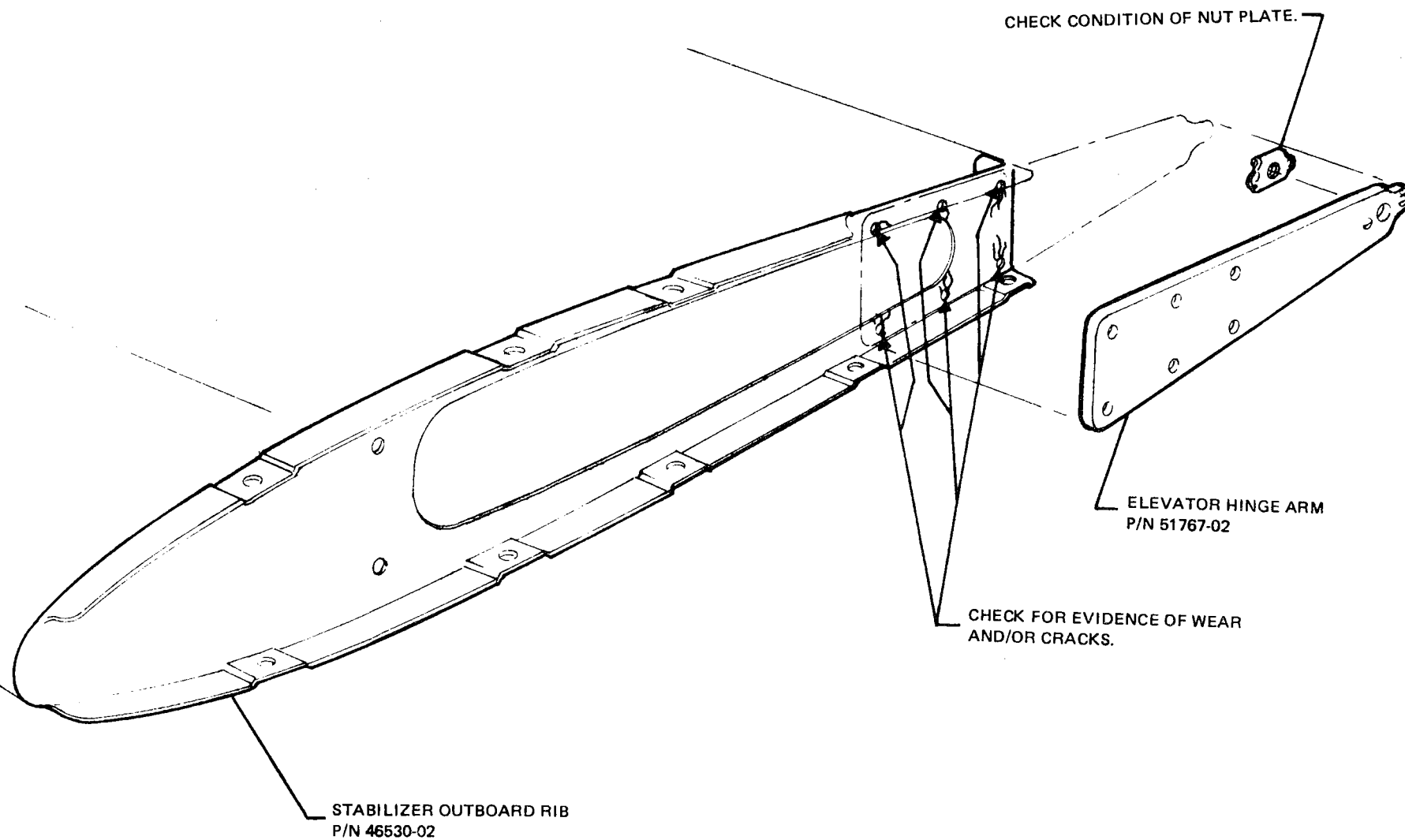
SKETCH A

NOTE A  
IF REQUIRED, IT IS PERMISSIBLE TO  
TRIM DAMAGED MAIN SPAR WEB TO  
A MAXIMUM OF .29. DO NOT TRIM  
THE UPPER AND LOWER ENDS OF  
THE SPAR FLANGE. MAINTAIN  
RELIEF RADIUS IN BOTH CORNERS.



SKETCH B





SKETCH D