

ALERT SERVICE BULLETIN

REVISION NOTICE

Bell Helicopter **TELEXTRON**

A Subsidiary of Textron Inc.

DATE 10-23-89

Post Office Box 481 • Fort Worth, Texas 76101

TO: ALL 206L SERIES HELICOPTER OPERATORS

SUBJECT: ALERT SERVICE BULLETIN 206L-87-47, REV. "C", TAIL-BOOMS, P/N 206-033-004-3/-11/-103/-45, INSPECTION AND MODIFICATION OF

This revision is issued to clarify the intent of this bulletin by the addition of a NOTE in Part I, Paragraph 3, and to make minor changes to text and graphics.

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DATE 10-23-89

REV. "C"

MODEL AFFECTED: 206L, 206L-I, 206L-III
SUBJECT: TAILBOOMS, P/N 206-033-004-3/-11/-103/-45 PERIODIC INSPECTION OF, MODIFICATION OF

HELICOPTERS AFFECTED: All model 206L series helicopters S/N 45001 through 51283.

[All model 206L-3 helicopters S/N 51284 and subsequent will have the intent of this bulletin accomplished prior to delivery.]

COMPLIANCE:

- Part I: Modification to tailboom shall be accomplished not later than Dec. 1, 1989.
- Part II: Interim inspection of unmodified tailboom shall be accomplished every 50 hrs.
- Part III: Periodic inspection of field modified tailbooms and tailbooms subsequent to -45, shall be accomplished every 100 hrs.

DESCRIPTION:

Bell Helicopter Textron has received several reports of severe upper skin cracks in tailbooms, P/N 206-033-004-3/-11/-103/-45 in area of aft most drive shaft cover retention clip (Boom Station 153.79). Improperly secured tail rotor gearbox, unbalanced tail-rotor, and added mass such as antenna, and/or lights which are not approved by Bell Helicopter Textron may be major causes. Failure to locate and repair skin damage on tailboom could result in tailboom failure.

This bulletin provides:

- Modification instructions to increase structural integrity of tailboom at BS. 153.79.
- 50 hr. interim inspection requirements for unmodified tailbooms.
- 100 hr. periodic inspection requirements for field modified tailbooms and tailbooms subsequent to -45.

NOTE

The -103 tailboom precedes -45 tailboom.

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FAA APPROVAL:

The engineering design aspect of this bulletin is FAA approved.

MANPOWER:

Part I Modification of tailboom will require an estimated eight (8.0) manhours. Actual time may vary due to manpower and facilities available to the operator.

Part II Inspection will require approximately eight tenths (0.8) manhours for each 50 hour inspection.

Part III Inspection requirements will not significantly affect regular 100 hour periodic inspection, if accomplished during scheduled inspection.

MATERIALS:

The following parts necessary to accomplish this tailboom modification may be purchased from your BHTI spare parts supply source.

<u>PART NUMBER</u>	<u>NOMENCLATURE</u>	<u>QTY.</u>
206-033-407-119	Clip	1
206-704-167-111	Doubler	1
M7885/6-4-02	Rivet	37
MS20426AD4-4	Rivet	4
50-021-1	Receptacle	2
299-947-125TY2CL2 5 oz.	Adhesive (EA9320NA)	1
MILS8802CLB2 6 oz.	Sealant	1
M7885/6-4-03	Rivet	17
M7885/7-4-02	Rivet	3
M7885/7-4-03	Rivet	11

WEIGHT AND BALANCE:

	<u>WEIGHT</u>	<u>MOMENT</u>
Part 1, Longitudinal	+6 lbs.	+212 lb. in.

ELECTRICAL LOAD DATA:

Not affected.

SPECIAL TOOLS:

Standard aviation sheet metal hand tools required.

REFERENCES:

Maintenance Manual, Sec. 5-3-9

PUBLICATIONS AFFECTED:-

Maintenance Manual, Sec. 5
Illustrated Parts Catalog, Sec. 53

ACCOMPLISHMENT INSTRUCTIONS:

PART I: MODIFICATION OF TAILBOOM

- 1) Remove
 - T/R driveshaft cover
 - Aft segment of T/R driveshaft
 - T/R gearbox fairings
 - Anti-chafing tape as required
- 2) Remove existing T/R driveshaft cover retention clips (2 ea.) at BS. 153.79.
- 3) Inspect for cracks and corrosion at rivet holes using a 5X magnifying glass. In the event that cracks are revealed, you are requested to contact:

Bell Helicopter Textron
Product Support Engineering
TEL: 1-800-363-8023 from the Continental US
TEL: 1-800-361-9305 within Canada
TEL: 514-437-2862 from other areas
TELEX: 05-835580 - BELL SJAN
FAX: 514-433-0272
HELICOMM: PSECAN

NOTE

The doubler in this modification is not intended as a remedy for cracked skins. It is a preventative measure for undamaged skins.

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Refer to Maintenance Manual for corrosion and pitting limits.

- 4) Remove rivets along upper and lower skin seams between B.S. 151.15 and B.S. 159.35. (Approx. 11 rivets on upper and 9 rivets on lower.) See Fig. 2.
- 5) Strip paint from area of top skin between B.S. 151.15 and B.S. 159.35 and from new clip faying surface.
- 6) Fit doubler P/N 206-704-167-111 to tailboom such that leading edge of doubler is at B.S. 151.15 and drill to match existing holes along seams and 4 existing clip rivet holes.

NOTE

It may be necessary to trim doubler to prevent interference with adjacent rivet(s).

If required, grind off adhesive bumps on inside of doubler which may interfere with proper fitting of doubler to tailboom.

Do not remove fabric peel ply at this time.

- 7) The doubler will be supplied with pilot holes. Note that most fwd. or first row of rivets consists of 10 rivets equally spaced between the upper and lower skin seam rivet lines. The second and third rows of rivets are made up of 5 rivets each equally spaced between the lower skin seam rivet line and the LH extremity of the new clip, P/N 206-033-407-119. The fourth and fifth rows consist of 10 rivets each, equally spaced between the upper and lower skin seam rivet lines.

NOTE

- 1) Doubler rivet rows are spaced 1.0 inch from seam rivet lines. See Figure 3, Sec. B-B.
- 2) Five (5) rows of rivets are equally spaced from front to back of doubler. Maintain a 2D edge distance. See Figure 2.
- 8) With doubler held in place, position saddle clip, P/N 206-033-407-119, at B.S. 153.79 to align with T/R drive shaft cover and pickup on 4 existing clip rivet holes. In addition, drill two rivet holes 1.0 inch each side of the longitudinal C/L of tailboom. Maintain 2D edge distance. See Figures 2 and 3, Sec. A-A.
- 9) Drill all holes in tailboom, doubler and clip to proper rivet hole size. Countersink to a max. depth of .038 inch in 14 places for M7885/7 or NAS1739B4 rivets (see Figure 2 and 3 for locations). Remove clip and doubler and deburr holes both sides including tailboom skin.

NOTE

If next larger size rivet is required for M7885/7-4 rivet, use only CR3214-5 rivet. May be purchased commercially from Cherry Max Rivet Outlet or Townsend Division of Textron, Inc., 1224 East Warner Ave., Santa Ana, Calif. 92707.

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- 10) Remove fabric peel ply from doubler and scuff adhesive with 400 grit sandpaper, wipe clean with clean cheesecloth dampened with M.E.K. and air dry.
- 11) Clean and prepare all other surfaces to be bonded by scuffing lightly with #400 grit sandpaper. Wipe clean with cloth dampened with M.E.K. and air dry.
- 12) Adhesive application - after thoroughly mixing, the EA9320 adhesive may be applied by non-metallic spatula, notched trowel, or wood applicator. Adhesive shall be applied .002 to .004 inch thick on faying surfaces.

NOTE

Pot life of adhesive is 25 minutes.

- 13) With adhesive applied to faying surfaces of doubler and tailboom, position doubler and secure using appropriate rivets, per Figure 2.
- 14) Apply adhesive to top of doubler and to clip faying surfaces, position clip on doubler and secure to tailboom using 8 M7885/6-4-03 rivets.
- 15) Remove adhesive squeeze-out and allow to cure for 24 hours at 70 degrees F. Curing can be accelerated by heating to 180 degrees F. \pm 5 degrees F. for 1 hour. Do not overheat.
- 16) Install receptacle P/N 50-021-1 on clip. Position to match P/N 206-033-407 cover and secure using MS20426AD4-4 rivets. (See Fig. 3), Sec. A-A. Ensure that fastener stud does not come into contact with clip saddle when secured.
- 17) Apply a brush coat of alodine to bare aluminum areas and to rivet heads.
- 18) Seal all edges of doubler and clip using MILS8802. (See Fig. 2.)
- 19) Prime using polyamide epoxy primer and repaint affected area. | "C"
- 20) Reidentify tailboom by adding the suffix "FM" to the original P/N.

ORIGINAL P/N

MODIFIED P/N

206-033-004-45
206-033-004-11
206-033-004-3
206-033-004-103

206-033-004-45 FM
206-033-004-11 FM
206-033-004-3 FM
206-033-004-103 FM

- 21) Install
- T/R Driveshaft
 - T/R Gearbox Cowlings
 - Anti-Friction Tape as Required
 - T/R Driveshaft Cover

206L SERIES TAILBOOM
CLIP MODIFICATION
B.S. 153.79

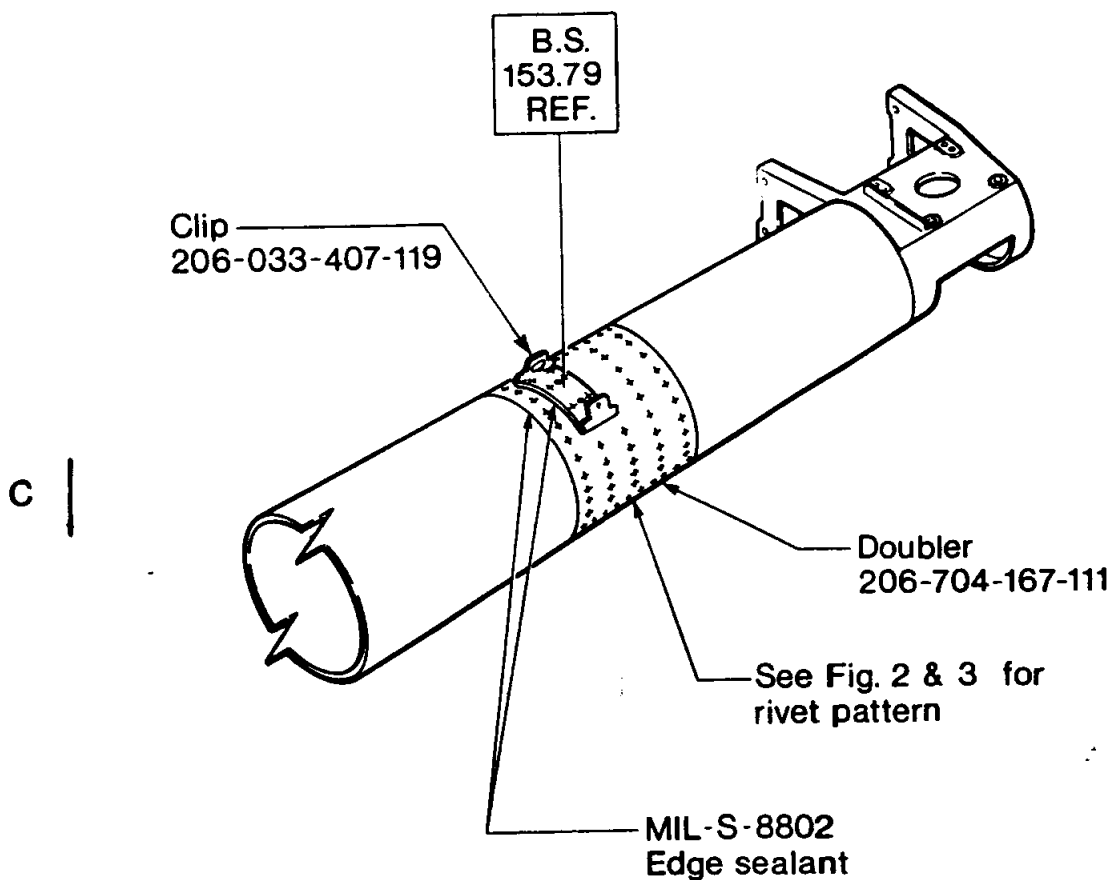


FIGURE I

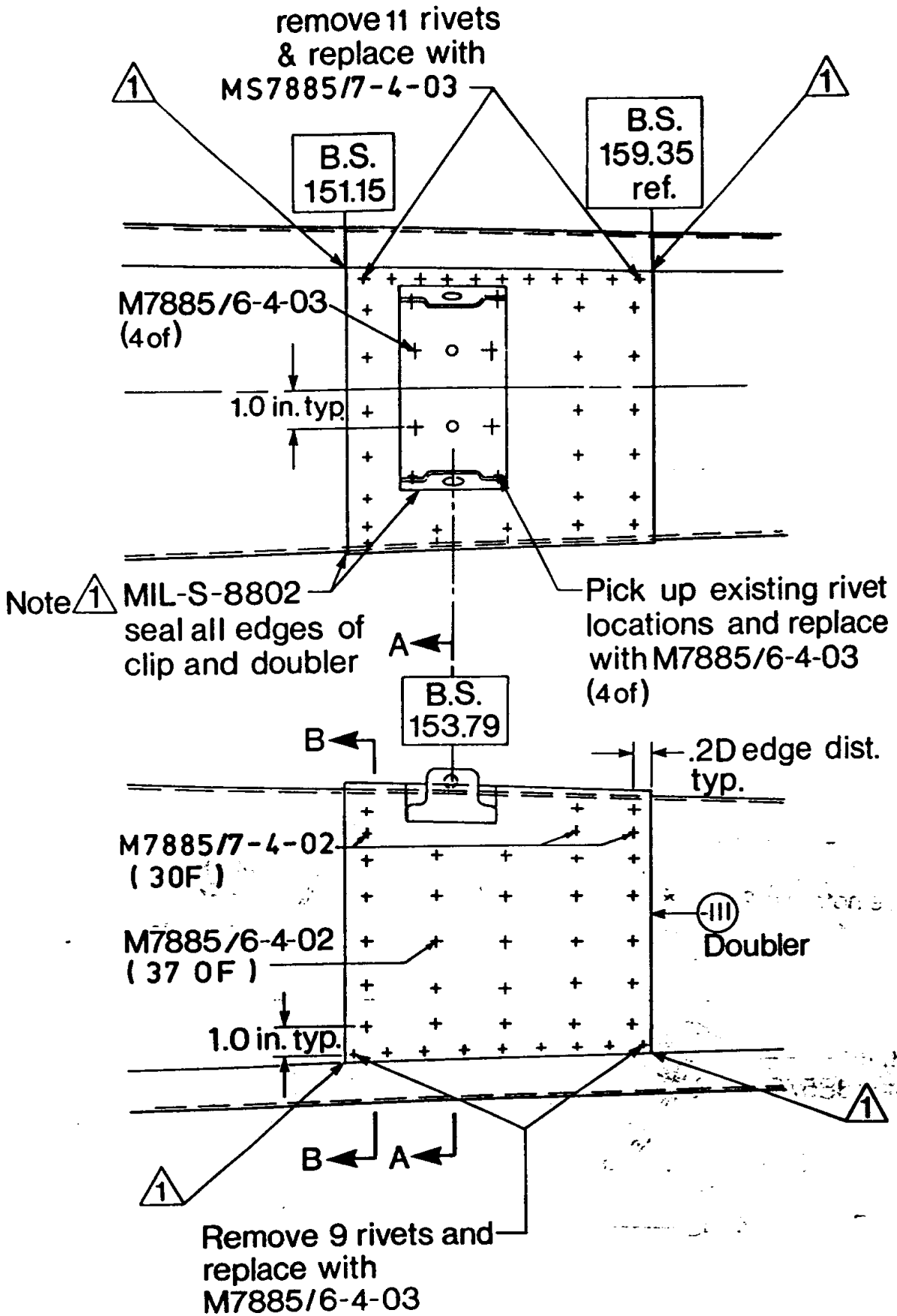


FIGURE 2

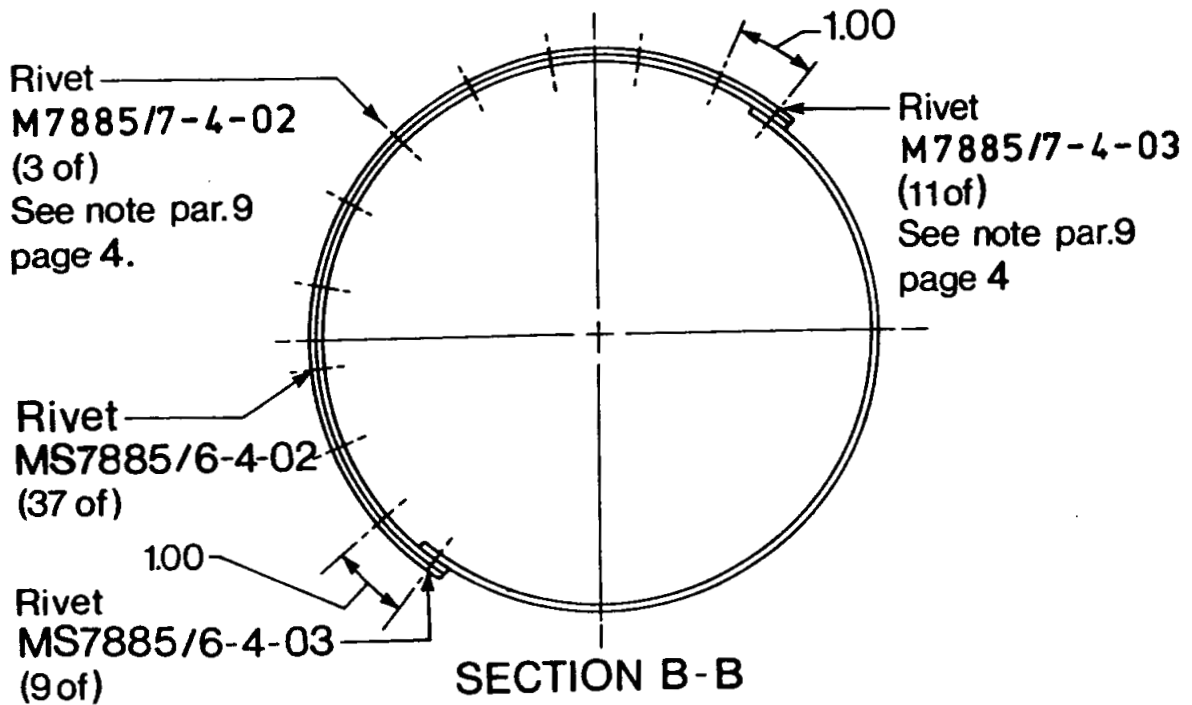
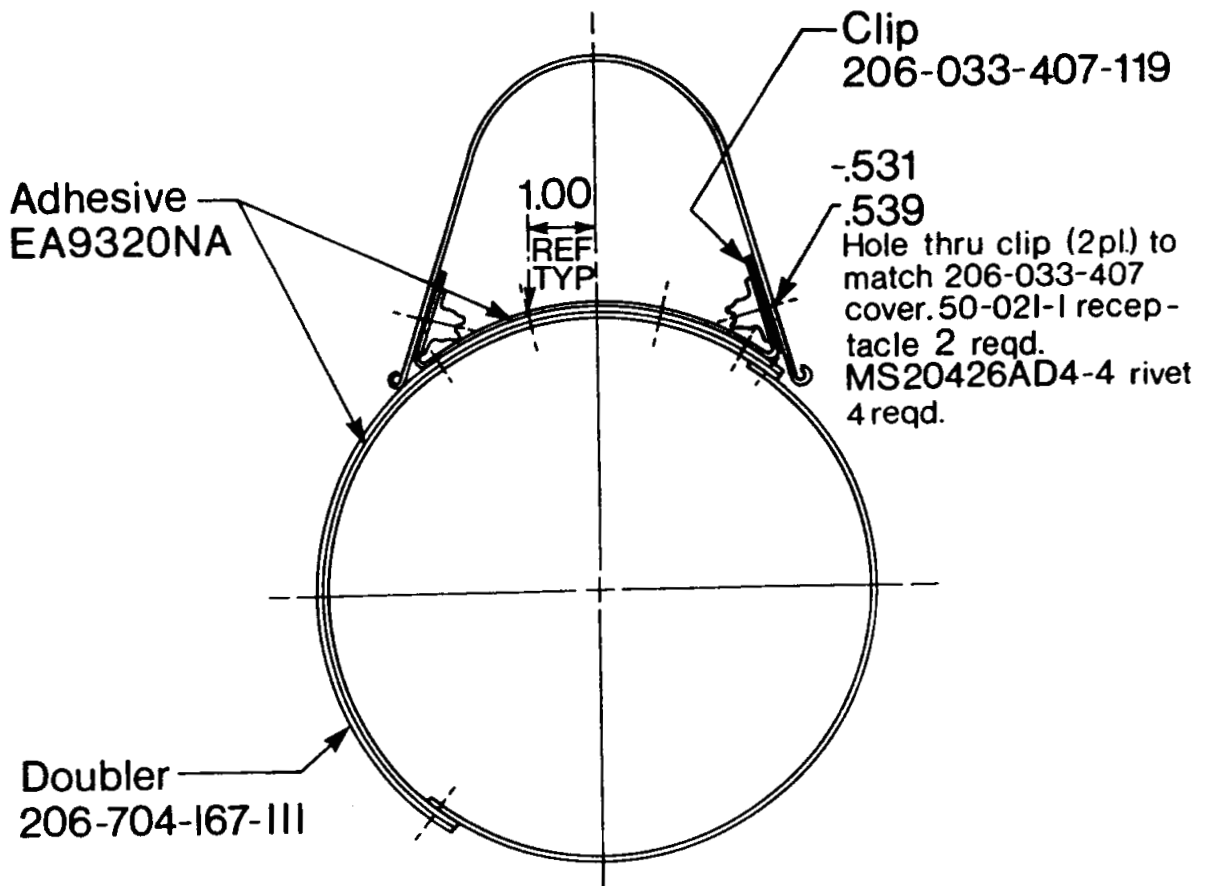


FIGURE 3

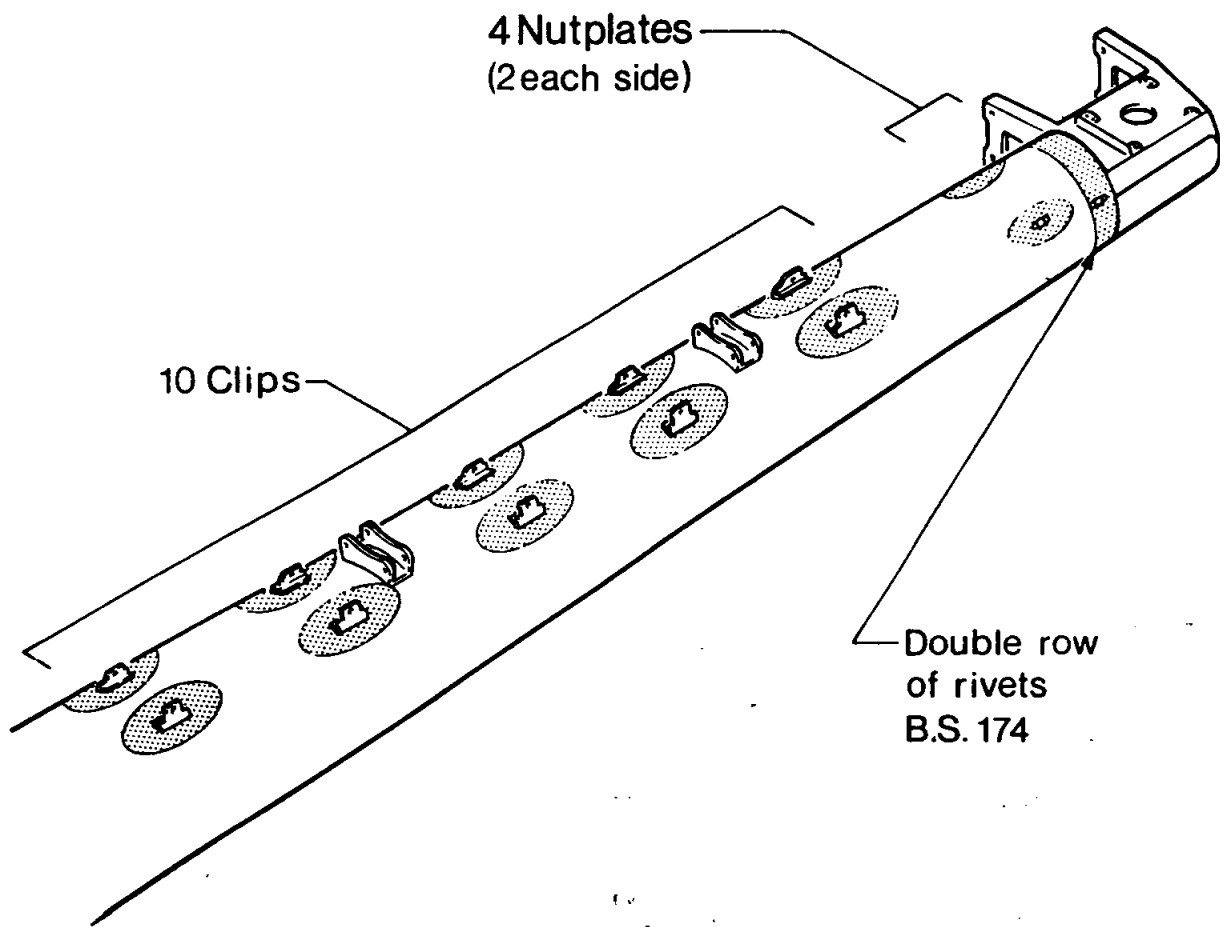
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PART II: 50 HOUR INSPECTION, UNMODIFIED TAILBOOMS

- 1) Remove T/R driveshaft and T/R gearbox fairings.
- 2) Remove a sufficient amount of anti-chafing tape to permit inspection of tailboom skin, adjacent to tail rotor drive shaft cover retention clips aft of horizontal stabilizer, and in area of double row of rivets attaching the tail rotor gearbox support fitting to the tailboom (B.S. 174).
- 3) Prior to cleaning, use a min. 5 power magnifying glass to inspect for cracks and signs of developing cracks at the following locations: (See Fig. 4)
 - A) Aft of stabilizer assy, around rivets which attach the tail rotor drive shaft cover retention clips to the tailboom.
 - B) Area of tail rotor gearbox fairing attachment nut plate rivets.
 - C) area of double row of rivets which attach the tail rotor gearbox support fitting to the tailboom (B.S. 174).
- 4) Clean entire tailboom taking particular care to remove all grime and dirt in specified area of inspection and repeat min. 5 power inspection as per sub-paragraph 3.
- 5) Visually inspect entire tailboom in accordance with maintenance manual.
- 6) Replace any loose or working rivets found.
- 7) Replace anti-chafing tape removed as required.
- 8) In the event that cracks are found, you are requested to contact:

Bell Helicopter Textron
Product Support Engineering
TEL: 1-800-363-8023 from the Continental US
TEL: 1-800-361-9305 within Canada
TEL: 514-437-2862 from other areas
TELEX: 05-835580 BELL SJAN
FAX: 514-433-0272
HELICOMM: PSECAN

UNMODIFIED TAILBOOM ASSY



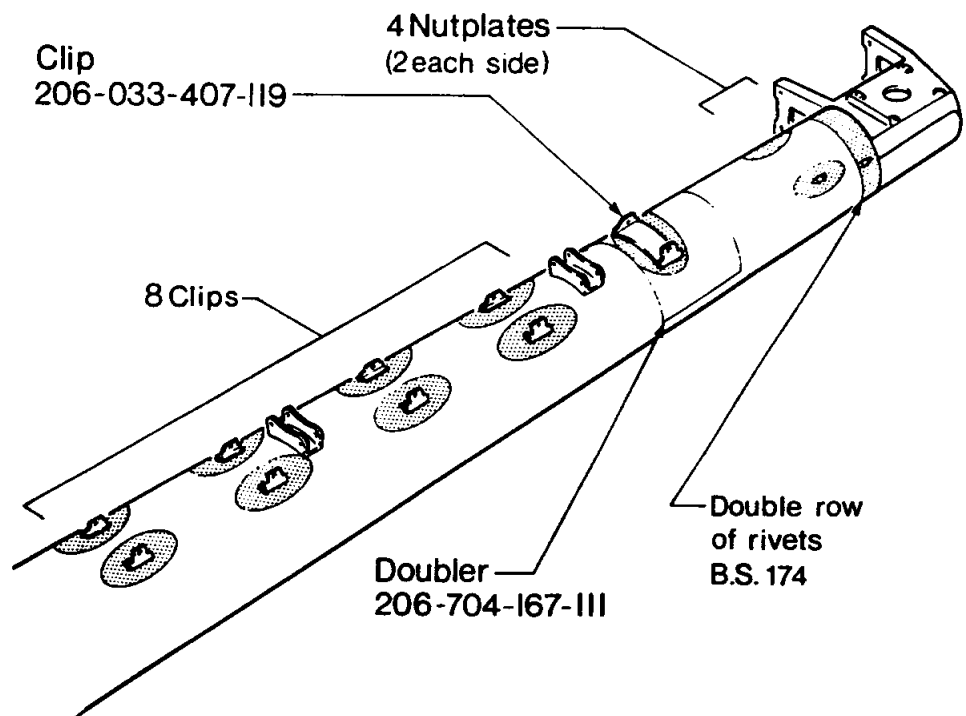
 AREA TO BE INSPECTED

FIGURE 4

PART III: 100 HOUR INSPECTION, FIELD MODIFIED TAILBOOMS AND TAILBOOMS SUBSEQUENT TO -45

- 1) Inspect as per PART II. (Refer to Fig. 5)
- 2) Inspect doubler and clip edge sealant for integrity. Reseal as required. (See Fig. 2)

MODIFIED TAILBOOM ASSY



■ AREA TO BE INSPECTED

FIGURE 5