

ALERT SERVICE BULLETIN



NO. 206L-09-158

DATE APR 29, 2009

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MODEL AFFECTED: ALL 206L SERIES HELICOPTERS

SUBJECT: AIRWORTHINESS INSPECTION LIMITATION TO TAILBOOM LEFT UPPER ATTACHMENT FITTING P/N 206-032-409-001.

HELICOPTERS AFFECTED: 206L Helicopters serial number 45004 through 45153 and 46601 through 46617.

206L-1 Helicopters serial number 45154 through 45790.

206L-3 Helicopters serial number 51001 through 51612

206L-4 Helicopters serial number 52001 and subsequent.

TAILBOOMS AFFECTED: All tailboom assembly part numbers as listed in Appendix "A"

COMPLIANCE:

PART I: At the next 100-hour scheduled inspection and every period thereafter not exceeding 100 hours of flight time.

PART II: When loose (working) rivets, a crack or mechanical damage is found on subject fitting following inspection under PART I.

DESCRIPTION:

This Alert Service Bulletin introduces a Chapter 4 limitation to the 100 Hours/Annual inspection currently published in the Chapter 5 of applicable 206L series maintenance manuals for the upper left tailboom attachment fitting Part Number 206-032-409-001.

PART I of this bulletin elaborates the Chapter 4 inspection requirements of the upper left tailboom attachment fitting 206-032-409-001 and provides guidance to repair minor acceptable damage.

Part II of this bulletin provides guidance to replace loose (working) rivets or to replace the fitting in case unacceptable damage is found.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved.

MANPOWER:

PART I: No impact on man-hours when carried out as part of the periodic 100-hour/Annual scheduled inspection.

PART II: Approximately 8 man-hours are required to complete PART II of this bulletin. Man-hours are based on hands-on time and may vary with personnel and facilities available.

WARRANTY:

There is no warranty credit applicable for parts or labor associated with this Bulletin.

MATERIAL:

Consumable Material:

The following material is required to accomplish this bulletin, but may not require ordering, depending on the operator's consumable material stock levels. This material may be obtained through your Bell Helicopter Textron Supply Center.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Quantity</u>	<u>Reference</u>
P-P-101	Abrasive paper(400 grit)	A/R	C-423
MIL-C-87936, TY I	Aircraft soap cleaner	1	C-318
MIL-C-81706 1 QT	Chemical treatment (Alodine)	1	C-100
MIL-PRF-23377TI,CLC	Primer	1	C-204

REFERENCES:

BHT-206L-SERIES-IPB Illustrated Parts Breakdown (Rev 4, dated 12 June 2007)
BHT-206L-MM-1 Maintenance Manual (Rev 28, dated 30 April, 2008)
BHT-206L1-MM-1 Maintenance Manual (Rev 25, dated 05 January 2009)
BHT-206L3-MM-1 Maintenance Manual (Rev 7, dated 30 April 2008)
BHT-206L4-MM-1 Maintenance Manual (Rev 6, dated 30 April 2008)
BHT-206L4T-MM-1 Maintenance Manual (Rev 5, dated 17 May 2002)
BHT-ALL-SPM Standard Practices Manual (Rev 2, dated 16 February 2007)
BHT-206-SRM-1 Structural Repair Manual (Rev 1, dated 04 April 1995)

PUBLICATIONS AFFECTED:

Chapter 4 of the BHT-206L-MM-1 Maintenance Manual
Chapter 4 of the BHT-206L1-MM-1 Maintenance Manual
Chapter 4 of the BHT-206L3-MM-1 Maintenance Manual
Chapter 4 of the BHT-206L4-MM-1 Maintenance Manual
Chapter 4 of the BHT-206L4T-MM-1 Maintenance Manual

ACCOMPLISHMENT INSTRUCTIONS:

PART I: VISUAL INSPECTION OF TAILBOOM UPPER LEFT ATTACHMENT FITTING 206-032-409-001.

1. Gain access to the four tailboom attachment fittings, intercostals and bulkheads (BS 31.87 and BS 42.59) inside the tailboom assembly by removing the tailboom access cover on the right side of the aft fuselage.

-NOTE-

Make sure that each drain hole on lower skin of tailboom assembly, aft of each bulkhead, is free of dirt or debris and not clogged.

2. (Ref. Figure 1) Clean the complete tailboom attachment area with aircraft soap (C-318) prepared in accordance with manufacturer's recommendations to remove all traces of dirt, stains, exhaust residues and oil. Rinse with water and let area to dry.

-NOTE-

If a crack is found in the upper left tailboom attachment fitting during the inspection described below, contact Product Support Engineering with details before installing a new fitting.

3. (Ref. Figure 2) Use a bright light source with a mirror and inspect visually the left upper tailboom attachment fitting P/N 206-032-409-001 for loose (working) rivets, corrosion, condition and mechanical damage. Pay close attention on each leg of the fitting for a crack near the two most forward vertical rows of rivets.
4. If a crack, loose (working) rivets, is found on upper left attachment fitting, accomplish **PART II** of this bulletin.
5. If corrosion or mechanical damage is found on the fitting, refer to FIGURE 2 to determine if the fitting can be repaired.
 - a) If damage is beyond repairable condition, replace the fitting in accordance with **PART II**.
 - b) Repair acceptable damage as follows;

-NOTE-

Depth of repair shall be twice the depth of corrosion not to exceed the repair limits of Figure 2.

- i. Blend the damage on the fitting in order to remove minimum material. A 20:1 width to depth ratio should be maintained.
 - ii. If damage is affecting the corner radius area of the fitting (see double-hatched area), blend to obtain minimum chamfer that will remove the damage. A maximum of 0.020 inch (0.508 mm) X 45° chamfer is allowed.
 - iii. Use Sanding paper (C-423) 400 grit or finer to obtain a final surface finish of 32 RMS or better.
 - iv. Perform Fluorescent Penetrant Inspection of the fitting after blending is accomplished to ensure all damage is removed. Clean fitting to remove fluorescent Penetrant after inspection is done.
 - v. Apply chemical film treatment (C-100) to bare metal surfaces, followed by one coat minimum of primer (C-204).
6. If no crack, loose (working) rivets, corrosion or mechanical damage is found, complete the 100-hour/annual scheduled inspection of the tailboom assembly as defined in Chapter 5 of your maintenance manual.
 7. Annotate the helicopter records to indicate compliance with **Part I** of this Alert Service Bulletin (ASB) before returning the tailboom assembly to service.

8. Repeat Step 1 through Step 6 within a period not exceeding 100 hours of flight time.

PART II: REPLACEMENT OF LOOSE (WORKING) RIVETS OR TAILBOOM ATTACHMENT FITTING

1. Remove the upper left tailboom attachment fitting and the two mating intercostals as an assembly from the tailboom in accordance with procedure 6-3-1 of the Structural Repair manual. If damage to fitting justifies its replacement, continue with the procedure 6-3-1 of the SRM manual.
2. If loose (working) rivets were found while performing inspection as per Part I of this bulletin, proceed as follows:
 - a) Drill and remove the affected original MS20470DD5 (ice box rivets) or the MS20470E5 rivets.
 - b) Inspect each affected hole(s) for dimension in accordance with Table 3-4 in the SRM. If affected hole(s) is/are within limit, go to Step 3. If holes are oversize or elongated, go to step 4.

-NOTE-

When re-installing the same original type and size (5/32) solid rivets as delivered from the factory, no restriction exists. Proceed with the installation of the rivet(s) within the fitting/intercostals assembly as per the procedure 6-3-1 described in the SRM manual.

-NOTE-

206L helicopter series tailboom were delivered from the factory with either all MS20470DD5 or all MS20470E5 rivets as original.

-NOTE-

When installing oversize rivets in any leg of the fitting, only the next oversize (3/16 dia. nominal) is allowed. Refer to Step 4.

3. If the same type and size (5/32 diameter) rivet(s) are to be installed again, refer to the procedure 6-3-1 defined in the SRM before proceeding with Step 6 below.

-NOTE-

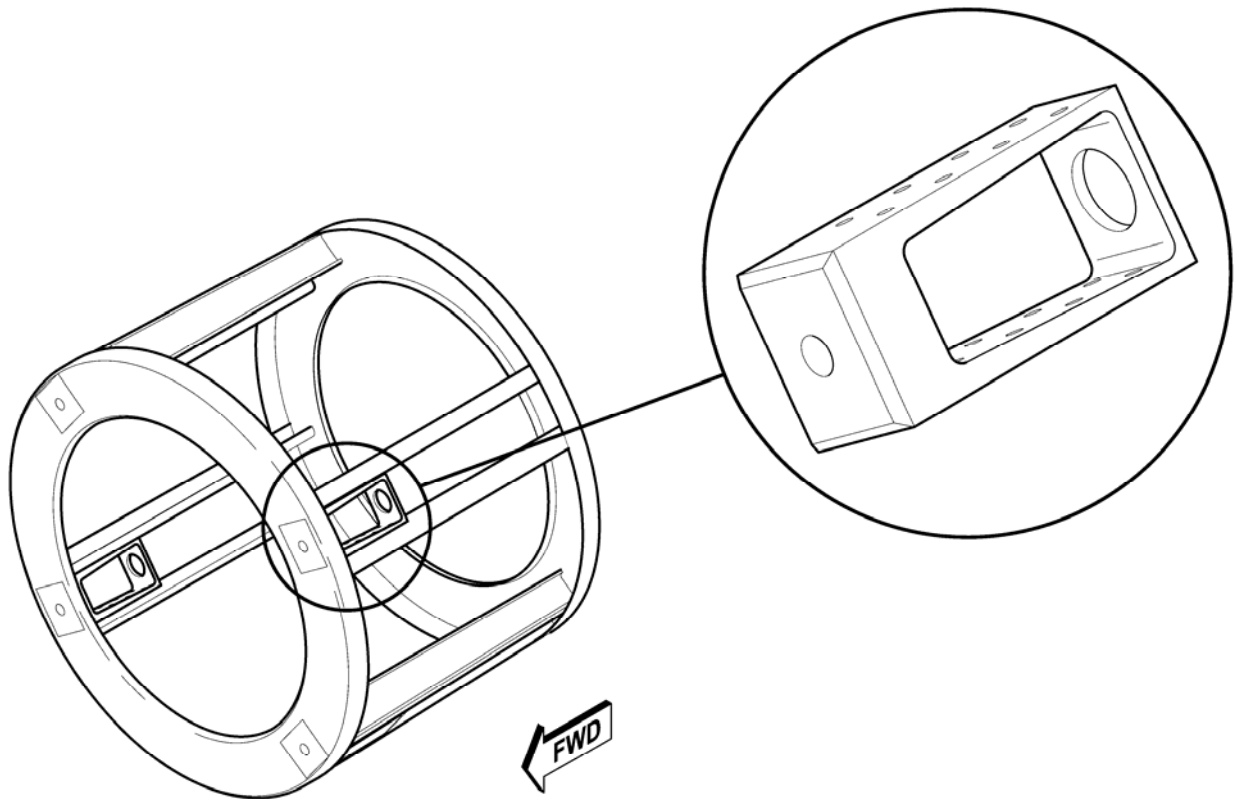
When installing oversize or different type of rivets common to one leg of the fitting, it is not necessary to replace (match) corresponding rivets in opposite leg of the fitting.

4. If different type or size of rivets from factory original (5/32 dia.) are required due to hole(s) beyond the limit of Table 3-4 of the SRM, you can install either MS20470DD or MS20470E (5/32 dia.) rivet types or its oversize (3/16 dia.) in the fitting provided the following restrictions are met:
 - a) A minimum of 2D edge distance shall be maintained on all rivets replaced.
 - b) 4d minimum pitch shall be maintained between all rivets.
 - c) No rivet bigger than 3/16 diameter are allowed in any leg of the fitting.
 - d) No rivets shall interfere with the installation of the hardware securing the tailboom assembly to the fuselage.
 - e) No rivets should be located in the radii of the fitting.
 - f) (Ref. Figure 3) Whenever one original 5/32 fasteners needs oversize replacement, all the rivets in that affected rivet group (Group "A", "B" or "C") are to be replaced with the same type and size of oversize fastener.
 - g) It is acceptable to have a mix of "DD" and "E" type rivets in the same leg of the fitting as shown as group "D" but it is not acceptable to have such a mix within rivet respective groups "A", "B" or "C".

Example 1: (Ref, Figure 3) A rivet hole in part of group "A" is elongated (oversize); both rivets in group "A" must be replaced.

Example 2: (Ref. Figure 3) Two rivet holes, one in group "A" and the other in group "B" are elongated (oversize); all rivets in both groups ("A" and "B") must be replaced. Although the rivets in group "C" do not require to be changed, it is acceptable if the operator chooses to replace those as well.

5. Re-install the fitting and intercostals assembly back into the tailboom using the procedure 6-3-1 of the SRM manual.
6. Annotate the helicopter records to indicate compliance with **Part II** of this Alert service Bulletin before returning the tailboom assembly to service.



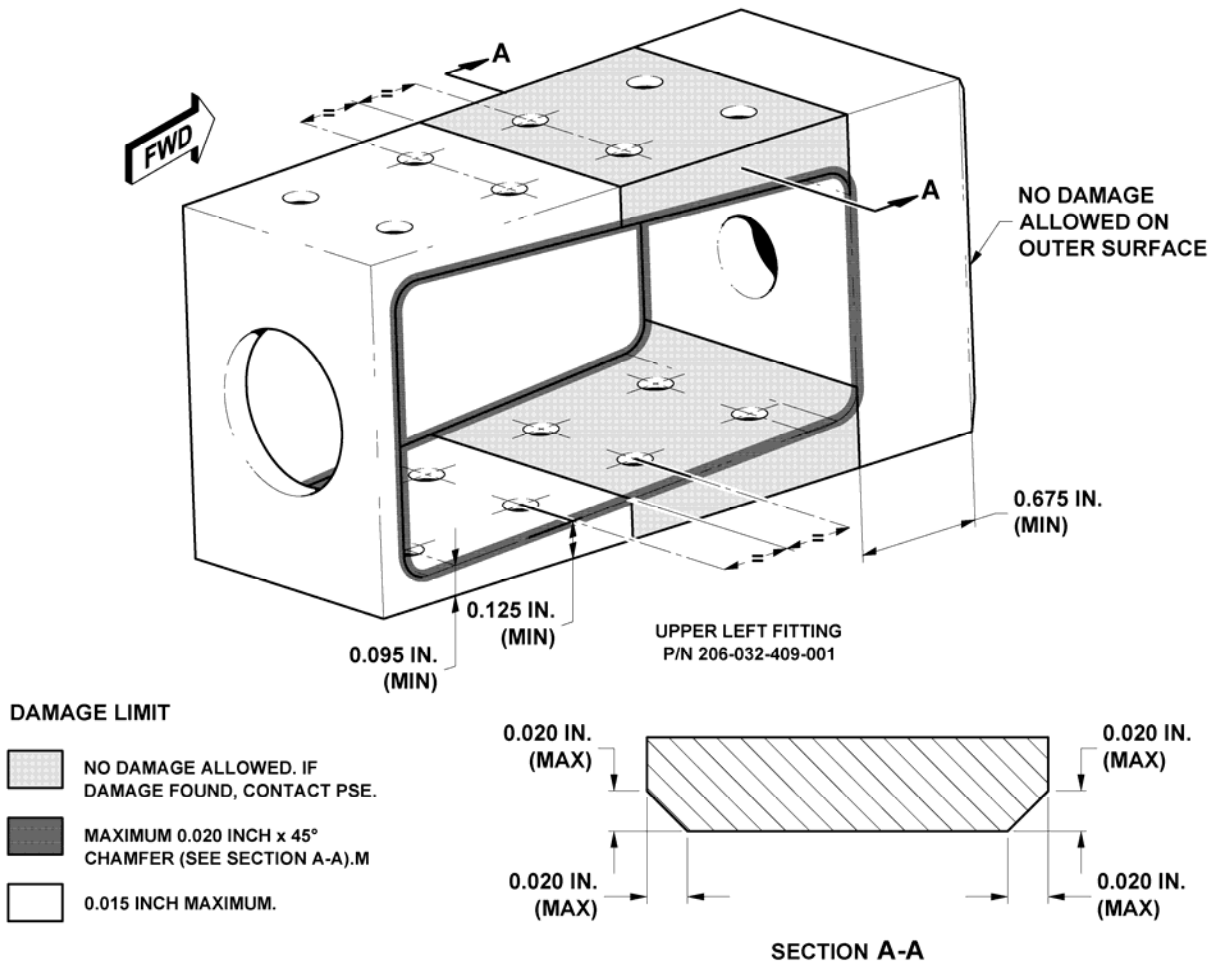
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NOTES

1. Inspect upper left attachment fitting P/N 206-032-409-001 for a crack, corrosion, loose rivets, mechanical damage and general condition within a period not to exceed 100 hours of flight time.
2. Repair fitting in accordance with **PART I** and Figure 2 provided limitations are met after rework.
3. Replace cracked or damaged fitting or loose rivets in accordance with **Part II** of this bulletin.
4. Tailboom assembly remaining details not shown for clarity.
5. If a crack is found, contact Product Support Engineering with details using the following information;

Bell Helicopter Textron
Product Support Engineering
Light Helicopters group
Tel: 1-800-243-6407 (Continental USA and Canada)
1-800-363-8023 (Continental USA)
1-800-361-9305 (Within Canada)
1-450-437-2862 (All other areas-Call collect)
Fax: 450-433-0272
Email: pselight@bellhelicopter.textron.com

FIGURE 1: INTRODUCTION OF AIRWORTHINESS INSPECTION LIMITATION TO TAILBOOM ATTACHMENT FITTING P/N 206-032-409-001

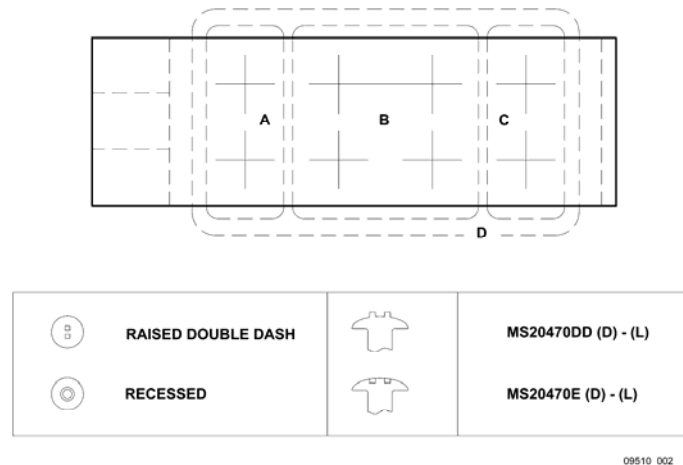


Recommended Instructions:

- Clean the fitting to remove all dirt or debris before inspection.
- Blend the fitting smooth in order to remove any corrosion or mechanical damage. Care shall be taken to prevent increasing the depth of the damage. A 20:1 width to depth ratio shall be maintained.
- Removal of corrosion shall be twice the depth measured, not to exceed the limitations shown.
- Perform the minimum chamfer required to remove the damage and to ensure subsequent blending provision in case of future damage. Maximum 0.020" x 45° chamfer allowed.
- Surface finish after blend to be 32 RMS or better.
- Perform a fluorescent penetrant inspection of the reworked areas per instructions detailed in BHT-ALL-SPM to ensure that the damages were fully removed.
- Clean the fitting to remove fluorescent penetrant.
- Measure the amount of material removed from the fitting in the reworked areas. The maximum amount of removed material to be within the above figure limitations. If this condition is not met, resubmit to PSE for evaluation.
- Perform brush chemical film application to bare metal following instructions detailed in BHT-ALL-SPM.
- If required, prime the reworked areas using primer per MIL-P-23377.
- Re-finish as required.

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FIGURE 2: DAMAGE LIMITATION AND APPROVED REPAIR TO FITTING P/N 206-032-409-001.



NOTES:

When re-installing the same original type and size (5/32) solid rivets as delivered from the factory, no restriction exist. Proceed with the installation of the rivet(s) within the fitting and intercostals assembly and re-install unit within the tailboom as per the remaining steps of the procedure 6-3-1 found in the SRM manual.

When installing oversize or different type of rivets common to one leg of the fitting, it is not necessary to replace (match) corresponding rivets in opposite leg of the fitting.

When different type or size of rivets from factory original are required due to hole(s) beyond the limit of Table 3-4 of the SRM where oversize rivet(s) is/are needed, any number of different type or oversize rivets can be installed provided the following restrictions are met:

- a) Either MS20470DD or MS20470E rivet type may be used as replacement. Only these two can be used.
- b) A minimum of 2D edge distance shall be maintained on all rivets replaced.
- c) 4D minimum pitch shall be maintained between all rivets.
- d) No rivet bigger than 3/16 diameter are allowed in any leg of the fitting.
- e) No rivets shall interfere with the installation of the hardware securing the tailboom assembly to the fuselage.
- f) No rivets should be located in the radii of the fitting.
- g) Whenever one original 5/32 fasteners needs oversize replacement, all the rivets in that affected rivet group (Group "A", "B" or "C") are to be replaced with the same type and size of oversize fastener.
- h) It is acceptable to have a mix of "DD" and "E" type rivets in the same leg of the fitting as shown as group "D" but it is not acceptable to have such a mix within rivet respective groups "A", "B" or "C".

Example 1: A rivet hole in part of group "A" is elongated (oversize); both rivets in group "A" must be replaced.

Example 2: Two rivet holes, one in group "A" and the other in group "B" are elongated (oversize); all rivets in both groups ("A" and "B") must be replaced. Although the rivets in group "C" do not require to be changed, it is acceptable if the operator chooses to replace those as well.

FIGURE 3: REPLACEMENT OF LOOSE (WORKING) RIVETS IN TAILBOOM ATTACHMENT FITTING P/N 206-032-409-001

APPENDIX "A"

DESCRIPTION OF TAILBOOM PART NUMBERS:

206-033-004-003: Basic tailboom part number (see Note below) as delivered on 206L model S/N 45003 through 45076.

206-033-004-003FM: Basic tailboom modified under ASB 206L-87-47 (Addition of one piece driveshaft cover clip and doubler on upper skin)

206-033-004-003FM1: -003FM configuration upgraded to -045 equivalence under TB 206L-90-150.

206-033-004-003FM2: -003FM configuration upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-003FMA: -003FM configuration which has complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-003FM1A: -003FM configuration upgraded to -045 equivalence under TB 206L-90-150 which has complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-003FM2A: -003FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-011: Basic tailboom part number (see Note below) as delivered on 206L model S/N 45077 through 45153 and S/N 46601 through 46617.

206-033-004-011FM: Basic tailboom modified under ASB 206L-87-47 (Addition of one piece driveshaft cover clip and doubler on upper skin).

206-033-004-011FM1: -011FM configuration upgraded to -045 equivalence per BHT instructions letter.

206-033-004-011FM2: -011FM configuration upgraded to -103 equivalence per BHT instructions letter.

206-033-004-011FM3: -011FM configuration upgraded to -045 equivalence under TB 206L-90-150.

206-033-004-011FM4: -011FM configuration upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-011FMA: -011FM configuration which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-011FM1A: -011FM configuration upgraded to -045 equivalence per BHT instructions letter which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-011FM2A: -011FM configuration upgraded to -103 equivalence per BHT instructions letter which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-011FM3A: -011FM configuration upgraded to -045 equivalence under TB 206L-90-150 which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-011FM4A: -011FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-103: Basic tailboom part number (see Note below) as delivered on 206L model S/N 45154 through 45283.

206-033-004-103FM: Basic tailboom modified under ASB 206L-87-47 (Addition of one piece driveshaft cover clip and doubler on upper skin).

206-033-004-103FM1: -103FM configuration upgraded to -045 equivalence under TB 206L-90-150.

206-033-004-103FM2: -103FM configuration upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-103FMA: -103FM configuration which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-103FM1A: -103FM configuration upgraded to -045 equivalence under TB 206L-90-150 which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-103FM2A: -103FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-045: Basic tailboom part number(see Note below) as delivered on 206L-1 model S/N 45284 through 45790 and on 206L-3 model S/N 51001 through 51283.

206-033-004-045FM: Basic tailboom modified under ASB 206L-87-47 (Addition of one piece driveshaft cover clip and doubler on upper skin)

206-033-004-045FM1: -045FM configuration upgraded to -143 equivalence per BHT instructions letter.

206-033-004-045FM2: -045FM configuration upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-045FMA: -045FM configuration which complied also with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-045FM1A: 045FM configuration upgraded to -143 equivalence per BHT instructions letter which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

206-033-004-045FM2A: -045FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-143: Basic tailboom part number (see Note below) as delivered on 206L-3 model S/N 51284 through 51612.

206-033-004-143FM1: Basic tailboom upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-143FM1A: -143FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-175: Basic tailboom part number (see note below) as delivered on 206L-4 model S/N 52001 through 52026.

206-033-004-175FM1: Basic tailboom upgraded to -177 equivalence under TB 206L-96-191.

206-033-004-175FM1A: -175FM configuration upgraded to -177 equivalence under TB 206L-96-191 which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory. This suffix is not taken into account for the part numbers above representing field modifications as described herein.

206-033-004-177: Basic tailboom part number (see Note below) as delivered on 206L-4 model S/N 52027 through 52232.

206-033-004-177A: Basic tailboom which complied with ASB 206L-99-115(Addition of a riveted doubler at left horizontal stabilizer cutout).

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory.

206-033-004-181: Basic tailboom part number (see Note below) as delivered on 206L-4 models S/N 52233 through 52245.

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory.

206-033-004-199: Basic tailboom part number (see Note below) as delivered on 206L-4 models S/N 52246 through 52340.

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory.

206-033-004-203: Basic tailboom part number (see Note Below) as delivered on 206L-4 model S/N 52341 through subsequent.

Note: The basic tailboom part number on the data plate could have been identified also with a suffix "A" from the factory.

206-704-727-103: Any tailbooms listed above upgraded to -199 part number equivalence by BHT-Approved Customer Service Facilities (CSF) holding copies of drawings 206-530-127 and 206-704-727. This upgrade involves replacement of the upper skin along with meeting compliance with TB 206L-96-191 as the initial baseline.

206-704-727-105: Any tailbooms listed above upgraded to -199 part number equivalence by BHT-Approved Customer Service Facilities (CSF) holding copies of drawings 206-530-127 and 206-704-727. This upgrade involves replacement of the lower skin along with meeting compliance with TB 206L-96-191 as the initial baseline.

206-704-727-101: Any tailbooms listed above upgraded to -199 part number equivalence by BHT-Approved Customer Service Facilities (CSF) holding copies of drawings 206-530-127 and 206-704-727. This upgrade involves replacement of both the upper and lower skins along with meeting compliance with TB 206L-96-191 as the initial baseline.