

**ALERT SERVICE BULLETIN**  
**Bell Helicopter** **TEXTRON**

A Subsidiary of Textron Inc.

NO. 407-07-80

DATE AUG 27, 2007

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DATE

**MODEL AFFECTED:** 407

**SUBJECT:** TAILBOOM ASSEMBLY 407-030-801-107, AND 407-530-014-101/-103, NEW INSPECTION REQUIREMENTS.

**HELICOPTERS AFFECTED:** Model 407 helicopters serial number 53000 through 53475 with subject tailboom installed.

[Model 407 helicopters serial numbers 53476 and subsequent and serial numbers 53000 through 53475 that have tailboom 407-030-801-201/-203/-205 or later installed are not affected by the recurring inspections of this bulletin.

**COMPLIANCE:** **PART I** Immediately after receipt of this bulletin.

**PART II** Within 25 flight-hours or 30 days after accomplishment of **PART I**.

**PART III** At the second flying day after accomplishment of **Part II** and before each first flight of the day thereafter. Compliance with this daily check can be accomplished by the pilot as part of his preflight check.

**PART IV** Within 100 flight-hours after accomplishment of **PART II** and every 100 flight-hours thereafter.

**DESCRIPTION:**

**CAUTION**

**TAILBOOM ASSEMBLIES 407-030-801-107, 407-530-014-101/-103 ARE AUTHORIZED FOR A MAXIMUM OF 5000 HOURS IN SERVICE AFTER WHICH TIME THEY SHOULD BE RETIRED. REMOVAL AND/OR REPLACEMENT OF THE UPPER AND/OR LOWER SKINS IS NO LONGER AUTHORIZED ON THE TAILBOOM ASSEMBLIES 407-030-801-107, 407-530-014-101/-103.**

Bell Helicopter received additional reports of cracked tailboom skins P/N 407-030-801-157 affecting field-modified tailboom assemblies 407-530-014-101/-103 (Ref. ASB 407-01-48) and original production tailboom assembly P/N 407-030-801-107. Each report indicated a crack seen above the left side upper stabilizer attachment support, at Station 98.89. Further investigation conducted by BHT revealed that other areas of the subject tailbooms do require additional attention.

**-NOTE-**

Tailboom 407-030-801-101 and /-105 shall have had ASB 407-01-48 Rev. "B" accomplished as of January 31, 2003 therefore converted to tailboom 407-530-014-101/-103.

**-NOTE-**

Terminating action to this Alert Service Bulletin is replacement of the affected tailboom assembly 407-530-014-101/-103 or 407-030-801-107 by tailboom 407-030-801-201/-203/-205 or later.

**PART I** of this Alert Service Bulletin requires identification of the affected tailboom.

**PART II** of this bulletin gives instructions to remove the paint and the primer from the left side of the tailboom at two specific areas to allow detailed inspection.

**PART III** of this bulletin introduces a daily visual check of the specific areas where paint and primer were removed under **Part II**. Compliance with this daily check can be accomplished by the pilot as part of his preflight check.

**PART IV** changes the intervals of the scheduled inspection requirements described in Revision 23 of the Chapter 4 of the Maintenance Manual (BHT-407-MM-1, Table 4.2) to 100 Flight-hours and adds the new inspection requirements as defined by this bulletin. It also supersedes the inspection requirements as defined under **PART V** of Alert Service Bulletin 407-01-48 (Revision "B").

**APPROVAL:**

The engineering design aspects of this bulletin are TCCA approved.

**MANPOWER:**

**PART I:** Approximately 0.5 man-hour is required to accomplish PART I of this bulletin.

**PART II:** Approximately 1.5 man-hours are required to accomplish PART II of this bulletin.

**PART III:** No more time is necessary if this check is being done as part of the Pilot's Preflight check.

**PART IV:** Approximately 2.5 man-hours are required to accomplish PART IV of this bulletin.

**NOTE:** Man-hours are based on hands-on time, and may vary with personnel and facilities available.

**WARRANTY:**

Owners / Operators of the affected tailbooms that have completed Part 1, Part II (1.g.), Part III (1.d.) or Part IV (3.a.) of this bulletin and have found a crack in the detailed area listed in this bulletin may replace their tailboom at no cost providing you purchase a replacement tailboom part number 407-030-801-205 or later from a Bell approved supply source.

Order a replacement tailboom through the Bell Spares Department or Bell approved source at full list price, and file a warranty claim in VISTA. Warranty administration will credit your account based on replacement part invoice cost. In addition, Bell Warranty will offer a maximum of \$2,100.00 for labor to remove and replace the tailboom, shim and install the horizontal stabilizer, re-wire and paint the tail boom. An additional \$400.00 maximum will be allowed for the cost of the paint.

**NOTE:** Once you have replaced the tailboom, please remove the data plate from the unserviceable tailboom and notify Product Support Engineering Light Group of the serial number removed. Also notify your local CSR who will pick the data plate, and witness the destruction of the discrepant part.

**MATERIAL:**

**Required Material:**

None required.

**Consumable Material:**

For **PART II:**

- Paint stripper (C-436) under MIL-R-81294A OR MIL-R-8633A.
- Aluminum tape C-439, Aluminum Tape 425-2IN.
- Clear polyurethane paint coating (C-245). Clear enamel coating in a spray can which is procured locally is an acceptable alternate to the clear polyurethane coating.
- 2 inch wide paint brush

For **PART III** or **PART IV:**

- Aircraft soap (C-318) under MIL-C-87936, as required.

**SPECIAL TOOLS:**

For **PART II** and **PART IV:** 10X Magnifying glass

**WEIGHT AND BALANCE:**

Not affected

**ELECTRICAL LOAD DATA:**

Not affected

**REFERENCES:**

ASB 407-01-48, Revision "C"

ASB 407-07-77, dated March 28, 2007

BHT-206-SRM-1

BHT-407-MM-1, Rev 23, Maintenance Manual, Chapter 4

BHT-407-MM-5, Rev 18, Maintenance Manual, Chapter 53

Corrosion Control Guide, Chapter 10

BHT-ALL-SPM, Rev. 2, dated 16 February, 2007

**PUBLICATIONS AFFECTED:**

BHT-407-MM-1, Rev 23, Maintenance Manual, Chapter 4

ASB 407-01-48, Revision "B "

**ACCOMPLISHMENT INSTRUCTIONS:****PART I VERIFICATION FOR AFFECTED TAILBOOM.**

1. Upon receipt of this bulletin, verify the helicopter technical records to determine if you have a tailboom 407-030-801-107, or 407-530-014-101/103 installed. You can also physically confirm the tailboom part number by removing the aft driveshaft cover and looking at the identification plate located near Boom Station (BS) 129 as shown in Figure 1.
2. If identification as per Step 1 indicates that your tailboom is not affected by this bulletin, (meaning that you have a tailboom assembly 407-030-801-201/-203 or /-205 (or later) installed on your helicopter), annotate the helicopter technical records to indicate that your tailboom is not affected by this bulletin.
3. If identification as per Step 1 above indicates that you have one of the subject tailboom assembly, annotate the helicopter technical records to indicate the date and the helicopter total time at which **PART I** of this bulletin is complied with.
4. Accomplish **Part II** within 25 hours of flight-time or 30 days following identification of affected tailboom under **PART I** of this bulletin.

**PART II Preparation of tailboom assembly for Daily visual check (under PART III) and for 100 Hour-10X magnifying glass inspection (under Part IV).**

1. Remove the paint and primer from the left side only of your tailboom in the areas ( 1.5 inch X 2 inch( 38.1 mm X 50.8 mm)) shown under Figure 2 as follows;

**-CAUTION-**

Once the paint and the primer is removed, and following initial 10X magnifying glass inspection, the unpainted surfaces must be protected from corrosion by application of a clear paint coating (see consumable material section for details).

- a) Use soap (C-318) prepared in accordance with manufacturer's recommendations to clean all exhaust residues and dirt from the tailboom surfaces shown in Figure 2.

- b) Refer to Figure 2 and use a felt marker to layout each area where the paint must be removed.
- c) Use Aluminum tape (C-439) to mask external area of each section identified in previous step. Make sure you put sufficient pressure over complete surfaces and edges of tape to get ultimate adhesion to the painted surfaces.

**-NOTE-**

Do not remove sealant if present at edge of the upper stabilizer attachment support, at this time. This will be done later.

**-CAUTION-**

Protect other areas of the tailboom and the horizontal stabilizer from the paint stripper.

- d) Use a 2 inch wide (or smaller) paint brush and apply a thin coat of paint stripper (C-436) to each area. Wait a few minutes until all paint and primer is separating from the tailboom skin surface. Use clean cloth to wipe paint, primer and stripper residues. Re-apply new stripper as required. Repeat this process until the bare tailboom Aluminum skin is revealed (normally 2 or 3 times should suffice).
- e) Rinse reworked surfaces with soft water until all traces of paint stripper compound is removed. Wipe again the surfaces with dry cloth. If sealant is present at edge of stabilizer attachment support, remove it at this time with a plastic scrapper (or equivalent tool) but be careful not to damage the tailboom skin during removal process.
- f) Inspect both areas using a 10X magnifying glass. Pay close attention near edges of the stabilizer upper attachment support.
- g) If a crack is found, replace the tailboom before next flight and notify Bell Helicopter Product Support Engineering department.
- h) If another affected tailboom is installed on the helicopter, proceed with **PART II** or **PART III** of this bulletin, as applicable, prior to next flight.

**-NOTE-**

Clear enamel coating applied from a spray can is acceptable as an alternate to the clear polyurethane coating (C-245).

- i) If no crack is found, make sure both surfaces are dry and protect each reworked area with a thin coat of clear coating(C-245). Do not re-apply sealant if removed previously.

- j) Let the clear coating dry and remove the Aluminum tape.

### **PART III Daily visual check.**

-NOTE-

This check requires no special tool but the paint and primer must be initially removed from the tailboom skin surface in accordance with **PART II**. Compliance with this Daily check can be accomplished by the pilot as part of his preflight check.

-NOTE-

Do not remove the clear paint coating to comply with this daily check.

-NOTE-

If your helicopter has not flown since accomplishment of **PART II**, start the daily checks at the second forthcoming day of flight.

1. Before the first flight of the day, do a check for cracks in the areas where paint was removed on the left side of the tailboom assembly, as follows;
  - a) Use a clean cloth moistened with aircraft soap (C-318) prepared in accordance with manufacturer's recommendations, as required, to remove any exhaust residues or dirt from both areas to look at, as shown in Figure 2.
  - b) Make sure that the tailboom skin is clean and that adequate lighting exists. Visually look at the two areas where original paint and primer was removed and protected with clear paint coating. Look for a crack at a distance not exceeding more than 12 inches (30.48 cm) from eyesight.
  - c) Pay close attention near the edge of the stabilizer upper support.
  - d) If a crack is found, replace the tailboom before next flight and notify Bell Helicopter Product Support Engineering department.
  - e) If another affected tailboom is installed on the helicopter, proceed with **PART II** or **PART III** of this bulletin as applicable, prior to next flight.
  - f) If no crack is found, the intent of **PART III** is complete.

2. Make an entry in the helicopter records to show that **PART III** of this bulletin is completed.
3. Repeat steps 1 and 2 before each first flight of the day thereafter.
4. Comply with subsequent 100 Hour inspection requirements described in **PART IV** when time is reached.

**PART IV: 100 Hour inspection requirements for tailbooms 407-530-014-101 /-103 and tailboom 407-030-801-107.**

**-NOTE-**

PART IV changes the intervals of the scheduled inspection mandated by Revision 23 of the Chapter 4 of the Maintenance Manual (BHT-407-MM-1, Table 4.2) for all tailbooms listed in the subject block. It also supersedes the inspection requirements as defined under PART V of Alert Service Bulletin 407-01-48 (Revision "B").

1. Gain access to the areas to be inspected by removing both driveshaft covers and both gearbox fairings halves from your tailboom assembly. Refer to (BHT-407-MM-5, Chapter 53).
2. Clean the complete tailboom assembly (including the horizontal stabilizer, the two auxiliary finlets and the vertical fin) with aircraft soap (C-318) prepared in accordance with manufacturer's recommendations to remove all traces of dirt, stains, exhaust residues and oil.
3. Examine the complete tailboom assembly P/N 407-530-014-101/-103 or tailboom 407-030-801-107 every 100 Hours of operation for general condition, loose rivets, cracks or any other type of damage. Pay close attention to Area "A" indicated in Figure 3 for the left side of the tailboom.
  - a) If a crack is found, replace the tailboom with a serviceable unit prior to next flight and notify Bell Helicopter Product Support Engineering department.
  - b) If any other type of damage is found, refer to the negligible damage limits found in Chapter 53 of your maintenance manual or contact Product Support Engineering department for assistance.
4. Inspect for loose rivets in region shown in Figure 3, Area "A" and especially in Details "E", "F", "G", "H", "I" and Views "D" and "J". If a loose rivet or fastener is found, remove it per standard practices and inspect hole for cracks using a

10X magnifying glass. If no crack is found, install correct diameter rivet or fastener (Ref. BHT-206-SRM-1, section 3).

5. If no loose rivets or fasteners are found loose, use a 10X magnifying glass and examine tailboom skin at edge of mating supports/brackets and around fasteners shown in Figure 3, Details "E", "F", "G", "H", "I" and View "D".
6. On left side of tailboom, use a 10X magnifying glass and examine tailboom skin at edge of mating supports/brackets and around fasteners shown in Figure 3 Area "C" and View "J".
  - a) Pay close attention to both areas where clear paint coating exists.
  - b) Make sure that the clear paint coating is in good condition and it does not obstruct inspection of the area (not opaque). If coating needs replacement, refer to **PART II**.
  - c) Make sure the skin is not corroded.
7. If any crack is found in Step 3 through Step 6 above, replace the tailboom with a serviceable unit before the next flight and notify Bell Helicopter Product Support Engineering department. If corrosion is found, refer to Chapter 53 of your maintenance manual for negligible damage limit or contact Product Support Engineering with details for assistance.
8. If another tailboom affected by this bulletin is installed on the helicopter, proceed with **PART II** or **PART III** of this bulletin, as applicable, prior to next flight.
9. If no crack is found, annotate the helicopter technical records to indicate that **PART IV** of this bulletin is complied with and return the tailboom to flight status.
10. Carry subsequent Daily inspections as per **PART III**.
11. Repeat this inspection every 100 flight-hours thereafter.

#### **AFFECTED TAILBOOMS, GENERAL MAINTENANCE**

1. Maintain your tailboom in accordance with your 407 Maintenance Manual BHT-407-MM-1 and the BHT corrosion control guide CSSD-PSE-87-001.
2. Inspect your tailboom as per applicable requirements and recurring intervals as described herein.

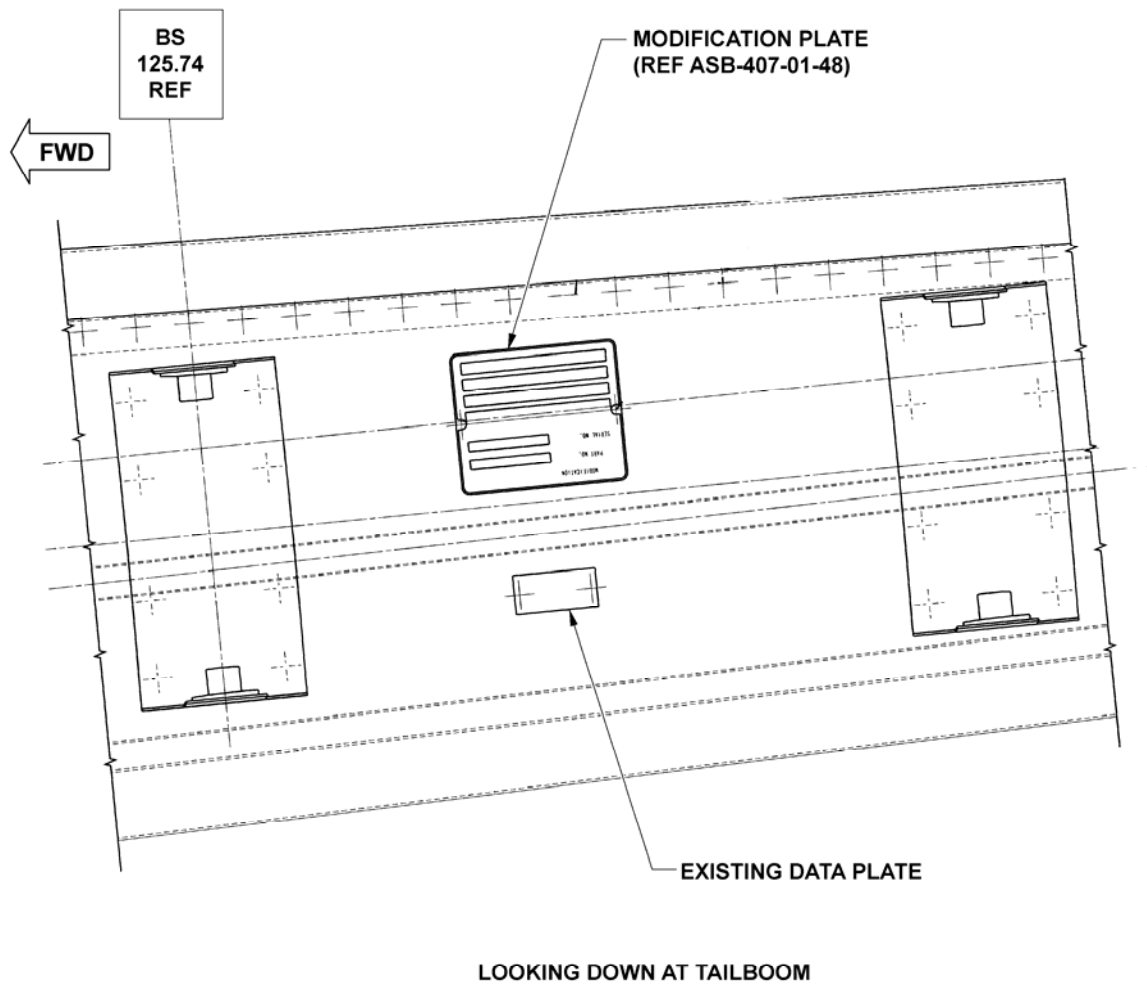
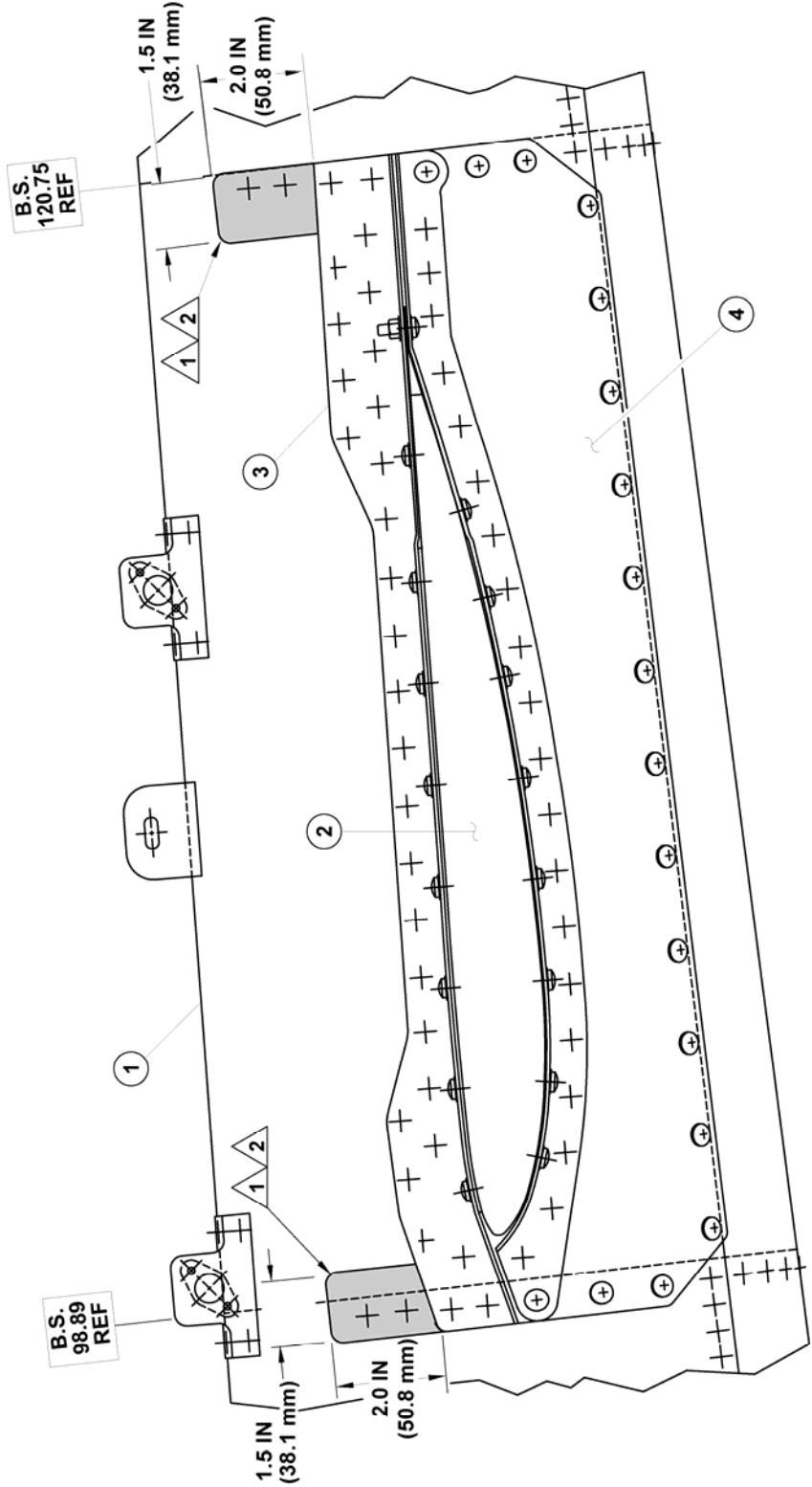


Figure 1. Location of identification plate, tailbooms 407-530-014-101, 407-530-014-103 or 407-030-801-107



- 1. Tailboom assembly (Ref.)
- 2. Horizontal stabilizer (Ref.)
- 3. Upper support (Ref.)
- 4. Lower support (407-023-800-121)

NOTES

- 1. Paint and primer to be removed from these areas (see PART II).
- 2. Examine these areas for cracks on left side of tailboom only.
- 3. Horizontal stabilizer not shown for clarity.
- 4. Daily check area

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Figure 2. Daily check, tailbooms 407-530-014-101, 407-530-014-103 or 407-030-801-107

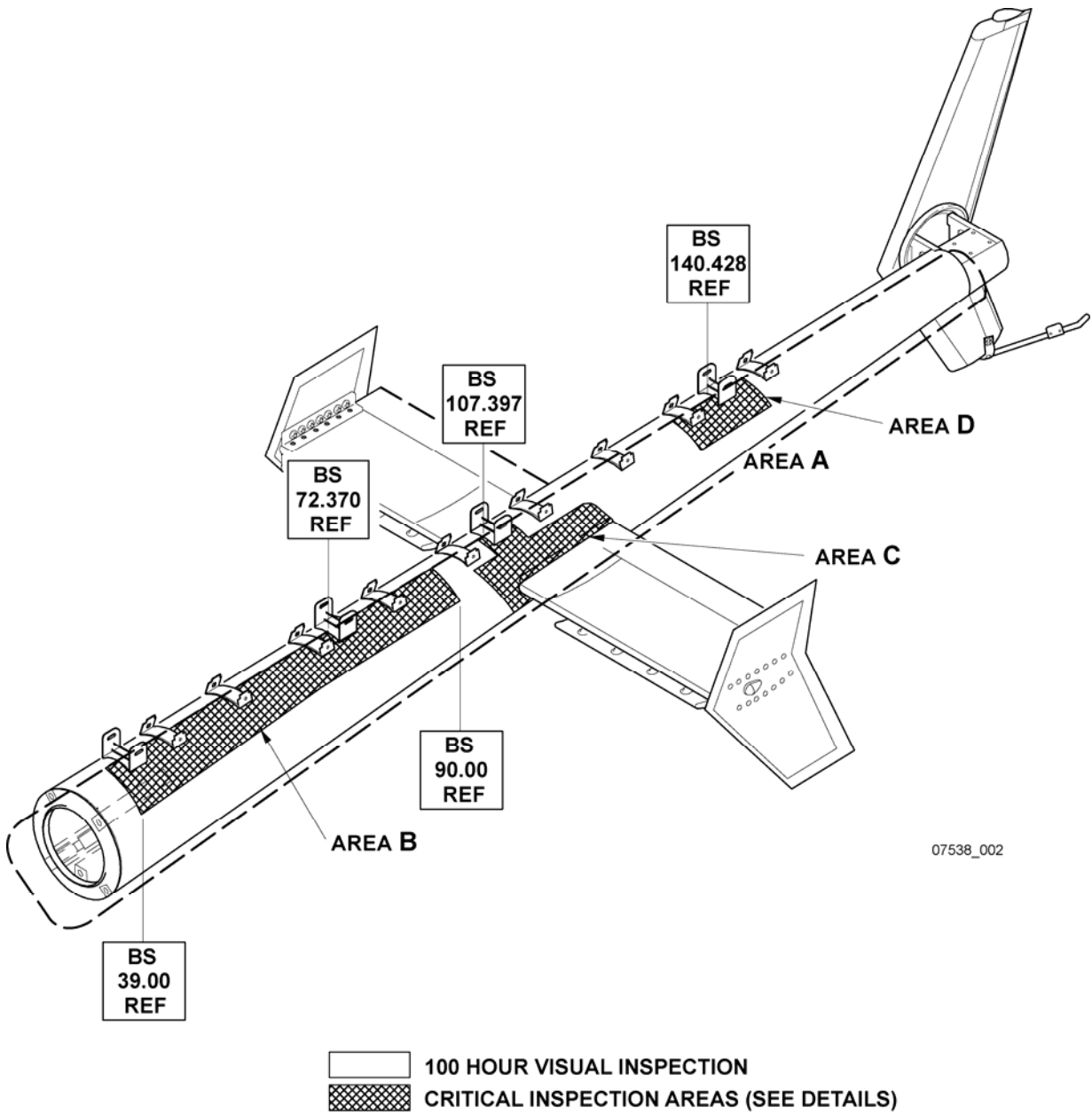


Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 1 of 7).

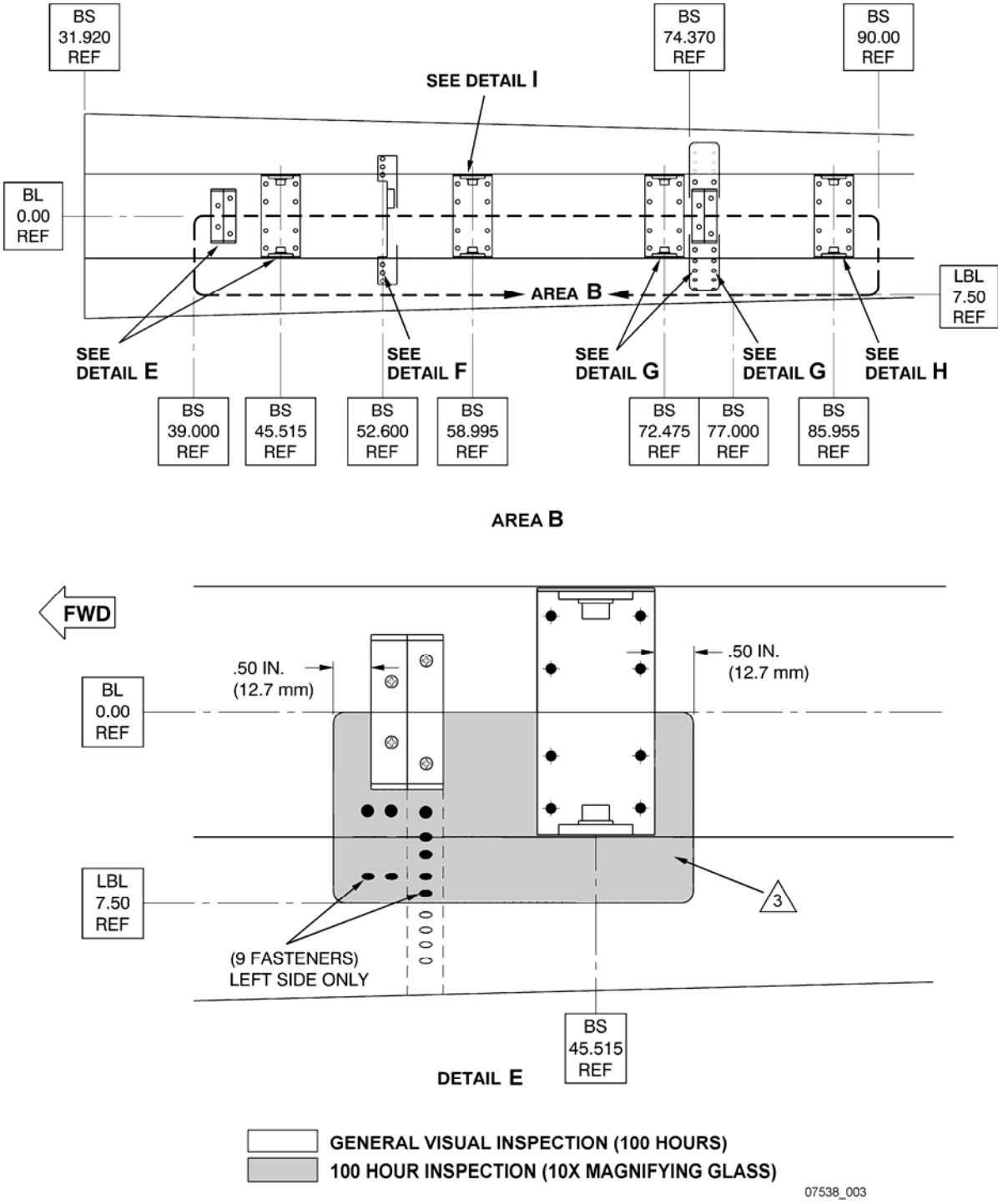
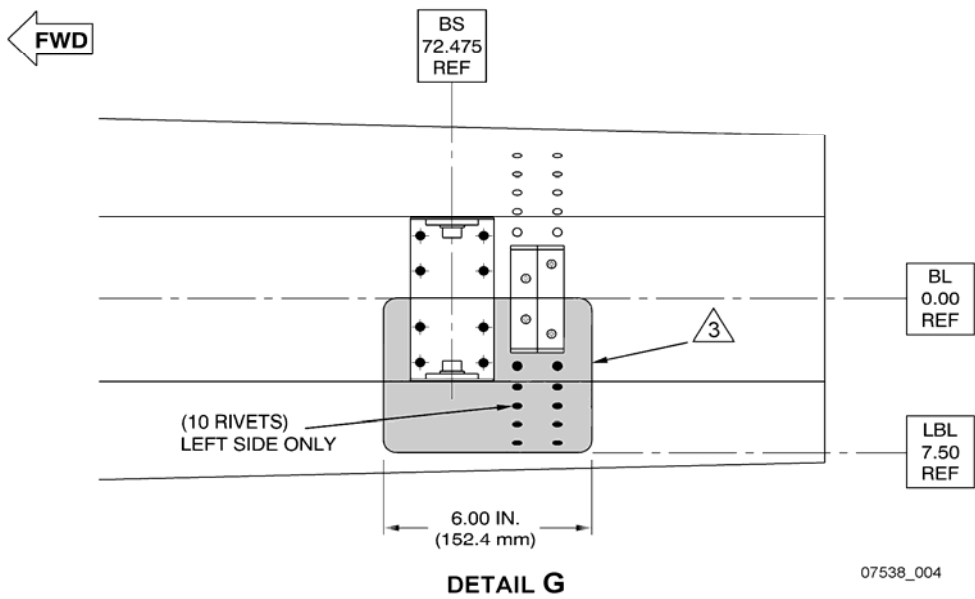
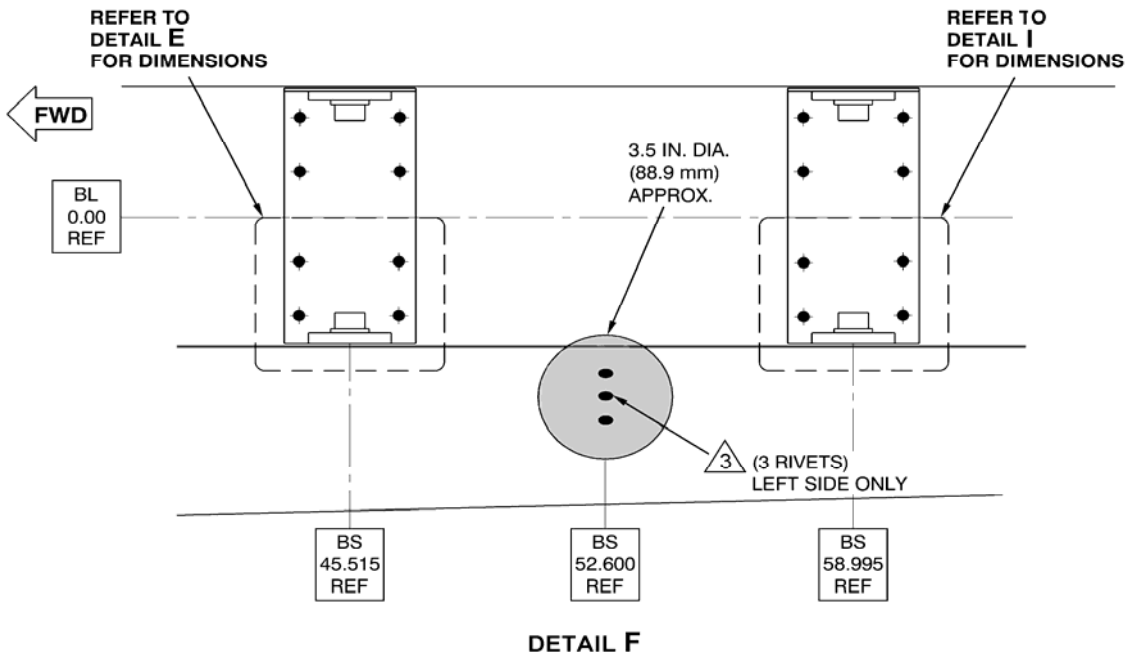


Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 2 of 7).



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- GENERAL VISUAL INSPECTION (100 HOURS)
- 100 HOUR INSPECTION (10X MAGNIFYING GLASS)

Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 3 of 7).

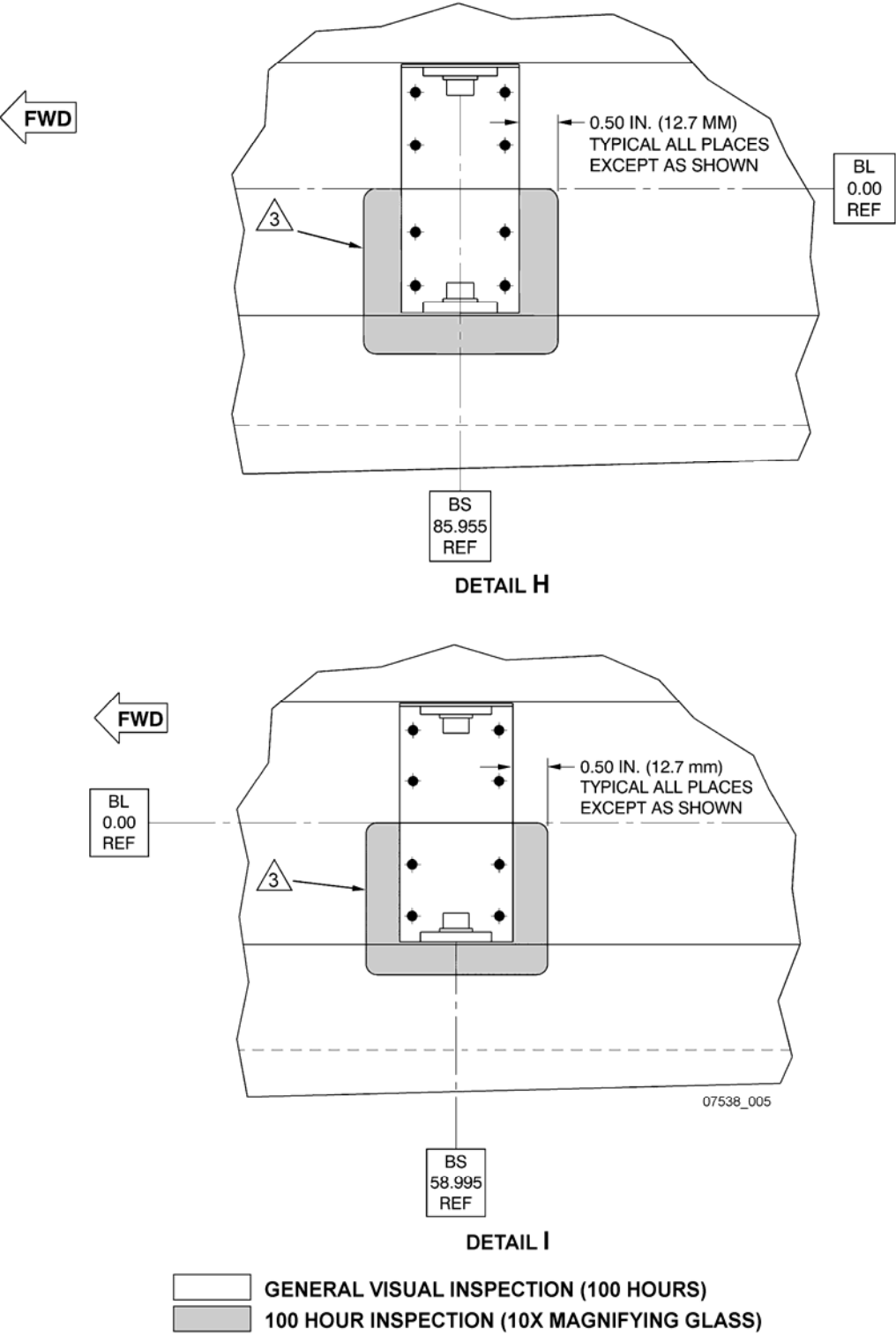


Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 4 of 7).

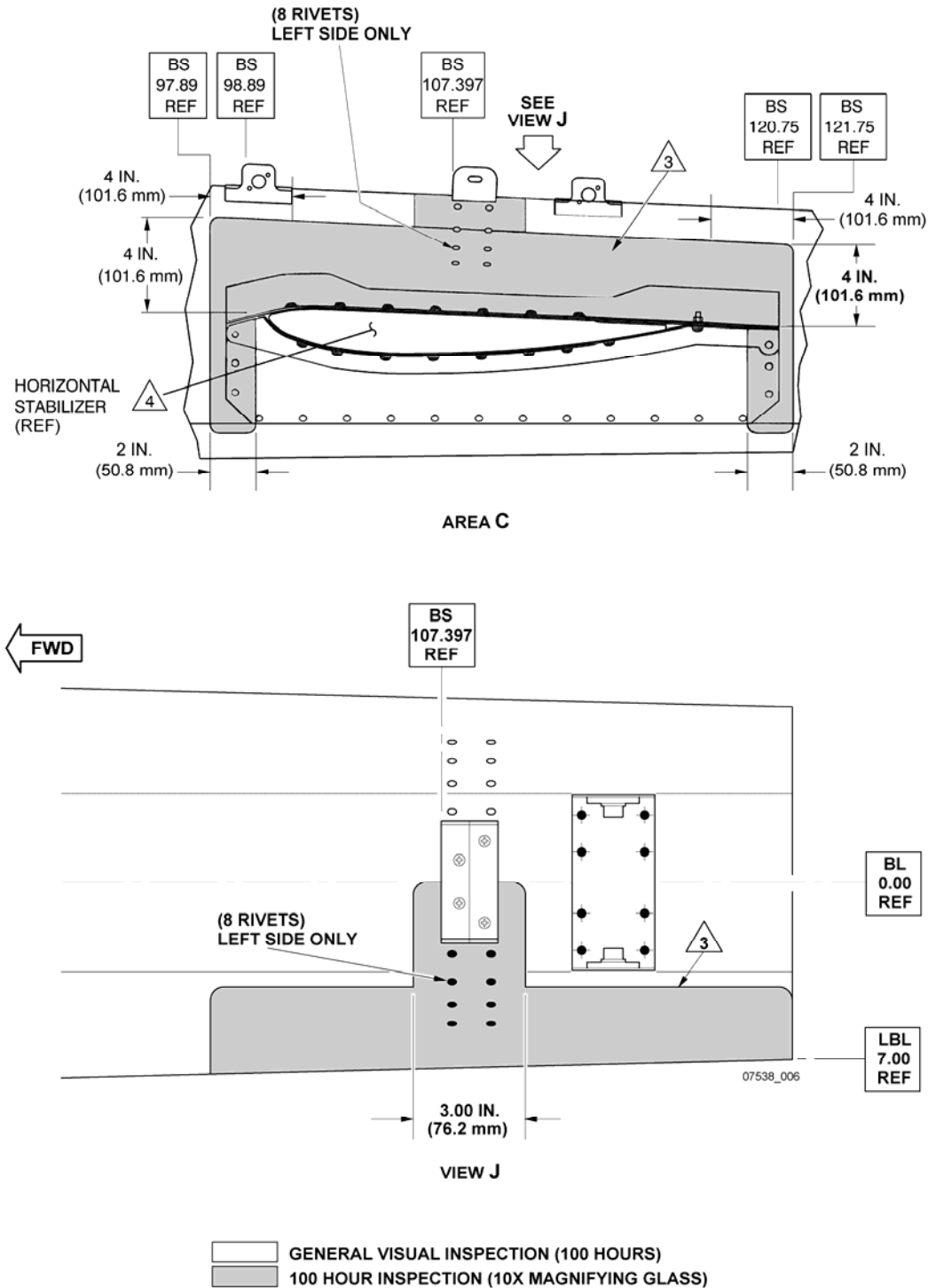


Figure 3. 100 Hours inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 5 of 7).

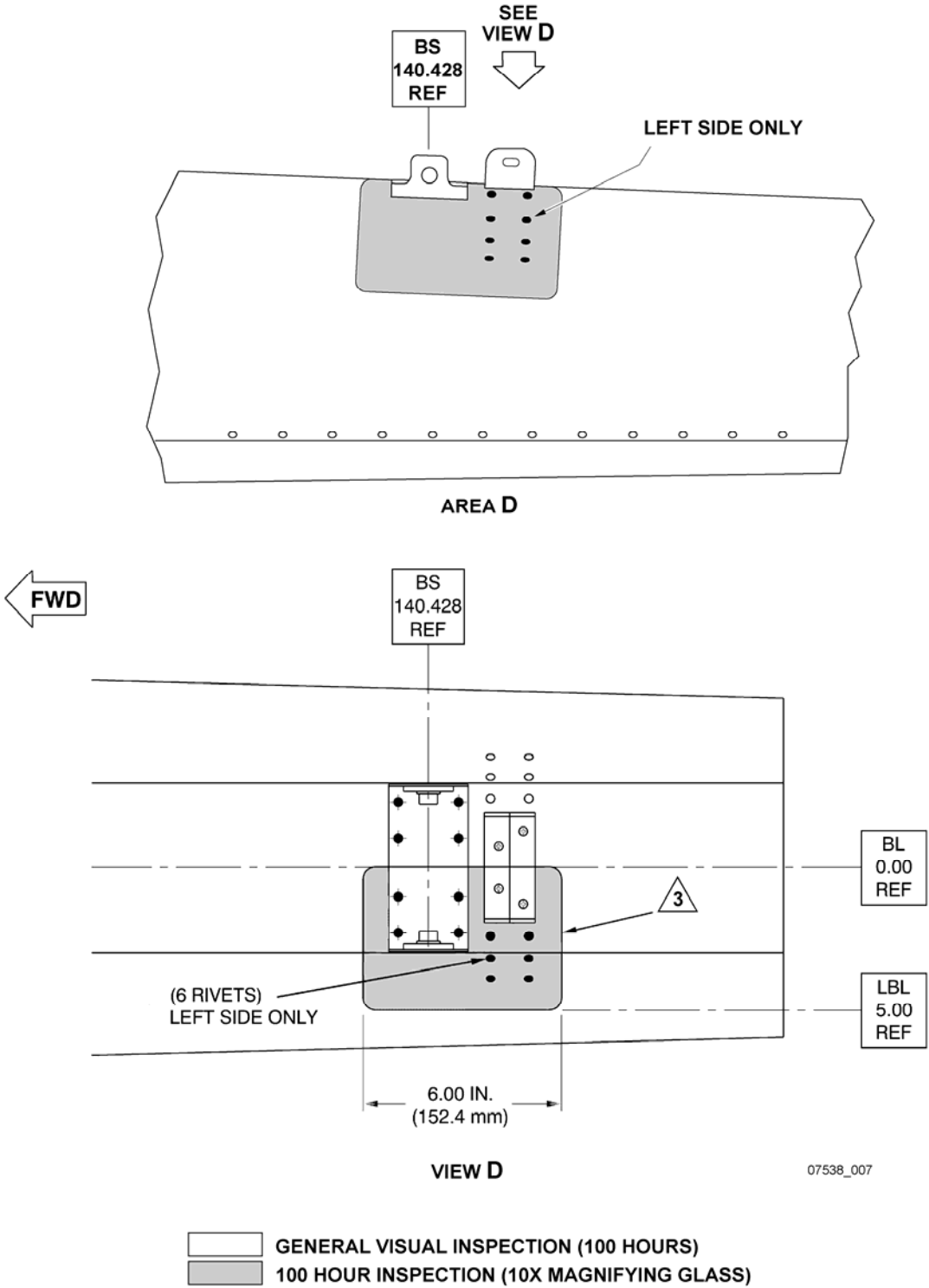



Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 6 of 7).

100 Hours of Operation

NOTES

1. Inspect the complete tailboom assembly for general condition.
2. On the left side of the tailboom only, do a detailed inspection of all areas shown for cracks in the tailboom skin and loose rivets. Do not remove the paint or primer. If a loose rivet is found, remove rivet and inspect hole for cracks using a 10X magnifying glass. If no cracks are found, install correct diameter rivet. Do not exceed maximum diameter prescribed.



 Use a 10X magnifying glass to inspect for cracks in tailboom skin and around fastener heads as indicated in area shown in Detail E, F, G, H, I, View J, View D and Area C.



Do not remove horizontal stabilizer.

5. Some tailboom components not shown for clarity.
6. If a crack is found on the tailboom skin, replace the tailboom before the next flight and contact Product Support Engineering at the following numbers:

Bell Helicopter Textron  
Product Support Engineering  
Light Helicopters

Tel: 1-800-243-6407 (Continental USA and Canada)

Tel: 1-800-363-8023 (Continental USA)

Tel: 1-800-361-9305 (Within Canada)

Tel: 1-450-437-2682 (All other areas - call collect)

Fax: 450-433-0272

Internet: [pselight@bellhelicopter.textron.com](mailto:pselight@bellhelicopter.textron.com)

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Figure 3. 100 Hour inspection of tailbooms 407-530-014-101, 407-530-014-103 and 407-030-801-107 (Sheet 7 of 7).