A Textron Company

# ALERT SERVICE BULLETIN 407-24-136

25 July 2024

**MODEL AFFECTED:** **407**

**SUBJECT:** **STANDARD AND HIGH LANDING GEAR FORWARD CROSSTUBES – INSPECTION OF**

**HELICOPTERS AFFECTED:** **Serial numbers 53000 through 53900, 53911 through 53999, 54000 through 54166, 54300 through 54752, 54805 through 54999 and 56300 and subsequent.**

**COMPLIANCE:**

**PART I:** For standard low gear crosstubes 407-050-101-101/-103 and 407-722-101.
For high gear crosstubes 407-050-201-101/-103 and 407-724-101.

Within the next 100 flight hours or 90 days, whichever occurs first after the release date of this bulletin.

**PART II:** For standard low gear crosstubes 407-050-101-101/-103 and 407-722-101 that have accumulated 36,000 normal landings or 800 run-on landings or greater.
For high gear crosstubes 407-050-201-101/-103 and 407-724-101 that have accumulated 36,000 normal landings or 165 run-on landings or greater.

Within the next 100 flight hours or 90 days, whichever occurs first after the release date of this bulletin.

**PART III:** For standard low gear crosstubes 407-050-101-101/-103 and 407-722-101, after every 135 normal landings or 8 run-on landings following the accomplishment of **PART II**.
For high gear crosstubes 407-050-201-101/-103 and 407-724-101, after every 95 normal landings or 5 run-on landings following the accomplishment of **PART II.**

**DESCRIPTION:**

Based on in-service data and a revised fatigue analysis of the forward crosstube, Bell is introducing a new inspection schedule of the standard and high gear forward crosstubes.

This bulletin introduces a new inspection requirement of the forward crosstube based on normal and run-on landings. Each normal and run-on landing will count as one. Bell defines a run-on landing as one where there is forward ground travel greater than 3 feet with the weight on the skid.

**PART I** of this Alert Service Bulletin (ASB) requires that every normal landing be counted on the forward crosstube as one in the helicopter logbook. As recommended in ASB 407-03-59, run-on landing events are already recorded in the helicopter flight log daily. Hereafter, all normal landings must also be recorded.

-NOTE-

Helicopters with landings that are higher than the average of 10 per flight hour must substitute the higher value in all estimated calculations.

If the actual total normal landings of the forward crosstube is not available, it is permissible to estimate the number. To determine the number of landings on the forward crosstube, multiply the flight hours by a factor of ten. If the actual total normal landings cannot be determined, accomplish **PART II** as per the Compliance section of this bulletin.

**PART II** mandates a one-time Fluorescent Penetrant Inspection (FPI) of the forward crosstube and **PART III** mandates a recurring 10X visual inspection as indicated in the Compliance section.

The inspection area is one inch in length just above the skid tube saddles and around the complete circumference of the crosstube (Figure 1).

The 5,000 RIN retirement life assigned to run-on landings in Chapter 4 of the 407-MM Maintenance Manual remains in effect.

Applicability of this bulletin to any spare part shall be determined prior to its installation on an affected helicopter.

**APPROVAL:**

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) approved for Type Certificate (TC) data, and Federal Aviation Administration (FAA) approved for Supplemental Type Certificate (STC) data.

**CONTACT INFO:**

For any questions regarding this bulletin, please contact:

Bell Product Support Engineering
Tel: 1-450-437-2862 / 1-800-363-8023 / productsupport@bellflight.com

**MANPOWER:**

Approximately 1.0 man-hour are required to complete **PART I**, approximately 4.0 man-hours are required to complete **PART II** and approximately 1.0 man-hour is required to complete **PART III** of this bulletin. This estimate is 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:**

**Required Material:**
The following material is required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

| Part Number | Nomenclature | Qty (Note) |
|---|---|---|
| 407-724-101 | Crosstube Assembly | A/R (1) |
| 407-722-101 | Crosstube Assembly | A/R (1) |

**NOTE 1:** Only required if found unserviceable after accomplishment of **PART II** and/or **PART III**.

**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 Supply Center.

| Part Number | Nomenclature | Qty (Note) | Reference * |
|---|---|---|---|
| 2230-00357-00 | Coating, Polyurethane | 1(1) | C-245 |
| 2230-05688-00 | Paint Remover, Epoxy and Polyurethane | 1(1) | C-436 |
| 2230-00425-00 | Primer, Epoxy Polyamide | 1(1) | C-204 |
| 2100-00006-00 | Cleaning Compound | 1(1) | C-318 |
| 2000-07650-00 | Tape, Aluminum Foil | 1(1) | C-439 |

* C-XXX numbers refer to the consumables list in the BHT-ALL-SPM, Standard Practices Manual

**NOTE 1:** The quantity indicated is the format the product is delivered in. The actual quantity required to accomplish the instructions in this bulletin may be less.

**SPECIAL TOOLS:**

None required.

**WEIGHT AND BALANCE:**

Not affected.

**ELECTRICAL LOAD DATA:**

Not affected.

**REFERENCES:**

407-IPB Illustrated Parts Breakdown, Chapter 32
407-MM Maintenance Manual, Chapter 32
BHT-ALL-SPM Standard Practices Manual, Chapters 4 and 6
Instructions for Continued Airworthiness, report number AA-00061

**PUBLICATIONS AFFECTED:**

407-MM Maintenance Manual, Chapters 5 and 32
Instructions for Continued Airworthiness, report number AA-00061

**ACCOMPLISHMENT INSTRUCTIONS:**

**PART I: Assignment of normal landing count on the forward crosstube**

-NOTE-

The run-on landing count is already recorded in accordance with ASB 407-03-59.

1. Add the normal landing count to the Historical Service Record (HSR) of the forward crosstube. Start recording every normal landing in the helicopter logbook. The HSR shall also include the requirement to perform a Fluorescent Penetrant Inspection (FPI) and recurring 10X magnifying glass inspection once the crosstube has accumulated the normal or run-on landing count specified in the Compliance section of this bulletin.

**PART II: Fluorescent inspection of the forward crosstube**

1. Determine if the crosstube is affected by verifying the accumulated normal and run-on landings as per **PART II** Compliance of this bulletin.

2. Prepare the helicopter for maintenance.

3. Clean the areas to be inspected on the lower end of the left and right side of the crosstube using cleaning compound (C-318) (Figure 1).

4. Apply tape (C-439) around the areas to be stripped of paint and primer.

5. Chemically remove the paint and primer using paint remover (C-436), (BHT-ALL-SPM, Chapter 4). Re-application of the chemical paint remover may be required to ensure that the paint and primer is completely removed so that the bare metal surface of the crosstube is clearly visible.

6. Perform a Fluorescent Penetrant Inspection (FPI) in the stripped area around the complete circumference of the crosstube (BHT-ALL-SPM, Chapter 6)

7. Remove tape and clean the inspected areas following the FPI (BHT-ALL-SPM, Chapter 6).

-NOTE-

White polyurethane paint FED-STD-595, color code 17925 (C-245) is required at the inspection areas to facilitate crack detection during the subsequent 10X magnifying glass inspection required per **PART III**.

8. If no crack is detected, apply primer (C-204) to the stripped area and two light coats of white polyurethane paint FED-STD-595, color code 17925, (C-245) (BHT-ALL-SPM, Chapter 4). Proceed to step 11.

9. If a crack is detected during the FPI, remove the standard low gear crosstube (DMC-407-A-32-01-02-00A-520A-A) or high gear crosstube from service (DMC-407-A-32-02-02-00A-520A-A), as applicable. If a crack is detected, report the findings to Product Support Engineering at productsupport@bellflight.com.

10. Install a serviceable standard low gear crosstube (DMC-407-A-32-01-02-00A-720A-A) or high gear crosstube (DMC-407-A-32-02-02-00A-720A-A), as applicable.

11. Make an entry in the helicopter logbook and historical service records indicating findings and compliance with **PART II** of this Alert Service Bulletin.

**PART III: Recurring detailed visual inspection of the forward crosstube with 10X magnifying glass**

1. Prepare the helicopter for maintenance.

2. Clean the areas to be inspected on lower end of the left and right side of the crosstube using cleaning compound (C-318) (Figure 1).

3. Perform a detailed visual inspection of the affected areas using a 10X magnifying glass around the complete circumference of the crosstube.

4. If no crack is detected proceed to step 7.

5. If a crack is detected during the 10X inspection, remove the standard low gear crosstube (DMC-407-A-32-01-02-00A-520A-A) or high gear crosstube (DMC-407-A-32-02-02-00A-520A-A), as applicable. If a crack is suspected during the 10X inspection but cannot be confirmed, perform FPI per **PART II** steps 4 through 9. If a crack is detected report the findings to Product Support Engineering at productsupport@bellflight.com.

6. Install a serviceable standard low gear crosstube (DMC-407-A-32-01-02-00A-720A-A) or high gear crosstube (DMC-407-A-32-02-02-00A-720A-A), as applicable.

7. Make an entry in the helicopter logbook and historical service records indicating compliance with **PART III** of this Alert Service Bulletin.

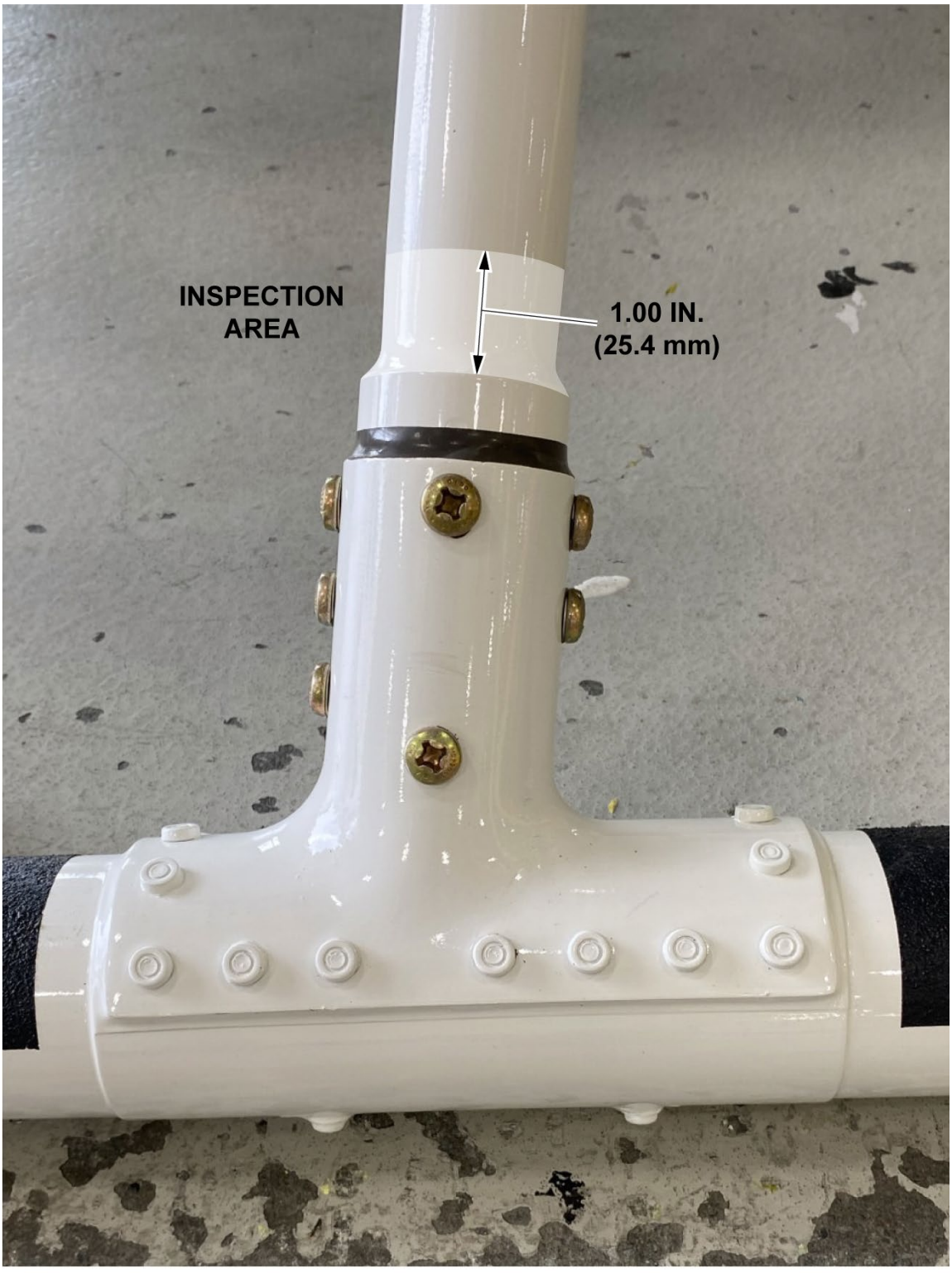


**Figure 1- Forward Crosstube Inspection Area**