A Textron Company

ALERT SERVICE BULLETIN 204B-21-75

26 January 2022
Revision A, 23 February 2022

MODEL AFFECTED: **204B**

SUBJECT: **TAILBOOM ATTACHMENT HARDWARE, INSPECTION AND REPLACEMENT OF**

HELICOPTERS AFFECTED: **Serial numbers 2001 through 2070 and 2196 through 2199.**

COMPLIANCE:

Part I: Within the next 300 flight hours or 90 days after the release date of Revision A of this bulletin.

Part II: Within 1 to 5 flight hours after accomplishment of **Part I**.

Part III: Within the next 600 flight hours or 12 months, whichever comes first after accomplishment of **Part II** and every 600 flight hours or 12 months thereafter.

Part IV: Within the next 5,000 hours or 5 years, whichever comes first after accomplishment of **Part I** and every 5,000 flight hours or 5 years thereafter.

DESCRIPTION:

Revision A of this bulletin is being released to correct minor grammatical errors and to change the existing 100 Hours After Installation Of Tailboom Special Inspection, currently published in the Maintenance Manual. This change is introduced in Part II to improve the effectiveness of the torque check and minimize the risk of bolt fatigue due to possible loss of torque after tailboom or bolt installation.

For helicopters that have Part I of the original release of this bulletin accomplished, it is acceptable to accomplish Part II of this bulletin revision A within the next 25 flight hours / 30 days whichever comes first after the release date of revision A. For helicopters that do not have Part I of this bulletin accomplished and had the tailboom installed within the last 100 flight hours, it is acceptable to accomplish the torque check of the tailboom attachment bolts in accordance with the currently published 100 Hours After Installation Of Tailboom Special Inspection.

Part III has been created in this revision to clarify the requirements of the new 600 hours / 12 months Special Inspection introduced as Part II in the original release of the bulletin.

Bell receives occasional reports of tailboom attachment nuts NAS679A or NAS1291 that are found cracked. Root cause for cracking can be corrosion, high time in service or hydrogen embrittlement. To mitigate the risk of nut cracking that can lead to the loss of bolt torque and subsequent fracture, this bulletin mandates the replacement of the NAS679A and NAS1291 tailboom attachment nuts or MS21042 nuts that may have been installed by some operators.

Bell investigated two recent reports of in-flight upper left hand tailboom attachment bolt fracture. The root cause of the fractures has been attributed to fatigue and low torque as the contributing factors. In both cases, a loud bang was heard followed by a yaw.

In the latest revision of the M204B Illustrated Parts Breakdown (IPB), the NAS9926 twelve-point nut has been introduced as a replacement for the NAS679A and NAS1291 six flat nut. Due to the limited access to the tailboom attachment nuts, the use of 90-132 six-flat nuts will be required as replacement for the NAS679A or NAS1291 nuts in lieu of the NAS9926 nut currently listed in the 204B IPB. (Ref General Info Letter GEN-18-138)

Part I of this bulletin mandates the removal of the tailboom to inspect the fuselage and tailboom bulkheads for mechanical and corrosion damage. Due to the criticality of the tailboom attachment points and since the upper left is the most critical, Part I of this bulletin also mandates the replacement of the upper left tailboom attachment bolt and a detailed visual inspection of the other three bolts for mechanical or corrosion damage. Any bolt that requires replacement must be replaced with a new bolt.
Replacement of the NAS1291 or NAS679A or MS21042 nuts (if installed) with the 90-132 nuts shall also be carried out. This will mitigate the risk of nut cracking that can lead to loss of attachment bolt torque and subsequent fracture.

Part II of this bulletin changes the existing 100 Hours After Installation of Tailboom Special Inspection requirement. The torque check is now to be accomplished between 1 and 5 flight hours after tailboom installation or bolt replacement and repeated until torque has stabilized (three times maximum). Until incorporation to the Maintenance Manual Chapter 5, Part II will require accomplishment anytime the tailboom is installed or a tailboom attachment bolt is replaced.

Part III of this bulletin introduces a new recurring torque check of all four attachment bolts. This new torque check requirement will also be incorporated in the Maintenance Manual as a Special Inspection every 600 flight hours / 12 months. Any bolt found below the minimum specified torque will require replacement and an inspection of the associated nut for condition will be required. Part III will require accomplishment until this new 600 hours / 12 months Special Inspection is incorporated in the Maintenance Manual Chapter 5.

Part IV of this bulletin introduces a new recurring inspection every 5,000 flight hours or 5 years, whichever comes first. This inspection requires removal of the tailboom to allow for a detailed visual inspection of the aft fuselage and tailboom structure. As part of the recurring 5000 Hour / 5 Year inspection, the upper left-hand bolt shall be replaced with a new bolt and a detailed visual inspection of the three other bolts shall be carried out.

Installation torques of the tailboom attachment hardware were normalized across the fleet accounting for both flight/landing loads and hardware material properties. Accordingly, the revised tailboom installation instructions in this bulletin reflect a higher torque of the tailboom attachment bolts as shown in the accomplishment instructions of this bulletin. The higher torque will help mitigate loosening of the bolts.

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 FAA approved.

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 10.0 man-hours are required to complete 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)
90-132L7	Nut	1
90-132L6	Nut	3
NAS627-21	Bolt	1 (1)
NAS626-20	Bolt	3 (1)

NOTE 1

Only the upper left-hand bolt requires replacement. The remaining three bolts will require replacement if they do not meet the inspection criteria provided in this bulletin.

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 *
2400-00259-00	Aeriol Thixo No.2 Aviation Grease	14.4 oz (1)	C-561
2010-00088-00	Sealant	2 oz	C-308
2230-10536-00	Torque Seal Lacquer	1 oz (2,3,4)	C-049

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

NOTES:

1. High Pressure grease (C-172) can be used as an alternate.
2. Quantity indicated is the format that the product is delivered in. Actual quantity required to accomplish the instructions in this bulletin may be less than what has been delivered.
3. 2230-10536-00 torque seal lacquer (C-049) is color yellow, however other colors are available, at customer's option, as shown in BHT-ALL-SPM Standard Practice Manual, in Chapter 13 under C-049.
4. Polyurethane paint (C-245) or 2230-10547-00 (Vibra-TITE Viz-Torque® 202) are acceptable alternates to C-049.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-204B-IPB Illustrated Parts Breakdown
BHT-204B-M&O, Maintenance and Overhaul Instructions, Section 10

PUBLICATIONS AFFECTED:

BHT-204B-M&O, Maintenance and Overhaul Instructions, Section 1 and 10.

ACCOMPLISHMENT INSTRUCTIONS:

Part I. Tailboom attachment hardware inspection and replacement

1. Prepare the helicopter for maintenance.

2. Remove the tailboom assembly (BHT-204B M&O, Section 10).

3. Discard the upper left-hand bolt and the four NAS679A or NAS1291 nuts if installed and retain washers. If any nut is found cracked, its associated bolt shall be replaced with a new one.

4. Inspect the fuselage bulkhead, FS 195.00, for damage, corrosion, and cracks. Tailboom attachment fittings for damage, cracks, and loose fasteners. Inspect the tailboom attachment bolt holes for damage and corrosion.

5. Inspect the tailboom bulkhead, FS 195.03, for corrosion and cracks. Inspect the fuselage attachment bolt holes for mechanical and corrosion damage. Confirm that 90-132 nuts are installed and inspect nuts for damage and corrosion, replace as necessary.

6. Carry out a detailed visual inspection of the upper right-hand bolt and the two lower tailboom attachment bolts. Inspect for mechanical or corrosion damage. Any evidence of corrosion is cause for rejection.

7. Visually inspect bolt for mechanical or corrosion damage. Any corrosion including surface corrosion is cause for rejection. Damaged threads and detectable wear or mechanical damage on the bolt shank or bolt head radii are cause for rejection.

-NOTE-

The tailboom attachment hardware torque has been increased as follows: Torque of the upper left bolt is now 570 to 610 in-lbs (64.5 to 69 Nm). Torque of the three other bolts, is now 360 to 380 in-lbs (40.7 to 43 Nm). This increased torque applies to the NAS627 and NAS626 bolts only.

WARNING

The increased torque of the tailboom attachment mandates the use of the NAS627 and NAS626 bolts. Bolts NAS1306, NAS1307, NAS6606 and NAS6607 shall not be used.

CAUTION

Grease (C-561) or (C-172) shall be applied on bolt shank only. Grease shall not be applied to bolt threads.

8. Install tailboom after completion of the inspection with a new upper left-hand bolt (NAS627-21) and serviceable bolts (NAS626-20) at the three other locations. (BHT-204B-M&O, Section 10). Bolts to be installed with 90-132 nuts with the torque values noted above. Apply a coating of grease (C-561) or (C-172) to bolt shank only.

9. Apply sealant (C-308) to plug buttons and install.

10. Make an entry in the helicopter logbook and historical service records indicating compliance with Part I of this Alert Service Bulletin.

Part II. **Between 1 and 5 flight hours after tailboom installation or attachment bolt replacement.**

-NOTE-

The tailboom attachment hardware torque has been increased as follows: Torque of the upper left bolt is now 570 to 610 in-lbs (64.5 to 69 Nm). Torque of the three other bolts, is now 360 to 380 in-lbs (40.7 to 43 Nm).

1. Carry out a torque check of the tailboom attachment bolts using the torque values specified in Part I. Torque check must be repeated every 1 to 5 flight hours until torque has stabilized (Three times maximum). If after three attempts the torque has not stabilized; inspect bolt and replace nut.

2. Once the torque is stabilized, apply torque seal (C-049) witness mark to all four bolt heads.

3. Make an entry in the helicopter logbook and historical service records indicating compliance with Part II of this Alert Service Bulletin.

Part III. **Recurring torque check of the tailboom attachment hardware.**

-NOTE-

The tailboom attachment hardware torque has been increased as follows: Torque of the upper left bolt is now 570 to 610 in-lbs (64.5 to 69 Nm). Torque of the three other bolts, is now 360 to 380 in-lbs (40.7 to 43 Nm).

1. Carry out a torque check of the tailboom attachment bolts 600 flight hours or 12 months, whichever comes first after accomplishment of **Part II**, and every 600 flight hours or 12 months thereafter. Use the tailboom attachment torque values from the above Note. Re-apply torque seal (C-049) required.

2. Any bolt found below the minimum torque specified in **Part I** must be replaced. Inspect the associated nut for condition and for loss of tare torque; replace as necessary. Any bolt that requires replacement must be torque checked in accordance with **Part II.**

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

Part IV. **Recurring inspection of the tailboom attachment hardware every 5,000 flight hours or 5 years, whichever comes first.**

1. Carry out steps 1 through 9 in **Part I** of the Accomplishment Instructions of this bulletin every 5,000 flight hours or 5 years, whichever occurs first after accomplishment of Part I, and every 5,000 flight or 5 years thereafter.

2. Make an entry in the helicopter logbook and historical service records indicating compliance with **Part IV** of this Alert Service Bulletin.