

ANC22FA041

AIRWORTHINESS

Group Chair's Factual Report - Attachment 2
Bell Alert Service Bulletin (ASB) No. 407-22-128



A Textron Company

ALERT SERVICE BULLETIN

407-22-128

8 December 2022

MODEL AFFECTED: 407

SUBJECT: TAILBOOM ATTACHMENT HARDWARE AND FITTINGS, ONE-TIME TORQUE CHECK AND INSPECTION OF.

HELICOPTERS AFFECTED: Serial numbers 53000 through 53900, 53911 through 53999, 54000 through 54166, 54300 through 54800, 54805 through 54954, 54956 through 54997, 54999, and 56300 through 56304.

[Serial numbers 54955, 54998, and 56305 and subsequent are not affected by this bulletin.]

COMPLIANCE: Within 25 flight hours or 30 days, whichever occurs first, following the release date of this bulletin.

DESCRIPTION:

As a precautionary measure following the recent public release of a National Transportation Safety Board (NTSB) aviation investigation docket ([ANC22FA041](#)), Bell is publishing this Alert Service Bulletin (ASB) to mandate a one-time torque check of the tailboom attachment hardware and a detailed visual inspection of the tailboom attachment fittings and longerons for any damage, corrosion, or cracks.

APPROVAL:

The engineering design aspects of this bulletin are Transport Canada Civil Aviation (TCCA) 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 2.0 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 may be required for the accomplishment of this bulletin and may be obtained through your Bell Supply Center.

Part Number	Nomenclature	Qty (Note)
NAS626-26	BOLT	2 (1, 2)
NAS627-30	BOLT	2 (1, 2)
42FLW-624	NUT	2 (1, 2)
42FLW-720	NUT	2 (1, 2)
140-007-29S25E6	COUNTERSUNK WASHER	2 (2, 3)
140-007-25S22E6	COUNTERSUNK WASHER	2 (2, 3)
NAS1149G0732P	FLAT WASHER	9 (2, 3, 4)
NAS1149G0663P	FLAT WASHER	10 (2, 3, 5)

NOTES:

1. These parts are only required if failing the tailboom attachment hardware torque check requirement of this bulletin.
2. Refer to [DMC-407-A-53-01-00-00A-720A-A](#) for tailboom attachment hardware installation procedures.
3. Existing washers can be reused, but if failing inspection of this bulletin, may be required to be replaced.
4. Quantity indicated is the maximum allowable. A maximum quantity of four (4) flat washers can be used in the upper left position. A maximum quantity of five (5) flat washers can be used in the upper right position.
5. Quantity indicated is the maximum allowable. A maximum quantity of five (5) flat washers can be used in the lower left and right positions.

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.

<u>Part Number</u>	<u>Nomenclature</u>	<u>Qty (Note)</u>	<u>Reference *</u>
2010-05901-00	Corrosion Preventative Compound	6 OZ (1)	C-586

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

NOTE 1: 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.

SPECIAL TOOLS:

407-230-001-101 Socket (or equivalent)

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

407-MPI Maintenance Planning Information, Chapter 5.

407-MM Maintenance Manual, Chapter 53.

407-IPB Illustrated Parts Breakdown, Chapter 53.

BHT-ALL-SPM Standard Practices Manual, Chapter 2.

Alert Service Bulletin 407-10-93 (Tailboom Attachment Hardware, Replacement Of).

GEN-22-154 General Information Letter, Procedure for Requesting Bell-Approved Structural Repairs.

PUBLICATIONS AFFECTED:

None affected.

ACCOMPLISHMENT INSTRUCTIONS:

1. Prepare the helicopter for maintenance.
2. Remove tailboom access cover (1, Figure 1). Retain hardware for subsequent installation in later step.

-NOTE-

The torque values of the upper and lower nuts (2 and 7, Figure 2) are different. Refer to Figure 2 for the specified torque values.

-NOTE-

For torque check purposes, the assembly torque to be applied is the minimum specified torque, plus the minimum acceptable tare torque of 14 inch-pounds (1.58 Nm) for the upper nuts and 9.5 inch-pounds (1.07 Nm) for the lower nuts ([BHT-ALL-SPM, Chapter 2, Standard Practices Manual](#)).

3. Do a torque check of the tailboom to the aft fuselage attachment nuts (2 and 7, Figure 2) ([DMC-407-A-53-01-00-00A-720A-A](#)).
 - a. If a nut fails the torque check, replace affected bolt(s) and nut(s) with new bolt(s), nut(s), and washer(s) as applicable. Retain removed hardware for further investigation by Product Support Engineering.
 - (1) Refer to [DMC-407-A-53-01-00-00A-720A-A](#) for hardware installation procedures.
 - (2) If hardware replacement is required, fly 1 to 5 flight hours and perform the Tailboom Attachment Hardware Torque Check special inspection at all four locations ([DMC-407-A-05-40-00-00A-283A-A](#)). Repeat torque check every 1 to 5 flight hours until the torque has stabilized at all four locations.
 - b. Apply corrosion preventive compound (C-586) to the heads of the bolts, washers, nuts, and the exposed threads after final torque is applied.
 - c. Record in **Annex A** the torque value at which the attachment hardware was torque checked.
 - d. Record in **Annex A** if there was movement of the nuts and at which location(s) (i.e. upper left, lower right, etc.) by putting the word PASS or FAIL in the appropriate box of the **Annex A**.

-NOTE-

If the existing sealant application meets the intent of the Aft Fuselage Attachment Fittings - Sealant Removal and Application procedure specified in [DMC-407-A-53-00-00-01A-280B-A](#), sealant removal is not required. If the sealant application does not meet the intent, remove the sealant to allow inspection of the fitting(s).

-NOTE-

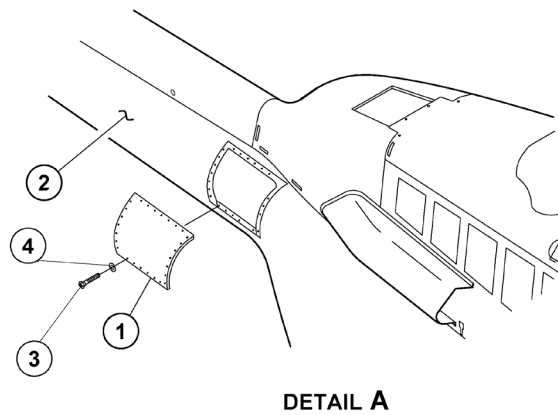
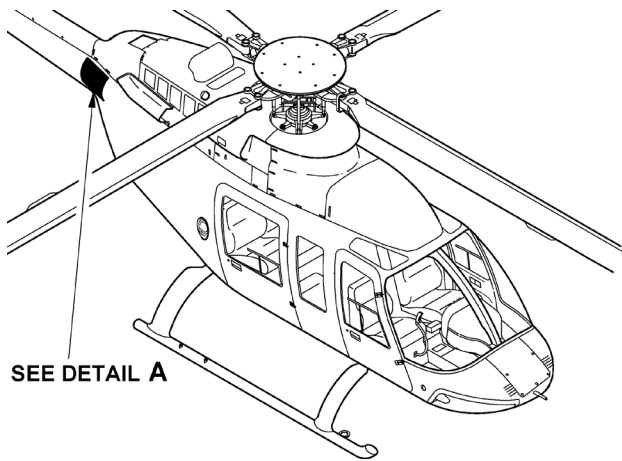
Any one or more of the following visible signs is an indication of loose fasteners and underlying damage that will require further inspection. These include chipped or cracked paint at the edges of parts or around rivet heads, cracked sealant and gaps at the edges of the faying surfaces of skins, bonded panels, and structure joints, and traces of black oxide around rivets and fasteners.

4. Using a powerful light and mirror, examine the following:
 - a. Inspect the existing sealant application of the aft fuselage attachment fittings. If it does not meet the requirements of Figure 1 of [DMC-407-A-53-00-00-01A-280B-A](#), remove the sealant, otherwise go to step 4.b.
 - b. Inspect the tailboom attachment fittings, the aft frames, aft fuselage bulkhead, aft section of the canted web, and the tailboom canted bulkhead for cracks, dents, loose fasteners, security of attachment, deformation, corrosion, and general condition.
 - c. Inspect the upper and lower longerons for cracks, dents, loose fasteners, security of attachment, deformation, corrosion, and general condition. Pay particular attention to the upper left-hand longeron.
 - d. If sealant was removed from the aft fuselage attachment fittings, apply sealant (C-251) to the fasteners of the aft fuselage attachment fittings ([DMC-407-A-53-00-00-01A-280B-A](#)).
 - e. Record findings, and items that may require repair in **Annex A** of this bulletin for Product Support Engineering (PSE) to review and provide disposition.
 - (1) A Structural Repair Request may be required. For repair guidance, contact PSE (General Information Letter [GEN-22-154](#)).

- (a) Requests will be processed as separate requests based on repair guidance provided by PSE and based on existing information in published manuals.
5. If the tailboom is currently removed from the helicopter, do the following, otherwise go to step 6:
- a. Ensure that the four shims are securely bonded in position on the forward face of the tailboom bulkhead.
 - (1) Refer to sheet 2 and 3 of Figure 1 of [DMC-407-A-53-01-00-00A-280A-A](#) for requirements.
 - b. Examine the four bolt holes in the tailboom and fuselage fittings for elongation. The maximum permitted diameter (after rework) is 0.453 inch (11.5 mm) for the two upper holes and 0.391 inch (9.93 mm) for the two lower holes.
 - (1) Refer to Figure 2 of [DMC-407-A-53-01-00-00A-280A-A](#) for tailboom fitting damage and repair limits.
 - c. Discard previously installed bolts (1 and 10, Figure 2) and nuts (2 and 7). Examine the washers (3, 4, 8, and 9) for damage or corrosion. Replace as required.
 - d. Record findings in **Annex A** of this bulletin.
6. Install tailboom access panel (1, Figure 1).
7. Return the completed **Annex A** to Product Support Engineering at productsupport@bellflight.com :
- a. In the **subject line** of the email, provide the following information:
 - (1) Include helicopter serial number.
 - (2) Include the ASB number 407-22-128.
 - (3) If the torque check passed with no movement of the nuts, include the word PASS.
 - (4) If the torque check failed with movement of the nuts, include the word FAIL.
 - (5) If the tailboom is not currently installed on the helicopter, include NOT INSTALLED.

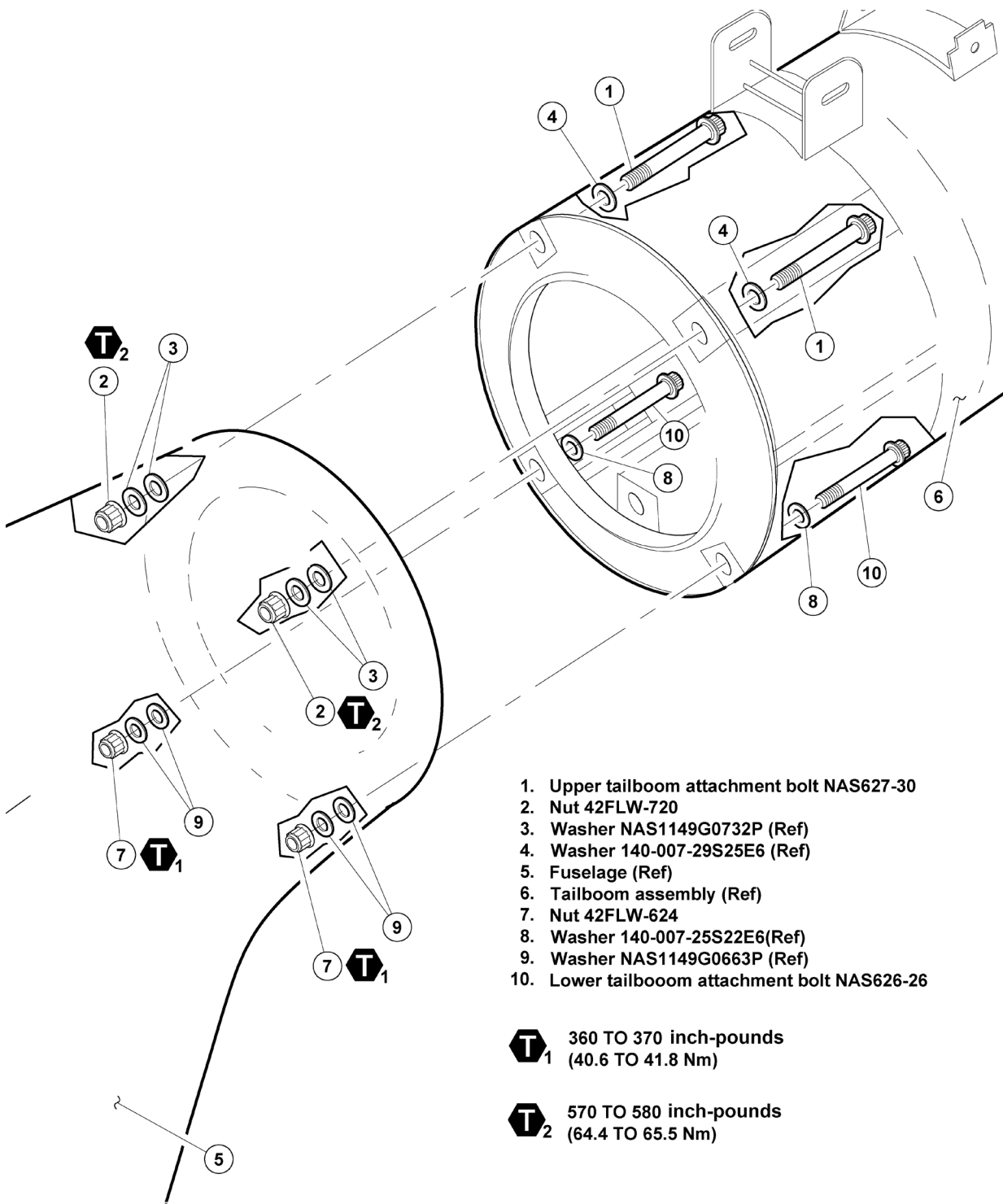
Example email subject lines: 407GX_i (563XX) – ASB 407-22-128 – PASS
407 (53YYY) – ASB 407-22-128 – FAIL
407GX (543ZZ) – ASB 407-22-128 – NOT INSTALLED

- b. In the **Annex A**, provide the following additional information:
- (1) Provide the serial number of the helicopter.
 - (2) Provide the total time in service of the helicopter.
 - (3) Provide the part number and serial number of the tailboom assembly.
 - (4) Provide the total time in service of the tailboom assembly.
 - (5) Provide the date and total time in service of the helicopter when the last torque check of the tailboom to the aft fuselage attachment nuts ([DMC-407-A-53-01-00-00A-720A-A](#)) was performed prior to the requirements of this bulletin.
 - (6) For helicopters serial number 53000 through 53990, provide the date and total time in service of the helicopter when the ASB 407-10-93 (Tailboom Attachment Hardware, Replacement Of) was accomplished on the helicopter.
8. Make an entry in the helicopter logbook and historical service records indicating compliance with this Alert Service Bulletin.



1. Tailboom access cover (Ref)
2. Tailboom assembly (Ref)
3. Screw MS27039-1-08 (Ref)
4. Washer NAS1149D0332J (Ref)

Figure 1 - Tailboom Access Cover Removal/Installation



- 1. Upper tailboom attachment bolt NAS627-30
- 2. Nut 42FLW-720
- 3. Washer NAS1149G0732P (Ref)
- 4. Washer 140-007-29S25E6 (Ref)
- 5. Fuselage (Ref)
- 6. Tailboom assembly (Ref)
- 7. Nut 42FLW-624
- 8. Washer 140-007-25S22E6(Ref)
- 9. Washer NAS1149G0663P (Ref)
- 10. Lower tailboom attachment bolt NAS626-26

T₁ 360 TO 370 inch-pounds
(40.6 TO 41.8 Nm)

T₂ 570 TO 580 inch-pounds
(64.4 TO 65.5 Nm)

Figure 2 – Tailboom Attachment Hardware

