

ANC22FA041

## **AIRWORTHINESS**

Group Chair's Factual Report - Attachment 3

Transport Canada Civil Aviation Airworthiness Directive No. CF-2022-68



# AIRWORTHINESS DIRECTIVE

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*This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.*

**Number:**

CF-2022-68

**Effective Date:**

29 December 2022

**ATA:**

53

**Type Certificate:**

H-92

**Subject:**

Fuselage – Tailboom – Loss of Tailboom Attachment Hardware

**Applicability:**

Bell Textron Canada Limited (Bell) model 407 helicopters, 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.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

During the investigation of a recent Bell 407 helicopter accident, the National Transportation Safety Board discovered that the tailboom attachment hardware was missing at one of the four locations. The investigation is ongoing, and the cause of the missing attachment hardware has not been determined.

As a precaution, Bell has issued Alert Service Bulletin (ASB) 407-22-128 to carry out a one-time torque check of the tailboom attachment hardware and inspection of the tailboom attachment fittings and longerons for damage, corrosion or cracks, and security of attachment. The ASB also requires the replacement of bolts and the associated nuts if they fail the torque check. Low torque values on tailboom attachment hardware may result in fretting or fatigue damage of the attachment bolts or tailboom fittings, which could lead to their failure and consequent separation of the tailboom from the fuselage and loss of control of the helicopter.

To address the unsafe condition, this AD mandates compliance with the above-mentioned ASB, including the collection of data required to assess if additional corrective actions are required. This AD is considered an interim action and further AD action may follow.

**Corrective Actions:**

For the purpose of this AD, the following definition applies:

**The applicable ASB:** Bell ASB 407-22-128, Original Issue, dated 8 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

- A. Within 25 hours air time or 30 days, whichever occurs first, from the effective date of this AD, carry out a torque check of the tailboom attachment nuts in accordance with the applicable ASB. If the nut at any location fails the torque check, replace the affected bolt and nut with new parts prior to further flight and carry out the repetitive torque check of the tailboom attachment nuts at all four locations in accordance with the applicable ASB until the torque has stabilized.
- B. Within 25 hours air time or 30 days, whichever occurs first, from the effective date of this AD, and prior to carrying out Corrective Action C. of this AD, carry out a detailed visual inspection of the existing sealant application of the aft fuselage attachment fittings to ensure that it meets the requirements of the applicable ASB. If the sealant application does not meet the requirements of the

applicable ASB, remove the sealant prior to carrying out Corrective Action C. and reapply the sealant in accordance with the applicable ASB upon completion of Corrective Action C.

- C. Within 25 hours air time or 30 days, whichever occurs first, from the effective date of this AD, carry out a detailed visual inspection of the tailboom attachment fittings, aft frames, aft fuselage bulkhead, aft section of the canted web, tailboom canted bulkhead and upper and lower tailboom longerons for cracks, dents, loose fasteners, security of attachment, deformation, corrosion, and general condition in accordance with the applicable ASB.

If any defect is found, contact Bell Product Support Engineering for a repair or instructions to rectify the defect and carry out the repair or rectify the defect prior to further flight.

If the tailboom is not installed on the helicopter, prior to installing it, carry out the additional inspection for security of the shims on the forward face of the tailboom bulkhead and elongation of the four bolt holes in the tailboom and fuselage fittings, and rectify any defect prior to further flight in accordance with the applicable ASB.

- D. Within 30 days after carrying out the inspections of Corrective Action A. or C. above, report the inspection results to Bell Product Support Engineering in accordance with the applicable ASB.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Jenny Young  
Chief, Continuing Airworthiness  
Issued on 15 December 2022

**Contact:**

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