



AIRWORTHINESS DIRECTIVE

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-2025-32

Effective Date:

16 July 2025

ATA:

55

Type Certificate:

H-112

Subject:

Empennage Structure – Vertical Stabilizer Top End Cap Assembly Cracking

Revision:

Supersedes AD CF-2024-03, issued 25 January 2024.

Applicability:

Bell Textron Canada Limited (BTCL) Model 505 helicopters, Serial numbers 65011 through 65490, 65492 through 65498, 65500 through 65505, 65507, 65509 through 65512, 65514 through 65545, 65548 through 65555, 65559, 65562, 65563 through 65568, 65570 through 65576, 65578 through 65580, 65582, 65584, 65585, 65587, 65593, 65594, 65597, 65599, 65603, 65611, 65614, and 65616.

Compliance:

As indicated below, unless already accomplished.

Background:

There have been multiple occurrences of the vertical stabilizer top end cap assembly being found cracked, with some cases including the departure of the NAV/VOR/GS antenna and tuning weight from the helicopter during flight. Detailed investigation has identified that the stabilizer top end cap assembly was not designed for the full fatigue spectrum.

The investigation has determined that if no corrective actions are implemented, there is potential for the antenna and tuning weight to depart which could impact and damage the tail rotor, resulting in the loss of directional control of the helicopter.

Emergency Airworthiness Directive (AD) CF-2024-03, issued on 25 January 2024, mandated an initial inspection, instructions for the replacement of the vertical stabilizer top end cap if required, and a recurring inspection of the top end cap for cracks.

This AD supersedes emergency AD CF-2024-03, to

1. limit the applicability due to the introduction of a new one-piece vertical stabilizer machined top end cap assembly, part number (PN) SLS-030-701-149, into the Bell 505 production line, and
2. require the replacement of the top end cap assembly PN SLS-030-701-125 with the new machined top end cap assembly PN SLS-704-701-101 when cracks have been found in the initial or recurring inspection, or after 12 months from the effective date of this AD.

Corrective Actions:

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

Applicable SB: BTCL Alert Service Bulletin (ASB) 505-24-38 Revision A, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

1. Within 10 hours air time from the effective date of this AD, accomplish a one-time detailed visual inspection of the vertical stabilizer top end cap assembly PN SLS-030-701-125, in accordance with the Accomplishment Instructions in Part I of the applicable ASB.
2. If a crack is found when accomplishing corrective action 1 above or 3 below, before further flight, replace the cracked top end cap assembly PN SLS-030-701-125 in accordance with the Accomplishment Instructions in Part IV of the applicable ASB.
3. Perform recurring detailed visual inspections of the vertical stabilizer top end cap assembly PN SLS-030-701-125 at intervals not greater than 25 hours air time following the accomplishment of corrective actions 1 above, in accordance with the Accomplishment Instructions in Part III of the applicable ASB.
4. Within 12 months from the effective date of this AD, remove the vertical stabilizer top end cap assembly PN SLS-030-701-125, and replace it with a vertical stabilizer top end cap assembly PN SLS-704-701-101 in accordance with the Accomplishment Instructions in Part IV of the applicable ASB.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 2 July 2025

Contact:

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