



EMERGENCY 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-2024-11

Effective Date:

25 March 2024

ATA:

64

Type Certificate:

H-107

Subject:

Tail Rotor Blade Abrasion Strip Cracks

Applicability:

Bell Textron Canada Limited (Bell) model 429 helicopters, serial numbers 57001 and subsequent

Compliance:

As indicated below, unless already accomplished.

Background:

Bell has recently received several reports of tail rotor abrasion strip cracks. Upon investigation, it was determined that a crucial step in the fabrication of the abrasion strip was missed by one of the suppliers which could result in the presence of stress risers leading to fatigue cracking of the part.

Undetected cracking of the abrasion strip could lead to tail rotor blade failure and catastrophic consequences such as severe imbalance and destruction of tail rotor gearbox and loss of directional thrust during take-off and landing.

This AD mandates the marking of affected tail rotor blades and subsequent checks and inspections to detect any potential cracks until a terminating action is determined.

Corrective Actions:

For the purpose of this AD, the following definitions apply:

Affected tail rotor blade: a tail rotor blade assembly that is listed in Table 1 of Bell Alert Service Bulletin (ASB) 429-24-63 Basic Issue, dated 21 March 2024.

Applicable ASB: Bell ASB 429-24-63 Basic Issue, dated 21 March 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Part I – Before next flight after the effective date of this AD, complete the following actions on the affected tail rotor blades in accordance with the applicable ASB:

- A. Visually inspect both sides of the abrasion strip of each affected tail rotor blade for the presence of chordwise cracks. If any crack is found, before next flight, replace the tail rotor blade with a blade that is not an affected tail rotor blade or a blade that has been inspected in accordance with Part I or Part III of this AD and found to be without cracks.
- B. If no crack is found on the abrasion strip, apply a visual identification mark on the affected tail rotor blade with a paint marker.

- C. For helicopters located where the maintenance actions of Corrective Actions A. and B. above cannot be accomplished, it is acceptable to carry out one flight to a maintenance facility, provided that prior to the flight a visual check of the abrasion strip of all four tail rotor blades installed on the helicopter is carried out in accordance with Part II of this AD and the visual check has determined that no chordwise crack is present. This flight will be:
- i. Conducted as a non-commercial/non-revenue flight.
 - ii. Only essential crew is allowed on board.

Part II – Before each engine start after completion of the actions of Part I of this AD, carry out a visual check of both sides of the abrasion strip of each affected tail rotor blade marked with a visual identification mark required by Part I of this AD, for the presence of chordwise cracks, in accordance with Part II of the applicable ASB. If any crack is found, before next flight, replace the tail rotor blade with a blade that is not an affected tail rotor blade or a blade that has been inspected in accordance with Part I or Part III of this AD and found to be without cracks. The actions of Part II can be omitted for the first engine start following the completion of Part I or Part III.

Part III – At intervals not exceeding 25 hours air time after completion of the actions of Part I of this AD, carry out an inspection of the abrasion strip of each affected tail rotor blade marked with a visual identification mark required by Part I of this AD, for the presence of chordwise cracks, in accordance with Part III of the applicable ASB. If any crack is found, before next flight, replace the tail rotor blade with a blade that is not an affected tail rotor blade or a blade that has been inspected in accordance with Part I or Part III of this AD and found to be without cracks.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 22 March 2024

Contact:

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