



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-2023-51

Effective Date:

25 July 2023

ATA:

28

Type Certificate:

H-112

Subject:

Fuel Storage – Fuel Drain Quick Disconnect Valve Leakage Following Impact

Applicability:

Bell Textron Canada Limited (Bell) model 505 helicopters, serial numbers 65011 through 65291, 65294 through 65302, 65306, 65307, 65312, 65314 through 65332, 65334 through 65339, 65341 through 65343, 65345 and 65346.

Compliance:

Within 6 months from the effective date of this AD, unless already accomplished.

Background:

During fuel system crash impact testing activity for the certification of a modification, when the airframe was rolled to the left to be inverted after the drop test, fuel leakage was observed from the fuel drain quick disconnect valve located at the sump drain port. The knurls on the locking sleeve of the fuel drain quick disconnect valve contacted the airframe cut out upon impact, resisting against the fuel bladder rotational action and causing deformation of the poppet, which led to the valve remaining in the partially open position and subsequent fuel leakage.

This condition, if not corrected, could lead to post impact fire, possibly resulting in thermal injuries to occupants and reduce the time available for occupant evacuation.

Bell has published Alert Service Bulletin (ASB) 505-21-21 providing instructions for the installation of a frangible split plastic grommet at the airframe cut out where the sump drain fitting passes through, to prevent the fuel drain quick disconnect valve from catching on the airframe cut out and to reduce the load on the valve body by preventing metal-to-metal contact following an impact.

For the reason described above, this AD requires compliance with the corrective action of Bell ASB 505-21-21.

Corrective Actions:

Install a split plastic grommet around the periphery of the airframe cut out for sump drain port fitting, in accordance with the Accomplishment Instructions of Bell ASB 505-21-21, Basic Issue, dated 8 June 2021, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 11 July 2023

Contact:

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