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-2021-16

Effective Date:

10 May 2021

ATA:

28

Type Certificate:

A-276

Subject:

Fuel System – Corrosion of Hydraflow Clamshell Couplings

Applicability:

MHI RJ Aviation ULC. (formerly Bombardier Inc.) aeroplanes:

Model CL-600-2B19, serial numbers 7002 through 7990, and 8000 through 8112;

Model CL-600-2C10 and CL-600-2C11, serial numbers 10002 through 10347;

Model CL-600-2D15 and CL-600-2D24, serial numbers 15001 through 15499;

Model CL-600-2E25, serial numbers 19001 through 19064.

Compliance:

As indicated below, unless already accomplished.

Background:

During detailed inspections, corrosion was observed on fuel clamshell couplings installed in the fuel tank. The nickel-boron plating on the external coupling surface is porous and allows fuel to penetrate, which then reacts with the copper alloy plating on the coupling body causing it to corrode. Findings to date indicate the corrosion is more prevalent for couplings that have had a longer exposure to a fuel/vapor air mixture. The chemical reaction causes deposits to form on the nickel-boron plating, which may affect the integrity of the electrical bonding paths throughout the fuel lines and components. The decrease in the ability of the fuel coupling to conduct lightning current, may lead to arcing and subsequent fuel tank ignition in the event of a lightning strike.

This AD mandates the removal and replacement of the affected fuel clamshell couplings to mitigate the risk of lightning strike induced fuel tank ignition and introduces changes to the Maintenance Requirements Manual (MRM).

Corrective Actions:

Part I – Applicable to CL-600-2B19 aeroplane model:

A. Within 6600 hours air time or 36 months, whichever occurs first, from the effective date of this AD, remove and replace the fuel clamshell couplings in accordance with Section 2.B. of the Accomplishment Instructions of MHI RJ Aviation ULC. (MHIRJ) Service Bulletin (SB) 601R-28-068, Revision A, dated 21 December 2020, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

B. Within 60 days from the effective date of this AD, incorporate the new Fuel System Limitation Task 28-23-00-605 as introduced by Temporary Revision (TR) 2D-008, dated 24 October 2020, and Effectivity as amended by TR 2D-010, dated 8 April 2021, in Appendix D of the MHIRJ MRM, Part 2, Airworthiness Requirements.

C. Within 60 days from the effective date of this AD, revise the Critical Design Configuration Control Limitation (CDCCL) Items as introduced by TR 2D-009, dated 24 October 2020, in Appendix D of the MHIRJ MRM Part 2, Airworthiness Requirements.

D. Within the thresholds and intervals in the tasks identified above, accomplish all applicable maintenance tasks.

E. Compliance with superseding TRs or later revisions of the MRM, approved by Transport Canada, also meets the intent of this AD.

Incorporation of SB 601R-28-068, Initial Revision, dated 3 December 2020, also meets the requirements of Part I.A. of this AD.

Part II – Applicable to CL-600-2C10 and CL-600-2C11 (serial numbers 10002 through 10347), CL-600-2D15 and CL-600-2D24 (serial numbers 15001 through 15494), and CL-600-2E25 (serial numbers 19001 through 19064) aeroplane models:

Within 8800 hours air time or 48 months, whichever occurs first, from the effective date of this AD, remove and replace the fuel clamshell couplings in accordance with Section 2.B. of the Accomplishment Instructions of MHIRJ SB 670BA-28-041, Revision B, dated 27 January 2021, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Incorporation of SB 670BA-28-041, Initial Revision, dated 3 December 2020, also meets the requirements of Part II.A. of this AD.

Incorporation of SB 670BA-28-041, Revision A, dated 21 December 2020, also meets the requirements of Part II.A. of this AD.

Part III – Applicable to all CL-600-2C10, CL-600-2C11, CL-600-2D15, CL-600-2D24 and CL-600-2E25 aeroplane models:

A. Within 60 days from the effective date of this AD, incorporate the new Fuel System Limitation Task 28-21-15-601 as introduced by TR ALI-0741, dated 24 October 2020, and Applicability as amended by TR ALI-0751, dated 8 April 2021, in Section 4-28 of the MHIRJ MRM, Part 2, Airworthiness Limitations.

B. Within 60 days from the effective date of this AD, revise the CDCCL Items as introduced by TR ALI-0740, dated 24 October 2020, in Section 5-00 of the MHIRJ MRM Part 2, Airworthiness Limitations.

C. Within the thresholds and intervals in the tasks identified above, accomplish all applicable maintenance tasks.

D. Compliance with superseding TRs or later revisions of the MRM, approved by Transport Canada, also meets the intent of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 26 April 2021

Contact:

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