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-2022-20

Effective Date:

3 May 2022

ATA:

26

Type Certificate:

A-276

Subject:

Fire Protection – Fire Extinguisher – Replacement of the Cargo Bay Fire Extinguisher Container Pressure Switch/Gauge Assembly

Applicability:

MHI RJ Aviation ULC. (formerly Bombardier Inc.) model CL-600-2C10, CL-600-2C11, CL-600-2D15, CL-600-2D24 and CL-600-2E25 aeroplanes, all serial numbers.

Compliance:

Within 10 years from the effective date of this AD, unless already accomplished.

Background:

MHI RJ Aviation ULC. (MHIRJ) was notified by Kidde that the pressure switch/gauge assembly for the cargo bay fire extinguisher container has the potential to display an incorrect pressure, under certain environmental conditions. The supplier has attributed the root cause of the container pressure display error to the use of a room temperature vulcanizing (RTV) silicone. Both the high rate of discharge (HRD) and low rate of discharge (LRD) cargo bay fire extinguisher containers are affected. The aeroplane is intended to be operated at temperatures as low as -53.8℃ (-65℉). However, testing has shown that at temperatures below -49.4℃ (-57℉), the RTV silicone goes through a glass transition which causes locking of the discharge indication microswitch, in a closed state (showing normal pressure), on 50% of the assemblies tested. After returning to above -35.0℃ (-31.5℉) for more than 6 minutes, the pressure switch/gauge assembly returns to normal operation.

If, for any reason, the fire extinguisher container capacity is reduced below the level required to appropriately suppress a cargo fire, the crew will not receive an indication of low pressure. In the event of a fire in the cargo bay, this could lead to an uncontrollable fire and loss of the aeroplane.

This AD mandates the replacement of the cargo bay fire extinguisher container pressure switch/gauge assemblies manufactured prior to March 2020 as indicated on the identification plate.

Corrective Actions:

Remove and replace the HRD and LRD fire extinguisher containers, part number (P/N) 473919-1, P/N 473920-1 and P/N 474901-1, manufactured prior to March 2020 as indicated on the identification plate, in accordance with Section 2.B. of the Accomplishment Instructions of MHIRJ Service Bulletin 670BA-26-013, Initial Issue, dated 8 October 2021, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 19 April 2022

Contact:

Mihaela Kramer, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.