



# 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-2021-38R1

**Effective Date:**

8 June 2022

**ATA:**

21

**Type Certificate:**

A-276

**Subject:**

Air Conditioning – Ram Air System – Emergency Ram Air Valve (ERAV)

**Revision:**

Supersedes AD CF-2021-38, issued 5 November 2021.

**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:**

As indicated below, unless already accomplished.

**Background:**

There have been in-service reports of ERAV part number (P/N) GG670-95019-1 stuck in closed or partially open positions. An investigation revealed that the ERAV is failing due to corrosion of multiple sub-components, which causes an increase in the breakaway torque that cannot be overcome by the valve actuator. This condition, if not corrected, could result in a complete loss of outside air supply, leading to an increase in flight deck and cabin temperatures and a possible increased level of contaminated air (CO/CO<sub>2</sub>, Ozone). To address this unsafe condition, MHI RJ Aviation ULC. (MHIRJ) has reduced the interval for the existing Candidate Certification Maintenance Requirement (CCMR) Interval Limitation - Operational Check of the Ram Air Shutoff Valve and introduced a new CCMR Interval Limitation - Detailed Inspection of the Pack Discharge and Ram Air Supply Ducts.

This AD mandates the reduction of the existing CCMR interval limitation for the task identified as I.D. #77 Operational Check of the Ram Air Shutoff Valve and also mandates the introduction of a new CCMR interval limitation for the task identified as I.D. #78 Detailed Inspection of the Pack Discharge and Ram Air Supply Ducts. These two CCMR interval limitations are identified along with the Maintenance Review Board (MRB) task numbers for ease of tracking by the operator.

This AD Revision, CF-2021-38R1, provides clarification in Part I.B. whereby action is required if the valve itself is found inoperable as opposed to the system being found inoperable as previously stated and provides clarification for the use of the applicable instructions and limitations of Master Minimum Equipment List (MMEL) 21-52-01, sub-item 2 or 3. Also, this AD revision provides maintenance instructions in Part II.B. for the replacement of the pack discharge and ram air supply ducts if damage is found.

**Corrective Actions:**

**Part I – CCMR Interval Limitation Item I.D. #77 Operational Check of the Ram Air Shutoff Valve (MRB Task Number 215000-201)**

A. Phase-in

1. For aeroplanes that have accumulated less than 1800 hours air time since the last operational check of the valve was performed in accordance with MRB Task Number 215000-201, and for aeroplanes that have accumulated less than 1800 hours air time from entry-into-service, accomplish the operational check of the valve within 3 months from the effective date of AD CF-2021-38 (19 November 2021), or before accumulating 1800 hours air time, whichever occurs later.
2. For aeroplanes that have accumulated 1800 hours air time or more since the last operational check of the valve was performed in accordance with MRB Task Number 215000-201, and for aeroplanes that have accumulated 1800 hours air time or more from entry-into-service and for which no operational check of the valve was performed, accomplish the operational check of the valve within 3 months from the effective date of AD CF-2021-38 (19 November 2021) or before accumulating 3000 hours air time, whichever occurs first.

#### B. Repeat

Following completion of Part I.A. of this AD, repeat the operational check of the valve at intervals not to exceed the CCMR Interval Limitation specified in Maintenance Requirements Manual (MRM), Part 2, Appendix A2, Temporary Revision (TR) ALI-0744 dated 27 April 2021, or later revisions approved by Transport Canada Civil Aviation (TCCA).

If, during any of the above operational checks of the valve, the valve itself is found inoperable, before further flight, remove and replace valve P/N GG670-95019-1 with a serviceable part.

The replacement of an inoperable valve with a serviceable valve on an aeroplane, as required by Part I.A. or Part I.B. of this AD, can be deferred in accordance with the applicable instructions and limitations of MMEL item 21-52-01, sub-item 2 or 3 (only for models CL-600-2C10 or CL-600-2D15/CL-600-2D24 respectively). To defer the valve replacement, the ram air shutoff valve is deactivated in the open position in accordance with Aircraft Maintenance Manual (AMM) task 21-52-00-040-802 and the aeroplane is operated in accordance with the MMEL operating procedure.

### **Part II – CCMR Interval Limitation Item I.D. #78 Detailed Inspection of the Pack Discharge and Ram Air Supply Ducts (MRB Task Number 215000-204)**

#### A. Phase-in

1. For aeroplanes that have accumulated less than 17 600 hours air time since the last detailed inspection of the pack discharge and ram air supply ducts was performed in accordance with MRB Task Number 215000-204, and for aeroplanes that have accumulated less than 17 600 hours air time from entry-into-service, accomplish the detailed inspection of the pack discharge and ram air supply ducts within 3 months from the effective date of AD CF-2021-38 (19 November 2021), or before accumulating 17 600 hours air time, whichever occurs later.
2. For aeroplanes that have accumulated 17 600 hours air time or more since the last detailed inspection of the pack discharge and ram air supply ducts was performed in accordance with MRB Task Number 215000-204, and for aeroplanes that have accumulated 17 600 hours air time or more from entry-into-service and for which no detailed inspection of the pack discharge and ram air supply ducts was performed, accomplish the detailed inspection of the pack discharge and ram air supply ducts within 3 months from the effective date of AD CF-2021-38 (19 November 2021).

#### B. Repeat

Following completion of Part II.A. of this AD, repeat the detailed inspection of the pack discharge and ram air supply ducts at intervals not to exceed the CCMR Interval Limitation specified in the MRM, Part 2, Appendix A2, TR ALI-0745 dated 27 April 2021, or later revisions approved by TCCA.

If damage is found during any of the detailed inspections of the pack discharge and ram air supply ducts, such as: wear, cuts, holes, signs of leakage, signs of overheating, or damage to the duct insulation, before further flight, replace the damaged component(s) in accordance with AMM 21-52-06 for the ram air supply duct, AMM 21-51-26 for the left pack discharge duct, and AMM 21-51-28 for the right pack discharge duct. If parts are not available, contact MHIRJ for an approved disposition. The approved disposition must specifically refer to Part II. of this AD.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Daniel Gosselin  
Acting Chief, Continuing Airworthiness  
Issued on 25 May 2022

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