



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-2023-03

Effective Date:

3 February 2023

ATA:

27

Type Certificate:

A-276

Subject:

Flight Controls – Elevator and Rudder Power Control Units (PCUs) Rod End Fractures

Applicability:

MHI RJ Aviation ULC. (MHIRJ) (formerly Bombardier Inc.) model CL-600-2B19, 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:

Following several in-service reports of PCU rod end fractures due to pitting corrosion, AD CF-2018-29 was issued to prohibit use of certain maintenance procedures and require inspections of the PCU. Pitting corrosion can cause the PCU rod end spherical bearing to seize, which could induce a bending moment on the PCU output rod. This bending moment will eventually fracture the rod end. If not corrected, this condition could lead to a disconnect between the PCU and the elevator or rudder control surface, resulting in potential loss of the control surface function or inadequate flutter suppression.

Since the issuance of AD CF-2018-29, MHIRJ conducted further safety analyses and identified a need for additional corrective actions.

This AD requires operators to use the appropriate return-to-service tasks following short-term or prolonged and long-term storage.

In addition, and as applicable to the aeroplane model, this AD mandates the incorporation of revised Certification Maintenance Requirement (CMR) Task 27-20-00-106 for the operational check of each individual rudder PCU. This AD also mandates a new CMR Task 27-30-00-107 for the operational check of each individual elevator PCU to improve detection of potential single PCU disconnect cases for certain aeroplane models. The actions required by this AD are in addition to those required by AD CF-2018-29.

Corrective Actions:

Part I – Applicable to Model CL-600-2B19 Aeroplanes

Within 60 days from the effective date of this AD, if returning an aeroplane from prolonged and long-term storage, perform the return-to-service Aircraft Maintenance Manual (AMM) Tasks 27-21-00-710-805 – Operational Test of the Rudder Control System, 27-31-00-710-803 – Operational Test of the Elevator Control System, 27-23-01-220-801 – Detailed Inspection of the Rudder PCU Rod End Spherical Ball and 27-33-01-220-801 – Detailed Inspection of the Elevator PCU Rod End Spherical Ball, in accordance with AMM Revision 66, dated 10 October 2022, or later revisions of these tasks.

Part II – Applicable to Model CL-600-2C10, CL-600-2C11, CL-600-2D15 and CL-600-2D24 Aeroplanes

- A. Within 60 days from the effective date of this AD, incorporate CMR Task 27-20-00-106 as introduced by Temporary Revision (TR) ALI-0759, dated 24 September 2021, and CMR Task 27-30-00-107 as

introduced by TR ALI-0757, dated 24 September 2021, in Maintenance Requirements Manual (MRM) CSP B-053 Part 2, as applicable to the aeroplane model.

- B. Initial compliance with the two CMRs identified in Part II Paragraph A of this AD is required within 400 hours air time or 6 months, whichever occurs first, from the effective date of this AD. Thereafter, perform these CMR tasks at the intervals specified in the MRM CSP B-053 Part 2, as applicable to the aeroplane model.

Compliance with superseding TRs affecting these tasks, or later revisions of the MRM approved by Transport Canada, also meets the intent of Part II Paragraphs A and B of this AD.

- C. Within 60 days from the effective date of this AD, if returning an aeroplane from short-term storage, perform the return-to-service AMM Tasks 27-23-01-710-801 – Operational Test of the Rudder PCU and 27-33-01-710-802 – Operational Test of the Elevator Power-Control Units (PCUs), in accordance with AMM Revision 71, dated 16 December 2022, or later revisions of these tasks.
- D. Within 60 days from the effective date of this AD, if returning an aeroplane from prolonged and long-term storage, perform the return-to-service AMM Tasks 27-23-01-710-801 – Operational Test of the Rudder PCU, 27-33-01-710-802 – Operational Test of the Elevator Power-Control Units (PCUs), 27-23-01-220-802 – Detailed Inspection of the Rudder PCU Rod End Spherical Ball and 27-33-01-220-801 – Detailed Inspection of the Elevator PCU Rod End Spherical Ball, in accordance with AMM Revision 71, dated 16 December 2022, or later revisions of these tasks.

Part III – Applicable to Model CL-600-2E25 Aeroplanes

- A. Within 60 days from the effective date of this AD, incorporate CMR Task 27-30-00-107 as introduced by TR ALI-0757, dated 24 September 2021, in MRM CSP B-053 Part 2, as applicable to the aeroplane model.
- B. Initial compliance with the CMR identified in Part III Paragraph A of this AD is required within 400 hours air time or 6 months, whichever occurs first, from the effective date of this AD. Thereafter, perform this CMR task at the intervals specified in the MRM CSP B-053 Part 2, as applicable to the aeroplane model.

Compliance with superseding TRs affecting this task, or later revisions of the MRM approved by Transport Canada, also meets the intent of Part III Paragraphs A and B of this AD.

- C. Within 60 days from the effective date of this AD, if returning an aeroplane from short-term storage, perform the return-to-service AMM Task 27-33-01-710-802 – Operational Test of the Elevator Power-Control Units (PCUs), in accordance with AMM Revision 71, dated 16 December 2022, or later revisions of this task.
- D. Within 60 days from the effective date of this AD, if returning an aeroplane from prolonged and long-term storage, perform the return-to-service AMM Tasks 27-33-01-710-802 – Operational Test of the Elevator Power-Control Units (PCUs) and 27-33-01-220-801 – Detailed Inspection of the Elevator PCU Rod End Spherical Ball, in accordance with AMM Revision 71, dated 16 December 2022, or later revisions of these tasks.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 20 January 2023

Contact:

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