



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-2022-56

Effective Date:

10 October 2022

ATA:

32

Type Certificate:

A-276

Subject:

Landing Gear – Main Landing Gear (MLG) Retract Actuator Piston Rod – Safe Life Limitation Introduction

Applicability:

MHI RJ Aviation ULC. (MHIRJ) (formerly Bombardier Inc.) model CL-600-2E25 aeroplanes, all serial numbers.

Compliance:

As indicated below, unless already accomplished

Background:

During CRJ700/900 retract actuator design change activities, MHIRJ became aware that the CRJ1000 MLG fatigue testing that was accomplished at the time of certification was not performed in accordance with the Qualification Test Plan (QTP).

Consequently, pressure impulse testing was repeated on the CL600-2E25 MLG retract actuator using the required QTP load spectrum. As a result of this latest testing, a safe life limitation was established for the piston rod part number (P/N) 55615-1 and introduced in the Maintenance Requirements Manual (MRM) Part 2 Airworthiness Limitation (ALI) Task Number 32-32-05-709 Configuration B.

If this safe life limitation for the MLG retract actuator piston rod is exceeded there is a risk of MLG retract actuator piston failure in flight causing an undamped MLG free fall extension, which may result in MLG collapse on landing.

To correct this unsafe condition, this AD mandates the incorporation of a new ALI safe life limitation in the MRM that requires the periodic replacement of the MLG retract actuator piston rod, P/N 55615-1.

Corrective Actions:

- A. Within 60 days from the effective date of this AD, incorporate ALI Task Number 32-32-05-709 for the MLG retract actuator piston rod, P/N 55615-1 (part of MLG retract actuator P/N 55600), in the MHIRJ MRM Part 2 of CSP B-053 as introduced by Temporary Revision (TR) ALI-0763, dated 14 April 2022, or later revisions approved by Transport Canada.
- B. Remove and replace the MLG retract actuator piston rod, P/N 55615-1, before the total flight cycles accumulated on the part exceeds 9300 flight cycles (FC) in accordance with the MRM Part 2 ALI Task Number 32-32-05-709 Configuration B as introduced by TR ALI-0763, dated 14 April 2022, or later revisions approved by Transport Canada, with a phase-in schedule as specified below:

Phase In:

1. For MLG retract actuator piston rods that have accumulated less than 4300 FC, accomplish the task before exceeding 9300 FC.
2. For MLG retract actuator piston rods that have accumulated between 4300 FC and 18 000 FC, accomplish the task within 5000 FC from the phase in Effective Date of TR ALI-0763 (14 April

2022) or before exceeding 20 000 FC, whichever occurs first.

3. For MLG retract actuator piston rods that have accumulated more than 18 000 FC, accomplish the task within 2000 FC from the phase in Effective Date of TR ALI-0763 (14 April 2022).

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

Philippe Ngassam
Director, National Aircraft Certification
Issued on 26 September 2022

Contact:

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