



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-2020-29R1

Effective Date:

3 November 2023

ATA:

27

Type Certificate:

A-177

Subject:

Flight Controls – Elevator Control System – Vertical Torque Tube Seizure – Sand Contamination of Bearing

Revision:

Supersedes AD CF-2020-29, issued 21 August 2020.

Applicability:

Bombardier Inc. model BD-700-1A10 and BD-700-1A11 aeroplanes, serial numbers 9001 through 60081.

Compliance:

As indicated below, unless already accomplished.

Background:

There have been two in-service findings where both the left-hand and right-hand elevator torque tube bearings were contaminated with sand and corroded, restricting free rotation. Free rotation of the elevator torque tubes is required for elevator operation. Left uncorrected, sand contamination of the elevator torque tube bearings could lead to binding or seizure of the bearings, and potentially a reduction in or loss of aeroplane pitch control.

AD CF-2020-29 was issued to mandate visual inspections of elevator torque tube bearings as well as functional tests of the elevator control system, to detect and replace contaminated bearings. Findings of the inspection and functional tests were required to be reported to Bombardier Inc. to assist in the investigation of this issue and possible development of alternative or additional corrective actions.

Since then, the data collected was used to validate inspection intervals which have been integrated into new Certification Maintenance Requirement (CMR) tasks. This AD, CF-2020-29R1, mandates the new CMR tasks while giving credit for initial and repetitive inspections already performed, changes the applicability to exclude aeroplanes that have the CMR at delivery, and removes the reporting requirement.

Corrective Actions:

- A. Within 30 days from the effective date of this AD, amend the Transport Canada approved maintenance schedule by incorporating Chapter 5 Task No. 27-31-19-101 Detailed Inspection of the Bearing in the Elevator Torque Tube Assembly, as introduced in Part 2 Section 5-10-40 of the applicable Time Limits/Maintenance Checks (TLMC) manuals identified in Table 2 below, or later revisions approved by Transport Canada.
- B. Initial compliance with Chapter 5 Task No. 27-31-19-101 is required within 3 months from the effective date of this AD or 63 months from entry into service, whichever occurs later.

Initial inspection of the left-hand and right-hand elevator torque tube bearings and functional test of the elevator control system, and replacement of any contaminated bearings as required, carried out before the effective date of this AD, in accordance with the Accomplishment Instructions of the applicable Bombardier Inc. Service Bulletin (SB) listed in Table 1 below, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, also meet the requirements of this paragraph.

- C. Thereafter, repeat the above-mentioned task at the interval specified in the applicable TLMC manual as identified in Table 2, or later revisions approved by Transport Canada.

Repetitive inspection carried out before the effective date of this AD, in accordance with the Accomplishment Instructions of the applicable Bombardier Inc. SB listed in Table 1 below, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, also meet the requirements of this paragraph.

Table 1: SB References

Aeroplane Model	Bombardier SB	Issue Date
BD-700-1A10	700-27-083, Basic Issue	23 July 2020
BD-700-1A10	700-27-6012, Basic Issue	23 July 2020
BD-700-1A10	700-27-6503, Basic Issue	23 July 2020
BD-700-1A11	700-1A11-27-041, Basic Issue	23 July 2020
BD-700-1A11	700-27-5012, Basic Issue	23 July 2020
BD-700-1A11	700-27-5503, Basic Issue	23 July 2020

Table 2: Applicable TLMC Manuals

Aeroplane Model	TLMC Manual	TLMC Revision, Dated 01 March 2022, Temporary Revision (TR)
BD-700-1A10	BD-700 TLMC (Global Express)	TR 5-2-53, dated 31 March 2023
BD-700-1A10	BD-700 XRS TLMC	TR 5-2-15, dated 31 March 2023
BD-700-1A10	GL 6000 TLMC	TR 5-2-20, dated 31 March 2023
BD-700-1A10	GL 6500 TLMC	TR 5-2-3, dated 31 March 2023
BD-700-1A11	BD-700 TLMC (Global 5000)	TR 5-2-21, dated 31 March 2023
BD-700-1A11	GL 5000 GVFD TLMC	TR 5-2-20, dated 31 March 2023
BD-700-1A11	GL 5500 TLMC	TR 5-2-3, dated 31 March 2023

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 20 October 2023

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