



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-2018-33R1

Effective Date:

26 November 2020

ATA:

22

Type Certificate:

A-276

Subject:

Avionic System – Airplane Flight Manual Navigation System Limitations – Prohibit Editing CLIMB TO Altitudes and Use of Temperature Compensation on Flight Management System

Revision:

Supersedes AD CF-2018-33, issued 12 December 2018.

Replacement:

Replaces and affects Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2020-10-05, issued 14 May 2020 (and adopted by Transport Canada Civil Aviation (TCCA), for the MHI RJ Aviation ULC. aeroplane models listed in the Applicability section below.

Applicability:

MHI RJ Aviation ULC. (formerly Bombardier Inc.) aeroplanes:

Model CL-600-2C10, CL-600-2C11, CL-600-2D15, CL-600-2D24 and CL-600-2E25 equipped with FMC 822-0783-028 (SCID 832-4119-030) or FMC 822-0783-032 (SCID 832-4119-034) or FMC 822-0783-036 (SCID 832-4119-038).

Compliance:

As indicated below, unless already accomplished.

Background:

If the crew edits a CLIMB TO altitude in a departure or a missed approach procedure, either manually or by activating the temperature compensation, the flight management system (FMS) will remove the database's turn direction (if any) on the following leg. The FMS will command the aircraft to turn in the wrong direction after sequencing the CLIMB TO leg if the shortest turn direction is different from the required turn direction onto the next leg. This may lead to an increase of crew workload and possible air traffic control airspace violation.

AD CF-2018-33 mandated the introduction of a navigation system limitation to the Airplane Flight Manual (AFM) to address the above mentioned unsafe condition.

Although Canada is the State of Design for Bombardier products, the United States is the State of Design for Rockwell Collins products. In May 2020, the FAA issued equipment-level AD 2020-10-05 to require disabling the automatic temperature compensation feature of the FMS through the configuration strapping units (CSUs) and revising the AFM Limitations section. Operators of the aeroplane models listed in the Applicability section above commented that disabling this feature would also disable the temperature compensation calculator, which would increase crew workload and introduce errors by necessitating that pilots manually calculate this information.

This AD prohibits the use of FAA AD 2020-10-05 for the aeroplane models listed in the Applicability section above.

This AD revision, CF-2018-33R1, also revises the Applicability to remove aeroplane model CL-600-2B19 (including Part II) as the affected part numbers were introduced through FAA Supplementary Type Certificate (STC) ST01514WI-D where the United States is the State of Design and the FAA equipment-level AD 2020-10-05 takes precedence. As part of this AD revision, opportunity is taken to update the Type Certificate number which was introduced on 22 November 2019, and update the Applicability to include aeroplane model CL-600-2C11.

Corrective Actions:

- A. Within 30 days from the effective date of AD CF-2018-33, 26 December 2018, amend the applicable AFM by incorporating the navigation system limitation to prohibit editing of the CLIMB TO altitudes and the use of the temperature compensation on the FMS:

Aeroplane Model	AFM Procedure	AFM Revision
CL-600-2C10	Limitations - Navigation System Limitation - Flight Management System (FMS)	AFM CSP B-012 Revision 22A, dated January 3, 2018, or later revisions of this procedure approved by Transport Canada (TC).
CL-600-2C11	Limitations - Navigation System Limitation - Flight Management System (FMS)	AFM CSP B-012 Revision 22A, dated January 3, 2018, or later revisions of this procedure approved by TC.
CL-600-2D15	Limitations - Navigation System Limitation - Flight Management System (FMS)	AFM CSP C-012 Revision 17B, dated January 3, 2018, or later revisions of this procedure approved by TC.
CL-600-2D24	Limitations - Navigation System Limitation - Flight Management System (FMS)	AFM CSP C-012 Revision 17B, dated January 3, 2018, or later revisions of this procedure approved by TC.
CL-600-2E25	Limitations - Navigation System Limitation - Flight Management System (FMS)	AFM CSP D-012 Revision 18A, dated January 3, 2018, or later revisions of this procedure approved by TC.

- B. Within 30 days from the effective date of AD CF-2018-33, 26 December 2018, advise all flight crews of the changes introduced by AFM Revisions listed above and thereafter operate the aeroplane accordingly.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 12 November 2020

Contact:

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