



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) to ADs.

Number:

CF-2012-10R1

Effective Date:

6 February 2018

ATA:

57

Type Certificate:

A-131

Subject:

Non-Conforming Wing-to-Fuselage Attachment Nuts

Revision:

Supersedes AD CF-2012-10, issued 12 March 2012.

Applicability:

Bombardier Inc. aeroplanes:

Model CL-600-2C10, Serial Numbers 10002 and subsequent
Model CL-600-2D15 and CL-600-2D24, Serial Numbers 15001 and subsequent
Model CL-600-2E25, Serial Numbers 19001 and subsequent

Compliance:

As indicated below, unless already accomplished.

Background:

The manufacturer has determined that wing-to-fuselage attachment nuts, part number (P/N) SH670-35635-1, SH670-35440-951, SH670-35440-3, SH670-35635-1 and 95136D-2412, installed at six attachment joint locations, do not conform to the certification design requirements for dual locking features. The nuts are not of the self-locking type as required and do not provide the frictional thread interference required to prevent the nut from backing off the bolt. As a result, only a single locking device, the cotter pin, is provided at these critical joints. In the case where a nut becomes loose, in combination with a missing or broken cotter pin, the attachment bolt at the wing-to-fuselage joint could migrate and fall out. Loss of two attachment joints could potentially result in the loss of the wing.

The original version of this AD mandated initial and repeat detailed visual inspections (DVIs) of each affected wing-to-fuselage attachment joint to ensure that a cotter pin was installed.

Design review and analysis of the inspection findings since the original issue of this AD have led us to determine that additional nuts at the forward keel beam joint should also be included in the inspection and that the repetitive inspection of some wing-to-fuselage attachment joints is not required. This AD maintains the initial inspection requirements for six attachment joint locations, and removes the repetitive inspection requirements for all but the forward keel beam attachment joint. This AD also requires a different repetitive inspection interval, and the AD applicability has been changed for the initial inspection to account for changes made in production.

Corrective Actions:

Part I - Initial Inspection of the Wing-to-Fuselage Attachment Joints Excluding the Forward Keel Beam Attach Bracket

- a. Part I is only applicable to the following aircraft serial numbers. The remainder of the AD is applicable to all serial numbers indicated in the Applicability section of this AD.

- i. Model CL-600-2C10, Serial Numbers 10002 through 10337;
 - ii. Models CL-600-2D15 and CL-600-2D24, Serial Numbers 15001 through 15299; and
 - iii. Model CL-600-2E25, Serial Numbers 19001 through 19037.
- b. Within 3000 hours air time or 18 months, whichever occurs first, from the effective date of the original version of this AD, 26 March 2012, perform a DVI of each affected wing-to-fuselage attachment joint in accordance with Part A through Part C of the Accomplishment Instructions, as applicable, in Bombardier Inc. Service Bulletin (SB) 670BA-53-042, Revision B, dated 20 October 2017, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
- c. Initial inspection of the wing-to-fuselage attachment joints prior to the effective date of this AD in accordance with earlier revisions of the above-mentioned SB also meet the requirements of Part I of this AD.

Part II - Initial Inspection of the Nuts at the Forward Keel Beam Attach Bracket

- a. Within the compliance time indicated in Table 1, perform a DVI of the forward keel beam attachment joint in accordance with Part D of the Accomplishment Instructions in Bombardier Inc. SB 670BA-53-042, Revision B, dated 20 October 2017, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
- b. For Model CL-600-2C10 aeroplanes with Serial Numbers 10002 through 10337, initial inspection of the nuts at the forward keel beam attach bracket prior to the effective date of this AD in accordance with earlier revisions of the above-mentioned SB also meets the requirements of Part II of this AD.

Table 1: Compliance Time for Initial Inspection of Nuts at Forward Keel Beam Attach Bracket

Aeroplane Model and Serial Numbers	Compliance Time
Model CL-600-2C10 Serial Numbers 10002 through 10337	3000 hours air time or 18 months, whichever occurs first, from the effective date of the original version of this AD, 26 March 2012
Model CL-600-2C10 Serial Numbers 10338 and subsequent	8800 hours air time from the effective date of this AD
Models CL-600-2D15 and CL-600-2D24 Serial Numbers 15001 and subsequent	
Model CL-600-2E25 Serial Numbers 19001 and subsequent	

Part III - Repetitive Inspection of the Nuts at the Forward Keel Beam Attach Bracket

- a. At intervals not to exceed 8800 hours air time from the time of completion of Part II of this AD, repeat the DVI of the forward keel beam attachment joint in accordance with Part E of the Accomplishment Instructions in Bombardier SB 670BA-53-042, Revision B, dated 20 October 2017, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
- b. Inspections completed prior to the effective date of this AD in accordance with earlier revisions of the above-mentioned SB also meet the requirements of Part III of this AD.

Part IV - Requirements if a Cotter Pin is Missing or Damaged

- a. During any inspection required in Part I, Part II or Part III of this AD, if an attachment joint is found without a cotter pin installed, or with a cotter pin that is damaged, contact Bombardier Inc. before further flight for an approved disposition. The approved disposition must specifically reference this AD. Approved dispositions issued by Bombardier Inc. prior to the effective date of this AD are acceptable for use if they refer to the original issue of this AD.

Note: The compliance time in this AD differs from the recommended compliance time mentioned in the Bombardier SB.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Craig McAllister
Acting Chief, Continuing Airworthiness
Issued on 22 January 2018

Contact:

Mr. Daniel Gosselin, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178
or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.