



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-2011-30R2

Effective Date:

26 June 2017

ATA:

53

Type Certificate:

A-131

Subject:

Fuselage – Cracking on the Forward Face of the Rear Pressure Bulkhead Web

Replacement:

Supersedes AD CF-2005-13R1, issued 6 October 2005, and AD CF-2011-30R1, issued 1 November 2016.

Applicability:

Bombardier Inc. aeroplane model CL-600-2B19, serial numbers 7002 through 8025, 8030 and 8034.

Compliance:

As indicated below, unless already accomplished.

Background:

Cracks on the forward face of the Rear Pressure Bulkhead (RPB) web have been discovered on three CL-600-2B19 aeroplanes in-service.

A Temporary Revision has been made to Part 2 of the Maintenance Requirements Manual (MRM) to revise the existing AWL task by introducing an improved Non-Destructive Inspection (NDI) procedure to ensure that fatigue cracking of the RPB is detected and corrected.

The original issue of this AD mandated the incorporation of a new NDI procedure for AWL task number 53-61-153.

Additional in-service findings have resulted in the issue of revision 1 of this AD, which mandates a structural modification to the rear pressure bulkhead with revised threshold and repeat inspection intervals. This modification is intended to preclude the onset of multiple site fatigue damage for the remaining service life of the aeroplane. If not corrected, a failure of the RPB could result in loss of structural integrity of the aeroplane.

Revision 2 of this AD requires an inspection to be carried out prior to modification of the RPB. This revision also requires an additional modification to be completed on the RPB prior to terminating AWL task number 53-61-153. It also includes provisions to account for certain repairs as well as AMOCs issued to earlier revisions of this AD.

Corrective Actions:

Part I – Incorporation of New NDI Procedure

- A. Within 60 days from the effective date of the original issue of this AD, 24 August 2011, amend the Transport Canada approved maintenance schedule by incorporating the revised inspection requirements of AWL task number 53-61-153, as introduced by TR 2B-2187, into Part 2 of the Canadair Regional Jet MRM, CSP A-053.
- B. Compliance with the above-mentioned task should be carried out in accordance with the following phase-in schedule. As of the effective date of the original issue of this AD, 24 August 2011:

1. For aeroplanes that have accumulated 10 500 total flight cycles or less: prior to accumulating 12 000 total flight cycles;
 2. For aeroplanes that have accumulated more than 10 500 total flight cycles: within 1500 flight cycles after the effective date of the original issue of this AD, 24 August 2011, or at the next scheduled inspection interval for task number 53-61-153, whichever comes first.
- C. Repair any damage found during the conduct of task AWL 53-61-153 prior to further flight in accordance with one of the following methods: Bombardier Repair Engineering Order (REO) 601R-53-61-1230 Revision F, REO 601R-53-61-1240 Revision D, REO 601R-53-61-1285 Revision E, REO 601R-53-61-1541 Revision F, or another method approved by Bombardier Inc.'s Design Approval Organization (DAO) or Transport Canada which specifically refers to this AD. Repairs issued prior to the effective date of this AD that are approved by Bombardier Inc.'s DAO or Transport Canada that refer to the original issue or revision 1 of this AD are also acceptable. If the repair interferes with the conduct of AWL 53-61-153, the inspection instructions in the repair take precedence over AWL 53-61-153 for the area affected by the repair.

Part II – Modification and Inspection of the Rear Pressure Bulkhead and Introduction of New Threshold and Repeat Inspections

A. Modification, Inspection, and Introduction of Threshold and Repeat Inspections

1. Unless already accomplished, perform the following actions in accordance with the schedule shown in Table 1:
 - a. At the time of incorporation of the modification required by Part II Paragraph A.1.b. of this AD, inspect the forward face of the FS 621 pressure bulkhead in accordance with AWL 53-61-153. Repair any damage found in accordance with REO 601R-53-61-1230 Revision F, REO 601R-53-61-1240 Revision D, or another method approved by Bombardier Inc.'s DAO or Transport Canada which specifically refers to this AD. Repairs issued prior to the effective date of this AD that are approved by Bombardier Inc.'s DAO or Transport Canada that refer to the original issue or revision 1 of this AD are also acceptable. If the repair interferes with the conduct of AWL 53-61-153, the inspection instructions in the repair take precedence over AWL 53-61-153 for the area affected by the repair.

Note: REO 601R-53-61-1240 includes instructions both to repair certain types of damage to the rear pressure bulkhead web, and to modify the bulkhead to prevent future crack initiation.
 - b. In accordance with Bombardier Aerospace REO 601R-53-61-1240 Revision D, incorporate the modification (Part A) and carry out the inspection (Part B) of the FS 621 pressure bulkhead web.

Table 1: Modification and Inspection Phase-In

Aeroplane Cycles, as of the Effective Date of Revision 1 of this AD, 11 November 2016	Compliance Time
For aeroplanes that have accumulated 35 000 total flight cycles or less	Prior to accumulating 40 000 total flight cycles
For aeroplanes that have accumulated more than 35 000 total flight cycles and less than 40 000 total flight cycles	Within 5000 flight cycles after the effective date of Revision 1 of this AD, 11 November 2016
For aeroplanes that have accumulated 40 000 total flight cycles or more	Prior to accumulating 45 000 total flight cycles

2. At the time of completion of Part II.A.1. of this AD, modify the Transport Canada approved maintenance schedule by incorporating the threshold and repeat inspection requirements in accordance with In-Service Deviation Inspection Requirements (SDIR) of REO 601R-53-61-1240 Revision D.
- B. Alternative Actions. For aeroplanes which have previously incorporated the modification and SDIR of any of the REOs indicated in Table 2, the modification and SDIR requirements of Part A of REO 601R-53-61-1240 Revision D are satisfied. Perform the following tasks:
1. Within 6000 flight cycles from the effective date of Revision 1 of this AD, 11 November 2016, perform the web special detailed inspection of Zone B identified within Part B of REO 601R-53-61-1240 Revision D.

2. At the time of completion of Part II.B.1. of this AD, modify the Transport Canada approved maintenance schedule by incorporating the threshold and repeat inspection requirements in accordance with Part B of the SDIR of REO 601R-53-61-1240 Revision D. The inspection threshold is measured from the time of incorporation of the applicable REOs from Table 2 below.

Table 2: REOs Equivalent to Part A of REO 601R-53-61-1240

Serial Number	Bombardier REO
7029	601R-53-61-3032 Revision –D, dated 6 May 2014
	601R-53-61-3059 Revision –D, dated 1 November 2011
	601R-53-61-5220 Revision –A, dated 20 March 2014
7033	601R-53-61-4391 Revision --, dated 6 February 2012
	601R-53-61-4405 Revision --, dated 16 February 2012
7054	601R-53-61-4398 Revision –A, dated 23 August 2016
	601R-53-61-5801 Revision --, dated 23 August 2016
7058	601R-53-61-5480 Revision --, dated 22 May 2015
7060	601R-53-61-4385 Revision -A, dated 25 August 2016
7206	601R-53-61-4750 Revision --, dated 15 January 2013
7212	601R-53-61-5137 Revision -A, dated 25 August 2016
7312	601R-53-61-5738 Revision --, dated 23 June 2016
7424	601R-53-61-5295 Revision –A, dated 2 July 2014
7430	601R-53-61-4950 Revision --, dated 28 June 2013
7433	601R-53-61-2039 Revision –A, dated 24 August 2016
7452	601R-53-61-4821 Revision –A, dated 28 February 2013
	601R-53-61-4572 Revision –C, dated 27 February 2013
	601R-53-61-4584 Revision –A, dated 27 February 2013
7463	601R-53-61-4712 Revision --, dated 15 November 2012
	601R-53-61-5369 Revision --, dated 14 October 2014
7466	601R-53-61-4884 Revision --, dated 25 April 2013
7468	601R-53-61-5779 Revision –A, dated 16 August 2016
7476	601R-53-61-5727 Revision –B, dated 8 June 2016
7484	601R-53-61-5040 Revision --, dated 2 October 2013
	601R-53-61-5049 Revision –A, dated 9 October 2013
7513	601R-53-61-5498 Revision --, dated 23 June 2015
7591	601R-53-61-2360 Revision –A, dated 24 August 2016

Serial Number	Bombardier REO
	601R-53-61-2361 Revision --, dated 11 October 2007
	601R-53-61-2364 Revision --, dated 11 October 2007
	601R-53-61-2368 Revision --, dated 10 October 2007
	601R-53-61-2373 Revision --, dated 17 October 2007
	601R-53-61-2380 Revision --, dated 20 October 2007
7616	601R-53-61-5250 Revision --, dated 15 April 2014
7626	601R-53-61-5377 Revision --, dated 5 November 2014
	601R-53-61-5383 Revision --, dated 7 November 2014
7643	601R-53-61-5076 Revision --, dated 31 October 2013
	601R-53-61-5085 Revision –A, dated 11 November 2013
7658	601R-53-61-4942 Revision –A, dated 8 July 2013
7660	601R-53-61-5494 Revision --, dated 8 June 2015
7767	601R-53-61-5207 Revision --, dated 7 March 2014
	601R-53-61-5213 Revision –A, dated 14 March 2014
7834	601R-53-61-4932 Revision --, dated 15 June 2013
	601R-53-61-4940 Revision –A, dated 1 July 2013
7852	601R-53-61-4264 Revision –A, dated 21 August 2013

C. Alternative Actions: Aeroplane Serial Number 7610.

1. Within 6000 flight cycles from the effective date of Revision 1 of this AD, 11 November 2016, incorporate REO 601R-53-61-5828 Revision A.
2. At the time of completion of Part II.C.1. of this AD, modify the Transport Canada approved maintenance schedule by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of REO 601R-53-61-5828 Revision A.
3. If REO 601R-53-61-5828 Revision -- was incorporated prior to the effective date of this AD, within 60 days of the effective date of this AD modify the Transport Canada approved maintenance schedule by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of REO 601R-53-61-5828 Revision A.

D. Deviation from Part II Requirements of this AD

1. If it is not possible to complete all the instructions in Part II of this AD due to the configuration of the aeroplane, or for any questions regarding REO 601R-53-61-1240, contact Bombardier Inc. CRJ Technical Help Desk at 1-514-855-8500 or 1-844-272-2720 or thd.crj@aero.bombardier.com for approved instructions. Such instructions must specifically reference this AD.

E. Superseding of Airworthiness Limitations

1. Compliance with Part II.A. or Part II.B. of this AD introduces new threshold and repeat inspections documented within the SDIR of REO 601R-53-61-1240 Revision D or the SDIR of the REOs in Table 2, which supersede Airworthiness Limitation 53-61-153 introduced in Part I of this AD for the area affected by the repair only.

2. For aeroplanes that have complied with Part II of this AD and have incorporated the modification and SDIR of REO 601R-53-61-1230 Revision F, it is no longer necessary to perform the inspections required by AWL 53-61-153.
3. Compliance with Part II.C. of this AD introduces new threshold and repeat inspections documented within the SDIR of REO 601R-53-61-5828, Revision A which supersede Airworthiness Limitation 53-61-154 in its entirety.

Part III – Alternative Means of Compliance

- A. Transport Canada AMOCs granted to the original issue of this AD, issued 24 August 2011, are approved for use with Part 1 of this AD.
- B. For actions completed prior to the effective date of this AD, the documents at the revision levels indicated below also meet the intent of the AD, unless otherwise indicated.
 1. Part 2 of the Canadair Regional Jet MRM, CSP A-053, AWL task number 53-61-153, as introduced by TR 2B-2187, dated 22 June 2011.
 2. Bombardier REOs indicated in Table 2 above.
 3. Bombardier REO 601R-53-61-1230 Revision F, dated 31 October 2011. The following earlier revisions may be used provided that the Transport Canada approved maintenance schedule is modified by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of Revision F: Revision --, dated 10 February 2005; Revision A, dated 11 August 2005; Revision B, dated 5 October 2005; Revision C, dated 10 November 2005; Revision D, dated 19 July 2006; or Revision E, dated 18 August 2011.
 4. Bombardier REO 601R-53-61-1240 Revision D, Dated 31 October 2016.
 5. Bombardier REO 601R-53-61-1285 Revision E, dated 31 October 2016. The following earlier revisions may be used provided that the Transport Canada approved maintenance schedule is modified by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of Revision E: Revision --, dated 24 March 2005; Revision A, dated 6 November 2009; Revision B, dated 14 April 2010; Revision C, dated 19 August 2011; or Revision D, dated 31 October 2011.
 6. Bombardier REO 601R-53-61-1541 Revision F, dated 12 November 2014. The following earlier revisions may be used provided that the Transport Canada approved maintenance schedule is modified by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of Revision F: Revision --, dated 17 November 2005; Revision A, dated 8 February 2008; Revision B, dated 16 March 2009; Revision C, dated 19 August 2011; Revision D, dated 31 October 2011; or Revision E, dated 5 November 2013.
 7. Bombardier REO 601R-53-61-5828 Revision A, dated 16 March 2017. Revision --, dated 1 November 2016 may be used provided that the Transport Canada approved maintenance schedule is modified by incorporating the threshold and repeat inspection requirements in accordance with the SDIR of Revision A.
- C. The use of the documents in Part III section B at later revisions approved by Transport Canada are acceptable for compliance with the requirements of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 12 June 2017

Contact:

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