



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-2017-27

Effective Date:

16 August 2017

ATA:

57

Type Certificate:

A-131

Subject:

Wings – Cracking of the Main Landing Gear Trunnion Fitting Assembly

Replacement:

Supersedes AD CF-2008-21, issued 12 June 2008.

Applicability:

Bombardier Inc. model CL-600-2B19 aeroplanes, serial numbers 7002 and subsequent.

Compliance:

As indicated below, unless already accomplished.

Background:

Cracks on the main landing gear (MLG) trunnion fitting web discovered during fatigue testing led to the issuance of AD CF-2008-21, which mandated new inspection requirements to ensure that fatigue cracking of the trunnion web would be detected and corrected.

Additional fatigue test article findings and in-service findings have shown that the trunnion fitting lower flange and both forward and aft bore holes are also subject to fatigue cracking. Failure of the main landing gear trunnion fitting could result in the collapse of the main landing gear. Bombardier Inc. has decided to implement a series of design changes to improve the fatigue life of the trunnion fitting that is now a safe-life assembly.

New and revised Airworthiness Limitation (AWL) tasks for the MLG trunnion fitting assembly have been introduced in order to require new inspection, modification, and safe-life requirements. This AD mandates the incorporation of these new and revised AWL tasks, and removal of the AWL tasks they replace, to ensure that fatigue cracking of the MLG trunnion fitting is detected and corrected. This AD also requires rework of the trunnion fitting in order to meet new structural safe-life limits.

Corrective Actions:

A. Maintenance Schedule Amendment

1. Within 60 days as of the effective date of this AD, amend the Transport Canada approved maintenance schedule by incorporating the AWL tasks indicated in Table 1 and identified in the Maintenance Requirements Manual (MRM), CSP A-053, Part 2 Revision 11 dated 10 September 2016.
2. Within 60 days as of the effective date of this AD, amend the Transport Canada approved maintenance schedule by removing the AWL tasks indicated in Table 2. These AWL tasks are identified in the MRM, CSP A-053, Part 2 Revision 11 dated 10 September 2016.
3. Incorporation of the AWL tasks in Table 1 and removal of the AWL tasks in Table 2 as identified in the MRM Part 2 Revision 10, dated 10 May 2015, or the Temporary Revisions (TRs) indicated in Tables 1 and 2 also meet the intent of paragraph A of this AD.

4. Compliance with superseding TRs or later revisions of the Airworthiness Limitations section in Part 2 of the MRM, approved by Transport Canada, also meets the requirements of paragraph A of this AD.

Table 1: AWL Tasks to be Incorporated into the Transport Canada Approved Maintenance Schedule

Section Within MRM Part 2 Appendix B	AWL Task	TR Number	TR Issue Date
Structural AWLs	57-21-145	TR 2B-2237	19 June 2014
	57-21-161	TR 2B-2238	19 June 2014
	57-21-155	TR 2B-2239	19 June 2014
Structural Life Limits	57-21-162	TR 2B-2246	7 November 2014
	57-21-163		
Structural Life Limits, High Altitude Airfield Operations (HAAO)	57-21-162	TR 2B-2241	19 June 2014
	57-21-163		

Table 2: AWL Tasks to be Removed from the Transport Canada Approved Maintenance Schedule

Section Within MRM Part 2 Appendix B	AWL Task	TR Number	TR Issue Date
Structural AWLs	57-21-164	TR 2B-2242	19 June 2014
	57-21-165		
	57-21-166		

B. Initial Compliance Times for AWL Tasks.

- For AWL 57-21-161, Threshold Inspection: This paragraph provides an initial compliance time equivalent to that of AD CF-2008-21, which is superseded by this AD. Perform the threshold inspection as indicated in Table 3 or Table 4, as applicable given the aeroplane's incorporation status of Modsum TC601R15827 High Altitude Airfield Operation (HAAO).
- For AWL 57-21-161, Limitation section: Comply with the Limitation section of AWL 57-21-161 as indicated in the AWL or within 2,000 flight cycles as of the effective date of this AD, whichever occurs later.
- For AWL 57-21-145 and AWL 57-21-155: Perform the threshold inspections and comply with the Limitation sections of AWL 57-21-145 and AWL 57-21-155 as indicated in the AWLs or within 2,000 flight cycles as of the effective date of this AD, whichever occurs later.

Table 3: Threshold Inspection Phase-In for AWL 57-21-161, Aeroplanes Pre-Modsum TC601R15827 HAAO

As of 30 June 2008, the Effective Date of AD CF-2008-21	Compliance Time
For aeroplanes that have accumulated 23,500 total flight cycles or less	Prior to accumulating 25,000 total flight cycles
For aeroplanes that have accumulated between 23,501 and 25,000 total flight cycles	Prior to accumulating 26,000 total flight cycles, or within 1500 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21, whichever occurs first
For aeroplanes that have accumulated between 25,001 and 26,000 total flight cycles	Prior to accumulating 26,500 total flight cycles, or within 1000 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21, whichever occurs first
For aeroplanes that have accumulated more than 26,000 total flight cycles	Within 500 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21

**Table 4: Threshold Inspection Phase-In for AWL 57-21-161, Aeroplanes Post-
Modsum TC601R15827 HAAO**

As of 30 June 2008, the Effective Date of AD CF-2008-21	Compliance Time
For aeroplanes that have accumulated 15,667 total flight cycles or less	Prior to accumulating 16,667 total flight cycles
For aeroplanes that have accumulated between 15,668 and 16,667 total flight cycles	Prior to accumulating 17,333 total flight cycles, or within 1000 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21, whichever occurs first
For aeroplanes that have accumulated between 16,668 and 17,333 total flight cycles	Prior to accumulating 17,666 total flight cycles, or within 666 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21, whichever occurs first
For aeroplanes that have accumulated more than 17,333 total flight cycles	Within 333 flight cycles as of 30 June 2008, the effective date of AD CF-2008-21

C. Service Bulletins (SB):

1. Accomplish the following SBs, as required by the AWL tasks in Table 1 and the phase-in provided in paragraph B, as follows:
 - a. Bombardier Inc. SB 601R-57-046, Revision C, dated 20 December 2012.
 - i. Accomplishment of Bombardier Inc. SB 601R-57-046, Revision B, dated 24 August 2012, prior to the effective date of this AD, also meets the intent of paragraph C.1.a. of this AD.
 - ii. If Bombardier Inc. SB 601R-57-046, Revision A, dated 21 December 2009, or Initial Issue, dated 17 July 2009, were accomplished prior to the effective date of this AD, Part G of Bombardier SB 601R-57-046, Revision C, dated 20 December 2012, must be completed within 6 months of the effective date of this AD.
 - iii. Accomplishment of Part G of Bombardier SB 601R-57-046, Revision B, dated 24 August 2012, prior to the effective date of this AD, also meets the intent of paragraph C.1.a.ii. of this AD.
 - b. Bombardier Inc. SB 601R-57-047, Revision B, dated 2 October 2012.
 - i. Accomplishment of Bombardier Inc. SB 601R-57-047, Revision A, dated 1 February 2012, or Initial Issue, dated 29 June 2011, also meets the intent of the paragraph C.1.b. of this AD.
 - c. Bombardier Inc. SB 601R-57-048, Revision C, dated 6 June 2013.
 - i. Accomplishment of Bombardier Inc. SB 601R-57-048, Revision B, dated 24 August 2012, prior to the effective date of this AD, also meets the intent of paragraph C.1.c. of this AD.
 - ii. If Bombardier Inc. SB 601R-57-048, Revision A, dated 24 November 2009, or Initial Issue, dated 17 July 2009, were accomplished prior to the effective date of this AD, Part C of Bombardier SB 601R-57-048, Revision C, dated 6 June 2013, must be completed within 6 months of the effective date of this AD.
 - iii. Accomplishment of Part C of Bombardier SB 601R-57-048, Revision B, dated 24 August 2012, prior to the effective date of this AD, also meets the intent of paragraph C.1.c.ii. of this AD.
2. Later revisions of these SBs approved by the Chief, Continuing Airworthiness, Transport Canada, meet the intent of paragraph B of this AD.

D. Repairs and Alternative Actions or Intervals

1. If any damage is found during an inspection required by the AWLs identified in Table 1 of this AD, contact Bombardier Inc. for an approved repair. The repair must specifically refer to this AD.
2. If it is not possible to complete all of the instructions in the SBs identified in paragraph C of this AD due to the configuration of the aircraft, contact Bombardier Inc. for approved instructions. The approved instructions must specifically refer to this AD.

3. Repairs approved by Bombardier Inc. that deviate from the AWLs identified in Table 1 of this AD are acceptable means of compliance if they specifically refer to this AD.
4. For repairs approved before the effective date of this AD that affect the AWLs identified above, within 6 months of the effective date of this AD contact Bombardier Inc. for new or revised limitations or inspection requirements on the repair area. The revised repair must specifically refer to this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Matthew Weeks
Acting Chief, Continuing Airworthiness
Issued on 2 August 2017

Contact:

Daniel Gosselin, Continuing Airworthiness, Ottawa, telephone 1-888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.