



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-2020-54R1

Effective Date:

5 January 2021

ATA:

32

Type Certificate:

A-131

Subject:

Landing Gear – Main Landing Gear (MLG) Shock Strut Lower Pin Cracking

Revision:

Supersedes AD CF-2020-54, issued 22 December 2020.

Applicability:

Bombardier Inc. model CL-600-2B16 aeroplanes, serial numbers 5301 through 5665, 5701 through 5988 and 6050 through 6999.

Compliance:

As indicated below, unless already accomplished.

Background:

There have been multiple reports of MLG shock strut lower pin part number (P/N) 19146-3 being found cracked in service. The subsequent investigation concluded that the friction torque, when the shock strut is under compression loading, causes the pin anti-rotation tangs to become loaded beyond their load carrying capability. This overload condition can result in pin fracture originating at the base of the pin anti-rotation tang. Inadequate lubrication aggravates the condition. If not corrected, this condition could result in structural failure of one or both MLGs.

This AD requires the following:

- A more frequent repetitive lubrication task;
- An initial and repetitive detailed visual inspection (DVI) of the MLG shock strut lower pin;
- An initial and repetitive non-destructive test (NDT) inspection of the MLG shock strut lower pin.

This AD also requires MLG shock strut lower pin P/N 19146-3 replacement before further flight, if cracks or damage are found during any of the inspections.

This AD revision, CF-2020-54R1, is issued to correct a typographical error on the Effective Date.

Corrective Actions:

For the purpose of this AD, the term “the applicable SB” refers to the applicable service bulletin (SB) according to the aeroplane model as listed in Table 1 of this AD and “MLG shock strut lower pin” refers to MLG shock strut lower pin P/N 19146-3.

Part I – Lubrication of the Left Hand (LH)/Right Hand (RH) MLG Shock Strut Lower Pin

A. Initial Lubrication Task

Perform the initial lubrication tasks of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.B. Part A of the Accomplishment Instructions of the applicable SB. Where the SB compliance time basis is the issuing date of the SB, that time must be the effective date of

AD CF-2020-54R1.

B. Repetitive Lubrication Task

Following completion of Part I A of this AD, repeat the lubrication tasks of the LH and RH MLG shock strut lower pin at intervals not exceeding 200 Flight Hours (FH) or 12 months, whichever occurs first, in accordance with Paragraph 2.B. Part A of the Accomplishment Instructions of the applicable SB.

Part II – DVI of the LH/RH MLG Shock Strut Lower Pin

A. Initial DVI

- a. For aeroplanes with a MLG shock strut lower pin that has accumulated less than 600 flight cycles (FC) as of the effective date of AD CF-2020-54R1, before reaching 750 FC, perform the DVI of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.C. Part B of the Accomplishment Instructions of the applicable SB.
- b. For aeroplanes entering service after the effective date of AD CF-2020-54R1, before reaching 750 FC, perform the DVI of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.C. Part B of the Accomplishment Instructions of the applicable SB.
- c. For aeroplanes with a MLG shock strut lower pin that has accumulated 600 FC or more as of the effective date of AD CF-2020-54R1, within 150 FC, perform the DVI of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.C. Part B of the Accomplishment Instructions of the applicable SB.

B. Repetitive DVI

Following completion of Part II A of this AD, repeat the DVI of the LH and RH MLG shock strut lower pins at intervals not exceeding 400 FH or 24 months, whichever comes first, in accordance with Paragraph 2.C. Part B of the Accomplishment Instructions of the applicable SB.

The DVI is not required if it coincides with the NDT required in Part III of this AD. In this instance, the NDT supersedes the DVI required by this Part.

If the accumulated FC of the MLG shock strut lower pin is not known, use the related MLG assembly accumulated FC to determine when the actions required by this AD need to be accomplished.

Part III – NDT Inspection of the LH/RH MLG Shock Strut Lower Pin

A. Initial NDT

- a. For aeroplanes with a MLG shock strut lower pin that has accumulated less than 1200 FC as of the effective date of AD CF-2020-54R1, before reaching 1500 FC, perform the NDT of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.D. Part C of the Accomplishment Instructions of the applicable SB.
- b. For aeroplanes entering service after the effective date of AD CF-2020-54R1, before reaching 1500 FC, perform the NDT of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.D. Part C of the Accomplishment Instructions of the applicable SB.
- c. For aeroplanes with a MLG shock strut lower pin that has accumulated 1200 FC or more but less than 2000 FC as of the effective date of AD CF-2020-54R1, within 300 FC or prior to 2200 FC, whichever occurs first, perform the NDT of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.D. Part C of the Accomplishment Instructions of the applicable SB.
- d. For aeroplanes with a MLG shock strut lower pin that has accumulated 2000 FC or more as of the effective date of AD CF-2020-54R1, within 200 FC, perform the NDT of the LH and RH MLG shock strut lower pin in accordance with Paragraph 2.D. Part C of the Accomplishment Instructions of the applicable SB.

B. Repetitive NDT

Following completion of the Part III A of this AD, repeat the NDT of the LH and RH MLG shock strut lower pin at intervals not exceeding 900 FC, in accordance with Paragraph 2.D. Part C of the Accomplishment Instructions of the applicable SB.

If the accumulated FC of the MLG shock strut lower pin is not known, use the related MLG assembly accumulated FC to determine when the actions required by this AD need to be accomplished.

Part IV – Cracks or Damage Findings on the MLG Shock Strut Lower Pin

If, during any inspection required by this AD, any crack or damage of the MLG shock strut lower pin is detected, before further flight, replace the affected MLG shock strut lower pin with a new MLG shock strut lower pin in accordance with Paragraph 2.E. Part D of the Accomplishment Instructions of the applicable SB.

Table 1 – SB References

Aeroplane Model	SB Revision
CL-600-2B16 (CL-604)	SB 604-32-030, Basic Issue, dated 30 June 2020 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
CL-600-2B16 (CL-605)	SB 605-32-007, Basic Issue, dated 30 June 2020 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
CL-600-2B16 (CL-650)	SB 650-32-004, Basic Issue, dated 30 June 2020 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 23 December 2020

Contact:

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