



# 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-2021-22R1

**Effective Date:**

20 May 2022

**ATA:**

32

**Type Certificate:**

A-236

**Subject:**

Landing Gear – Main Landing Gear (MLG) Lower Spindle Pin Corrosion

**Revision:**

Supersedes AD CF-2021-22, issued 5 July 2021.

**Applicability:**

Airbus Canada Limited Partnership (formerly C Series Aircraft Limited Partnership, Bombardier Inc.) model BD-500-1A10 and BD-500-1A11 aeroplanes, all serial numbers.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

There have been several in-service findings of corrosion on the flange of the MLG lower spindle pin. An investigation revealed that micro-fretting of the anti-rotation washer at the spindle pin flange surface causes abrasion of the protective coating and leaves the flange area susceptible to corrosion.

The MLG lower spindle pin is a principal structural element (PSE). If the corrosion progresses from the flange to the adjacent radius area, it can lead to low cycle fatigue (LCF) cracking, failure of the MLG lower spindle pin, and collapse of the MLG.

In order to mitigate this unsafe condition, AD CF-2021-18 mandated initial and repetitive inspections of the MLG lower spindle pin to detect damage, and to repair or replace the MLG lower spindle pin if damage is found.

For the purposes of airworthiness monitoring and development of further corrective actions, operators are strongly encouraged to complete and return the Service Bulletin Findings Record as detailed in Airbus Canada Service Bulletin (SB) BD500-321003 after completing each inspection.

AD CF-2021-22 corrected an error in the time compliance requirements for the initial inspection in AD CF-2021-18. This AD revision extends the calendar-based time compliance for the Part I.B.1. initial inspection interval from 36 months to 48 months, based on the findings from AD CF-2021-22 accomplishments to date and additional analysis. This AD is considered interim action and further AD action may follow.

**Corrective Actions:**

**Part I – Initial Inspection**

Inspect and repair or replace, as applicable, the left and right MLG lower spindle pin in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 001, dated 13 April 2021, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, within the following compliance time:

- A. MLG having accumulated, as of 20 May 2021, the effective date of AD CF-2021-18, 5500 total flight cycles (FC) or more: within 6 months from 20 May 2021, the effective date of AD CF-2021-18.
- B. MLG having accumulated, as of 20 May 2021, the effective date of AD CF-2021-18, less than 5500 total FC, whichever occurs last:
  - 1. Whichever occurs first on the MLG: before accumulating 5500 total FC or within 48 months of entry into service; or
  - 2. Within 12 months from 20 May 2021, the effective date of AD CF-2021-18.

**Part II – Repeat Inspection**

Thereafter, at intervals of 3000 FC or 24 months, whichever occurs first, carry out repetitive inspections and repair or replacement, as applicable, of the left and right MLG lower spindle pin in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 001, dated 13 April 2021, 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 13 May 2022

**Contact:**

Barry Devereux, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail [TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca](mailto:TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca) or any Transport Canada Centre.