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-2023-66R1

Effective Date:

21 August 2025

ATA:

32

Type Certificate:

A-236

Subject:

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

Revision:

Supersedes AD CF-2023-66, issued 3 October 2023.

Applicability:

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

Model BD-500-1A10, serial numbers 50010 through 50018 and 50020 through 50067,

Model BD-500-1A11, serial numbers 55003 through 55016, 55018 through 55230, 55232, 55233, 55235, 55236, 55238, 55240, and 55242 through 55248.

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 was found. AD CF-2021-22 corrected an error in the time compliance requirements for the initial inspection in AD CF-2021-18. AD CF-2021-22R1 extended 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.

Following the release of AD CF-2021-22R1, ACLP published SB BD500-321003 Issue 004 which changed tracking of usage from the MLG to the MLG lower spindle assembly. TCCA issued Global AMOC AARDG-2023/A20 to allow this tracking method as an alternate means of compliance with AD CF-2021-22R1.

Subsequently, AD CF-2023-66 was issued to supersede AD CF-2021-22R1 and incorporate Global AMOC AARDG-2023/A20 to require tracking based on MLG lower spindle assembly usage for the initial and repetitive inspections. AD CF-2023-66 also mandated a terminating action requiring replacement of the MLG lower spindle assembly with a new MLG lower spindle assembly design and restricts reinstallation of the old design MLG lower spindle assembly once an aeroplane has incorporated the new design.

Since the issuance of AD CF-2023-66, a typographical error in the third paragraph of AD CF-2023-66 Part III has been discovered, identifying that part number 4115A0500-02 has been incorrectly stated as 415A0500-02. This AD revision, CF-2023-66R1, corrects this error and otherwise maintains the requirements of AD CF-2023-66.

Corrective Actions:

Part I – Initial Inspection

Inspect the left and right MLG lower spindle assembly part number (P/N) 4115A0500-01, 4115A0500-02 or 5965A0500-01 and repair or replace them, as applicable, in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 005, dated 31 July 2023, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, within the following compliance time:

A. MLG lower spindle assemblies having accumulated, as of the effective date of AD CF-2021-18 (20 May 2021), 5500 total flight cycles (FC) or more: within 6 months from the effective date of AD CF-2021-18 (20 May 2021).

B. MLG lower spindle assemblies having accumulated, as of the effective date of AD CF-2021-18 (20 May 2021), less than 5500 total FC, whichever occurs last:

    1. Whichever occurs first on the MLG lower spindle assembly: before accumulating 5500 total FC or within 48 months from entry into service; or

    2. Within 12 months from the effective date of AD CF-2021-18 (20 May 2021).

Initial inspections carried out before the effective date of AD CF-2023-66 (17 October 2023) in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 004 or earlier remain valid under Part I of this AD and are not required to be repeated. For the purposes of this AD, if the inspection was tracked based on MLG usage, it shall be considered that the inspection was performed on the MLG lower spindle assembly.

Part II – Repetitive Inspections

Thereafter, at intervals not to exceed 3000 FC or 24 months, whichever occurs first, carry out repetitive inspections of the left and right MLG lower spindle assembly P/N 4115A0500-01, 4115A0500-02 or 5965A0500-01 and repair or replace them, as applicable, in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 005, dated 31 July 2023, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Repetitive inspections carried out before the effective date of AD CF-2023-66 (17 October 2023) in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321003 Issue 004 or earlier remain valid under Part II of this AD and are not required to be repeated. For the purposes of this AD, if the inspection was tracked based on MLG usage, it shall be considered that the inspection was performed on the MLG lower spindle assembly.

Part III – Terminating Action

Before the MLG lower spindle assembly P/N 4115A0500-01, 4115A0500-02 or 5965A0500-01 has accumulated 25 000 FC or within 12 years from entry into service, whichever occurs first, remove the left and right MLG lower spindle assembly and replace with P/N 4115A0500-03 on model BD-500-1A10 aeroplanes, or P/N 5965A0500-02 on model BD-500-1A11 aeroplanes, in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321006 Issue 003, dated 05 April 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Accomplishment of Part III of this AD constitutes a terminating action to the initial and repetitive inspection requirements of Part I and Part II of this AD.

Once an aeroplane has installed the new design MLG lower spindle assembly P/N 4115A0500-03 or 5965A0500-02, the previous MLG lower spindle assemblies P/N 4115A0500-01, 4115A0500-02 and 5965A0500-01 are not eligible for installation as a replacement part on that aeroplane.

Replacement of the left and right MLG lower spindle assembly in accordance with the Accomplishment Instructions of Airbus Canada SB BD500-321006 Issue 001, dated 31 July 2023, or SB BD500-321006 Issue 002, dated 6 October 2023, prior to the effective date of this AD, also meets the requirements of Part III of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 7 August 2025

Contact:

William Humphries, Continuing Airworthiness, Ottawa, telephone 888-663-3639 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.