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-2022-13R1

Effective Date:

2 May 2023

ATA:

36

Type Certificate:

A-236

Subject:

Pneumatic – Non-Conforming Bleed Leak Detection System Sensing Elements

Revision:

Supersedes AD CF-2022-13, issued 28 March 2022.

Applicability:

Airbus Canada Limited Partnership (formerly C Series Aircraft Limited Partnership, Bombardier Inc.) aeroplanes:

Model BD-500-1A10, serial numbers 50001 and subsequent,

Model BD-500-1A11, serial numbers 55001 and subsequent.

Compliance:

As indicated below, unless already accomplished.

Background:

Airbus Canada Limited Partnership (ACLP) received disclosure letters from the supplier of overheat detection sensing elements which reported a manufacturing quality escape in which some sensing elements were manufactured with insufficient salt fill. As these sensing elements are used by the bleed air leak detection system for temperature detection in the event of a hot bleed air leak, this insufficient salt fill can result in an inability to detect hot bleed air leaks, which can cause damage to surrounding structures and systems that can prevent continued safe flight and landing.

To address this risk, ACLP released two service bulletins (SBs) to test all affected bleed leak detection system sensing elements, and to replace any sensing element that may have insufficient salt fill. To address this unsafe condition, AD CF-2022-13 required the actions specified in the SBs to be performed and included requirements for prohibiting installation of sensing elements that may have insufficient salt fill. The Transport Canada (TC) Master Minimum Equipment List (MMEL) for BD-500-1A10/-1A11 aeroplanes has been revised at Issue No. 014 to mitigate this unsafe condition.

After AD CF-2022-13 was issued, it was determined that there was an error in the affected part definition with respect to identifying parts that had been determined to be serviceable parts in accordance with the Kidde SB. This AD Revision corrects the error by aligning the affected part definition in this AD with Section 3.C. of the Kidde SB.

Corrective Actions:

For the purpose of this AD, the following definitions apply:

First SB: ACLP SB BD500-362002 Issue 001, dated 18 February 2022, or later revisions approved by the Chief, Continuing Airworthiness, TC.

Second SB: ACLP SB BD500-362003 Issue 001, dated 18 February 2022, or later revisions approved by the Chief, Continuing Airworthiness, TC.

Kidde SB: Kidde Aerospace and Defense SB CFD-26-1 Revision 6, dated 28 February 2022, or earlier revisions of this SB.

Affected part: A sensing element marked with a date code before A2105 and having a part number as defined in Kidde Aerospace and Defense SB CFD-26-1 Revision 6, dated 28 February 2022, unless that sensing element:

a. Has been tested in accordance with the Accomplishment Instructions (Section 3) of the Kidde SB and found to be serviceable; and

b. Has been marked on one face of its connector hex nut in accordance with Section 3.C. of the Accomplishment Instructions – Identification Procedure of the Kidde SB.

OR

c. Has been tested and found to be serviceable in accordance with Part III of this AD; and

d. Has been coloured with two green or two black witness marks on one face of its socket type connector and pin type connector hex nuts, as shown in Figure 5 of Appendix A of the first SB (figure is representative for all sensing elements).

Serviceable part: A sensing element that is not an affected part.

Group A aeroplanes: Model BD-500-1A10 aeroplanes having serial numbers 50001 through 50018, 50020 through 50059, and 50061, and model BD-500-1A11 aeroplanes having serial numbers 55001 through 55016, 55018 through 55088, 55090 through 55100, 55102, 55103, 55105, and 55109.

Group B aeroplanes: Model BD-500-1A10 aeroplanes having serial numbers 50019, 50060, and 50062 and subsequent, and model BD-500-1A11 aeroplanes having serial numbers 55017, 55089, 55101, 55104, 55106 through 55108, and 55110 and subsequent.

Part I – Parts Installation Prohibition – Applicable to Group B Aeroplanes

As of the 11 April 2022, the effective date of AD CF-2022-13, it is prohibited to install any sensing element associated with Part A through Part J of the first SB or Part A through Part C of the second SB unless it is a serviceable part.

Part II – Maintenance Program Verification and Rework – Applicable to Group B Aeroplanes Whose Aeroplane Date of Manufacture, as Identified on the Identification Plate of the Aeroplane, is On or Before the Effective Date of this AD

a. Within 30 days from 11 April 2022, the effective date of AD CF-2022-13, verify the aeroplane maintenance records to confirm if any affected part has been installed since the aeroplane date of manufacture, as identified on the identification plate of the aeroplane.

b. If the maintenance records verification confirms that an affected part has been installed, or if it cannot be confirmed that an affected part has not been installed, Part III of this AD must be complied with within the compliance time specified in Part III of this AD, for the Parts of the first SB and second SB that are applicable to the location of the replaced sensing element. Otherwise, Part III of this AD is not applicable.

Part III – Sensing Element Testing, Replacement, and Installation Prohibition – Applicable to All Group A Aeroplanes and Certain Group B Aeroplanes as Required by Part II of this AD

a. Within 2450 hours air time or 18 months from 11 April 2022, the effective date of AD CF-2022-13, whichever occurs later, test affected parts (sensing elements), replacing sensing elements that fail the test and marking those that pass the test with witness marks before further flight, in accordance with Part A through Part J of the first SB.

b. Within 9350 hours air time from 11 April 2022, the effective date of AD CF-2022-13, test affected parts (sensing elements), replacing sensing elements that fail the test and marking those that pass the test with witness marks before further flight, in accordance with Part A through Part C of the second SB.

c. Once an SB Part (Part A through Part J of the first SB or Part A through Part C of the second SB) has been completed, it is prohibited to install any sensing element associated with that SB Part unless it is a serviceable part.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 18 April 2023

Contact:

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