

Advisory Wire

REFERENCE NO: AW700-36-0825, Rev.3

ATA: 36-12

EFFECTIVITY: Global 7500

SUBJECT: **Kidde Bleed Leak Detection
Loops Notice of Escape**

1. REFERENCES:

- 1.1. Transport Canada (TC) Master Minimum Equipment List (M MEL) Global 7500 BD-700-2A12 Revision 4 dated 05/05/2022
- 1.2. Federal Aviation Administration (FAA) M MEL BD-700-2A12 (Global 7500) Revision 2 dated 06/20/2022
- 1.3. European Aviation Safety Agency (EASA) M MEL Global 7500 BD-700-1A12 Revision 3 dated 3/11/2019
- 1.4. Dispatch Deviation Guide (TC), Revision 7 dated Apr 26/2022
- 1.5. Dispatch Deviation Guide (FAA), Revision 3 dated Oct 21/2020
- 1.6. Dispatch Deviation Guide (EASA), Revision 6 dated Feb 07/2022
- 1.7. TC Airworthiness Directive CF-2022-36, Issued July 04/2022, [Airworthiness Directive CF-2022-36 Pneumatic – Non-Conforming Bleed Leak Detection System Sensing Elements \(tc.gc.ca\)](https://tc.gc.ca/Airworthiness-Directive-CF-2022-36-Pneumatic-Non-Conforming-Bleed-Leak-Detection-System-Sensing-Elements)
- 1.8. EASA Airworthiness Directive CF-2022-36 Issued July 05/2022, <https://ad.easa.europa.eu/ad/CF-2022-36>
- 1.9. Bombardier Service Bulletin (SB) 700-36-7503
- 1.10. TC Airworthiness Directive AD CF-2023-18 Issued March 09/2023, [Canadian AD CF-2023-18 \(casa.gov.au\)](https://casa.gov.au/Canadian-AD-CF-2023-18)
- 1.11. EASA Airworthiness Directive AD CF-2023-18 Issued March 16/2023, [EASA Safety Publications Tool \(europa.eu\)](https://easa.europa.eu/EASA-Safety-Publications-Tool)

2. INTRODUCTION

This Advisory Wire (AW) is to inform Operators about a potential non-conformance to specification with some bleed air Leak Detection Loop (LDL) elements.

Revision 3 of this AW is to inform operators that TC AD CF-2023-18 (Ref. 1.10) and EASA AD CF-2023-18 (Ref. 1.11) have been released and supersede TC AD CF-2202-36 (Ref 1.7) and EASA AD CF-2022-36 (Ref 1.8) respectively.

Customer Services

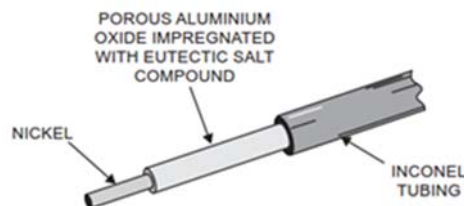
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3. DESCRIPTION:

Bombardier was notified of a potential defect affecting LDL elements manufactured by Kidde Aerospace & Defense, Collins Aerospace (Kidde). Approximately 1-2% of the LDL elements produced by Kidde since 2004 are non-conforming.

This non-conformance impacts all aircraft Original Equipment Manufacturers (OEMs) that have Kidde LDL elements installed. Although, all Global 7500 aircraft may be impacted by this issue, no in-service events related to the defect have been reported on the BD-700-2A12 fleet to date. Following the notification by the supplier, Bombardier has ensured that aircraft 70097 and subs had conforming LDL elements. However, some operators may have unknowingly installed faulty LDL elements after delivery.

LDL elements contain thermo-resistive eutectic salt compounds embedded between an inner conductor and an outer casing. A local temperature increase causes the salt compound to become conductive resulting in a resistance drop between the inner conductor and outer casing which subsequently sets off the appropriate cockpit warnings.



Due to a manufacturing process error, some LDL elements may not be fully filled with eutectic salt compound and this would result in the LDL elements being unable to detect a hot bleed air leakage.

Throughout the Global 7500 bleed air systems, LDL elements are installed in redundant pairs along the lengths of the ducts. One element is monitored by the Integrated Air System Controller 1 (IASC 1) while the other one is monitored by the IASC 2. Both LDL elements in the pair need to detect a leak in order to get the caution CAS messages R BLEED LEAK, L BLEED LEAK, TRIM AIR LEAK or WING A/ICE LEAK. If only one LDL element detects a leak, it will be considered faulty and this will result in the following associated INFO message ONE ELEMENT INOP being posted.

MMEL Item	INFO CAS Message
21-0425	21 AIR COND / PRESS - TRIM LOOP ONE ELEMENT INOP
30-0055	30 ICE PROT - L WING LOOP ONE ELEMENT INOP
30-0060	30 ICE PROT - L WIPS LOOP ONE ELEMENT INOP
30-0090	30 ICE PROT - R WING LOOP ONE ELEMENT INOP
30-0095	30 ICE PROT - R WIPS LOOP ONE ELEMENT INOP
36-0050	36 BLEED - L BLEED LOOP ONE ELEMENT INOP

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M MEL Item	INFO CAS Message
36-0105	36 BLEED - R BLEED LOOP ONE ELEMENT INOP

With the INFO message ONE ELEMENT INOP posted, the Master Minimum Equipment List (MMEL) (Ref. 1.1 to 1.3) allows dispatch provided the instructions in the Dispatch Deviation Guide (DDG) (Ref. 1.4 to 1.6) are followed. The TCCA and EASA DDG (ref 1.4 and 1.6) instructions have been updated to confirm if there is presence of a faulty LDL element (shorted or open element) or if there is an actual duct leak in the presence of a non-conforming (lack of eutectic salt) LDL element.

The new TC and EASA ADs (ref 1.10 and 1.11) still require operators of aircraft 70097 and subsequent to check their records within 60 days of the superseded ADs (Ref 1.7 and 1.8) effective date (July 18, 2022) to confirm if any affected parts were installed on the aircraft. If after delivery, an LDL element that has a date code prior to A2105 has been installed, there should be a black or green marking on its hex nut to indicate that it has been retested and is conforming. LDL elements prior to date code A2105 without these markings shall be considered defective.

According to the new ADs (ref 1.10 and 1.11) Operators of aircraft with LDL elements prior to date code A2105 without markings and aircraft 70005 to 70096 have 90 days after the superseded ADs (Ref 1.7 and 1.8) effective date (July 18, 2022) to follow the same dispatch instructions in the ADs and in the updated DDG (ref 1.4 and 1.6) for a ONE ELEMENT INOP info message.

Subsequent to the TC and EASA ADs, we expect the release of a forthcoming FAA AD accompanied by an updated FAA DDG (ref 1.5).

4. ACTION:

Bombardier recommends operators to familiarize themselves with the content of this AW and the and the new ADs (Ref. 1.10 and 1.11)

It is very important that operators follow the specific instructions in the DDG (Ref. 1.4 and 1.6) when dispatching the aircraft with any ONE ELEMENT INOP INFO message posted. The modified steps in the DDG are required to confirm that the message is not related to an air leak event that could result in subsequent damage the aircraft.

Bombardier has released a SB (Ref. 1.9) to test and replace any defective LDL elements on the affected aircraft. These SBs are mandated by the ADs (Ref. 1.10 and 1.11) within 3500 flight-hours or 120 months, whichever comes first, from the AD effective date of March 23, 2023. It is recommended, when possible, that the incorporation of the SB be planned during a scheduled maintenance event as described in the SB.

Bombardier will continuously update this AW as new information becomes available.

Should you have any questions pertaining to this AW or require additional information, please contact your Bombardier Field Service Representative (FSR) or the Customer Response Center (CRC 24/7) team.