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-2023-17

Effective Date:

22 March 2023

ATA:

36

Type Certificate:

A-177

Subject:

Pneumatic – Non-Conforming Bleed Air Leak Detection System Sensing Elements

Replacement:

Supersedes AD CF-2022-38R1, issued 10 August 2022.

Applicability:

Bombardier Inc. model BD-700-1A10 and BD-700-1A11 aeroplanes, serial numbers 9002 through 9879, 9998 and 60001 and subsequent.

Compliance:

As indicated below, unless already accomplished.

Background:

Bombardier Inc. (BA) 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 mitigate this unsafe condition, AD CF-2022-38 prohibited installation of any sensing element that may have insufficient salt fill and required operators to operate their aeroplanes in a manner that will prevent an aeroplane dispatching with an active bleed air leak.

After AD CF-2022-38 was issued, it was discovered that there was a typographical error in the table under the Master Minimum Equipment List (MMEL) Item 36-12-01-2 in Part III of AD CF-2022-38. AD CF-2022-38R1 corrected this error and otherwise maintained the requirements of AD CF-2022-38.

Since AD CF-2022-38R1 was issued, it was discovered that aeroplane serial numbers 60048, 60050 and 60052 had affected parts installed during production at certain locations. Therefore, these aircraft have been re-identified as Group D aeroplanes.

Since AD CF-2022-38R1 was issued, BA released service bulletins (SBs) that test affected overheat detection sensing elements for insufficient salt fill and require the replacement of discrepant sensing elements with serviceable parts. This AD mandates incorporation of these BA SBs to restore bleed air leak detection capabilities and supersedes the requirements of AD CF-2022-38R1 in consideration of these BA SBs.

Corrective Actions:

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

Applicable BA SB: Bombardier SB for the corresponding aeroplane model and marketing designation as identified in Table 1 below.

LTS SB: Liebherr-Aerospace Toulouse SAS (LTS) SB CFD-F1958-26-01, as referenced in Section 1.K. of the applicable BA SB.

Kidde SB: Kidde Aerospace and Defense SB CFD-26-1, as referenced in Section 1.K. of the applicable BA SB, or earlier revisions of the Kidde SB.

Affected part: A sensing element marked with a date code A0448 through A2104 (inclusive) and having an LTS or Kidde part number as defined in the LTS SB, 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 IV of this AD; and

d. Has been marked with one (1) green mark on one (1) face of one (1) connector hex nut, in accordance with Figure 4 in the Accomplishment Instructions of the applicable BA SB.

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

Group A aeroplanes: Model BD-700-1A10 and model BD-700-1A11 aeroplanes having serial numbers 9002 through 9151, and 9153. Group A aeroplanes did not have affected parts installed during manufacturing but may have had affected parts installed after delivery.

Group B aeroplanes: Model BD-700-1A10 and model BD-700-1A11 aeroplanes having serial numbers 9152, 9154 through 9879, 9998 and 60001 through 60041, 60043 through 60045, and 60051. Group B aeroplanes had affected parts installed during manufacturing.

Group C aeroplanes: Model BD-700-1A10 and model BD-700-1A11 aeroplanes having serial numbers 60042, 60046, 60047, 60049, and 60053 and subsequent. Group C aeroplanes did not have affected parts installed during manufacturing but may have had affected parts installed after delivery.

Group D aeroplanes: Model BD-700-1A10 and model BD-700-1A11 aeroplanes having serial numbers 60048, 60050, and 60052. Group D aeroplanes had affected parts installed during manufacturing at certain locations and additionally may have had affected parts installed after delivery.

Part I – Parts Installation Prohibition – Applicable to Group A, B, C, and D Aeroplanes

As of the effective date of AD CF-2022-38 (27 July 2022), it is prohibited to install any affected part unless it is a serviceable part.

Part II – Maintenance Program Verification and Rework – Applicable to Group A, C and D Aeroplanes Whose Aeroplane Date of Manufacture is On or Before the Effective Date of AD CF-2022-38 (27 July 2022)

A. Within 60 days from the effective date of AD CF-2022-38 (27 July 2022), 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 or within the aeroplane log book.

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, then for each location at which an affected part is or may have been installed:

a. Part III of this AD must be complied with; and

b. Part IV of this AD must be complied with.

C. For Group A and C aeroplanes, if the maintenance records confirm that no affected parts have been installed since aeroplane date of manufacture, then Part III and Part IV of this AD are not applicable.

Part III – MMEL Operational Restrictions – Applicable to All Group B and D Aeroplanes and to Certain Group A, C and D Aeroplanes as Required by Part II of this AD

A. As of 90 days after the effective date of AD CF-2022-38 (27 July 2022), it is prohibited to dispatch an aeroplane under MMEL item 36-12-01, MMEL item 36-12-01-1, and MMEL item 36-12-01-2 and under MMEL Crew Alerting System (CAS) Indications L BLEED FAULT, R BLEED FAULT, WING A/ICE FAULT, and TRIM AIR FAULT, unless the aeroplane is operated in accordance with the dispatch instructions contained in Appendix A of this AD.

B. For Group D aeroplanes, for locations having affected sensing elements installed during

manufacturing as identified by the applicable BA SB, compliance with the above MMEL dispatch prohibition is required within 90 days from the effective date of this AD.

C. Part III of this AD is not applicable to aeroplanes that have completed Part IV of this AD.

Part IV – Testing and Replacement of Affected Overheat Detection Sensing Elements – Applicable to All Group B and D Aeroplanes and to Group A, C and D Aeroplanes as Required by Part II of this AD

A. For Group B and D aeroplanes: Within 2000 hours air time or 120 months, whichever occurs first, from the effective date of this AD, test affected overheat detection sensing elements for insufficient salt fill in accordance with the applicable BA SB.

B. For Group A, C and D aeroplanes at locations as identified by the maintenance records check carried out under Part II of this AD: Within 2000 hours air time or 120 months, whichever occurs first, from the effective date of this AD, test affected overheat detection sensing elements for insufficient salt fill in accordance with the applicable BA SB.

C. For each sensing element that meets the PASS criteria of the applicable BA SB, before further flight, mark the sensing element with a witness mark in accordance with the Accomplishment Instructions of the applicable BA SB.

D. For each sensing element that meets the FAIL criteria of the applicable BA SB, before further flight, replace the sensing element with a serviceable part in accordance with the Accomplishment Instructions of the applicable BA SB.

Table 1

Aeroplane Model (Marketing Designation)	**Applicable BA SB**
BD-700-1A10 (Global Express & Global Express XRS)	SB 700-36-026 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada
BD-700-1A11 (Global 5000)	SB 700-1A11-36-005 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada
BD-700-1A11 (Global 5000 featuring Global Vision Flight Deck)	SB 700-36-5002 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada
BD-700-1A10 (Global 6000)	SB 700-36-6002 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada
BD-700-1A11 (Global 5500)	SB 700-36-5501 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada
BD-700-1A10 (Global 6500)	SB 700-36-6501 Basic Issue, dated 23 December 2022, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada

Appendix A

MMEL Item 36-12-01

1. System & Sequence No Item No de système/série article	2. Number Installed Nombre d'article installés	3. Number Required For Dispatch Nombre d'articles à expédier	4. Remarks or Exceptions
36 - PNEUMATICS 12-01 Bleed Leak Detection Loops C	18	9	(O) Either loop A or loop B may be inoperative provided redundant loop in the same zone is operative.

1. PLACARD

   (1) Put a BLEED LEAK DETECTION LOOPS INOPERATIVE placard on the instrument panel.

2. OPERATIONS (O)

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.
2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.
3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory L BLEED FAULT or R BLEED FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory L BLEED FAULT or R BLEED FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory L BLEED FAULT or R BLEED FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory L BLEED FAULT or R BLEED FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

MMEL Item 36-12-01-1

1. System & Sequence No Item No de système/série article	2. Number Installed Nombre d'article installés	3. Number Required For Dispatch Nombre d'articles à expédier	4. Remarks or Exceptions
36 - PNEUMATICS			
12-01 Bleed Leak Detection Loops C	18	9	(O) Either loop A or loop B may be inoperative provided redundant loop in the same zone is operative.
1) Wing Anti-Ice Leak C	12	6	(M) (O) One loop in each section may be inoperative provided: a) Power-up BIT test is performed on system prior to each dispatch into icing, and b) Cause of WING ANTI-ICE FAULT Advisory message is confirmed by maintenance.

1. PLACARD

(1) Put a WING ANTI-ICE LEAK INOPERATIVE placard on the instrument panel.

2. OPERATIONS (O)

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.

2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.

3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory WING A/ICE FAULT shows, DISPATCH IS PERMITTED unless step (2) of the Maintenance (M) procedure under (3) below does not pass, in which case DISPATCH IS NOT PERMITTED.

Note: If the Advisory WING A/ICE FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory WING A/ICE FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory WING A/ICE FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

3. MAINTENANCE (M)

The requirement to perform this section is conditional on (1)(c)(i) under the Operations (O) procedure above.

(1) Power-up BIT test is performed on system prior to each dispatch into icing.

(2) The cause of the WING ANTI-ICE FAULT Advisory message is to be confirmed by maintenance personnel to make sure that no section has encountered a dual loop failure.

MMEL Item 36-12-01-2

1. System & Sequence No Item **No de système/série article**	**2. Number Installed** **Nombre d'article installés**	**3. Number Required For Dispatch** **Nombre d'articles à expédier**	**4. Remarks or Exceptions**
36 - PNEUMATICS			
12-01 Bleed Leak Detection Loops C	18	9	(O) Either loop A or loop B may be inoperative provided redundant loop in the same zone is operative.
…			…
2) Trim Air Leak C	2	1	(O) Except for ER operations, one loop may be inoperative.

1. PLACARD

(1) Put a TRIM AIR LEAK INOPERATIVE placard on the instrument panel.

2. OPERATIONS (O)

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.

2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.
3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory TRIM AIR FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory TRIM AIR FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory TRIM AIR FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory TRIM AIR FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

L BLEED FAULT

CAS Indication	**1.**	**2.**	**Dispatch Consideration**
L BLEED FAULT (Advisory)	C	(O)	Aircraft may be dispatched provided, prior to each flight: a) None of the following messages are also posted: – R BLEED SYS FAIL Caution; – R WING ANTI-ICE FAIL Caution; – XBLEED FAIL Caution; – R BLEED FAULT Advisory; – WING ANTI-ICE FAULT Advisory; b) Left PRV and left HPSOV open and close correctly in response to L BLEED OFF switch selection, as indicated on Synoptic Page; c) Left HPSOV is open at engine idle and closed at high thrust settings, as indicated on Synoptic Page; d) WING XBLEED FROM R is selected and remains open; and e) Operations are not conducted in known or forecast icing conditions.

1. <u>OPERATIONS (O)</u>

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.
2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.
3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory L BLEED FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory L BLEED FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory L BLEED FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory L BLEED FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

2. OPERATIONS (O)

All aircraft, before each flight and after engine start:

(1) On the EICAS primary display, make sure that the messages that follow do not show:

– R BLEED SYS FAIL (Caution)
– R WING ANTI-ICE FAIL (Caution)
– XBLEED FAIL (Caution)
– R BLEED FAULT (Advisory)
– WING ANTI-ICE FAULT (Advisory)

(2) Make sure that the left Pressure Regulator Valve (PRV) and left High Pressure Shut Off Valve (HPSOV) open and close as follows:

a. On the BLEED/AIR COND control panel, set the L ENG BLEED switch to OFF.

b. On the BLEED/ANTI-ICE synoptic page, make sure that the left PRV and left HPSOV show closed.

c. On the BLEED/AIR COND control panel, set the L ENG BLEED switch to AUTO.

d. On the BLEED/ANTI-ICE synoptic page, make sure that the left PRV and left HPSOV show open.

(3) Make sure that the left High Pressure Shut Off Valve (HPSOV) switching operates as follows:

a. Slowly advance the left throttle to high thrust setting.

b. On the BLEED/ANTI-ICE synoptic page, make sure that the left HPSOV shows closed.

c. Slowly retard the left throttle to engine idle.

d. On the BLEED/ANTI-ICE synoptic page, make sure that the left HPSOV shows open.

(4) On the ANTI-ICE control panel, set the WING XBLEED to FROM R for the rest of the flight.

(5) Operations are not conducted in known or forecast icing conditions.

R BLEED FAULT

CAS Indication	1.	2.	Dispatch Consideration
R BLEED FAULT (Advisory)	C	(O)	Aircraft may be dispatched provided, prior to each flight: a) None of the following messages are also posted: – L BLEED SYS FAIL Caution; – L WING ANTI-ICE FAIL Caution; – XBLEED FAIL Caution; – L BLEED FAULT Advisory; – WING ANTI-ICE FAULT Advisory; b) Right PRV and right HPSOV open and close correctly in response to R BLEED OFF switch selection, as indicated on Synoptic Page; c) Right HPSOV is open at engine idle and closed at high thrust settings, as indicated on Synoptic Page; d) WING XBLEED FROM L is selected and remains open; and e) Operations are not conducted in known or forecast icing conditions.

1. OPERATIONS (O)

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.

2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.

3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory R BLEED FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory R BLEED FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory R BLEED FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory R BLEED FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

2. OPERATIONS (O)

All aircraft, before each flight and after engine start:

(1) On the EICAS primary display, make sure that the messages that follow do not show:

– L BLEED SYS FAIL (Caution)
– L WING ANTI-ICE FAIL (Caution)
– XBLEED FAIL (Caution)
– L BLEED FAULT (Advisory)
– WING ANTI-ICE FAULT (Advisory)

(2) Make sure that the right Pressure Regulator Valve (PRV) and right High Pressure Shut Off Valve (HPSOV) open and close as follows:

a. On the BLEED/AIR COND control panel, set the R ENG BLEED switch to OFF.

b. On the BLEED/ANTI-ICE synoptic page, make sure that the right PRV and right HPSOV show closed.

c. On the BLEED/AIR COND control panel, set the R ENG BLEED switch to AUTO.

d. On the BLEED/ANTI-ICE synoptic page, make sure that the right PRV and right HPSOV show open.

(3) Make sure that the right High Pressure Shut Off Valve (HPSOV) switching operates as follows:

a. Slowly advance the right throttle to high thrust setting.

b. On the BLEED/ANTI-ICE synoptic page, make sure that the right HPSOV shows closed.

c. Slowly retard the right throttle to engine idle.

d. On the BLEED/ANTI-ICE synoptic page, make sure that the right HPSOV shows open.

(4) On the ANTI-ICE control panel, set the WING XBLEED to FROM L for the rest of the flight.

(5) Operations are not conducted in known or forecast icing conditions.

WING A/ICE FAULT

CAS Indication	**1.**	**2.**	**Dispatch Consideration**
WING A/ICE FAULT (Advisory)	C	(O)	Aircraft may be dispatched provided, prior to each departure: a) Flight is not conducted in known or forecast icing conditions; b) A power-up test is performed by cycling WING A/ICE switch from OFF to ON; and c) None of the following CAS messages are also posted: – ICE DETECT FAIL Caution; – L BLEED SYS FAIL Caution; – R BLEED SYS FAIL Caution; – ICE DETECT FAULT Advisory; – L BLEED FAULT Advisory; – R BLEED FAULT Advisory.

1. <u>OPERATIONS (O)</u>

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.

2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.

3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory WING A/ICE FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory WING A/ICE FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory WING A/ICE FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory WING A/ICE FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

2. OPERATIONS (O)

All aircraft, before each flight and after engine start:

(1) Perform a power-up test as follows:

a. On the ANTI-ICE control panel, cycle the WING switch from OFF to ON.

b. On the EICAS primary display, make sure that the following CAS status message is shown:

– WING A/ICE ON

c. On the EICAS primary display, make sure that the following CAS messages are not shown:

– L WING A/ICE FAIL (Caution)
– R WING A/ICE FAIL (Caution)

(2) On the EICAS primary display, make sure that the following CAS messages are not shown:

– ICE DETECT FAIL (Caution)
– L BLEED SYS FAIL (Caution)
– R BLEED SYS FAIL (Caution)
– ICE DETECT FAULT (Advisory)
– L BLEED FAULT (Advisory)
– R BLEED FAULT (Advisory)

(3) Operations are not conducted in known or forecast icing conditions.

TRIM AIR FAULT

CAS Indication	**1.**	**2.**	**Dispatch Consideration**
TRIM AIR FAULT (Advisory)	C	(O)	Aircraft may be dispatched provided: a) Duct temperature indications are operative for all three ducts; b) Either HASOV showing incorrect indication on Synoptic page is verified CLOSED; and c) L PACK FAIL or R PACK FAIL Caution messages are not displayed.

1. OPERATIONS (O)

Before each flight:

(1) Make sure that the aeroplane is not powered on and that engines and APU are OFF.

a. Connect electrical power to the aeroplane as follows:

Note: Do not use a Jet Airstart Cart or High Pressure Ground Cart.

i. Connect external AC power, OR

ii. Start the APU as follows:

1. On the ELECTRICAL control panel, set the BATT MASTER switch to ON.
2. On the BLEED/AIR COND control panel, make sure that the APU BLEED switch is set to OFF.
3. On the APU control panel, turn the APU switch to START.

b. When external AC power is on or APU is running, wait a minimum of 6 minutes.

c. After 6 minutes, make sure that the EICAS primary display shows as follows:

i. If the Advisory TRIM AIR FAULT shows, DISPATCH IS PERMITTED.

Note: If the Advisory TRIM AIR FAULT shows, it confirms it is not heat related and therefore cannot be a potential leak in the presence of an affected part.

ii. If the Advisory TRIM AIR FAULT does not show, DISPATCH IS NOT PERMITTED.

Note: If the Advisory TRIM AIR FAULT does not show, it confirms that it is heat related and therefore could be a potential leak in the presence of an affected part.

d. If required, remove external AC power from the aeroplane.

e. If required, set APU BLEED to AUTO.

2. OPERATIONS (O)

All aircraft, before each flight and after engine or APU start:

(1) On the AIR CONDITIONING synoptic page, make sure that the duct temperature indications are operative for all three ducts.

(2) Make sure that either HASOV that shows incorrect indication on the AIR CONDITIONING synoptic page is verified CLOSED as follows:

a. On the BLEED/AIR COND control panel, alternate the TRIM AIR switch from ON to OFF to ON.

b. At the same time, on the AIR CONDITIONING synoptic page, identify the HASOV that shows incorrect indication.

c. In the flight compartment, on the EMS CDU, open the applicable circuit breaker as follows:

SYSTEM NAME	CIRCUIT BREAKER NAME	BUS NAME
AIR COND/PRESS	L ECS HASOV	DC ESS
AIR COND/PRESS	R ECS HASOV	DC ESS

d. In the aft equipment compartment, make sure that any identified HASOV is in the CLOSED position.

(3) On the EICAS primary display, make sure that the following CAS messages are not shown:

– L PACK FAIL (Caution)
– R PACK FAIL (Caution)

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 8 March 2023

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