[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1474; Project Identifier MCAI-2022-00888-T]

RIN 2120-AA64

Airworthiness Directives; MHI RJ Aviation ULC (Type Certificate Previously Held by Bombardier, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain MHI RJ Aviation ULC Model CL-600-2B19 (Regional Jet Series 100 & 440), CL-600-2C10 (Regional Jet Series 700, 701 & 702), CL-600-2C11 (Regional Jet Series 550), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. This proposed AD was prompted by reports from the supplier that sensing elements of the bleed air leak detection system were manufactured with insufficient salt fill, which can result in an inability to detect hot bleed air leaks. This proposed AD would require testing of all affected overheat detection sensing elements of the bleed air leak detection system, and replacement if necessary. This proposed AD would also prohibit the installation of affected parts. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2022-1474; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

• For service information identified in this NPRM, contact MHI RJ Aviation Group, Customer Response Center, 3655 Ave. des Grandes-Tourelles, Suite 110, Boisbriand, Québec J7H 0E2 Canada; North America toll-free telephone 833-990-7272 or direct-dial telephone 450-990-7272; fax 514-855-8501; email thd.crj@mhirj.com; website mhirj.com.

• You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

FOR FURTHER INFORMATION CONTACT: Thomas Niczky, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2022-1474; Project Identifier MCAI-2022-00888-T" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Thomas Niczky, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO

Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; email 9-avs-nyaco-cos@faa.gov.

Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2022-16R1, dated July 5, 2022 (TCCA AD CF-2022-16R1) (also referred to after this as the MCAI), to correct an unsafe condition on Model CL-600-2B19 (Regional Jet Series 100 & 440), CL-600-2C10 (Regional Jet Series 700, 701 & 702), CL-600-2C11 (Regional Jet Series 550), CL-600-2D15 (Regional Jet Series 705), CL-600-2D24 (Regional Jet Series 900), and CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states that MHI RJ Aviation ULC received reports from the supplier of the overheat detection sensing elements of a manufacturing quality escape. Some of the sensing elements of the bleed air leak detection system were manufactured with insufficient salt fill, which can result in an inability to detect hot bleed air leaks and cause damage to surrounding structures and systems that can prevent continued safe flight and landing.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2022-1474.

Related Service Information under 1 CFR Part 51

The FAA reviewed MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022; including Appendix A, Revision B, dated March 14, 2022; and MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022; including Appendix A, Revision B, dated Mar 14, 2022; Appendix B, dated October 21, 2021; and Appendix C, dated March 14, 2022. This service information specifies procedures for testing affected bleed air leak detection system sensing elements (i.e., those marked with a date code

before “A2105” (which corresponds to January 31, 2021), with a part number defined in this service information) to determine if they are serviceable, and replacing failed sensing elements with serviceable ones. This service information also allows deferring the replacement of an affected part under certain conditions and allows operating the airplane with certain deactivated defective sensing elements. These documents are distinct since they apply to different airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA’s Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information described above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would require accomplishing the actions specified in the service information already described. This proposed AD would also prohibit the installation of affected parts.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 1,126 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Model	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Model CL-600-2B19 (526 airplanes)	29 work hours X $85 per hour = $2,465	$0	$2,465	$1,296,590
Model CL-600-2C10 and CL-600-2C11, CL-600-2D15 and CL-600-2D24, and CL-600-2E25 (600 airplanes)	82 work hours X $85 per hour = $6,970	$0	$6,970	$4,182,000

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated costs of on-condition actions

Model/serial numbers (S/Ns)	Labor cost	Parts cost	Cost per product
CL-600-2B19, S/Ns 7002–7323	Up to 26 work-hours X $85 per hour = $2,210	Up to $113,200	Up to $115,410
CL-600-2B19, S/Ns 7324–8113	Up to 24 work-hours X $85 per hour = $2,040	Up to $100,598	Up to $102,638
CL-600-2C10 and CL-600-2C11, S/Ns 10002–10347	Up to 54 work-hours X $85 per hour = $4,590	Up to $70,758	Up to $75,348
CL-600-2D15 and CL-600-2D24, S/Ns 15001–15494	Up to 58 work-hours X $85 per hour = $4,930	Up to $74,598	Up to $79,528
CL-600-2E25, S/Ns 19001–19064	Up to 62 work-hours X $85 per hour = $5,270	Up to $81,478	Up to $86,748

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

MHI RJ Aviation ULC (Type Certificate Previously Held by Bombardier, Inc.):

Docket No. FAA-2022-1474; Project Identifier MCAI-2022-00888-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to MHI RJ Aviation ULC airplanes, certificated in any category, and identified in paragraphs (c)(1) through (4) of this AD.

(1) Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, serial numbers 7002 through 7990 inclusive, and 8000 through 8113 inclusive.

(2) Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) and CL-600-2C11 (Regional Jet Series 550) airplanes, serial numbers 10002 through 10347 inclusive.

(3) Model CL-600-2D15 (Regional Jet Series 705) and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 through 15494 inclusive.

(4) Model CL-600-2E25 (Regional Jet Series 1000), serial numbers 19001 through 19064 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 36, Pneumatic.

(e) Unsafe Condition

This AD was prompted by reports that sensing elements of the bleed air leak detection system were manufactured with insufficient salt fill. The FAA is issuing this AD to address insufficient salt fill, which 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.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Definitions

For the purposes of this AD, the definitions specified in paragraphs (g)(1) through (4) apply.

(1) Group 1 airplanes: The airplanes identified in paragraph (c)(1) of this AD.

(2) Group 2 airplanes: The airplanes identified in paragraphs (c)(2) through (4) of this AD.

(3) Affected part: A sensing element marked with a date code before A2105 and having a part number as defined in Section 1, Paragraph G(1), of MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022, for Group 1 airplanes, and in Appendix B, dated October 21, 2021, of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, for Group 2 airplanes, unless the sensing element has been tested and found to be serviceable in accordance with paragraphs (g)(3)(i) and (ii) or paragraph (h) of this AD.

(i) Has been tested in accordance with Section 3 of the Accomplishment Instructions of Kidde Aerospace and Defense Service Bulletin CFD-26-5 and found to be serviceable; and

(ii) Has been marked on one face of its connector hex nut and is packaged in accordance with Section 3.C. of the Accomplishment Instructions – Identification Procedure of the Kidde Aerospace and Defense Service Bulletin CFD-26-5.

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

(h) Testing

Perform a test of the bleed air leak detection system sensing elements to determine if they are serviceable, in accordance with Section 2, Part A through Part F, of the Accomplishment Instructions of MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022, for Group 1 airplanes; and Section 2, Part A through Part M, of the Accomplishment Instructions of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, for Group 2 airplanes; within the applicable compliance time indicated in figure 1 to paragraph (h) of this AD.

Figure 1 to paragraph (h) – *Compliance time*

Airplanes	Applicable Service Bulletin Accomplishment Instructions	Compliance Time
Group 1	MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022, Part D	Within 4,400 flight hours or 24 months, whichever occurs first, after the effective date of this AD.
	MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022, Part A, Part B, Part C, Part E, and Part F	Within 6,600 flight hours or 36 months, whichever occurs first, after the effective date of this AD.
Group 2	MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, Part K	Within 8,400 flight hours or 48 months, whichever occurs first, after the effective date of this AD.
	MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, Part A, Part B, Part C, Part D, Part E, Part F, Part G, Part H, Part I, Part J, Part L, and Part M	Within 2,200 flight hours or 18 months, whichever occurs first, after the effective date of this AD.

(i) Replacement

(1) For Group 1 airplanes: If any sensing element is found not serviceable during the tests required by paragraph (h) of this AD, before further flight, replace the sensing element with a serviceable part in accordance with Section 2, Part A through Part F, as applicable, of the Accomplishment Instructions of MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022.

(2) For Group 2 airplanes: If any sensing element is found not serviceable during the tests required by paragraph (h) of this AD, before further flight, unless deferred in accordance with paragraph (j) of this AD, replace the sensing element with a serviceable part in accordance with Section 2, Part A through Part M, as applicable, of the Accomplishment Instructions of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022.

(j) Deferred Replacement for Group 2 Airplanes

The replacement of an affected part with a serviceable part for Group 2 airplanes, as required by paragraph (i)(2) of this AD, may be deferred up to a maximum of 10 days under the conditions specified in paragraphs (j)(1) or (2) of this AD.

(1) A single bleed air leak detection loop (loop A or loop B) sensing element for a given Part (Part A through Part M of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022) is found not serviceable, provided that the conditions specified in paragraphs (j)(1)(i) through (iv) of this AD have been satisfied.

(i) The remaining operative bleed air leak detection loop (loop A or loop B) sensing elements have been tested and found to be serviceable in accordance with paragraph (h) of this AD.

(ii) The applicable maintenance procedures of Appendix C, dated March 14, 2022, of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, to deactivate the defective sensing element are accomplished prior to operation of the

airplane with the defective sensing element inoperative.

(iii) A placard has been installed on the BLEED AIR control panel in accordance with Section 2, Part A through Part M, as applicable, of the Accomplishment Instructions of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022.

(iv) All flightcrew have been advised that the airplane is dispatched with one out of two bleed air leak detection loops inoperative.

(2) Both bleed air leak detection loop A and loop B sensing elements for a given part (Part A through Part M of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022) are found not serviceable, provided that the conditions specified in paragraphs (j)(2)(i) through (iv) of this AD have been satisfied.

(i) The applicable maintenance procedures of Appendix C, dated March 14, 2022, of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, to deactivate the defective sensing elements are accomplished prior to operation of the airplane with the defective sensing elements inoperative.

(ii) The applicable instructions and limitations of the operator's existing FAA-approved Minimum Equipment List (MEL) item 36-21-06, sub-item 1, 2, or 3, as applicable, in accordance with Section 2, Part A through Part M, of the Accomplishment Instructions of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022, are accomplished prior to operation of the airplane with the defective sensing elements inoperative.

(iii) A placard has been installed on the BLEED AIR control panel in accordance with Section 2, Part A through Part M, as applicable, of the Accomplishment Instructions of MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022.

(iv) All flightcrew have been advised that the airplane is dispatched with both bleed air leak detection loops inoperative.

(k) Parts Installation Prohibition

As of the effective date of this AD, no person may install an affected part on any airplane.

(l) Credit for Previous Actions

This paragraph provides credit for actions required by paragraphs (h), (i), and (j) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (l)(1) and (2) of this AD. For performing the actions specified in the service information for the Group 1 airplanes: If the sensing element was found not serviceable, replacement is required before further flight; deferred replacement of an affected part is prohibited. For performing the actions specified in the service information for the Group 2 airplanes: If the sensing element was found not serviceable, deferred replacement of the affected part is acceptable, as specified in paragraph (j) of this AD.

(1) For Group 1 airplanes:

(i) MHI RJ Service Bulletin 601R-36-021, dated July 5, 2021.

(ii) MHI RJ Service Bulletin 601R-36-021, Revision A, dated October 21, 2021.

(iii) MHI RJ Service Bulletin 601R-36-021, Revision B, dated December 2, 2021.

(iv) MHI RJ Service Bulletin 601R-36-021, Revision C, dated March 14, 2022.

(2) For Group 2 airplanes:

(i) MHI RJ Service Bulletin 670BA-36-025, dated July 5, 2021.

(ii) MHI RJ Service Bulletin 670BA-36-025, Revision A, dated October 21, 2021.

(iii) MHI RJ Service Bulletin 670BA-36-025, Revision B, dated March 14, 2022.

(m) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs):* The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the

procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the New York ACO Branch, mail it to ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (n)(2) of this AD or email to: 9-avs-nyaco-cos@faa.gov. If mailing information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or MHI RJ Aviation ULC's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(n) Additional Information

(1) Refer to Transport Canada Civil Aviation (TCCA) AD CF-2022-16R1, dated July 5, 2022, for related information. This TCCA AD may be found in the AD docket at regulations.gov under Docket No. FAA-2022-1474.

(2) For more information about this AD, contact Thomas Niczky, Aerospace Engineer, Avionics & Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; email 9-avs-nyaco-cos@faa.gov.

(o) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) MHI RJ Service Bulletin 601R-36-021, Revision D, dated May 25, 2022.

(ii) MHI RJ Service Bulletin 670BA-36-025, Revision C, dated May 25, 2022.

(3) For service information identified in this AD, contact MHI RJ Aviation Group, Customer Response Center, 3655 Ave. des Grandes-Tourelles, Suite 110, Boisbriand, Québec J7H 0E2 Canada; North America toll-free telephone 833-990-7272 or direct-dial telephone 450-990-7272; fax 514-855-8501; email thd.crj@mhirj.com; website mhirj.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on November 9, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.
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