**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2023-0025; Project Identifier MCAI-2022-00804-T; Amendment 39-22479; AD 2023-12-20]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc., Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. This AD was prompted by reports of oxygen leaks caused by cracked, brittle, or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. This AD requires replacing oxygen system hoses having any part number in the O2C20T1 and O2C20T14 series. This AD also prohibits installation of affected oxygen hoses. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket*: You may examine the AD docket at regulations.gov under Docket No. FAA-2023-0025; 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 final rule, the mandatory continuing

airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference*:

• For service information identified in this final rule, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website bombardier.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. It is also available at regulations.gov under Docket No. FAA-2023-0025.

**FOR FURTHER INFORMATION CONTACT:** Elizabeth Dowling, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes. The NPRM published in the *Federal Register* on January 30, 2023 (88 FR 5819). The NPRM was prompted by AD CF-2022-34, dated June 20, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states oxygen leaks were caused by cracked, brittle, or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. A leak in the oxygen system may result in failure to provide oxygen to passengers and crew and result in an oxygen-enriched atmosphere creating a fire risk on the airplane. See the MCAI for additional background information.

In the NPRM, the FAA proposed to require replacing oxygen system hoses having any part number in the O2C20T1 and O2C20T14 series and to prohibit installation of affected oxygen hoses. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2023-0025.

**Discussion of Final Airworthiness Directive**

**Comments**

The FAA received comments from one commenter, NetJets. The following presents the comments received on the NPRM and the FAA's response to each comment.

**Request to Correct Reference to Test**

The commenter noted that paragraph (h)(2) of the proposed AD referenced a test specified in paragraph (h)(2) of the proposed AD, but the test was specified in paragraph (h)(1) of the proposed AD. The commenter suggested the FAA revise paragraph (h)(2) of the proposed AD to read, "If, during a test specified in paragraph (h)(1) of this AD…."

The FAA agrees and has revised paragraph (h)(2) of this AD.

**Request to Revise Compliance Time**

The commenter stated that the compliance time specified in paragraph (g)(2) of the proposed AD, which reads, "For airplanes having, as of the effective date of this AD, more than 6 years from the completion of the interior modification specified in STC T02355NY: Within 7 months after the effective date of this AD," does not consider the current supply chain issues and may cause undue hardship for owners/operators with multiple aircraft in its fleet. The commenter suggested that if parts are not available at the replacement time specified, there should be an alternative method to extend the replacement time for those aircraft.

The FAA disagrees. The FAA determined that the compliance time in paragraph (g)(2) of this AD allows ample time to obtain replacement parts. The FAA has not changed this AD as a result of this comment.

**Conclusion**

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 referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

**Related Service Information under 1 CFR Part 51**

The FAA reviewed Bombardier Service Bulletin 605-35-006, Revision 01, dated January 28, 2022. This service information specifies procedures for replacing oxygen system hoses having any part number in the O2C20T1 and O2C20T14 series.

The FAA also reviewed Bombardier Service Bulletin 650-35-002, Revision 01, dated January 28, 2022. This service information specifies procedures for replacing oxygen system hoses having any part number in the O2C20T1 series. This service information also specifies optional mitigating actions for certain airplanes (repetitive testing until affected parts are replaced).

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.

**Costs of Compliance**

The FAA estimates that this AD affects 42 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

**Estimated costs for required actions**

| Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|---|---|---|---|
| 3 work-hours X $85 per hour = $255 | $100 | $355 | $14,910 |

**Estimated costs for optional actions**

| Labor cost | Parts cost | Cost per product |
|---|---|---|
| 1 work-hour X $85 per hour = $85 | $0 | $85 |

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

**Estimated costs of on-condition actions**

| Labor cost | Parts cost | Cost per product |
|---|---|---|
| 3 work-hours X $85 per hour = $255 | $100 | $355 |

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this 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**

This AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

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

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

(3) Will 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 Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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:

**2023-12-20 Bombardier, Inc.:** Amendment 39-22479; Docket No. FAA-2023-0025; Project Identifier MCAI-2022-00804-T.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE

OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model CL-600-2B16 (604 Variant) airplanes, certificated in any category, serial numbers 5701 through 5990 inclusive, and 6050 through 6162 inclusive, with an interior modified in accordance with Supplemental Type Certificate (STC) ST02355NY.

**(d) Subject**

Air Transport Association (ATA) of America Code 35, Oxygen.

**(e) Unsafe Condition**

This AD was prompted by reports of oxygen leaks caused by cracked, brittle, or broken oxygen hoses that were found during scheduled maintenance tests of the airplane oxygen system. The FAA is issuing this AD to address a leak in the oxygen system. The unsafe condition, if not addressed, could result in failure to provide oxygen to passengers and crew and result in an oxygen-enriched atmosphere creating a fire risk on the airplane.

**(f) Compliance**

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

**(g) Replacement**

At the applicable compliance times specified in paragraphs (g)(1) and (2) of this AD: Replace oxygen system hoses having any part number in the O2C20T1 series, and, as applicable, the O2C20T14 series, in accordance with the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD.

(1) For airplanes having, as of the effective date of this AD, 6 years or less from the completion of the interior modification specified in STC ST02355NY: Within 31 months after

the effective date of this AD, or no later than 12 months after the completion of the interior modification specified in STC ST02355NY, whichever occurs first.

(2) For airplanes having, as of the effective date of this AD, more than 6 years from the completion of the interior modification specified in STC T02355NY: Within 7 months after the effective date of this AD.

**Figure 1 to paragraph (g) –** *Service Information*

| **Bombardier Airplane Model–** | **Bombardier Service Bulletin–** |
|---|---|
| CL-600-2B16 (604 Variant) Challenger 605 | 605-35-006, Revision 01, dated January 28, 2022 |
| CL-600-2B16 (604 Variant) Challenger 650 | 650-35-002, Revision 01, dated January 28, 2022 |

**(h) Optional Mitigation for Certain Airplanes**

For airplanes identified in Bombardier Service Bulletin 650-35-002, Revision 01, dated January 28, 2022, having, as of the effective date of this AD, less than 6 years from the completion of the interior modification specified in STC ST02355NY: In lieu of accomplishing the oxygen system hose replacement required by paragraph (g) of this AD, comply with all conditions specified in paragraphs (h)(1) through (3) of this AD.

(1) The passenger oxygen system is tested within 6 months after the effective date of this AD, and thereafter at intervals not to exceed 36 months, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 650-35-002, Revision 01, dated January 28, 2022.

(2) If, during a test specified in paragraph (h)(1) of this AD, any leak is found on any hose, all oxygen system hoses having a part number in the O2C20T1 series must be replaced before further flight in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 650-35-002, Revision 01, dated January 28, 2022. Doing this replacement terminates the tests specified in paragraph (h)(1) of this AD.

(3) Except as specified by paragraph (h)(2) of this AD, all oxygen system hoses having a part number in the O2C20T1 series must be replaced within 6 years from the completion of the interior modification specified in STC ST02355NY. Doing this replacement terminates the tests specified in paragraph (h)(1) of this AD.

**(i) Parts Installation Prohibition**

As of the effective date of this AD, no person may install any oxygen system hose having a part number in the O2C20T1 and O2C20T14 series on any airplane.

**(j) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 605-35-006, dated August 23, 2021; or Bombardier Service Bulletin 650-35-002, dated August 23, 2021; as applicable.

(2) This paragraph provides credit for actions specified in paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 650-35-002, dated August 23, 2021.

**(k) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs):* The Manager, International Validation 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 International Validation Branch, mail it to ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (l)(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, International Validation Branch, FAA; or Transport Canada; or Bombardier, Inc.'s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(l) Additional Information**

(1) Refer to Transport Canada AD CF-2022-34, dated June 20, 2022, for related information. This Transport Canada AD may be found in the AD docket at regulations.gov under Docket No. FAA-2023-0025.

(2) For more information about this AD, contact Elizabeth Dowling, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(4) and (5) of this AD

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference 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) Bombardier Service Bulletin 605-35-006, Revision 01, dated January 28, 2022.

(ii) Bombardier Service Bulletin 650-35-002, Revision 01, dated January 28, 2022.

(3) For service information identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website bombardier.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 June 28, 2023.

Michael Linegang, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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