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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2016-5459; Directorate Identifier 2015-NM-148-AD; Amendment 39-18597; AD 2016-15-06]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model BD-700-1A10 and BD-700-1A11 airplanes. This AD was prompted by a design review, which found that the burst pressure of the flexible hose used to vent oxygen from the high-pressure relief valve of the oxygen cylinder overboard is lower than the opening pressure of the high-pressure relief valve. This AD requires replacement of flexible relief hoses for the crew oxygen bottles with new metal design relief hoses. We are issuing this AD to prevent the accumulation of excess oxygen in an enclosed space, which could, if near a source of ignition, cause an uncontrolled oxygen-fed fire.

**DATES:** This AD is effective September 8, 2016.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 8, 2016.

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5459.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5459; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD,

the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Fabio Buttitta, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7303; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We 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 BD-700-1A10 and BD-700-1A11 airplanes. The NPRM published in the Federal Register on April 12, 2016 (81 FR 21491) ("the NPRM"). The NPRM was prompted by a design review, which found that the burst pressure of the flexible hose used to vent oxygen from the high-pressure relief valve of the oxygen cylinder overboard is lower than the opening pressure of the high-pressure relief valve. This pressure difference could cause the flexible hose to burst before it is able to vent excess oxygen overboard. The NPRM proposed to require replacement of flexible relief hoses for the crew oxygen bottles with new metal design relief hoses. We are issuing this AD to prevent the accumulation of excess oxygen in an enclosed space, which could, if near a source of ignition, cause an uncontrolled oxygen-fed fire.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2015-25, dated September 10, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc. Model BD-700-1A10 and BD-700-1A11 airplanes. The MCAI states:

A design review found that the burst pressure of the flexible hose used to vent oxygen from the high-pressure relief valve of the oxygen cylinder overboard is lower than the opening pressure of the high-pressure relief valve. This could cause the flexible hose to burst before it is able to vent the excess oxygen overboard. If an ignition source is present, the accumulation of oxygen in an enclosed space may result in an uncontrolled oxygen-fed fire.

This [Canadian] AD mandates the replacement of the oxygen [flexible] hose assembly with a new design oxygen [metal] hose assembly.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5459.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public. We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## Related Service Information Under 1 CFR Part 51

Bombardier, Inc. has issued the following service information:

- Service Bulletin 700-35-013, Revision 01, dated July 22, 2015.
- Service Bulletin 700-35-5001, Revision 01, dated July 22, 2015;
- Service Bulletin 700-35-6001, Revision 01, dated July 22, 2015; and
- Service Bulletin 700-1A11-35-012, Revision 01, dated July 22, 2015.

The service information describes procedures to replace the flexible oxygen hoses with metal hoses. 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

We estimate that this AD affects 73 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Modification	3 work-hours × \$85 per hour = \$255	\$14,483	\$14,738	\$1,075,874

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

## 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.

We are 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

We determined that 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. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and

4. 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.

**Adoption of 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 (AD):



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**2016-15-06 Bombardier, Inc.:** Amendment 39-18597; Docket No. FAA-2016-5459; Directorate Identifier 2015-NM-148-AD.

**(a) Effective Date**

This AD is effective September 8, 2016.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, having serial numbers (S/Ns) 9002 through 9704 inclusive, and 9998.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by a design review, which found that the burst pressure of the flexible hose used to vent oxygen from the high-pressure relief valve of the oxygen cylinder overboard is lower than the opening pressure of the high-pressure relief valve. This pressure difference could cause the flexible hose to burst before it is able to vent excess oxygen overboard. We are issuing this AD to prevent the accumulation of excess oxygen in an enclosed space, which could, if near a source of ignition, cause an uncontrolled oxygen-fed fire.

**(f) Compliance**

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

**(g) Modification**

Within 2,500 flight hours or 42 months, whichever occurs first, after the effective date of this AD, incorporate Bombardier Modsum R700T400542 by replacing the oxygen flexible relief hoses for the crew oxygen bottles with new metal design hoses, in accordance with the Accomplishment Instructions of the applicable service information specified in paragraphs (g)(1) through (g)(4) of this AD. Airplanes with serial numbers listed in table 1 of paragraph 1, "Planning information," of the service information specified in paragraphs (g)(2) and (g)(4) of this AD have incorporated Modsum R700T400542 and meet the requirements of this paragraph.

(1) For Model BD-700-1A10 airplanes having S/Ns 9002 through 9312 inclusive, 9314 through 9380 inclusive, and 9384 through 9429 inclusive: Bombardier Service Bulletin 700-35-013, Revision 01, dated July 22, 2015.

(2) For Model BD-700-1A10 airplanes having S/Ns 9313, 9381, and 9432 through 9704 inclusive: Bombardier Service Bulletin 700-35-6001, Revision 01, dated July 22, 2015.

(3) For Model BD-700-1A11 airplanes having S/Ns 9127 through 9383 inclusive, 9389 through 9400 inclusive, 9404 through 9431 inclusive, and 9998: Bombardier Service Bulletin 700-1A11-35-012, Revision 01, dated July 22, 2015.

(4) For Model BD-700-1A11 airplanes having S/Ns 9386, 9401, and 9445 through 9702 inclusive: Bombardier Service Bulletin 700-35-5001, Revision 01, dated July 22, 2015.

#### **(h) Parts Installation Prohibition**

As of the effective date of this AD, no person may install on any airplane oxygen hoses in the low-pressure/high-pressure discharge system with part numbers listed in the "Used Part No." column of Section 3.A, "Kit," of the applicable service information specified in paragraphs (g)(1) through (g)(4) of this AD.

#### **(i) Credit for Previous Actions**

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 the applicable service information identified in paragraphs (i)(1) through (i)(4) of this AD, which are not incorporated by reference in this AD.

- (1) Bombardier Service Bulletin 700-35-013, dated February 20, 2015;
- (2) Bombardier Service Bulletin 700-35-5001, dated February 20, 2015;
- (3) Bombardier Service Bulletin 700-35-6001, dated February 20, 2015; and
- (4) Bombardier Service Bulletin 700-1A11-35-012, dated February 20, 2015.

#### **(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), ANE-170, 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 local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

#### **(k) Related Information**

Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2015-25, dated September 10, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5459.

## **(I) 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) Bombardier, Inc. Service Bulletin 700-35-013, Revision 01, dated July 22, 2015.

(ii) Bombardier, Inc. Service Bulletin 700-35-5001, Revision 01, dated July 22, 2015.

(iii) Bombardier Service Bulletin 700-35-6001, Revision 01, dated July 22, 2015.

(iv) Bombardier Service Bulletin 700-1A11-35-012, Revision 01, dated July 22, 2015.

(3) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 21, 2016.

Michael Kaszycki,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.