[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-0827; Directorate Identifier 2014-NM-008-AD]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 2011-07-10, for certain Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes.
AD 2011-07-10 currently requires revising the Airworthiness Limitations section of the Instructions for Continued Airworthiness; doing detailed visual inspections; removing discrepant material; cleaning the surfaces of the valves, the plug of the sensing port, and the cabin pressure-sensing port plug; securing the insulation; installing a new safety valve, and replacing certain cabin pressure-sensing port plugs. Since we issued AD 2011-07-10, we have received reports of in-flight loss of cabin pressurization that was attributed to partial blockage of a safety valve cabin pressure-sensing port in conjunction with a failed safety valve manometric capsule. This proposed AD would retain all requirements of AD 2011-07-10. This proposed AD would also require a detailed visual inspection of both safety valves and the surrounding area for foreign

material, room temperature vulcanizing (RTV) silicone, contamination, foam on the bulkhead structure, tape or insulation, and loose material; and corrective actions if necessary. We are proposing this AD to detect and correct blockage of a safety valve cabin pressure-sensing port, which could result in loss of cabin pressure.

DATES: We 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 by any of the following methods:

- Federal eRulemaking Portal: Go to http://www.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: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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; 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.

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-2015-0827; 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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Luke Walker, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, NY Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7363; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2015-0827; Directorate Identifier 2014-NM-008-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On March 21, 2011, we issued AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011). AD 2011-07-10 requires actions intended to address an unsafe condition on certain Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes. AD 2011-07-10 superseded AD 2010-10-18, Amendment 39 16297 (75 FR 27406, May 17, 2010).

Since we issued AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), we have received reports of in-flight loss of cabin pressurization that were attributed to partial blockage of a safety valve cabin pressure-sensing port in conjunction with a failed safety valve manometric capsule.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2010-06R1, dated August 8, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

> Investigation of a high altitude loss of cabin pressurization on a BD-100-1A10 aeroplane determined that it was caused by a partial blockage of a safety valve cabin pressure-sensing port, in conjunction with a dormant failure/leakage of the safety valve manometric capsule. The blockage, caused by accumulation of lint/dust on the grid of the port plug, did not allow sufficient airflow through the cabin pressure-sensing port to compensate for the rate of

> leakage from the manometric capsule, resulting in the opening of the safety valve. It was also determined that failure of the manometric capsule alone would not result in the opening of the safety valve.
>
> The original issue of this [Canadian] AD mandated a revision of the maintenance schedule, the cleaning of the safety valves, the removal of material from the area surrounding the safety valves and the modification of the safety valves with a gridless cabin pressure-sensing port plug.
>
> Since the original issue of this [Canadian] AD, there have been two additional reported events of in-flight loss of cabin pressurization that were attributed to partial blockage of a safety valve cabin pressure-sensing port in conjunction with a failed safety valve manometric capsule.
>
> Bombardier Aerospace has determined that aeroplanes with a particular interior installation require improved instructions to clean the safety valves and their surrounding area. In addition, Aircraft Maintenance Manual tasks have been updated to ensure that inspection of the safety valves and their surrounding is carried out after any maintenance action.
>
> Revision 1 of this [Canadian] AD is issued to mandate inspection and cleaning of the safety valves and their surrounding area on the affected aeroplanes.

Corrective actions include removing foreign material, cleaning surfaces of the safety valve and bulkhead, installing a new safety valve, removing loose tape, and trimming insulation. 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-2015-0827.

Related Service Information under 1 CFR part 51

Bombardier has issued Service Bulletin 100-25-21, Revision 02, dated July 25, 2013. The service information describes procedures for a detailed visual inspection of both safety valves and the surrounding area for foreign material, RTV silicone, contamination, foam on the bulkhead structure, tape or insulation, and loose material, and applicable corrective actions. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI. This service information is reasonably available; see ADDRESSES for ways to access this service information.

FAA's Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

This AD requires revisions to certain operator maintenance documents to include new actions (e.g., inspections). Compliance with these actions is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (n)(1) of this AD. The request should include a description of changes to the

required inspections that will ensure the continued operational safety of the airplane.

Costs of Compliance

We estimate that this proposed AD affects 67 airplanes of U.S. registry.

The actions required by AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), and retained in this proposed AD take about 10 work-hours per product, at an average labor rate of $85 per work-hour. Required parts cost $0 per product. Based on these figures, the estimated cost of the actions that were required by AD 2011-07-10 is $850 per product.

We also estimate that it would take about 4 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is $85 per work-hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be $22,780, or $340 per product.

According to the manufacturer, all of the costs of this proposed 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 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. 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.

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 removing Airworthiness Directives (AD) 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), and adding the following new AD:

Bombardier, Inc.: Docket No. FAA-2015-0827; Directorate Identifier 2014-NM-008-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011).

(c) Applicability

This AD applies to Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes, certificated in any category, serial numbers 20001 through 20274.

(d) Subject

Air Transport Association (ATA) of America Code 25, Equipment/Furnishings.

(e) Reason

This AD was prompted by reports of in-flight loss of cabin pressurization that were attributed to partial blockage of a safety valve cabin pressure-sensing port in conjunction with a failed safety valve manometric capsule. We are issuing this AD to detect and correct blockage of a safety valve cabin pressure-sensing port, which could result in loss of cabin pressure.

(f) Compliance

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

(g) Retained Revision

This paragraph restates the requirements of paragraph (g) of AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), with no changes. For all airplanes: Within 30 days after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010)), revise the Airworthiness Limitations section of the Instructions for Continued Airworthiness by incorporating Tasks 21-31-09-101 and 21-31-09-102 in the Bombardier Temporary Revision (TR) 5-2-53, dated October 1, 2009, to Section 5-10-40, "Certification Maintenance Requirements," in Part 2 of Chapter 5 of Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks.

(1) For the new tasks identified in Bombardier TR 5-2-53, dated October 1, 2009: For airplanes identified in the "Phase-in" section of Bombardier TR 5-2-53, dated

October 1, 2009, the initial compliance with the new tasks must be carried out in accordance with the phase-in schedule detailed in Bombardier TR 5-2-53, dated October 1, 2009, except where that TR specifies a compliance time from the date of the TR, this AD requires compliance within the specified time after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010)). Thereafter, except as provided by paragraph (n)(1) of this AD, no alternative to the task intervals may be used.

(2) When information in Bombardier TR 5-2-53, dated October 1, 2009, has been included in the general revisions of the applicable Airworthiness Limitations section, that TR may be removed from that Airworthiness Limitations section of the Instructions for Continued Airworthiness.

(h) Retained Inspection, Removal, Cleaning, and Installation

This paragraph restates the requirements of paragraph (h) of AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), with certain clarified compliance times. For airplanes having S/Ns 20003 through 20173 inclusive, 20176, and 20177: Within 50 flight hours after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010)), do a detailed visual inspection of the safety valves and surrounding areas for discrepant material (e.g., foreign material surrounding the safety valves, room temperature vulcanizing (RTV) sealant on safety valves, RTV excess on the bulkhead, tape near the safety valve opening, and, on certain airplanes, insulation near the safety valve opening, and foam in the area surrounding the safety valves) and a detailed visual inspection for contamination (e.g., RTV, dust, or lint)

in the safety valve pressure ports, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128, 20134, 20139, 20143, 20146, 20148 through 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 to 20133 inclusive, 20135 to 20138 inclusive, 20140 through 20142 inclusive, 20144, 20145, and 20147).

(1) If any discrepant material is found during the detailed visual inspection, before further flight, remove the discrepant material, clean the surfaces of the valves, and secure the insulation, as applicable, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128, 20134, 20139, 20143, 20146, 20148 through 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 through 20133 inclusive, 20135 through 20138 inclusive, 20140 through 20142 inclusive, 20144, 20145, and 20147).

(2) If contamination (e.g., RTV, dust, or lint) is found on the safety valve pressure sensing ports, before further flight, do a detailed visual inspection of the outside and inside diameters of the pressure sensing port conduit for the presence of RTV; and before further flight do the actions specified in paragraph (h)(2)(i) and (h)(2)(ii) of this AD, as applicable; in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128,

20134, 20139, 20143, 20146, 20148 through 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 through 20133 inclusive, 20135 through 20138 inclusive, 20140 through 20142 inclusive, 20144, 20145, and 20147).

(i) If no RTV is found, clean the plug of the sensing port.

(ii) If any RTV is found, install a new safety valve.

(i) Retained Cleaning for Certain Airplanes

This paragraph restates the requirements of paragraph (i) of AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), with no changes. For airplanes having S/Ns 20174, 20175, 20178 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through 20251 inclusive, 20254, 20256 and 20259: Within 50 flight hours after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010)), clean the cabin pressure-sensing port plug in both safety valves, in accordance with Paragraph 2.B., "Part A - Modification – Cleaning," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009.

(j) Retained Cleaning for Certain Other Airplanes

This paragraph restates the requirements of paragraph (j) of AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), with no changes. For airplanes having S/Ns 20003 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through

20251 inclusive, 20254, 20256, and 20259: Within 50 flight hours after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010)), clean the cabin pressure-sensing port plug in both safety valves, in accordance with Paragraph 2.B., "Part A - Modification – Cleaning," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009. Repeat the cleaning thereafter at intervals not to exceed 50 flight hours until the actions specified by paragraph (k) of this AD are completed.

(k) Retained Replacement

This paragraph restates the requirements of paragraph (k) of AD 2011-07-10, Amendment 39-16647 (76 FR 17758, March 31, 2011), with no changes. For airplanes having S/Ns 20003 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through 20251 inclusive, 20254, 20256, and 20259: Within 12 months after May 5, 2011 (the effective date of AD 2011-07-10), replace the cabin pressure-sensing port plug having part number (P/N) 2844-060 in both safety valves with a new gridless plug having P/N 2844-19 and re-identify the safety valves, in accordance with Paragraph 2.C., "Part B – Modification – Replacement," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009. Doing the actions in paragraph (k) of this AD terminates the repetitive cleanings required by paragraph (j) of this AD.

(l) New Requirement of this AD: Inspection and Cleaning

For airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 through 20133 inclusive, 20135 through 20138 inclusive, 20140 through 20142 inclusive,

20144, 20145, and 20147: Within 500 flight hours or 15 months after the effective date of this AD, whichever occurs first, do a detailed visual inspection of both safety valves and the surrounding area for foreign material, RTV silicone, contamination, foam on the bulkhead structure, tape or insulation, and loose material, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-21, Revision 02, dated July 25, 2013. Do all applicable corrective actions before further flight, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-21, Revision 02, dated July 25, 2013.

(m) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (l) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 100-25-21, Revision 01, dated February 26, 2013, which is not incorporated by reference in this AD.

(n) 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 New York 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: As of the effective date of this AD, 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.

(o) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2010-06R1, dated August 8, 2013, 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-2015-0827.

(2) 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; Internet http://www.bombardier.com. 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.

Issued in Renton, Washington, on April 6, 2015.

John P. Piccola, Jr.,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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