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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2013-0705; Directorate Identifier 2013-NM-052-AD; Amendment 39-17742; AD 2014-03-05]**

**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 airplanes. This AD was prompted by a report that the manufacturer has determined that some completion centers used the heater/brake monitoring unit (HBMU) logic circuit to control the line voltage of the drain mast heaters. Since the drain mast heaters are connected in parallel with the number 2 pitot static (PS) probe heater circuit, a number 2 PS probe heater failure may not be detected by the fault monitoring capabilities of the HBMU. This AD requires modification of the air data probes and sensors. We are issuing this AD to detect and correct an unannounced failure of two PS probe heaters, which could affect controllability of the airplane in icing conditions.

**DATES:** This AD becomes effective April 1, 2014.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 1, 2014.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2013-0705>; or in person at the 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.

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>. 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.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7301; 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 airplanes. The NPRM published in the Federal Register on September 11, 2013 (78 FR 55660). The NPRM was prompted by a report that the manufacturer has determined that some completion centers used the heater/brake monitoring unit (HBMU) logic circuit to control the line voltage of the drain mast heaters. Since the drain mast heaters are connected in parallel with the number 2 pitot static (PS) probe heater circuit, a number 2 PS probe heater failure may not be detected by the fault monitoring capabilities of the HBMU. The NPRM proposed to require modification of the air data probes and sensors. We are issuing this AD to detect and correct an unannounced failure of two PS probe heaters, which could affect controllability of the airplane in icing conditions.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-32, dated December 13, 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:

The aeroplane manufacturer has determined that some completion centers used the Heater/Brake Monitoring Unit (HBMU) logic circuit to control the line voltage of the drain mast heaters. This same logic circuit is also used to control the line voltage of the number 2 pitot static (PS) probe heater. Since the drain mast heaters are connected in parallel with the number 2 PS probe heater circuit, a number 2 PS probe heater failure may not be detected by the fault monitoring capabilities of the HBMU.

The unannounced failure of two PS probe heaters could adversely affect the aeroplane's flight characteristics in icing conditions.

This [Canadian] AD mandates a modification to the existing drain mast heater wiring to correct the fault-monitoring capabilities of the HBMU and eliminate the potential dormant failure of the number 2 PS probe heater.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0705-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (78 FR 55660, September 11, 2013) or on the determination of the cost to the public.

### **Conclusion**

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 (78 FR 55660, September 11, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 55660, September 11, 2013).

### Costs of Compliance

We estimate that this AD affects 32 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	35 work-hours × \$85 per hour =	\$0	\$2,975	\$95,200

### 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.

### Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2013-0705>; 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 Operations office (telephone (800) 647-5527) is in the ADDRESSES section.

## **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 AD:



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**2014-03-05 Bombardier, Inc.:** Amendment 39-17742. Docket No. FAA-2013-0705; Directorate Identifier 2013-NM-052-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective April 1, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

(1) This AD applies to Bombardier, Inc. Model BD-700-1A10 airplanes, certificated in any category, equipped with any electrical wiring heater current/brake temperature monitor unit (HBMU) installed in accordance with any FAA supplemental type certificate specified in table 1 of paragraph 1.A., "Effectivity," of Bombardier Service Bulletin 700-30-021, Revision 01, dated November 21, 2012.

(2) For airplanes on which the applicable service request for product support action (SRPSA) specified in table 3 and table 4 of paragraph 1.A., "Effectivity," of Bombardier Service Bulletin 700-30-021, Revision 01, dated November 21, 2012, has been incorporated, the requirements of this AD have been met.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice and Rain Protection.

**(e) Reason**

This AD was prompted by a report that the manufacturer has determined that some completion centers used the HBMU logic circuit to control the line voltage of the drain mast heaters. This same logic circuit is also used to control the line voltage of the number 2 pitot static (PS) probe heater. Since the drain mast heaters are connected in parallel with the number 2 PS probe heater circuit, a number 2 PS probe heater failure may not be detected by the fault monitoring capabilities of the HBMU. We are issuing this AD to detect and correct an unannounced failure of two PS probe heaters, which could affect controllability of the airplane in icing conditions.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Modification**

Within 800 flight hours or 15 months after the effective date of this AD, whichever occurs first: Modify the air data probes and sensors, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 700-30-021, Revision 01, dated November 21, 2012.

**(h) 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 Bombardier Service Bulletin 700-30-021, dated August 28, 2012, which is not incorporated by reference in this AD.

**(i) 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) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(j) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2012-32, dated December 13, 2012, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0705-0002>.

(2) Service information identified in this AD that is not incorporated by reference may be viewed at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

**(k) 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 Service Bulletin 700-30-021, Revision 01, dated November 21, 2012.

(ii) Reserved.

(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 January 22, 2014.  
Jeffrey E. Duven,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.