



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2018-0553; Product Identifier 2017-NM-138-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 adopt an airworthiness directive (AD) for certain Bombardier, Inc., Model DHC-8-102, -103, and -106 airplanes, Model DHC-8-200 series airplanes, and Model DHC-8-300 series airplanes. This proposed AD was prompted by reports of arcing and smoke emanating from the windshield, caused by loose or damaged windshield heater terminal lugs. This proposed AD would require revising the maintenance or inspection program to incorporate maintenance review board (MRB) tasks for general visual inspections of the windshield moisture seal. This proposed AD would also require re-torquing the windshield heater terminal lugs, applying a coating to the windshield heater screw heads, doing a chemical cleaning of the wiring and components, doing a visual inspection of the wiring and components, doing an operational test of the pilot's and co-pilot's windshield heating system, and repair if necessary. We are proposing this AD to address the unsafe condition on these products.

**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, using the procedures found in 14 CFR 11.43 and 11.45, 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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

### **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-2018-0553; 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 NPRM, 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:** Assata Dessaline, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7301; fax 516-794-5531.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2018-0553; Product Identifier 2017-NM-138-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM 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 NPRM.

## **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2017-25, dated July 31, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model DHC-8-102, -103, and -106 airplanes, Model DHC-8-200 series airplanes, and Model DHC-8-300 series airplanes.

The MCAI states:

There have been several reports of arcing and smoke emanating from the windshields. Investigation of these incidents revealed that de-icing fluid and water could enter between the windshields and side window posts, leading to possible damage of the windshield heater terminal lugs creating arcing and smoke. In addition, investigation also revealed that the windshield heater terminal lugs tend to loosen over time. Loose terminal lugs could also have a similar effect of arcing and smoke. Both events could lead to burning of the lugs and, due to the excessive heat, cracking of the windshields. If not corrected, these conditions could cause a loss of cabin pressure resulting in an emergency descent.

Required actions include revising the maintenance or inspection program, as applicable, to incorporate MRB tasks for general visual inspections of the windshield moisture seal (for signs of cracking, erosion, wear, or other damage), re-torquing the windshield heater terminal lugs, applying sealant to the windshield heater screw heads, doing a chemical cleaning of the wiring and components, doing a general visual inspection of the wiring and components for signs of cracking, erosion, wear, or other damage, doing an operational test of the pilot’s and co-pilot’s windshield heating system, and repair if necessary.

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-2018-0553.

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

Bombardier has issued Service Bulletin 8-30-41, Revision A, dated March 24, 2017. This service information describes procedures for re-torquing the windshield heater terminal lugs and applying Humisel coating to the screw heads of the windshield heater, doing a chemical cleaning and general visual inspection of the wiring and components, and doing an operational test of the windshield heating system.

Bombardier has also issued the following service information, which describes airworthiness limitation tasks for a general visual inspection of the windshield moisture seal. These documents are distinct since they apply to different airplane models.

- de Havilland Dash 8 Series 100 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated August 5, 2017.

- de Havilland Dash 8 Series 200 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated August 5, 2017.

- de Havilland Dash 8 Series 300 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated March 15, 2017.

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 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.

**Differences Between this Proposed AD and the MCAI or Service Information**

The MCAI calls for revising the maintenance or inspection program, as applicable, by incorporating certain temporary revisions (TRs) into the Program Support Manual (PSM). This proposed AD instead calls for incorporating certain task cards into the PSM. We have determined that these task cards address the unsafe condition in the same manner that the TRs would.

**Costs of Compliance**

We estimate that this proposed AD affects 63 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

**Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
3 work-hours X \$85 per hour = \$255	\$0	\$255	\$16,065

We have also determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes

1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

### **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.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive

Director has delegated the authority to issue ADs applicable to transport category airplanes to the Director of the System Oversight Division.

### **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 adding the following new airworthiness directive (AD):

**Bombardier, Inc.:** Docket No. FAA-2018-0553; Product Identifier 2017-NM-138-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**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc., Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, certificated in any category, serial numbers 003 through 672 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 30, Ice and rain protection.

**(e) Reason**

This AD was prompted by reports of arcing and smoke emanating from the windshield, caused by loose or damaged windshield heater terminal lugs. We are issuing this AD to address loose terminal lugs and terminal lugs damaged due to fluid ingress between the windshields and side window posts, which could lead to burning of the lugs

and cracking of the windshields, and could ultimately cause a loss of cabin pressure, resulting in an emergency descent.

**(f) Compliance**

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

**(g) Maintenance or Inspection Program Revision**

Within 30 days after the effective date of this AD, revise the maintenance or inspection program, as applicable, to incorporate the applicable task cards identified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD into the applicable Program Support Manual (PSM) as identified in table 1 to paragraph (g) of this AD. The initial compliance time for the tasks are within 1,600 flight hours or 12 months, whichever occurs first after the effective date of this AD.

(1) de Havilland Dash 8 Series 100 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated August 5, 2017.

(2) de Havilland Dash 8 Series 200 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated August 5, 2017.

(3) de Havilland Dash 8 Series 300 Maintenance Task Card, Task Number 5610/01, “General Visual Inspection of the Windshield Moisture Seal,” dated March 15, 2017.

**Table 1 to paragraph (g) of this AD – PSM to update**

<b>Airplane Model</b>	<b>Maintenance Requirements Manual (MRM)</b>
DHC-8-102, -103, and -106	PSM 1-8-7
DHC-8-201 and -202	PSM 1-82-7
DHC-8-301, -311, and -315	PSM 1-83-7

**(h) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (k)(1) of this AD.

**(i) Cleaning, Inspection, Re-torquing, Sealant Application, and Operational Test**

Within 8,000 flight hours or 60 months, whichever occurs first after the effective date of this AD: perform a chemical cleaning of the wiring and components, do a general visual inspection of the wiring and components for signs of cracking, erosion, wear, or other damage, re-torque the windshield heater terminal lugs, apply Humiseal coating to the screw heads of the windshield heater, and do an operational test of the pilot's and co-pilot's windshield heating system, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-30-41, Revision A, dated March 24, 2017. If the operational test fails, before further flight, do corrective actions, repeat the test, and do applicable corrective actions until the operational test is passed. If any cracking, erosion, wear, or other damage is found, before further flight, repair using a method approved by the Manager, New York ACO Branch, 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.

**(j) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (i) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-30-41, dated March 31, 2016.

**(k) Other FAA 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 local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 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.

**(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 Branch, FAA; or TCCA; or Bombardier,

Inc,'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

**(I) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-25, dated July 31, 2017, 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-2018-0553.

(2) For more information about this AD, contact Assata Dessaline, Aerospace Engineer, Avionics and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7301; fax 516-794-5531.

(3) For service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on June 14, 2018.

Michael Kaszycki,  
Acting Director,  
System Oversight Division,  
Aircraft Certification Service.

[FR Doc. 2018-13925 Filed: 7/5/2018 8:45 am; Publication Date: 7/6/2018]