

[Federal Register Volume 77, Number 20 (Tuesday, January 31, 2012)]  
[Rules and Regulations]  
[Pages 4646-4648]  
From the Federal Register Online via the Government Printing Office [www.gpo.gov]  
[FR Doc No: 2012-1993]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2012-0037; Directorate Identifier 2012-NM-003-AD; Amendment 39-16935; AD 2012-02-12]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. This AD requires an inspection of a certain alternating current (AC) power wire bundle for damage, and repair if necessary. Additionally, this AD requires segregating the wire bundle into two wire bundles and installing Teflon tubing. This AD was prompted by multiple reports of the loss of certain AC systems caused by a burnt AC power wire bundle. We are issuing this AD to prevent the loss of ice protection systems for the angle of attack vanes, pitot probes, engine inlets, and windshields, and consequent loss of or misleading airspeed indication and increased workload for the flight crew, which could lead to loss of control of the airplane.

**DATES:** This AD becomes effective February 15, 2012.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of February 15, 2012.

We must receive comments on this AD by March 16, 2012.

**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.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office 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. Comments will be available in the AD docket shortly after receipt.

**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, New York 11590; telephone (516) 228-7301; fax (516) 794-5531.

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2011-46, dated December 20, 2011 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

There have been several reports of the loss of certain Alternating Current (AC) systems along with the tripping of associated circuit breakers. During maintenance troubleshooting, the same AC power wire bundle was found burnt. All AC systems and AC Generators could be affected by damage to this AC power wire bundle resulting in the loss of ice protection systems for the angle of attack vanes, pitot probes, engine inlets or windshields. In icing conditions, the loss of the ice protection systems could affect continued safe flight.

This [TCCA] Airworthiness Directive (AD) mandates the detailed inspection [for damage] of the AC power wire bundle [and repair if necessary] and segregation of the wires within the affected AC power wire bundle to prevent a dual system loss [and installing Teflon tubing].

The detailed inspection for damage includes inspecting for any foreign object damage (FOD), damage due to sharp bends and kinking or deterioration, insulation cracking, evidence of heat damage to the insulation, and chafing. The unsafe condition is the loss of ice protection systems for the angle of attack vanes, pitot probes, engine inlets, and windshields, and consequent loss of or misleading airspeed indication and increased workload for the flight crew, which could lead to loss of control of the airplane. You may obtain further information by examining the MCAI in the AD docket.

#### **Relevant Service Information**

Bombardier has issued Service Bulletin 84-24-52, dated November 22, 2011. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

#### **Differences Between the AD and the MCAI**

Although the MCAI recommends accomplishing the actions within 600 flight hours or 90 days, whichever occurs first, after the effective date of the MCAI, this AD requires accomplishment within 400 flight hours or 60 days, whichever occurs first, after the effective date of this AD. We find that a

compliance time of 600 flight hours or 90 days, whichever occurs first, would not address the unsafe condition soon enough to maintain an adequate level of safety for the affected fleet. In developing an appropriate compliance time for this AD, we considered the degree of urgency associated with addressing the unsafe condition, the upcoming inclement weather conditions, and the maximum interval of time allowable for all affected airplanes to continue to operate without compromising safety. We find that 400 flight hours or 60 days, whichever occurs first, after the effective date of this AD, to be an appropriate compliance time to complete these actions. This difference has been coordinated with TCCA.

### **FAA's Determination and Requirements of This 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 issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because there have been several reports of the loss of certain AC systems along with the tripping of associated circuit breakers. During maintenance troubleshooting, the same AC power wire bundle was found burnt. All AC systems and AC Generators could be affected by damage to this AC power wire bundle resulting in the loss of ice protection systems for the angle of attack vanes, pitot probes, engine inlets or windshields. In icing conditions, the loss of the ice protection systems could affect continued safe flight. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2012-0037; Directorate Identifier 2012-NM-003-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of 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 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.

## **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 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

## **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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**2012-02-12 Bombardier, Inc.:** Amendment 39-16935. Docket No. FAA-2012-0037; Directorate Identifier 2012-NM-003-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective February 15, 2012.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes; certificated in any category; serial numbers 4095 through 4391 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 24: Electrical Power.

**(e) Reason**

This AD was prompted by multiple reports of the loss of certain alternating current (AC) systems caused by a burnt AC power wire bundle. We are issuing this AD to prevent the loss of ice protection systems for the angle of attack vanes, pitot probes, engine inlets, and windshields, and consequent loss of or misleading airspeed indication and increased workload for the flight crew, which could lead to loss of control of the airplane.

**(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) Inspection and Corrective Actions**

Within 400 flight hours or 60 days, whichever occurs first, after the effective date of this AD, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Do a detailed inspection of the affected AC power wire bundle for damage (any foreign object damage (FOD), damage due to sharp bends and kinking or deterioration, insulation cracking, evidence of heat damage to the insulation, and chafing) and do all applicable repairs, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-24-52, dated November 22, 2011. Do all applicable repairs before further flight.

(2) Segregate the AC power wire bundle into two bundles and install Teflon tubing, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-24-52, dated November 22, 2011.

## **(h) 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, New York 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.

### **(i) Related Information**

Refer to MCAI Canadian Airworthiness Directive CF-2011-46, dated December 20, 2011; and Bombardier Service Bulletin 84-24-52, dated November 22, 2011; for related information.

### **(j) Material Incorporated by Reference**

(1) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) of the following service information under 5 U.S.C. 552(a) and 1 CFR part 51:

(i) Bombardier Service Bulletin 84-24-52, dated November 22, 2011.

(2) For Bombardier, Inc. 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>.

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

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on January 23, 2012.

Kalene C. Yanamura,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.