[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0298; Directorate Identifier 2012-NM-175-AD; Amendment 39-17522; AD 2013-15-06]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes. This AD was prompted by reports of dual alternating current (AC) generator failure during flight. The failure was attributed to wire chafing along the wing lower flap shroud. This AD requires revising the maintenance program to incorporate certain tasks for the electrical wiring interconnection system inspection program. We are issuing this AD to prevent failure of both AC generators due to wire chafing, which could result in loss of power to the anti-icing heaters for the elevator horn, engine inlet, and propeller, and consequent ice accumulation in these areas, which could adversely affect the controllability of the airplane.

DATES: This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may examine the AD docket on the Internet at http://www.regulations.gov/#!docketDetail;D=FAA-2013-0298; 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 referenced 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; 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 Services Branch, ANE-172, FAA, New York Aircraft Certification Office (ACO), 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 DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes. The NPRM published in the Federal Register on April 11, 2013 (78 FR 21573). The NPRM was prompted by reports of dual alternating current (AC) generator failure during flight. The NPRM proposed to

require revising the maintenance program to incorporate certain tasks for the electrical wiring interconnection system inspection program. We are issuing this AD to prevent failure of both AC generators due to wire chafing, which could result in loss of power to the anti-icing heaters for the elevator horn, engine inlet, and propeller, and consequent ice accumulation in these areas, which could adversely affect the controllability of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-25, dated August 28, 2012 (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, -106, -201, -202, -301, -311, and -315 airplanes. The MCAI states:

> There have been several reported occurrences of dual [alternating current] AC Generator failure during flight, resulting in the loss of the variable frequency AC System.
>
> Investigations revealed wire chafing along the wing lower flap shroud due to sagging wiring harnesses resting on the support structure, missing teflon tape at the fairlead locations, and missing grommets. Chafed wires may lead to arcing, local overheating, and AC generator failure. The AC generators provide power to the anti-icing heaters, including elevator horn heater, engine inlet heater and propeller heater. Failure of both AC generators would result in the loss of these systems and poses a safety concern.
>
> This [Canadian] AD mandates the inspection and rectification of the wiring harness installations along the centre wing lower flap shroud.

Required actions include revising the maintenance program by incorporating electrical wiring interconnection system inspection program tasks.

You may examine the MCAI in the AD docket on the Internet at http://www.regulations.gov/#!documentDetail;D=FAA-2013-0298-0002.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The Air Line Pilots Association, International stated that it supports the NPRM (78 FR 21573, April 11, 2013).

"Contacting the Manufacturer" Paragraph in this AD

Since late 2006, we have included a standard paragraph titled "Airworthy Product" in all MCAI ADs in which the FAA develops an AD based on a foreign authority's AD.

We have become aware that some operators have misunderstood or misinterpreted the Airworthy Product paragraph to allow the owner/operator to use messages provided by the manufacturer as approval of deviations during the accomplishment of an AD-mandated action. The Airworthy Product paragraph does not approve messages or other information provided by the manufacturer for deviations to the requirements of the AD-mandated actions. The Airworthy Product paragraph only addresses the requirement to contact the manufacturer for corrective actions for the identified unsafe condition and does not cover deviations from other AD requirements. However, deviations to AD-required actions are addressed in 14 CFR 39.17, and anyone may request the approval for

an alternative method of compliance to the AD-required actions using the procedures found in 14 CFR 39.19.

To address this misunderstanding and misinterpretation of the Airworthy Product paragraph, we have changed the paragraph and retitled it "Contacting the Manufacturer." This paragraph now clarifies that for any requirement in this AD to obtain corrective actions from a manufacturer, the actions must be accomplished using a method approved by the FAA, Transport Canada Civil Aviation (TCCA), or Bombardier, Inc.'s TCCA Design Organization Approval (DOA).

The Contacting the Manufacturer paragraph also clarifies that, if approved by the DAO, the approval must include the DAO-authorized signature. The DAO signature indicates that the data and information contained in the document are TCCA-approved, which is also FAA-approved. Messages and other information provided by the manufacturer that do not contain the DAO-authorized signature approval are not TCCA-approved, unless TCCA directly approves the manufacturer's message or other information.

This clarification does not remove flexibility previously afforded by the Airworthy Product paragraph. Consistent with long-standing FAA policy, such flexibility was never intended for required actions. This is also consistent with the recommendation of the Airworthiness Directive Implementation Aviation Rulemaking Committee to increase flexibility in complying with ADs by identifying those actions in manufacturers' service instructions that are "Required for Compliance" with ADs. We continue to work with manufacturers to implement this recommendation. But once we

determine that an action is required, any deviation from the requirement must be approved as an alternative method of compliance.

We also have decided not to include a generic reference to either the "delegated agent" or "design approval holder (DAH) with State of Design Authority design organization approval," but instead we have provided the specific delegation approval granted by the State of Design Authority for the DAH.

Explanation of Changes to this AD

Paragraph (g) of this AD was revised to state that incorporation of tasks into the maintenance or inspection program, as applicable, must be done in accordance with a method approved by the Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA DAO. The service information previously referenced in paragraph (g) of the NPRM (78 FR 21573, April 11, 2013) is now referenced as guidance material in Notes 1, 2, and 3 to paragraph (g) of this AD.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (78 FR 21573, April 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 21573, April 11, 2013).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Costs of Compliance

We estimate that this AD affects 89 airplanes of U.S. registry.

We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is $85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be $7,565, or $85 per product.

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.

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

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov/#!docketDetail;D=FAA-2013-0298; 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 MCAI, 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:

2013-15-06 **Bombardier, Inc.:** Amendment 39-17522. Docket No. FAA-2013-0298; Directorate Identifier 2012-NM-175-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective [INSERT DATE 35 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 and subsequent.

(d) Subject

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

(e) Reason

This AD was prompted by reports of dual alternating current (AC) generator failure during flight. The failure was attributed to wire chafing along the wing lower flap shroud. We are issuing this AD to prevent failure of both AC generators due to wire chafing, which could result in loss of power to the anti-icing heaters for the elevator horn, engine inlet, and propeller, and consequent ice accumulation in these areas, which could adversely affect the controllability of the airplane.

(f) Compliance

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

(g) Revision of Maintenance or Inspection Program

Within 30 days after the effective date of this AD: Incorporate tasks for performing a general visual inspection of the wiring and associated electrical wiring interconnection system (EWIS) components into the airplane maintenance or inspection program, as applicable, in accordance with a method approved by the Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA.

Note 1 to paragraph (g) of this AD: For Model DHC-8-100 series airplanes, the instructions provided in de Havilland Dash 8 Maintenance Task Cards 531X1 and 631X1, “General visual inspection of the wiring and associated electrical wiring interconnection system (EWIS) components,” in Section 8, “Electrical Wiring Interconnection System Inspection Program,” of the Bombardier (de Havilland) Dash 8

Series 100 Maintenance Review Board Report of the Bombardier (de Havilland) Dash 8 Series 100 Maintenance Program Manual PSM 1-8-7, Revision 25, dated February 20, 2012, provides guidance for revising the maintenance program to include general visual inspections of the wiring and associated EWIS components. This service information is not incorporated by reference in this AD.

Note 2 to paragraph (g) of this AD: For Model DHC-8-200 series airplanes, the instructions provided in de Havilland Dash 8 Maintenance Task Cards 531X1 and 631X1, "General visual inspection of the wiring and associated electrical wiring interconnection system (EWIS) components," in Section 8, "Electrical Wiring Interconnection System Inspection Program," of the Bombardier (de Havilland) Dash 8 Series 200 Maintenance Review Board Report of the Bombardier (de Havilland) Dash 8 Series 200 Maintenance Program Manual PSM 1-82-7, Revision 16, dated February 20, 2012, provides guidance for revising the maintenance program to include general visual inspections of the wiring and associated EWIS components. This service information is not incorporated by reference in this AD.

Note 3 to paragraph (g) of this AD: For Model DHC-8-300 series airplanes, the instructions provided in de Havilland Dash 8 Maintenance Task Cards 531X1 and 631X1, "General visual inspection of the wiring and associated electrical wiring interconnection system (EWIS) components," in Section 8, "Electrical Wiring Interconnection System Inspection Program," of the Bombardier (de Havilland) Dash 8 Series 300 Maintenance Review Board Report of the Bombardier (de Havilland) Dash 8 Series 300 Bombardier Maintenance Program Manual PSM 1-83-7, Revision 25, dated

February 20, 2012, provides guidance for revising the maintenance program to include general visual inspections of the wiring and associated EWIS components. This service information is not incorporated by reference in this AD.

(h) Initial Task Compliance Time

The initial compliance time for the tasks incorporated into the maintenance or inspection program, as applicable, specified in paragraph (g) of this AD, is at the applicable time specified in paragraph (h)(1) or (h)(2) of this AD.

(1) For airplanes with 45,000 total flight hours or more as of the effective date of this AD: Within 1,000 flight hours after the effective date of this AD.

(2) For airplanes with less than 45,000 total flight hours as of the effective date of this AD: Within 6,000 flight hours after the effective date of this AD, but not to exceed 46,000 total flight hours.

(i) No Alternative Actions or Intervals

After accomplishing the revisions required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used, unless the actions and intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York 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, Engine and Propeller Directorate, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2012-25, dated August 28, 2012, 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-2013-0298.

(2) For service information identified in this AD that is not incorporated by reference, 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; 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.

(l) Material Incorporated by Reference

None

Issued in Renton, Washington, on July 12, 2013.

Jeffrey E. Duven,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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