



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-1985; Directorate Identifier 2014-NM-214-AD; Amendment 39-18294; AD 2015-21-02]

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 un-announced failures of the direct current (DC) starter generator, which caused caution indicators of the affected systems to illuminate and prompted emergency descents and landings. This AD requires replacing the DC generator control units (GCUs) with new GCUs and replacing the GCU label. We are issuing this AD to prevent a low voltage condition on the left main DC bus, which, during critical phases of flight, could result in the loss of flight management, navigation, and transponder systems, and could affect continued safe flight.

DATES: This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [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-2015-1985>; 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., 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1985.

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 June 25, 2015 (80 FR 36493).

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2014-31R2, dated November 11, 2014 (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:

Four occurrences of un-announced failure of the No. 1 Direct Current (DC) Starter Generator prompted emergency descents and landings resulting from the illumination of numerous caution indications of the affected systems. The functionality of the affected systems such as Flight Management System, Navigation, and transponder systems, were reportedly reduced or lost. Investigation determined the failure was a result of a low voltage condition of the Left Main DC Bus. During critical phases of flight, the loss of these systems could affect continued safe flight.

The original issue of this [Canadian] AD mandated the modification [replacing certain DC GCUs with new GCUs and replacing labels] which introduces generator control unit (GCU) undervoltage protection.

Revision 1 of this [Canadian] AD added a GCU part number to the applicability of Part III of this [Canadian] AD, in order to ensure that all units are fitted with a warning label.

Revision 2 of this [Canadian] AD corrects the GCU part number in the applicability of Part III of this [Canadian] AD.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2015-1985-0003>.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (80 FR 36493, June 25, 2015) or on the determination of the cost to the public.

Conclusion

We reviewed the available 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 (80 FR 36493, June 25, 2015) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (80 FR 36493, June 25, 2015).

Related Service Information under 1 CFR part 51

Bombardier has issued the following service information.

- Service Bulletin 8-24-84, Revision D, dated April 10, 2014, describes incorporating Bombardier Modification Summary (ModSum) 8Q101710 by replacing the GCU with a new GCU, and replacing the GCU label for airplanes having certain Phoenix DC power GCU part numbers.

- Service Bulletin 8-24-89, Revision C, dated November 4, 2014, describes incorporating Bombardier ModSum 8Q101925 by replacing the GCU with a new GCU, and replacing the GCU label for airplanes having certain Goodrich DC power GCU part numbers.

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 of this AD.

Costs of Compliance

We estimate that this AD affects 92 airplanes of U.S. registry.

We also estimate that it takes about 3 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost up to \$12,098 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be up to \$1,136,476, or up to \$12,353 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.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2015-1985>; 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 airworthiness directive (AD):

2015-21-02 Bombardier, Inc.: Amendment 39-18294. Docket No. FAA-2015-1985; Directorate Identifier 2014-NM-214-AD.

(a) Effective Date

This 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 through 672 inclusive.

(d) Subject

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

(e) Reason

This AD was prompted by reports of un-announced failures of the direct current (DC) starter generator, which caused caution indicators of the affected systems to illuminate and prompted emergency descents and landings. We are issuing this AD to prevent a low voltage condition on the left main DC bus which, during critical phases of flight, could result in the loss of flight management, navigation, and transponder systems, and could affect continued safe flight.

(f) Compliance

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

**(g) For Airplanes Having Certain Generator Control Units (GCUs) Installed:
Replacement of DC GCUs and GCU labels**

Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, accomplish the actions specified in paragraphs (g)(1) and (g)(2) of this AD, as applicable.

(1) For airplanes having Goodrich DC GCU part number 51539-008B, 51539-008C, or 51539-008D installed: Incorporate Bombardier Modification Summary (ModSum) 8Q101925 by replacing the GCU with a new GCU, and replacing the GCU label, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-24-89, Revision C, dated November 4, 2014.

(2) For airplanes having Phoenix DC GCU part number GC-1010-24-5DIII or GC-1010-24-5DII installed: Incorporate Bombardier ModSum 8Q101710 by replacing

the GCU with a new GCU, and replacing the GCU label, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-24-84, Revision D, dated April 10, 2014.

(h) For Airplanes Having Certain Other GCUs Installed: Replacement of DC GCU Label

For airplanes having Phoenix DC GCU part number GC-1010-24-5DIV or GC-1010-24-5DV installed: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, replace the DC GCU label with a new GCU label, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-24-84, Revision D, dated April 10, 2014.

(i) Credit for Previous Actions

(1) This paragraph provides credit for the actions required by paragraph (g)(1) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (i)(1)(i) through (i)(1)(iii) of this AD, as applicable. This service information is not incorporated by reference in this AD.

(i) Bombardier Service Bulletin 8-24-89, dated November 12, 2011.

(ii) Bombardier Service Bulletin 8-24-89, Revision A, dated August 8, 2012.

(iii) Bombardier Service Bulletin 8-24-89, Revision B, dated April 9, 2014.

(2) This paragraph provides credit for actions required by paragraphs (g)(2) and (h) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (i)(2)(i) through (i)(2)(iv) of this AD, as applicable. This service information is not incorporated by reference in this AD.

(i) Bombardier Service Bulletin 8-24-84, dated August 22, 2008.

(ii) Bombardier Service Bulletin 8-24-84, Revision A, dated August 23, 2008.

(iii) Bombardier Service Bulletin 8-24-84, Revision B, dated
October 15, 2008.

(iv) Bombardier Service Bulletin 8-24-84, Revision C, dated July 7, 2009.

(j) 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) 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, 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.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2014-31R2, dated November 14, 2014, 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-2015-1985-0003.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (1)(4) of this AD.

(l) 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 8-24-84, Revision D, dated April 10, 2014.

(ii) Bombardier Service Bulletin 8-24-89, Revision C, dated November 4, 2014.

(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; 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 October 6, 2015.

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