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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-0752; Directorate Identifier 2014-NM-079-AD; Amendment 39-18110; AD 2015-04-08]**

**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 superseding Airworthiness Directive (AD) 2014-06-08 for certain Bombardier, Inc. Model DHC-8-100, -200, and -300 series airplanes. AD 2014-06-08 required repetitive functional checks of the nose and main landing gear, and corrective actions if necessary; and also provided optional terminating action modification for the repetitive functional checks. This new AD requires a terminating action modification. This AD was prompted by a report that the emergency downlock indication system (EDIS) had given a false landing gear down-and-locked indication and a determination that a terminating action modification is necessary to address the identified unsafe condition. We are issuing this AD to detect and correct a false down-and-locked landing gear indication, which, on landing, could result in possible collapse of the landing gear.

**DATES:** This AD becomes effective April 27, 2015.

The Director of the Federal Register approved the incorporation by reference of publications listed in this AD as of April 14, 2014 (79 FR 17390, March 28, 2014).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0752>; 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](mailto: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:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7318; fax 516-794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014). AD 2014-06-08 applied to certain Bombardier, Inc. Model DHC-8-100, -200, and -300 series airplanes. The NPRM published in the Federal Register on October 17, 2014 (79 FR 62363).

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2014-11, dated February 13, 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:

During an in-service event where the landing gear control panel indicated an unsafe nose landing gear, the flight crew observed that all three green lights were illuminated on the emergency downlock indication system. The nose landing gear was not down and locked, and collapsed during landing.

Investigation found ambient light and wiring shorts can lead to incorrect illumination of the green lights on the emergency downlock indication system.

This [Canadian] AD mandates the functional check of the nose and main landing gear alternate indication phototransistors and the modification of the emergency downlock indication system [incorporation of Modsums 8Q101955, 8Q101968, and 8Q101969 as applicable].

The unsafe condition is a false down-and-locked landing gear indication, which, on landing, could result in possible collapse of the landing gear. The modification consists of installing certain new electrical components and cable assemblies.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0752-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We considered the comment received. An anonymous commenter supported the NPRM (79 FR 62363, October 17, 2014).

### **Change Made to This AD**

We have revised paragraphs (h)(1), (h)(2), and (h)(3) of this AD to clarify the affected airplanes identified in those paragraphs. This change does not affect the intent of those paragraphs.

## **Clarification of Repair Approval Required by Paragraph (g) of AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014)**

In paragraph (g) of AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014), the functional check and corrective actions are done in accordance with Bombardier Service Bulletin 8-32-173, Revision A, dated December 17, 2012. That service information specifies to contact the manufacturer for further instructions if certain discrepancies are found. As noted in paragraph (j)(2) of AD 2014-06-08, "For any requirement in this AD to obtain corrective actions from a manufacturer, use these actions if they are FAA-approved. . ." and ". . . corrective actions are considered FAA-approved if they were approved by the State of Design Authority (or its delegated agent, or the DAH with a State of Design Authority's design organization approval, as applicable)."

To clarify the repair approval for the action specified in paragraph (g) of this AD, we have added an exception to paragraph (g) of this AD, including specific delegation approval language. The exception clarifies that where the service information specifies to contact the manufacturer for further instructions, this AD requires repairing using a method approved by the Manager, New York Aircraft Certification Office, ANE-170, FAA; or TCCA; or Bombardier, Inc.'s TCCA Design Approval Organization.

### **Conclusion**

We reviewed the relevant data 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 (79 FR 62363, October 17, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 62363, October 17, 2014).

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 85 airplanes of U.S. registry.

The actions that are required by AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014), and retained in this AD take about 3 work-hours per product, at an average labor rate of \$85 per work-hour. Based on these figures, the estimated cost of the actions that were required by AD 2014-06-08 is \$21,675, or \$255 per product, per inspection cycle.

We also estimate that it will take up to 40 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 \$19,436 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be up to \$1,941,060, or \$22,836 per product.

We have received no definitive data that will enable us to provide cost estimates for the on-condition actions specified in 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 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-2014-0752>; 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 removing Airworthiness Directive (AD) 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014), and adding the following new AD:



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**2015-04-08 Bombardier, Inc.:** Amendment 39-18110. Docket No. FAA-2014-0752; Directorate Identifier 2014-NM-079-AD.

**(a) Effective Date**

This AD becomes effective April 27, 2015.

**(b) Affected ADs**

This AD replaces AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014).

**(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 32, Landing Gear.

**(e) Reason**

This AD was prompted by a report that the emergency downlock indication system (EDIS) had given a false landing gear down-and-locked indication and a determination that a terminating action modification is necessary to address the identified unsafe condition. We are issuing this AD to detect and correct a false down-and-locked landing gear indication, which, on landing, could result in possible collapse of the landing gear.

**(f) Compliance**

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

**(g) Retained Functional Check With Repair Approval Clarification**

This paragraph restates the requirements of paragraph (g) of AD 2014-06-08, Amendment 39-17812 (79 FR 17390, March 28, 2014), with specific delegation approval language. Within 600 flight hours or 100 days, whichever occurs first, after April 14, 2014 (the effective date of AD 2014-06-08): Perform a functional check of the alternate indication phototransistors of the nose and main landing gear; and do all applicable corrective actions; in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-32-173, Revision A, dated December 17, 2012; except where Bombardier Service Bulletin 8-32-173, Revision A, dated December 17, 2012, specifies to contact the manufacturer for further instructions, before further, flight, repair using a method approved by the Manager, New York Aircraft Certification Office, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). Do all applicable corrective actions before further flight. Repeat the functional check thereafter at intervals

not to exceed 600 flight hours or 100 days, whichever occurs first, until accomplishment of the applicable actions specified in paragraph (h) of this AD.

**(h) New Requirement of This AD: Terminating Action**

Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first: Do the applicable actions specified in paragraphs (h)(1) through (h)(3) of this AD. Accomplishment of the applicable actions specified in paragraphs (h)(1) through (h)(3) of this AD terminates the requirements of paragraph (g) of this AD.

(1) For airplanes on which Bombardier ModSum 8/1519 is installed: Incorporate Modsum 8Q101968, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-33-56, Revision A, dated February 22, 2013.

(2) For airplanes on which Bombardier Modsums 8/0235, 8/0461, and 8/0534 are installed: Incorporate Modsum 8Q101955, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-32-176, Revision A, dated February 22, 2013.

(3) For airplanes on which Bombardier Modsum 8/0534 is not installed: Incorporate Modsum 8Q101969, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-32-177, dated October 9, 2013.

**(i) Credit for Previous Actions**

(1) 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 8-32-173, dated October 28, 2011, which is not incorporated by reference in this AD.

(2) This paragraph provides credit for actions required by paragraph (h)(1) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-33-56, dated February 11, 2013, which is not incorporated by reference in this AD.

(3) This paragraph provides credit for actions required by paragraph (h)(2) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 8-32-176, dated February 11, 2013, which is not incorporated by reference in 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 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: As of the effective date of this AD, 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 Aircraft Certification Office, ANE-170, 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**

Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2014-11, dated February 13, 2014, for related information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0752-0002>.

## **(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.

(3) The following service information was approved for IBR on April 14, 2014 (79 FR 17390, March 28, 2014).

(i) Bombardier Service Bulletin 8-32-173, Revision A, dated December 17, 2012.

(ii) Bombardier Service Bulletin 8-32-176, Revision A, dated February 22, 2013.

(iii) Bombardier Service Bulletin 8-32-177, dated October 9, 2013.

(iv) Bombardier Service Bulletin 8-33-56, Revision A, dated February 22, 2013.

(4) 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>.

(5) 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.

(6) 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 February 19, 2015.

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