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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0189; Product Identifier 2019-NM-001-AD; Amendment 39-19672; AD 2019-12-17]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new 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 AD was prompted by the reported loss of an elevator spring tab balance weight prior to takeoff. This AD requires inspecting the two balance weights and the two hinge arms on each elevator spring tab, and corrective actions if necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective August 12, 2019.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 12, 2019.

ADDRESSES: For service information identified in this final rule, 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 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. It is also available on the internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2019-0189.

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-2019-0189; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the regulatory evaluation, any comments received, and other information. The address for Docket

Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

The FAA 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, and -106 airplanes; Model DHC-8-200 series airplanes; and Model DHC-8-300 series airplanes. The NPRM published in the Federal Register on April 4, 2019 (84 FR 13148). The NPRM was prompted by the reported loss of an elevator spring tab balance weight prior to takeoff. The NPRM proposed to require inspecting the two balance weights and the two hinge arms on each elevator spring tab, and corrective actions if necessary.

The FAA is issuing this AD to address tolerance stack-up between the balance weight and the hinge arm that can allow the attachment bolts to fret with the hinge arm and result in wear, fracture, and loss of the spring tab balance weight. Loss of the spring tab balance weight can lead to unacceptable flutter margins and loss of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2018-30, dated November 7, 2018 (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:

> One operator has reported the loss of an elevator spring tab balance weight prior to takeoff. An investigation found that clearances, due to tolerance stack-up between balance weight and hinge arm, allow the attachment bolts to fret with the hinge arm causing wear and potentially progressing to fracture and loss of the spring tab balance weight. The loss of a spring tab balance weight could result in unacceptable flutter margins and loss of the aeroplane.
>
> This [Canadian] AD mandates a one-time [detailed] inspection to verify the spring tab balance weights are securely attached on both the left hand and right hand spring tab assemblies. If any of the balance weights are found loose, instructions are given to repair any damage to the hinge arm, and to add a solid shim between balance weight and hinge arm to eliminate any potential gap, and to specify balance weight attachment hardware that has low susceptibility to hydrogen embrittlement.
>
> 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-2019-0189.

Comments

The FAA gave the public the opportunity to participate in developing this final rule. The FAA has considered the comment received. The Air Line Pilots Association, International stated that it agrees with the intent of the NPRM.

Conclusion

The FAA reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and

Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information Under 1 CFR Part 51

Bombardier has issued Service Bulletin 8-55-27, Revision A, dated August 15, 2018. This service information describes procedures for inspecting the two balance weights and the two hinge arms on each elevator spring tab, and corrective actions including inspecting the holes in the hinge arm, inspecting the hinge arm for corrosion and chafing, installing bushings and a solid shim, replacing the hinge arm, repairing damage to the hinge arm, and permanently securing the mass balance.

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.

Costs of Compliance

The FAA estimates that this AD affects 47 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated Costs for Required Actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
2 work-hours × $85 per hour = $170	$0	$170	$7,990

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated Costs of On-Condition Actions

Labor cost	Parts cost	Cost per product
Up to 18 work-hours × $85 per hour = $1,530	$0	Up to $1,530.

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.

The FAA is 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 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 and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

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) Will not affect intrastate aviation in Alaska, and

(3) 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.

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):

2019-12-17 Bombardier, Inc.: Amendment 39-19672; Docket No. FAA-2019-0189; Product Identifier 2019-NM-001-AD.

(a) Effective Date

This AD is effective August 12, 2019.

(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 55, Stabilizers.

(e) Reason

This AD was prompted by the reported loss of an elevator spring tab balance weight prior to takeoff. The FAA is issuing this AD to address tolerance stack-up between the balance weight and the hinge arm that can allow the attachment bolts to fret with the hinge arm and result in wear, fracture, and loss of the spring tab balance weight. Loss of the spring tab balance weight can lead to unacceptable flutter margins and loss of the airplane.

(f) Compliance

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

(g) Inspection and Corrective Actions

Within 600 flight hours after the effective date of this AD, perform a detailed inspection of the two balance weights and a detailed inspection of the two hinge arms on each elevator spring tab (left hand and right hand), in accordance with Section 3.B, Part A, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018.

(1) If any of the balance weight attachment locknuts, part number (P/N) MS 21042-4, is found fractured, loose, or missing: Before further flight conduct the rectification in accordance with Section 3.B, Part B, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018.

(2) If the balance weight is found not secure: Within 60 flight hours after the inspection required by paragraph (g) of this AD, repair any damage to the hinge arm and permanently secure the mass

balance, in accordance with Section 3.B, Part B, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018.

(3) If the balance weight is found secure: Within 5,000 flight hours after the inspection required by paragraph (g) of this AD, repair any damage to the hinge arm and permanently secure the mass balance, in accordance with Section 3.B, Part B, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018.

(4) Where Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018, specifies to contact Bombardier for appropriate action: Before further flight, accomplish corrective actions in accordance with the procedures specified in paragraph (i)(2) of this AD.

(h) Credit for Previous Actions

This paragraph provides credit for actions required by paragraphs (g), (g)(2), (g)(3), and (g)(4) of this AD, if those actions were performed before the effective date of this AD using Section 3.B of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, dated April 17, 2018, provided that within 600 flight hours after the effective date of this AD, a detailed visual inspection of the balance weight locknuts, P/N MS 21042-4, is performed in accordance with Section 3.B, Part C, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018, and the rectification is performed before further flight for any fractured, loose, or missing balance weight attachment locknuts, P/N MS 21042-4, in accordance with Section 3.B, Part B, of the Accomplishment Instructions of Bombardier Service Bulletin 8-55-27, Revision A, dated August 15, 2018.

(i) 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 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) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2018-30, dated November 7, 2018, 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-2019-0189.

(2) For more information about this AD, contact Andrea Jimenez, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7330; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

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

(k) 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 8-55-27, Revision A, dated August 15, 2018.

(ii) [Reserved]

(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 Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 Des Moines, Washington, on June 21, 2019.

Dionne Palermo,

Acting Director, System Oversight Division, Aircraft Certification Service.

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