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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2017-0775; Product Identifier 2017-NM-048-AD; Amendment 39-19272; AD 2018-09-15]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2016-25-18, which applied to certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. AD 2016-25-18 required an inspection for discrepancies of the attachment points of the links between the engine rear mount assemblies, and corrective actions if necessary. This AD requires an inspection of certain attachment points, corrective action if necessary, and replacement of certain bolts and nuts in the engine rear mount assemblies. This AD also adds airplanes to the applicability. This AD was prompted by the determination that replacement of certain nuts and bolts in the engine rear mount assemblies is necessary. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective June 15, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 15, 2018.

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of January 3, 2017 (81 FR 90961, December 16, 2016).

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone: 514-855-5000; fax: 514-855-7401; email: thd.crj@aero.bombardier.com; internet: <http://www.bombardier.com>. You may view this referenced service information at the FAA, Transport Standards Branch, 2200 South 216th Street, 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-2017-0775.

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-2017-0775; 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 address for the Docket Office (telephone: 800-647-5527) is 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 20590.

FOR FURTHER INFORMATION CONTACT: Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone: 516-228-7329; fax: 516-794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2016-25-18, Amendment 39-18744 (81 FR 90961, December 16, 2016) (“AD 2016-25-18”). AD 2016-25-18 applied to certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. The NPRM published in the Federal Register on August 15, 2017 (82 FR 38626). The NPRM was prompted by the determination that replacement of certain nuts and bolts in the engine rear mount assemblies is necessary. The NPRM proposed to continue to require an inspection for discrepancies of the attachment points of the links between the engine rear mount assemblies, and corrective actions if necessary. The NPRM also proposed to require an inspection of certain attachment points, corrective action if necessary, and replacement of certain bolts and nuts in the engine rear mount assemblies. The NPRM also proposed to add airplanes to the applicability. We are issuing this AD to detect and correct broken engine attachment hardware, which could result in separation of an engine from the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2016-23R1, dated February 20, 2017 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. The MCAI states:

Bombardier reported that during maintenance of a BD-700 aeroplane, the engine mount pin, part number (P/N) BRR15838, was found backed out of the rear mount link. The retaining bolt, P/N AS54020, which passes through the engine mount pin was also found fractured at the groove which holds the locking spring. An investigation revealed the most probable root cause of failure to be a single axial tension static overload, with no evidence of fatigue contributing to the failure.

The above condition if not detected, may result in the loss of engine attachment to the airframe.

As an interim corrective action, Bombardier issued Service Bulletins (SBs) 700-71-002, 700-71-6002, 700-71-5002, and 700-1A11-71-002 to inspect the attachment points of the links between the engine rear mount assemblies, and install replacement hardware if required.

The original version of this [Canadian] AD was issued to mandate incorporation of the above Bombardier SBs to inspect and maintain integrity of the affected engine rear mount assembly.

Revision 1 of this [Canadian] AD is issued to mandate incorporation of the Bombardier SBs 700-71-003, 700-71-6003, 700-71-5003, and 700-1A11-71-003 to replace the existing bolts and self-locking nuts with new bolts and nuts, as a final corrective action.

The MCAI also adds airplanes having serial numbers 9764, 9766, and 9771 through 9785 inclusive to the applicability. Those airplanes are also affected by the identified unsafe condition. 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-2017-0775.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Requests To Provide Credit for Actions Previously Accomplished

NetJets Aviation requested that we provide credit for accomplishing the actions specified in paragraphs (j) and (k) of the proposed AD prior to the effective date of this AD. Bombardier requested that we provide credit for accomplishing the actions specified in paragraphs (k) and (l) of the proposed AD prior to the effective date of this AD.

We acknowledge the commenters' requests and agree to clarify. Paragraph (f) of this AD states to accomplish the required actions within the compliance times specified, "unless already done." Therefore, if operators have accomplished the actions required for compliance with this AD before the effective date of this AD, no further action is necessary. We have not revised this AD in this regard.

Conclusion

We reviewed the available data, including the comments received, 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 for correcting 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, Inc. has issued the following service information. This service information describes procedures for an inspection for discrepancies of the attachment points of the links between the engine rear mount assemblies and corrective actions. These documents are distinct since they apply to different airplane models and serial numbers.

- Bombardier Service Bulletin 700-1A11-71-002, Revision 01, dated June 30, 2016.
- Bombardier Service Bulletin 700-71-002, Revision 01, dated June 30, 2016.
- Bombardier Service Bulletin 700-71-5002, Revision 01, dated June 30, 2016.
- Bombardier Service Bulletin 700-71-6002, Revision 01, dated June 30, 2016.

Bombardier, Inc. has also issued the following service information. This service information describes procedures for nut and bolt replacements. These documents are distinct since they apply to different airplane models and serial numbers.

- Bombardier Service Bulletin 700-1A11-71-003, dated December 5, 2016.
- Bombardier Service Bulletin 700-71-003, dated December 5, 2016.
- Bombardier Service Bulletin 700-71-5003, dated December 5, 2016.
- Bombardier Service Bulletin 700-71-6003, dated December 5, 2016.

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

We estimate that this AD affects 97 airplanes of U.S. registry.

The actions required by AD 2016-25-18, and retained in this AD take about 1 work-hour per product, at an average labor rate of \$85 per work-hour. Based on these figures, the estimated cost of the actions that are required by AD 2016-25-18 is \$85 per product.

The retained on-condition costs in this AD take about 2 work-hours per product, at an average labor rate of \$85 per work-hour. Required parts cost about \$730 per product. Based on these figures, the estimated cost of the on-condition actions that are required by AD 2016-25-18 is \$900 per product.

We have received no definitive data that would enable us to provide cost estimates for other retained on-condition actions specified in AD 2016-25-18.

We also estimate that it will take about 4 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 \$14,940 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be up to \$1,482,160, or up to \$15,280 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all available costs in our cost estimate.

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.

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 to the Director of the System Oversight Division.

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.

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) 2016-25-18, Amendment 39-18744 (81 FR 90961, December 16, 2016), and adding the following new AD:



2018-09-15 Bombardier, Inc.: Amendment 39-19272; Docket No. FAA-2017-0775; Product Identifier 2017-NM-048-AD.

(a) Effective Date

This AD is effective June 15, 2018.

(b) Affected ADs

This AD replaces AD 2016-25-18, Amendment 39-18744 (81 FR 90961, December 16, 2016) ("AD 2016-25-18").

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers (S/Ns) 9002 through 9785 inclusive, and 9998.

(d) Subject

Air Transport Association (ATA) of America Code 72, Engine.

(e) Reason

This AD was prompted by a report indicating that during maintenance, an engine mount pin was found backed out of the rear mount link, and the associated retaining bolt was also found fractured at the groove that holds the locking spring, and a determination that replacement of certain nuts and bolts in the engine rear mount assemblies is necessary. We are issuing this AD to detect and correct broken engine attachment hardware, which could result in separation of an engine from the airplane.

(f) Compliance

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

(g) Retained Inspection, With No Changes

This paragraph restates the requirements of paragraph (g) of AD 2016-25-18, with no changes. For airplanes having S/Ns 9002 through 9763 inclusive, 9765, 9767 through 9770 inclusive, and 9998: Within 500 flight hours or 4 months, whichever occurs first after January 3, 2017 (the effective date of AD 2016-25-18), do an inspection for discrepancies of the engine rear mount assemblies (including missing or broken bolts, missing nuts, incorrect torque values, and an incorrect gap between the bushing and washer); in accordance with Part A of the Accomplishment Instructions of the applicable service information specified in paragraphs (g)(1) through (g)(4) of this AD. Accomplishing the actions required by paragraphs (j) and (k) of this AD terminates the requirements of this paragraph.

(1) Bombardier Service Bulletin 700-1A11-71-002, Revision 01, dated June 30, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(2) Bombardier Service Bulletin 700-71-002, Revision 01, dated June 30, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(3) Bombardier Service Bulletin 700-71-5002, Revision 01, dated June 30, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(4) Bombardier Service Bulletin 700-71-6002, Revision 01, dated June 30, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(h) Retained Corrective Action for Paragraph (g) of This AD, With No Changes

This paragraph restates the requirements of paragraph (h) of AD 2016-25-18, with no changes. If any discrepancy is detected during the inspection required by paragraph (g) of this AD, before further flight, replace missing parts and correct noncompliant gaps and bolt torque, as specified in the Accomplishment Instructions of the applicable service information specified in paragraphs (g)(1) through (g)(4) of this AD, except as required by paragraph (i) of this AD. Accomplishing the actions required by paragraphs (j) and (k) of this AD terminates the requirements of this paragraph.

(i) Retained Exception to Service Information Specifications, With No Changes

This paragraph restates the requirements of paragraph (i) of AD 2016-25-18, with no changes. Where the applicable Bombardier service bulletin specified in paragraphs (g)(1) through (g)(4) of this AD provides no instructions for corrective actions, or specifies to contact Bombardier for appropriate action, accomplish corrective actions in accordance with the procedures specified in paragraph (o)(2) of this AD.

(j) New Requirement of This AD: Gap Measurement

Within 1,000 flight hours or 12 months, whichever occurs first after the effective date of this AD: Measure the gaps between the applicable shouldered bushing fitted on the mount beam and the washer; and between the applicable engine ring lug and the head of the mount pin to determine if the gaps are within acceptable limits; in accordance with Part A of the Accomplishment Instructions of the applicable service information specified in paragraphs (j)(1) through (j)(4) of this AD. Accomplishing the actions required by paragraphs (j) and (k) of this AD terminates the requirements of paragraphs (g) and (h) of this AD.

(1) Bombardier Service Bulletin 700-1A11-71-003, dated December 5, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(2) Bombardier Service Bulletin 700-71-003, dated December 5, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(3) Bombardier Service Bulletin 700-71-5003, dated December 5, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(4) Bombardier Service Bulletin 700-71-6003, dated December 5, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(k) New Requirement of This AD: Nut and Bolt Replacements, and Gap Measurement

Within 1,000 flight hours or 12 months, whichever occurs first after the effective date of this AD: Replace the nuts having part number (P/N) AS54365 and the bolts having P/N AS54020 and AS54002 in the engine rear mount assembly with new nuts and new bolts; and do the gap measurement to determine if the gap is within acceptable limits; in accordance with Part B of the Accomplishment Instructions of the applicable service information specified in paragraphs (j)(1) through (j)(4) of this AD.

(l) New Requirement of This AD: Corrective Action

If any gap is detected, during any measurement required by paragraph (j) or (k) of this AD, that is not within the applicable limits specified in the service information specified in paragraphs (j)(1) through (j)(4) of this AD, before further flight repair 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.

(m) No Reporting Required

Although the service information identified in paragraphs (j)(1) through (j)(4) of this AD specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(n) Credit for Previous Actions

This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before January 3, 2017 (the effective date of AD 2016-25-18), in accordance with the Accomplishment Instructions of the applicable service information specified in paragraphs (n)(1) through (n)(4) of this AD.

(1) Bombardier Service Bulletin 700-1A11-71-002, dated May 31, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(2) Bombardier Service Bulletin 700-71-002, dated May 31, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(3) Bombardier Service Bulletin 700-71-5002, dated May 31, 2016 (for Bombardier Model BD-700-1A11 airplanes).

(4) Bombardier Service Bulletin 700-71-6002, dated May 31, 2016 (for Bombardier Model BD-700-1A10 airplanes).

(o) Other FAA AD Provisions

The following provisions also apply to this AD:

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

(p) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2016-23R1, dated February 20, 2017, 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-2017-0775.

(2) For more information about this AD, contact Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone: 516-228-7329; fax: 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (q)(5) and (q)(6) of this AD.

(q) 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 June 15, 2018.

(i) Bombardier Service Bulletin 700-1A11-71-003, dated December 5, 2016.

(ii) Bombardier Service Bulletin 700-71-003, dated December 5, 2016.

(iii) Bombardier Service Bulletin 700-71-5003, dated December 5, 2016.

(iv) Bombardier Service Bulletin 700-71-6003, dated December 5, 2016.

(4) The following service information was approved for IBR on January 3, 2017 (81 FR 90961, December 16, 2016).

(i) Bombardier Service Bulletin 700-1A11-71-002, Revision 01, dated June 30, 2016.

(ii) Bombardier Service Bulletin 700-71-002, Revision 01, dated June 30, 2016.

(iii) Bombardier Service Bulletin 700-71-5002, Revision 01, dated June 30, 2016.

(iv) Bombardier Service Bulletin 700-71-6002, Revision 01, dated June 30, 2016.

(5) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone: 514-855-5000; fax: 514-855-7401; email: thd.crj@aero.bombardier.com; internet: <http://www.bombardier.com>.

(6) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(7) 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 April 27, 2018.

Michael Kaszycki,
Acting Director, System Oversight Division,
Aircraft Certification Service.