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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0229; Directorate Identifier 2009-NM-115-AD; Amendment 39-16356; AD 2010-14-11]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Model DHC-8-400 Series Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Certain main landing gear components have experienced premature failure during certification testing. Revision has been made to the DHC-8-400 Maintenance Requirements Manual, Airworthiness Limitation Items, to incorporate the revised safe life limits for the main landing gear lock actuator assembly, retraction actuator assembly rod end and piston, and the upper bearing in the main landing gear shock strut assembly. Failure of these components could adversely affect the structural integrity of the main landing gear.

* * * * *

We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective August 17, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 17, 2010.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Craig Yates, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7355; fax (516) 794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on March 17, 2010 (75 FR 12710). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Certain main landing gear components have experienced premature failure during certification testing. Revision has been made to the DHC-8-400 Maintenance Requirements Manual, Airworthiness Limitation Items, to incorporate the revised safe life limits for the main landing gear lock actuator assembly, retraction actuator assembly rod end and piston, and the upper bearing in the main landing gear shock strut assembly. Failure of these components could adversely affect the structural integrity of the main landing gear.

This [Canadian airworthiness] directive is issued to ensure safe operation of the main landing gear during its service life.

The corrective actions include revising the Airworthiness Limitations section of the Instructions for Continued Airworthiness, replacing the upper bearing on certain airplanes, and replacing certain rod ends. You may obtain further information by examining the MCAI in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM 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 the AD as proposed.

Differences Between This AD and the MCAI or Service Information

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a Note within the AD.

Costs of Compliance

We estimate that this AD will affect 62 products of U.S. registry. We also estimate that it will take about 22 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 about \$18,588 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$1,268,396, or \$20,458 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 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); 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.

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>; 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 the NPRM, 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. Comments will be available in the AD docket shortly after receipt.

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:



2010-14-11 Bombardier, Inc.: Amendment 39-16356. Docket No. FAA-2010-0229; Directorate Identifier 2009-NM-115-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective August 17, 2010.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, having serial numbers (S/Ns) 4001, 4003, 4004, 4006, and 4008 through 4227 inclusive, certificated in any category.

Note 1: This AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (j)(1) of this AD. The request should include a description of changes to the required inspections that will ensure the continued damage tolerance of the affected structure. The FAA has provided guidance for this determination in Advisory Circular (AC) 25.1529-1A.

Subject

- (d) Air Transport Association (ATA) of America Code 32: Landing gear.

Reason

- (e) The mandatory continuing airworthiness information (MCAI) states:

Certain main landing gear components have experienced premature failure during certification testing. Revision has been made to the DHC-8-400 Maintenance Requirements Manual, Airworthiness Limitation Items (ALI), to incorporate the revised safe life limits for the main landing gear lock actuator assembly, retraction actuator assembly rod end and piston, and the upper bearing in the main landing gear shock strut assembly. Failure of these components could adversely affect the structural integrity of the main landing gear.

This [Canadian airworthiness] directive is issued to ensure safe operation of the main landing gear during its service life.

The corrective actions include revising the Airworthiness Limitations section (ALS) of the Instructions for Continued Airworthiness, replacing the upper bearing on certain airplanes, and replacing certain rod ends.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Actions

(g) For Model DHC-8-400, -401, and -402 airplanes having S/Ns 4001, 4003, 4004, 4006, and 4008 through 4210 inclusive: Do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Within 60 days after the effective date of this AD: Revise the ALS of the Instructions for Continued Airworthiness by incorporating the revised structural safe life limit for the upper bearing having part number (P/N) 46114-1, as provided in Bombardier Temporary Revision (TR), ALI-82, dated August 15, 2008, to Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 Maintenance Requirements Manual (MRM), PSM 1-84-7. The initial compliance time for replacing the upper bearing is specified in paragraph (g)(2) of this AD.

(2) Replace the upper bearing having P/N 46114-1 with a new or serviceable upper bearing, in accordance with Goodrich Dressed Shock Strut Assembly Main Landing Gear Part No. 46100-29/-31/-33/-35/-37/-39/-41/-43/-45/-47/-49/-51/-53 and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03, Revision 11, dated August 22, 2008, at the applicable time specified in paragraphs (g)(2)(i), (g)(2)(ii), and (g)(2)(iii), of this AD.

(i) For airplanes having accumulated fewer than 15,000 total flight cycles as of the effective date of this AD: Replace prior to the accumulation of 15,000 total flight cycles.

(ii) For airplanes having accumulated 15,000 total flight cycles or more, but fewer than 20,000 total flight cycles, as of the effective date of this AD: Replace prior to the accumulation of 20,000 total flight cycles.

(iii) For airplanes having accumulated 20,000 total flight cycles or more as of the effective date of this AD: Replace before further flight.

(h) For Model DHC-8-400, -401, and -402 series airplanes having S/Ns 4001, 4003, 4004, 4006, and 4008 through 4227 inclusive: Do the applicable actions specified in paragraphs (h)(1) and (h)(2) of this AD.

(1) Within 60 days after the effective date of this AD: Revise the ALS of the Instructions for Continued Airworthiness to incorporate the revised safe life limits for the retraction actuator assembly rod end having P/N P3A2750 and P3A2750-1; retraction actuator assembly piston having P/N 46570-5; lock actuator cylinder assembly having P/N 46601-1/-3; and lock actuator assembly having P/N 46600-1/-3/-5/-7; as provided in Bombardier TR ALI-89, dated March 27, 2009, to Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 MRM, PSM 1-84-7. The initial compliance time for the replacement is specified in the TR, except as provided by paragraph (h)(2) of this AD.

(2) For airplanes with a main landing gear retraction actuator assembly rod end that has accumulated more than 9,850 total flight cycles as of the effective date of this AD: Within 600 flight cycles after the effective date of this AD, replace any affected rod end having P/Ns P3A2750 and P3A2750-1 with a new or serviceable rod end, in accordance with Goodrich Dressed Shock Strut Assembly Main Landing Gear Part No. 46100-29/-31/-33/-35/-37/-39/-41/-43/-45/-47/-49/-51/-53

and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03, Revision 11, dated August 22, 2008.

(i) After accomplishing the revision specified in paragraph (g)(1) or (h)(1) of this AD, except as provided in paragraph (j) of this AD, no alternative replacement times may be approved for this part.

Note 2: The ALI revisions required by paragraphs (g) and (h) of this AD may be done by inserting copies of Bombardier TRs ALI-82 and ALI-89 into Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 MRM, PSM 1-84-7. When these TRs have been included in the general revision of the MRM, the general revision may be inserted into the MRM, provided the relevant information in the general revision is identical to that in Bombardier TRs ALI-82 and ALI-89.

FAA AD Differences

Note 3: This AD differs from the MCAI and/or service information as follows: The MCAI and service information do not contain replacement procedures for the upper bearings and rod ends. This AD requires replacing the upper bearings and rod ends in accordance with Goodrich Dressed Shock Strut Assembly Main Landing Gear Part No. 46100-29/-31/-33/-35/-37/-39/-41/-43/-45/-47/-49/-51/-53 and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03, Revision 11, dated August 22, 2008.

Other FAA AD Provisions

(j) 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. Send information to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York, 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

(4) Special Flight Permits: Special flight permits, as described in Section 21.197 and Section 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199), are allowed, provided that the actions required in paragraph (h) of this AD have been accomplished.

Related Information

(k) Refer to MCAI Canadian Airworthiness Directive CF-2009-17, dated April 22, 2009; Bombardier TR ALI-82, dated August 15, 2008, and Bombardier TR ALI-89, dated March 27, 2009, to Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 Maintenance Requirements Manual, PSM 1-84-7; and Goodrich Dressed Shock Strut Assembly Main Landing

Gear Part No. 46100-29/-31/-33/-35/-37/-39/-41/-43/- 45/-47/-49/-51/-53 and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03, Revision 11, dated August 22, 2008; for related information.

Material Incorporated by Reference

(1) You must use the service information listed in Table 1 of this AD, as applicable, to do the actions required by this AD, unless the AD specifies otherwise.

Table 1 – Material incorporated by reference

Service Information	Revision	Date
Bombardier Temporary Revision ALI-82 to Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 Maintenance Requirements Manual, PSM 1-84-7	Original	August 15, 2008
Bombardier Temporary Revision ALI-89 to Part 2, Airworthiness Limitation Items, of the Bombardier Dash 8 Q400 Maintenance Requirements Manual, PSM 1-84-7	Original	March 27, 2009
Goodrich Dressed Shock Strut Assembly Main Landing Gear Part No. 46100-29/-31/-33/-35/-37/-39/-41/-43/-45/-47/-49/-51/-53 and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03	11	August 22, 2008

(The revision level of Goodrich Dressed Shock Strut Assembly Main Landing Gear Part No. 46100-29/-31/-33/-35/-37/-39/- 41/-43/-45/-47/-49/-51/-53 and -55 Component Maintenance Manual with Illustrated Parts List 32-11-03, Revision 11, dated August 22, 2008, is indicated only on the Record of Revisions; no other page of this document contains this information. Page LEP-3/4 is missing from the List of Effective Pages of this document; page LEP 3/4 is dated August 22, 2008.)

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For Bombardier 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; e-mail thd.qseries@aero.bombardier.com; Internet <http://www.bombardier.com>.

(3) For Goodrich service information identified in this AD, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville L6L 5Y7, Ontario, Canada; telephone 905-825-1568; e-mail jean.breed@goodrich.com; Internet <http://www.goodrich.com/TechPubs>.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 23, 2010.

Ali Bahrami,
 Manager, Transport Airplane Directorate,
 Aircraft Certification Service.