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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0785; Directorate Identifier 2009-NM-125-AD; Amendment 39-16163; AD 2010-01-06]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. (Type Certificate Previously Held by de Havilland, Inc.) Model DHC-8-400 Series Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding an existing 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:

There has been one case reported of failure of a shaft (tailstock) on an elevator Power Control Unit (PCU), Part Number (P/N) 390600-1007. Continued actuation of the affected PCU caused damage to the surrounding structure. * * *

Each elevator surface has three PCUs, powered by separate independent hydraulic systems, and a single elevator PCU shaft failure may remain dormant. Such a dormant loss of redundancy, coupled with the potential for a failed shaft to produce collateral damage, including damage to hydraulic lines, could possibly affect the controllability of the aircraft.

* * * * *

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

DATES: This AD becomes effective February 9, 2010.

On June 26, 2009 (74 FR 27686, June 11, 2009), the Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD.

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: Cesar Gomez, 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) 228-7318; 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 September 4, 2009 (74 FR 45787), and proposed to supersede AD 2009-12-13, Amendment 39-15936 (74 FR 27686, June 11, 2009). That NPRM proposed to correct an unsafe condition for the specified products.

When we issued AD 2009-12-13, the eventual replacement of all elevator power control units identified in paragraph (f)(1) of that AD was not required. We have now determined that further rulemaking is necessary for this action, and this AD follows from that determination. We are mandating the optional terminating action in paragraph (f)(3) of AD 2009-12-13 in this AD. 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.

Explanation of Change to Alternative Method of Compliance Paragraph

We have updated paragraph (h)(1) of this AD to provide the appropriate contact information to use when submitting requests for approval of an alternative method of compliance (AMOC).

Explanation of Changes Made to This AD

We have revised this AD to identify the legal name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

Conclusion

We reviewed the available data and determined that air safety and the public interest require adopting the AD with the changes described previously. We determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

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 about 61 products of U.S. registry.

The actions that are required by AD 2009-12-13 and retained in this AD take about 3 work-hours per product, at an average labor rate of \$80 per work hour. Based on these figures, the estimated cost of the currently required actions is \$240 per product.

We estimate that it will take about 13 work-hours per product to comply with the new basic requirements of this AD. The average labor rate is \$80 per work-hour. Required parts will cost about \$0 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 costs. 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 \$63,440, or \$1,040 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 removing Amendment 39-15936 (74 FR 27686, June 11, 2009) and adding the following new AD:



2010-01-06 Bombardier, Inc. (Type Certificate Previously Held by de Havilland, Inc.):
Amendment 39-16163. Docket No. FAA-2009-0785; Directorate Identifier 2009-NM-125-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective February 9, 2010.

Affected ADs

- (b) This AD supersedes AD 2009-12-13, Amendment 39-15936.

Applicability

(c) This AD applies to Bombardier, Inc. (Type Certificate previously held by de Havilland, Inc.) Model DHC-8-400, DHC-8-401, and DHC-8-402 airplanes, certificated in any category, serial numbers 4135 through 4149 inclusive.

Subject

- (d) Air Transport Association (ATA) of America Code 27: Flight Controls.

Reason

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

There has been one case reported of failure of a shaft (tailstock) on an elevator Power Control Unit (PCU), Part Number (P/N) 390600-1007. Continued actuation of the affected PCU caused damage to the surrounding structure. Subsequent investigation determined that the failure was the result of a material defect and that the shafts installed on a total of 88 suspect PCUs * * * may contain a similar defect.

Each elevator surface has three PCUs, powered by separate independent hydraulic systems, and a single elevator PCU shaft failure may remain dormant. Such a dormant loss of redundancy, coupled with the potential for a failed shaft to produce collateral damage, including damage to hydraulic lines, could possibly affect the controllability of the aircraft.

This directive mandates an identification check for elevator PCU serial numbers, a daily check for correct operation of all suspect PCUs and, finally, replacement of all suspect PCUs.

Restatement of Requirements of AD 2009-12-13, Without Optional Terminating Action:

- (f) Unless already done, do the following actions.

(1) Within 30 days after June 26, 2009 (the effective date of AD 2009-12-13), inspect the serial number of each of the six installed elevator PCUs having P/N 390600-1007. If one or more of the six installed elevator PCUs, P/N 390600-1007, have any of the PCU serial numbers 238, 698, 783 through 788 inclusive, 790, 793, 795, 802, 806, 807, 810, 820 through 823 inclusive, 826 through 828 inclusive, 831, 835, 838, 840, 886 through 889 inclusive, or 898 through 955 inclusive; without a suffix "A" after the serial number: Within 30 days after June 26, 2009, perform a check for the correct operation of all installed elevator PCUs in accordance with the procedures detailed in Appendix A, B, or C of Bombardier Q400 All Operator Message 217B, dated April 26, 2007. Repeat the check thereafter before the first flight of each day until the replacement specified in paragraph (g) of this AD is done. The checks in Appendices A and B of Bombardier Q400 All Operator Message 217B, dated April 26, 2007, must be performed by the flight crew, while the check specified in Appendix C of the all operator message must be performed by certificated maintenance personnel.

Note 1: Suffix "A" after the serial number indicates that the PCU has already passed a magnetic particle inspection and is cleared for continued use.

(2) If incorrect operation of any elevator PCU is found during any check required by paragraph (f)(1) of this AD, before further flight, replace the elevator PCU with a PCU, P/N 390600-1007, having a serial number not specified in paragraph (f)(1) of this AD; or with a PCU, P/N 390600-1007, having the suffix "A" after the serial number; in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-32, Revision A, dated January 18, 2008.

(3) Actions accomplished before June 26, 2009, according to Bombardier Service Bulletin 84-27-32, dated May 1, 2007, are considered acceptable for compliance with the corresponding action specified in this AD.

New Requirements of This AD

Actions and Compliance

(g) Unless already done, within 2,000 flight hours or 12 months after the effective date of this AD, whichever occurs later, replace all PCUs, P/N 390600-1007, having a serial number specified in paragraph (f)(1) of this AD, and not having suffix "A" after the serial number, with PCUs, P/N 390600-1007, having a serial number not specified in paragraph (f)(1) of this AD; or with PCUs, P/N 390600-1007, having the suffix "A" after the serial number; in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-32, Revision A, dated January 18, 2008. This action terminates the requirements of paragraph (f)(1) of this AD.

FAA AD Differences

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(h) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office, 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, 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 ensure 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.

Related Information

(i) Refer to MCAI Canadian Airworthiness Directive CF-2009-16, dated April 20, 2009; Bombardier Service Bulletin 84-27-32, Revision A, dated January 18, 2008; and Bombardier Q400 All Operator Message 217B, dated April 26, 2007; for related information.

Material Incorporated by Reference

(j) You must use Bombardier Service Bulletin 84-27-32, Revision A, dated January 18, 2008; and Bombardier Q400 All Operator Message 217B, dated April 26, 2007; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register previously approved the incorporation by reference of Bombardier Service Bulletin 84-27-32, Revision A, dated January 18, 2008; and Bombardier Q400 All Operator Message 217B, dated April 26, 2007; on June 26, 2009 (74 FR 27686, June 11, 2009).

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

(3) 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 or 425-227-1152.

(4) 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 December 23, 2009.

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