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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0702; Product Identifier 2019-NM-118-AD; Amendment 39-19825; AD 2020-02-10]

RIN 2120-AA64

Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by 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 De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. This AD was prompted by a report of a quality escape in the manufacturing of advanced pneumatic detector (APD) switches, which consisted of the presence of contamination on the switch contact pin. This AD requires identification and testing, and reidentification or replacement if necessary, of affected APDs. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 12, 2020.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 12, 2020.

ADDRESSES: For service information identified in this final rule, contact De Havilland Aircraft of Canada Limited, Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd@dehavilland.com; internet <https://dehavilland.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 <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0702.

Examining the AD Docket

You may examine the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0702; 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: Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:
Discussion

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2019-13, dated April 4, 2019 (“Canadian AD CF-2019-13”) (also referred to as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes. You may examine the MCAI in the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0702.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. The NPRM was published in the Federal Register on October 4, 2019 (84 FR 53070). The NPRM was prompted by a report of a quality escape in the manufacturing of APD switches, which consisted of the presence of contamination on the switch contact pin. The NPRM proposed to require identification and testing, and reidentification or replacement if necessary, of affected APDs. The FAA is issuing this AD to address such contamination that could insulate the contact pin from the diaphragm and result in an undetected fire or late detection of a fire. See the MCAI for additional background information.

Comments

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

Request To Update Type Certificate (TC) Holder

Bombardier Aviation reported that ownership of the affected airplanes was transferred to De Havilland Aircraft of Canada Limited. Bombardier requested that the FAA revise the NPRM to identify De Havilland as the U.S. TC holder.

The FAA acknowledges the change of ownership identified by the commenter and has revised this final rule accordingly. The FAA also notes that any future revisions to the referenced service information, Bombardier Service Bulletin 84-26-19, Revision ‘A,’ dated February 11, 2019, will be issued by De Havilland Aircraft of Canada Limited.

Request To Limit Required Actions

Horizon Air requested that the FAA revise the proposed AD to limit the required actions to those specified in paragraph 3.B., “Procedure,” of Bombardier Service Bulletin 84-26-19, Revision ‘A,’ dated February 11, 2019. Horizon noted that the proposed AD would require “the Accomplishment Instructions” of the service information, which also includes paragraph 3.A., “Job Set-Up,” and paragraph 3.C., “Close Out.” Horizon Air stated that those sections do not directly correct the unsafe condition.

The FAA agrees with the commenter's request and has revised paragraph (h) of this AD accordingly.

Request To Remove Requirement To Return Failed APDs

Horizon Air requested that the FAA remove paragraph (i) of the proposed AD (“Return of Failed APDs”). Horizon Air alleged that this requirement would place an unnecessary cost and regulatory burden on operators who must create, track, and maintain records to demonstrate compliance with the required return criteria. Horizon Air added that return of any failed loop (APD) could be done via operators' field service/product support network with Kidde Aerospace and Defense (part of United Technologies Aerospace Systems (UTAS)). Horizon further asserted that the FAA did not justify the proposed requirement to return failed APDs to Kidde Aerospace and Defense or explain how this would improve the level of safety.

The FAA does not agree that the requirement to return failed APDs to Kidde Aerospace and Defense places an unnecessary cost and regulatory burden on operators. Bombardier Service Bulletin 84-26-19, Revision ‘A,’ dated February 11, 2019, refers to Kidde Aerospace and Defense Service Bulletin 10-1096-26-511, Paragraph 3.3.F, which specifies returning the part with a Return Authorization form to Kidde Aerospace and Defense so that operators can receive a free-of-charge replacement. The cost of an APD varies from \$6,300 to \$9,300, depending on the type. With seven APDs on the aircraft, it is actually a cost benefit to return failed APDs to obtain replacements free of charge. In addition, when an unsafe condition involves an escape in a manufacturer's quality control (QC) system, returning failed parts or reporting certain findings can be instrumental in determining the extent and nature of the QC problem, especially in cases where the data may not be available through other established means. The information collected from the return of the failed APDs is necessary to ensure that proper corrective action will be taken. The FAA has not changed this AD regarding this issue.

Additional Change to Proposed AD

Paragraph (j) of the proposed AD (“Parts Installation Limitation”) would allow installation of an affected APD if it is successfully tested and reidentified in accordance with Bombardier Service Bulletin 84-26-19, Revision ‘A,’ dated February 11, 2019. We have revised paragraph (j) in this AD to also allow installation of an affected APD that is tested and reidentified in accordance with Bombardier Service Bulletin 84-26-19, dated October 24, 2018.

Conclusion

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and 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.

The FAA also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information Under 1 CFR Part 51

Bombardier issued Service Bulletin 84-26-19, Revision ‘A,’ dated February 11, 2019. This service information describes procedures for identification and testing, and reidentification or replacement if necessary, of affected APDs. 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 65 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
Up to 10 work-hours × \$85 per hour = Up to \$850	\$0	Up to \$850	Up to \$55,250.

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 124 work-hours × \$85 per hour = Up to \$10,540	Up to \$51,076	Up to \$61,616.

* The FAA has received no definitive data to provide cost estimates for the on-condition return of parts, except the FAA estimates that it would take about 1 work-hour per product to comply with the associated paperwork necessary for the return of parts.

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. The FAA does not control warranty coverage for affected individuals. As a result, the FAA has included all known costs in the cost estimate.

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

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):



2020-02-10 De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.): Amendment 39-19825; Docket No. FAA-2019-0702; Product Identifier 2019-NM-118-AD.

(a) Effective Date

This AD is effective March 12, 2020.

(b) Affected ADs

None.

(c) Applicability

This AD applies to De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 and 4003 and subsequent.

(d) Subject

Air Transport Association (ATA) of America Code 26, Fire protection.

(e) Reason

This AD was prompted by a report of a quality escape in the manufacturing of advanced pneumatic detector (APD) switches, which consisted of the presence of contamination on the switch contact pin. The FAA is issuing this AD to address such contamination that could insulate the contact pin from the diaphragm and result in an undetected fire or late detection of a fire.

(f) Compliance

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

(g) Affected APDs

For purposes of this AD, an affected APD is manufactured by Kidde Aerospace and Defense (part of United Technologies Aerospace Systems (UTAS)) and has a part number and serial number identified in paragraphs (g)(1) through (10) of this AD.

- (1) Part number 10-1096 (all serial numbers).
- (2) Part number 10-1096-01 (all serial numbers).
- (3) Part number 10-1096-02 (serial numbers before AEM9907).
- (4) Part number 10-1097 (all serial numbers).
- (5) Part number 10-1097-01 (all serial numbers).
- (6) Part number 10-1097-02 (serial numbers before 17-0005).

- (7) Part number 10-1098 (all serial numbers).
- (8) Part number 10-1098-01 (serial numbers before 17-0110).
- (9) Part number 10-1099 (all serial numbers).
- (10) Part number 10-1099-01 (serial numbers before 17-0009).

(h) APD Identification and Test

Within 8,000 flight hours or 48 months, whichever occurs first after the effective date of this AD: Do the applicable actions specified in paragraph (h)(1) and (2) of this AD, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-26-19, Revision 'A,' dated February 11, 2019.

(1) Determine whether any affected APD is installed on the engine nacelles or auxiliary power unit (APU) compartment.

(2) Do the on-aircraft test of all affected APDs.

(i) For any APD that passes the test: Before further flight, reidentify the APD.

(ii) For any APD that fails the test: Before further flight, replace the APD with an unaffected APD, or one provided by Kidde Aerospace and Defense that has been successfully tested and reidentified.

(i) Returning and Reporting Failed APDs

For any APD that fails the test specified in paragraph (h)(2) of this AD: Return the APD at the applicable time specified in paragraph (i)(1) or (2) of this AD to Kidde Aerospace & Defense, 4200 Airport Dr NW, Building B, Wilson, NC 27896-8630, Attention Keith Fail, Supervisor, Service Center.

(1) If the test was done on or after the effective date of this AD: Send the APD within 30 days after completion of the test.

(2) If the test was done before the effective date of this AD: Send the APD within 30 days after the effective date of this AD.

(j) Parts Installation Limitation

As of the effective date of this AD, no person may install an affected APD, unless the APD has been successfully tested and reidentified in accordance with Bombardier Service Bulletin 84-26-19, dated October 24, 2018; or Revision 'A,' dated February 11, 2019.

(k) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-26-19, dated October 24, 2018.

(l) 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 De Havilland Aircraft of Canada Limited's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(3) Reporting Requirements: A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory as required by this AD; the nature and extent of confidentiality to be provided, if any. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

(m) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2019-13, dated April 4, 2019, for related information. This MCAI may be found in the AD docket on the internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2019-0702.

(2) For more information about this AD, contact Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; 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 (n)(3) and (4) of this AD.

(n) 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 84-26-19, Revision 'A,' dated February 11, 2019.

(ii) [Reserved]

(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd@dehavilland.com; internet <https://dehavilland.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, email fedreg.legal@nara.gov, or go to <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

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