[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2020-1005; Project Identifier MCAI-2020-00709-A; Amendment 39-21963; AD 2022-05-11]

RIN 2120-AA64

Airworthiness Directives; Viking Air Limited (Type Certificate Previously Held by Bombardier Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Viking Air Limited (type certificate previously held by Bombardier Inc.) Model DHC-3 airplanes with a certain wing strut assembly installed. 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 identifies the unsafe condition as fatigue damage of the wing struts. This AD requires a bolt hole eddy current inspection of the lug plate holes, a visual and fluorescent dye penetrant inspection of the lug fittings, and a visual and eddy current surface scan inspection of the wing strut assemblies. This unsafe condition could lead to failure of the wing strut, which could result in an in-flight breakup of the wing. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Viking Air Ltd., 1959 de Havilland Way, Sidney British Columbia, Canada V8L 5V5; phone: (800) 663-8444; email: continuing.airworthiness@vikingair.com; website:

https://www.vikingair.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-1005.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-1005; 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 MCAI, 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: Deep Gaurav, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7300; email: deep.gaurav@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Viking Air Limited (formerly Bombardier Inc.) Model DHC-3 airplanes with a wing strut assembly part number (P/N) C3W100 (all dash numbers) installed. The NPRM published in the *Federal Register* on December 21, 2021 (86 FR 72198). The NPRM was prompted by MCAI originated by Transport Canada, which is the aviation authority for Canada. Transport Canada has issued AD CF-2020-20, dated May 27, 2020 (referred to after this as "the MCAI"), to correct an unsafe condition on Viking Air Limited (formerly Bombardier Inc.) Model DHC-3 airplanes. The MCAI states:

> A DHC-3 experienced an in-flight failure of a wing strut in October 2019. Inspection of the failed part determined that it had fractured and that the fracture

was consistent with fatigue damage. The investigation of the occurrence is ongoing.

In 1969, it was determined from fatigue testing and analysis that part number (P/N) C3W100 wing strut assemblies on DHC-3 that were used for normal operations at a maximum weight of 8000 pounds should be removed from service before they have accumulated more than 20 000 hours air time. This information, including definitions of normal operations, was published in Service Bulletin 3/10 dated 26 August 1969. It was also published at the same time in Appendix 4 Part 6, Structural Component Recommended Service Life Limits, of the DHC-3 Maintenance Manual PSM 1-3-2.

It is Transport Canada Civil Aviation (TCCA) policy to mandate compliance with new or more restrictive airworthiness limitations (AWLs) by the issuance of an AD if the AWL is established after products that are affected by the AWL are already in service. To date, TCCA has not mandated compliance with the 20 000 hours air time life limit AWL that is applicable to P/N C3W100 wing strut assemblies. This AD includes a requirement to comply with the life limit.

Some DHC-3 aeroplanes have been modified to permit operations at maximum weights above 8000 pounds. For example, TCCA Supplemental Type Certificate (STC) SA95-32 increases the maximum operating weight to 8367 pounds. This STC includes a requirement to reduce the life limit that is applicable to P/N C3W100 wing strut assembly from 20 000 hours air time to 17 500 hours air time, adjusted for the amount of time that the wing strut assembly is used at the higher maximum operating weight. Because this reduced life limit has been in place since the initial issue of STC SA95-32 in 1995, TCCA considers compliance to be mandatory for all aeroplanes that have been modified in accordance with the STC.

In November 2019, Viking Air Ltd. (Viking) issued Alert Service Bulletin (ASB) V3/0011. The ASB provides instructions for a one-time inspection and follow-on corrective actions for all dash numbers of wing strut assembly P/N C3W100. Since that time, several operators have reported the results of the inspection to Viking. The information in the operators' reports suggests that other DHC-3 wing struts may be at risk of failure. The inspection of the wing struts on five aeroplanes revealed crack indications during non-destructive inspection of bolt holes, seized bolts, pitting corrosion and fretting on the face of lug plates, scratches and gouges in the bolt hole of a lug plate. Failure of a wing strut could result in a catastrophic in-flight breakup of the wing.

This [Transport Canada] AD mandates the accomplishment of ASB V3/0011 or alternative inspection instructions provided by Viking on wing struts that have accumulated more than 2500 hours air time as of the effective date of this AD. New or serviceable struts installed on aeroplanes after the effective date of this AD that accumulate more than 2500 hours air time after the effective date of this AD are not subject to this AD or to the ASB V3/0011 inspections.

You may examine the MCAI in the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-1005.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the costs.

Conclusion

The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. This AD is adopted as proposed in the NPRM.

Related Service Information under 1 CFR Part 51

The FAA reviewed Viking DHC-3 Otter Alert Service Bulletin V3/0011, Revision NC, dated November 26, 2019. The service information specifies procedures for a bolt hole eddy current inspection of the lug hole on the lug plate P/N C3W104, a visual and fluorescent dye penetrant inspection of the lug fitting P/Ns C3W102 and C3W103, and a visual and eddy current surface scan inspection of the wing strut assembly P/N C3W101.

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.

Differences Between this AD and the MCAI

The MCAI allows an alternative inspection, obtained from the design approval holder, if completed within 5 months. This AD does not include this alternative; however, operators who choose this option may propose an alternative method of compliance in accordance with paragraph (h) of this AD.

Interim Action

The FAA considers this AD interim action. The inspection reports required by this AD will be used by Viking and Transport Canada to determine if there is a need for further action. If additional action is later identified, the FAA might consider further rulemaking.

Costs of Compliance

The FAA estimates that this AD affects 39 airplanes of U.S. registry. The FAA also estimates that it will take about 32 work-hours per airplane to comply with the

inspection and repair or replacement requirements of this AD. The reporting requirement will take about 1 work-hour. The average labor rate is $85 per work-hour. Required parts will cost about $31,415 per airplane.

Based on these figures, the FAA estimates the cost of this AD on U.S. operators to be $1,334,580 or $34,220 per airplane.

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

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 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 currently 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 take approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. 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.

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.

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.

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:

2022-05-11 Viking Air Limited (Type Certificate Previously Held by Bombardier Inc.): Amendment 39-21963; Docket No. FAA-2020-1005; Project Identifier MCAI-2020-00709-A.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Viking Air Limited (type certificate previously held by Bombardier Inc.) Model DHC-3 airplanes, all serial numbers, certificated in any category, with a wing strut assembly part number (P/N) C3W100 (all dash numbers) installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 5700, Wing Structure.

(e) Unsafe Condition

This AD was prompted by 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 identifies the unsafe condition as fatigue damage of the wing struts. The FAA is issuing this AD to prevent failure of a wing strut. The unsafe condition, if not addressed, could result in an in-flight breakup of the wing.

(f) Compliance

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

(g) Required Actions

(1) For airplanes that have not been modified with Supplemental Type Certificate (STC) SA00438NY: Before each wing strut assembly P/N C3W100 accumulates 20,000 hours total time-in-service (TIS) or within 30 days after the effective date of this AD, whichever occurs later, remove the wing strut assembly P/N C3W100 from service and replace with a new (zero hours TIS) part. Thereafter, remove each wing strut assembly P/N C3W100 from service and replace with a new (zero hours TIS) part before accumulating 20,000 hours total TIS.

(2) For airplanes with a wing strut assembly P/N C3W100 with more than 2,500 hours total TIS on the effective date of this AD, regardless of whether the airplane has been modified with STC SA00438NY: Within 30 days after the effective date of this AD, inspect the wing strut assembly and attachment hardware for cracks, corrosion, and

damage, in accordance with the Accomplishment Instructions in Viking DHC-3 Otter Alert Service Bulletin No. V3/0011, Revision NC, dated November 26, 2019, except you are not required to contact Viking.

(3) For all affected airplanes: Within 30 days after completing the inspection required by paragraph (g)(2) of this AD or within 30 days after the effective date of this AD, whichever occurs later, report the results of the inspection to Viking using the inspection reply form in Viking DHC-3 Otter Alert Service Bulletin No. V3/0011, Revision NC, dated November 26, 2019.

(h) Alternative Methods of Compliance (AMOCs)

(1) 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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (i)(1) of this AD.

(2) 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.

(i) Related Information

(1) For more information about this AD, contact Deep Gaurav, Aviation Safety Engineer, New York ACO Branch, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; phone: (516) 228-7300; email: deep.gaurav@faa.gov.

(2) Refer to Transport Canada AD CF-2020-20, dated May 27, 2020, for related information. You may examine the Transport Canada AD in the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2020-1005.

(j) 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 the AD specifies otherwise.

(i) Viking DHC-3 Otter Alert Service Bulletin V3/0011, Revision NC, dated November 26, 2019.

(ii) [Reserved]

(3) For service information identified in this AD, contact Viking Air Ltd., 1959 de Havilland Way, Sidney British Columbia, Canada V8L 5V5; phone: (800) 663-8444; email: continuing.airworthiness@vikingair.com; website: https://www.vikingair.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (817) 222-5110.

(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: fr.inspection@nara.gov, or go to: https://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on February 23, 2022.

Derek Morgan, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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