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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0189; Product Identifier 2017-CE-022-AD; Amendment 39-19460; AD 2018-21-02]

RIN 2120-AA64

Airworthiness Directives; Viking Air Limited Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for Viking Air Limited Model DHC-3 airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued 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 pitting corrosion on the shank of the wing strut attach bolts. We are issuing this AD to require actions to address the unsafe condition on these products.

DATES: This AD is effective November 28, 2018.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of November 28, 2018.

ADDRESSES: You may examine the AD docket on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0189; or in person at Docket Operations, 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 service information identified in this AD, contact Viking Air Limited Technical Support, 1959 De Havilland Way, Sidney, British Columbia, Canada, V8L 5V5; telephone: (North America) (800) 663-8444; fax: (250) 656-0673; email: technical.support@vikingair.com; internet: <http://www.vikingair.com/support/service-bulletins>. You may view this referenced service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for Docket No. FAA-2018-0189.

FOR FURTHER INFORMATION CONTACT: Aziz Ahmed, Aerospace Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: (516) 287-7329; fax: (516) 794-5531; email: aziz.ahmed@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Viking Air Limited Model DHC-3 airplanes. The NPRM was published in the Federal Register on March 13, 2018 (83 FR 10809). The NPRM proposed to correct an unsafe condition for the specified products and was based on MCAI originated by an aviation authority of another country. The MCAI states:

Pitting corrosion has been found on the shank of the following part number wing strut attach bolts: C3W114-3, C3W129-3 and C3W128-3. These bolts are manufactured using a standard AN12 bolt. Metallurgical evaluation concluded that pitting corrosion was present on the affected AN12 bolts prior to forming of the bolt head and threads. The pitting and un-plated voids could cause a surface condition that may have a detrimental effect on fatigue and corrosion resistance, leading to bolt failure and consequent failure of the wing.

Viking has not been able to confirm the affected batch numbers or specific manufacture date range. New wing strut bolts manufactured after 21 March 2016 are inspected for pitting during manufacturing and issued new P/Ns C3W114-5, C3W129-5 and C3W128-5 under MOD 3/1010.

The MCAI can be found in the AD docket on the internet at:
<https://www.regulations.gov/document?D=FAA-2018-0189-0002>.

Comments

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

Request To Issue SAIB Instead of an AD

Christopher Campbell requested that we withdraw the AD and issue a special airworthiness information bulletin (SAIB) instead. The commenter stated this AD is unnecessary and redundant since the manufacturer has already addressed this issue with a mandatory service bulletin and all affected bolts should now be removed. The commenter stated the affected bolts are 3/4-inch diameter bolts and only the surface cadmium plating is compromised, not the strength of the bolt. The commenter also disagreed with the manufacturer that the compromised cadmium plating would cause accelerated corrosion because the bolts are treated with anti-corrosion grease on installation. The commenter further stated an AD is unnecessary because the defect would be obvious to any installing mechanic. Lastly, the commenter stated that the proposed AD does little to further enhance safety but adds unwelcome recordkeeping and cost for owners.

We do not agree. We concur with Transport Canada's finding of an unsafe condition, as explained in Transport Canada AD No. CF-2017-11, dated March 23, 2017. An SAIB would not be an appropriate solution. An SAIB contains information and recommended actions that are voluntary and not regulatory. Moreover, an SAIB is issued only for airworthiness concerns that do not rise to the level of an unsafe condition. Similarly, while an operator may incorporate the procedures

described in a manufacturer's service bulletin into its maintenance program, not all operators are required to do so. For the corrective actions in a service bulletin to become mandatory and to correct the unsafe condition, the FAA must issue an AD. Based on the manufacturer's metallurgical evaluation, the pitting corrosion was present on the affected AN 12 bolts prior to forming of the bolt head and thread. Corrosion pitting was found on airplanes when doing the inspections per Transport Canada's AD CF-2017-11. Specifically, the pitting was discovered on the bolt shanks of both wing strut fitting to wing spar lug bolts. Relying on an assumption that the corrosion will be obvious at the time of bolts installation, as suggested by the commenter, is not a reliable method to correct an unsafe condition. We have not changed this AD based on this comment.

Changes Made to This AD

- We updated the service information in paragraphs (f)(1), (2), and (3) of this AD to Viking Air Limited DHC-3 Otter Service Bulletin Number V3/0006, Revision C, dated May 16, 2018, which adds alternate part numbers for Post Mod 3/1010 wing strut bolts.
- We changed paragraph (f)(2) of this AD to add alternate wing strut bolt part numbers C3W114-9, C3W128-9, and C3W129-9 as replacement bolts.
- We updated paragraph (g) Credit for Actions Accomplished in Accordance with Previous Service Information of this AD to add Viking DHC-3 Otter SB Number: V3/0006, Revision B, dated March 9, 2017.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD with the changes described previously and minor editorial changes. We have determined that these 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

We reviewed Viking Air Limited DHC-3 Otter Service Bulletin Number V3/0006, Revision C, dated May 16, 2018. The service information describes procedures for inspection and any necessary corrective action for pitting of the wing strut shank bolts. 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 will affect 37 products of U.S. registry. We also estimate that it would 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.

Based on these figures, we estimate the cost of this AD on U.S. operators to be \$12,580, or \$340 per product.

In addition, table 1 is an estimate of possible necessary follow-on actions as a result of the required inspections. We have no way of determining the number of products that may need these actions. Replacing each affected bolt is on condition and is estimated to take about 1 work-hour at \$85 for a cost of \$85 per bolt. We estimate that any necessary follow-on replacement parts would cost as follows:

Table 1–Parts Replacement and Total Bolt Cost

Part No.	Quantity per wing	Quantity per airplane	Price per bolt (\$ USD)	Total cost per bolt (labor and parts)
C3W114-5	2	4	\$284	\$369
C3W128-5	1	2	275	360
C3W129-5	1	2	164	249

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 small airplanes, gliders, balloons, airships, domestic business jet transport airplanes, and associated appliances to the Director of the Policy and Innovation 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 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.

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-2018-0189; or in person at Docket Operations 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 Docket Operations (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 airworthiness directive (AD):



AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2018-21-02 Viking Air Limited: Amendment 39-19460; Docket No. FAA-2018-0189; Product Identifier 2017-CE-022-AD.

(a) Effective Date

This AD becomes effective November 28, 2018.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Viking Air Limited (Viking) Model DHC-3 airplanes with wing strut bolts part numbers (P/N) C3W114-3, C3W129-3, and C3W128-3 (Pre MOD 3/1010), all serial numbers, certificated in any category.

(d) Subject

Air Transport Association of America (ATA) Code 57: Wings.

(e) Reason

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 describes the unsafe condition as pitting corrosion on the shank of the wing strut attach bolts. We are issuing this AD to detect and correct pitting and un-plated voids, which could cause a surface condition that may have a detrimental effect on fatigue and corrosion resistance, leading to bolt failure and subsequent failure of the wing.

(f) Actions and Compliance

Unless already done, do the following actions:

(1) Within 12 months after November 28, 2018 (the effective date of this AD), inspect the wing strut attach bolts installed on the airplane for pitting on the shank by following paragraph A of the Accomplishment Instructions in Viking DHC-3 Otter Service Bulletin Number: V3/0006, Revision C, dated May 16, 2018 (Viking SB V3/0006, Revision C).

(2) If pitting is found during the inspection required in paragraph (f)(1) of this AD, before further flight, replace the defective bolt with either a post MOD 3/1010 wing strut bolt (P/Ns C3W114-5, C3W128-5, and C3W129-5; or C3W114-9, C3W128-9, and C3W129-9) or a new or serviceable pre MOD 3/1010 wing strut bolt that has been inspected by following paragraph A of the Accomplishment Instructions in Viking SB V3/0006, Revision C.

(3) After November 28, 2018 (the effective date of this AD), you may continue to use pre MOD 3/1010 bolts provided these bolts are inspected for pitting immediately before installation by

following paragraph A of the Accomplishment Instructions in Viking SB V3/0006, Revision C, and you document the inspection in the airplane maintenance records.

(g) Credit for Actions Accomplished in Accordance With Previous Service Information

This AD allows credit for the actions required in paragraph (f)(1) or (2) of this AD if done before November 28, 2018 (the effective date of this AD) by following Viking Service Bulletin DHC-3 Otter V3/0006 Revision NC, A, or B.

(h) 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. Send information to ATTN: Aziz Ahmed, Aerospace Engineer, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: (516) 287-7329; fax: (516) 794-5531; email: aziz.ahmed@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must instead be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or Viking Air Limited's Transport Canada Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(i) Related Information

Refer to MCAI Transport Canada AD Number CF-2017-11, dated March 9, 2017, for related information. The MCAI can be found in the AD docket on the internet at: <https://www.regulations.gov/document?D=FAA-2018-0189-0002>.

(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 Service Bulletin (SB) Number: V3/0006, Revision C, dated May 16, 2018.

(ii) [Reserved]

(3) For Viking Air Limited service information identified in this AD, contact Viking Air Limited Technical Support, 1959 De Havilland Way, Sidney, British Columbia, Canada, V8L 5V5; telephone: (North America) (800) 663-8444; fax: (250) 656-0673; email: technical.support@vikingair.com; internet: <http://www.vikingair.com/support/service-bulletins>.

(4) You may view this service information at the FAA, Policy and Innovation Division, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0189.

(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, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri, on October 11, 2018.
Melvin J. Johnson,
Aircraft Certification Service, Deputy Director, Policy and Innovation Division, AIR-601.