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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-4229; Directorate Identifier 2015-CE-038-AD; Amendment 39-18657; AD 2016-19-08]

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 Models DHC-2 Mk. I, DHC-2 Mk. II, and DHC-2 Mk. III 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 corrosion of the elevator control rod and of the elevator actuating lever on the control column. We are issuing this AD to detect and correct corrosion and/or cracking of the elevator control rod assemblies and the elevator actuating lever, which if not detected and corrected, could cause these components to fail. This failure could result in loss of control.

DATES: This AD is effective October 24, 2016.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of October 24, 2016.

ADDRESSES: You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-4229; or in person at Document Management Facility, 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; Fax: 250-656-0673; telephone: (North America) (800) 663-8444; email: technical.support@vikingair.com; Internet: <http://www.vikingair.com/support/service-bulletins>. You may view this referenced service information at the FAA, Small Airplane Directorate, 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-2016-4229.

FOR FURTHER INFORMATION CONTACT: Aziz Ahmed, Aerospace Engineer, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: (516) 228-7329; 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 all Viking Air Limited Models DHC-2 Mk. I, DHC-2 Mk. II, and DHC-2 Mk. III airplanes. The NPRM was published in the Federal Register on March 3, 2016 (81 FR 11132). The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states:

There have been a number of reports of corrosion and/or cracking at the elevator actuating lever on the control column, in the elevator control rod assemblies, and at the rod end plug.

Undetected corrosion and/or cracking of the elevator control rod assemblies or elevator actuating lever may lead to the failure of the components with consequent loss of aeroplane control.

The MCAI requires visually inspecting the elevator control rod assemblies, the elevator actuating lever on the control column, and the control column torque tube for corrosion, cracking, and/or other damages, and repairing or replacing damaged parts. The MCAI also requires incorporating revisions into the maintenance program and adds a life limit to certain elevator control rod assemblies. The MCAI can be found in the AD docket on the Internet at <https://www.regulations.gov/document?D=FAA-2016-4229-0002>.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM (81 FR 11132, March 3, 2016) and the FAA's response to each comment.

Request To Change Inspection Procedure for the Elevator Control Rod

Roger Braun requested allowance for inspecting the elevator control rod without removing it from the airplane.

The commenter stated that even though the inspection procedure in Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'C', dated July 17, 2015 (SB No. V2/0005, Rev. C), requires removing the elevator control rod, that doing so is excessively invasive and adds an increased risk of maintenance errors and/or damage to the part over simply inspecting it in place.

We do not agree with the commenter. The elevator control rod ends are not required to be removed from its assembly. Removal of the elevator control rod assembly is necessary to do the required inspections. Viking Air Limited and Transport Canada determined that removing the elevator control rod assembly is necessary to adequately do the inspection, and the process of removing the elevator control rod assembly does not pose additional risk to safety.

We have not changed the AD based on this comment.

Request To Rename/Revise the Airworthiness Limitations Section

Roger Braun requested to omit the requirement to revise the Airworthiness Limitation section and instead include the repetitive inspection in the final rule AD action. The commenter stated that it is very hard to find the compliance times for the repetitive inspections, which are embedded in the temporary revisions to be inserted into the Airworthiness Limitation section of the FAA-approved maintenance program. The commenter asked that instead of inserting continued airworthiness instructions into the manual, why not include the language "repeat inspection every 400 flight hours" in the AD actions?

We partially agree. We agree that the repetitive inspection requirements that are embedded in the temporary revisions are not clear or easy to understand. However, we disagree with writing the repetitive inspections into the AD because Viking Air Limited plans to have all the required inspections in their maintenance manual rather than dispersed over numerous other documents. We have determined that revising the Airworthiness Limitations section of the FAA-approved maintenance program to mandate the repetitive inspections is acceptable. To clarify the intent of the of the Airworthiness Limitations section, we have changed the heading of that section to Repetitive Inspection in order to make the repetitive inspections clear.

We have changed the AD based on this comment.

Request To Allow Minor Surface Corrosion

Roger Braun requested that the final rule AD action be changed to include an allowance for minor surface corrosion.

The commenter stated that the proposed AD and the related service information are vague in delineating what corrosion is considered unacceptable by stating if "any corrosion" is found, which would be an unrealistic standard. The commenter requested relief for minor surface corrosion.

We do not agree. Viking Air Limited and Transport Canada determined that all corrosion is unacceptable. Small surface corrosion must also be repaired following the SB No. V2/0005, Rev. C, dated July 17, 2015.

We have not changed the AD based on this comment.

Request for Clarification of Life Limit for Part Number (P/N) C2FC619A-11

Roger Braun requested clarification in the final rule AD action to clearly state that P/N C2FC619A-11 elevator control rod is not a life-limited part.

The commenter stated that it is not entirely clear in the proposed AD that elevator control rod, P/N C2FC619A-11, is not a life-limited part. The commenter requested further clarification in the final rule AD action specifying that there is no life limit on P/N C2FC619A-11.

We agree with the commenter and have added a statement in the AD to further clarify that the P/N C2CF619A-11 elevator control rod has no life limit.

We have changed the AD based on this comment.

Request To Extend Repetitive Inspection Compliance Times

Roger Braun requested relief for the repetitive inspection of the elevator control rods with a known date of manufacture, for example, 5 or 10 years.

We infer that the commenter wants the repetitive inspections changed from every 400 hours time-in-service (which is what is specified in the Temporary Revisions to the Airworthiness Limitations section) to a repetitive 5-year inspection.

We do not agree. Viking Air Limited and Transport Canada determined that damage can occur at any time. Therefore, no threshold is provided that will allow a certain period of time before the start of the repetitive inspection requirement.

We have not changed the AD based on this comment.

Request To Change Repetitive Inspection Compliance Time

Mark Henshaw requested the repetitive inspections be yearly/12-month inspections. The commenter stated that he operated his airplane 400-500 hours per summer season, as most operators do. The commenter stated that the 400-hour recurring inspection will require the operators to remove the airplane from service, remove the pilot floor panel, pilot side panels, oil cooler cowl, side after cowl, unbolt the control column bearings and the inboard control column mount then remove it, pull the elevator control rod out of the airplane, and then do the elevator control rod inspection. We infer that the commenter is making the point that the inspection is very labor intensive. The commenter stated that this inspection would fit nicely into a yearly/12-month inspection criteria instead of what probably will fall right in the middle of their busy season when a 100-hour inspection may or may not have been scheduled. This inspection will add at least 4-6 hours (on a good night) to a routine 100-hour inspection.

The commenter requested an alternative of yearly/every 12 months, that way all the elevator control rods get looked at every year and nobody has to stop their airplane right in the middle of their busy season for this inspection.

The commenter stated that there has never been a requirement to remove the elevator control rod, and does agree that doing the inspection is great idea, but not every 400 hours.

We do not agree that yearly/12 month inspections are an acceptable level of safety to address the unsafe condition. The 400-hour inspection should assure that any damage will be detected before it rises to an unsafe level. Additionally, Viking Air Limited informed us that there are existing inspections specified in the applicable maintenance manuals around the same affected area as this AD that requires lifting of floor boards.

We have not changed the AD based on this comment.

Conclusion

We reviewed the relevant data, considered the comments 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 minor changes:

- Are consistent with the intent that was proposed in the NPRM (81 FR 11132, March 3, 2016) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (81 FR 11132, March 3, 2016).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

Related Service Information Under 1 CFR Part 51

We reviewed Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'C', dated July 17, 2015; Temporary Revision No.: 2-38, dated March 4, 2015, of VIKING PSM NO.: 1-2-2, AIRCRAFT: DHC-2 BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL; and Temporary Revision No.: 2T-14, dated March 4, 2015, of VIKING PSM NO.: 1-2T-2, AIRCRAFT: DHC-2 TURBO BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL. The service information describes procedures for doing detailed visual inspections of the elevator control rod assemblies, the elevator actuating lever on the control column, and the control column torque tube for corrosion, cracking, and/or other damages. The service bulletin also describes procedures for repairing or replacing damaged parts. 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 of the AD.

Costs of Compliance

We estimate that this AD will affect 135 products of U.S. registry. We also estimate that it will take about 11.5 work-hours per product to comply with the basic inspection requirements of this AD. The average labor rate is \$85 per work-hour.

Based on these figures, we estimate the cost of the basic inspection requirements of this AD on U.S. operators to be \$131,962.50, or \$977.50 per product.

In addition, we estimate that any necessary follow-on actions will take about 8 work-hours and require parts costing \$1,859, for a cost of \$2,539 per product. Contact Viking Air Limited at the address identified in the ADDRESSES section of this AD for current pricing and lead time. We have no way of determining the number of products that may need these actions.

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),
- (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-2016-4229; or in person at the Docket Management Facility 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 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:



2016-19-08 Viking Air Limited: Amendment 39-18657; Docket No. FAA-2016-4229; Directorate Identifier 2015-CE-038-AD.

(a) Effective Date

This airworthiness directive (AD) becomes effective October 24, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Viking Air Limited Models DHC-2 Mk. I, DHC-2 Mk. II, and DHC-2 Mk. III airplanes, all serial numbers, certificated in any category.

(d) Subject

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

(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 corrosion of the elevator control rod and of the elevator actuating lever on the control column. We are issuing this AD to detect and correct corrosion and/or cracking of the elevator control rod assemblies and the elevator actuating lever, which if not detected and corrected, could cause these components to fail. This failure could result in loss of control.

(f) Actions and Compliance

Comply with this AD within the compliance times specified in paragraphs (g) through (l) of this AD, including all subparagraphs, unless already done.

(g) Initial Inspections

Within the next 120 days after October 24, 2016 (the effective date of this AD) or within the next 100 hours time-in-service (TIS) after October 24, 2016 (the effective date of this AD), whichever occurs first, do the following inspections in accordance with section I. PLANNING INFORMATION, paragraph D. of Viking DHC-2 Beaver Service Bulletin Number: V2/0005, Revision "C", dated July 17, 2015:

(1) For airplanes with an installed elevator control rod assembly, part number (P/N) C2CF619A, do a detailed visual inspection of P/N C2CF619A for corrosion, cracking, and/or other damages.

(2) For airplanes with an installed elevator control rod assembly, P/N CT2CF1021-1, do a detailed visual inspection of P/N CT2CF1021-1 for corrosion, cracking, and/or other damages.

(3) For all airplanes, do a detailed visual inspection of the elevator actuating lever on the control column and the control column torque tube for corrosion, cracking and/or other damages.

(h) Repetitive Inspections (Airworthiness Limitations)

Within the next 30 days after October 24, 2016 (the effective date of this AD), insert the following into the Airworthiness Limitations section of the FAA-approved maintenance program (e.g., maintenance manual). This revision to the Limitations section incorporates repetitive inspections of the elevator control rod assemblies, the elevator actuating lever, and the control column torque tube for corrosion, cracks, and/or other damage. Insert item 20A., of Part 3, in Appendix 2 of Temporary Revision No.: 2-38, dated March 4, 2015, into the VIKING PSM NO.: 1-2-2, AIRCRAFT: DHC-2 BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL; and Insert item 20A., in Part 4, of Temporary Revision No.: 2T-14, dated March 4, 2015, into VIKING PSM NO.: 1-2T-2, AIRCRAFT: DHC-2 TURBO BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL.

(i) Replacement/Repair for P/N C2CF619A

(1) Before further flight after the inspection required in paragraph (g)(1) of this AD, if corrosion, cracking, or other damages are found, replace P/N C2CF619A with P/N C2CF619A-11 following section I. PLANNING INFORMATION, paragraph D. of Viking DHC-2 Beaver Service Bulletin Number: V2/0005, Revision "C", dated July 17, 2015, or contact Viking Air Limited at the address specified in paragraph (o) of this AD for an FAA-approved repair and incorporate the repair.

(2) Within the next 120 days after October 24, 2016 (the effective date of this AD) or within the next 100 hours TIS after October 24, 2016 (the effective date of this AD), whichever occurs first, you may replace P/N C2CF619A with P/N C2CF619A-11 instead of doing the inspection required in paragraph (g)(1) of this AD. Do the replacement following section I. PLANNING INFORMATION, paragraph D. of Viking DHC-2 Beaver Service Bulletin Number: V2/0005, Revision "C", dated July 17, 2015.

(3) After replacing P/N C2CF619A with P/N C2CF619A-11, you must still do the repetitive inspections of the elevator control rod assemblies following the Airworthiness Limitations section of the FAA-approved maintenance program (e.g., maintenance manual) specified in paragraph (k)(1) of this AD.

(j) Replacement/Repair for P/N CT2CF1021-1

(1) Before further flight after the inspection required in paragraph (g)(2) of this AD, if corrosion, cracking, or other damages are found, replace the elevator control rod assembly with P/N CT2CF1021-1 that has been inspected and is free of corrosion, cracking, or other damages following section I. PLANNING INFORMATION, paragraph D. of Viking DHC-2 Beaver Service Bulletin Number: V2/0005, Revision "C", dated July 17, 2015, or contact Viking Air Limited at the address specified in paragraph (o) of this AD for an FAA-approved repair and incorporate the repair.

(2) After replacing or repairing P/N CT2CF1021-1, you must still do the repetitive inspections of the elevator control rod assemblies following the Airworthiness Limitations section of the FAA-approved maintenance program (e.g., maintenance manual) specified in paragraph (k)(1) of this AD.

(k) Repair of the Elevator Actuating Lever

Before further flight after the inspection required in paragraph (g)(3) of this AD, if corrosion, cracking, or other damages are found, contact Viking Air Limited at the address specified in paragraph (o) of this AD for an FAA-approved repair and incorporate the repair.

(l) Restrictions

As of October 24, 2016 (the effective date of this AD), do not install P/N C2CF619A or C2CF619A-9 as a replacement part.

(m) Life Limit for P/N C2CF619A

As of October 24, 2016 (the effective date of this AD), elevator control rod assemblies, P/N C2CF619A, are life-limited to 15 years and must be replaced with P/N C2CF619A-11, which is not a life-limited part, at the following compliance time:

(1) If, as of October 24, 2016 (the effective date of this AD), the age of the installed P/N C2CF619A is known, it must be replaced before exceeding the life limit or within the next 12 months after October 24, 2016 (the effective date of this AD), whichever occurs later.

(2) If, as of October 24, 2016 (the effective date of this AD), the age of the installed P/N C2CF619A is not known, it must be replaced within the next 12 months after October 24, 2016 (the effective date of this AD).

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

Credit will be given for the inspections required in paragraphs (g)(1) through (3) of this AD if they were done before October 24, 2016 (the effective date of this AD) following Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'NC', dated March 26, 2012; Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'A', dated November 7, 2014; or Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'B', dated March 4, 2015.

(o) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), 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, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone: (516) 228-7329; 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) 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, 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 5 minutes per response, including

the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW., Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

(p) Related Information

Refer to MCAI Transport Canada AD No. CF-2015-21, dated July 30, 2015; and Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'NC', dated March 26, 2012; Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'A', dated November 7, 2014; or Viking Air Limited DHC-2 Beaver Service Bulletin Number: V2/0005, Revision 'B', dated March 4, 2015, for related information. You may examine the MCAI on the Internet at <https://www.regulations.gov/document?D=FAA-2016-4229-0002>.

(q) 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-2 Beaver Service Bulletin Number: V2/0005, Revision "C", dated July 17, 2015.

(ii) Item 20A., of Part 3, in Appendix 2 of Temporary Revision No.: 2-38, dated March 4, 2015, into the VIKING PSM NO.: 1-2-2, AIRCRAFT: DHC-2 BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL.

(iii) Item 20A., in Part 4, of Temporary Revision No.: 2T-14, dated March 4, 2015, into VIKING PSM NO.: 1-2T-2, AIRCRAFT: DHC-2 TURBO BEAVER, SERIES: ALL, PUBLICATION: MAINTENANCE MANUAL.

(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; Fax: 250-656-0673; telephone: (North America) (800) 663-8444; email: technical.support@vikingair.com; Internet: <http://www.vikingair.com/support/service-bulletins>.

(4) You may view this service information at the FAA, Small Airplane Directorate, 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-2016-4229.

(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 September 8, 2016.

Pat Mullen,
Acting Manager, Small Airplane Directorate,
Aircraft Certification Service.