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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-0368; Directorate Identifier 2007-NM-050-AD; Amendment 39-15420; AD 2008-06-08]

RIN 2120-AA64

Airworthiness Directives; BAE Systems (Operations) Limited Model BAe 146-100A, -200A, and -300A Series Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new 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:

Cracking has been found on the centre fuselage top aft longeron at Rib '0' on an in-service aircraft. * * *

This condition could result in reduced structural integrity of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective April 16, 2008.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 16, 2008.

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: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

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 December 20, 2007 (72 FR 72270). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Cracking has been found on the centre fuselage top aft longeron at Rib '0' on an in-service aircraft. Subsequent investigation has indicated that the currently defined threshold and repeat inspection period must be reduced, and the area of inspection expanded for the BAe 146 series 100 and 200. For the BAe146 series 300, only the repeat inspection period must be reduced, and the area of inspection expanded.

Cracking on the center fuselage top aft longeron at Rib '0,' could result in reduced structural integrity of the airplane. Corrective actions include repetitive inspections of the center fuselage top aft longeron for cracking and repair/replacement if necessary. 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.

Revision to the Reference to the Nondestructive Testing (NDT) Manual

We have removed the reference to the BAE Systems (Operations) Limited BAe 146/Avro 146-RJ Series NDT Manual Part 6 20-00-03 from paragraphs (f)(2)(iii) and (f)(5)(iii) of this AD. The appropriate source of service information for doing the inspection and repair specified in paragraphs (f)(2)(iii) and (f)(5)(iii) of this AD is BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006. The Accomplishment Instructions of the service bulletin refer to the NDT manual. We have added Note 1 and Note 3 to this AD to clarify that the service bulletin refers to the NDT manual as a secondary source of service information for doing the inspection.

Conclusion

We reviewed the available data and determined that air safety and the public interest require adopting the AD with the change 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 1 product of U.S. registry. We also estimate that it will take about 8 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$640, or \$640 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 adding the following new AD:



2008-06-08 BAE Systems (Operations) Limited (Formerly British Aerospace Regional Aircraft): Amendment 39-15420. Docket No. FAA-2007-0368; Directorate Identifier 2007-NM-050-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective April 16, 2008.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all BAE Systems (Operations) Limited Model BAe 146-100A, -200A, and -300A series airplanes; certificated in any category.

Subject

- (d) Air Transport Association (ATA) of America Code 53: Fuselage.

Reason

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

Cracking has been found on the centre fuselage top aft longeron at Rib '0' on an in-service aircraft. Subsequent investigation has indicated that the currently defined threshold and repeat inspection period must be reduced, and the area of inspection expanded for the BAe 146 series 100 and 200. For the BAe 146 series 300, only the repeat inspection period must be reduced, and the area of inspection expanded.

Cracking on the center fuselage top aft longeron at Rib '0' could result in reduced structural integrity of the airplane. Corrective actions include repetitive inspections of the center fuselage top aft longeron for cracking and repair/replacement if necessary.

Actions and Compliance

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

(1) For all Model BAe 146-100A and BAE 146-200A series airplanes pre-mod HCM01709B or HCM01709C that have not been inspected in accordance with BAE Systems (Operations) Limited BAe 146 Maintenance Review Board Report (MRBR) SSI/SII Task No. 53-20-140A (Maintenance Planning Document (MPD) Task 532040-SDI-10000-3) or BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 1, dated May 19, 2004, as of the effective date of this AD: Do the actions in paragraphs (f)(1)(i) and (f)(1)(ii) of this AD at the applicable compliance time, and do all applicable repairs and replacements before further flight.

(i) Inspect and repair cracking of the forward six bolt bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, before the accumulation of 17,000 total flight cycles, or within 500 flight cycles after the effective date of this AD, whichever occurs later. If the damage exceeds limits specified in the structural repair manual (SRM), before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles, except as provided by paragraph (f)(3) of this AD.

(ii) Inspect and repair cracking of the remaining fastener bores between the sub-frame and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, before the accumulation of 17,000 total flight cycles, or within 4,000 flight cycles after the effective date of this AD, whichever occurs later. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 11,900 flight cycles, except as provided by paragraph (f)(3) of this AD.

(2) For all Model BAe 146-100A and BAe 146-200A series airplanes pre-mod HCM01709B or HCM01709C that have been inspected in accordance with BAE Systems (Operations) Limited BAe 146 MRBR SSI/SII Task No. 53-20-140A (MPD task 532040-SDI-10000-3) or BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173 Revision 1, May 19, 2004, as of the effective date of this AD: Do the actions in paragraphs (f)(2)(i), (f)(2)(ii), and (f)(2)(iii) of this AD at the applicable compliance time, and do all applicable repairs and replacements before further flight.

(i) Do an ultrasonic inspection and repair cracking of the forward six bolt bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions and Appendix 2 of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, before the accumulation of 5,400 flight cycles since last inspection, or within 500 flight cycles after the effective date of this AD, whichever occurs later. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles, except as provided by paragraph (f)(3) of this AD.

(ii) Do a high frequency eddy current inspection and repair cracking of the forward six bolt bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions and Appendix 3 of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, within 4,000 flight cycles after the effective date of this AD. If the damage exceeds limits specified in the SRM, before further flight, contact BAE systems and repair. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles, except as provided by paragraph (f)(3) of this AD.

(iii) Do a rotating eddy current inspection and repair cracking of the remaining fastener bores between the sub-frame and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, within 4,000 flight cycles after the effective date of this AD. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 11,900 flight cycles, except as provided by paragraph (f)(3) of this AD.

Note 1: BAE Systems (Operations) Limited Inspection Service Inspection Bulletin ISB.53-173, Revision 2, dated March 28, 2006, refers to the BAE Systems (Operations) Limited BAe 146/Avro 146-RJ Series Nondestructive Testing (NDT) Manual Part 6 20-00-03 as a secondary source of service information for doing the eddy current inspection.

(3) For all Model BAe 146-100A and BAe 146-200A series airplanes pre-mod HCM01709B or HCM01709C that have had a replacement aft longeron installed: Prior to the accumulation of 17,000 flight cycles after the aft longeron replacement, or within 500 flight cycles after the effective date of this AD, whichever occurs later, inspect for cracking of the forward six bolt bores and the fastener

bores between the sub-frame and frame 30, and repair any crack before further flight in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 5,000 flight cycles for the forward six bolt bores, and 11,900 flight cycles for the remaining fastener bores between the sub-frame and frame 30. Replacing the longeron terminates the repetitive inspection requirements of paragraph (f)(1) and (f)(2) of this AD; post-replacement inspections must be done in accordance with this paragraph.

Note 2: The threshold for an aircraft is reset if a replacement longeron is fitted.

(4) For all Model BAe 146-300A series airplanes pre-mod HCM01709A that have not been inspected in accordance with BAE Systems (Operations) Limited BAe 146 MRBR SSI/SII Task No. 53-20-140A (MPD Task 532040-SDI-10000-3) or BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 1, dated May 19, 2004, as of the effective date of this AD: Do the actions in paragraphs (f)(4)(i) and (f)(4)(ii) of this AD at the applicable compliance time, and do all applicable repairs and replacements before further flight.

(i) Inspect and repair cracking of the forward six bolt bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, prior to the accumulation of 24,000 total flight cycles, or within 500 flight cycles after the effective date of this AD, whichever occurs later. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 4,000 flight cycles, except as provided by paragraph (f)(6) of this AD.

(ii) Inspect and repair cracking of the remaining fastener bores between the sub-frame and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, at the later of 24,000 total flight cycles, or within 4,000 flight cycles after the effective date of this AD. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 11,900 flight cycles, except as provided by paragraph (f)(6) of this AD.

(5) For all Model BAe 146-300A series airplanes pre-mod HCM01709A that have been inspected in accordance with BAE Systems (Operations) Limited BAe 146 MRBR SSI/SII Task No. 53-20-140A (MPD task 532040-SDI-10000-3) or BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 1, May 19, 2004, as of the effective date of this AD: Do the actions in paragraphs (f)(5)(i), (f)(5)(ii), and (f)(5)(iii) of this AD at the applicable compliance time, and do all applicable repairs and replacements before further flight.

(i) Do an ultrasonic inspection and repair cracking of the forward six bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions and Appendix 2 of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, within 4,000 flight cycles since last inspection, or within 500 flight cycles after the effective date of this AD, whichever occurs later. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 4,000 flight cycles except as provided by paragraph (f)(6) of this AD.

(ii) Do a high frequency eddy current inspection and repair cracking of the forward six bolt bores between the subframe and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions and Appendix 3 of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, within 4,000 flight cycles after the effective date of this AD. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 4,000 flight cycles, except as provided by paragraph (f)(6) of this AD.

(iii) Do a rotating eddy current inspection and repair cracking of the remaining fastener bores between the sub-frame and frame 30 in accordance with paragraph 2.B of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, within 4,000 flight cycles after the effective date of this AD. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 11,900 flight cycles, except as provided by paragraph (f)(6) of this AD.

Note 3: BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, refers to the BAE Systems (Operations) Limited BAe 146/Avro 146-RJ Series NDT Manual Part 6 20-00-03 as a secondary source of service information for doing the eddy current inspection.

(6) For all Model BAe 146-300A series airplanes pre-mod HCM01709A that have had a replacement aft longeron installed: Prior to the accumulation of 24,000 flight cycles after the aft longeron replacement, or within 500 flight cycles after the effective date of this AD, whichever occurs later, inspect for cracking of the fastener bores between the sub-frame and frame 30, and repair any crack before further flight in accordance with paragraph 2.B. of the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, March 28, 2006. If the damage exceeds limits specified in the SRM, before further flight, contact BAE Systems and repair. Repeat the inspection thereafter at intervals not to exceed 4,000 flight cycles for the forward six bolt bores, and 11,900 flight cycles for the remaining fastener bores between the sub-frame and frame 30. Replacing the longeron terminates the repetitive inspection requirements of paragraphs (f)(4) and (f)(5) of this AD; new inspections must be done in accordance with this paragraph.

Note 4: The threshold for an aircraft is reset if a replacement longeron is fitted.

FAA AD Differences

Note 5: This AD differs from the MCAI and/ or service information as follows: The MCAI specifies doing repetitive inspections until the airplane enters the life extension program (LEP). This program is not defined by the FAA. Operators of airplanes that enter the LEP may request an alternative method of compliance (AMOC) for the repetitive inspections in accordance with the procedures specified in paragraph (g) of this AD.

Other FAA AD Provisions

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

(1) AMOCs: The Manager, ANM-116, Transport Airplane Directorate, International 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: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149. 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, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(h) Refer to MCAI European Aviation Safety Agency (EASA) Airworthiness Directive 2006-0215, dated July 14, 2006, and BAe Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, for related information.

Material Incorporated by Reference

(i) You must use BAe Systems (Operations) Limited Inspection Service Bulletin ISB.53-173, Revision 2, dated March 28, 2006, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact British Aerospace Regional Aircraft American Support, 13850 McLearen Road, Herndon, Virginia 20171.

(3) You may review copies at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or 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 Renton, Washington, on February 28, 2008.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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