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[Page 63045-63048]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0642; Directorate Identifier 2007-NM-332-AD; Amendment 39-16470; AD 2010-21-10]

RIN 2120-AA64

Airworthiness Directives; BAE SYSTEMS (OPERATIONS) LIMITED Model BAe 146 and Avro 146-RJ 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:

* * * [F]uel leaks and failed fasteners [have been reported] in the region of the rear spar root joint attachment fitting at wing rib 2. * * *
* * * * *

The unsafe condition is stress corrosion failures in the region of the rear spar root joint attachment fitting at wing rib 2, which could lead to reduced structural integrity of the wing, and consequent reduced controllability of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective November 18, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 18, 2010.

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, Transport Airplane Directorate, FAA, 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 July 1, 2010 (75 FR 38058). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

British Aerospace originally issued Service Bulletin (SB) 57-033 in 1989 to detect fuel leaks and failed fasteners in the region of the rear spar root joint attachment fitting at wing rib 2. Accomplishment of this SB was mandated by the [Civil Aviation Authority] CAA United Kingdom AD 044-09-89. Revisions 1 through 7 of this SB were introduced to inspect pre mod HCM01447A standard installations for fuel leaks and loose or broken bolts. Modification HCM01447A introduced tension bolts in the attachment fitting instead of the previous Hi-Lok bolts.

Revision 8 of the SB introduced inspection instructions for post modification HCM01447A installations because fuel tank leaks and failed fasteners have subsequently been found on aircraft post modification HCM01447A. Inspections of the post-mod HCM01447A standard are required to maintain the structural integrity of the wing. BAE Systems has now published SB 57-033 Revision 9 that specifies additional, calendar-time based, inspection criteria to control the stress corrosion failures of the pre and post modification HCM01447A installations.

EASA AD 2007-0270 supersedes CAA UK AD 044-09-89 and requires the accomplishment of inspections and corrective actions, as necessary, in accordance with BAE Systems SB 57-033 Revision 9.

This [EASA] AD [2007-0270 R1] is revised to clarify that the calendar compliance times are to be counted from the effective date, not from the SB issue date.

The unsafe condition is stress corrosion failures in the region of the rear spar root joint attachment fitting at wing rib 2, which could lead to reduced structural integrity of the wing, and consequent reduced controllability of the airplane. Required actions include a general inspection to identify the type of bolt and nut at each location, external inspections of the bolt installation of the fuel tanks, related investigative actions, and corrective actions, as applicable.

The general inspection includes identifying the type of bolt and nut at each location.

External inspections of the bolt installation include:

- Visually inspecting for proper nut installation, nut seating, and fuel seepage.
- Checking for gaps between the fitting and wing structure.
- Checking the nuts with a suitable torque spanner to the specifications in the torque figures shown in Table 2. of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006, if Hi-Loks are installed, and
- Doing either an ultrasonic inspection for damaged bolts or torque check of the tension bolts.

Related investigative actions include:

- Inspecting the condition of the sealant at and around all rear spar root joint attachment bolts.
- Checking the bolt for damage or evidence of the nut being tightened to the end of the thread.
- Examining the wear pattern on the seating surfaces of the bolt and nut to determine if the bolt and nut have been evenly seated on the structure.
- Visually inspecting the bolt hole and surrounding area for damage, and
- Confirming that the hole edge radius on the forward face of the rear spar complies with the specifications in Table 4 of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

Corrective actions include either replacing the bolt, or repairing the defect in accordance with approved repair data from BAE Systems. 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.

Explanation of Change to Applicability

We have revised the applicability of the existing AD to identify model designations as published in the most recent type certificate data sheet for the affected models.

Conclusion

We reviewed the available data, and determined that air safety and the public interest require adopting the AD with the changes 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 1 product of U.S. registry. We also estimate that it will take about 3 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 to the U.S. operators to be \$255.

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:



2010-21-10 BAE SYSTEMS (OPERATIONS) LIMITED: Amendment 39-16470. Docket No. FAA-2010-0642; Directorate Identifier 2007-NM-332-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective November 18, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to all BAE Systems (OPERATIONS) LIMITED Model BAe 146-100A, -200A, and -300A airplanes, and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A airplanes, certificated in any category.

Subject

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

Reason

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

* * * [F]uel leaks and failed fasteners [have been reported] in the region of the rear spar root joint attachment fitting at wing rib 2. * * *
* * * * *

The unsafe condition is stress corrosion failures in the region of the rear spar root joint attachment fitting at wing rib 2, which could lead to reduced structural integrity of the wing, and consequent reduced controllability of the airplane.

Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Actions

(g) At the applicable time in paragraph (g)(1) or (g)(2) of this AD, do a general visual inspection to identify the type of bolt and nut at each location, in accordance with the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

(1) For airplanes on which neither Modification HCM01447A nor repair information leaflet (RIL) HC536H9156 (at any location) has been done as of the effective date of this AD, the

compliance time for the inspection is at the later of the times specified in paragraphs (g)(1)(i) and (g)(1)(ii) of this AD.

(i) Within 12 months after the effective date of this AD, or within 2 years after the last inspection done in accordance with BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, whichever occurs later, without exceeding 4,000 flight cycles after the last inspection.

(ii) Within 250 flight cycles or 3 months after the effective date of this AD, whichever occurs first.

(2) For airplanes on which either Modification HCM01447A or RIL HC536H9156 (at any location) has been done as of the effective date of this AD, the compliance time for the inspection is at the latest of the times specified in paragraphs (g)(2)(i), (g)(2)(ii), and (g)(2)(iii) of this AD.

(i) Before the accumulation of 4,000 total flight cycles.

(ii) Within 4,000 flight cycles after all bolts are inspected and replaced in accordance with BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033.

(iii) Within 12 months after the effective date of this AD.

(h) At the applicable time in paragraph (g)(1) or (g)(2) of this AD, do detailed inspections of the bolt installation for proper nut installation, nut seating, and fuel seepage; a detailed inspection for gaps between the fitting and wing structure; if Hi-Loks are installed, measure the torque of the nuts to determine the specifications in the torque figures shown in Table 2. of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006; and either an ultrasonic inspection for damaged bolts or a torque measurement of the tension bolts to determine the specifications in the torque figures shown in Table 3 of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006. Do all actions in accordance with the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

(i) If, during any inspection required by paragraph (h) of this AD, any defect (e.g., evidence of fuel seepage, damaged bolts or low bolt torque, loose or rotating nuts, suspect integrity of the bolt/nut assembly, or gaps between the fitting and wing structure) is found, before further flight, do the actions specified in paragraphs (i)(1), (i)(2), (i)(3), (i)(4), and (i)(5) of this AD, in accordance with the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

(1) Do a detailed inspection of the sealant for cracks at and around all rear spar root joint attachment bolts.

(2) Do a detailed inspection of the bolt for damage or evidence of the nut being tightened to the end of the thread.

(3) Do a detailed inspection of the wear pattern on the seating surfaces of the bolt and nut to determine if the bolt and nut have been evenly seated on the structure.

(4) Do a detailed inspection of the bolt hole and surrounding area for damage.

(5) Do a detailed inspection to determine that the hole edge radius on the forward face of the rear spar meets the dimensions specified in Table 4 of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

(j) If during any inspection required by paragraph (h) or (i) of this AD, any defects (e.g., evidence of fuel seepage, damaged bolts or low bolt torque, loose or rotating nuts, suspect integrity of the bolt/nut assembly, gaps between the fitting and wing structure, cracked sealant, bolt damage or evidence of the nut being tightened to the end of the thread, uneven seating of the bolt and nut, bolt hole and surrounding area damage, or hole edge radius out of dimensions specified in Table 4 of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006), is found, before further flight, do all applicable correction actions, which include either replacing the bolt or repairing the defect, in accordance with the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006.

(k) Repeat the inspections in paragraph (h) of this AD thereafter, at the applicable time specified in Table 1 of this AD, for each individual location.

Table 1–Compliance Times for Repeat Inspections

If the location has -	Then repeat the inspection -
A Hi-Lok bolt	Within 4,000 flight cycles or 24 months, whichever occurs earlier, after doing the last inspection
A tension bolt that was not replaced during the inspections in paragraphs (h) and (i) of this AD and no defects were found	Within 8,000 flight cycles or 48 months, whichever occurs earlier, after doing the last inspection
A tension bolt that was replaced as required by paragraph (j) of this AD	Within 4,000 flight cycles or 24 months, whichever occurs earlier after doing the replacement
A tension bolt that was not replaced and any defects were repaired as required by paragraph (j) of this AD	Within 4,000 flight cycles or 24 months, whichever occurs earlier after doing the repair specified in paragraph (j) of this AD

FAA AD Differences

Note 1: This AD differs from the MCAI and/or service information as follows: Although BAE SYSTEMS (OPERATIONS) LIMITED Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006, allows additional time to rectify the defect for the corrective action depending on the condition, this AD requires rectifying the defect before further flight.

Other FAA AD Provisions

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

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, Transport Airplane Directorate, 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, Transport Airplane Directorate, FAA, 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 principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(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 (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(m) Refer to MCAI European Aviation Safety Agency Airworthiness Directive 2007-0270 R1, dated November 7, 2007; and BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 2006; for related information.

Material Incorporated by Reference

(n) You must use BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin ISB.57-033, Revision 9, dated October 10, 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 BAE SYSTEMS (OPERATIONS) LIMITED, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; e-mail RApublications@baesystems.com; Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the 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/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on September 29, 2010.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2010-25469 Filed 10-13-10; 8:45 am]

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