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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2004-18716; Directorate Identifier 2003-NM-240-AD; Amendment 39-14156; AD 2005-13-19]**

**RIN 2120-AA64**

### **Airworthiness Directives; BAE Systems (Operations) Limited Model BAe 146 and Avro 146-RJ Series Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all BAE Systems (Operations) Limited Model BAe 146 and Avro 146-RJ series airplanes. This AD requires repetitive external eddy current inspections of the forward fuselage skin to detect cracking due to fatigue, and repair if necessary. This AD is prompted by evidence of cracking due to fatigue along the edges of the chemi-etched pockets in certain front fuselage canopy skin panels. We are issuing this AD to detect and correct this cracking, which could result in reduced structural integrity of the airplane fuselage.

**DATES:** This AD becomes effective August 2, 2005.

The incorporation by reference of a certain publication listed in the AD is approved by the Director of the Federal Register as of August 2, 2005.

**ADDRESSES:** For service information identified in this AD, contact British Aerospace Regional Aircraft American Support, 13850 Mclearen Road, Herndon, Virginia 20171.

*Docket:* The AD docket contains the proposed AD, comments, and any final disposition. You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the U.S. Department of Transportation, 400 Seventh Street, SW., room PL-401, Washington, DC. This docket number is FAA-2004-18716; the directorate identifier for this docket is 2003-NM-240-AD.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer; International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1175; fax (425) 227-1149.

## **Examining the Docket**

The AD docket contains the proposed AD, comments, and any final disposition. You can examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section.

**SUPPLEMENTARY INFORMATION:** The FAA proposed to amend 14 CFR Part 39 with an AD for all BAE Systems (Operations) Limited Model BAe 146 and Avro 146-RJ series airplanes. That action, published in the Federal Register on July 30, 2004 (69 FR 45614), proposed to require repetitive external eddy current inspections of the forward fuselage skin to detect cracking due to fatigue, and repair if necessary.

## **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been submitted on the proposed AD.

## **Request To Refer to Revised Service Information**

One commenter requests that we revise the proposed AD to refer to BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167, including Appendix 2, Revision 1, dated May 18, 2004, as the acceptable source of service information for the actions required by paragraph (f) of the proposed AD. Paragraph (f) of the proposed AD refers to BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167, including Appendices 2 and 3, all dated June 27, 2003, as the applicable source of service information for the actions specified in that paragraph.

We concur. We have reviewed BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167, including Appendix 2, Revision 1. The instructions in Revision 1 are essentially the same as those in the original issue of the service bulletin, including Appendices 2 and 3. Accordingly, we have revised this AD to refer to BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167, including Appendix 2, Revision 1, as the applicable source of service information for the actions required by paragraph (f) of this AD. We have also added a new paragraph (g) (and reidentified subsequent paragraphs accordingly) to give credit for inspections accomplished before the effective date of this AD in accordance with the original issue of the service bulletin, including Appendices 2 and 3.

In the proposed AD, we explained two differences between the proposed AD and the original issue of the service bulletin. These differences continue to apply between this AD and Revision 1 of the service bulletin. For the convenience of operators, these differences are repeated as follows:

- Although the referenced service bulletin describes procedures for submitting Appendix 1 of the service bulletin with inspection results to the manufacturer, this AD does not require that action. We do not need this information from operators.
- The service bulletin specifies that you may perform repairs in accordance with the structural repair manual (SRM), or that you may contact the manufacturer for instructions on how to repair conditions outside the limits defined in the SRM, but this AD requires you to repair those conditions using a method that we or the CAA (or its delegated agent) approve. In light of the type of repair that would be required to address the unsafe condition, and consistent with existing bilateral airworthiness

- agreements, we have determined that, for this AD, a repair we or the CAA approve would be acceptable for compliance with this AD.

### **Request To Extend Compliance Time**

One commenter requests that we extend the repetitive interval for Model Avro 146-RJ series airplanes from 4,000 to 6,000 flight cycles. The commenter notes that a 6,000-flight-cycle repetitive interval would be more compatible with normal maintenance schedules. The commenter provides no justification for the requested change other than for the convenience of its maintenance program.

We do not concur. In developing a repetitive interval for this AD, we considered the manufacturer's recommendation and the action taken by the CAA, as well as the degree of urgency associated with the subject unsafe condition. In light of these factors, we find that a 4,000-flight-cycle repetitive interval represents an appropriate interval of time for Model Avro 146-RJ series airplanes to operate between inspections without compromising safety. We note that this is consistent with the repetitive interval specified in the referenced service bulletin. However, under the provisions of paragraph (i) of this AD, we may approve a request to adjust the compliance time if data are submitted to substantiate that such an adjustment would provide an acceptable level of safety. We have not changed the AD in this regard.

### **Explanation of Editorial Changes**

We have revised the statement of unsafe condition in the Summary and paragraph (d) of this AD to better clarify that this AD is intended to detect and correct fatigue cracking along the edges of the chemi-etched pockets in certain front fuselage canopy skin panels, which could result in reduced structural integrity of the airplane fuselage.

We have also revised paragraphs (f)(1)(ii) and (f)(2)(ii) of this AD to clarify that repair must be accomplished before further flight on any area where a crack is found. The proposed AD implied but did not explicitly state that a repair must be accomplished before further flight.

### **Conclusion**

We have carefully reviewed the available data, including the comments that have been submitted, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

### **Costs of Compliance**

This AD affects about 54 airplanes of U.S. registry. The required actions will take about 40 work hours per airplane, at an average labor rate of \$65 per work hour. Based on these figures, the estimated cost of this AD for U.S. operators is \$140,400, or \$2,600 per airplane, per inspection cycle.

### **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 have 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 that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under 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. See the ADDRESSES section for a location to examine the regulatory evaluation.

### **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



Aircraft Certification Service  
Washington, DC

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "www.faa.gov"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2005-13-19 BAE Systems (Operations) Limited (Formerly British Aerospace Regional Aircraft):** Amendment 39-14156. Docket No. FAA-2004-18716; Directorate Identifier 2003-NM-240-AD.

## Effective Date

- (a) This AD becomes effective August 2, 2005.

## Affected ADs

- (b) None.

## Applicability

- (c) This AD applies to all BAE Systems (Operations) Limited Model BAe 146 and Avro 146-RJ series airplanes, certificated in any category.

## Unsafe Condition

- (d) This AD was prompted by evidence of cracking due to fatigue along the edges of the chemi-etched pockets in certain front fuselage canopy skin panels. We are issuing this AD to detect and correct this cracking, which could result in reduced structural integrity of the airplane fuselage.

## Compliance

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

## Inspections and Repair

- (f) Within the applicable compliance time specified in paragraph (f)(1) or (f)(2) of this AD, perform an external eddy current inspection of the forward fuselage skin to detect cracking, in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Modification Service Bulletin ISB.53-167, including Appendix 2, Revision 1, dated May 18, 2004.

- (1) For Model BAe 146 series airplanes: Inspect before the accumulation of 16,000 total landings, or within 4,000 landings after the effective date of this AD, whichever is later.

- (i) For areas where no crack is found, repeat the inspection at intervals not to exceed 8,000 landings.

- (ii) For areas where any crack is found, before further flight, perform repairs in accordance with a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate,

FAA, or the Civil Aviation Authority (CAA) (or its delegated agent). No further inspection of any repaired area is required by this AD.

(2) For Model Avro 146-RJ series airplanes: Inspect before the accumulation of 10,000 total landings, or within 2,000 landings after the effective date of this AD, whichever is later.

(i) For areas where no crack is found, repeat the inspection at intervals not to exceed 4,000 landings.

(ii) For areas where any crack is found, before further flight, perform repairs in accordance with a method approved by the Manager, International Branch, ANM-116, or the CAA (or its delegated agent). No further inspection of any repaired area is required by this AD.

### **Inspections Accomplished According to Previous Issue of Service Bulletin**

(g) Inspections accomplished before the effective date of this AD in accordance with BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167, including Appendices 2 and 3, all dated June 27, 2003, are considered acceptable for compliance with the corresponding action specified in paragraph (f) of this AD.

### **No Reporting Requirement**

(h) Although the service bulletin referenced in this AD specifies to submit Appendix 1 of the service bulletin with certain information to the manufacturer, this AD does not include that requirement.

### **Alternative Methods of Compliance (AMOCs)**

(i) The Manager, International Branch, ANM-116, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

### **Related Information**

(j) British airworthiness directive 007-06-2003 also addresses the subject of this AD.

### **Material Incorporated by Reference**

(k) You must use BAE Systems (Operations) Limited Modification Service Bulletin ISB.53-167, including Appendix 2, Revision 1, dated May 18, 2004, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approves the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To get copies of the service information, go to British Aerospace Regional Aircraft American Support, 13850 Mclearen Road, Herndon, Virginia 20171. To view the AD docket, go to the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW, room PL-401, Nassif Building, Washington, DC. To review copies of the service information, go to the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on June 14, 2005.

Kevin M. Mullin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

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