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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2009-1250; Directorate Identifier 2008-NM-169-AD; Amendment 39-16276; AD 2010-09-11]

RIN 2120-AA64

**Airworthiness Directives; BAE Systems (Operations) Limited Model BAe 146-100A, -200A, and -300A Series Airplanes, and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing 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:

In 1991, the UK Civil Aviation Authority (CAA) issued AD 015-08-91 [which corresponds to FAA AD 93-01-11], requiring the accomplishment of inspections of, and in case of crack findings, corrective actions on, the wing top skin at rib '0' of pre-modification HCM00851C BAe 146 series aircraft in accordance with British Aerospace Service Bulletin (SB) 57-41 dated 26 July 1991. Recently, BAE Systems (Operations) Ltd has determined that a revised inspection programme for the wing top skin and joint strap at rib '0' on all BAe 146 and AVRO 146-RJ aircraft is necessary to assure the continued structural integrity of this area. Cracking of the wing centre section top skin, if undetected, could lead to structural failure and consequent loss of the aircraft.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective June 8, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of June 8, 2010.

On March 2, 1993 (58 FR 6081, January 26, 1993), the Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD.

**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 January 12, 2010 (75 FR 1563), and proposed to supersede AD 93-01-11, Amendment 39-8465 (58 FR 6081, January 26, 1993). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

In 1991, the UK Civil Aviation Authority (CAA) issued AD 015-08-91 [which corresponds to FAA AD 93-01-11], requiring the accomplishment of inspections of, and in case of crack findings, corrective actions on, the wing top skin at rib '0' of pre-modification HCM00851C BAe 146 series aircraft in accordance with British Aerospace Service Bulletin (SB) 57-41 dated 26 July 1991. Recently, BAE Systems (Operations) Ltd has determined that a revised inspection programme for the wing top skin and joint strap at rib '0' on all BAe 146 and AVRO 146-RJ aircraft is necessary to assure the continued structural integrity of this area. Cracking of the wing centre section top skin, if undetected, could lead to structural failure and consequent loss of the aircraft.

For the reasons described above, this new EASA [European Aviation Safety Agency] AD supersedes UK CAA AD 015-08-91 and requires repetitive high-frequency eddy current (HFEC), radiographic, ultrasonic, and detailed visual inspections [for cracking and corrosion] of the wing top skin and joint strap at rib '0', the reporting of all inspection results to BAE Systems and, in case of findings, the accomplishment of corrective actions.

The corrective actions include repairing cracking and corrosion, and contacting BAE Systems (Operations) Limited for repair instructions and doing the repair. 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.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

## **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.

## **Explanation of Change to Costs of Compliance**

After the NPRM was issued, we reviewed the figures we have used over the past several years to calculate AD costs to operators. To account for various inflationary costs in the airline industry, we find it necessary to increase the labor rate used in these calculations from \$80 per work hour to \$85 per work hour. The cost impact information, below, reflects this increase in the specified hourly labor rate.

## **Costs of Compliance**

We estimate that this AD will affect about 1 product of U.S. registry.

The actions that are required by AD 93-01-11 and retained in this AD take about 4 work-hours per product, at an average labor rate of \$85 per work hour. Based on these figures, the estimated cost of the currently required actions is \$340 per product.

We estimate that it will take about 4 work-hours per product to comply with the new 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 \$340.

## **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 removing Amendment 39-8465 (58 FR 6081, January 26, 1993) and adding the following new AD:



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**2010-09-11 BAE Systems (Operations) Limited:** Amendment 39-16276. Docket No. FAA-2009-1250; Directorate Identifier 2008-NM-169-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective June 8, 2010.

**Affected ADs**

- (b) The AD supersedes AD 93-01-11, Amendment 39-8465.

**Applicability**

(c) This AD applies to all BAE SYSTEMS (Operations) Limited Model BAe 146-100A, -200A, and -300A series 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:

In 1991, the UK Civil Aviation Authority (CAA) issued AD 015-08-91 [which corresponds to FAA AD 93-01-11], requiring the accomplishment of inspections of, and in case of crack findings, corrective actions on, the wing top skin at rib '0' of pre-modification HCM00851C BAe 146 series aircraft in accordance with British Aerospace Service Bulletin (SB) 57-41 dated 26 July 1991. Recently, BAE Systems (Operations) Ltd has determined that a revised inspection programme for the wing top skin and joint strap at rib '0' on all BAe 146 and AVRO 146-RJ aircraft is necessary to assure the continued structural integrity of this area. Cracking of the wing centre section top skin, if undetected, could lead to structural failure and consequent loss of the aircraft.

For the reasons described above, this new EASA [European Aviation Safety Agency] AD supersedes UK CAA AD 015-08-91 and requires repetitive high-frequency eddy current (HFEC), radiographic, ultrasonic, and detailed visual inspections [for cracking and corrosion] of the wing top skin and joint strap at rib '0', the reporting of all inspection results to BAE Systems and, in case of findings, the accomplishment of corrective actions.

The corrective actions include repairing cracking and corrosion, and contacting BAE Systems (Operations) Limited for repair instructions and doing the repair.

### **Restatement of Requirements of AD 93-01-11, With No Changes**

(f) Unless already done, for Model BAe 146-100A, -200A, and -300A series airplanes: Prior to the accumulation of 24,000 landings, or within 60 days after March 2, 1993 (the effective date of AD 93-01-11), whichever occurs later: Perform an X-ray inspection to detect fatigue cracks in the left and right wing upper skins, joint straps, and stringers in the vicinity of rib "0," in accordance with British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991. Doing the inspection required by paragraph (g)(1) of this AD terminates the inspection required by this paragraph.

(1) If cracks are found, prior to further flight, repair in accordance with a method approved by the Manager, Standardization Branch, ANM-113, Transport Airplane Directorate, FAA; or the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA. As of the effective date of this AD, repair in accordance with a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA. Thereafter, repeat the inspection required by paragraph (f) of this AD at intervals not to exceed 9,000 landings, in accordance with British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991, until the initial inspection required by paragraph (g)(1) of this AD is accomplished.

(2) If no cracks are found, repeat the inspection required by paragraph (f) of this AD at intervals not to exceed 9,000 landings, in accordance with British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991, until the initial inspection required by paragraph (g)(1) of this AD is accomplished.

### **New Requirements of This AD**

(g) Unless already done, do the following actions.

Note 1: The instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007, which is the subject of this AD, are divided into two parts; consequently, the statement in paragraph 1.C. of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007, that there are three parts is incorrect and can be disregarded.

(1) At the applicable compliance time specified in paragraph (g)(1)(i) or (g)(1)(ii) of this AD: Do an HFEC inspection of the front and rear spar flanges, a detailed visual inspection of the stringers, and a detailed visual inspection of the stringer crown fittings, all at the rib "0" joint strap, for cracking and corrosion, and do all applicable corrective actions, in accordance with "Part 1" of paragraph 2.C., "Inspection," of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007. Repeat the inspections thereafter at intervals not to exceed 4,000 flight cycles. Do all applicable corrective actions before further flight. Accomplishment of these initial inspections terminates the inspections required by paragraphs (f), (f)(1), and (f)(2) of this AD.

(i) For airplanes on which an inspection was not done in accordance with Supplemental Structural Inspection (SSI) 57-10-101 (MPD 571001-DVI-10000-1) as of the effective date of this AD: Prior to the accumulation of 20,000 total flight cycles, or within 4,000 flight cycles after the effective date of this AD, whichever occurs later.

(ii) For airplanes on which an inspection was done in accordance with SSI 57-10-101 (MPD 571001-DVI-10000-1) as of the effective date of this AD: Within 3,000 flight cycles after the effective date of this AD.

(2) At the applicable compliance time specified in paragraph (g)(2)(i) or (g)(2)(ii) of this AD: Do detailed visual and HFEC inspections to detect cracking and corrosion of the rib "0" strap, a radiographic inspection of the rib "0" joint, and an ultrasonic inspection of the skin at the rib "0" joint

strap, and do all applicable corrective actions, in accordance with "PART 2" of paragraph 2.C. "Inspection" of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007. Do all applicable corrective actions before further flight. Repeat the inspections thereafter at intervals not to exceed 4,000 flight cycles.

(i) For airplanes on which an inspection was not done in accordance with SSI 57-10-102 and 57-10-102A (MPD 571002-SDI-10000-1 and 571002-SDI-10000-2) as of the effective date of this AD: Before the accumulation of 24,000 total flight cycles, or within 4,000 flight cycles after the effective date of this AD, whichever occurs later.

(ii) For airplanes on which an inspection was done in accordance with SSI 57-10-102 or 57-10-102A (MPD 571002-SDI-10000-1 or 571002-SDI-10000-2) as of the effective date of this AD: Within 3,000 flight cycles after the effective date of this AD.

(3) Submit a report of the findings (both positive and negative) of the initial inspections required by paragraphs (g)(1) and (g)(2) of this AD to BAE Systems (Operations) Limited, at the applicable time specified in paragraph (g)(3)(i) or (g)(3)(ii) of this AD. The report must include the inspection results, a description of any discrepancies found, the airplane serial number, and the number of landings and flight hours on the airplane. Send reports to Customer Liaison, Customer Support (Building 37), BAE SYSTEMS (Operations) Limited, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland; fax +44 (0) 1292 675432; e-mail raengliaison@baesystems.com.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after the inspection.

(ii) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

(4) Accomplishment of any repair does not constitute terminating action for the inspection requirements of this AD.

## **FAA AD Differences**

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

## **Other FAA AD Provisions**

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

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, 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**

(i) Refer to MCAI European Aviation Safety Agency (EASA) Airworthiness Directive 2008-0168, dated September 2, 2008; British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991; and BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007; for related information.

## **Material Incorporated by Reference**

(j) You must use British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991; and BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007; as applicable; 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 BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070, dated October 15, 2007, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of British Aerospace Inspection Service Bulletin 57-41, dated July 26, 1991, on March 2, 1993 (58 FR 6081, January 26, 1993).

(3) For service information identified in this AD, contact BAE Systems Regional Aircraft, 13850 McLearen Road, Herndon, Virginia 20171; telephone 703-736-1080; e-mail [raebusiness@baesystems.com](mailto:raebusiness@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>.

(4) 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.

(5) 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington on April 22, 2010.

Jeffrey E. Duven,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.