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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2013-1026; Directorate Identifier 2012-NM-173-AD; Amendment 39-17942; AD 2014-16-18]**

**RIN 2120-AA64**

#### **Airworthiness Directives; BAE Systems (Operations) Limited Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for all BAE Systems (Operations) Limited Model BAe 146 series airplanes and Model Avro 146-RJ series airplanes. This AD was prompted by reports of cracking of the main fitting of the nose landing gear (NLG). This AD requires revising the maintenance program by incorporating a new safe-life limitation for the NLG main fitting. We are issuing this AD to prevent collapse of the NLG, which could lead to degradation of direction control on the ground or an un-commanded turn to the left, and a consequent loss of control of the airplane on the ground, possibly resulting in damage to the airplane and injury to occupants.

**DATES:** This AD becomes effective October 2, 2014.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of October 2, 2014.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2013-1026>; or in person at the Docket 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.

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; email [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 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 by adding an AD that would apply to all BAE Systems (Operations) Limited Model BAe 146 series airplanes and Model Avro 146-RJ series airplanes. The NPRM published in the Federal Register on December 11, 2013 (78 FR 75289). The NPRM was prompted by reports of cracking of the main fitting of the nose landing gear (NLG). The NPRM proposed to require revising the maintenance program by incorporating a new safe-life limitation for the NLG main fitting. We are issuing this AD to prevent collapse of the NLG, which could lead to degradation of direction control on the ground or an un-commanded turn to the left, and a consequent loss of control of the airplane on the ground, possibly resulting in damage to the airplane and injury to occupants.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2012-0191R1, dated November 6, 2012 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

Several occurrences of the aeroplane's Nose Landing Gear (NLG) Main Fitting cracking have been reported. Subsequently in different cases, NLG Main Fitting crack lead to collapsed NLG, locked NLG steering and an aeroplane's un-commanded steering to the left.

Cracks in the NLG Bell Housing are not detectable with the NLG fitted to the aeroplane and are difficult to detect during overhaul without substantial disassembly of the gear.

This condition, if not corrected, could lead to degradation of directional control on the ground or an un-commanded turn to the left and a consequent loss of control of the aeroplane on the ground, possibly resulting in damage to the aeroplane and injury to occupants.

Prompted by these findings, BAE Systems (Operations) Ltd issued Inspection Service Bulletin (ISB) 32-186 (hereafter referred to as the ISB) to introduce a new safe life of 16,000 flight cycles (FC) for certain NLG main fittings, having a Part Number (P/N) as identified in Paragraph 1A, tables 1, 2 and 3 of the ISB.

To correct this unsafe condition, EASA issued AD 2012-0191R1 to require implementation of the new safe-life limitation for the affected NLG main fittings and replacement of fittings that have already exceeded the new limit.

Since that [EASA] AD was issued, it was found that clarification is necessary regarding the existing NLG main fitting life limits. Consequently, this [EASA] AD is revised by adding a Note to clarify that the current life limits, as specified in the applicable Aircraft Maintenance Manual (AMM), remain valid and should be applied, pending compliance with this AD.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-1026-0002>.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (78 FR 75289, December 11, 2013) or on the determination of the cost to the public.

### **"Contacting the Manufacturer" Paragraph in This AD**

Since late 2006, we have included a standard paragraph titled "Airworthy Product" in all MCAI ADs in which the FAA develops an AD based on a foreign authority's AD.

The MCAI or referenced service information in an FAA AD often directs the owner/operator to contact the manufacturer for corrective actions, such as a repair. Briefly, the Airworthy Product paragraph allowed owners/operators to use corrective actions provided by the manufacturer if those actions were FAA-approved. In addition, the paragraph stated that any actions approved by the State of Design Authority (or its delegated agent) are considered to be FAA-approved.

In the NPRM (78 FR 75289, December 11, 2013), we proposed to prevent the use of repairs that were not specifically developed to correct the unsafe condition, by requiring that the repair approval provided by the State of Design Authority or its delegated agent specifically refer to this FAA AD. This change was intended to clarify the method of compliance and to provide operators with better visibility of repairs that are specifically developed and approved to correct the unsafe condition. In addition, we proposed to change the phrase "its delegated agent" to include a design approval holder (DAH) with State of Design Authority design organization approval (DOA), as applicable, to refer to a DAH authorized to approve required repairs for the proposed AD.

No comments were provided to the NPRM (78 FR 75289, December 11, 2013) about these proposed changes. However, a comment was provided for an NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 2013). The commenter stated the following: "The proposed wording, being specific to repairs, eliminates the interpretation that Airbus messages are acceptable for approving minor deviations (corrective actions) needed during accomplishment of an AD mandated Airbus service bulletin."

This comment has made the FAA aware that some operators have misunderstood or misinterpreted the Airworthy Product paragraph to allow the owner/operator to use messages provided by the manufacturer as approval of deviations during the accomplishment of an AD-mandated action. The Airworthy Product paragraph does not approve messages or other information provided by the manufacturer for deviations to the requirements of the AD-mandated actions. The Airworthy Product paragraph only addresses the requirement to contact the manufacturer for corrective actions for the identified unsafe condition and does not cover deviations from other AD requirements. However, deviations to AD-required actions are addressed in 14 CFR 39.17, and anyone may request the approval for an alternative method of compliance to the AD-required actions using the procedures found in 14 CFR 39.19.

To address this misunderstanding and misinterpretation of the Airworthy Product paragraph, we have changed the paragraph and retitled it "Contacting the Manufacturer." This paragraph now clarifies that for any requirement in this AD to obtain corrective actions from a manufacturer, the actions must be accomplished using a method approved by the FAA, the European Aviation Safety Agency (EASA), or BAE Systems (Operations) Limited's EASA Design Organization Approval (DOA).

The Contacting the Manufacturer paragraph also clarifies that, if approved by the DOA, the approval must include the DOA-authorized signature. The DOA signature indicates that the data and information contained in the document are EASA-approved, which is also FAA-approved. Messages and other information provided by the manufacturer that do not contain the DOA-authorized

signature approval are not EASA-approved, unless EASA directly approves the manufacturer's message or other information.

This clarification does not remove flexibility previously afforded by the Airworthy Product paragraph. Consistent with long-standing FAA policy, such flexibility was never intended for required actions. This is also consistent with the recommendation of the Airworthiness Directive Implementation Aviation Rulemaking Committee to increase flexibility in complying with ADs by identifying those actions in manufacturers' service instructions that are "Required for Compliance" with ADs. We continue to work with manufacturers to implement this recommendation. But once we determine that an action is required, any deviation from the requirement must be approved as an alternative method of compliance.

Other commenters to the NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 2013) pointed out that in many cases the foreign manufacturer's service bulletin and the foreign authority's MCAI might have been issued some time before the FAA AD. Therefore, the DOA might have provided U.S. operators with an approved repair, developed with full awareness of the unsafe condition, before the FAA AD is issued. Under these circumstances, to comply with the FAA AD, the operator would be required to go back to the manufacturer's DOA and obtain a new approval document, adding time and expense to the compliance process with no safety benefit.

Based on these comments, we removed the requirement that the DAH-provided repair specifically refer to this AD. Before adopting such a requirement, the FAA will coordinate with affected DAHs and verify they are prepared to implement means to ensure that their repair approvals consider the unsafe condition addressed in this AD. Any such requirements will be adopted through the normal AD rulemaking process, including notice-and-comment procedures, when appropriate.

We also have decided not to include a generic reference to either the "delegated agent" or "DAH with State of Design Authority design organization approval," but instead we have provided the specific delegation approval granted by the State of Design Authority for the DAH throughout this AD.

## **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this 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 (78 FR 75289, December 11, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 75289, December 11, 2013).

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

## **Costs of Compliance**

We estimate that this AD affects 4 airplanes of U.S. registry.

We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$340, or \$85 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 that 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/#!docketDetail;D=FAA-2013-1026>; 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 this AD, 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.

### **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:



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**2014-16-18 BAE Systems (Operations) Limited:** Amendment 39-17942. Docket No. FAA-2013-1026; Directorate Identifier 2012-NM-173-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective October 2, 2014.

**(b) Affected ADs**

None.

**(c) Applicability**

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; all models, all serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 32, Landing Gear.

**(e) Reason**

This AD was prompted by reports of cracking of the main fitting of the nose landing gear (NLG). We are issuing this AD to prevent collapse of the NLG, which could lead to degradation of direction control on the ground or an un-commanded turn to the left and a consequent loss of control of the airplane on the ground, possibly resulting in damage to the airplane and injury to occupants.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Revision of Maintenance or Inspection Program**

Within 30 days after the effective date of this AD: Revise the maintenance or inspection program to incorporate a new safe-life limitation of the NLG main fitting, as specified by Subject 05-10-15, Aircraft Equipment Airworthiness Limitations, of Section 05-10, Time Limits, of Chapter 05, Time Limits/Maintenance Checks, of the BAE Systems (Operations) Limited BAe 146 Series/Avro 146-RJ Series Aircraft Maintenance Manual, Revision 108, dated September 14, 2012. Comply with all applicable instructions and airworthiness limitations included in Subject 05-10-15, Aircraft Equipment Airworthiness Limitations, of Section 05-10, Time Limits, of Chapter 05, Time Limits/Maintenance Checks, of the BAE Systems (Operations) Limited BAe 146 Series/Avro 146-RJ Series Aircraft Maintenance Manual, Revision 108, dated September 14, 2012. The initial compliance times for doing the actions is at the applicable times specified in Subject 05-10-15, Aircraft Equipment Airworthiness Limitations, of Section 05-10, Time Limits, of Chapter 05, Time

Limits/Maintenance Checks, of the BAE Systems (Operations) Limited BAe 146 Series/Avro 146-RJ Series Aircraft Maintenance Manual, Revision 108, dated September 14, 2012, or within 30 days after the effective date of this AD, whichever is later.

**(h) No Alternative Actions, Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs)**

After accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

**(i) Parts Installation Limitation**

As of the effective date of this AD, no person may install an NLG main fitting, having a part number identified in paragraph 1.A., Tables 1., 2., and 3. of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.32-186, dated April 12, 2012, unless in compliance with the requirements of this AD.

**(j) Other FAA AD Provisions**

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. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1175; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or BAE Systems (Operations) Limited's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(k) Related Information**

Refer to Mandatory Continuing Airworthiness Information (MCAI) European Aviation Safety Agency (EASA) Airworthiness Directive 2012-0191R1, dated November 6, 2012, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-1026-0002>.

**(l) 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 this AD specifies otherwise.

(i) BAE Systems (Operations) Limited Inspection Service Bulletin ISB.32-186, dated April 12, 2012.

(ii) Subject 05-10-15, Aircraft Equipment Airworthiness Limitations, of Section 05-10, Time Limits, of Chapter 05, Time Limits/Maintenance Checks, of the BAE Systems BAe 146 Series/AVRO 146-RJ Series Aircraft Maintenance Manual, Revision 108, dated September 15, 2012. The revision level and date of this document are identified on only page 1 of the Letter of Transmittal.

(3) 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; email [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>.

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

(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 Renton, Washington, on August 4, 2014.

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