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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2014-0619; Directorate Identifier 2014-NM-029-AD]

RIN 2120-AA64

Airworthiness Directives; BAE Systems (Operations) Limited Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for all BAE Systems (Operations) Limited Model 4101 airplanes. This proposed AD was prompted by a report of the failure, due to overheat, of a bracket on which the earth post (EP) for the generator and propeller de-ice systems is located. This proposed AD would require an inspection of the affected EPs and attachment structure for damage, an inspection of the earth cables of the generator and propeller de-ice system for signs of overheating and arcing damage, a torque check of the affected EP stiff nuts, an electrical high current bonding check of the bracket, and corrective actions if necessary. We are proposing this AD to detect and correct an overheat failure of the EPs for the generator and propeller de-ice system, and possible degradation of the wing front spar cap and/or web, which could affect the structural integrity of the wing.

DATES: We must receive comments on this proposed AD by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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; 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.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0619; 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 proposed 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. Comments will be available in the AD docket shortly after receipt.

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:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the **ADDRESSES** section. Include “Docket No. FAA-2014-0619; Directorate Identifier 2014-NM-029-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2014-0006, dated January 7, 2014 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all BAE Systems (Operations) Limited Model 4101 airplanes. The MCAI states:

An occurrence was reported involving a Jetstream 4100 aeroplane, where a bracket, on which the earth post for the generator and propeller de-ice systems is located, failed due to overheating. Although the earth post and cables were not damaged, the mounting bracket and underlying structure were damaged to the extent that repair of the wing front spar web was necessary. Furthermore, the aft engine cross support rod, which is attached to the same bracket, was found damaged, as a result of excessive current load, and required replacement. The subsequent investigation determined that, due to the damage tolerance of the aft engine cross rod support, the rod does not present an airworthiness issue. However, as a consequence of overheating failure of the earth post, degradation of the wing front spar cap and/or web could affect the structural integrity of the wing.

This condition, if not detected and corrected, could reduce the capacity of the wing to support loads, possibly resulting in wing structure failure and consequent loss of the aeroplane.

To address this potential unsafe condition, BAE Systems (Operations) Ltd issued [Inspection] Service Bulletin (SB) J41-24-043 [Revision 2, dated August 21, 2013] to provide inspection instructions.

For the reasons described above, this [EASA] AD requires a one-time visual inspection of the affected earth posts, an electrical high current bonding check of the bracket and, if discrepancies are detected, accomplishment of applicable corrective action(s).

The required actions include a general visual inspection of the affected EPs and attachment structure for damage; a general visual inspection of the earth cables of the generator and propeller de-ice system for arcing damage and signs of overheating of the cable insulation and terminal tags; a torque check of the EP2 and EP4 stiff nuts; an electrical high current bonding check of the bracket; and corrective actions if necessary. Corrective actions include repair of damaged structure, replacement of damaged cables, cleaning of all applicable surfaces to achieve the necessary resistance value, and correction of the torque load of EP stiff nuts. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0619.

Relevant Service Information

BAE Systems (Operations) Limited has issued Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

FAA’s Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Differences Between this Proposed AD and the MCAI or Service Information

Although the MCAI and BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013; tells you to submit information to the manufacturer, paragraph (k) of this proposed AD specifies that such submittal is not required. This difference has been coordinated with EASA.

“Contacting the Manufacturer” Paragraph in this Proposed 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 an NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 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 the 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.

One commenter to the NPRM having Directorate Identifier 2012-NM-101-AD (78 FR 78285, December 26, 2013) 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 proposed 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 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.

We also have decided not to include a generic reference to either the “delegated agent” or “design approval holder (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 proposed AD.

Costs of Compliance

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

We also estimate that it would take about 4 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this proposed AD on U.S. operators to be \$1,360, or \$340 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this proposed AD.

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 proposed 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 proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

BAE Systems (Operations) Limited: Docket No. FAA-2014-0619; Directorate Identifier 2014-NM-029-AD.

(a) Comments Due Date

We must receive comments by **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

(b) Affected ADs

None.

(c) Applicability

This AD applies to BAE Systems (Operations) Limited Model 4101 airplanes, certificated in any category, all serial numbers.

(d) Subject

Air Transport Association (ATA) of America Code 24, Electrical Power.

(e) Reason

This AD was prompted by a report of the failure, due to overheat, of a bracket on which the earth post (EP) for the generator and propeller de-ice systems is located. We are issuing this AD to detect and correct an overheat failure of the EPs for the generator and propeller de-ice system and possible degradation of the wing front spar cap and/or web, which could affect the structural integrity of the wing.

(f) Compliance

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

(g) Inspection of the Earth Posts and Attachment Structure and Corrective Action

Within 6 months after the effective date of this AD: Do a general visual inspection on both engines of the structure around EP2 and EP4; the brackets on which the EPs are mounted; the attachment of the nacelle horizontal support for damage, and lateral movement of the EPs; in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013. If any lateral movement of the EP or any other damage is detected, before further flight, repair 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.

(h) Inspection of the Earth Cables and Corrective Action

Within 6 months after the effective date of this AD: Do a general visual inspection of the earth cables of the generator and propeller de-ice system for arcing damage and signs that the cable insulation or terminal tags have been overheated, and do all applicable corrective actions; in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013. Do all applicable corrective actions before further flight.

(i) Torque Check of the Earth Post Stiff Nuts

Within 6 months after the effective date of this AD: Do a torque check of the EP2 and EP4 stiff nuts, and adjust the torque load as applicable, in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013.

(j) Resistance Measurement of the EP2 and EP4 Earth Bolts

Within 6 months after the effective date of this AD: Measure the resistance of the EP2 and EP4 earth bolts using a high-current millivolts-drop test, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013. Do all applicable corrective actions before further flight.

(k) No Reporting Required

Although BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 2, dated August 21, 2013, specifies to submit information to the manufacturer, this AD does not require that this information be submitted.

(l) Credit for Previous Actions

This paragraph provides credit for actions required by paragraphs (g), (h), (i), and (j) of this AD, if those actions were performed before the effective date of this AD using BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, dated September 27, 2011; or BAE Systems (Operations) Limited Inspection Service Bulletin J41-24-043, Revision 1, dated January 16, 2012; which are not incorporated by reference in this AD.

(m) 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.

(n) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) European Aviation Safety Agency Airworthiness Directive 2014-0006, dated January 7, 2014, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0619.

(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; email RApublications@baesystems.com; Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. 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.

Issued in Renton, Washington, on August 25, 2014.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

BILLING CODE 4910-13-P

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