

[Federal Register Volume 81, Number 69 (Monday, April 11, 2016)]

[Rules and Regulations]

[Pages 21263-21266]

From the Federal Register Online via the Government Publishing Office [www.gpo.gov]

[FR Doc No: 2016-07229]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2015-1279; Directorate Identifier 2014-NM-049-AD; Amendment 39-18454; AD 2016-07-09]**

**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 superseding Airworthiness Directive (AD) 2011-21-06 for all BAE SYSTEMS (Operations) Limited Model 4101 airplanes. AD 2011-21-06 required revising the maintenance program. This new AD requires a new revision of the maintenance or inspection program. This AD was prompted by a determination that the life limit of certain main landing gear components must be reduced, and certain post-repair inspections of critical structure are necessary. We are issuing this AD to prevent failure of certain structurally significant items, including the main landing gear and nose landing gear, which could result in reduced structural integrity of the airplane; and to prevent fuel vapor ignition sources, which could result in a fuel tank explosion and consequent loss of the airplane.

**DATES:** This AD is effective May 16, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 16, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of November 23, 2011 (76 FR 64788, October 19, 2011).

**ADDRESSES:** For service information identified in this final rule, 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. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-1279.

## 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-2015-1279; 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 address for the Docket Office (telephone 800-647-5527) is 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 20590.

**FOR FURTHER INFORMATION CONTACT:** Theodore (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 to supersede AD 2011-21-06, Amendment 39-16829 (76 FR 64788, October 19, 2011) ("AD 2011-21-06"). AD 2011-21-06 applied to all BAE SYSTEMS (Operations) Limited Model 4101 airplanes. The NPRM published in the Federal Register on May 8, 2015 (80 FR 26484) ("the NPRM").

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive 2014-0043, dated February 21, 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:

The Jetstream J41 Aircraft Maintenance Manual (AMM), includes the following chapters:

05-10-10 "Airworthiness Limitations",  
05-10-20 "Certification Maintenance Requirements", and,  
05-10-30 "Critical Design Configuration Control Limitations (CDCCL)–Fuel System".

The maintenance tasks and limitations contained in these chapters have been identified as mandatory actions for continued airworthiness and EASA issued AD 2010-0098 [dated May 27, 2010 (<http://ad.easa.europa.eu/ad/2010-0098>) which corresponds to FAA AD 2011-21-06, Amendment 39-16829 (79 FR 64788, October 19, 2011)] to require operators to comply with those instructions.

Since that [EASA] AD was issued, BAE Systems (Operations) Ltd issued Revision 37 of the AMM amending Chapter 05-10-10 to revise and reduce the life limit of certain main landing gear components. In addition, Revision 38 of the AMM was issued to amend Chapters 05-10-00 and 05-10-10 introducing inspections to be accomplished after implementation of some repairs affecting fatigue strength of critical structure. Failure to comply with the new and more restrictive actions could result in an unsafe condition.

For the reasons described above, this [EASA] AD, which supersedes EASA AD 2010-0098, requires implementation of the maintenance requirements and/or airworthiness limitations as specified in the defined parts of Chapter 05 of the AMM at Revision 38.

The unsafe condition is the failure of certain structurally significant items, including the main landing gear and nose landing gear, which could result in reduced structural integrity of the airplane; and fuel vapor ignition sources, which could result in a fuel tank explosion and consequent loss of the airplane. 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-2015-1279.

## **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 NPRM**

Since we issued the NPRM, we discovered an incorrect reference to "paragraph (j)" in paragraph (i)(3) of the proposed AD. The correct reference is to "paragraph (i)," and we have changed this AD accordingly.

## **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting this AD with the change described previously and for minor editorial changes. We have determined that these changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## **Related Service Information Under 1 CFR Part 51**

We reviewed Subjects 05-10-10, "Airworthiness Limitations"; 05-10-20, "Certification Maintenance Requirements"; and 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System"; of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited J41 AMM, Revision 38, dated September 15, 2013. This service information describes procedures for inspections of structurally significant items and the fuel system. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Costs of Compliance**

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

The actions required by AD 2011-21-06, Amendment 39-16829 (76 FR 64788, October 19, 2011), and retained in this AD take about 1 work-hour per product, at an average labor rate of \$85 per work-hour. Based on these figures, the estimated cost of the actions that are required by AD 2011-21-06 is \$85 per product.

We also estimate that it would 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. 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.

### **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 Airworthiness Directive (AD) 2011-21-06, Amendment 39-16829 (76 FR 64788, October 19, 2011), and adding the following new AD:



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**2016-07-09 BAE SYSTEMS (Operations) Limited:** Amendment 39-18454. Docket No. FAA-2015-1279; Directorate Identifier 2014-NM-049-AD.

**(a) Effective Date**

This AD is effective May 16, 2016.

**(b) Affected ADs**

This AD replaces AD 2011-21-06, Amendment 39-16829 (76 FR 64788, October 19, 2011) ("AD 2011-21-06").

**(c) Applicability**

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

**(d) Subject**

Air Transport Association (ATA) of America Code 05.

**(e) Reason**

This AD was prompted by the need to reduce the life limit of certain main landing gear components, and to add certain post-repair inspections of critical structure to the maintenance or inspection program. We are issuing this AD to prevent failure of certain structurally significant items, including the main landing gear and nose landing gear, which could result in reduced structural integrity of the airplane; and to prevent fuel vapor ignition sources, which could result in a fuel tank explosion and consequent loss of the airplane.

**(f) Compliance**

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

**(g) Retained Maintenance Program Revision, With No Changes**

This paragraph restates the requirements of paragraph (i) of AD 2011-21-06, with no changes. Within 90 days after November 23, 2011 (the effective date of AD 2011-21-06): Revise the maintenance program by incorporating Subjects 05-10-10, "Airworthiness Limitations"; 05-10-20, "Certification Maintenance Requirements"; and 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System"; of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 Aircraft Maintenance Manual (AMM), Revision 35, dated February 15, 2011. The initial compliance times for the tasks are at the applicable times specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD. Doing the actions required by paragraph (i) of this AD terminates the requirements of this paragraph.

(1) For replacement tasks of life limited parts specified in Subject 05-10-10, "Airworthiness Limitations," of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM, Revision 35, dated February 15, 2011: Prior to the applicable flight cycles (landings) or flight hours (flying hours) on the part specified in the "Mandatory Life Limits" column in Subject 05-10-10, or within 90 days after November 23, 2011 (the effective date of AD 2011-21-06), whichever occurs later.

(2) For structurally significant item tasks specified in Subject 05-10-10, "Airworthiness Limitations," of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM, Revision 35, dated February 15, 2011: Prior to the accumulation of the applicable flight cycles specified in the "Initial Inspection" column in Subject 05-10-10, or within 90 days after November 23, 2011 (the effective date of AD 2011-21-06), whichever occurs later.

(3) For certification maintenance requirements tasks specified in Subject 05-10-20, "Certification Maintenance Requirements," of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM, Revision 35, dated February 15, 2011: Prior to the accumulation of the applicable flight hours specified in the "Time Between Checks" column in Subject 05-10-20, or within 90 days after November 23, 2011 (the effective date of AD 2011-21-06), whichever occurs later; except for tasks that specify "first flight of the day" in the "Time Between Checks" column in Subject 05-10-20, the initial compliance time is the first flight of the next day after doing the revision required by paragraph (g) of this AD, or within 90 days after November 23, 2011 (the effective date of AD 2011-21-06), whichever occurs later.

#### **(h) Retained Restrictions on Alternative Actions, Intervals, and/or CDCCLs, With a New Exception**

This paragraph restates the requirements of paragraph (k) of AD 2011-21-06, with a new exception. Except as required by paragraph (i) of this AD, after accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., inspections), intervals, and/or CDCCLs may be used unless the actions, intervals, and/or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l) of this AD.

#### **(i) New Maintenance or Inspection Program Revision**

Within 90 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating Subjects 05-10-10, "Airworthiness Limitations"; 05-10-20, "Certification Maintenance Requirements"; and 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System"; of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited J41 AMM, Revision 38, dated September 15, 2013. The initial compliance times for the tasks are at the applicable times specified in paragraphs (i)(1), (i)(2), and (i)(3) of this AD. Doing the actions required by this paragraph terminates the requirements of paragraph (g) of this AD.

(1) For replacement tasks of life limited parts specified in Subject 05-10-10, "Airworthiness Limitations," of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited J41 AMM, Revision 38, dated September 15, 2013: Prior to the applicable flight cycles (landings) or flight hours (flying hours) on the part specified in the "Mandatory Life Limits" column in Subject 05-10-10, or within 90 days after the effective date of this AD, whichever occurs later.

(2) For structurally significant item tasks specified in Subject 05-10-10, "Airworthiness Limitations," of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited J41 AMM, Revision 38, dated September 15, 2013: Prior to the accumulation of the applicable flight cycles specified in the "Initial Inspection" column in Subject 05-10-10, or within 90 days after the effective date of this AD, whichever occurs later.

(3) For certification maintenance requirements tasks specified in Subject 05-10-20, "Certification Maintenance Requirements," of Chapter 05, "Airworthiness Limitations," of the BAE Systems

(Operations) Limited J41 AMM, Revision 38, dated September 15, 2013: Prior to the accumulation of the applicable flight hours specified in the "Time Between Checks" column in Subject 05-10-20, or within 90 days after the effective date of this AD, whichever occurs later; except for tasks that specify "first flight of the day" in the "Time Between Checks" column in Subject 05-10-20, the initial compliance time is the first flight of the next day after doing the revision required by paragraph (i) of this AD, or within 90 days the effective date of this AD, whichever occurs later.

**(j) New Restrictions on Alternative Actions, Intervals, and/or (CDCCLs)**

After the maintenance or inspection program, as applicable, has been revised as required by paragraph (i) of this AD, no alternative actions (e.g., inspections), intervals, and/or CDCCLs may be used unless the actions, intervals, and/or CDCCLs are approved as an AMOC in accordance with the procedures specified in paragraph (l) of this AD.

**(k) Credit for Previous Actions**

This paragraph restates the provisions of paragraph (j) of AD 2011-21-06. This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before November 23, 2011 (the effective date of AD 2011-21-06), in accordance with Subjects 05-10-10, "Airworthiness Limitations"; 05-10-20, "Certification Maintenance Requirements"; and 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System"; of Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM, Revision 33, dated February 15, 2010; which are not incorporated by reference in this AD.

**(l) 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: Theodore (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.

(i) 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.

(ii) AMOCs approved previously for AD 2011-21-06, are not approved as AMOCs with 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.

**(m) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2014-0043, dated February 21, 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-2015-1279.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (n)(5) and (n)(6) of this AD.

**(n) 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.

(3) The following service information was approved for IBR on May 16, 2016.

(i) Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited J41 Aircraft Maintenance Manual (AMM), Revision 38, dated September 15, 2013. Page 1 of the "Publications Transmittal" is the only page that shows the revision level of this document.

(A) Subject 05-10-10, "Airworthiness Limitations."

(B) Subject 05-10-20, "Certification Maintenance Requirements."

(C) Subject 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System."

(ii) Reserved.

(4) The following service information was approved for IBR on November 23, 2011 (76 FR 64788, October 19, 2011).

(i) Chapter 05, "Airworthiness Limitations," of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM, Revision 35, dated February 15, 2011. Page 1 of the Publications Transmittal of the BAE Systems (Operations) Limited Jetstream Series 4100 AMM is the only page that shows the revision level of this document.

(A) Subject 05-10-10, "Airworthiness Limitations."

(B) Subject 05-10-20, "Certification Maintenance Requirements."

(C) Subject 05-10-30, "Critical Design Configuration Control Limitations (CDCCL)–Fuel System."

(ii) Reserved.

(5) 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>.

(6) 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.

(7) 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 March 22, 2016.

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