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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0511; Product Identifier 2017-NM-145-AD; Amendment 39-19425; AD 2018-19-24]

RIN 2120-AA64

Airworthiness Directives; BAE Systems (Operations) Limited Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all BAE Systems (Operations) Limited Model 4101 airplanes. This AD was prompted by a determination that inspection requirements for a number of maintenance tasks are incorrect. This AD requires a one-time detailed inspection of a certain fuselage frame and repair, if necessary, and a revision of the maintenance or inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective November 7, 2018.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 7, 2018.

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; internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2018-0511.

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-2018-0511; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the

regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) is 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: Todd Thompson, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3228.

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 4101 airplanes. The NPRM published in the Federal Register on June 14, 2018 (83 FR 27721). The NPRM was prompted by a determination that inspection requirements for a number of maintenance tasks are incorrect. The NPRM proposed to require a one-time detailed inspection of a certain fuselage frame and repair, if necessary, and a revision of the maintenance or inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations.

We are issuing this AD to address cracking in fuselage frame 90, which could cause it to fail and thereby compromise the structural integrity of the aircraft pressure hull. We are also issuing this AD to address fatigue damage of various airplane structures, which could result in reduced structural integrity of the airplane.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD 2017-0187, dated September 22, 2017 (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:

Maintenance instructions for BAE Jetstream 4100 aeroplanes, which are approved by EASA, are defined in BAE Systems (Operations) Ltd Jetstream 4100 Service Bulletin (SB) J41-51-001, which references certain Aircraft Maintenance Manual (AMM) tasks. These instructions have been identified as mandatory for continued airworthiness.

Failure to accomplish these instructions could result in an unsafe condition.

CAA UK [Civil Aviation Authority United Kingdom] issued AD 005-02-2002 [which corresponds to FAA AD 2005-15-11, Amendment 39-14200 (70 FR 43025, July 26, 2005) (“AD 2005-15-11”)] to require operators to comply with the inspection instructions as referenced in SB J41-51-001 at original issue.

Since that [CAA UK] AD was issued, BAE Systems (Operations) Ltd have determined that the inspection requirements for a number of maintenance tasks are incorrect. Consequently, existing inspection items 52-20-013, 53-10-006, 53-10-025, 53-10-029 and 53-10-079 will be amended in Chapter 05 of the AMM. Compliance periods for these changes are given in BAE Systems (Operations) Ltd SB J41-51-001 (now at Revision 4) and BAE Systems (Operations) Ltd Alert SB J41-A53-058. Those fatigue inspections detailed in SB J41-51-001, at Revision 3 or earlier, have now been incorporated into Chapter 05 of the AMM. To avoid duplication these tasks are deleted from SB J41-51-001 at Revision 4.

For the reason described above, this [EASA] AD retains the requirements of CAA UK AD 005-02-2002, which is superseded, and requires accomplishment of the actions specified in BAE Systems (Operations) Ltd Jetstream 4100 SB J41-51-001 Revision 4 and Alert SB J41-A53-058 (hereafter collectively referred to as 'the SB' in this [EASA] AD).

The actions include a one-time detailed inspection of fuselage frame 90 for cracking or fatigue damage and repair if necessary, and revision of the maintenance or inspection program, as applicable, to incorporate new or revised maintenance instructions and airworthiness limitations. This AD was prompted by a determination that it is possible for cracks in fuselage frame 90 to exceed the critical length for failure in less time than the current inspection interval, and by a determination that inspection requirements for a number of maintenance tasks involving certain airworthiness limitations are incorrect. The unsafe condition is cracking in fuselage frame 90, which could cause it to fail and thereby compromise the structural integrity of the aircraft pressure hull; and fatigue damage of various airplane structures, which could result in reduced structural integrity 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-2018-0511.

Comments

We gave the public the opportunity to participate in developing this final rule. We received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

We reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing 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

BAE Systems (Operations) Limited has issued the following service information.

- Service Bulletin J41-51-001, Revision 4, dated July 11, 2017. This service information describes new inspections and revisions to existing inspection requirements and thresholds.
- Alert Service Bulletin J41-A53-058, dated December 6, 2016. This service information describes procedures for a detailed inspection for cracking or fatigue damage of fuselage frame 90.

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.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	2 work-hours × \$85 per hour = \$170	\$0	\$170	\$680

We have determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

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

This AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

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 adding the following new airworthiness directive (AD):



2018-19-24 BAE Systems (Operations) Limited: Amendment 39-19425; Docket No. FAA-2018-0511; Product Identifier 2017-NM-145-AD.

(a) Effective Date

This AD is effective November 7, 2018.

(b) Affected ADs

This AD affects AD 2005-15-11, Amendment 39-14200 (70 FR 43025, July 26, 2005) (“AD 2005-15-11”).

(c) Applicability

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

(d) Subject

Air Transport Association (ATA) of America Code 05, Time Limits/Maintenance Checks.

(e) Reason

This AD was prompted by a determination that it is possible for cracks in fuselage frame 90 to exceed the critical length for failure in less time than the current inspection interval; and a determination that inspection requirements for a number of maintenance tasks involving certain airworthiness limitations are incorrect. We are issuing this AD to address cracking in fuselage frame 90, which could cause it to fail and thereby compromise the structural integrity of the aircraft pressure hull. We are also issuing this AD to address fatigue damage of various airplane structures, which could result in reduced structural integrity of the airplane.

(f) Compliance

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

(g) Inspection

At the compliance times specified in paragraphs (g)(1) and (g)(2) of this AD, as applicable: Do a detailed inspection of fuselage frame 90 for cracking or fatigue damage, in accordance with the Accomplishment Instructions of BAE Systems (Operations) Limited Alert Service Bulletin J41-A53-058, dated December 6, 2016. If any cracking or fatigue damage is found: Before further flight, repair using a method approved by the Manager, International Section, Transport Standards Branch, FAA; or the European Aviation Safety Agency (EASA); or BAE Systems (Operations) Limited's EASA Design Organization Approval (DOA).

(1) For airplanes with 6,300 flight cycles or fewer since Structural Significant Items (SSI) 53-10-029 (Maintenance Planning Document (MPD) 531029-DVI-10010-1) was last accomplished: Within 6,600 flight cycles after the last accomplishment of SSI 53-10-029 (MPD 531029-DVI-10010-1), or within 6 months after the effective date of this AD, whichever is later.

(2) For airplanes with more than 6,300 flight cycles since SSI 53-10-029 (MPD 531029-DVI-10010-1) was last accomplished: Within 300 flight cycles or 4.5 months, whichever is earlier, since the last accomplishment of SSI 53-10-029 (MPD 531029-DVI-10010-1), or within 6 months after the effective date of this AD, whichever is later.

(h) Maintenance or Inspection Program Revisions

Within 90 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating the maintenance tasks and associated thresholds and intervals described in, and in accordance with, the Accomplishment Instructions of BAE Systems (Operations) Limited Service Bulletin J41-51-001, Revision 4, dated July 11, 2017. The initial compliance times for new or revised tasks are at the applicable times specified in BAE Systems (Operations) Limited Service Bulletin J41-51-001, Revision 4, dated July 11, 2017, or within 6 months after the effective date of this AD, whichever is later.

(i) No Alternative Actions and Intervals

After the maintenance or inspection program has been revised as required by paragraph (h) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l)(1) of this AD.

(j) Terminating Action for Requirements of AD 2005-15-11

Accomplishment of the actions required by paragraph (h) of this AD terminates all requirements of AD 2005-15-11.

(k) No Reporting Requirement

Although the Accomplishment Instructions of BAE Systems (Operations) Limited Alert Service Bulletin J41-A53-058, dated December 6, 2016, specify to submit certain information to the manufacturer, this AD does not include that requirement.

(l) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Section, Transport Standards Branch, 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 Section, send it to the attention of the person identified in paragraph (m)(2) of this AD. 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.

(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 Section, Transport Standards Branch, FAA; or EASA; or BAE Systems (Operations)

Limited's EASA 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 AD 2017-0187, dated September 22, 2017, 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-2018-0511.

(2) For more information about this AD, contact Todd Thompson, Aerospace Engineer, International Section, Transport Standards Branch, FAA, 2200 South 216th St., Des Moines, WA 98198; telephone and fax 206-231-3228.

(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.

(i) BAE Systems (Operations) Limited Alert Service Bulletin J41-A53-058, dated December 6, 2016.

(ii) BAE Systems (Operations) Limited Service Bulletin J41-51-001, Revision 4, dated July 11, 2017.

(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; internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>.

(4) You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(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 Des Moines, Washington, on September 14, 2018.

John P. Piccola,
Acting Director, System Oversight Division,
Aircraft Certification Service.