



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2023-2400; Project Identifier MCAI-2023-00782-T]**

**RIN 2120-AA64**

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

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede Airworthiness Directive (AD) 2022-25-18, which applies to certain BAE Systems (Operations) Limited Model BAe 146 and Model Avro 146-RJ series airplanes. AD 2022-25-18 requires repetitive inspections for cracking of the main landing gear (MLG) side stay outer link and replacement if necessary. Since the FAA issued AD 2022-25-18, additional investigations of the causes of the cracking were conducted. This proposed AD would require a reduction of the repetitive visual inspection interval, provide optional repetitive special detailed inspections, accomplishing a one-off dimensional tolerance check and performing a repetitive lubrication of the MLG side stay outer link pivot, as specified in a United Kingdom (U.K.) Civil Aviation Authority (CAA) (U.K. CAA) AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA 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 [regulations.gov](https://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: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-2400; 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 NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For U.K. CAA material incorporated by reference in this AD, contact Civil Aviation Authority, Aviation House, Beehive Ring Road, Crawley, West Sussex RH6 0YR, United Kingdom; telephone +44(0) 330 022 4401; email [continued.airworthiness@caa.co.uk](mailto:continued.airworthiness@caa.co.uk); website [caa.co.uk](https://www.caa.co.uk).

- For BAE Systems (Operations) Limited 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); website [regional-services.com](https://www.regional-services.com).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3228; email [todd.thompson@faa.gov](mailto:todd.thompson@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2023-2400; Project Identifier MCAI-2023-00782-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to [regulations.gov](https://www.regulations.gov), including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

**Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public

docket of this NPRM. Submissions containing CBI should be sent to Todd Thompson, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3228; email todd.thompson@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA issued AD 2022-25-18, Amendment 39-22274 (87 FR 75915, December 12, 2022; corrected December 27, 2022 (87 FR 79236)) (AD 2022-25-18), for certain BAE Systems (Operations) Limited Model BAe 146 and Model Avro 146-RJ series airplanes. AD 2022-25-18 was prompted by an MCAI originated by the U.K. CAA, which is the aviation authority for the United Kingdom. U.K. CAA issued AD G-2022-0018, dated October 18, 2022, to correct an unsafe condition.

AD 2022-25-18 requires repetitive inspections for cracking of the MLG side stay outer link and replacement if necessary. The FAA issued AD 2022-25-18 to address cracking on the shoulders of a MLG side stay outer link. The unsafe condition, if not addressed, could lead to failure of the MLG side stay outer link and MLG collapse, which could result in a runway departure and the engine or wing contacting the ground. The engine or wing contacting the ground could result in damage to the airplane, an increased risk of fire, the airplane flipping, and injury to occupants.

## **Actions Since AD 2022-25-18 Was Issued**

Since the FAA issued AD 2022-25-18, U.K. CAA superseded AD G-2022-0018, dated October 18, 2022, and issued AD G-2023-0004R1, dated November 16, 2023 (U.K. CAA AD G-2023-004R1) (also referred to as the MCAI), to correct an unsafe condition for all BAE Systems (Operations) Limited Model BAe 146-301, BAe 146-100A, -200A, and -300A airplanes and Model Avro 146-RJ70A, 146-RJ85A, 146-RJ100A. Model BAe 146-301 airplanes are not certificated by the FAA and are not included on the U.S. type

certificate data sheet; this AD therefore does not include those airplanes in the applicability. The MCAI states that further investigation resulted in a reduced repetitive detailed visual inspection interval and an option to do repetitive special detailed inspections; a new requirement for a one-time dimensional tolerance check; and a requirement to perform a repetitive lubrication of the MLG side stay outer link pivot.

The FAA is proposing this AD to address cracking of the MLG side stay outer link. The unsafe condition, could lead to failure of the MLG side stay outer link and MLG collapse, which could result in a runway departure and the engine or wing contacting the ground. The engine or wing contacting the ground could result in damage to the airplane, an increased risk of fire, the airplane flipping, and injury to occupants. You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-2400.

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

U.K. CAA AD G-2023-004R1 specifies procedures for doing repetitive detailed visual inspections or special detailed inspections for cracking of the MLG side stay outer link and replacement if necessary; a one-time dimensional tolerance check of the MLG side stay outer link and corrective actions including replacement if necessary: and repetitive lubrication of the MLG side stay outer link pivot.

The FAA reviewed BAE Systems (Operations) Limited Alert Service Bulletin (ASB) ASB.32-A189, Revision 2, dated August 3, 2023. This service information describes procedures for doing, among other actions, detailed visual inspections and special detailed inspections (fluorescent dye penetrant) for cracking of the MLG side stay outer link, replacement of the side stay outer link; a one-time dimensional tolerance check of the MLG side stay outer link; removing the side stay outer link and contacting the manufacturer; re-applying protective treatment/paint; and lubrication of the MLG side stay outer link pivot.

This material 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.

### **FAA's Determination**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI and service information referenced above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements in this NPRM**

This proposed AD requires accomplishing the actions specified in U.K. CAA AD G-2023-0004R1 described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD.

### **Interim Action**

The FAA considers that this proposed AD would be an interim action. If final action is later identified, the FAA might consider further rulemaking then.

### **Explanation of Required Compliance Information**

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, the FAA proposes to incorporate U.K. CAA AD G-2023-004R1 by reference in the FAA final rule. This proposed AD would, therefore, require compliance with U.K. CAA AD G-2023-004R1 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Service information

required by U.K. CAA AD G-2023-004R1 for compliance will be available at regulations.gov under Docket No. FAA-2023-2400 after the FAA final rule is published.

**Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 20 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs for required actions**

| <b>Labor cost</b>                    | <b>Parts cost</b> | <b>Cost per product</b> | <b>Cost on U.S. operators</b> |
|--------------------------------------|-------------------|-------------------------|-------------------------------|
| 2 work-hours X \$85 per hour = \$170 | \$0               | \$170                   | \$3,400                       |

**Estimated costs for on-condition actions**

| <b>Labor cost</b>                                | <b>Parts cost</b> | <b>Cost per product</b> |
|--|-------------------|-------------------------|
| Up to 5 work-hours X \$85 per hour = Up to \$425 | Up to \$3,000     | Up to \$3,425           |

**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.

The FAA is 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**

The FAA 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) Would not affect intrastate aviation in Alaska, and
- (3) Would 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:
  - a. Removing Airworthiness Directive 2022-25-18, Amendment 39 22274 (87 FR 75915, December 12, 2022; corrected December 27, 2022 (87 FR 79236)); and
  - b. Adding the following new Airworthiness Directive:

**BAE Systems (Operations) Limited:** Docket No. FAA-2023-2400; Project Identifier MCAI-2023-00782-T.

**(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2022-25-18, Amendment 39 22274 (87 FR 75915, December 12, 2022; corrected December 27, 2022 (87 FR 79236)).

**(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.

**(d) Subject**

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

**(e) Unsafe Condition**

This AD was prompted by reports of cracking on the shoulders of a main landing gear (MLG) side stay outer link. The FAA is issuing this AD to address cracking of the MLG side stay outer link. The unsafe condition, if not addressed, could lead to failure of the MLG side stay outer link and MLG collapse, which could result in a runway departure and the engine or wing contacting the ground. The engine or wing contacting the ground could result in damage to the airplane, an increased risk of fire, the airplane flipping, and injury to occupants.

**(f) Compliance**

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

## **(g) Requirements**

Except as specified in paragraphs (h) and (i) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, United Kingdom (U.K.) Civil Aviation Authority (CAA) (U.K. CAA) AD G-2023-0004R1, dated November 16, 2023 (U.K. CAA AD G-2023-0004R1).

## **(h) Exceptions to U.K. CAA AD G-2023-0004R1**

(1) Where U.K. CAA AD G-2023-0004R1 refers to July 7, 2023 (the effective date of U.K. CAA AD G-2023-0004 at original issue), this AD requires using the effective date of this AD.

(2) This AD does not adopt the paragraph that begins with “Required as indicated, unless accomplished previously in accordance with ASB.32-A189 . . .” and the Note that begins with “Prior accomplishment of inspection requirements . . .” specified in “Required Actions(s) and Compliance Time(s)” of U.K. CAA AD G-2023-0004R1.

(3) Where U.K. CAA AD G-2023-0004R1 refers to “ASB”, “the ASB”, or “ASB.32-A189 Revision 2”, this AD requires using BAE Systems (Operations) Limited Alert Service Bulletin (ASB) ASB.32-A189, Revision 2, dated August 3, 2023.

(4) Where U.K. CAA AD G-2023-0004R1 specifies a detailed visual inspection “every 500 flights or 6 months (whichever occurs first),” for this AD, replace those words with “repeat at intervals not to exceed 500 flight cycles or 6 months, whichever occurs first.”

(5) Where U.K. CAA AD G-2023-0004R1 specifies a special detailed inspection “every 1200 flights or 12 months (whichever occurs first),” for this AD, replace those words with “repeat at intervals not to exceed 1200 flight cycles or 12 months, whichever occurs first.”

(6) Where U.K. CAA AD G-2023-0004R1 specifies “in accordance with the dimensional limits provided in Appendix 2 then Safran Landing Systems must be

contacted to provide further instructions,” this AD requires “before further flight, repair using a method approved by the Manager, International Validation Branch, FAA; or the United Kingdom (U.K.) Civil Aviation Authority (CAA) (U.K. CAA); or BAE Systems (Operations) Limited's U.K. CAA Design Organization Approval (DOA). If approved by the DAO, the approval must include the DAO-authorized signature.”

(7) Where U.K. CAA AD G-2023-0004R1 specifies the lubrication of the MLG sidestay outer link pivots “every 500 flights or 6 months (whichever occurs first),” for this AD, replace those words with “repeat at intervals not to exceed 500 flight cycles or 6 months, whichever occurs first.”

(8) Where paragraph (5) of U.K. CAA AD G-2023-0004R1 specifies “as required by paragraphs (1) and (2) of this AD,” for this AD, replace those words with “as required by paragraphs (1), (2), and (3) of this AD.”

(9) Where the Note in paragraph (5) of U.K. CAA AD G-2023-0004R1 specifies “the part must have been inspected in accordance with paragraph (1) of this AD and a one-off dimensional check, airworthiness assessment and reporting performed in accordance with paragraph (2) of this AD,” for this AD, replace those words with “the part must have been inspected in accordance with paragraph (1) or (2) of this AD and a one-off dimensional check and airworthiness assessment performed in accordance with paragraph (3) of this AD.”

(10) This AD does not adopt the “Remarks” section of U.K. CAA AD G-2023-0004R1.

**(i) No Reporting Requirement**

Although the U.K. CAA AD G-2023-0004R1 and BAE Systems (Operations) Limited Alert Service Bulletin ASB.32-A189, Revision 2, dated August 3, 2023, specify to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Credit for Previous Actions**

(1) This paragraph provides credit for actions required by paragraph (1) of U.K. CAA AD G-2023-0004R1, if those actions were performed before the effective date of this AD using BAE Systems (Operations) Limited Alert Service Bulletin ASB.32-A189, dated September 16, 2022, which was incorporated by reference in AD 2022-25-18, Amendment 39 22274 (87 FR 75915, December 12, 2022; corrected December 27, 2022 (87 FR 79236)); or BAE Systems (Operations) Limited Alert Service Bulletin ASB.32-A189, Revision 1, dated March 13, 2023, which is not incorporated by reference in this AD.

(2) This paragraph provides credit for actions required by paragraph (3) of U.K. CAA AD G-2023-0004R1, if those actions were performed before the effective date of this AD using BAE Systems (Operations) Limited Alert Service Bulletin ASB.32-A189, Revision 1, dated March 13, 2023, which is not incorporated by reference in this AD.

**(k) Additional AD Provisions**

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation 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 responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the International Validation Branch, mail it to the address identified in paragraph (l)(1) of this AD or email to: 9-AVS-AIR-730-AMOC@faa.gov. If mailing information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method

approved by the Manager, International Validation Branch, FAA; or the U.K. CAA; or BAE Systems (Operations) Limited's U.K. CAA DOA. If approved by the DOA, the approval must include the DOA-authorized signature.

**(l) Additional Information**

(1) For more information about this AD, contact Todd Thompson, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3228; email [todd.thompson@faa.gov](mailto:todd.thompson@faa.gov).

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(4) and (5) of this AD.

**(m) 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 ASB.32-A189, Revision 2, dated August 3, 2023.

(ii) United Kingdom Civil Aviation Authority (U.K. CAA) AD G-2023-0004R1, dated November 16, 2023.

(3) For U.K. CAA AD G-2023-0004R1, contact Civil Aviation Authority, Aviation House, Beehive Ring Road, Crawley, West Sussex RH6 0YR, United Kingdom; telephone +44(0) 330 022 4401; email [continued.airworthiness@caa.co.uk](mailto:continued.airworthiness@caa.co.uk); website [caa.co.uk](http://caa.co.uk).

(4) For BAE Systems (Operations) Limited 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; website regional-services.com.

(5) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th Street, Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(6) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on December 19, 2023.

Victor Wicklund,

Deputy Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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