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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2014-1093; Directorate Identifier 2014-CE-035-AD; Amendment 39-18119; AD 2015-06-01]**

**RIN 2120-AA64**

#### **Airworthiness Directives; British Aerospace Regional Aircraft Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an airworthiness directive (AD) 2014-06-03 for British Aerospace Regional Aircraft Model Jetstream Series 3101 and Jetstream Model 3201 airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as stress corrosion cracking of the main landing gear spigot housing. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective April 24, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of April 24, 2015.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-1093; 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 20590.

For service information identified in this AD, contact BAE Systems (Operations) Ltd, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; phone: +44 1292 675207, fax: +44 1292 675704; email: [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet: <http://www.jetstreamcentral.com>. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for locating Docket No. FAA-2014-1093.

**FOR FURTHER INFORMATION CONTACT:** Taylor Martin, Aerospace Engineer, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4138; fax: (816) 329-4090; email: taylor.martin@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to add an AD that would apply to British Aerospace Regional Aircraft Model Jetstream Series 3101 and Jetstream Model 3201 airplanes. That NPRM was published in the Federal Register on December 31, 2014 (79 FR 78726), and proposed to supersede AD 2014-06-03, Amendment 39-17807 (79 FR 17395, March 28, 2014).

The NPRM proposed to correct an unsafe condition for the specified products and was based on mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country. The MCAI states that:

Several cases of stress corrosion cracking of DTD 5094 standard Main Landing Gear (MLG) cylinders have been reported on Jetstream Series 3200 and 3100 aeroplanes.

Prompted by these findings, The United Kingdom (UK) Civil Aviation Authority (CAA) issued AD 003-01-86 to require visual and non-destructive testing (NDT) inspections of the MLG assembly cylinder attachment spigot housing in accordance with BAE Systems (Operations) Ltd SB 32-A-JA851226. In 2012 an additional occurrence of Jetstream 3100 MLG failure after landing was reported, the subsequent investigation revealed stress corrosion cracking of the yoke pintle housing as a root cause of the MLG failure. Consequently EASA issued EASA AD 2013-0208 to require inspection of the MLG in accordance with BAE Systems (Operations) Ltd SB 32-A-JA851226 Revision 5 or later approved revisions to detect any crack, however, SB 32-A-JA851226 did not apply to aeroplanes equipped with MLG cylinders manufactured from L161 material, since that is not susceptible to stress corrosion, BAE Systems (Operations) Ltd issued SB 32-JM7862 to address degradation of the surface protection by placing a special washer over the forward face of the MLG spigot housing, which rotates with the spigot housing. EASA issued AD 2013-0206 to require modification of the left (LH) and right hand (RH) MLG in accordance with this SB.

In 2014 a further event was reported, where the LH MLG of a Jetstream 3100 aeroplane collapsed during landing, this resulted in the aeroplane departing from the runway. The accident is still under investigation by the UK Air Accident Investigation Branch. Preliminary results of the investigation determined that cracking, which caused the MLG collapse, was initiated from a corrosion pit at the top outer edge of the forward spigot housing and extended along the top of the spigot housing. The spigot housing material was DTD 5094. The affected LH MLG had been modified in accordance with BAE Systems (Operations) Ltd SB 32-JM7862 Revision 1. Further investigation discovered that the instructions provided in BAE Systems (Operations) Ltd SB 32-JM7862 Revision 1 did not effectively prevent stress corrosion cracking because, under certain circumstances, it allows the rotation of the special washer and consequent damage of the end face of the spigot housing.

This condition, if not corrected, could lead to structural failure of the MLG, possibly resulting in loss of control of the aeroplane during take-off or landing runs.

To address this potential unsafe condition, BAE Systems (Operations) Ltd issued SB 32-JM7862 Revision 2 to clarify the orientation of the spigot bearing cap, later revised to SB 32-JM7862 Revision 3 to ensure the spigot bearing cap is correctly positioned. Additionally, BAE Systems (Operations) Ltd issued SB 32-A-JA140940 to provide inspection instructions to detect migration of the special washer and any potential corrosion resulting from that unwanted migration for MLG installations modified earlier in accordance with BAE Systems (Operations) Ltd SB 32-JM7862 up to Revision 2.

For the reasons described above, this AD partially retains the requirements of EASA AD 2013-0206, which is superseded, and requires a one-time inspection of pre-SB 32-JM7862 Revision 3 MLG installations and, depending on findings, applicable corrective action(s).

The MCAI can be found in the AD docket on the Internet at:  
<http://www.regulations.gov/#!documentDetail;D=FAA-2014-1093-0002>.

## **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 78726, December 31, 2014) 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 the AD 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 (79 FR 78726, December 31, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 78726, December 31, 2014).

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

We reviewed British Aerospace Jetstream Series 3100 and 3200 Service Bulletin No. 32-JM7862, Revision 3, dated October 3, 2014; and British Aerospace Jetstream Series 3100 and 3200 Service Bulletin No. 32-A-JA140940, Original Issue, dated October 3, 2014. The service information describes procedures for modifying the LH and RH MLG at the forward spigot and inspecting for migration of the special washer, taking corrective action as necessary. This service information is reasonably available; see ADDRESSES for ways to access this service information.

## **Costs of Compliance**

We estimate that this AD will affect 44 products of U.S. registry. We also estimate that it will take about 2 work-hours 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 \$170 per product.

Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$14,960, or \$340 per product.

We accept modification of the MLG, if done before the effective date of this AD, using earlier versions of the service information. However, the earlier versions of the service information require additional inspections with possible corrective actions.

In addition, we estimate that any necessary follow-on actions that may be required if using an earlier version of the service information would take about 1 work-hour to inspect for special washer migration and corrosion damage and require parts costing \$100 for replacement of the special washer and application of witness paint, if necessary, for a cost of \$185 per product. We have no way of determining the number of products that may need these actions.

### **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 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> by searching for and locating Docket No. FAA-2014-1093; 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 the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **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 Amendment 39-17807 (79 FR 17395, March 28, 2014) and adding the following new AD:



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**2015-06-01 British Aerospace Regional Aircraft:** Amendment 39-18119; Docket No. FAA-2014-1093; Directorate Identifier 2014-CE-035-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective April 24, 2015.

**(b) Affected ADs**

This AD supersedes AD 2014-06-03, Amendment 39-17806 (79 FR 17395; March 28, 2014).

**(c) Applicability**

This AD applies to British Aerospace Regional Aircraft Jetstream Series 3101 and Jetstream Model 3201 airplanes, all serial numbers, certificated in any category.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as stress corrosion cracking of the main landing gear (MLG) spigot housing. We are issuing this AD to prevent corrosion cracking of the MLG spigot housing. This condition, if not corrected, could cause structural failure of the MLG resulting in loss of control of the airplane during take-off or landing.

**(f) Actions and Compliance**

Unless already done, do the following actions in paragraphs (f)(1) through (f)(11) of this AD, including all subparagraphs, as applicable.

(1) At the next scheduled MLG removal, modify the installation of the left hand (LH) and right hand (RH) MLG at the forward spigot following British Aerospace Jetstream Series 3100 and 3200 Service Bulletin No. 32-JM7862, Revision 3, dated October 3, 2014.

Note to paragraph (f)(1) of this AD: The next scheduled MLG removal may be for non-destructive testing or overhaul, as applicable.

(2) If done before April 24, 2015 (the effective date of this AD), we will accept modification of the LH or RG MLG following British Aerospace Jetstream Series 3100 & 3200 Service Bulletin SB 32-JM7862, Revision 2, dated June 13, 2014; or British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JM7862, Revision 1, dated May 7, 2013, for compliance with paragraph (f)(1) of this AD.

(3) For airplanes that, before April 24, 2015 (the effective date of this AD), have been modified following British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JM7862, Revision 2, dated June 13, 2014, visually inspect the LH and RH MLG to detect migration of a special washer following the instructions in Part 1 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014, at the compliance time listed in paragraph (f)(3)(i) or (f)(3)(ii) of this AD, as applicable.

(i) For MLG configuration equipped with DTD5094 cylinder: Within the next 200 flight cycles after April 24, 2015 (the effective date of this AD) or within the next 2 months after the effective date of this AD, whichever occurs first.

(ii) For MLG configuration equipped with L161 cylinder: Within the next 600 flight cycles after April 24, 2015 (the effective date of this AD) or within the next 6 months after April 24, 2015 (the effective date of this AD), whichever occurs first.

(4) If evidence of migration of the special washer was detected during the inspection required in paragraph (f)(3) of this AD, within the applicable compliance time specified in paragraph (f)(3)(i) or (f)(3)(ii) of this AD, do the corrective actions on the LH or RH MLG, as applicable, following Part 2 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014.

(5) If no evidence of migration of the special washer was detected during the inspection required in paragraph (f)(3) of this AD, before further flight, apply a witness paint over the special washer tab and onto the MLG spigot housing (LH and RH MLG) following Part 1 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014.

(6) For airplanes that, before April 24, 2015 (the effective date of this AD), have been modified following British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JM7862, Revision 1, dated May 7, 2013, do all of the actions on the MLG cylinder (LH and/or RH, as applicable) following the instructions in Part 2 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014, at the compliance time listed in paragraph (f)(6)(i) or (f)(6)(ii), as applicable.

(i) For MLG configuration equipped with DTD5094 cylinder: Within the next 200 flight cycles after April 24, 2015 (the effective date of this AD) or within the next 2 months after April 24, 2015 (the effective date of this AD), whichever occurs first.

(ii) For MLG configuration equipped with L161 cylinder: Within the next 600 flight cycles after April 24, 2015 (the effective date of this AD) or within the next 6 months after April 24, 2015 (the effective date of this AD), whichever occurs first.

(7) If any wear, corrosion, or damage is detected during the inspection required in either paragraph (f)(3) or (f)(6), as applicable, of this AD, before further flight, do all of the corrective actions (including application of the a witness paint) following the instructions in Part 2 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014.

(8) Between 30 and 45 days after doing the action required in either paragraph (f)(3) or (f)(6) of this AD or between the next 20 to 30 flight cycles after doing the action required in either paragraph (f)(3) or (f)(6) of this AD, whichever occurs first, inspect the witness paint applied as required in either paragraph (f)(5) or (f)(7) of this AD following the instructions in Part 3 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014.

(9) If any damaged paint is detected during the inspection required in paragraph (f)(8) of this AD, before further flight, contact British Aerospace Regional Aircraft to obtain FAA-approved repair instructions approved specifically for this AD and incorporate those instructions. You may find the contact information for British Aerospace Regional Aircraft in paragraph (h) of this AD.

(10) As of April 24, 2015 (the effective date of this AD), do not install a LH or RH MLG on any of the applicable airplanes unless it has passed all of the inspections required by this AD.

(11) For all airplanes: The compliance times for paragraphs (f)(3)(i), (f)(3)(ii), (f)(6)(i), (f)(6)(ii), and (f)(8) of this AD are presented in flight cycles (landings). If the total flight cycles have not been kept, multiply the total number of airplane hours time-in-service (TIS) by 0.75 to calculate the cycles. You may use the following as an example for this AD:

- (i) 200 hours TIS x .75 = 150 cycles; or
- (ii) 600 hours TIS x .75 = 450 cycles.

**(g) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Taylor Martin, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4138; fax: (816) 329-4090; email: taylor.martin@faa.gov. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(h) Related Information**

Refer to MCAI found in the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, AD No. 2014-0239, dated November 3, 2014; and British Aerospace Jetstream Series 3100 & 3200 Service Bulletin SB 32-JA851226, Revision 5, dated April 30, 2013; British Aerospace Jetstream and British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JM7862, Revision 1, dated May 7, 2013, for related information. The MCAI can be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-1093-0002>.

**(i) 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 the AD specifies otherwise.

(i) British Aerospace Jetstream Series 3100 and 3200 Service Bulletin No. 32-JM7862, Revision 3, dated October 3, 2014.

(ii) British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-A-JA140940, Original Issue, dated October 3, 2014.

(3) For service information identified in this AD, contact BAE Systems (Operations) Ltd, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; phone: +44 1292 675207, fax: +44 1292 675704; email: [RAPublications@baesystems.com](mailto:RAPublications@baesystems.com); Internet: <http://www.jetstreamcentral.com>.

(4) You may view this service information the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. In addition, you can access this service information on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-1093.

(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 Kansas City, Missouri, on March 10, 2015.

Pat Mullen,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.