

2010-08-04 British Aerospace Regional Aircraft: Amendment 39-16259; Docket No. FAA-2010-0056; Directorate Identifier 2009-CE-051-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective May 19, 2010.

Affected ADs

(b) This AD supersedes AD 2007-10-14, Amendment 39-15055.

Applicability

(c) This AD applies to Model HP.137 Jetstream Mk.1, Jetstream Series 200, Jetstream Series 3101, and Jetstream Model 3201 airplanes, all serial numbers, that are:

(1) Equipped with steering jack part number (P/N) 6182-2, P/N 6182-3, or P/N 6182-4; and

(2) Certificated in any category.

Subject

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

Reason

(e) The mandatory continuing airworthiness information (MCAI) states:

Cracks have been found in the NLG steering jack piston rod adjacent to the eye-end. This was caused by excessive torque which had been applied to the eye-end during assembly of the unit. Severe cracking, if not detected and corrected, can cause the jack to fail during operation, which may lead to loss of directional control of the aeroplane during critical phases of take-off and landing.

To address this unsafe condition, the UK CAA issued AD 003-11- 2002 (which references BAE Systems Service Bulletin (SB) 32- JA020741), requiring an inspection for cracks and a measurement of the release torque of the piston rod end fitting to determine a new safe life (remaining fatigue life) for individual units. The revised safe life was calculated in accordance with the formula provided in associated APPH Ltd (the NLG Jack manufacturer) SB 32-76.

Following the completion of testing, APPH determined that the remaining fatigue life needed further reduction and published inspection criteria and a revised formula for calculating the piston safe life.

This calculation and a revised end fitting tightening torque are contained in APPH SB 32-76 Revision 1. As a result, pistons which were previously calculated to have significant remaining life could possibly be unserviceable.

In response to this development, BAE Systems issued SB 32- JA030644 so that a revised calculation could be performed to establish the safe life of NLG steering jack pistons. Where not previously accomplished, the SB also recognised the need to inspect the piston for cracking and to measure the torque loading of the piston to eye-end joint so that safe life calculation could be performed. This SB superseded the earlier SB 32-JA020741 that produced an overly optimistic assessment of the component's safe life. The CAA UK issued AD G-2004-0029, superseding AD 003-11-2002, to require the accomplishment of these corrective actions.

Subsequent to the original issue of BAE Systems SB 32-JA030644, APPH introduced a modified unit (optionally installed on aeroplanes by application of BAE Systems SB 32-JM5414) that incorporates a strengthened piston with a defined safe life. This safe life is not calculated in accordance with the instructions of BAE Systems SB 32- JA030644, but is already declared in BAE Systems SB 32-JA981042, currently at revision 7. In response to requests for clarification, BAE Systems has revised SB 32-JA030644 to exclude those aeroplanes from the 'Effectivity' that have the modified steering jack assembly installed in accordance with BAE modification JM5414.

For the reasons described above, this new AD retains the requirements of UK CAA AD G-2004-0029, which is superseded, and confirms that for aeroplanes incorporating BAE modification JM5414, no further action is required.

Actions and Compliance

(f) Unless already done, do the following actions:

(1) For airplanes where the actions in British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA020741, dated November 2, 2002 (APPH Ltd. Service Bulletin 32-76, Revision 1, dated August 2003), have not already been done:

(i) Within 2 months after June 26, 2007 (the effective date retained from AD 2007-10-14), inspect the steering jack piston rod, check the torque of the end fitting, and determine the safe life of the steering jack piston rod following BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JA030644, dated October 6, 2003. You may do the actions required in this paragraph following paragraph 2, Part 1 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA030644, Revision No. 1, dated August 19, 2008, to comply with this AD.

(ii) If the piston rod is found cracked or unserviceable during the inspection required in paragraph (f)(1)(i) of this AD, before further flight, remove the steering jack and replace it with a serviceable unit.

(2) For airplanes where the actions in BAE British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA020741, dated November 2, 2002 (APPH Ltd. Service Bulletin 32-76, Revision 1, dated August 2003), have already been done:

(i) Within 3 months after June 26, 2007 (the effective date retained from AD 2007-10-14), recalculate the safe life of the steering jack piston rod and re-torque the piston rod eye-end following BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JA030644, dated October 6, 2003. You may do the actions required in this paragraph following paragraph 2, Part 2 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA030644, Revision No. 1, dated August 19, 2008, to comply with this AD.

(ii) If the piston rod is found unserviceable during the inspection required in paragraph (f)(2)(i) of this AD, before further flight, remove the steering jack and replace it with a serviceable unit.

(3) For airplanes equipped with steering jack part number (P/N) 6182-2, P/N 6182-3, or P/N 6182-4 incorporating Strike-off 4, installed by BAE Systems modification JM5414 (refer to British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32- JM5414, dated August 6, 2004; and APPH Ltd. Bulletin 32-77, dated October 2003): the actions specified in paragraph (f)(1), (f)(1)(i), (f)(1)(ii), (f)(2), (f)(2)(i), or (f)(2)(ii) of this AD are not required.

(4) For all airplanes: After June 26, 2007 (the effective date retained from AD 2007-10-14), do not install a steering jack piston rod with P/N 6182-2, P/N 6182-3, or P/N 6182-4, unless it has been inspected and the safe life recalculated following BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32- JA030644, dated October 6, 2003. You may inspect and recalculate the safe life of the steering jack piston rod following paragraph 2 of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA030644, Revision No. 1, dated August 19, 2008, to comply with this AD.

FAA AD Differences

Note: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(g) 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. 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.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

Related Information

(h) Refer to MCAI European Aviation Safety Agency (EASA) AD No.: 2009-0135, dated June 23, 2009; British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA020741, dated November 2, 2002; BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JA030644, dated October 6, 2003; British Aerospace Jetstream Series 3100 & 3200 Service

Bulletin No. 32- JA030644, Revision No. 1, dated August 19, 2008; British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JM5414, dated August 6, 2004; APPH Ltd. Service Bulletin 32-76, Revision 1, dated August 2003; and APPH Ltd. Service Bulletin 32-77, dated October 2003, for related information.

Material Incorporated by Reference

(i) You must use British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA020741, dated November 2, 2002; BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JA030644, dated October 6, 2003; British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA030644, Revision No. 1, dated August 19, 2008; British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JM5414, dated August 6, 2004; APPH Ltd. Service Bulletin 32-76, Revision 1, dated August 2003; and APPH Ltd. Service Bulletin 32-77, dated October 2003, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA030644, Revision No. 1, dated August 19, 2008; British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JM5414, dated August 6, 2004; and APPH Ltd. Bulletin 32-77, dated October 2003, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On June 26, 2007 (72 FR 28587, May 22, 2007), the Director of the Federal Register previously approved the incorporation by reference of BAE Systems British Aerospace Jetstream Series 3100 & 3200 Service Bulletin 32-JA030644, dated October 6, 2003; and APPH Ltd. Service Bulletin 32-76, Revision 1, dated August 2003.

(3) On May 22, 2003 (68 FR 16195, April 3, 2003), the Director of the Federal Register previously approved the incorporation by reference of British Aerospace Jetstream Series 3100 & 3200 Service Bulletin No. 32-JA020741, dated November 2, 2002.

(4) For service information identified in this AD, contact BAE Systems (Operations) Ltd, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; Telephone +44 1292 675207, Facsimile +44 1292 675704; E-mail: RApublications@baesystems.com.

(5) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(6) You may also review copies of the service information incorporated by reference for this AD 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/code_of_federal_regulations/ibr_locations.html.