



**United Kingdom  
Civil Aviation Authority**

**AIRWORTHINESS  
DIRECTIVE**

**AD No: G-2004-0029**

Issue Date: 20 December 2004

This AD is issued by the UK CAA acting for and on behalf of the European Aviation Safety Agency as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

Approved by the European Aviation Safety Agency under approval number 2004-11698 on 7 December 2004.

In accordance with Article 9(7)(b) of the Air Navigation Order 2000 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.

No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name:

**BAE SYSTEMS (OPERATIONS) LIMITED**

Type/Model Designation(s):

**HANDLEY PAGE HP137 JETSTREAM  
MARK 1, SCOTTISH AVIATION  
JETSTREAM SERIES 200 AND  
BRITISH AEROSPACE REGIONAL  
AIRCRAFT JETSTREAM SERIES 3100 AND  
SERIES 3200**

Type Certificate Data Sheet No: BA4 and BA15

Supersedes AD: 003-11-2002

**ATA 32 - NOSE LANDING GEAR - INSPECTION OF STEERING JACK PISTON FOR CRACKS  
AND DETERMINATION OF A COMPONENT SAFE LIFE**

**Manufacturer(s):** Handley Page Ltd, Scottish Aviation Ltd, British Aerospace PLC, British Aerospace (Commercial Aircraft) Ltd, British Aerospace Regional Aircraft Ltd, Jetstream Aircraft Ltd, British Aerospace (Operations) Ltd.

**Applicability:** Model Jetstream HP137 Mark 1, Series 200, 3100 and 3200 aeroplanes.

**Reason:** Cracking has been found in the nose landing gear steering jack piston rod adjacent to the eye-end. This was caused by the application of excessive tightening torque applied to the eye-end whilst being assembled during component overhaul. Failure of the steering jack piston during operation will result in loss of nose wheel steering which may lead to loss of directional control during critical phases of take-off and landing.

Mandatory Service Bulletin 32-JA020741 (UK CAA AD 003-11-2002) required a one-off inspection for cracks, and a measurement of the release torque of the piston rod end fitting so that a new safe life (fatigue life remaining) for individual units could be determined. The revised safe life was calculated in accordance with the formula provided in associated APPH SB 32-76.

Following the completion of their testing, the equipment manufacturer has determined that the fatigue life remaining needs further revision (reduction) and has 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 Revision 1 to APPH Ltd Service Bulletin 32-76. As a result, pistons, which were previously calculated to have significant remaining life, may now be unserviceable.

The inspections and any required rectification actions detailed in BAe Systems Service Bulletin 32-JA030644 and associated APPH Service Bulletin 32-76 Revision 1 are required to be performed to ensure continued airworthiness of the aircraft.

continued on next page

**Effective Date:** 14 January 2005

**Compliance/Action:**

- a) Within 2 months of the effective date of this Airworthiness Directive on aeroplanes where SB 32-JA020741 (and associated APPH SB 32-76) has not been previously accomplished, inspect the steering jack piston rod, check the torque of the end fitting and determine the safe life of the steering jack piston rod in accordance with paragraph 2, Part 1 of BAe Systems Service Bulletin 32-JA030644 dated 6 October 2003 or later CAA approved revision.

If the piston rod is found cracked or is unserviceable when inspected in accordance with paragraph 2, Part 1 of BAe Systems Service Bulletin 32-JA030644 dated 6 October 2003 or later CAA approved revision, remove the steering jack and replace with a serviceable unit.

- b) Within 3 months of the effective date of this Airworthiness Directive on aeroplanes where SB 32-JA020741 (and associated APPH SB 32-76) has been previously accomplished, recalculate the safe life of the steering jack piston rod and re-torque the piston rod eye-end in accordance with paragraph 2, Part 2 of BAe Systems Service Bulletin 32-JA030644, dated 6 October 2003 or later CAA approved revision.

If the piston rod is found unserviceable when inspected in accordance with paragraph 2, Part 2 of BAe Systems Service Bulletin 32-JA030644 dated 6 October 2003 or later CAA approved revision, remove the steering jack and replace with a serviceable unit.

- c) From the effective date of this Airworthiness Directive and prior to the installation on to an aircraft the steering jack piston rod must be inspected and the safe life determined in accordance with paragraph 2 of BAe Systems Service Bulletin 32-JA030644 dated 6 October 2003 or later CAA approved version.

**Reference Publications:** BAE SYSTEMS (Operations) Limited Service Bulletin 32-JA030644 dated 6 October 2003, may be obtained from Project Management Group, Customer Information Department, BAE SYSTEMS (Operations) Limited, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 (0) 1292 675207 Fax: +44 (0) 1292 675704 E-mail: RApublications@baesystems.com

**Remarks:** Enquiries regarding this Airworthiness Directive should be referred to Mr M P Gadd, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573313 Fax: +44 (0) 1293 573976 E-mail: michael.gadd@srg.caa.co.uk

**SUPERSEDED**