


EASA	AIRWORTHINESS DIRECTIVE	
	<p>AD No.: 2009-0135</p> <p>Date: 23 June 2009</p> <p>Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>	
<p>This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>		
<p>Type Approval Holder's Name :</p> <p>BAE Systems (Operations) Ltd</p>	<p>Type/Model designation(s) :</p> <p>HP 137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200 aeroplanes</p>	
TCDS Number:	United Kingdom (UK) BA4 and EASA.A.191	
Foreign AD:	Not applicable	
Supersedure:	This AD supersedes UK CAA AD G-2004-0029, EASA approval 2004-11698.	
ATA 32	Landing Gear – Nose Landing Gear (NLG) Steering Jack Piston Rod – Inspection	
Manufacturer(s):	Handley Page Ltd, Scottish Aviation Ltd, British Aerospace PLC, British Aerospace (Commercial Aircraft) Ltd, British Aerospace Regional Aircraft Ltd, Jetstream Aircraft Ltd and British Aerospace (Operations) Ltd.	
Applicability:	HP 137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200 aeroplanes, all models, all serial numbers, if equipped with steering jack Part Number (P/N) 6182-2, P/N 6182-3 or P/N 6182-4.	
Reason:	<p>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.</p> <p>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.</p> <p>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</p>	

	<p>possibly be unserviceable.</p> <p>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.</p> <p>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.</p> <p>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.</p>
Effective Date:	07 July 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Part 1 – For aeroplanes where SB 32-JA020741 (APPH SB 32-76) has not been previously accomplished:</p> <ol style="list-style-type: none"> (1) Within 2 months after 14 January 2005 [the effective date of UK CAA AD G-2004-0029], 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 SB 32-JA030644. (2) If the piston rod is found cracked or unserviceable during the inspection as required by paragraph (1) of this AD, before next flight, remove the steering jack and replace it with a serviceable unit. <p>Part 2 – For aeroplanes on which BAE Systems SB 32-JA020741 (APPH SB 32-76) has previously been accomplished:</p> <ol style="list-style-type: none"> (3) Within 3 months after 14 January 2005 [the effective date of UK CAA AD G-2004-0029], 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 SB 32-JA030644. (4) If the piston rod is found unserviceable during the inspection as required by paragraph (3) of this AD, before next flight, remove the steering jack and replace it with a serviceable unit. <p>Part 3 – For all aeroplanes:</p> <ol style="list-style-type: none"> (5) For aeroplanes equipped with steering jack P/N 6182-2, P/N 6182-3 or P/N 6182-4 incorporating Strike-off 4, installed by BAE Systems modification JM5414 (ref. BAE Systems SB 32-JM5414 and APPH SB 32-77), the actions specified in Part 1 or 2 of this AD are not required. (6) After 14 January 2005 [the effective date of UK CAA AD G-2004-0029], do not install a steering jack piston rod with P/N 6182-2, P/N 6182-3 or P/N 6182-4 on any aeroplane, unless it has been inspected and the safe life determined in accordance with paragraph 2 of BAE Systems SB 32-

	<p>JA030644.</p> <p>(7) For aeroplanes modified in accordance with BAE Systems modification JM5414, after the effective date of this AD, do not install any NLG steering jack P/N 6182-2, P/N 6182-3 or P/N 6182-4 on that aeroplane, unless the unit has been modified in accordance with BAE Systems SB 32-JM5414 and APPH SB 32-77.</p>
Ref. Publications:	<p>BAE Systems (Operations) Ltd SB 32-JA030644 Revision 1 dated 19 August 2008 and SB 32-JM5414 dated 6 August 2004.</p> <p>APPH Ltd SB 32-76 Revision 1 dated August 2003 and SB 32-77 dated October 2003, including the Erratum dated January 2004.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please 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