



Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

Number: **G-2022-0018**

Issue date: 18 October 2022



Note: In this Airworthiness Directive, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as "UK Regulation (EU) year/number or UK Regulation (EU) No. number/year".

This Airworthiness Directive (AD) is issued by the UK CAA in accordance with UK Regulation (EU) No. 748/2012 Part 21.A.3B, acting as the Authority of the State of Design for the affected product(s), under Article 34 of the Air Navigation Order 2016 (ANO) and UK Regulation (EU) 2018/1139.

In accordance with UK Regulation (EU) No. 1321/2014 Annex I (Part-M), M.A.301 / Annex VB (Part-ML), ML.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 or agreed by the CAA [Part-M, M.A.303 / Part-ML, ML.A.303].

This is a Final AD with Request for Comments and is issued in accordance with the UK CAA Continued Airworthiness Process. All interested persons may send their comments, referencing the AD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated in the Remarks section.

Type Approval Holder's Name:

BAE SYSTEM (OPERATIONS) LTD

Type/Model Designation(s):

BAe 146 and AVRO 146-RJ aeroplanes

Effective Date:	01 November 2022
TCDS:	EASA.A.182 & BA29
Foreign AD (if applicable):	Not applicable
Supersedure:	This AD supersedes CAA AD G-004-05-2001

ATA 32 – Landing Gear – Main Landing Gear Sidestay Outer Link (LH & RH) – Inspection

Manufacturer(s):

BAE Systems (Operations) Ltd, British Aerospace plc, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft trading as Avro International Aerospace.

Applicability:

BAe 146-301, BAe 146 and AVRO 146-RJ, aeroplanes all models, all serial numbers.

Note: The Required Actions defined in this AD are also applicable to used BAe 146-301, BAe 146 and AVRO 146-RJ main landing gear (MLG) Sidestay Outer Links which are currently not fitted to an aircraft and must be completed before being reinstalled on an affected aeroplane.

Definitions:

For the purpose of this AD, the following definitions apply:

ASB.32-A189: BAE Systems (Operations) Ltd ASB.32-A189 Initial issue. Title: Landing Gear – Main Landing Gear Sidestay – Inspection of the Outer Link (LH and RH) for cracks and dimensional checks.

Reason:

During routine maintenance, cracks have been found on the shoulders of a Main Landing Gear (MLG) Sidestay Outer Link. Cracking leading to failure of the Sidestay Outer Link, if not detected and corrected, may result in Main Landing Gear collapse, which could result in a runway departure.

This issue was previously addressed by BAE Systems (Operations) Ltd ISB 32-144. Consequently, CAA published CAA AD 005-12-1996 (Civil Aviation Publication (CAP) 476 refers). Following further events and investigation, BAE Systems (Operations) Ltd issued ISB 32-156. The applicability of this requirement was limited to Sidestay Outer Links identified in Messier-Dowty SB 146-32-147, dated 29 May 2001. Consequently, CAA issued CAA AD 004-05-2001 (Civil Aviation Publication (CAP) 476 refers), superseding AD 005-12-1996, requiring revised inspection requirements.

Since AD 004-05-2001 was issued, a further occurrence has been reported, where the affected parts had been subject to compliance with the terminating action identified in AD 004-05-2001. Consequently, BAE Systems (Operations) Ltd have issued ASB.32-A189, initial issue, to provide inspection and dimensional measurement instructions to address the revised applicability of this potential unsafe condition.

For the reason described above, this AD supersedes the requirements of CAA AD 004-05-2001, amends the definition of the affected part, requires a detailed inspection for all affected parts and removes the possibility for continued flight with a known crack.

Note: AD 004-05-2001 and its associated ISB.32-156 allowed limited return to operation, with an unrepaired crack, if the crack was below a specified length. The CAA's position is to no longer accept continued operation with known cracks. This policy is aligned with that of the FAA & EASA. The superseding of CAA AD 004-05-2001 by this AD, withdraws the option of continued flight with a known crack, after the initial inspection per this AD.

This AD is issued to address the identified airworthiness concern by inspecting and removing any parts for which a crack is identified and is currently considered to be an interim action. Consequently, further AD action may be required.

Required Action(s) and Compliance Time(s):

Required as indicated, unless accomplished previously, in accordance with ASB.32-A189.

Note: Inspections performed previously to comply with AD 004-05-2001, mandating the requirements of BAE Systems (Operations) Ltd ISB 32-156, do not satisfy the requirements of this AD.

Inspection(s)

- (1) Within 28 days of the effective date of this AD, and thereafter at intervals not exceeding 2000 flight cycles, accomplish the instructions and detailed inspections given in ASB.32-A189 paragraph "2.C. Inspection" para (1). Note: The detailed inspections require the use of a magnifying glass with x 5 magnification or greater.

Corrective Action(s):

- (2) In the case of discrepancies (i.e. cracks or other adverse findings) found during accomplishment of the inspection task as required by paragraph (1) of this AD, then before further flight, install a replacement Sidestay Outer Link in accordance with applicable BAE System (Operations) Ltd Aircraft Maintenance Manual or, if appropriate, the applicable Safran Landing Gear Systems UK Ltd CMM 32-10-34. Prior to installation, any used replacement part must have been inspected in accordance with paragraph 1 of this AD (if applicable) and found to be free of discrepancies. Parts that are new, i.e. zero hours/cycles Time Since New (TSN), do not require this prior inspection.

Reference Publications:

BAE Systems (Operations) Ltd Alert Service Bulletin ASB.32-A189, Initial issue, dated 16 September 2022. Title: Landing Gear – Main Landing Gear Sidestay – Inspection of the Outer Link (LH and RH) for cracks and dimensional checks.

BAE Systems (Operations) Ltd Inspection Service Bulletin ISB.32-144, Revision 0, dated 11 December 1996. Title: Landing Gear – Main Landing Gear – Inspection of the Outer Link for Cracks.

BAE Systems (Operations) Ltd Inspection Service Bulletin ISB.32-156, Revision 1, dated 3 July 2001. Title: Landing Gear – Main Landing Gear Sidestay – Inspection of the Outer Link for Cracks (LH and RH).

Messier-Dowty SB 146-32-147, dated 29 May 2001. Title: Landing Gear – Main Landing Gear Side Stay – Inspection of the Outer Link for Cracks.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. Based on the required actions and compliance time, CAA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication of this AD.
2. If requested and appropriately substantiated, CAA can approve Alternative Methods of Compliance for this AD.
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the CAA aviation safety reporting system [Occurrence reporting | Civil Aviation Authority \(caa.co.uk\)](https://www.caa.co.uk/occurrence-reporting). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
4. Enquiries regarding this Airworthiness Directive should be referred to: Continued.Airworthiness@caa.co.uk
5. For any questions concerning the technical content of the requirements in this AD, please contact: BAE Systems (operations) Ltd, Customer Technical Support Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. The United Kingdom. E-mail: raengliaison@baesystems.com.