



# United Kingdom Civil Aviation Authority

## AIRWORTHINESS DIRECTIVE

**AD No: G-2004-0004**

Issue Date: 26 February 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 2004-1545 on 24 February 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) LTD**

Type/Model Designation(s):

**BAE 146**

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

### ATA 53 – STRUCTURE – INSPECTION OF PRESSURE FLOOR OVER MAIN LANDING GEAR BAY

Manufacturer(s): British Aerospace (Regional Aircraft) Ltd

Applicability: Model BAe 146 Series aeroplanes without Modification HCM00972A or HCM00972C embodied.

**Reason:** Fatigue induced cracking can occur in the fuselage pressure skin above the left and right main landing gear (MLG) bay as a result of cabin pressure cycling. This problem was previously recognised by BAE Systems, and the affected area is already inspected as part of Supplementary Structural Inspection (SSI) task 53-20-153. Failure to detect the fatigue damage can allow crack lengths to increase to a size where the structural integrity of the fuselage and its ability to maintain a pressure differential would be compromised.

Significant cracking in the fuselage pressure skin above the MLG bay has been reported following unrelated maintenance, demonstrating that the published inspection technique (DVI) does not provide a guarantee that any damage will be detected.

This Airworthiness Directive therefore mandates BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 that introduces a revised inspection technique, together with changes to the inspection thresholds and repeat periods for the various structural configurations that are affected and instructions for repair of damage should it be detected.

**Effective Date:** 16 March 2004

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**Compliance/Action:****Aeroplanes without HCM00972A or HCM00972C and without Modification HCM00744M or HCM00850A:**

- a) Prior to the accumulation of 15,000 flights, carry out an initial inspection of the pressure floor over the main landing gear bay for cracks, in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or later CAA approved revision. Where cracks or other damage are detected repair in accordance with Service Bulletin 53-170 or an approved repair scheme before further flight.
- b) Where the aeroplane has exceeded 14,500 flights at the effective date of this Airworthiness Directive, carry out the initial inspection in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or later CAA approved revision within a further 500 flights. Where cracks or other damage are detected repair in accordance with Service Bulletin 53-170 or an approved repair scheme before further flight.
- c) Repeat the inspection in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or later CAA approved revision at an interval not exceeding 1,000 flights.

**Aeroplanes without HCM00972A or HCM00972C and with Modification HCM00744M or HCM00850A:**

- d) Prior to the accumulation of 15,000 flights, carry out an initial inspection of the pressure floor over the main landing gear bay for cracks, in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or CAA later approved revision. Where cracks or other damage are detected repair in accordance with Service Bulletin 53-170 or an approved repair scheme before further flight.
- e) Where the aeroplane has exceeded 14,000 flights at the effective date of this Airworthiness Directive, carry out the initial inspection in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or CAA later approved revision within a further 1,000 flights. Where cracks or other damage are detected repair in accordance with Service Bulletin 53-170 or an approved repair scheme before further flight.
- f) Repeat the inspection in accordance with paragraph 2 of BAE Systems (Operations) Service Bulletin 53-170 dated 8 August 2003 or later CAA approved revision at an interval not exceeding 3,000 flights.

**Reference Publications:** BAE Systems (Operations) Service Bulletin SB 53-170 dated 8 August 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 Facsimile: +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, Programmes Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573313 Facsimile: +44 (0) 1293 573976 E-mail: michael.gadd@srg.caa.co.uk