EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0070R2 **Date: 18 September 2013** 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.

This AD is issued in accordance with EU 748/2012, Part 21.A.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].

Design Approval Holder's Name:	**Type/Model designation(s):**
BAE SYSTEMS (Operations) Ltd	BAe 146 and AVRO 146-RJ aeroplanes

TCDS Number:	EASA.A.182
Foreign AD:	Not applicable
Revision:	This AD revises EASA AD 2009-0070R1 dated 02 July 2010.

ATA 53	**Fuselage – External Forward Fuselage – Inspection / Repair**
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 and AVRO 146-RJ aeroplanes, all models, all serial numbers.
Reason:	During the period 2001/2002, skin cracking was found adjacent to the butt joint forward of frame 19 when unrelated in-service maintenance inspections of the forward fuselage structure were being completed. The cracks emanated from chemically-etched pockets on the internal surface of the skin. The then current MRB inspection requirements were not adequate to address cracking in multiple adjacent bays, which could compromise the structural integrity of the fuselage in the event that the multiple cracks joined into a single crack. Investigations resulted in the publication of BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB).53-167 in June 2003, which was made mandatory by CAA UK AD 007-06-2003. The ISB was subsequently re-issued at Revision 1 during 2004 to clarify the inspection requirements and provide an improved inspection procedure. CAA UK AD G-2005-0002 (EASA approval number 2005-313) was issued to require accomplishment of the improved inspections. During 2008, a further report was received at BAE Systems of a 13.78 inch crack in an AVRO 146-RJ that occurred 514 flight cycles (FC) short of the next 4 000-FC repetitive inspection interval. A reassessment of ISB instructions and its supporting data concluded that these original

	inspection periods were too long, and the method for defining the areas requiring inspection could be open to misinterpretation. In response, BAE Systems has updated the ISB to Revision 2 to reduce the inspection intervals, introducing different inspection intervals associated with specific areas of the forward fuselage skins and instructions to inspect additional areas of the forward fuselage skin. For the reasons described above, EASA issued AD 2009-0070, retaining the requirements of CAA UK AD G-2005-0002, which was superseded, to require implementation of revised repetitive inspections, including inspection of additional areas of the forward fuselage skin panels for cracking and follow-on repair action(s), depending on findings. Revision 1 of this AD was issued to acknowledge the issuance of BAE Systems (Operations) Ltd ISB.53-167 at Revision 3, which allowed the repetitive inspection intervals to be extended and introduced grace periods to carry out the initial inspections. In addition, Revision 1 of this AD also acknowledged the issuance of BAE Systems ISB.53-167 at Revision 4 which corrected the grace period for the initial inspections for BAe 146 aeroplanes. Revision 2 of this AD is issued to delete the requirements originally retained from CAA UK AD G-2005-0002, which were replaced by the new, more restrictive, requirements of the original issue of this AD.
Effective Date:	Revision 2: 18 September 2013 Revision 1: 16 July 2010 Original issue: 09 April 2009
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: **Restatement of AD G-2005-0002 requirements:** For BAe 146 aeroplanes: (1) [deleted] For AVRO 146-RJ aeroplanes: (2) [deleted] **New requirements of this AD:** (3) After 09 April 2009 [the effective date of the original issue of this AD], within the thresholds and thereafter within the intervals defined in Drawing 1 (for BAe 146) or Drawing 2 (for AVRO 146-RJ) of the ISB at Revision 4, as applicable to aeroplane model, accomplish the initial and repetitive inspections in accordance with the instructions of paragraph 2.B. of the BAE Systems (Operations) Ltd ISB.53-167 at Revision 4. (4) If defects are found during any inspection as required by this AD, before next flight, accomplish a repair in accordance with the instructions of paragraph 2.B.(4) of the BAE Systems (Operations) Ltd ISB.53-167. Repair of an aeroplane in accordance with paragraph 2.B.(4) of the BAE Systems (Operations) Ltd ISB.53-167does not constitute terminating action for the inspection requirements of this AD. (5) Inspections and corrective actions, accomplished before 16 July 2010 [the effective date of the AD 2009-0070R1] in accordance with BAE Systems (Operations) Ltd ISB.53-167 at Revision 2 or Revision 3, are acceptable to comply with the requirements of paragraphs (3) and (4) of this AD. (6) The ISB at Revision 4 includes grace periods for aeroplanes that have already exceeded the inspection threshold for the new skin areas or exceeded the reduced inspection interval. Aeroplanes are allowed a one-time period of 2 000 FC for BAe 146 or 1 000 FC for AVRO 146-RJ to exceed the new limit(s), in which to schedule the additional work. This

	information is defined in the ISB in separate logic diagrams for the two aeroplane variants. The starting point for the grace periods is 16 July 2010 [the effective date of revision 1 of this AD], not the issue date of the ISB at Revision 2.
Ref. Publications:	BAE Systems (Operations) Ltd ISB.53-167 Revision 2 dated 17 November 2008, or Revision 3 dated 17 June 2009, or Revision 4 dated 10 June 2010. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD 2. The original issue of this AD was published on 09 February 2009 as PAD 09-030 for consultation until 09 March 2009. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the Safety Information Section, Executive 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, The United Kingdom; Telephone +44 1292 675207, Fax +44 1292 675704 E-mail: RApublications@baesystems.com.