

CAP 747

Mandatory Requirements for Airworthiness

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ISBN-13: 978 0 11792 318 8

First Edition June 2004

Issue 2, 28 September 2004

Issue 2 incorporating Amendments up to and including 30 September 2009

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Airworthiness Strategy and Policy, Safety Regulation Group, Civil Aviation Authority, Aviation House,
Gatwick Airport South, West Sussex, RH6 0YR.

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Published by TSO (The Stationery Office) on behalf of the UK Civil Aviation Authority.

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Amendment Record

[illegible]

[illegible]

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Foreword

1 Introduction

The formation of the European Aviation Safety Agency (EASA) and the implementation of the associated European legislation has changed the responsibilities and procedures for the regulation of airworthiness. This CAP 747 is the means by which airworthiness requirements made mandatory by the CAA are notified. This publication also provides an explanation of the applicability of the mandatory requirements for airworthiness that are issued by EASA and other organisations, and indicates where those requirements may be found.

NOTE: EASA has not yet implemented requirements that are related to operations. Aircraft operations remain subject to national requirements at present. Operations-related requirements may be included in CAP 747 where this is considered to be the pragmatic means to give notification of them, pending their replacement by EASA requirements.

2 ICAO Compliance Statement to CAP 747 Mandatory Requirements for Airworthiness

- 2.1 The Civil Aviation Authority (Chicago Convention) Directions 2007, issued by the Department for Transport (DfT), require the Civil Aviation Authority (CAA) to ensure that it acts consistently with the obligations placed on the UK under the Convention on International Civil Aviation (Chicago Convention) of December 1944.
- 2.2 This document is published in support of the CAA's discretionary powers contained in the Air Navigation Order and includes requirements based on certain International Standards and Recommended Practices (SARPs) contained in Annexes to the Chicago Convention.
- 2.3 It is the policy of the CAA to have reference to this document when exercising the discretionary powers referred to above and, in particular, it will exercise those powers to ensure the effective implementation of any such requirements based on SARPs.

3 Classification of Products

- 3.1 Under the European legislation, UK-registered aircraft are now divided into two categories:
 - "EASA aircraft"; i.e. aircraft subject to regulation by EASA; and
 - "Non-EASA aircraft"; i.e. aircraft that remain subject to regulation by the CAA.
- 3.2 For each category of aircraft, EASA, CAA and State of Design Requirements may apply (under various provisions of the applicable legislation). Accordingly, in this publication, the requirements are grouped according to their categorisations under the legislation.
- 3.3 Section 1, Part 1 of this CAP 747 identifies the requirements that are applicable depending upon whether the aircraft in question is an "EASA aircraft" or a "Non-EASA aircraft".

4 Status

- 4.1 This CAP 747 is the primary means by which airworthiness requirements made mandatory by the CAA are notified.
- 4.2 Some requirements previously made mandatory for UK-registered aircraft were withdrawn on 28 September 2003, when European regulations came into force. Aircraft owners and operators should ensure that:
- a) any retained modifications installed in order to comply with previous additional UK requirements continue to be maintained in accordance with all applicable approved data and service information;
 - b) any de-modification of an aircraft is performed by approved organisations or licensed aircraft engineers in accordance with approved airworthiness documentation. Following de-modification, a review and re-issue of the continued airworthiness instructions must be carried out and a Certificate of Release to Service obtained;
 - c) any data from the Type Certificate Holder that has previously been made mandatory by the CAA, but is no longer mandatory, should still be considered for inclusion in the maintenance programme. Failure to do so could expose the aircraft to safety hazards and may invalidate the Certificate of Airworthiness.

5 Requirements

5.1 EASA Aircraft

The mandatory airworthiness requirements applicable to UK-registered aircraft that are subject to regulation by EASA (including engines, propellers, equipment, parts and appliances fitted to those aircraft), are defined in Section 1, Part 1, Figure 2 of this CAP 747.

5.2 Non-EASA Aircraft

The mandatory airworthiness requirements applicable to UK-registered aircraft that remain subject to national regulations (including engines, propellers, equipment, parts and appliances fitted to those aircraft), are defined in Section 1, Part 1, Figure 3 of this CAP 747.

6 Generic Concessions

- 6.1 A number of concessions previously published in CAP 455 as Airworthiness Notices are defined in Appendix 8 of this CAP 747.

7 Interpretation

- 7.1 The Requirements, with or without explanatory material, should not be regarded as constituting text book material. The interpretation of the Requirements against a background of current aeronautical knowledge is essential.
- 7.2 Mandatory clauses are denoted by the use of “shall” or “must”; “should” or “may” are used in the text to introduce permissive or recommended clauses.
- 7.3 Imperatives such as “ensure”, “prevent” and “shall be designed”, imply that all steps deemed necessary will be taken, on the basis of the knowledge and techniques available at the time.

- 7.4 It is implicit in requirements expressed qualitatively (e.g. “readily visible”, “adequately tested”, etc.) that the CAA will adjudicate in cases where doubt exists.
- 7.5 An Airworthiness Directive is a document issued or adopted by the Authority of the State of Registry of an aircraft which mandates the actions to be performed to restore an acceptable level of safety to an aircraft when an unsafe condition has been identified.
- 7.6 Words purporting the masculine gender include the feminine.

8 Notification of Requirements

- 8.1 Aircraft on the UK Register are required by law to comply with applicable Airworthiness Directives (ADs) issued by the UK CAA, EASA, and the National Aviation Authority (NAA) of the State of Design.

8.2 Non-Emergency ADs

- 8.2.1 EASA is responsible for distributing EASA ADs to ICAO Contracting States. These ADs are available from the EASA website at www.easa.eu.
- 8.2.2 The CAA is responsible for notifying other ICAO Contracting States of CAA ADs for UK Products. These are available from the CAA website at www.caa.co.uk/ads.
- 8.2.3 CAA ADs and EASA ADs for UK and non-EU State of Design products are published in CAP 747; other ADs may be obtained from the originating NAA.

8.3 Emergency ADs

- 8.3.1 Where urgency dictates that a short timescale is required to address an unsafe condition, the CAA, EASA or NAA will issue an Emergency Airworthiness Directive (EAD).
- 8.3.2 All EADs for affected UK-registered aircraft are published by the CAA on its website at www.caa.co.uk/eads.
- 8.3.3 To receive notification when a new EAD is published owners/ operators/ maintenance organisations etc. should register with the CAA's free publications subscription service at www.caa.co.uk > Publications > Subscriptions and choose the 'Emergency Airworthiness Directives' category. Existing Subscribers should ensure this new category is added to their subscription. Subscribers will then be notified every time a new EAD is published on the CAA website.
- 8.3.4 EADs will be available for download from the CAA website for a period of two months from the publication date and then they will be removed. UK EADs and EASA EADs for UK and non-EU State of Design products will have been incorporated into CAP 747; other EADs may be obtained from the originating NAA.
- 8.3.5 In order for NAAs of ICAO Contracting States to receive UK Emergency ADs in a timely manner they must also subscribe to the above service.

9 Responsibilities of Owners/Operators and Individuals/Organisations Carrying Out Maintenance and Overhaul

- 9.1 In order to ensure compliance with all applicable mandatory requirements, the owners and operators of aircraft must ensure that they are aware of the content of any Airworthiness Directives issued by the National Aviation Authority of the State of Design and EASA and of any applicable CAA Airworthiness Directives or mandatory requirements.

- 9.2 In addition, organisations or individuals undertaking maintenance and overhaul must ensure that they are in receipt of Airworthiness Directives issued by the National Aviation Authority of the State of Design and EASA, and any CAA Airworthiness Directives or mandatory requirements applicable to the Products, Parts and Appliances which they maintain or overhaul.

NOTE: When an individual or organisation maintains or overhauls Products, Parts and Appliances for an owner/operator whose aircraft is not registered in the United Kingdom, the individual/organisation must make arrangements with that owner/operator to receive any Airworthiness Directives issued or adopted by the Civil Aviation Authority of the State of Registry.

10 Repetitive Inspection

10.1 Non-Commercial Air Transport

- 10.1.1 Where an Airworthiness Directive requires an inspection to be carried out at intervals not exceeding 24 hours (elapsed time) the CAA may invoke the authorisation given under paragraph 10.1.2 below, for inspection by the pilot in command. In such cases, the text of the Airworthiness Directive will prescribe the authorisation.

- 10.1.2 The Civil Aviation Authority (CAA), in exercise of its powers under Article 16(11) (d) of the Air Navigation Order 2005 as amended, hereby authorises a pilot as a person competent to issue a Certificate of Release to Service in respect of a mandatory inspection required by an Airworthiness Directive where the inspection recurs at periods not exceeding 24 hours elapsed time, subject to the following conditions:

- a) The pilot must hold a Group or Type rated licence applicable to the type quoted in the inspection.
- b) The pilot must have sufficient technical knowledge and have received specific training to provide that person with the competence to accomplish the inspection which may also require the use of simple visual inspection aids.
- c) The specific training must be provided by an appropriately licenced aircraft maintenance engineer or organisation approved by the CAA for that purpose.

- 10.1.3 When certifying an inspection in accordance with paragraph 10.1.2 the certifying signature will be that of the pilot followed by his licence number.

10.2 Commercial Air Transport

- 10.2.1 The provisions of paragraph 10.1.2 above cannot be used for repetitive inspections on aircraft operated for Commercial Air Transport. All certifications must be made by persons authorised by an organisation approved in accordance with Regulation (EC) No 2042/2003, Annex II (Part 145).

- 10.2.2 In accordance with 145.A.30(j)(3): for compliance with a repetitive pre-flight mandatory action, where the Airworthiness Directive states specifically that the flight crew may carry out the action, a Part-145 organisation may issue a limited certification authorisation to the aircraft commander and/or the flight engineer on the basis of the flight crew licence held.

- 10.2.3 When certifying an inspection in accordance with paragraph 10.2.2 the certifying signature will be that of the person authorised by the Part-145 organisation and the relevant authorisation reference shall be recorded.

11 Mandatory Changes to Flight Manuals or Performance Schedules

- 11.1 Where an Airworthiness Directive introduces a change to an aircraft Flight Manual or Performance Schedule, the introduction of the Change into the appropriate document shall be the responsibility of the Owner/Operator of the aircraft. A copy of the Airworthiness Directive shall be attached to the Flight Manual or Performance Schedule to denote compliance in addition to any manufacturer's temporary revisions complementary to the Airworthiness Directive.

NOTE: In addition to introducing a copy of the Airworthiness Directive into the Flight Manual, owners/operators must ensure where a Permission has been granted to utilise an Operations Manual in lieu of the Flight Manual, that the information promulgated in the Directive is transmitted into the Operations Manual within the compliance time specified in the Directive.

12 Extension of Airworthiness Directive Compliance Timescale

- 12.1 Aircraft owners, operators and contracted maintenance organisations must assess all Airworthiness Directives relating to relevant aircraft types and initiate early requisition and/or provision of aircraft parts and/or maintenance resources to meet the Airworthiness Directive compliance timescales.
- 12.2 Any application to extend an Airworthiness Directive compliance timescale will be assessed by the CAA on a case-by-case basis. The applicant, normally supported by the organisation responsible for the type design, must demonstrate, to the satisfaction of the CAA, an equivalent level of safety. Extensions of this nature are intended to be used in exceptional circumstances that could not reasonably have been foreseen by the owner, operator or contracted maintenance organisation.

13 Airworthiness Directive Alternative Means of Compliance (AMOC)

13.1 EASA Aircraft

- 13.1.1 Any application to satisfy an Airworthiness Directive by means of an 'alternative means of compliance' will be assessed by EASA on a case by case basis and will normally need to be supported by the organisation responsible for the type design. The applicant must demonstrate, to the satisfaction of the Agency, an equivalent level of safety.
- 13.1.2 EASA decisions 2004/02/CF, 2004/03/CF and 2004/04/CF allow automatic acceptance of certain AMOCs issued by the airworthiness authorities of Canada, Brazil and the United States of America, where that country is the State of Design for the product, part or appliance. The text of these decisions may be obtained from the Agency website at www.easa.europa.eu

13.2 Non-EASA Aircraft

Any application to satisfy an Airworthiness Directive by means of an 'alternative means of compliance' will be assessed by the CAA on a case by case basis and will normally need to be supported by the organisation responsible for the type design. The applicant must demonstrate, to the satisfaction of the CAA, an equivalent level of safety.

14 Accuracy of Information

The information presented in CAP 747 is the best available on the date that each amendment is approved for publication and printing. This is typically seven working days before the date of publication of the amendment.

15 Amendments

Amendments to CAP 747 are published monthly. Each page is identified by the date of issue or date at which it is amended. Material differences from the previous issue are marked with marginal lines. Where text has overflowed, the affected pages are identified by the date of re-issue. The remaining pages retain their existing dates and are therefore not re-supplied.

Revision History

Initial Issue

June 2004

The initial issue of CAP 747 was brought about by the coming into force of European legislation, creating the European Aviation Safety Agency (EASA) and the consequent need for the CAA to declare its intention to retain certain requirements for UK registered aircraft.

Issue 2

September 2004

The purpose of Issue 2 is to provide a single point of reference for all mandatory information for continuing airworthiness, including airworthiness directives, as applicable to civil aircraft registered in the UK.

The compilation of this CAP 747 Issue 2 allows a rationalisation of other CAA publications as follows:

- a) CAP 476 - Mandatory Aircraft Modifications And Inspections Summary is no longer amended because UK State of Design mandatory requirements compiled after 28th September 2003 are published as EASA Airworthiness Directives or as UK requirements for non-EASA aircraft within Section 3, Part 3 of this CAP 747. CAP 476 will be frozen at the October 2004 publication date. It will continue to be available as a reference document on the CAA web site for requirements published prior to September 2004.
- b) CAP 473 - CAA Additional Airworthiness Directives has been cancelled.
- c) CAP 474 - Foreign Airworthiness Directives Volume III will be frozen at the October 2004 publication date. It will continue to be available as a reference document on the CAA web site.
- d) CAP 480 UK Additional Requirements for Import has been cancelled.

Amendment 1/2004

October 2004

In Section 1, Part 2 the various lists have been updated to include additional products and reflect changes of responsibility. These changes are indicated by a marginal line and a page date of 29 October 2004. This page date is also used where pages are reproduced because of text overflow, although no changes have been made to the text. Where a page is re-issued for backing purposes only, the page date has not been changed. A new column has been added to the Table of EASA Products designed outside the EU, to include the Lead Authority/EASA Team.

In Section 2, Part 3A, two new UK CAA ADs (G-2004-0023 and G-2004-0024) have been added and some existing ADs re-positioned to better reflect their content. One AD (G-2003-0002) has also been removed from this section and placed in Section 2, Part 4 as an Additional Airworthiness Directive.

A new EASA AD (2004-0001) has been added in Section 2, Part 3B.

Appendix 2 has also been updated.

Amendment 2/2004

November 2004

Additional products have been included in Section 1, Part 2.

Three new ADs (G-2004-0025, G-2004-0026 and G-2004-0027) have been added in Section 2, Part 3A and some existing ADs re-positioned to reflect alphabetical order of Type.

Appendix 1, GR No. 10 has been updated to reflect the September 2004 amendment to AN No. 38.

Appendix 2 has also been updated.

Amendment 3/2004

December 2004

The Foreword has been moved to before the Revision History to avoid re-issuing it with new page numbers each time the number of pages in the Revision History increases.

Additional products and amendments to Type Certificate Numbers have been included in Section 1, Part 2 as well as the removal of duplicate entries on page 42.

Renaming of two ADs in Section 2, Part 3A to reflect the Manufacturer and Equipment rather than the applicable Aircraft.

One new AD (2004-0002) has been added in Section 2, Part 3B.

The paragraphs on page 11 of Section 2, Part 4 have been repositioned although no changes have been made to the text.

Appendix 1, GR No. 12, paragraph 4, Compliance has been amended.

Amendment 1/2005

January 2005

Section 1, Part 2 has been amended to include additional products and extend the column in Table of EASA Products designed outside the EU detailing the Lead Authority/EASA Teams to cover: Engines; Propellers; and APUs.

In Section 2, Part 3, six new UK CAA ADs (G-2004-0029, G-2004-0030, G-2004-0031, G-2004-0032, G-2005-0001 and G-2005-0002) have been added, two of which supersede existing ADs (G-2004-0007 and G-2004-0015), which have therefore been removed. Some other existing ADs have been repositioned to better reflect their content.

Eight new ADs (2004-0003, 2004-0004, 2004-0005, 2004-0006, 2004-0007, 2004-0008, 2004-0009 and 2004-0010) have been added in Section 2, Part 3B that has resulted in the superseding of five AADs (AADs 001-02-99, 004-06-2000 Rev 1, 004-10-97, 010-12-92 Rev 2 and 009-03-91 Rev 1), which have therefore been removed from Section 2, Part 4.

Section 2, Part 1, page 1; Section 2, Part 4, page 1; Section 3, Part 1, page 1; and Section 3, Part 3, page 1 have been amended to remove the lists of Generic Requirements and redirect users to the matrix that has been added to Appendix 1.

Appendix 1 has been updated to include a matrix listing all Generic Requirements and their applicability.

Appendix 2 has also been updated.

Amendment 2/2005

February 2005

The Contents, Foreword and Revision History have been reissued due to incorrect numbering of pages at the last amendment.

Additional products and amendments to Type Certificate Numbers have been included in Section 1, Part 2, as well as amendments to reflect changes in Manufacturers' names and products.

Section 1, Part 3 has been amended to update the contact details of the National Aviation Authorities.

The paragraphs on page 1 of Section 2, Part 3A have been repositioned although their content has not changed.

Four new ADs (G-2005-0003, G-2005-0004, G-2005-0005 and G-2005-0006) have been added in Section 2, Part 3A, which has resulted in the supersedure and removal of one AD (G-2004-0023) in the same section.

Two ADs (2004-0008 and 2004-0009) from Section 2, Part 3B have been updated to Revision 1.

Five Additional Airworthiness Directives covering various engine types from Section 2, Part 4, Engines have been copied to Section 3, Part 3, Engines. Their content has not been changed.

Five Additional Airworthiness Directives covering Equipment have been copied from Section 2, Part 4, Equipment to Section 3, Part 3, Equipment. Their content has not been changed.

Appendix 1, GR Nos. 3, 8 and 11 have been amended.

Appendix 2 has also been updated.

Amendment 3/2005

March 2005

Additional products and amendments to Type Certificate Numbers have been included in Section 1, Part 2, as well as amendments to reflect changes in Manufacturer's names and products.

Section 1, Part 3 has been amended to update the contact details of the National Aviation Authorities.

Three new ADs (G-2005-0007, G-2005-0008 and G-2005-0009) have been added to Section 2, Part 3A.

Appendix 1, GR No 3 has had figure numbers and cross-references corrected.

Appendix 2 has also been amended.

Amendment 4/2005

April 2005

The Foreword and Revision History have been renumbered to avoid the need to renumber in future as the List of Effective Pages grows.

Additional products and amendments to reflect changes in Manufacturer's products have been included in Section 1, Part 2.

A new GR, GR No. 24 has been added to Appendix 1.

Appendix 2 has also been amended.

Amendment 5/2005

May 2005

Additional Products and amendments to reflect changes in Manufacturers' products have been included in Section 1, Part 2.

The contact details in Section 1, Part 3 have been updated to reflect changes.

Three new ADs (G-2005-0010, G-2005-0011 and G-2005-0012) have been added to Section 2, Part 3A.

Eight new ADs (2004-0006 R1, 2005-0001 (GV-SP), 2005-0011, 2005-0012, 2005-0013, 2005-0014, 2005-0015 and 2005-0016 R1) have been added to Section 2, Part 3B, which has resulted in the supersedure and removal of one AD (G-2004-0006) in the same section.

Section 2, Part 4 Apex has been updated to show changes to the applicability and to include information previously omitted in error.

Appendix 2 has also been updated.

Amendment 6/2005**June 2005**

Additional products and amendments to Type Certificate Numbers have been included in Section 1, Part 2, in addition to amendments to reflect changes in Manufacturers' products.

Section 1, Part 3 has been amended to reflect changes in the contact details of the National Aviation Authorities.

Two new ADs (G-2005-0013 and G-2005-0014) have been added to Section 2, Part 3A, resulting in the supersedure of one AD (G-2004-0032) in the same section.

One new AD (2005-0017) has been added to Section 2, Part 3B, resulting in the supersedure and removal of one AD (2004-0002) in the same section.

One AAD (002-08-2001) in Section 3, Part 3 has been amended to include another aircraft type. This has resulted in the deletion of one AAD (002-08-2001) in the same section due to replication of the same information. The technical content of the AAD has not been changed.

Appendix 1, GR No. 12 has been deleted, and Appendix 1, GR No. 15 has been amended to reflect recent changes in requirements and publications.

Appendix 2 has also been amended.

Amendment 7/2005**July 2005**

Section 1, Part 2 has been amended to include some new products as well as repositioning some existing products although their content has not changed.

Six new ADs (G-2005-0016, G-2005-0017, G-2005-0018, G-2005-0019, G-2005-0020 and G-2005-0021) have been added to Section 2, Part 3A, resulting in the supersedure of three AADs in CAP 476 (002-05-2001, 002-09-1984 and 009-12-1987) and one AD has been repositioned although its contents have not changed. Also one AD (G-2005-0007) has been updated to Revision 1.

Two new ADs (2005-0019 and 2005-0020) have been added to Section 2, Part 3B, and one AD has been repositioned although its contents have not changed. Also one AD (2005-0017) has been removed from this section and placed in Section 2, Part 3A.

GR 12 was deleted in error in the last amendment and has been republished in CAP 747 although there is no change in its content.

Appendix 2 has also been amended.

Amendment 8/2005**August 2005**

Additional products and amendments to reflect changes in Manufacturers' products have been included in Section 1, Part 2.

One AD (G-2004-0014) has been revised in Section 2, Part 3A.

One new AD (G-2005-0022) has been added to Section 2, Part 3A.

One new AD (2005-0021) has been added to Section 2, Part 3B, and one AD (2005-0012) has been updated to Revision 1.

Appendix 1, GR No. 12 has been deleted as it is now superseded by an EASA policy letter. (Reference EASA D 2005/CPRO/RH/50195.)

Amendment 9/2005**September 2005**

Additional information has been added to the Foreword. This information has been taken from AN 36, which will be deleted in the next amendment of CAP 455.

Section 1, Part 2 has been amended to delete information repeated elsewhere in Section 1, Part 2.

Seven new ADs (G-2005-0015, G-2005-0024, G-2005-0025, G-2005-0026, G-2005-0027, G-2005-0028 and G-2005-0029) have been added to Section 2, Part 3A.

One new AD (2005-0022) has been added to Section 2, Part 3B.

Section 2, Part 4, Embraer has been amended, with some material moved from Section 3, Part 3.

Section 3, Part 3, Embraer has been moved to Section 2, Part 4.

Appendix 1, GR No. 1 has been deleted because EASA intends to add a similar requirement to its Rulemaking Programme.

Appendix 2 has also been amended.

Amendment 10/2005**October 2005**

The Foreword has been revised to reflect updated regulations.

Additional products and amendments to reflect changes in Manufacturers' products in Section 1, Part 2. The layout of the table has also been corrected.

Three new ADs (2005-0024, G-2005-0031 and G-2005-0032) have been added to Section 2, Part 3A, resulting in the supersedure and removal of two ADs (G-2005-0016 R1, which itself superseded G-2005-0016, and G-2005-0020). Also in this section AD G-2005-0028 has been updated to Revision 1 and AD G-2005-0029 has been Corrected.

Six ADs (2004-0003, 2005-0013, 2005-0014, 2005-0015, 2005-0016 R1 and 2005-0020) have been deleted from Section 2, Part 3B since the countries which produced these ADs are now part of the EU.

One AD (G-2005-0025) from Section 2, Part 3A has been moved to Section 3, Part 2 to better reflect its content. Two new ADs (G-2005-0030 and G-2005-0033) and some new pages have also been added to Section 3, Part 2.

The text of Section 4 has been amended to clarify the classification of aircraft engaged in military, police, customs or similar services.

Appendix 1, GR No. 5 has been deleted since it is a concession rather than a requirement and so does not belong in CAP 747.

A reference in Appendix 1, GR No. 7 has been amended.

Appendix 2 has also been updated.

Material from Section 2, Part 4 and Section 3, Part 3 has been deleted to take account of the agreements reached with EASA as part of the review of items notified under Article 10(1) of Regulation (EC) No. 1592/2002.

The following Additional Airworthiness Directives have been cancelled by the CAA and therefore deleted from Section 2, Part 4:

27-04-83	Agusta A109 Series Helicopters
008-05-85	Agusta Bell 47 Series Helicopters

002-01-97 Rev 1	Agusta Bell 206 Series Helicopters
001-02-96 Rev 1	Agusta Bell 206 Series Helicopters
026-04-83	Agusta Bell 206 Series Helicopters
002-01-97 Rev 1	Bell 206 Series Helicopters
001-02-96 Rev 1	Bell 206 Series Helicopters
0937 Pre 78	Bell 206 Series Helicopters
002-08-2000	Bell 212 Series Helicopters
023-04-83	Bell 222 Series Helicopters
011-12-82	Bolkow (Daimler Chrysler) 209 Series Aircraft
011-01-83	Dassault Aviation Fan Jet Falcon Series Aircraft and Mystere-Falcon 20 and 200 Series Aircraft
002-03-85 Rev 1	Enstrom Series Helicopters
010-12-82	Eurocopter Deutschland BO 105 Series Helicopters
012-04-82	Eurocopter France Aerospatiale AS 332 Series Helicopters
002-10-2001 Rev 2	Eurocopter France Aerospatiale AS 350 Series Helicopters
012-11-82	Eurocopter France Aerospatiale AS 350 Series Helicopters
011-04-82	Eurocopter France Aerospatiale AS 355 Series Helicopters
009-11-82	Eurocopter France Aerospatiale SA 315B Lama Series Helicopters
010-11-82	Eurocopter France Aerospatiale SA 330 Puma Series Helicopters
011-11-82	Eurocopter France Aerospatiale SA 341 Puma Series Helicopters
013-11-82	Eurocopter France Aerospatiale SA 365C Series Helicopters
034-06-83	Eurocopter France Aerospatiale SE 316 and SA 319 Alouette III Series Helicopters
008-11-82	Eurocopter France Aerospatiale SE 3130 and SE 313B Alouette II, Aerospatiale SA 3180 and SA 318 B/C Alouette Astazou Series Helicopters
010-12-92 Rev 2	Allison Series Engines
009-03-91 Rev 1	Allison Series Engines
001-02-99	General Electric Series Engines
002-01-98 Rev 1	Pratt & Whitney Series Engines
004-10-97	Pratt & Whitney Series Engines
003-06-95	Pratt & Whitney Series Engines
004-06-2000 Rev 1	Teledyne Continental Motors Series Engines
005-02-2000 Rev 2	Cory connectors Part No. CAMA 11W1P with a 90 degree coax contact Part No. CMX010P502 installed

Additional Requirements have been cancelled by the CAA and therefore deleted from Section 2, Part 4 for the following aircraft types:

McDonnell Douglas DC-9 Series 30
 McDonnell Douglas DC-9-80 (MD80) Series
 Eurocopter Deutschland BO 105 Series Helicopters
 Eurocopter Deutschland MBB BK 117 B-1
 Eurocopter France Aerospatiale AS 332 Series Helicopters
 Eurocopter France Aerospatiale AS 350 Series Helicopters
 Eurocopter France Aerospatiale SA 330 Puma Series Helicopters
 Eurocopter France Aerospatiale SA 365C, C1, C2 and C3
 McDonnell Douglas MD 500N
 Robinson R22
 Sikorsky S-76A, S-76B and S-76C

The following Additional Airworthiness Directives have been cancelled by the CAA and therefore deleted from Section 3, Part 3:

009-04-84	PZL-104 Wilga Series Aircraft
001-02-99	General Electric Series Engines
002-01-98 Rev 1	Pratt & Whitney Series Engines
004-10-97	Pratt & Whitney Series Engines
003-06-95	Pratt & Whitney Series Engines
004-06-2000 Rev 1	Teledyne Continental Motors Series Engines
005-02-2000 Rev 2	Cory connectors Part No. CAMA 11W1P with a 90 degree coax contact Part No. CMX010P502 installed.

Amendment 11/2005

November 2005

Earlier Revision Histories have been amended to include more detail regarding ADs and AADs.

References to the Air Navigation Order (ANO) have been updated to reflect the 2005 issue of the ANO. These references occur in the Foreword; Section 3, Part 1; Section 3, Part 2; and GRs 9, 15, 22 and 24.

Additional products and amendments to reflect changes in Manufacturers' products have been included in Section 1, Part 2.

Section 2, Part 2, Page 1 has been amended to correct an editorial error.

The third paragraph on Page 1 in Section 2, Part 3A has been amended for better clarification.

The index list for Section 2, Part 3A, has been amended to record background information regarding the history of AD 2005-0016.

Section 2, Part 3A has been completely reissued with revised page numbers. This is to distinguish UK ADs from EASA ADs, since two similar index systems are being used. The content of the ADs in this section has not changed.

One new AD (AD 2005-0025) has been added to Section 2, Part 3A.

Two new ADs (2005-0023 and 2005-0026) have been added to Section 2, Part 3B, resulting in the supersedure and hence deletion of one AD (2005-0022). One AD (2004-0006 R1) has been cancelled by EASA (due to its supersedure by FAA AD 2005-20-04) and hence deleted from Section 2, Part 3B.

Amendment 12/2005

December 2005

The Contents List has been amended to reflect the addition of two new appendices which give details regarding the cancellation and supersedure of ADs published in CAP 747. The new appendices have been numbered to correspond with the Section from which the AD was removed. The appendices previously numbered 2 and 3 have been renumbered 4 and 5 and have also been amended to be consistent with the new appendices.

A new paragraph regarding the accuracy of information in CAP 747 has been added to the Foreword.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Five new ADs (G-2005-0034, 2005-0027, 2005-0028, 2005-0029 and 2005-0030) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of three AADs (002-02-87 Rev 3, 028-06-83 Rev 1 and 010-06-79 Rev 2).

Two ADs from Section 2, Part 3B have been updated (2004-0009 R1 to Revision 2 and 2005-0026 to Revision 1) and two new ADs (2005-0031 and 2005-0032) have been added to this section, resulting in the supersedure and hence deletion of two AADs (002-06-93 Rev 1 and 001-08-98).

Note: As stated above, details regarding the cancellation/supersedure of ADs from Sections 2 and 3 can be found in new Appendices 2 and 3.

One AAD (017-06-80) in Section 2, Part 4 has been amended to reflect a new CAA life limitation.

As a result of agreements reached with EASA, one AAD (017-03-90 Rev 1) has been deleted from Section 2, Part 4, details of which can be found in new Appendix 2. Similarly, one Additional Requirement for a Robinson R22 has also been deleted from the same section.

Amendment 1/2006

January 2006

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Three new ADs (2006-0003, 2006-0011, G-2006-0001) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of two ADs (2005-0033, which was not included in CAP 747 since it was issued after the last amendment to CAP 747, and G-2005-0021). One AD (2005-0007 R1) from Section 2, Part 3A has been corrected.

Three new ADs (2005-0034, 2005-0035, 2005-0036) have been added to Section 2, Part 3B, resulting in the supersedure and hence deletion of three AADs (0527 PRE 78 Rev 2, 001-05-2000, 002-06-99). One AD (2005-0032) from Section 2, Part 3B has been corrected and one AD (2005-0023) has been updated to Revision 1. One AD (2004-0004) from Section 2, Part 3B has been reissued because the date on the page was incorrect in some copies of CAP 747, but no technical changes have been made to this AD.

The contents page of Appendix 1 has been amended to include a list of Generic Requirements which have been removed from CAP 747.

Amendment 2/2006

February 2006

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Two new ADs (G-2006-0002 (cor.) and G-2006-0003) have been added to Section 2, Part 3A. Six ADs (2005-0027, 2005-0028, 2005-0029, 2005-0030, 2006-0003, 2006-0011) previously contained in Section 2 have been deleted from CAP 747 as CAP 747 does not list EASA ADs for EU products which are not UK products. Compliance with these deleted ADs is still required (see Section 2, Part 3). The index for Section 2, Part 3A has been updated accordingly.

GR No. 2 and GR No. 3 of Appendix 1 have been amended to make EASA requirements more prominent than BCAR requirements.

Appendices 2 and 4 have also been updated.

Amendment 3/2006**March 2006**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications and to group aircraft types together under the aircraft series. Some pages in Section 1, Part 2 (pages 33 and 38) have been reissued to correct printing errors in the paper copy of last month's amendment.

Some pages (Section 2, Part 2, Page 1; Section 2, Part 3A, Page 1 and Section 3, Part 2, Page 1) have been amended to remove references to CAP 474 (Foreign Airworthiness Directives), which has been cancelled as it is now out of date.

One new AD (2006-0061Cor.) has been added to Section 2, Part 3A.

Two new ADs (2006-0062 and 2006-0063) have been added to Section 2, Part 3B, resulting in the supersedure of two AADs (014-08-90 and 1609 PRE 80) from Section 2, Part 4. One AD (2005-0023 R1) in Section 2, Part 3B has updated to Revision 2, and one AD (2004-0004) from this Part has been reissued to correct the date in the page footer, which is incorrect in some copies of CAP 747.

GR No. 2 and GR No. 3 of Appendix 1 have been deleted from CAP 747 as the material they contain has been transferred to FODCOM 03/06.

Page 2 of GR No. 8 in Appendix 1 has been amended to update a reference to Airworthiness Notice No. 3, which has recently been updated.

GR No. 20 of Appendix 1 has been updated to correct a reference to BCAR D.

GR No. 23 of Appendix 1 has been updated to reflect the transition to EASA requirements and the establishment of a UK National Aerospace Non-Destructive Testing Board.

Appendix 2 has been updated to include the supersedure of ADs 2005-0023 R1 and 2006-0061 and AADs 014-08-90 and 1609 PRE 80, and to reflect the removal of amendment files from the web.

Appendix 3 has been amended to reflect the removal of amendment files from the web.

Appendix 4 has been updated to show that AD 002-09-96 (published in CAP 476) has been cancelled.

Amendment 4/2006**April 2006**

A new paragraph regarding amendments to CAP 747 has been added to the Foreword.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One AD (G-2006-0003) listed on page 2 of Section 2, Part 3A, has been repositioned to its correct place on the page to correspond to its position in the manual.

Four new ADs (2006-0073, 2006-0087, 2006-0088 and 2006-0091) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of two ADs (G-2005-0011 and G-2005-0005).

Two new ADs (2006-0064, 2006-0065) have been added to Section 2, Part 3B.

Appendix 1, GR No. 8 has been revised to clarify that the use of a replacement fabric requires an approved modification and also to identify the information required in the release paperwork for the fabric.

Appendix 2 has been updated to include superseded ADs G-2005-0011 and G-2005-0005 and corrected to list the aircraft types in alphabetical order.

Amendment 5/2006**May 2006**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications and names of companies.

Eight new ADs (2006-0090, 2006-0116, 2006-0128, 2006-0131, 2006-0132, 2006-0137, 2006-0138 and 2006-0139) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2004-0003).

One AD (G-2003-0003 Cor.) listed on page 3 of Section 2, Part 3A, has been repositioned to its correct place on the page.

Two new ADs (2006-0092, 2006-0104) have been added to Section 2, Part 3B.

Appendix 2 has been updated to include the supersedure of AD G-2004-0003.

Amendment 6/2006**June 2006**

As part of this revision much of the introductory and explanatory text of CAP 747 has been revised in an attempt to improve clarity and ease of use. Following an interpretation of European Regulations by EASA it has been necessary to introduce a new Section 5 – “Airworthiness Directives that are not design-related”. Other than the introduction of this new Section 5, there is no change to the categories of requirements that must be complied with.

Amendments have been made to Section 1, Part 2 to correct errors in product classifications.

Two new ADs (2006-0140¹ and 2006-0143) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of one AD (G-2005-0034). One further AD (2004-0028) has been added to Section 2, Part 3A as it had been missed out of the December 2004 amendment.

Ten new ADs (2006-0140¹, 2006-0144, 2006-0145, 2006-0166, 2006-0167, 2006-0168, 2006-0170, 2006-0171, 2006-0172² and 2006-0173) have been added to Section 2, Part 3B resulting in the supersedure and hence deletion of five AADs (002-02-2000 REV 1, 002-10-94, 003-07-87, 003-10-94 REV 1 and 0467 PRE 78) from Section 2, Part 4.

One AD (2006-0104) has been deleted from Section 2, Part 3B as it has been superseded by an FAA AD (2006-10-07).

One AD (2005-0023 R2) in Section 2, Part 3B has been updated to Revision 3.

One AD (2006-0092) has been amended to include the title “Propellers” at the top of the page to signify the start of the Propeller category, in Section 2, Part 3B.

A page referencing one aircraft type, the Victa Airtourer 100 and 115 series, has been removed from Section 3, Part 3 as this page is now obsolete. Appendix 3 contains details.

Section 3, Part 3 has been split into Parts 3A and 3B as part of the improvement of CAP 747.

The ADs from Section 3, Part 2 (G-2005-0025, G-2005-0030 and G-2005-0033) have been moved to the new Section 3, Part 3A as part of the improvement of CAP 747.

The AADs from Section 3, Part 3 have been moved to the new Section 3, Part 3B as part of the improvement of CAP 747.

A new Section 5 has been added to prepare for the expected introduction of ADs that are not design-related, as mentioned above.

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1. AD 2006-0140 is inserted in Section 2, Part 3A and Part 3B in the Equipment category as it is not limited to particular aircraft.
 2. AD 2006-0172 states that it supersedes UK CAA AAD 007-12-83 REV 1. It has been noted that the AD is referring to the wrong AAD number and this is currently being followed up with EASA. Therefore AAD 007-12-83 REV 1 has not been deleted from Section 2, Part 4.

Appendix 2 has been updated to include superseded ADs (G-2005-0034, 2005-0023 R2, 2006-0104) and AADs (002-02-2000 REV 1, 002-10-94, 003-07-87, 003-10-94 REV1 and 0467 PRE 78).

Appendix 3 has been amended to reflect its new title as part of the improvement of CAP 747.

New Appendices 4 and 5 have been added to correspond to the current Section 4 and new Section 5. Consequently, the current Appendices 4 and 5 have been renamed as Appendices 6 and 7 respectively.

Amendment 7/2006

July 2006

A note has been added to the Foreword to explain the status of Operations-related requirements.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Seven new ADs (2006-0180, 2006-0181, 2006-0182, 2006-0190, 2006-0198, 2006-0215 and 2006-0220¹) have been added to Section 2, Part 3A, resulting in the supersedure, and hence deletion, of one AD (G-2004-0021 R1) from this Section.

One AD (2006-0172) in Section 2, Part 3B has been updated to Revision 1 to correct an error in the supersedure information. This has resulted in the supersedure, and hence deletion, of one AAD (001-07-85) from Section 2, Part 4. One new AD (2006-0220¹) has also been added to Section 2, Part 3B.

Changes have been made to the Boeing 757 and 767 requirements in Section 2, Part 4 to clarify applicability and references to requirements.

Generic Requirements 2 and 3 are reinstated in Appendix 1 of CAP 747. Following the implementation of Regulation 1592/2002, the Civil Aviation Authority discussed these requirements with the European Aviation Safety Agency (EASA). EASA determined from those discussions that these requirements are related to operations and so are not yet within EASA's scope of responsibility. The CAA has reviewed the content and intent of the requirements and remains convinced of the need to continue to apply them because they address important safety issues. It has been decided therefore to reinstate them within CAP 747 alongside other requirements that are considered to be essential to safety.

Generic Requirement No. 21 in Appendix 1 has also been amended to update a reference to another document.

Appendix 2 has been updated to include the supersedure of AD G-2004-0021 R1 and AAD 001-07-85.

Appendix 6 has been updated to show that AD 0434 PRE 80 (published in CAP 476) has been cancelled.

Appendix 7 has been updated to reflect changes to Section 2, Part 4.

1. AD 2006-0220 is inserted in Section 2, Part 3A and 3B in the Equipment category as it is not limited to particular aircraft.

Amendment 8/2006**August 2006**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Three new ADs (2006-0238, 2006-0239 and 2006-0241¹) have been added to Section 2, Part 3A. One AD (G-2004-0026) has been re-issued as it is no longer the first AD in the "Equipment" category of Section 2, Part 3A. The technical content of this AD has not changed.

One new AD (2006-0241¹) has been added to Section 2, Part 3B. One AD (2005-0021) has been re-issued as it is no longer the first AD in the "Equipment" category of Section 2, Part 3B. The technical content of this AD has not changed.

Appendix 6 has been updated to show that AD 002-08-2002 (published in CAP 476) has been superseded by AD 2006-0239.

Amendment 9/2006**September 2006**

One AD (G-2005-0029) has been reissued in Section 2, Part 3A, as in some copies it highlighted corrections with revision marks as opposed to marginal lines. There is no technical change to this AD.

Two ADs (2006-0238 R1 and 2006-0239 R1) have been updated to Revision 1 in Section 2, Part 3A.

Five new ADs (2006-0264, 2006-0265, 2006-0269, 2006-0274, 2006-0279) have been added to Section 2, Parts 3A and 3B in the 'Equipment' category as they are not limited to particular aircraft. Three of those ADs have resulted in the supersedure and hence deletion of AADs (001-01-2003, 001-09-96, and 002-12-99 Rev 2) from Section 2, Part 4 and Section 3, Part 3B.

One AD (2006-0241) has been reissued in Section 2, Parts 3A and 3B as it is no longer the first AD in the 'Equipment' category. The technical content of this AD has not changed.

One new AD (2006-0267), one revised AD (2006-0171 R1) and one corrected AD (2006-0092) have been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect the deletion of ADs (2006-0238 and 2006-0239) from Section 2, Part 3A, ADs (2006-0092 and 2006-0171) from Section 2, Part 3B and AADs (001-01-2003, 001-09-96, and 002-12-99 Rev 2) from Section 2, Part 4.

Appendix 3 has been updated to reflect the deletion of AADs (001-01-2003, 001-09-96, and 002-12-99 Rev 2) from Section 3, Part 3B.

Amendment 10/2006**October 2006**

The Inside Front Cover has been reissued to reflect the change of department name to which any enquiries should be addressed. (Purchasers of a recent copy of the complete publication and those who have downloaded a recent copy from the CAA website will note that their copy already contains the revised department name.)

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications and NAA responsibilities.

Section 1, Part 3 has been updated to include contact details for the National Aviation Authority of Argentina and changes in contact details for the UK CAA.

1. AD 2006-0241 is inserted in Section 2, Part 3A and 3B in the Equipment category as it is not limited to particular aircraft.

Two existing ADs in Section 2, Part 3A (2006-0238 R1 and 2006-0239 R1) have been updated to Revision 2 and have been repositioned to their correct place in the manual to reflect changes made to the aircraft applicability.

One new AD (2006-0326) has been added to Section 2, Part 3A. One AD (G-2005-0027) has been re-issued as it is no longer the first AD in the "Propeller" category of Section 2, Part 3A. The technical content of this AD has not changed.

One new AD (2006-0286 Cor.) has been added to Section 2, Parts 3A and 3B in the 'Equipment' category as it is not limited to particular aircraft. (The correction to this AD was published before the original AD had been included in CAP 747.)

Two new ADs (2006-0290 and 2006-0292) have been added to Section 2, Part 3B, resulting in the supersedure and hence deletion of two AADs (G-2003-0002 and 007-12-83 Rev 1) from Section 2, Part 4.

Appendix 2 has been updated to reflect the deletion of ADs (2006-0238 R1 and 2006-0239 R1) from Section 2, Part 3A, and AADs (G-2003-0002 and 007-12-83 Rev 1) from Section 2, Part 4.

Amendment 11/2006

November 2006

A minor editorial change has been made to Section 1, Part 3, page 5.

Three new ADs (2006-0341, 2006-0342 and 2006-0343) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2005-0010).

One AD (2006-0073) has been updated to Revision 1 in Section 2, Part 3A.

Two new ADs (2006-0328 and 2006-0334) have been added to Section 2, Parts 3A and 3B in the 'Equipment' category as they are not limited to particular aircraft.

One new AD (2006-0319) has been added to Section 2, Part 3B, which resulted in the supersedure and hence deletion of an Additional Requirement applicable to Bell 222 from Section 2, Part 4.

Appendix 2 has been updated to reflect the deletion of ADs (G-2005-0010 and 2006-0073) from Section 2, Part 3A.

Appendix 7 has been updated to reflect the deletion of an Additional Requirement applicable to Bell 222 from Section 2, Part 4.

Amendment 12/2006

December 2006

The LEP has been amended to reposition two ADs (2006-0290, 2006-0292) which were incorrectly positioned in the October amendment.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One new AD (2006-0355) has been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2004-0016). Two new ADs (2006-0350 and 2006-0375) have been added to Section 2, Parts 3A and 3B in the 'Equipment' category as they are not limited to particular aircraft, resulting in the supersedure and hence deletion of one AD (2006-0274) from Section 2, Parts 3A and 3B.

Appendix 2 has been updated to reflect the deletion of AD G-2004-0016 from Section 2, Part 3A and the deletion of AD 2006-0274 from Section 2, Parts 3A and 3B.

Amendment 1/2007**January 2007**

The Contents List has been re-issued as the page numbering format has been changed.

Section 1, Part 3 has been updated to reflect a change of name and contact details for the National Aviation Authority of Brazil, and to include contact details for the National Aviation Authorities of Indonesia and Israel.

One corrected AD (G-2004-0005 Cor.) has been added to Section 2, Part 3A. The correction is to reflect a change in contact details and Air Navigation Order references. There is no change to the technical content of the AD.

Two new ADs (2007-0004 and 2007-0013) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of two ADs (2006-0190 and 2006-0239 R2), from Section 2, Part 3A.

One new AD (2007-0003) has been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (002-01-2003) from CAP 476.

One AD (2006-0092) has been superseded and hence deleted, by an FAA AD (2006-18-15), from Section 2, Part 3B. As this was the only AD in the Propeller Section a blank propeller title page has been inserted for future propeller ADs, in Section 2, Part 3B.

Appendix 2 has been updated to reflect the deletion of ADs (G-2004-0005, 2006-0190 and 2006-0239 R2) from Section 2, Part 3A and one AD (2006-0092) from Section 2, Part 3B.

Appendix 6 has been updated to reflect the deletion of AD 002-01-2003 from CAP 476.

Amendment 2/2007**February 2007**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications. Page 4 of Section 1, Part 2 has been re-issued to correct the order of the Dornier Werke GmbH München listing.

Section 1, Part 3 has been updated to reflect a change in the website address of the National Aviation Authority of Australia, and to include contact details for the National Aviation Authorities of Lithuania, Poland and Serbia.

One new AD (2007-0039) has been added to Section 2, Part 3A.

Appendix 6 has been updated to reflect the deletion of AD 002-01-2003 from CAP 476.

Amendment 3/2007**March 2007**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Seven new ADs (2007-0046, 2007-0052 Cor., 2007-0056, 2007-0058 Cor., 2007-0074, 2007-0075 and 2007-0076) have been added to Section 2 Part 3A.

One revised AD (2006-0286 R1) has been added to Section 2, Parts 3A and 3B in the 'Equipment' category as it is not limited to particular aircraft.

Generic Requirements No. 7 and No. 8 have been amended to reflect the fact that Airworthiness Notices No. 73 and No. 50 have been transferred to CAAIP (CAP 562).

Generic Requirement No. 9 has been amended to reflect the fact that AIL/0124 is now a CAAIP Leaflet.

Appendix 2 has been updated to reflect the supersedure of AD G-2004-0024 from Section 2, Part 3A, and AD 2006-0286 Cor., from Section 2, Parts 3A and 3B

Appendix 6 has been updated to show that ADs 003-07-95 and 005-03-97 (published in CAP 476) have been cancelled and superseded.

Amendment 4/2007

April 2007

A new Amendment Record Sheet has been issued, as the original sheet will be full for those who have held a copy of CAP 747 from initial issue.

Two new ADs (2007-0087 and 2007-0107) have been added to Section 2, Part 3A, resulting in the supersedure, and hence deletion, of one AD (G-2005-0013) from this Section.

An Additional Requirement and two Special Conditions (AR and SC), applicable to Eurocopter AS 332L2, and AAD 001-05-99 have been removed from Section 2, Part 4, following discussion with EASA whereby it was agreed that these Operational Requirements are now made mandatory by Amendment 1/2007 to the Air Navigation Order 2005.

Appendix 2 has been updated to reflect the deletion of AD G-2005-0013 from Section 2, Part 3A and the deletion of AAD 001-05-99 from Section 2, Part 4.

Appendix 7 has been updated to reflect the deletion of one Additional Requirement and two Special Conditions, applicable to Eurocopter France Aerospatiale AS 332L2 Series Helicopters from Section 2, Part 4.

Amendment 5/2007

May 2007

EASA has produced a definitive EU wide list of Annex II types and has also published the consequential effect on the lists of types regulated by EASA. To reflect these EASA lists the classifications in Section 1, Part 2 have been revised. For those types regulated by EASA, CAP 747 mirrors the EASA lists; for types classified as being Annex II, CAP 747 also mirrors the EASA list, but additionally has been expanded to be representative of the UK fleet.

One new AD (2007-0136) has been added to Section 2, Part 3A.

Two new ADs (2007-0120 and 2007-0123) have been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect the supersedure of one CAA AAD (001-08-97 Rev 1) from Section 2, Part 4.

Amendment 6/2007

June 2007

One new AD (2007-0156) has been added to Section 2, Parts 3A and 3B in the 'Equipment' category as it is not limited to a particular aircraft.

A number of fatigue related CAA Additional Airworthiness Directives (AADs), Additional Requirements and Special Conditions and a Generic Requirement (GR) have been cancelled by the CAA. This action has been taken as the CAA's concerns over structural fatigue have now been taken on board by EASA who have put a process in place for reviewing the fatigue lives of large and small transport aircraft as part of their Ageing Aircraft Structure Plan.

The following fatigue related AADs have been removed from Section 2, Part 4.

001-10-97 Rev 2	Apex Aircraft Robin R2000
001-01-85	Ayres S2R Series
006-11-79	Beech 60
007-11-79 Rev 3	Beech 200 Series
085-11-78 Rev 1	Beech Series
017-06-80	Boeing 747 Series
012-12-82	Bombardier (De Havilland Canada) DHC-6 Twin Otter
001-11-81	Bombardier (De Havilland Canada) DHC-7
042-09-89 Rev 1	Cessna 300/400 Series

012-08-78 Rev 3	Cessna 300/400 Series
003-11-79	Cessna 404
004-11-79 Rev 1	Cessna 414A
002-04-2002 R1	Cessna 421C
005-11-79 Rev 1	Cessna 421C
004-09-90	Cessna 425
002-02-2002	Cessna 425 and 441
008-11-79 Rev 5	Embraer Bandeirante EMB-110 Series
010-02-81 Rev 3	Embraer Bandeirante EMB-110 Series
002-11-86	Enstrom Series
005-12-90	FFA AS 202 Bravo Series
006-09-87	Gulfstream Aerospace G-159
002-02-79	Piper PA 31P
001-02-79	Piper PA 31 and 31-325
091-11-78 Rev 1	Piper PA 31-350
012-03-81	Piper PA 36-375
003-03-83	Socata TB Series

The following fatigue related Additional Requirements and Special Conditions have been removed from Section 2, Part 4 for the following aircraft types:

Beech (Ratheon) 400A
 Boeing (Douglas) DC8 Series 50
 Boeing (Douglas) DC8-63 and 63F
 Cessna 425 Corsair
 Cessna 441
 McDonnell Douglas MD600 N
 Rockwell Turbo Commander 690A
 Rockwell International 690D and 695A

Section 2, Part 4, Bell page 1 has been reissued as it is now the first page in the 'Aircraft' Category.

Appendix 1 has been updated to reflect the cancellation of Generic Requirement (GR) No. 7, 'Continuing Structural Integrity of Aeroplanes Operated for the Purposes of Public Transport'.

Appendix 2 has been updated to reflect the supersedure of AD 2005-0021 from Section 2, Part 3B and the cancellation of the AADs listed above from Section 2, Part 4.

Amendment 7/2007

July 2007

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Two new ADs (2007-0185 and 2007-0196 (Cor)) have been added to Section 2, Part 3A.

Note: The correction to AD 2007-0196 was published before the original AD had been included in CAP 747.

One new AD (2007-0193) has been added to Section 2, Part 3B.

One AD (2004-0007) has been withdrawn by EASA (as it is considered superseded by FAA (State of Design) AD 2007-11-18) and hence deleted from Section 2, Part 3B.

One AD (2005-0011) has been reissued as it is now the first AD in the Engine Category in Section 2, Part 3B. The technical content of this AD has not changed.

Appendix 1 Table 2 has been updated to reflect the deletion of GR No. 7. This GR was cancelled in June 2007 but Table 2 was inadvertently not updated at the same time.

Appendix 2 has been updated to reflect the supersedure of AD 2004-0007 from Section 2, Part 3B.

Amendment 8/2007**August 2007**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Four new ADs (2007-0201, 2007-0202 Cor., 2007-0206 and 2007-0223) have been added to Section 2, Part 3A. (The correction to AD 2007-0202 was published before the original AD had been included in CAP 747.)

Appendix 2 has been updated to reflect the supersedure of ADs (G-2004-0010 and 2006-0355) from Section 2, Part 3A.

Amendment 9/2007**September 2007**

The inside front cover has been re-issued to expand the address to which enquiries should be sent.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Two new ADs (2007-0251, 2007-0255) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of two ADs (2005-0024, G-2005-0031).

Two new ADs (2007-0234 R1, 2007-0252) have been added to Section 2, Part 3B. (The revision of AD 2007-0234 was published before the original AD had been included in CAP 747).

Two ADs (G-2005-0025 and G-2005-0033) have been cancelled by the CAA and hence deleted from Section 3, Part 3A. This action has been taken, as the advice contained in maintenance documentation is considered sufficient after consideration of the results from the AD actions and in consultation with the type design organisation.

Section 4 page 1 has been updated to reflect the new name of HM Revenue and Customs.

Appendix 2 has been updated to reflect the cancellation of ADs (2005-0024, G-2005-0031) from Section 2, Part 3A.

Appendix 3 has been updated to reflect the cancellation of ADs (G-2005-0025, 2005-0033) from Section 3, Part 3A.

Amendment 10/2007**October 2007**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Five new ADs (2007-0260, 2007-0267, 2007-0268, 2007-0270, 2007-0271) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of two ADs (G-2005-0015, 2006-0073 R1) from this Section and one AD (044-09-89) from CAP 476.

Two ADs (2007-0196, 2007-0223) have been updated to Revision 1 in Section 2, Part 3A.

One AD (2007-0256) has been added to Section 2, Parts 3A and 3B in the 'Equipment' category as it is not limited to a particular aircraft.

Four new ADs (2007-0264, 2007-0265, 2007-0272, 2007-0274) have been added to Section 2, Part 3B, resulting in the supersedure and hence deletion of one AD (2007-0252) from this Section.

Appendix 2 has been updated to reflect the cancellation of ADs (G-2005-0015, 2006-0073 R1, 2007-0196 and 2007-0223) from Section 2, Part 3A and AD (2007-0252) from Section 2, Part 3B.

Appendix 6 has been updated to reflect the cancellation of AD (004-09-89) from CAP 476.

Amendment 11/2007**November 2007**

Section 1, Part 2 has been amended to include the addition of TC numbers for Dassault Aircraft.

Section 1, Part 3 has been updated to amend the website address for the UK CAA.

Two ADs (2007-0270, 2007-0223) have been updated to Revision 1 and Revision 2 respectively, in Section 2, Part 3A.

One new AD (2007-0277) has been added to Section 2, Part 3A.

One AD (2006-0279) has been cancelled and hence deleted from Section 2, Part 3A and Part 3B in the 'Equipment' category, as it is not limited to particular aircraft.

Additional Requirement and Special Condition for the Sikorsky S61N aircraft related to the installation of large sponsons is considered superseded by existing EASA AD 2006-0064 and hence has been deleted from Section 2, Part 4.

Appendix 2 has been updated to reflect the supersedure of ADs (2007-0223 R1, 2007-0270) from Section 2, Part 3A and the cancellation of AD (2006-0279) from Section 2, Part 3A and 3B.

Amendment 12/2007**December 2007**

The inside front cover has been reissued to amend the address to which enquiries should be sent.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Five new ADs (2007-0303, 2007-0304, 2007-0305, 2007-0307, 2007-0310) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (2006-0091) from this Section, and one AD (015-10-98) from CAP 476.

Appendix 2 has been updated to reflect the supersedure of AD 2006-0091 from Section 2, Part 3A.

Appendix 6 has been updated to reflect the supersedure of AD 015-10-98 from CAP 476.

Amendment 01/2008**January 2008**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications. Furthermore in Sub-Section 1.2.1, the column headed 'Lead Authority/EASA Team' has been replaced by 'TCDS Number' in order to define the relevant applicable Type Certificate.

Section 1, Part 3 has been amended to update website addresses for National Aviation Authorities.

One existing AD (G-2005-0001) has been repositioned to correct its location. There are no changes to the technical content of the AD.

Four new ADs (G-2008-0001, G-2008-0002, 2008-0003, G-2008-0003) and one revised AD (2007-0310 R1) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of two ADs (G-2003-0010, 2007-0310) from this Section.

Appendix 2 has been updated to reflect the supersedure of ADs G-2003-0010 and 2007-0310 from Section 2, Part 3A.

Amendment 02/2008**February 2008**

The Contents pages have been reissued to reflect the inclusion of Aircraft, Engines, Propellers and Equipment pages – in Section 2, Part 2 (pages were added in a previous amendment) and in Section 5, Part 2 (pages added in this amendment).

The Revision History for January 2008 has been amended to correct the numbering format for ADs (G-2008-0002 and G-2008-0003).

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications. Furthermore, in Sub-Sections 1.2.2, 1.2.3 and 1.2.4 the column headed 'Lead Authority' has been replaced by 'TCDS Number' in order to define the relevant applicable Type Certificate.

Three new ADs (2008-0024, 2008-0025, 2008-0033) have been added to Section 2, Part 3A.

One AD (G-2008-0003) has been removed from Section 2 Part 3A and relocated to its correct position in Section 5, Part 2. There are no changes to the technical content of this AD.

Amendment 03/2008**March 2008**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Six new ADs (2008-0036, 2008-0037, 2008-0040, 2008-0041, 2008-0042 and 2008-0045) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of one AD (2007-0046) from this Section.

One existing AD (2007-0013) has been repositioned to its correct location in Section 2, Part 3A. There are no changes to the technical content of the AD.

One AD (G-2005-0030) has been removed from Section 3, Part 3A due to its reclassification as an EASA aircraft type, and relocated to Section 2, Part 3A. There are no changes to the technical content of the AD.

Appendix 2 has been updated to reflect the supersedure of one AD (2007-0046) and the removal of one AD (G-2008-0003) from Section 2, Part 3A. AD G-2008-0003 was relocated to its correct position in Section 5, Part 2, at the February 2008 amendment.

Appendix 3 has been updated to reflect the removal of AD G-2005-0030 from Section 3, Part 3A and its relocation to Section 2, Part 3A.

Amendment 04/2008**April 2008**

One new AD (G-2008-0004) has been added to Section 3, Part 3A.

| One AAD (010-06-79 Rev 2) has been reinstated and added to Section 3, Part 3B. This AAD was previously superseded by an EASA AD (2005-0030), which is no longer valid following the reclassification of Jodel Series aircraft as Annex II aircraft. There are no changes to the technical content of the AAD.

| Appendix 2 has been updated to remove reference to AAD 010-06-79 Rev 2 as being cancelled.

Appendix 6 has been updated to reflect the cancellation of ten ADs (005-03-86, 005-12-85, 006-11-92, 008-11-93, 009-07-80, 010-07-80, 010-10-91, 012-07-80, 013-07-80, 0665 PRE 80) from CAP 476.

Amendment 05/2008**May 2008**

All references¹ to 'Regulation (EC) No. 1592/2002' have been replaced following its repeal, by 'Regulation (EC) No. 216/2008', which came into force in April 2008. Where applicable, cross references to Articles have also been updated to correspond with the new Regulation.

The Foreword has been amended to modify the text in the introductory note regarding the responsibility for requirements related to operations, and to include an International Civil Aviation Organisation (ICAO) Compliance Statement, to ensure ICAO Standards are reflected in CAP 747.

The Amendment History for April 2008 has been amended to correct the AAD number applicable to AAD 010-06-79 Rev 2.

Section 1, Part 2, page 28 has been amended to reflect a change of type certificate for the Beech King Air 200 and 300 series aircraft.

Section 1, Part 2, page 29 has been republished to include the USA in the State of Design column.

Two ADs (2008-0092 R1, 2008-0094) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of two ADs (G-2005-0019, 2006-0088) from this Section. (The Revision to AD 2008-0092 was published before the original AD had been included in CAP 747. The original AD superseded G-2005-0019).

The first page of one AD (2007-0013) has been re-published to correct a minor editorial error. There are no changes to the technical content of the AD.

One AD (2008-0080) has been added to Section 2, Parts 3A and 3B in the Equipment category as it is not limited to particular aircraft.

One AD (2008-0078) has been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect the supersedure of ADs G-2005-0019, 2006-0088 and 2008-0092 from Section 2, Part 3A.

Amendment 06/2008**June 2008**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Four ADs (2008-0098, 2008-0099 Cor., 2008-0109 R1, 2008-0115) have been added to Section 2, Part 3A. (The correction to AD 2008-0099 and revision to AD 2008-0109 were published before the original ADs had been included in CAP 747.)

One AD (2008-0097) has been added to Section 2, Parts 3A and 3B in the Equipment Category as it is not limited to particular aircraft. This AD supersedes and hence deletes one AD (2008-0080) in Section 2, Parts 3A and 3B.

One revised AD (2005-0036 R1) has been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect the supersedure of ADs 2008-0099 and 2008-0109 from Section 2, Part 3A, AD 2005-0036 from Section 2, Part 3B and 2008-0080 from Section 2, Parts 3A and 3B.

1. This does not apply to ADs that have been published by EASA, which the CAA are unable to change or to references within this Revision History as Regulation (EC) No. 1592/2002 was in force at the time of publication.

Amendment 07/2008**July 2008**

Some erroneous references to 'Article 10(1)'¹ have been changed to 'Article 14(1)' following the repeal of Regulation (EC) No. 1592/2002 and the coming into force of Regulation EC No. 216/2008.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Two ADs (2008-0125, 2008-0132) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (2007-0271) from Section 2, Part 3A.

One AD (2008-0135) has been added to Section 2, Parts 3A and 3B in the Equipment Category as it is not limited to particular aircraft. This AD supersedes and hence deletes one AD (2006-0350) from Section 2, Parts 3A and 3B.

Generic Requirement No. 6 has been amended in Appendix 1, to improve the wording of paragraph 2.1.1. Restriction to day VMC with no airworthiness effect of loss of generator is an acceptable means of compliance. The rule is therefore improved in readiness for any future adoption by EASA. Compliance can be shown through the Day VMC operating restrictions.

Appendix 2 has been updated to reflect the supersedure of AD 2007-0271 from Section 2, Part 3A and 2006-0350 from Section 2, Parts 3A and 3B.

Appendix 6 has been updated to reflect the cancellation of one AD (0634 PRE 80) from CAP 476.

Amendment 08/2008**August 2008**

The Contents and Foreword have been amended to reflect the addition of a new Appendix 8, entitled 'Generic Concesssions'.

An amendment has been made to Section 1, Part 2 to amend the TCDS No. for the Robinson R22 and R44 series rotorcraft.

One AD (2008-0141) has been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (2007-0251) from Section 2, Part 3A.

Appendix 2 has been updated to reflect the supersedure of AD 2007-0251 from Section 2, Part 3A.

A new Appendix 8 has been added to accommodate Generic Concessions which were previously published as Airworthiness Notices in CAP 455, and have been transferred to CAP 747 due to the impending cancellation of CAP 455. The technical content of the Concessions has not been changed.

Amendment 09/2008**September 2008**

Additions have been made to Section 1, Part 2 to reflect additional product classifications.

Three new ADs (2008-0167, 2008-0168 and 2008-0176) have been added to Section 2, Part 3A.

Three new ADs (2008-0158, 2008-0159, 2008-0174) and one revised AD (2006-0140 R1) have been added to Section 2, Parts 3A and 3B in the Equipment category as they are not limited to particular aircraft.

1. This does not apply to ADs that have been published by EASA, which the CAA are unable to change or to references within this Revision History as Regulation (EC) No 1592/2002 was in force at the time of publication.

Two Additional Requirements and Special Conditions have been cancelled by the CAA and therefore removed from Section 2, Part 4 for the following aircraft types:

Embraer EMB-121 and -121A1 Xingu I and II
McDonnell Douglas MD600N

One new AD (G-2008-0005) has been added to Section 4.

Appendix 2 has been updated to reflect that AD 2006-0140 has been superseded by AD 2006-0140 R1 in Section 2, Parts 3A and 3B.

Appendix 6 has been updated to reflect that CAA AD 015-08-91 (published in CAP 476) has been superseded by AD 2008-0168.

Appendix 7 has been updated to reflect cancellation of the Additional Requirements and Special Conditions described above, and also to delete references to some fatigue-related items that were cancelled previously by the CAA.

Amendment 10/2008

October 2008

Additions have been made to Section 1, Part 2 to reflect additional product classifications.

One new AD (2008-0180) has been added to Section 2, Part 3A, and two revised ADs (2006-0140 R2 and 2008-0158 R1) have been added to Section 2, Parts 3A and 3B in the Equipment category, as they are not limited to particular aircraft.

Appendix 2 has been updated to reflect that ADs 2006-0140 R1 and 2008-0158 have been superseded by ADs 2006-0140 R2 and 2008-0158 R1 in Section 2, Parts 3A and 3B.

Amendment 11/2008

November 2008

The Foreword has been amended to include a revised ICAO Compliance Statement.

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One new AD (2008-0202) has been added to Section 2, Part 3A.

One revised AD (2008-0158 R2) and one new AD (2008-0183) has been added to Section 2, Parts 3A and 3B in the Equipment Category, as they are not limited to particular aircraft.

One new AD (2008-0197) has been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect that AD 2008-0158 R1 has been superseded and hence deleted from Section 2, Parts 3A and 3B.

Appendix 6 has been updated to reflect the cancellation of two ADs (047-09-1989 and 021-04-1991) from CAP 476.

Amendment 12/2008

December 2008

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One revised AD (2008-0115 R1) has been added to Section 2, Part 3A.

One revised AD (G-2008-0005 R1) has been added to Section 4.

Appendix 2 has been updated to reflect that AD 2008-0115 has been superseded and hence deleted from Section 2, Part 3A.

Appendix 4 has been updated to reflect that AD G-2008-0005 has been superseded and hence deleted from Section 4.

Amendment 01/2009**January 2009**

Additions and amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One AD (2007-0196 R1) has been cancelled and hence deleted from Section 2, Part 3A.

One revised AD (2007-0003 R1) and two new ADs (2009-0005, 2009-0014) have been added to Section 2, Part 3A.

One new AD (G-2009-0001) has been added to Section 3, Part 3A.

Appendix 2 has been updated to reflect the cancellation of AD 2007-0196 R1 and the supersedure of AD 2007-0003 from Section 2, Part 3A.

Appendix 6 has been updated to reflect that CAA AD 006-10-99 (published in CAP 476) has been superseded by AD 2009-0005.

Amendment 02/2009**February 2009**

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Four new ADs (2007-0003 R1 Cor., 2009-0013, 2009-0020, 2009-0021 Cor.) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of three ADs (2007-0003 R1, 2007-0132, 2008-0132) from this section, and eight CAA ADs (as listed further below) from CAP 476.

NOTE: AD 2007-0132, now superseded by new AD 2009-0013, was inadvertently not included in CAP 747 when it was originally published and therefore only Appendix 2 has been updated to record its supersedure.

One Additional Requirement and Special Condition (Bombardier (De Havilland Canada) DHC-8 Series 100, 200 and 300) applicable to DHC-8-102, DHC-8-201, DHC-8-202 and DHC-8-311 has been cancelled by the CAA and therefore removed from Section 2, Part 4.

Appendix 1, Generic Requirement No. 15, has been revised to notify stakeholders of the implementation of the CAA approved Light Aircraft Maintenance Programme (LAMP) for EASA light aircraft. The issue of the LAMP was required to address the effects of the end of derogations in the EU Commission Regulation (EC) No. 2042/2003 (as amended), for aircraft not used for licensed commercial air transport, in the weight category not exceeding 2730 kg Maximum Take-Off Mass (MTOM). The end of derogations initiated the implementation of the Part M requirements to this aircraft category. The LAMP addresses the scheduled maintenance requirements for piston engine aeroplanes and single piston engine helicopters not exceeding 2730 kg MTOM, regulated by EASA under Regulation (EC) No. 216/2008 (see CAPs 766 and 767, respectively). Amendment 2/2008 of the LAMP was published in October 2008 to update EC regulation references.

Appendix 2 has been updated to reflect the supersedure and hence deletion of three ADs (2007-0003 R1, 2007-0132, 2008-0132) from Section 2, Part 3A.

Appendix 6 has been updated to reflect the supersedure of eight CAA ADs (013-11-85, 005-05-87, 014-01-93, 004-03-94, 015-03-94, 006-02-96, 007-08-96, 012-01-97) and the cancellation of one CAA AD (002-03-98) from CAP 476.

Appendix 7 has been updated to reflect the cancellation of one Additional Requirement and Special Condition (as described above) from Section 2, Part 4.

Appendix 8 has been updated to reflect the addition of a Generic Concession (GC) No. 6, "Flight in UK Airspace of Foreign Registered Home-Built Aircraft" (previously published as Airworthiness Notice No. 52 in CAP 455). The technical content of this Concession has not been changed.

Amendment 03/2009**March 2009**

The Foreword has been amended to reflect changes to distribution procedures for Emergency Airworthiness Directives (EADs), with effect from 31 March 2009, and to provide information on the steps Industry need to take to ensure they receive notification when a new EAD is published.

Six new ADs (2009-0038, 2009-0043, 2009-0046, 2009-0051, 2009-52, 2009-0053) have been added to Section 2, Part 3A resulting in the supersedure and hence deletion of four ADs (2007-0268, 2008-0094, 2008-0141, 2008-0202) from this section.

Two revised ADs (2006-0140 R3, 2006-0334 R1) have been added to Section 2, Parts 3A and 3B in the Equipment Category, as they are not limited to particular aircraft.

Appendix 2 has been updated to reflect the supersedure and hence deletion of ADs 2007-0268, 2008-0094, 2008-0141, 2008-0202 from Section 2, Part 3A and ADs 2006-0140 R2, 2006-0334 from Section 2, Parts 3A and 3B.

Amendment 04/2009**April 2009**

The Foreword has been amended to update paragraph references which were previously incorrect in paragraph 10.

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications. Also, some pages have been amended to correct the names of a number of Continental and Lycoming engines, as detailed in the changes to Appendix 8 below.

An amendment has been made to Section 1, Part 3 to update the email address for the UK CAA AD Unit.

Four new ADs (2009-0069, 2009-0070, 2009-0074, 2009-0083) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of three ADs (G-2005-0002, 2006-0090, 2007-0255) from this section.

Three revised ADs (2007-0136 R1, 2007-0260 R1, 2009-0073 R1) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of the original ADs from this section.

NOTE: AD 2009-0073 R1 was published before the original AD was included in CAP 747.

Two corrected ADs (2009-0071 Cor., 2009-0089 Cor.) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2004-0009) from this section.

NOTE: AD 2009-0071 Cor. and 2009-0089 Cor. were published before the original ADs were included in CAP 747.

One revised AD (2006-0140 R4) has been added to Section 2, Parts 3A and 3B in the 'Equipment' category as it is not limited to particular aircraft; resulting in the supersedure and hence deletion of AD 2006-0140 R3 from Section 2, Parts 3A and 3B.

Appendix 2 has been updated to reflect the deletion of superseded/revised ADs as detailed above from Section 2, Parts 3A and 3B.

Appendix 8, Generic Concession Nos. 2, 3 and 5 have been amended to correct the names of a number of Continental and Lycoming engines where the letters 'O' and 'I' were inadvertently transcribed as figures '0' and '1'.

Amendment 05/2009**May 2009**

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Two new ADs (2009-0103, 2009-0105) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2005-0029) from this section.

Two new ADs (2009-0097, 2009-0100) have been added to Section 2, Parts 3A and 3B in the 'Equipment' category as they are not limited to particular aircraft.

One new AD (G-2009-0002) has been added to Section 3, Part 3A.

Appendix 1, Generic Requirement (GR) No. 24 has been updated to reflect new Rolls-Royce (de Havilland) Gipsy engine crankshaft inspection calendar time requirements following a detailed review of in-service events, and also to reflect amendments to generic TBO requirements on engines based on manufacturer's recommended overhaul periods.

Appendix 2 has been updated to reflect the supersedure of AD G-2005-0029 from Section 2, Part 3A.

Amendment 06/2009**June 2009**

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

Three new ADs (2009-0114, 2009-0121-E, 2009-0135) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (G-2004-0029) from this Section.

One new AD (2009-0101) has been added to Section 2, Part 3B resulting in the supersedure and hence deletion of one AD (2005-0026 R1) from this section.

Appendix 2 has been updated to reflect the removal of AD G-2004-0029 from Section 2, Part 3A and AD 2005-0026 R1 from Section 2, Part 3B.

Amendment 07/2009**July 2009**

An Amendment has been made to Section 1, Part 2 to reflect the addition of a product classification.

One existing AD (2008-0045) has been cancelled by EASA Cancellation Notice (2008-0045-CN) and therefore deleted from Section 2, Part 3A.

One revised AD (2008-0025 R1) and two new ADs (2009-0142 and 2009-0147) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of two ADs (2008-0025 and G-2005-0027).

Appendix 2 has been updated to reflect the cancellation of one AD (2008-0045) and supersedure of two ADs (2008-0025 and G-2005-0027) from Section 2, Part 3A.

Appendix 6 has been updated to record the cancellation of AD 007-05-2000, which was previously published in CAP 476, and cancelled by EASA AD Cancellation Notice 2007-0208-CN in August 2007. Appendix 6 was inadvertently not updated at that time.

Amendment 08/2009**August 2009**

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One new AD (2009-0181-E) has been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (2009-0121-E).

One existing AD (2007-0267-E) has been cancelled by EASA Cancellation Notice (2007-0267-E-CN) and therefore deleted from Section 2, Part 3A.

One AD (2009-0173) has been added to Section 2, Part 3A and Part 3B in the 'Equipment' category as it is not limited to particular aircraft.

Appendix 2 has been updated to reflect the supersedure of one AD (2009-0121-E) and cancellation of one AD (2007-0267-E) from Section 2, Part 3A.

Amendment 09/2009**September 2009**

Amendments have been made to Section 1, Part 2 to reflect changes to product classifications.

One new AD (2009-0197-E) and one revised AD (2009-0187 R1) have been added to Section 2, Part 3A, resulting in the supersedure and hence deletion of one AD (2009-0043-E) from this Section and one AD (002-06-2000) from CAP 476.

NOTE: The revision and subsequent correction to AD 2009-0187 were published before the original AD had been included in CAP 747.

One new AD (2009-0200) has been added to Section 2, Part 3A and Part 3B in the 'Equipment' category as it is not limited to particular aircraft.

One new AD (2009-0180-E) has been added to Section 2, Part 3B.

Appendix 2 has been updated to reflect the supersedure of AD 2009-0043-E from Section 2, Part 3A.

Appendix 6 has been updated to reflect the cancellation of CAA AD 002-06-2000 from CAP 476.

Section 1 General Information

Part 1 Introduction and Guide to Use

1 Classification of aircraft as “EASA Aircraft” and “Non-EASA Aircraft”

1.1 Regulation (EC) No. 216/2008 has transferred to the European Aviation Safety Agency (EASA) the responsibility for the regulation of the airworthiness of the majority of the civil aircraft registered in the Member States of the European Union. However, the regulation also stipulates that certain classes of aircraft remain subject to national regulations. Therefore, a significant effect of this European legislation is to divide aircraft registered within the EU into two categories:

- EASA Aircraft – Aircraft that are subject to regulation of airworthiness by EASA under Regulation (EC) No. 216/2008; and
- Non-EASA Aircraft – Aircraft that remain subject to regulation of airworthiness at a national level.

This CAP 747 follows this classification for the identification of mandatory requirements.

1.2 Non-EASA aircraft are:

- a) Aircraft that are within the categories of Annex II to Regulation (EC) No. 216/2008 (reference: Article 4 of the Regulation).
- b) Aircraft that EASA has declared to be “not transferred” (reference: Article 2(3)(a) of Regulation (EC) No. 1702/2002).

NOTE: In addition, individual aircraft engaged in military, police, customs or similar services are subject to national airworthiness regulations, even if other aircraft of the same type, that are not engaged in such activities, are subject to regulation by EASA (reference: Article 1 of Regulation (EC) No. 216/2008).

1.3 The classification of products as EASA or Non-EASA is given in Section 1, Part 2 of this CAP 747.

1.4 Any national Certificates of Airworthiness currently in force for EASA aircraft have been deemed to be EASA certificates by the European legislation with effect from 28 September 2003. New and replacement certificates will be issued as EASA Certificates of Airworthiness.

2 Guide to identifying the Applicable Requirements

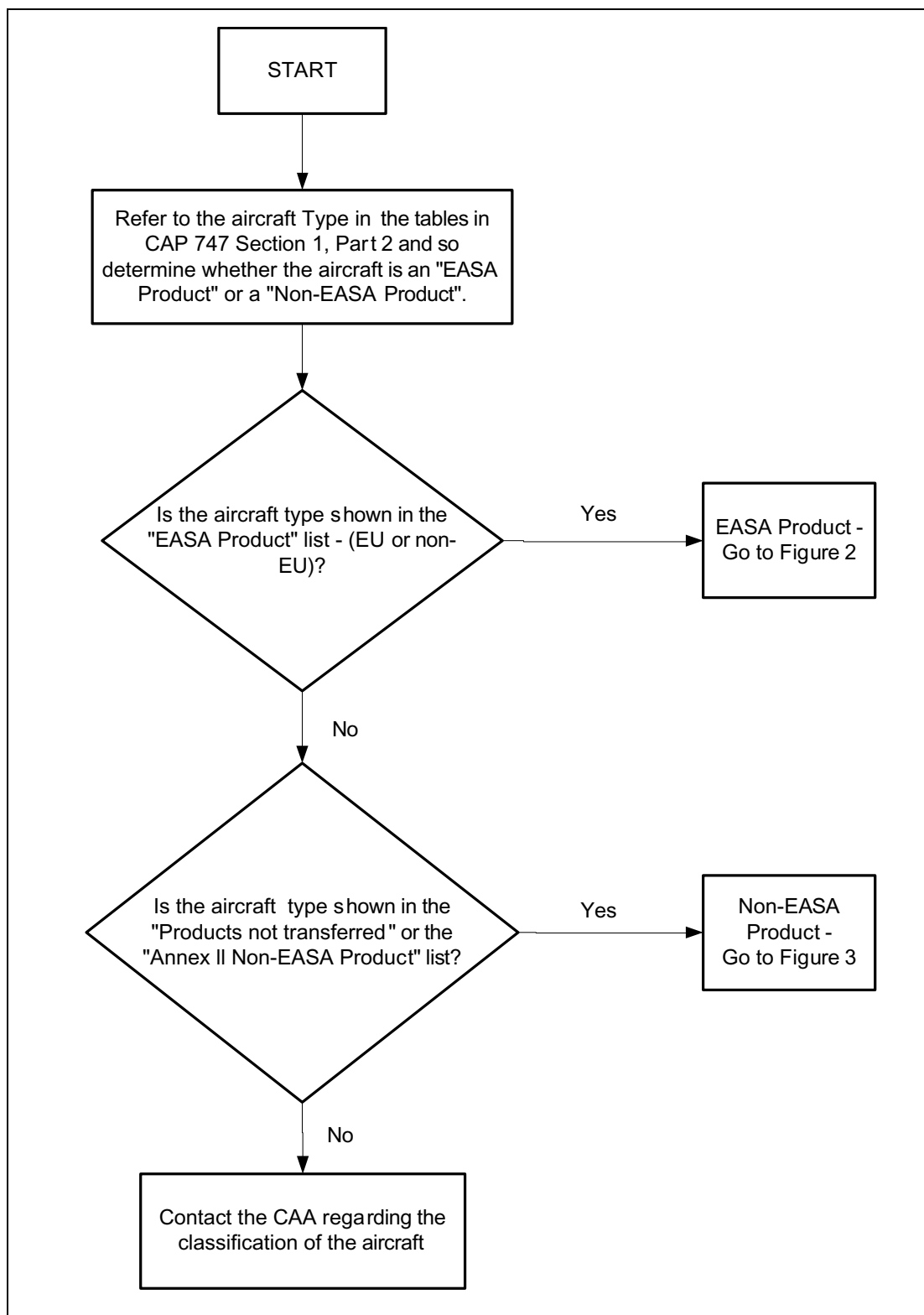


Figure 1 To identify the classification of an aircraft

In cases of doubt over the classification of a particular aircraft, clarification should be sought from the CAA.

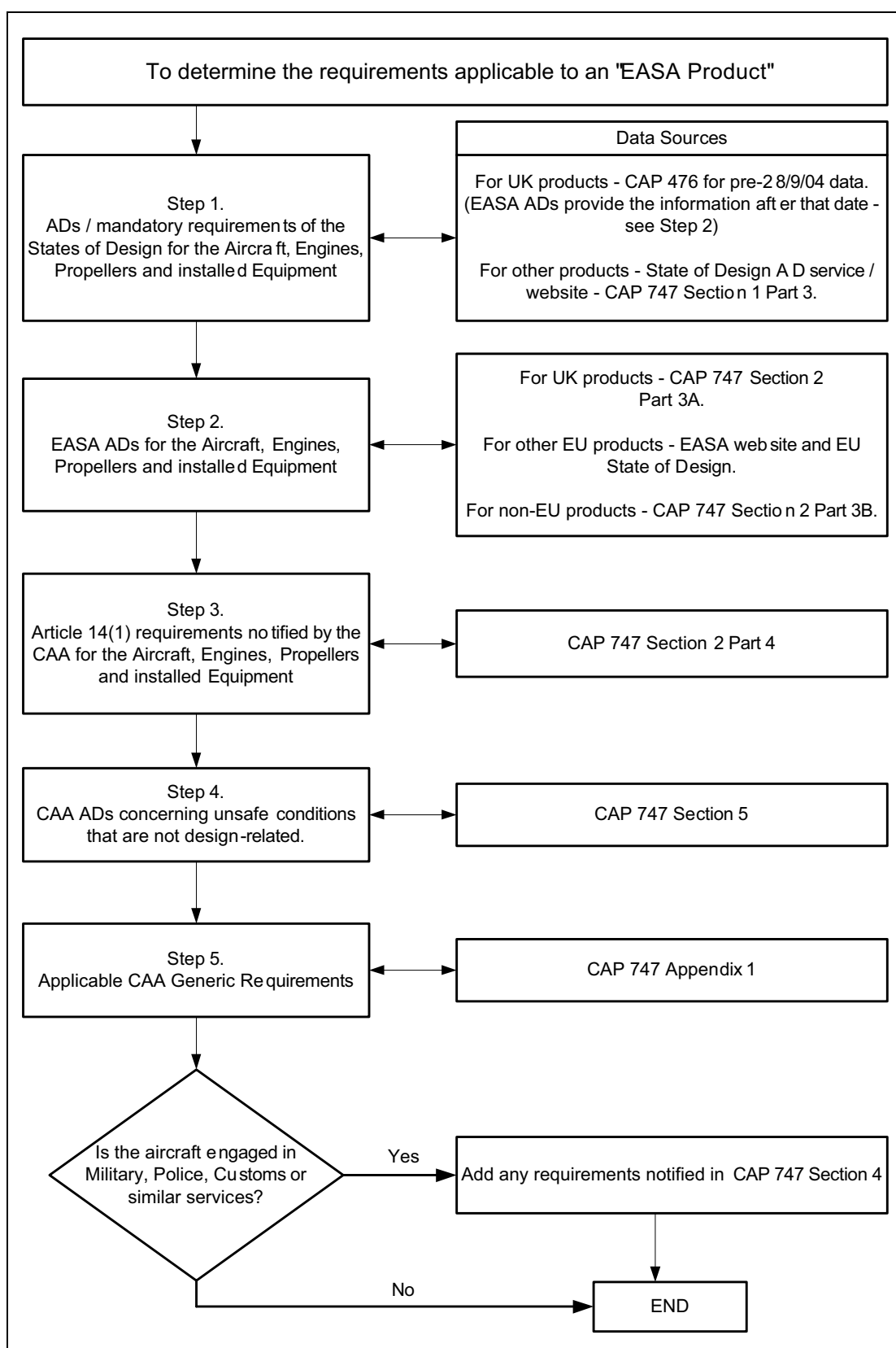


Figure 2 To identify the requirements that must be complied with by an EASA Product

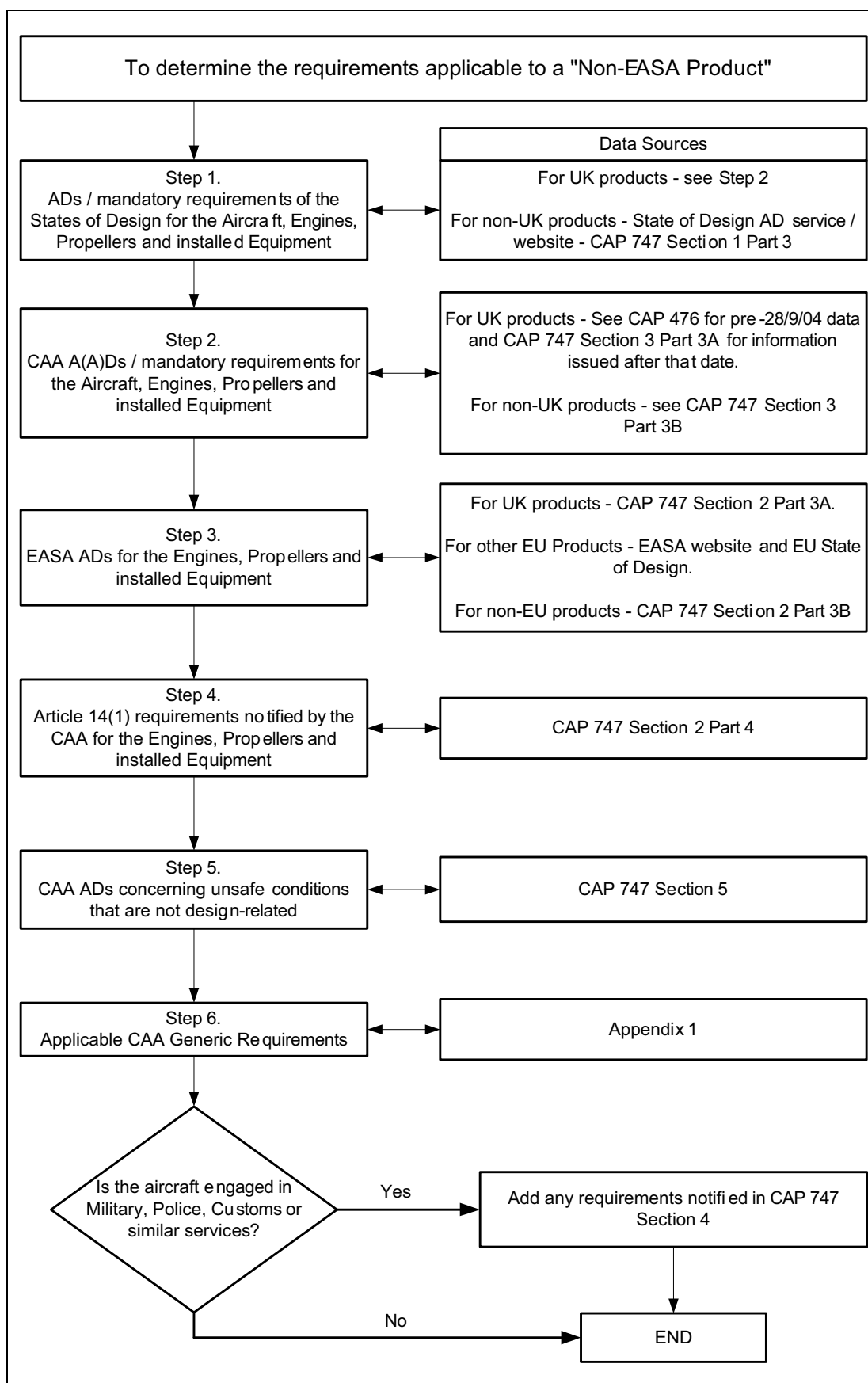


Figure 3 To identify the requirements that must be complied with by a Non-EASA Product

3 Applicability of Mandatory Requirements to engines, propellers, parts and appliances installed in “EASA Aircraft” and “Non-EASA Aircraft”

- 3.1 Where an EASA Airworthiness Directive is in force for any engine, propeller, part or appliance, it shall be complied with regardless of whether the engine, propeller, part or appliance is installed in an EASA aircraft or a non-EASA aircraft, unless the CAA notifies otherwise.
- 3.2 A product, part or appliance installed in a non-EASA aircraft shall comply with the mandatory requirements for non-EASA aircraft that are applicable to the product, part or appliance.
- 3.3 Where a product, part or appliance is installed in a non-EASA aircraft and there is a conflict between EASA Airworthiness Directives and other Airworthiness Directives or mandatory requirements applicable to the product, part or appliance, the advice of the CAA shall be obtained.
- 3.4 Where a product, part or appliance is transferred from one aircraft to another, the installer shall ensure that the mandatory requirements applicable to the receiving aircraft are complied with.

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Part 2 Lists of Products, their Classification, and States of Design

1 EASA Product List

This section lists the aircraft, other products and appliances that are subject to regulation of airworthiness by EASA under Regulation (EC) No. 216/2008. Products and appliances designed in the EU are listed first, followed by those designed outside the EU.

Aircraft listed here are classified as EASA aircraft.

1.1 EASA Products designed in the EU

1.1.1 Aircraft

a) Large Aeroplanes

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Airbus	A300/310/300-600 A300-600ST A318/A319/320/321 A330-200 A330-300 A340-200/300/500/600 A380-841/842 Aerospatiale SN601 Corvette BAC 1-11 Nord 262A	EASA.A.121 EASA.A.014 (Restricted TC) EASA.A.064 EASA.A.004 EASA.A.004 EASA.A.015 EASA.A.110 TC 74 EASA.A.188 TC 31	France
ATR	ATR 42/72	EASA.A.084	France
BAE Systems (Operations) Limited	ATP BAe 146 & RJ Series HS.748 Jetstream (HP-137) Jetstream 3100 Jetstream 3200 Jetstream 4101	BA23 EASA.A.182 [No TC] BA4 BA15 BA15 BA27	UK
Bombardier Short Brothers, PLC	SD3-30 and 3-60 Short Skyvan	BA11 [No TC]	UK
Construcciones Aeronauticas, S.A.	C-212 CN 235/295	DGAC-E Nr. 01-82/8 EASA.A.186	Spain
Dassault Aviation	Falcon 7X Falcon 10 Falcon 2000 & Falcon 2000EX Fan Jet & Mystere-Falcon 200/20 Mystere-Falcon 50/900 & Falcon 900EX	EASA.A.155 TC68 EASA.A.008 TC35 EASA.A.062	France
Dornier Luftfahrt GmbH	328-100 328-300	EASA.A.096 EASA.A.096	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Fokker Services B.V.	F27 (F27 Mk 100, 200, 300, 400, 500, 600, 700) F28 (F28 Mk 1000, 2000, 3000, 4000) F50 (F27 Mk 050, 0502, 0604) F100, F70 (F28 Mk 0100, 0070)	EASA.A.036 EASA.A.037 EASA.A.036 EASA.A.037	Nether- lands
Saab Aircraft AB	Saab 340 A/B Saab 2000	EASA.A.068 EASA.A.069	Sweden

b) Light/Commuter/Very Light Aeroplanes

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Alenia Aermacchi	F260 F260B F260C F260D F260E F260F S205-18F S205-18R S205-20F S205-20R S205-22R S208 S208A SF260TP	A132 A132 A132 A132 A132 A132 A131 A131 A131 A131 A131 A131 A131 A131 A132	Italy
Aero	AT-3 R100	EASA.A.021	Poland
Aero Vodochody	Ae 270	EASA.A.060	Czech Republic
Aircraft Industries	L-200 Series L410 A Turbolet L410 M Turbolet L410 Turbolet L410 UVP-E L410 UVP-E9 L410-UVP-E20 L410 UVP Turbolet L420 Z 37 Series (Except Z 37T)	EASA.A.043 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.026 EASA.A.445	Czech Republic

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Apex Aircraft (Avions Pierre Robin)	ATL Series CAP 10 Series CAP 20 Series CAP 21 CAP 230 Series DR 220/221 DR 250 DR 253 DR 300 Series DR 400 Series HR 100 Series R 1180 Series R 3000 Series	TC 178 TC 55 TC 69 TC 69 TC 69 TC 40 TC 34 TC 42 TC 45 TC 45 TC 61 TC 61 TC 172	France
Aquila Technische Entwicklungen	AT 01	EASA.A.527	Germany
ARV Aviation	ARV1 Super 2 (Factory Built Only)	TBA	UK
B-N Aircraft Ltd.	Islander Series: BN2A BN2A-6 BN2A-8 BN2A-9 BN2A-20 BN2A-21 BN2A-26 BN2A-27 BN2B-20 BN2B-21 BN2B-26 BN2B-27 BN2T BN2T-2 BN2T-2R BN2T-4R BN2T-4S Trislander Series: BN2A Mk III BN2A Mk III-1 BN2A Mk III-2 BN2A Mk III-3	BA8 BA6 BA6 BA6 BA6	UK
Barfuss	Marabu	SAS.A.069	Switzerland
Beagle	B121 Pup Series	SAS.A.082	UK
Czech Sport Aircraft	SportCruiser (Factory built only)		Czech Republic
Decourt	D-FR 172 E/F	SAS	France
Diamond Aircraft Industries	DA-40 Diamond DA-42M DA-42 Twinstar DV 20	EASA.A.022 EASA.A.513 EASA.A.005 FZ 1/93	Austria

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Dornier Luftfahrt GmbH	Seastar CD 2	SAS	Germany
EADS Deutschland GmbH Military Air Sys	BO 207/207FT BO 208 Series BO 209 Series SIAT 223A1 SIAT 223K1 SIAT 223V	LBA 643 LBA 644 LBA 680 LBA 679 LBA 679 LBA 679	Germany
EADS PZL	PZL-101 Gawron PZL-102 B Kos PZL-104 Wilga Series PZL-106 AS Kruk PZL-106 BR Kruk PZL-110 Koliber Series PZL-111 Koliber 235A PZL Kruk A PZL Kruk AR PZL Kruk BS PZL Kruk BSA	SAS.A.056 SAS.A.084 EASA.A.061 SAS.A.059 SAS.A.060 EASA.A.091 SAS.A.063 SAS.A.057 SAS.A.058 SAS.A.061 SAS.A.062	Poland
EADS SOCATA	GA-7 MS 880 Series MS 890 Series Rallye 100 Series Rallye 150 Series Rallye 235 Series ST10 Diplomate TB 9 TB 10 TB 20 TB 21 TB 200 TBM 700 TBM 850	TC 190 TC 13 TC 22 TC 13 TC 13 TC 22 SAS.A.049 TC 165 TC 165 TC 165 TC 165 TC 165 EASA.A.010 EASA.A.010	France
Evektor	EV-97 VLA	EASA.A.029	Czech Republic
Extra Flugzeugbau GmbH	EA-300 EA-300/200 (Normal, Acrobatic) EA-300L (Normal, Acrobatic) EA-300S (Normal, Acrobatic) EA-400	LBA 1086 LBA 1086 LBA 1086 LBA 1086 EASA.A.011	Germany
FFA Altenrhein AG	AS202 Series	SAS.A.067	Switzerland
FFT Gyroflug	SC01 Series	SAS.A.050	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
FLS Aerospace Ltd	Club Sprint OA7 Optica Series Sprint 160 (except S/N 001)	SAS.A.074 SAS.A.073 SAS.A.074	UK
Flugzeugbau W. Uetz	U3M Pelikan U4M Pelikan	SAS.A.065 SAS.A.066	Switzerland
Fournier/ Aerostructure	RF 6B Series RF 47	TC 76 TC 187	France
Gardan	GY80	SAS.A.075	France
General Avia	F20 F22 Series	SAS.A.052 SAS.A.053	Italy
Grob-Werke	G115 G115A (normal, utility) G115B (normal, utility) G115C (utility, acrobatic) G115C2 G115D (utility, acrobatic) G115D2 G115E G115EG (acrobatic) G115TA G120A Series G520 EGRETT G520T	EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.364 EASA.A.075 LBA 2066 LBA 2066	Germany
Hoffmann	H40	LBA 1083	Germany
Iniziativa Industriali Italiane	Sky Arrow 650 Series Sky Arrow 710	EASA.A.079 EASA.A.079	Italy
Instytut Lotnictwa	I-23	EASA.A.200	Poland
Issoire Aviation	APM 20	TC 191	France
KFT	G-92		Hungary
Moravan Aeroplanes	Zlin 37T Zlin 42 Series Zlin 43 Series Zlin 50 Series Zlin 126 Series Zlin 137T Zlin 142 Series Zlin 143 Series Zlin 226 Series Zlin 242L Zlin 326 Series Zlin 526 Series Zlin 726 Series	EASA.A.443 EASA.A.027 EASA.A.028 EASA.A.108 EASA.A.353 EASA.A.443 EASA.A.027 EASA.A.028 EASA.A.353 EASA.A.027 EASA.A.353 EASA.A.353 EASA.A.353	Czech Republic

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Partenavia/Vulcanair	P57 Fachiro II P64 Oscar P66	SAS.A.081 SAS.A.054 SAS.A.055	Italy
Piaggio Aero Industries	P166 P166B P166C P166DL3 P180	EASA.A.384 EASA.A.384 EASA.A.384 EASA.A.384 EASA.A.059	Italy
Pilatus	PC-12 Series PC-6 Series	EASA.A.089 F 56-10	Switzerland
PZL Mielec	M18 Dromader M20 03 M26 Iskierka	EASA.A.056 SAS.A.064 EASA.A.057	Poland
Reims Aviation	F406 Caravan II	EASA.A.109	France
RUAG Aerospace GmbH	Do 28A-1 Do 28A-1[R] Do 28B-1 Do 28D Do 28D-1 Do 28D-2 Do 28D-6 Do 128-6 Dornier 228-100 Dornier 228-101 Dornier 228-200 Dornier 228-201 Dornier 228-202 Dornier 228-212	EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.360 EASA.A.359 EASA.A.359 EASA.A.359 EASA.A.359 EASA.A.359 EASA.A.359 EASA.A.359	Germany
RUAG Aerospace GmbH / Gomolzig Flugzeug-und Maschinenbau GmbH	Do 28G-92	EASA.A.S.03343	Germany
Ruschmeyer Luftfahrttechnik	R90-230RG	LBA 1082	Germany
SCCASA	IAR-46 Series	EASA.A.113	Romania
Scheibe-Flugzeubau	SF 23 Series	SAS	Germany
Slingsby Aviation	T67A T67B T67B (MODIFIED) T67C T67M T67M200 T67M260 T67M260-T3A T67M MKII	EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390 EASA.A.390	UK
Sportavia Puetzer (EIS GmbH)	RS 180	LBA 1014	Germany
Tecnam	P-92J and JS P2002-JF	SO/A-340 EASA.A.006	Italy

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Vulcanair SpA	AP68TP300 Spartacus AP68TP600 Viator F600A/SF600 P68 P68 Observer P68 Observer2 P68B P68C P68C-TC P68TC Observer	A365 A365 A358 A365 A365 A365 A365 A365 A365 A365 A365	Italy
Wassmer/Issoire	Cerva CE 43/44 WA 4, 40, 41 Series	SAS.A.047 SAS.A.048	France
WD Aircraft GmbH	D-4 Fascination	EASA.A.019	Germany

c) Sailplanes/Powered Sailplanes

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Aeronautica de Jaen (Aerojaen S. L.)	RF-5 AJ-1 Serrania	DGAC-E 73	Spain
Aircraft Industries a.s.	L-13 Blanik Series L-23 Super-Blanik L-33 Solo	EASA.A.024 EASA.A.044 EASA.A.045	Czech Republic
Alexander Schleicher GmbH	AS-12 ASH 25 ASH 25E ASH 25M ASH 26 ASH 26E ASK-13 ASK 14 ASK 16 ASK 16 B ASK 18 ASK 18B ASK-21 ASK 23 ASW-12 ASW 12 BV ASW-15 ASW-15B ASW-17 ASW 19 ASW-19B ASW 20 ASW 20 B ASW 20 BL ASW 20 C ASW 20 CL	LBA 259 364 LBA 858 LBA 858 LBA 383 LBA 383 LBA 267 LBA 684 LBA 758 LBA 758 307 307 LBA 339 353 LBA 259 LBA 259 LBA 272 LBA 272 LBA 282 LBA 308 LBA 308 314 314 314 314 314	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Alexander Schleicher GmbH	ASW 20 L ASW 20 TOP ASW 22 ASW 22 B ASW 22 BE ASW 22 BL ASW 22 BLE ASW 22 BLE 50 R ASW 22 M ASW 24 ASW 24 B ASW 24 E ASW 27 ASW-28 ASW-28-18E K-7 K-8 K-8B K 8C K 10 A KA 6 KA 6/0 KA-6 B KA-6 BR KA 6 BR-Pe KA-6 C KA-6 CR KA-6 CR-PE KA-6 E	314 314 351 351 LBA 834 351 LBA 834 LBA 834 LBA 834 LBA 834 LBA 366 LBA 366 LBA 859 EASA.A.220 EASA.A.017 EASA.A.034 LBA 211 LBA 216 LBA 216 LBA 216 239 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205 LBA 205	Germany
Allstar PZL-Glider Sp.Z.O.O.	SZD-48-3 Jantar Standard 3 SZD-50-3 Puchacz SZD-51-1 Junior SZD-55-1 SZD-59	EASA.A.041 EASA.A.312 BG 143 BG 163 BG 198	Poland
AMS-Flight d.o.o.	Carat A LS4 Series LS6 Series	EASA.A.448 EASA.A.095 EASA.A.094	Slovenia
Antares International S.r.l.	Caproni Calif A2 Series	ENAC A 154 (SAS.R.001)	Italy
Auto-Aero	Gobe R-26S	SAS	Hungary
Aviacom PL Sp.z.o.o.	B1-PW5	EASA.A.449	Poland
Bogumil Bereś	SZD-56 Diana	EASA.A.451	Poland
Breguet	900 901-7 904 Series 905 Series	SAS.A.001 SAS.A.003 SAS.A.002 SAS.A.004	France

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
CARMAM	JP 15 Series M100 S M200 Series	SAS.A.005 SAS.A.006 SAS.A.007	France
Centrair	101 101A 101AP 101P 210B SNC 34C	TC 171 TC 171 TC 171 TC 171 TC 188	France
Constructii Aeronautice (IAR)	IS28B2 IS-28M Series IS-29 Series IS32A S30	EASA.A.453 EASA.A.454 EASA.A.452 EASA.A.453 EASA.A.453	Romania
DG Flugzeugbau GmbH	DG-100 DG-100 Elan DG-100 G DG-100 G Elan DG-200 DG-200/17 DG-200/17 C DG-300 DG-300 Club Elan DG-300 Club Elan Acro DG-300 Elan DG-300 Elan Acro DG-400 DG-500 Elan Orion DG-500 Elan Trainer DG-500M DG-500MB DG-500/20 Elan DG-500/22 Elan DG-600 DG-600/18 DG-600/18M DG-600M DG-800A DG-800B DG-808 S DG-1000 Series LS1 Series LS3 Series LS7 Series LS8 Series LS9 Series	LBA 301 LBA 301 LBA 301 LBA 301 323 323 323 359 359 359 359 359 LBA 826 LBA 348 LBA 348 LBA 843 LBA 843 LBA 348 LBA 348 370 370 866 866 EASA.A.067 EASA.A.067 384 EASA.A.072 LBA 262 LBA 317 LBA 375 EASA.A.047 EASA.A.138	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Diamond Aircraft Industries	H-36 Dimona HK 36 TC HK 36 TS HK 36 TTC HK 36 TTC-ECO (Restricted Category) HK-36 Super Dimona HK-36-TTS	EASA.A.065 (SF 3/82) EASA.A.065 and EASA.A.066 (SF 3/82) EASA.A.065 and EASA.A.066 (SF 3/82) EASA.A.065 and EASA.A.066 (SF 3/82) EASA.A.065 and EASA.A.066 (SF 3/82) EASA.A.065 (SF 3/82) EASA.A.065 and EASA.A.066 (SF 3/82)	Austria
EADS Deutschland GmbH Military Air Sys	FS 24 Phönix Series Phoebus Series	LBA 207 LBA 252	Germany
Eichelsdoerfer Flugzeugbau	Kiwi Mistral c SB 5 B SB 5 E	LBA 850 LBA 329 LBA 218 LBA 218	Germany
Eiriavion Oy	PIK-20 PIK-20B PIK-20D PIK-20E	SAS.A.023 SAS.A.023 SAS.A.024 SAS.A.085	Finland
EIS Aircraft GmbH	Fournier RF5 RF-4D RF5B "Sperber" SFS 31	LBA 695 LBA 666 LBA 695 LBA 755	Germany
Ets Roche	AIR 100/102	SAS.A.008	France
EVEKTOR spol. s.r.o.	L13 Vivat Series	EASA.A.046	Czech Republic
FFA Flugzeugwerke Altenrhein AG	Diamant 16.5 Diamant 18 HBV Diamant	10 124-165 10 124 180 513-100	Switzerland
Fournier Aerostructure	RF 3 RF 4 RF 8 RF 9 RF 10	TC 28 TC 28 SAS.A.076 TC 167 SAS.A.077	France

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Glasfaser-Flugzeug Service GmbH	BS 1 Club Libelle 205 Glasflügel 304 Glasflügel 604 H 30 GFK H-301 Libelle H-301B Libelle Hornet Hornet C Kestrel Mosquito Mosquito B Standard Libelle Standard Libelle 201B Standard Libelle 203	238 LBA 304 LBA 318 281 LBA 213 LBA 251 LBA 251 LBA 304 LBA 304 LBA 276 LBA 318 LBA 318 LBA 251 LBA 251 LBA 251	Germany
Grob-Werke	Astir CS 77 Astir CS JEANS Astir CS Top Series Club Astir II G102 Astir CS G102 Club Astir III & IIIB G102 Standard Astir III G103 Twin Astir G103 Twin II G103 Twin II Acro G103 Twin III Acro G103 C "Twin III" G103 C Twin III SL G109 G109B Speed Astir II Speed Astir II B Standard Astir II Standard Cirrus G Twin Astir Trainer	LBA 306 LBA 306 LBA 856 LBA 306 LBA 306 LBA 306 LBA 306 LBA 315 LBA 315 LBA 315 LBA 315 LBA 315 LBA 869 LBA 817 LBA 817 320 320 LBA 306 LBA 278 LBA 315	Germany
HB-Flugtechnik	HB 21 HB 21 V1 HB 21 V2 HB 21/2400 HB 21/2400B HB 23/2400 HB 23/2400 Scanliner HB 23/2400 SP HB 23/2400 V2 HB-3AR HB-3BR	SF2/78 SF4/78 SF3/78 SF2/78 SF2/78 SF10/85 SF11/86 SF10/85 SF14/87 SF6/84 SF6/84	Austria
HPH spol.s r.o.	Glasflügel 304 Series	EASA.A.030	Czech Republic

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Issoire Aviation	AMP 30 Series APM 20 D77 E75, 78, 78B Siren Pik 20 E2F, Pik 30 WA 20 WA 21 WA 22, 22A WA 23 WA 26CM, 26P WA 28, 28E, 28EF, 28F WA 30	EASA.A.306 EASA.A.306 SAS.A.009 SAS.A.010 SAS.A.011 SAS.A.012 SAS.A.013 SAS.A.014 SAS SAS.A.015 SAS.A.016 SAS.A.017	France
Jean Pottier	Kit Club 15-34	SAS.A.018	France
Korff & Co.	Taifun 17E Taifun 17E II	LBA 818 LBA 818	Germany
Lange Flugzeugbau GmbH	E1 Antares	EASA.A.092	Germany
Loavia	LA	SAS.A.019	France
M&D Flugzeugbau Produktions	AVO 68 Series "Samburo"	EASA.A.252	Germany
Marganski Edward Bielsko-Biala-Po	MDM-1P Fox-P Swift S-1	EASA.A.039 EASA.A.038	Poland
Neukom A.au	AN Series Elfe S-3 Elfe S-4 Elfe S-4A	S39-05 S39-05 S39-05 S39-05	Switzerland
Nord/SNCAN	902 904 905 906	TCDS 139 TCDS 44 TCDS 30 TCDS 91	France
Pilatus	B4-PC11	S 43-02	Switzerland
Scheibe-Aircraft GmbH	Bergfalke SF 25 Series SF-26A SF-27 Series SF 28 A "Tandem-Falke" SF 30 A "Club Spatz" Spatz Specht Sperber Zugvogel I Zugvogel II Zugvogel III Zugvogel III A Zugvogel-III B Zugvogel IV Zugvogel IV A	EASA.A.099 EASA.A.098 EASA.A.103 EASA.A.104 EASA.A.107 EASA.A.106 EASA.A.100 EASA.A.101 EASA.A.102 EASA.A.105 EASA.A.105 EASA.A.105 EASA.A.105 EASA.A.105 EASA.A.105 EASA.A.105	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Scheibe-Flugzeugbau	SF-34 SF 34 B SF 36 A SF 36 R	SAS.A.025 SAS.A.025 SAS.A.026 SAS.A.026	Germany
Schempp-Hirth Flugzeugbau GmbH	Cirrus/Cirrus VTC Discus A Discus B Discus-2a Discus-2b Discus-2T Discus-bM Discus-bT Duo Discus Duo Discus T Janus Janus B Janus C Janus Ce Janus CM Janus CT Mini-Nimbus B Mini-Nimbus C Mini-Nimbus HS-7 Nimbus 2 Nimbus 2B Nimbus-2C Nimbus 2M Nimbus-3 Nimbus-3/24,5 Nimbus-3D Nimbus-3DM Nimbus-3DT Nimbus-3T Nimbus-4 Nimbus-4D Nimbus-4DM Nimbus-4DT Nimbus-4M Nimbus-4T SHK-1 Standard Austria Standard Austria-S Standard Austria-SH Standard Austria-SH-1 Ventus a Ventus a/16,6 Ventus b Ventus b/16,6 Ventus bT Ventus c Ventus cM Ventus cT Ventus 2A	LBA 265 EASA.A.049 EASA.A.049 EASA.A.049 EASA.A.049 EASA.A.050 EASA.A.050 EASA.A.050 EASA.A.025 EASA.A.074 LBA 295 LBA 295 LBA 295 LBA 295 809 809 LBA 328 LBA 328 LBA 328 LBA 286 LBA 286 LBA 286 798 LBA 286 LBA 286 373 847 847 831 380 380 868 868 EASA.A.063 868 LBA 258 LBA 230 LBA 235 LBA 235 LBA 235 LBA 349 LBA 349 LBA 349 LBA 349 825 LBA 349 825 825 LBA 349	Germany

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Schempp-Hirth Flugzeugbau GmbH	Ventus 2B Ventus-2c Ventus-2cM Ventus-2cT VSO 10	LBA 349 LBA 349 825 825 EASA.A.442	Germany
Schempp-Hirth výroba letadel spol. s r.	Discus CS	CZ 90-01	Czech Republic
Segelflugzeugbau	Elfe Top Series	M39-06	Germany
Siren Bertin	C30 S C34	SAS.A.021 SAS.A.020	France
Slingsby	T.51 Dart T.53B T.59D T.61 Series T.65 Series	SAS.087 SAS.088 SAS.089	UK
SNCAN	C800	SAS.A.022	France
Sportine Aviacija	LAK 12 LAK 17 Series LAK 19A	01/03 EASA.A.083 EASA.A.012	Lithuania
Start + flug	H 101 "Salto"	LBA 213	Germany
Stemme GmbH & Co. KG	S-10 S-10V S10-VT	EASA.A.054 EASA.A.054 EASA.A.054	Germany
Technoflug GmbH	CARAT Piccolo Piccolo B	LBA 880 LBA 845 LBA 845	Germany
VFW-Fokker GmbH Speyer	FK 3	LBA 268	Germany
Victor Minié	Aero VMA 200 Milan	SAS.A.023	France
Walter Binder Motorenbau GmbH	ASH 25 EB ASH 25 EB 28	EASA.A.054 EASA.A.054	Germany
Zakład Szybowcowy Jezów	PW-5 Smyk PW-6 SZD-9bis Bocian 1E SZD-22 C Mucha-Standard SZD-24 C Foka SZD-24-4A Foka SZD-25 A Lis SZD-30 (A) Pirat SZD-30C Pirat SZD-32A Foka 5 SZD-36 A Cobra 15 SZD-38A Jantar 1 SZD-41A Jantar Standard	EASA.A.087 EASA.A.088 13/TL/60 BG-013/1 7/TL/61 BG-32/2 BG-117/1 BG-054/2 BG-071/2 BG-086/1 BG-098/1	Poland

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Zakład Szybowcowy Jezów	SZD-42 Series SZD-45A Ogar SZD-48 Series SZD-52 Krokus	BG-110/2 BX-104/1 EASA.A.446 EASA.A.441	Poland

d) **Balloons**

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Aerophile	Aerophile 5500 (Aero 30)	DGAC 192	France
Association Aéronautique Nord de la Fr	HG Series	SAS.BA.002	France
Aviotex	BC-1 Series	SAS.BA.015	Poland
Ballonbau Woerner	FK-280/STU FK-5500/STU FKP-STU K-STU NL-STU	EASA.BA.108 EASA.BA.006 EASA.B.008 EASA.B.011 EASA.B.009	Germany
Ballonfabrik Augsburg	K-800/1-Ri K-Ri Series	LBA 8013 EASA.SAS.BA. 001	Germany
Ballons Chaize - Annonay Air Concept	Chaize CS Series Chaize JZ Series Chaize JZX Series	EASA.BA.015 TC 182 TC 182	France
Ballonservice and Technik	Schön Series	BA 009-ACG	Austria
Ballons Libert	Libert L Type Libert L 12 Type Libert LC Type	EASA.BA.019 EASA.BA.019 EASA.BA.019	Belgium
Balóny Kubíček spol.s.r.o	AB2 AB2a AB8 Aerotechnic AB BB BB Bemb BB Fwein BB Jager BB Krigl BB-S BB Suding	EASA.BA.001 EASA.BA.001 EASA.BA.002 EASA.BA.004 EASA.BA.003 EASA.BA.017 EASA.BA.017 EASA.BA.017 EASA.BA.017 EASA.BA.017 EASA.BA.017	Czech Republic
Banyanszati Aknamelytő Vallalat	TOMI AX-6, AX-7, AX-8, AX-9	SAS.BA.013	Hungary

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Boiteux	HG 900	SAS.BA.003	France
Brighton	MAB	SAS.BA.008	UK
Cameron Balloons	A Type C Type Cameron GP Type Cameron H Type Cameron TR Type Cameron V Type Cameron Z Type Colt A Type Colt "Bullet" Type Home Special-105 & Freddo-105 N Type O Type R Type Sky Balloons 16 Series Sky Balloons 24 Series Sky Balloons 28 Series Special Shapes Thunder "Bolt" Type Thunder A Type Thunder AX Series S1 Thunder AX Series S2 Thunder Z Type V Type Z Type	EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.012 EASA.BA.013 EASA.BA.013 BB25 BB20 BB5 BB19 EASA.BA.012 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013 EASA.BA.013	UK
Dechamps	HG Series	SAS.BA.005	France
Durondeau	L Series	SAS.BA.011	Belgium
Leys	VL Series	SAS.BA.006	France
Lindstrand Balloons	203T High Flyer G Series Balloons LBL 203P Lindstrand A Type Lindstrand A Type Cloudhopper Lindstrand B Type Lindstrand C Type Lindstrand L Type Lindstrand S Type Lindstrand Special Shape Type Lindstrand X Type M Series Balloons	EASA.BA.005 BB10 BB23 EASA.BA.021 EASA.BA.501 EASA.BA.502 EASA.BA.503 EASA.BA.504 EASA.BA.505 EASA.BA.120 EASA.BA.506 BB11	UK
Mecsek	AX-7 AX-10		Hungary
Montgolfière Moderne	MM Series	73/146	France

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
SCB	AX-6 AX-7 AX-8		Hungary
SEKPOL	N-22		Poland
SIGA-Pilatre de Rozier	MA Series	TC 186	France
Sup-Air	AX-10		Hungary
Theo Schroeder fire balloons	Fire balloons G Kasper	EASA.BA.016 EASA.B.010	Germany
Ultramagic	F Series H Series M Series N Series S Series T Series V Series Z Series	EASA.BA.014 EASA.BA.014 EASA.BA.014 EASA.BA.014 EASA.BA.014 EASA.BA.014 EASA.BA.014 EASA.BA.014	Spain
Van den Bemden	K Series	SAS.BA.009	Belgium
Viking Balloons AB	All Models	SAS.BA.012	Sweden
Wegry	RSz Series		Hungary
Zodiac	MGZ 2-2,S	173/173	France

e) **Airships**

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
ATG Ltd	AT-10	SAS.BA.019	UK
Cameron Balloons	AS Series D Series DG-14 Skystar	BAS7 BAS8 BAS5 BAS3	UK
GEFA-Flug	AS 105 GD (Hot Air Airship)	EASA.AS.002	Germany
Lindstrand Balloons	HS 110	EASA.BA.512	UK
WDL	PL 4360A WDL I WDL IB	LBA 9002 LBA 9002 LBA 9002	Germany
Zeppelin	LZN 07-100	EASA.AS.001	Germany

f) **Rotorcraft**

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
AGUSTA	A109/A119 AB-102 AB-139 AB-204 B Series AB-205 A1 AB-206 A, B AB-212 AB-412 AB-412EP AS-61N AS-61N1 EH 101-300 EH 101-500/510	EASA.R.005 A 97 EASA.R.006 A111/A129/ A135/A137 A150 A140 A 157 A 157 A 157 A 270 A 270 EASA.R.012 EASA.R.013	Italy
Antares International	Silvercraft SH-4	SAS.R.001	Italy
Eurocopter Deutschland (MBB Germany)	BO 105A BO 105C BO 105D BO 105LS A-1 BO 105S EC135P1 EC135P2 EC135T1 EC135T2 EC635 Series MBB-BK 117 A-1 MBB-BK 117 A-3 MBB-BK 117 A-4 MBB-BK 117 B-1 MBB-BK 117 B-2 MBB-BK 117 C-1 MBB-BK 117 C-2	EASA.R.011 EASA.R.011 EASA.R.011 EASA.R.011 EASA.R.011 EASA.R.009 EASA.R.009 EASA.R.009 EASA.R.009 EASA.R.009 EASA.R.010 EASA.R.010 EASA.R.010 EASA.R.010 EASA.R.010 EASA.R.010 EASA.R.010	Germany
Eurocopter France (Aerospatiale)	AS332/EC225/SA330 Series AS350/EC130 Series AS355 Series AS365/366/EC155 Series EC120B SA315/316/319 Series SA318 Series SA341/342 Series SA360C	EASA.R.002 EASA.R.008 EASA.R.146 TC 86 TC 189 TC 14 TC 1 TC 66 TC 80	France
S.E.I.	AMD-500N NH-300C NH-500D	ENAC A206 ENAC A176 ENAC A206	Italy

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
WSK PZL Świdnik	PZL Kania PZL SW-4 PZL W-3A PZL W-3AS	EASA.R.501 BC-217 EASA.R.007 EASA.R.007	Poland

g) **Unmanned Aerial Vehicles over 150 kg operating mass**

None at present.

1.1.2 **Engines**a) **Turbine Engines**

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Alfa Romeo	AR 318-02 CT7-6 (under license to GE)	MO 99 MO 100	Italy
CFM International	CFM56-2/-3 Series CFM56-5A Series CFM56-5B/-5C Series CFM56-7B Series	EASA.E.066 EASA.E.067 EASA.E.003 EASA.E.004	France
Microturbo	TRS 18-1-202	TC 11	France
Rolls-Royce Deutschland Ltd & Co.KG	BR700-710 Series BR700-715 Series Dart 511 Series Dart 514 Series Dart 528 Series Dart 529 Series Dart 530 Series Dart 540 Series Dart 550 Series Dart 552 Series Spey 506 Series Spey 511 Series Spey 512 Series Spey 555 Series Tay 620 Series Tay 650 Series	EASA.E.018 LBA 6336 LBA 7036 LBA 7037 LBA 7038 LBA 7039 LBA 7023 LBA 7040 LBA 7041 LBA 7002 LBA 6345 LBA 6308 LBA 6346 LBA 6347 LBA 6327 LBA 6328	Germany
Rolls-Royce plc UK	RB211 Trent 500 Series RB211 Trent 700 Series RB211 Trent 800 Series RB211 Trent 900 Series RB211 Trent 1000 Series RB211-22B Series RB211-524B/-C/-D Series RB211-524G Series RB211-524H Series RB211-535 Series Viper MK 500 Series Viper MK 600 Series	EASA.E.060 EASA.E.042 CAA UK 1051 EASA.E.012 EASA.E.036 CAA UK 1039 CAA UK 1043 CAA UK 1046 CAA UK 1048 CAA UK 1044/ 1049 CAA UK 1025/33 CAA UK 1038	UK
Rolls-Royce Turbomeca	RTM 322-01 Series	EASA.E.009	UK/France

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Turbomeca	Ardiden 1 Series Ariel 1 Series Ariel 2 Series Arrius 1 Arrius 2 Series Artouste II Series Artouste III Series Astazou II Series Astazou III A Astazou XIV & XVI Series Astazou XIVB, XIVH Astazou XVIIIA Bastan VI-C1 Makila 1 Series Makila 2a TM 333 Series Turmo IVA, IVC	EASA.E.037 EASA.E.073 EASA.E.001 EASA.E.080 TC M20 and M22 [No TC] TC 12 [No TC] EASA.E.071 [No TC] TC 3 TC 2 [No TC] TC 10 EASA.E.006 [TC M14 TC 8	France
Walter a.s.	Walter M601	EASA.E.070	Czech Republic

b) Non-Turbine Engines

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
BRP Rotax	Rotax 275 Series Rotax 501 & 505 Series Rotax 503 Series Rotax 912 Series Rotax 914 Series	TW 007/88-ACG TW 003/78-ACG TW 005/83-ACG EASA.E.121 EASA.E.122	Austria
Diamond Aircraft Industries	AE50R Series	TW 055	Austria
Franklin SP z.o.o	Franklin F2 Series Franklin F4 Series Franklin F6 Series	EASA.E.086 EASA.E.087 EASA.E.088	Poland
Grob Luft und Raumfahrt	Grob 2500 Series	LBA 4601	Germany
HB Flugtechnik	VW-HB-2400G & G/2	TW 4/82	Austria
Lange	EA 42	EASA.E.015	Germany
Limbach Flugmotoren	L 1700 L 2000 L 2400	EASA.E.082 EASA.E.083 EASA.E.084	Germany
LOM Praha	M 132 Series M 137 Series M 332 Series M 337 Series M 462 Series	96-03 96-02 98-06 & 92-08 98-04 & 94-06 66-04	Czech Republic

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Parma-Technik	Walter Mikron III Series	95-02	Czech Republic
Porsche K.-G, DR Ing h.c.F.	678/4 PFM3200 Series PFM3200T	LBA 4502 LBA 4602 LBA 4609	Germany
Sauer Flugmotorenbau GmbH	S2100 S2489 S2500	LBA 4608 LBA 4613 LBA 4580	Germany
Societe Motorisation Aeronautique	SMA 305-230	EASA.E.076	France
Solo Kleinmotoren GmbH	Solo 560 Solo 2350 Solo 2489 Solo 2625	LBA 4565 LBA 4603 LBA 4613 LBA 4600	Germany
Thielert Aircraft Engines	TAE 110 Series TAE 125-01 TAE Centurion Series	LBA 4628 EASA.E.055 EASA.E.014	Germany
W-Motor Service s.r.o.	M 208 series Walter Minor 4-III series Walter Minor 6-III series	04-03 04-01 04-02	Czech Republic
WSK PZL-Kalisz S.A.	Al-14R series ASz 62IR series	CB-125 CB-116	Poland
WSK PZL-Rzeszow S.A.	GTD-350 series PZL-10S/TWD10B series PZL-10W series	CC-038 CC-45/90 CC-190	Poland

1.1.3 Propellers

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Aero SP	Elprop 3 Series	EASA.P.009	Czech Republic
Aero Sp.	GT-2/173 Series	Z-DB-03/03	Poland
Alexander Schleicher GmbH	AS2F1	EASA.P.004	Germany
AMS-Flight	AM-F3-1A/140	SVN-PR-03/02	Slovenia

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Avia Propellers s.r.o.	AVIA AV-723 Series AVIA AV-842-1 AVIA AV-844-1 V 210 V 310 V 410 V 410 series V 500 series V 500A V 503 V 503 series V 503A V 503AP V 503P V 506 V 508 series V 510 series V 520	EASA.P.010 EASA.P.005 EASA.P.003 70-03 69-03 783/58 65-03 64001 73-03 64002 96-02 69-02 98-08 64002 6 661/61 91-01 89-04 66-01	Czech Republic
Binder Motorenbau GmbH	BM Series (G1 Variant)	EASA.P.500	Germany
DG Flugzeugbau GmbH	DG-P001-1 Series	EASA.P.011	Germany
Dowty Propellers	R184 R193 R209 R212/R251 R306 R321 R324 R333 R334 R339 R341 R350 R352 R354 R375 R381 R389 R390 R391 R408 R410	[No TC] UK CAA 104 [No TC] UK CAA 107 [No TC] [No TC] [No TC] UK CAA 108 UK CAA 115 UK CAA 102 UK CAA 102 UK CAA 111 UK CAA 105 UK CAA 103 UK CAA 109 UK CAA 114 UK CAA 112 UK CAA 113 EASA.P.087 EASA.P.002 UK CAA 110	UK
EVRA	HELICE EVRA Series	EASA.P.110	France
Fischer	TOP	LBA 32.110/025	Germany
GT-Eliche	GT-2/166 Series	E 26	Italy

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Hoffmann Propeller	Dorn 72 HO Series HO4 Series HOCO F-LM2 Series HOCO V12/70 Series HOCO HMES Series HO-E315 HO-V113 HO-V123 HO-V233 Series HO-V245 Series HO-V343 HO-V352 HO-V373 Series HO-V42/48 HO-V62, HO-V62-R HO-V72 HO-V92 Series	LBA 32.110/00 LBA 32.110/001 LBA 32.110/011 LBA 32.110/002 LBA 32.130/002 LBA 32.110/003 LBA 32.120/003 LBA 32.130/016 LBA 32.130/017 LBA 32.130/056 LBA 32.130/058 LBA 32.130/090 LBA 32.130/088 LBA 32.130/96 LBA 32.130/11 LBA 32.130/013 LBA 32.130/019 LBA 32.130/015	Germany
LOM Praha, s.p.	V 231 Series V 341 V 541 V 546	92-09 96-01 98-05 01-02	Czech Republic
Lange	LF-P42	EASA.P.015	Germany
MT-Propeller Co.	MT() () -1, -2(), -3(), -4(), -6() MT-Fixed Pitch Series MTV-1 Series MTV-3 Series MTV-6 Series MTV-7 Series MTV-9 Series MTV-11 Series MTV-12 Series MTV-14 Series MTV-15 Series MTV-16-1 Series MTV-17 Series MTV-18 Series MTV-21A, -21B, -21F MTV-25 Series MTV-27-1-() Series	LBA 32.110/012 EASA.P.006 LBA 32.130/053 LBA 32.130/054 EASA.P.094 LBA 32.130/084 LBA 32.130/065 EASA.P.007 EASA.P.013 EASA.P.017 EASA.P.098 EASA.P.098 EASA.P.008 LBA 32.130/075 LBA 32.130/086 LBA 32.130/097 LBA 32.130/102	Germany
Technoflug Leichtflugzeugbau GmbH	KS KS-118-3 KS-132-2 KS-F2 KS-F3	LBA 32.110/18 LBA 32.110/14 LBA 32.110/15 LBA 32.110/19 LBA 32.110/23	Germany
VZLU a.s.	V 218 Series V 230 Series V 237 Series	81-03 96-04 97-01	Czech Republic

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
WSK PZL Warszawa-Okecie	AW-2 Series US 122 000 Series US 132 000 Series US 133 000 Series US 135 000 Series	DB-122 DB-118 DB-115 DB-141 DB-128	Poland

1.1.4 Auxiliary Power Units

Manufacturer/ TC Holder	Product Name	TC number EU	State of Design
Microturbo	Saphir 2 Series Saphir 4 Series Saphir 20 Series	lettre 4188 - DTA/M lettre M3507 - DGAC/SFACT lettre 53038 - SFACT/TC	France
PBS Velka Bites	Safir 5K/G MI	S-10-03	Czech Republic

1.2 EASA Products designed outside the EU

1.2.1 Aircraft

The TCDS Number provided in the tables below is that currently recognised by EASA as the approved type design standard. Individual Products should be checked against the relevant referenced TCDS, as some documents are serial number or type specific.

For those aircraft, engines and propellers where EASA has validated the product, the appropriate Type Certificates and TCDS are now as published by EASA on their website. Where EASA has yet to directly issue a Type Certificate and publish the associated TCDS, the approval and associated Type Certificate and TCDS as published by the JAA is the recognised document and is referenced. Where an EASA or JAA TCDS has not been published, then that of the State of Design is adopted by EASA in accordance with Regulation (EC) 1702/2003, Article 2, paragraph 3a.

Where an aircraft was certificated against a UK CAA TCDS prior to 28 September 2003 this TCDS may still be valid after 28 September 2003, if the aircraft can be shown to still be in compliance.

a) Large Aeroplanes

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Antonov	AN-24 AN-24B AN-26 AN-26B AN-28 AN-72-100 AN-72-100D AN-74 AN-74-200 AN-74-TK100	SAS SAS SAS SAS SAS SAS SAS SAS SAS SAS	Ukraine
Boeing (Including McDonnell Douglas/ Douglas)	B707 100/200 B707 300/400 B717 Series B727 Series B737 Classic Series B737 NG Series B747 Series B757 200 B757 300 B767 200/300/400 B767 200/300 B767 400 Series B777 Series DC8 DC9/MD80 Series DC10/MD11 MD90 Series	FAA 4A21 FAA 4A26 JAA/25/96-015 FAA A3WE EASA.IM.A.120 EASA.IM.A.120 FAA A20WE FAA A2NM JAA/25/98-019 EASA.IM.A.035 FAA A1NM JAA/25/00-024 EASA.IM.A.003 FAA 4A25 FAA A6WE JAA/25/91-001 JAA/25/96-015	USA
Bombardier (Including Canadair and de Havilland Canada)	BD100-1A10 BD-700 Series CL-215/415 Series CL-600 Series DHC-7 Series DHC-8 200/300/400	EASA.IM.A.080 EASA.IM.A.009 CANADA A-86 EASA.IM.A.023 CANADA A-120 EASA.IM.A.191	Canada

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Cessna	550 Series 560 Series 680 Series 650 Series 750 Series	EASA.IM.A.207 EASA.IM.A.207 EASA.IM.A.033 FAA A9NM EASA.IM.A.097	USA
Embraer	EMB120 Series EMB121 Series ERJ135/145 Series ERJ170-100/200 ERJ190-100	EA-8505-07 EA-7905-04 EASA.IM.A.032 EASA.IM.A.001 EASA.IM.A.071	Brazil
Fairchild Industries Inc. (Maryland Air Industries)	F-27 Series	FAA 7A1	USA
Gulfstream Aerospace Corp	G II/III Series GIV/GV Series	EASA.IM.A.070 EASA.IM.A.070	USA
Gulfstream Aerospace LP (GALP)	1125/Astra/G100 Galaxy/G200 G150	ISRAEL A51L EASA.IM.A.013 EASA.IM.A.228	Israel
Hawker Beechcraft Corporation (Including Raytheon and BAe)	125 All Series/Hawker B400 Series	EASA.IM.A.085 FAA A16SW	USA
IPTN	CN235 Series	JAA/25/95-012	Indonesia
Israel Aircraft Industries	1121/23/24/24A Series	FAA A2SW	Israel
Learjet	All Series except 45 45 Series	FAA A10CE EASA.IM.A.020	USA
Lockheed	L1011 Series L188 Series	FAA A23WE FAA 4A22	USA
Lockheed-Georgia Co	Hercules L382G	FAA A1SO	USA
Mitsubishi Heavy Ind. Ltd (Including Beech)	MU-300	FAA A14SW	USA
Tupolev	Tu-154M	SAS	Russia
Yakovlev	Yak-40	SAS	Russia

b) Light/Commuter/Very Light Aeroplanes

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Interceptor Aircraft Corporation	Aero Commander 200D	FAA 3A18	USA
Air Tractor	AT-401/402/500 Series AT600/800 Series AT200/300/400/400A Series	FAA A17SW FAA A19SW FAA A9SW	USA

Manufacturer/ TC Holder	Product Name	TCDs Number	State of Design
Alpha Aviation Designs	HR200-100 HR200-100S HR200-120 HR200-120B HR200-160 R2100 R2100A R2112 R2120U R2160 R2160D R2160i	EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086 EASA.IM.A.086	New Zealand
American Champion Aircraft Corp (Including Bellanca)	7ECA with Lycoming O- 235-K2C/Sensenich prop (1995 and on) 7GCAA with Lycoming O- 235-B2B/Sensenich prop 7GCAA with Superior O- 360-A3A2/MT prop 7GCBC with Lycoming O- 235-B2B/Sensenich prop 7GCBC with Superior O- 360-A3A2/ Sensenich prop Bellanca 8GCBC/8KCAB	FAA A-759 FAA A-759 FAA A-759 FAA A-759 FAA A-759 FAA A21CE	USA

Manufacturer/ TC Holder	Product Name	TCDs Number	State of Design
Beech (Including Raytheon and Hawker Beechcraft)	19A Sport Series	FAA A1CE	USA
	23 Musketeer Series	FAA A1CE	
	24 Sierra Series	FAA A1CE	
	33 Debonair Series	FAA 3A15	
	H35 Bonanza	FAA 3A15	
	J35 Bonanza	FAA 3A15	
	K35 Bonanza	FAA 3A15	
	M35 Bonanza	FAA 3A15	
	N35 Bonanza	FAA 3A15	
	P35 Bonanza	FAA 3A15	
	S35 Bonanza	FAA 3A15	
	V35 Bonanza	FAA 3A15	
	36 Bonanza Series	FAA 3A15	
	50 Twin Bonanza Series	FAA 5A4	
	55 Baron Series	FAA 3A16	
	58 Baron Series	FAA A23CE	
	60 Duke Series	FAA A12CE	
	65 Queen Air Series	FAA 3A20	
	70 Queen Air Series	FAA 3A20	
	76 Duchess Series	FAA A29CE	
	77 Skipper Series	FAA A30CE	
	90 King Air Series	FAA 3A20	
	95 Travel Air Series	FAA 3A16	
	99 Series	FAA A14CE	
	100 King Air Series	FAA A14CE	
	200 King Air Series	FAA A24CE	
	B200 King Air Series	EASA.IM.A.277	
	300 King Air Series	FAA A24CE	
	B300 King Air Series	EASA.IM.A.277	
	1900 Airliner Series	FAA A24CE	
Bellanca Aircraft Corp	17 Series	FAA A18CE	USA

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Cessna	208 Caravan Series 425 441 500 501 Series 510 551 Series 525 Series <i>Twin piston engine aircraft</i> T303 310 320 321 335 336 337 340 401/402 404 411/414/421 <i>Single piston engine aircraft</i> 150 Series FRA/FA/F150 Series 152 Series FRA/FA/F152 Series 172R+S 172RG 172 Series F172 Series FR172 Series 175 Series 177RG F177RG 177 Series 180 Series 182S+T/T182T 182 Series FR/F182 Series 185 Series 188 Series 206H/T206H 206 Series 207 Series 210 Series	FAA A37CE FAA A7CE FAA A28CE EASA.IM.A.207 FAA A27CE EASA.IM.A.502 FAA A27CE EASA.IM.A.078 FAA A34CE FAA 3A10 FAA 3A25 FAA 3A11 FAA 3A25 FAA A2CE FAA A6CE FAA 3A25 FAA A7CE FAA A25CE FAA A7CE FAA 3A19 FAA A13EU FAA 3A19 FAA A13EU EASA.IM.A.051 FAA 3A17 FAA 3A12 FAA A4EU FAA A18EU FAA 3A17 FAA A20CE FAA A 26EU FAA A13CE FAA 5A6 EASA.IM.A.052 FAA 3A13 A42EU FAA 3A24 FAA A9CE EASA.IM.A.053 FAA A4CE FAA A16CE FAA 3A21	USA
Cessna (incl. Columbia/ Lancair aircraft)	Columbia 300 (LC40-550FG) C400 (LC41-550FG) C350 (LC42-550FG)	FAA A00003SE EASA.IM.A.516 FAA A00003SE	USA
Cirrus	SR-20 SR-22	EASA.IM.A.007 EASA.IM.A.007	USA

Manufacturer/ TC Holder	Product Name	TCDs Number	State of Design
Commander Premier Aircraft Company (CPAC)	Rockwell Commander 112/114 Series	FAA A12SO	USA
de Havilland Canada (Viking Air)	DHC-2 MkIII Turbo Beaver DHC-6 Twin Otter Series	A-22 A-82	Canada
Diamond Aircraft Industries Inc	Diamond DA20	A-191	Canada
Embraer	EMB 110 Series	EA-7202-13	Brazil
Fairchild Swearingen Corp (M7 Aerospace LP)	Swearingen Series	FAA A5SW	USA
Fuji Heavy Industries Ltd	Fuji FA200 Series	JAPAN 22-2	Japan
Gippsland	GA8 Airvan	EASA.IM.A.042	Australia
Government Aircraft Factories	N24A Nomad	73-1	Australia
Grumman	G-164 Ag-Cat Series	FAA 1A16	USA
Grumman American (incl. American Aviation, Gulfstream American, True Flight Holdings LLC, and Tiger aircraft)	AA-1 Series AA-5 Series AG-5B	FAA A11EA FAA A16EA FAA A16EA	USA
Gulfstream Aerospace Corp	G100 Series	FAA A16NM	USA
Gulfstream American Aviation (Gulfstream Aerospace)	GA-7/Cougar	FAA A17SO	USA
Hawker Beechcraft Corp (Raytheon Aircraft)	Beech 390	EASA.IM.A.073	USA
Helio/Alliance	H-295	FAA 1A8	USA
Lake Aircraft Corp	Lake LA-4-200 Buccaneer LA-250 Renegade	FAA 1A13 FAA 1A13	USA
Learjet	Lear 23	FAA A5CE	USA
Maule Aircraft Corporation	M-4 Series M-5 Series M-6-235 M-7 Series MX-7 Series MXT-7-180	EASA.IM.A.018 EASA.IM.A.018 EASA.IM.A.018 EASA.IM.A.018 EASA.IM.A.018 EASA.IM.A.018	USA

Manufacturer/ TC Holder	Product Name	TCDs Number	State of Design
Mitsubishi Heavy Ind. Ltd	MU-2B	FAA A2PC/A10SW	Japan
Mooney Aircraft Corp	M20 Series M22	FAA 2A3 FAA A6SW	USA
Pacific Aerospace	PAC.750XL	EASA.IM.A.081	New Zealand
Piper Aircraft Corp	PA-23-235 PA-23-250 PA-24 PA-25 PA-28 PA-30 PA-31-300/325/350 PA-31P & 31T Series PA-32 PA-34 PA-34-220T (Seneca V) PA-36 PA-38 PA-39 and 40 PA-42 PA-42-720R PA-44 PA-46 PA-60	FAA 1A10 FAA 1A10 FAA 1A15 FAA TC Cancelled US – Build A/C Accepted by EASA FAA 2A13 FAA A1EA FAA A20SO FAA A8EA FAA A3SO FAA A7SO EASA.IM.A.090 FAA A9SO/A10SO FAA A18SO FAA A1EA FAA A23SO FAA A32SO FAA A19SO EASA.IM.A.077 FAA A17WE	USA
Sky International Inc (Including Pitts/Aviat/ Christen)	Aviat A-1, A-1A, A-1B Husky Aviat A-1C Husky Pitts S-1 Series Pitts S-2 Series	EASA.1M.A.294 FAA A22NM FAA A8SO FAA A8SO	USA
Skyfox Aviation	CA-25 Series	154-2	Australia
Sukhoi	Su-26 Su-26M Su-26M2 Su-29 Su-31 Su31M	SAS SAS SAS SAS SAS SAS	Russia
Symphony Aircraft	OMF-100-160	EASA.IM.A.031	Canada
Tecnam	P2002-JF	EASA.IM.A.006	Australia
Thorp (AD Aerospace Inc)	T-211 (Factory Built only)	FAA A-791	USA
Thrush Aircraft Inc. (Including Ayres)	S2R Series	EASA.IM.A.040	USA

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Twin Commander Aircraft Corp	680 Series 690 Series 695 Series Aero Commander 500 Rockwell 700	FAA 2A4 FAA 2A4 FAA 2A4 FAA 6A1 FAA A12SW	USA
Varga (Augustair)	2150 Series Kachina	FAA 4A19	USA

WACO Classic Aircraft	WACO YMF Series	EASA.IM.A.055	USA
Yakovlev	Yak-18T Yak-54 Yak-55 Yak-55M	SAS SAS SAS SAS	Russia
Zenair	CH2000 Series	JAA/VLA/99-002	Canada

c) Sailplanes/Powered Sailplanes

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Aeromot	AMT-100 AMT-200 AMT-200S	EP-8602 EP-8602 EP-8602	Brazil
Aviastroitel	AC-4a/ME7 AC-4c	SAS SAS	Russia
Barry Aviation	KR-03A Puchatek	FAA G56EU	USA
Schempp-Hirth KG	Standard Cirrus G	–	Yugoslavia

d) Balloons

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Aerostar Intl. (Raven)	Cell RX-6 RX-7 RX-8 RX-9 RXS-8 S-49A S-52A S-53A S-55A S-57A S-60A S-66A S-71A S-77A W100LB	FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE FAA A15CE	USA

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Augur	AL-30	–	Russia
A/S Dirizhalstroy	DS-AT8	–	Russia
Cameron (US)	Refer to EASA for applicable types	–	USA
Head Balloons	AX7-77 AX7-77b AX8-88 AX8-88b AX8-105 AX9-118	FAA A29SO FAA A29SO FAA A29SO FAA A29SO FAA A29SO FAA A29SO	USA
Kavanagh	B 105	VL501	Australia
Sundance Balloons	Firefly Series	FAA A14SO	USA

e) **Airships**

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
American Blimp Corp	ABC 60 Series	FAA AS1NM	USA
Global Skyship Industries	Skyship 600	FAA AS1EU	USA
Worldwide Aeros Corp	Aeros 40B	FAA S00007LA	USA

f) **Rotorcraft**

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
Bell Helicopter Textron Canada Ltd	206 Series 407 Series 427 Series Bell 222/230/430 Series	H-92 H-92 JAA/27/02-004 H-88	Canada
Bell Helicopter Textron, Inc	Bell 204/205 Bell 212/412 Bell 214	FAA H1SW FAA H4SW FAA H10SW	USA
Brantly Helicopter Corp	B-2	FAA 2H2	USA
Enstrom Helicopter Corporation	Enstrom 280/480/F28 Series	FAA H1CE	USA
Erickson	S64F	EASA.IM.R.003	USA
Eurocopter Canada	BO105	H-94	Canada
Kaman	Kaman K-1200	FAA TR7BO	USA
Kamov	Ka-26 Ka-32	SAS SAS	Russia

Manufacturer/ TC Holder	Product Name	TCDS Number	State of Design
MD Helicopters	MD369 Series MD500 Series MD600 Series MD900	FAA H3WE FAA H3WE FAA H3WE JAA/27/96-001	USA
Philippine Aerospace Dev. Corp. (PADC)	P-BO105	–	Philippines
Robinson Helicopter Company	R22 Series R44 Series	EASA.IM.R.120 EASA.IM.R.121	USA
Schweizer Aircraft Corporation (Hughes)	269 Series	FAA 4H12	USA
Sikorsky	S-55T S-58 Series S-61 A/D/E/V S-61 L/NM/N/R S-76 Series S-92	– FAA 1H11 FAA H2EA FAA 1H15 FAA H1NE EASA.IM.R.001	USA

g) Unmanned Aerial Vehicles over 150 kg operating mass

None at present.

1.2.2 **Engines**a) **Turbine Engines**

Manufacturer/TC Holder	Product Name	TCDS Number	State of Design
CFE Company	738 Series	JAA/E/94-007	USA
Engine Alliance	GP7200 Series	EASA.IM.E.026	USA
GE Aircraft Engines (GE)	CF6-6 Series CF6-50 Series CF6-80 CF6-80A Series CF6-80C Series CF6-80E Series CF34-1 Series CF34-3 Series CF34-8 Series CF34-10 Series CF700 Series CJ610 Series CT58 Series CT7-2A and 6 Series CT7-8 Series GE90 Series	FAA E23EA FAA E23EA FAA E13NE FAA E13NE FAA E13NE EASA.IM.E.007 FAA E15NE FAA E15NE JAA/E/00-023 EASA.IM.E.021 FAA E7EA FAA 1E16 FAA 1E3 FAA E8NE EASA.IM.E.010 EASA.IM.E.002	USA
Honeywell International Inc.	ALF 502 Series AS907 ATF-3-6/6A LF 507 Series LTS 101 Series T5311/13/17-5508 TFE 731 Series TPE 331 Series	FAA A6NE JAA/E/02-025 FAA E7WE FAA A6NE EASA.IM.E.228 FAA A1EA EASA.IM.E.011 FAA E4WE	USA
International Aero Engines AG	V2500-A1 V2500 Series	FAA E31NE FAA E40NE	USA
Pratt & Whitney	JFTD12A Series JT8 Series JT9 Series PW2000 Series PW4000 Series PW4100 Series PW6122A/6124A	EASA.IM.E.106 FAA E9NE FAA E3NE & E20EA JAA/E/02-028 JAA/E/94-008 JAA/E/94-006 EASA.IM.E.020	USA

Manufacturer/TC Holder	Product Name	TCDS Number	State of Design
Pratt & Whitney Canada	JT15D Series PT6A-41 Series PT6A-67 Series PT6B-36 & 37 Series PT6C-67 PT6T Series PW100 Series PW110 Series PW118 Series PW119 Series PW12X Series PW150 Series PW206 Series PW207 Series PW305 Series PW306 Series PW307 Series PW308 Series PW530/535 PW545 PW610F A PW615 Series	EASA.IM.E.077 EASA.IM.E.078 EASA.IM.E.008 EASA.IM.E.039 EASA.IM.E.022 E-10 EASA.IM.E.041 E-19 E-19 JAA/E/93-003 E-19 JAA/E/98-019 EASA.IM.E.017 EASA.IM.E.017 E-22 JAA/E/99-022 EASA.IM.E.035 JAA/E/02-029 EASA.IM.E.048 EASA.IM.E.013 EASA.IM.E.028 EASA.IM.E.025	Canada
Rolls Royce Allison	250 Series 501 Series AE2100 Series AE3007 Series	JAA/E/99-021 FAA E-282 JAA/E/93-002 JAA/E/96-017	USA
Williams	FJ44 Series	EASA.IM.E.016	USA

b) **Non-Turbine Engines**

Manufacturer/TC Holder	Product Name	TCDS Number	State of Design
Curtiss Wright	R-1820 R-3350 R-988TC	E-219 E-272 E-287	USA
Pratt & Whitney	R985 Series R1340 Series R1830 Series R2800 Series	FAA TC 5E-1 FAA TC 5E-2 FAA TC 5E-4 FAA TC 5E-8	USA
Teledyne Continental Motors	IO-240 Series IO-360 Series IO-550 Series	EASA.IM.E.169 EASA.IM.E.005 EASA.IM.E.100	USA
Textron Lycoming	All Models	Various	USA

1.2.3 **Propellers**

Manufacturer/TC Holder	Product Name	TCDS Number	State of Design
Flottrop Manufacturing Co	All Models		USA
Great American Propeller	All Models		USA
Hamilton Sundstrand Corporation	All		USA
Hartzell Propeller Inc	All Marks HC-J3Y	EASA.IM.E.187	USA
McCauley Propeller	All Models		USA
Sensenich Propeller	All Marks		USA
Sensenich Wood Propellor Co Inc	All Marks		USA
Sonex Ltd	Prince		USA

1.2.4 **Auxiliary Power Units**

Manufacturer/TC Holder	Product Name	TCDS Number	State of Design
Hamilton Sundstrand Corp	APS 2100 Series APS 2300 Series APS 3200 Series T-62T Series		USA
Honeywell International Inc.	131 Series 331 Series GTCP 331 Series GTCP 36 Series GTCP 660 Series GTCP 85 Series RE 100 Series RE 220 Series TSCP 700 Series		USA
Pratt & Whitney Canada	PW901 Series PW980A	AP-01	Canada

2 Products not transferred to EASA

Under the provisions of Article 2(3)(c) of Regulation (EC) No. 1702/2003 EASA has delayed its adoption of the Type Certificates of certain products. The products affected are listed below. Items that are "not transferred" remain subject to regulation under National procedures.

Under the provisions of Article 2 (11) of Regulation (EC) No. 1702/2003, any aircraft that was operating legally in the UK prior to 28 September 2003 without a Certificate of Airworthiness or Permit to Fly in force will remain subject to UK National Legislation until 28 March 2007.

2.1 Aircraft notified by EASA as "not transferred"

a) Large Aeroplanes

Manufacturer/TC Holder	Product Name	State of Design
Ilyushin	IL-18 IL-62	Russia
PZL	AN-28	Poland
Tupolev	TU-134M TU-154B2	Russia
Yakovlev	YAK-42D	Russia

b) Light/Commuter/Very Light Aeroplanes

Manufacturer/TC Holder	Product Name	State of Design
Latinoamericana de Aviacion (Lavia) SA	PA-25-235 PA-25-260	Argentina

c) Sailplanes/Powered Sailplanes

Manufacturer/TC Holder	Product Name	State of Design
Auto-Aero Budapest - Ungarn	R 26 SU "Gòbè"	Hungary
Elan Flight Ltd. Begunje - Slovenia	DG 303 Elan	Slovenia
Fabrika Aviona i Jadrilica 'Jastreb' Vr	ST CIRRUS G/81	Slovenia

d) Balloons

Manufacturer/TC Holder	Product Name	State of Design
Balony Kubicek	AB 3 AV 2	Czech Republic

e) Airships

None at present.

f) **Rotorcraft**

None at present.

g) **Unmanned Aerial Vehicles over 150 kg operating mass**

None at present.

2.2 **Engines notified by EASA as “not transferred”**a) **Turbine Engines**

None at present.

b) **Non-Turbine Engines**

None at present.

2.3 **Propellers notified by EASA as “not transferred”**

None at present.

2.4 **Auxiliary Power Units notified by EASA as “not transferred”**

None at present.

3 Annex II Non-EASA Product List

Article 4 of Regulation (EC) No. 216/2008 excludes from regulation by EASA the categories of aircraft defined in Annex II of that Regulation. Under 3.1 below are listed the aircraft types that the CAA has determined remain regulated under National legislation through being within categories (a), (b) or (d) of Annex II of the Regulation. This list is not exhaustive, but includes all of those Annex II types registered in the UK, or those for which the CAA has received an application for the issue of an Airworthiness Certificate. Additional eligible types will be added as they are imported into the UK.

The categories of aircraft that remain regulated under National legislation, under categories (c), (e), (f), (g) and (h) of Annex II to the Regulation are defined under 3.2 below. Specific types that fall within these categories will not be listed in this CAP.

3.1 **The following aircraft types have been determined by the CAA to be within the scope of categories (a), (b) or (d) of Annex II of Regulation (EC) No. 216/2008**

a) **Large Aeroplanes**

Manufacturer/TC Holder	Product Name	State of Design
Aviation Traders	ATL 98 Carvair	UK
BAC/Aerospatiale	Concorde Type 1 Variant 102	UK/France
BAE Systems Operations Ltd	Jetstream 3102 s/n 614	UK
Boeing	B-17G	USA
Bristol	170	UK
British Aerospace	146-301 ARA	UK
Consolidated	PBY-5A 28-5ACF Catalina	USA
Douglas	DC-3C-R-1830-90C	USA
Douglas	DC-6 Series	USA
English Electric	Canberra Series	UK

b) **Light/Commuter/Very Light Aeroplanes**

Manufacturer/TC Holder	Product Name	State of Design
Aero	145	Czech Republic
Aero	C104	Czech Republic
Aero	L-29 Delfin	Czech Republic
Aero	L-39 Albatros Series	Czech Republic
Aeronca	O-58B	USA
Aeronca	11	USA
Aeronca	65 Series	USA
Aeronca	100	USA
Aeronca	C3	USA
Aeronca	K	USA
Aeronca/American Champion/ Bellanca/Champion	7AC	USA

Manufacturer/TC Holder	Product Name	State of Design
Aeronca/American Champion/ Bellanca/Champion	7ACA	USA
Aeronca/American Champion/ Bellanca/Champion	7BCM	USA
Aeronca/American Champion/ Bellanca/Champion	7ECA with Continental O-200-A/ McCauley Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7ECA with Lycoming O-235-C1/ McCauley Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7ECA with Lycoming O-235-C1/ Sensenich Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7ECA with Lycoming O-235-K2C/ Sensenich Prop. (pre 1981)	USA
Aeronca/American Champion/ Bellanca/Champion	7GCAA with Lycoming O-320- A2B/McCauley Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7GCAA with Lycoming O-320- A2B/Sensenich Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7GCBC with Lycoming O-320- A2B/McCauley Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7GCBC with Lycoming O-320- A2B/Sensenich Prop.	USA
Aeronca/American Champion/ Bellanca/Champion	7FC	USA
Aeronca/American Champion/ Bellanca/Champion	7KCAB	USA
AESL	Airtourer 115 (modified)	New Zealand
Alon	A-2	USA
ANEC	II	UK
Antonov	An-2	Russia
Arrow	Active II	UK
Auster	All Series	UK
Avia	FL3	Italy
Aviamilano/Aeromere	Falco F8L	Italy
Avro	504K	UK
Avro	643 Cadet Series	UK
Avro	652A Anson T21	UK
Avro	Avian Series	UK
Avro	C19 Series 2	UK
Avro	Triplane Replica	UK
Avro	Tutor	UK
BA	Eagle 2	UK
BA	Swallow 2	UK
BAC	167 Strikemaster Series	UK

Manufacturer/TC Holder	Product Name	State of Design
BAC (1935) Ltd.	Drone	UK
Beagle	A.109 Airedale	UK
Beagle	A.61 Terrier Series	UK
Beagle	B206 Series	UK
Beagle	E3	UK
Beagle Auster	D5 Series 180	UK
Beech	35, G35	USA (A-777 Models)
Beech	D17S	USA
Beech	Expeditor Series	USA
Bell	P-39Q Airacobra	USA
Bell	P-63 Kingcobra	USA
Bellanca	Model 14 Series	USA
Blackburn	1912 Monoplane	UK
Blackburn	B.2 Series 1	UK
Bleriot	XI	France
Boeing	75 Stearman Series	USA
Bristol	Bolingbroke MK.IV T	UK
Bristol	Boxkite Replica	UK
Bristol	Fighter F2B	UK
Bristol	M1C Monoplane Replica	UK
Bucker	BU131 Jungmann	Germany
Bucker	BU133 Jungmeister Series	Germany
Bucker	BU181 Bestmann	Germany
Canadian Car & Foundry	Harvard Series	Canada
CASA	1-131E Series	Germany
Cessna	120	USA
Cessna	140	USA
Cessna	170	USA
Cessna	195	USA
Cessna	305C	USA
Cessna	C-165	USA
Chance-Vought	FG-1D Corsair	USA
Chilton	DW1 Series	UK
Chrislea	CH3 Super Ace Series 2	UK
Civilian	Coupe 02	UK
CMC	Leopard 001/002 Prototypes	UK
Commonwealth	CA 18 MK 22 (Mustang P-51D)	USA

Manufacturer/TC Holder	Product Name	State of Design
Comper	CLA7 Swift	UK
Comper	CLA7 Swift Replica	UK
Crofton Auster	J1-A	UK
Culver	LCA Cadet	USA
Curtiss	C-2 Robin (Modified)	USA
Curtiss	H-75A-1 Hawk	USA
Curtiss	P-40 Series	USA
Curtiss	Travel Air 12Q	USA
Dart	Kitten	UK
De Havilland	DH9	UK
De Havilland	DH51	UK
De Havilland	DH53 Hummingbird	UK
De Havilland	DH60 Moth Series	UK
De Havilland	DH71 Tiger Moth	UK
De Havilland	DH80A Puss Moth	UK
De Havilland	DH82A (Aust) Tiger Moth	UK
De Havilland	DH82A Tiger Moth	UK
De Havilland	DH82B Queen Bee	UK
De Havilland	DH83 Fox Moth Series	UK
De Havilland	DH84 Dragon	UK
De Havilland	DH85 Leopard Moth	UK
De Havilland	DH87B Hornet Moth	UK
De Havilland	DH88 Comet Racer	UK
De Havilland	DH89A Rapide Series	UK
De Havilland	DH90A Dragonfly	UK
De Havilland	DH94 Moth Minor	UK
De Havilland	DH100 Vampire Series	UK
De Havilland	DH104 Dove Series	UK
De Havilland	DH110 Sea Vixen FAW MK2	UK
De Havilland	DH112 Venom Series	UK
De Havilland	DH114 Sea Heron C MK1	UK
De Havilland	DH115 Vampire Series	UK
De Havilland Canada	DHC-1 Chipmunk Series	UK
De Havilland Canada	DHC-1A-1 Chipmunk	Canada
De Havilland Canada	DHC-2 Beaver 1	Canada
Deperdussin	Monoplane	France
Desoutter	Monoplane	UK
Dornier	Do27	Germany
Douglas	Skyraider AD4-NA	USA

Manufacturer/TC Holder	Product Name	State of Design
Druine/Rollason	D.31 Turbulent	UK
Druine/Rollason	D.62 Condor Series	UK
Edgar Percival	EP9 Prospector	UK
English Electric	Wren	UK
Ercoupe	415 Series	USA
Extra	EA 230	Germany
Fairchild	24R-46A Argus Series	USA
Fairchild	M62 Cornell	USA
Fairey	Battle	UK
Fairey	Gannet Series	UK
Federal Aircraft Factory	C3605 Schlepp	Switzerland
Fiat	CR42	Italy
Fiat	G46-3B	Italy
Fieisler	F156 Series	Germany
Fleet	Model 80 Canuck	Canada
Focke-Wulfe	FW189A-1	Germany
Focke-Wulfe	FW44J Steiglitz	Germany
Focke-Wulfe/Flug + Werk	FW190 Series	Germany
Fokker	DR1 Replica	Germany
Fokker	S11-1	Netherlands
Folland	Gnat T MK 1	UK
Forney	F-1A	USA
Foster-Wikner	Wicko GM-1	UK
Garland-Bianchi/Fairtravel	Linnet 1/2	UK
Globe	CG-1B Swift	USA
Glos-Air	Airtourer Series	New Zealand
Gloster	Gladiator	UK
Gloster	Meteor NF11	UK
Gould-Taylorcraft	Plus D Special	USA
Great Lakes	2T-1A	USA
Grumman	F6F-3 Hellcat	USA
Grumman	F7F-3 Tigercat	USA
Grumman	F8F-2P Bearcat	USA
Grumman	FM2 Wildcat	USA
Grumman	TBM-3R Avenger	USA
Hawker	Audax	UK
Hawker	Cygnat Replica	UK
Hawker	Demon	UK

Manufacturer/TC Holder	Product Name	State of Design
Hawker	Fury Mk1	UK
Hawker	Fury/Sea Fury Series	UK
Hawker	Hind	UK
Hawker	Hunter Series	UK
Hawker	Hurricane Series	UK
Hawker	Nimrod Series	UK
Hawker	Tomtit	UK
Helton	Lark 95	USA
Hindustan	HAL-26 Push Pak	India
Hispano	HA1112M1L	Spain
Hunting	P84 Jet Provost Series	UK
Jodel	D14	France
Jodel	D112	France
Jodel	D117	France
Jodel	D119	France
Jodel	D120	France
Jodel	D127	France
Jodel	D128	France
Jodel	D140	France
Jodel	D150	France
Jodel	D1120	France
Jodel	D1190	France
Jodel	DR100	France
Jodel	DR105	France
Jodel	DR1050	France
Jodel	DR1051	France
Junkers	JU87/R4	Germany
Klemm	KI 35	Germany
Klemm	L25-1A	Germany
Lake	LA-4-180	USA
Lockheed	T-33 Silver Star 3	USA
Luscombe Aircraft Corp.	Luscombe 8 Series	USA
LVG	CVI	Germany
Max Holste	MH1521 Series	France
Menavia/Piel/Scintex	CP 301 Emeraude	France
Menavia/Piel/Scintex	CP 1310/1320/1330/Super Emeraude	France
Menavia/Piel/Scintex	CP 1315 Super Emeraude	France
Messerschmitt	BF108	Germany

Manufacturer/TC Holder	Product Name	State of Design
Messerschmitt	BF109 Series	Germany
Miles	M11A Whitney Straight	UK
Miles	M14A Magister/Hawk Trainer 3	UK
Miles	M17 Monarch	UK
Miles	M2L Hawk Six	UK
Miles	M2W Hawk	UK
Miles	M28 Mercury	UK
Miles	M38 Messenger Series	UK
Miles	M3A Falcon	UK
Miles	M5 Sparrowhawk	UK
Miles	M65 Gemini 1A	UK
Monocoupe	90A	USA
Morane Saulnier	N Replica	France
Morane Saulnier	MS.230	France
Morane Saulnier	MS.315E D2	France
Morane Saulnier	MS.505 Crique	France
Morane Saulnier	MS.733 Alcyon	France
Nanchang	CJ-6A	China
NAS	Tiger Moth	UK
Naval Aircraft Factory	N3N-3	USA
Nieuport	Scout 17/23 Replica	France
Noorduyn	AT-16 Harvard IIB	Canada
Nord	1002	France
Nord	1101	France
Nord	N3202-B1	France
Nord	NC 854 S	France
Nord	NC 856 Norvigie	France
Nord	NC 858 S	France
Norman Aeroplane Co.	NAC-1/2 Series 180 Freelance	UK
Norman Aeroplane Co.	NDN-1 Firecracker	UK
Norman Aeroplane Co.	NDN-1 Turbo Firecracker	UK
North American	T-6 Harvard Texan Series	USA
North American	F86A Sabre	USA
North American	P-51 Mustang Series	USA
North American	T28A Trojan	USA
Orlican Werke	L40 Meta Sokol	Czech Republic
Parnall	ELF II	UK
Percival	Mew Gull	UK

Manufacturer/TC Holder	Product Name	State of Design
Percival	P10 Vega Gull	UK
Percival	P40 Prentice 1	UK
Percival	P56 Provost T1	UK
Percival	P57 Sea Prince T1	UK
Percival	P66 Pembroke C MK1	UK
Percival	Proctor Series	UK
Piaggio	FW P149D	Italy
Pilatus	P2 Series	Switzerland
Piper	J2	USA
Piper	J3C	USA
Piper	J3C (Modified)	USA
Piper	J3C-65	USA
Piper	J3C-65 (Modified)	USA
Piper	J3C-90	USA
Piper	J3F-50	USA
Piper	J4A	USA
Piper	J4E	USA
Piper	J5A	USA
Piper	L18C	USA
Piper	L21A (Modified)	USA
Piper	L21B	USA
Piper	L21B (Modified)	USA
Piper	L4H	USA
Piper	L4J	USA
Piper	PA-11	USA
Piper	PA-12	USA
Piper	PA-14	USA
Piper	PA-15	USA
Piper	PA-16	USA
Piper	PA-17	USA
Piper	PA-18	USA
Piper	PA-19	USA
Piper	PA-20	USA
Piper	PA-22	USA
Piper	PA-23-160 Apache (NOT -235 and -250 Aztec)	USA
Polikarpov	PO-2	Russia
Porterfield	CP50/65	USA

Manufacturer/TC Holder	Product Name	State of Design
Putzer Elster	B	Germany
Rearwin	175	USA
Rearwin	8125 Cloudster	USA
Rearwin	8500	USA
Republic/Curtiss	P-47 Thunderbolt Series	USA
Robinson	Redwing	UK
Rollason	BETA	UK
Royal Aircraft Factory	SE5A	UK
Ryan	PT-22	USA
Ryan	ST3KR	USA
Saab	91D Safir	Sweden
Scottish Aviation	Bulldog Series	UK
Scottish Aviation	Twin Pioneer 3	UK
Short Brothers	S312 Tucano T.Mk1	UK
SIPA	903	France
SIPA	S91	France
SNCAN	Stampe SV4 Series	Belgium
Soko	P-2 KRAGUJ	Yugoslavia
Sokol	M1C	Czech Republic
Somers Kendall	SK1	UK
Sopwith	Camel Replica	UK
Sopwith	Dove	UK
Sopwith	Pup	UK
Sopwith	Triplane Replica	UK
Southern	Martlet	UK
Spartan	Arrow	UK
SPP	Super Aero 45	Poland
Stinson	108	USA
Stinson	HW-75	USA
Stinson	V-77 Reliant	USA
Taylorcraft	BC12D	USA
Taylorcraft	65 Series	USA
Taylorcraft	Plus D	USA
Taylorcraft	F-19 Series	USA
Taylorcraft	F-21 Series	USA
Taylorcraft	F-22 Series	USA
Thruvton	Jackaroo	UK

Manufacturer/TC Holder	Product Name	State of Design
Tipsy	Belfair	Belgium
Tipsy	Trainer 1	Belgium
Vickers-Supermarine	Seafire Series	UK
Vickers-Supermarine	Spitfire Series	UK
Vickers-Supermarine	Walrus MK1	UK
Victa	Airtourer Series	Australia
Waco	UPF-7	USA
Waco	YKS-7	USA
Wassmer	WA 51	France
Wassmer	WA 52	France
Wassmer	WA 80	France
Wassmer	WA 81	France
Westland	Lysander IIIA	UK
Yakovlev	Yak C.11	Russia
Yakovlev	Yak-1	Russia
Yakovlev	Yak-3U	Russia
Yakovlev	Yak-12	Russia
Yakovlev	Yak-18 (But NOT -18T)	Russia
Yakovlev	Yak-50	Russia
Yakovlev	Yak-52	Russia

c) Sailplanes/Powered Sailplanes

Manufacturer/ TC Holder	Product Name	State of Design
Akaflieg Munchen	Mu 13	Germany
Alexander Schleicher GmbH	Rhönlerche II	Germany
Birmingham Guild	BG-135	UK
Carden/Abbott-Baynes	Scud Series	UK
Edgley	EA9 Optimist	UK
Elliot's	Olympia Series	UK
ERI Aviation	PIK-16 Vasama	Finland
Fauvel	AV22	France
Fauvel	AV36/361	France
Focke Wulfe	Olympia Meise	Germany
Focke Wulfe	Weihe	Germany

Manufacturer/ TC Holder	Product Name	State of Design
Focke Wulfe	Kranich Series	Germany
Grunau	Baby Series	Germany
Heine Dittmar	Condor 4	Germany
Lunak	LF-107	Czech Republic
Moswey-Werke	Moswey III	Switzerland
Neukom	Elfe PM3	Switzerland
Neukom A.au	Elfe S-2	Switzerland
Oberlechner	Mg19 Series	Austria
Rolladen Schneider	Ls8-tpw	Germany
Scheibe	Rhonsperber	Germany
Schempp-Hirth	Hutter 17	Germany
Schempp-Hirth	Go3 Mimimoa	Germany
Schleicher	Rhonbussard	Germany
Schleicher	Ka2 Series	Germany
Schleicher	Ka3 Series	Germany
Scott	Viking	UK
Shenstone	Harbinger	UK
Slingsby	All models up to and including T50	UK
Slingsby	Kestrel 22	UK
Slingsby	T59 Kestrel 19 S/no SSK/JP/054	UK
Swales	SD3	UK
Voigt Alfred	Lo100	Germany
Zlin	24 Kranjanek	Czech Republic

d) **Balloons**

Manufacturer/ TC Holder	Product Name	State of Design
Airtour	All Models	UK
Colt Balloons	Colt 56C	UK
Dragon Balloons	All Models	UK
Flying Pictures	Apoly1 44000	UK
Interavia	70TA	Russia
Interavia	80TA	Russia

Manufacturer/ TC Holder	Product Name	State of Design
Thunder Balloons	0-5	UK
Ultramagic SA	Ultramagic V-14	Spain
Western Balloons	All Models	UK

e) **Airships**

Manufacturer/ TC Holder	Product Name	State of Design
Lindstrand Hot Air Balloons Ltd	LBL GT110	UK
Thunder Balloons	AS-33	UK

f) **Rotorcraft**

Manufacturer/ TC Holder	Product Name	State of Design
Agusta/Bell/Westland	47 Series	USA
Eurocopter	SE313/3130 Alouette II	France
Hiller Helicopters	UH 12 Series	USA
ICA Brasov	SA316B Alouette III	Romania
SARO	Skeeter 12	UK
Westland	Gazelle AH.MK1	UK
Westland	Gazelle HT.MK2	UK
Westland	Gazelle HT.MK3	UK
Westland	Scout AH1	UK
Westland	Wasp HAS1	UK
Westland	Wasp MK1B	UK
Westland	Whirlwind HAR MK.10	UK

g) **Unmanned Aerial Vehicles above 150 kg operating mass**

None at present.

3.2 **Aircraft that remain regulated under National legislation under categories (c), (e), (f), (g) and (h) of Annex II to Regulation (EC) No. 216/2008**

Annex II to Regulation (EC) No. 216/2008 categories (c), (e), (f), (g) and (h) are:

Category (c)

Aircraft of which at least 51% is built by an amateur, or non-profit association of amateurs, for their own purposes and without any commercial objective;

Category (e)

Aeroplanes having no more than two seats, the stall speed or the minimum steady flight speed in landing configuration not exceeding 35 knots calibrated air speed (CAS), and a maximum take-off mass (MTOM) of no more than:

- a) 300 kg for a land plane, single seater; or
- b) 450 kg for a land plane, two seater; or
- c) 330 kg for an amphibian or floatplane single seater; or
- d) 495 kg for an amphibian or floatplane two seater, provided that, where operating both as a floatplane and as a land plane, it falls below both MTOM limits, as appropriate;

Category (f)

'Gliders' with a structural mass of less than 80 kg when single seater or 100 kg when two seater, including those which are foot launched;

Category (g)

Unmanned aircraft with an operating mass of less than 150 kg;

Category (h)

Any other aircraft with a total mass without pilot of less than 70kg.

NOTE: Category (e) above is equivalent to the JAA definition of a microlight.

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Part 3 Sources of Data

This CAP makes reference to data published by EASA, the CAA and ICAO Member States but does not reproduce all of the information available. It is no longer possible for the CAA itself to publish the text and keep current all of the mandatory information for all aircraft on the UK register. Where reference is made to other sources of information it will be necessary to obtain that data directly from the issuing organisation. The contact details for relevant data sources are given below. Where the CAA has received mandatory airworthiness information from a State of Design that is not listed below, the information will be published in full within the appropriate section of this CAP 747.

To ensure continuous and timely receipt of airworthiness and mandatory information it is necessary to subscribe to a service from the relevant State of Design. The following services have been notified to the CAA in accordance with ICAO Annex 8 Part II Chapter 4.

1 Contact details for National Aviation Authorities

Argentina - DCA
Dirección de Certificación Aeronáutica – División Dificultades en Servicio
Avenida Fuerza Aérea, Km 5½
(X5010JMN) Córdoba
Phone: +351 433 3955
Fax: +351 433 3945
E-mail: certcba@arnet.com.ar
www.dna.org.ar/dnaportal/reglamentacion/ads/home.htm

Australia – CASA
Airservices Australia Publications Centre
PO Box 1986
Carlton South
VIC 3053
Australia
Fax: +61 3 9347 4407
www.casa.gov.au/airworth/airwd/index.htm

Austria – ACG
Austro Control GmbH (ACG)
Österreichische Gesellschaft für Zivilluftfahrt
Abteilung FL
Schnirchgasse 11
1030 Vienna
Austria
Phone: +43 5 1703 1610
Fax: +43 5 1703 1666
www.austrocontrol.at/en/home/main.php

Brazil - ANAC
National Civil Aviation Agency (ANAC)
Aeronautical Products Certification Branch (GGCP)
Praça Mal.Eduardo Gomes, 50 – Vilas das Acácias (Prédio do CTA-IFI)
12228-901 – São José dos Campos – SP Brazil
Fax: +55 (12) 3941-4766
E-mail: pds@ifi.cta.br
www.anac.gov.br/certificacao/DA/Indices/AD_MODEL.pdf

Canada – TC
Canada Communication Group – Publishing
Ottawa
Canada K1A 0S9
Phone: +1 819 956 4802
Fax: +1 819 994 1498
www.tc.gc.ca/aviation/applications/cawis-swimn/awd-lv-cs1401.asp?lang=E&rand=

CAA Civil Aviation Authority of the Czech Republic
Airworthiness Division
Ruzyne Airport
160 08 Prague 6
Czech Republic
E-mail: ad@caa.cz
www.caa.cz

Finland – FCAA
Civil Aviation Administration
Flight Safety Authority
Technical Division
PO Box 50
01531 Vantaa
Finland
Fax: +358 9 82772499 or 358 9 82772496
E-mail: lentoturvallisuushallinto@fltsafety.fcaa.fi
www.civilaviationauthority.fi/airworthinessandmaintenance

France
DGAC Bureau Veritas – Aéronautique Espace
Base de donnée et Publications techniques
BP 55
31702 Blagnac Cedex
France
Phone: +33 5 61 16 72 61
Fax: +33 5 61 16 72 85
E-mail: virginie.boursier@fr.bureauveritas.com
www.gsac.fr/php/P_ConsignesNav.php

Germany – LBA
Firma Eisenschmidt GmbH
Postfach 11 07 61
D-60042 Frankfurt/Main
Germany
Phone: +49 69 671392
Fax: +49 69 671892
www.lba.de/cln_010/nn_58454/EN/CertificationAirworthiness/ADs/ADs.html

Indonesia – DAC
Directorate of Airworthiness Certification
Karya Building Floor 22nd
Ministry of Transportation
JI Medan Merdeka Barat No. 8
Jakarta 10110
Indonesia
Phone: +62 21 350 6664
Fax: +62 21 350 6663
E-mail: dgca_dac@dephub.go.id
www.dephub.go.id/udara/dsku/airworthiness_directive.htm

Israel – CAA
Civil Aviation Authority
PO Box 8
Ben Gurion Airport
Israel, 70100
www.mot.gov.il/wps/portal/!ut/p/.cmd/cs/.ce/7_0_A/.s/7_0_12D/_s.7_0_A/7_0_12D

Italy – ENAC
ENAC
Dipartimento Sicurezza
Area Regolamentazione Sicurezza
Servizio Manutenzione e Produzione
Via di Villa Ricotti 42
00161 Roma, Italy
Phone: +39 06 44185361
Fax: +39 06 44185420
E-mail: a.burtone@enac.rupa.it
www.enac-italia.it

Japan – CAB
Chief, Engineering Section
Airworthiness Division
Engineering Department
Civil Aviation Bureau
Ministry of Land, Infrastructure and Transport
2-1-3, Kasumigaseki
Chiyoda-ku
Tokyo, Japan 100-8918
Phone: +81 3 5253 8735
Fax: +81 3 5253 1661
www.mlit.go.jp/koku/english/09_data/07_airworthiness.html

Lithuania – CAA
Rodunios kelias 2
LT-02188 Vilnius
Lithuania
Phone: + 370 5 273 90 38
Fax: + 370 5 273 92 37
E-mail: caa@caa.lt
www.caa.lt/en.php

Netherlands –
CAANL Servicecentrum Uitgevers
PO Box 20025
2500 EA Den Haag
The Netherlands
Phone: +31 70 378 98 80
Fax: +31 70 378 97 83
E-mail: info@sdu.nl

New Zealand – CAANZ
Allens Stationery Centre Ltd
PO Box 30-464
Ground Floor
20 Daly Street
Lower Hutt
New Zealand
Phone: +64 4 570 0355
Fax: +64 4 570 1299
www.caa.govt.nz

Poland – CAO
Civil Aviation Office
Urząd Lotnictwa Cywilnego
ul. Żelazna 59
00-848 Warszawa
E-mail: kancelaria@ulc.gov.pl
www.ulc.gov.pl

Polish ADs are provided to foreign operators by the manufacturers of the products. Operators of UK Registered Polish aircraft should contact the appropriate organisations to be added to their mailing lists.

Romania – CAA
Autoritatea Aeronautica Civila Romana
Soseaua Bucuresti – Ploiesti Km. 16.5
Sector 1, Cod 71950
Bucuresti (Otopeni Int'l Airport)
Romania
Phone: +401 203 2729
Fax: +401 203 2763

Serbia – CAD
Civil Aviation Directorate
Omladinskih Brigada1
11070 New Belgrade, Serbia
Phone: +381 11 311 73 47
Fax: +381 11 311 75 79
E-mail: dgca@cad.gov.yu
www.cad.gov.yu

Spain – DGAC
Direccion General de Aviacion Civil
Subdireccion General del Control de Transporte Aereo directivaser
Area de Inspeccion y Seguridad en Vuelo
Paseo de la Castellana 67
28071 Madrid
Spain
Attn: D. José Antonio Basáñez
E-mail: jabasanez@mfom.es
Phone: +34 91 597 88 59
Fax: +34 91 597 85 84
www.fomento.es/MFOM/LANG_EN/DIRECCIONES_GENERALES/AVIACION_CIVIL/AERONAVES/CERTIFICACION/DIRECTIVAS_AERONAVEGABILIDAD/

Sweden – LfV
Swedish Civil Aviation Administration
SE-601 79 Norrköping
Sweden
Phone: +46 11 192000
Fax: +46 11 192680
www.luftfartsstyrelsen.se/templates/LS_InfoSida_70_30____35886.aspx

Switzerland – FOCA
Federal Office for Civil Aviation
Type Certification (MZ)
Airworthiness Directives
Maulbeerstrasse 9
CH-3003 Berne
8 Switzerland
Phone: +41 31 325 9780
Fax: +41 31 322 5918
www.bazl.admin.ch/fachleute/lufttechnik/entwicklung/00656/index.html?lang=en

United Kingdom - CAA
United Kingdom Civil Aviation Authority
Policy and Standards Department
Safety Regulation Group
Aviation House
Gatwick Airport South
West Sussex RH6 0YR
Telephone: +44 (0) 1293 573150 or 573238
Fax: +44 (0) 1293 573993
E-mail: ad.unit@caa.co.uk
www.caa.co.uk/ads

United States of America - FAA
Federal Aviation Administration
Airworthiness Programs Branch, AFS-610
PO Box 26460
Oklahoma City, OK 73125
Phone: (405) 954-4103
Fax: (405) 954-4104
www.airweb.faa.gov

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Section 2 EASA Aircraft

Part 1 Introduction

- 1 The information presented in this Section applies to EASA aircraft. For information on the classification of aircraft as EASA or Non-EASA, see Section 1 of this CAP 747.
- 2 The categories of requirements that must be complied with by EASA aircraft registered in the UK (and the engines, propellers, parts and appliances installed on those aircraft) are specified in Section 1, Part 1 of CAP 747, which references this Section 2.
- 3 This Section 2 contains:
 - a) State of Design Airworthiness Directives not published elsewhere.
 - b) EASA Airworthiness Directives for aircraft, engines, propellers, parts and appliances designed in the UK; and references to UK requirements issued before September 2004 for products of UK-design.
 - c) EASA Airworthiness Directives for products, parts and appliances designed outside the EU.
 - d) Requirements notified by the CAA under the provisions of Article 14.1 of Regulation (EC) No. 216/2008.

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Part 2 Airworthiness Directives and Mandatory Information issued by States of Design

1 Published Data

- 1.1 The full text of State of Design Airworthiness Directives may be obtained from the National Aviation Authorities of the States of Design.
- 1.2 For information applicable to products designed in the UK, see Section 2, Part 3A. For State of Design data for products of other nations a contact list of National Aviation Authorities is provided in Section 1, Part 3 of this CAP 747.
- 1.3 EASA became responsible for State of Design action on behalf of EU states in September 2003. The "State of Design" Airworthiness Directives for EU products issued after September 2003 are the EASA ADs published since that date.

2 State of Design Airworthiness Directives not published elsewhere

When a State of Design issues an Airworthiness Directive or other mandatory airworthiness information, it is obliged under the International Convention on Civil Aviation to notify all other ICAO Member States. Where the CAA receives such notification from a State of Design that is not listed in Section 1, Part 3 of this CAP 747, the CAA publishes the data in full here.

Aircraft

None at present.

Engines

None at present.

Propellers

None at present.

Equipment

None at present.

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Aircraft

None at present.

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Engines

None at present.

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Propellers

None at present.

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Equipment

None at present.

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Part 3 Airworthiness Directives issued by EASA

- 1 Airworthiness Directives approved by EASA may be found on the EASA website at <http://ad.easa.eu.int/>
- 2 The texts of Airworthiness Directives issued by EASA for products and equipment designed in the UK are provided in Part 3A of this Section 2 of CAP 747.
- 3 The texts of Airworthiness Directives issued by EASA for products and equipment designed in other EU States may be obtained from EASA or from the National Aviation Authorities of those States. A contact list of National Aviation Authorities is provided in Section 1, Part 3 of CAP 747.
- 4 The texts of Airworthiness Directives issued by EASA for products and equipment designed outside the EU are provided in Part 3B of this Section 2 of CAP 747.

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Part 3A **Airworthiness Directives issued by EASA for products and equipment designed in the UK**

- 1 For products of UK design the mandatory information of the State of Design issued prior to 28 September 2004 is published in CAP 476 and remains in force. Mandatory information issued after 28 September 2003 for products of UK design is published as Airworthiness Directives approved by EASA.
- 2 The Airworthiness Directives approved by EASA for products and equipment of UK design are listed below and supplied in full on the following pages.
- 3 Details of the Airworthiness Directives cancelled or superseded from this Section can be found in Appendix 2 of CAP 747. Where a Mandatory Requirement published previously in CAP 476 is deleted, this is notified by amendment of Appendix 6 of CAP 747.

AD No. Applicability

Aircraft

G-2004-0012	Airbus UK Ltd: BAC One-Eleven
G-2004-0004	BAE Systems (Operations) Ltd: BAE 146
G-2005-0020	BAE Systems (Operations) Ltd: BAE 146
2006-0132	BAE Systems (Operations) Ltd: BAE 146
2006-0215	BAE Systems (Operations) Ltd: BAE 146
2008-0167	BAE Systems (Operations) Ltd: BAE 146
G-2005-0001	BAE Systems (Operations) Ltd: BAE 146 Series 100 and 200
G-2004-0006	BAE Systems (Operations) Ltd: Avro 146-RJ
G-2005-0009	BAE Systems (Operations) Ltd: Avro 146 RJ
G-2004-0031	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
G-2005-0014	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
G-2005-0017	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
G-2005-0018	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
G-2005-0026	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2006-0061 Cor.	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2006-0137	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2006-0138	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2006-0139	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2006-0342	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0058 Cor.	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0075	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0076	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0270 R1	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0277	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ

2007-0303	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0304	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0305	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2007-0307	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2008-0003	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2008-0092 R1	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2008-0168	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2008-0180	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2009-0014	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2009-0020	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2009-0046	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2009-0070	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
2009-0197	BAE Systems (Operations) Ltd: BAE 146 and Avro 146-RJ
G-2004-0002	BAE Systems (Operations) Ltd: HS.748
2008-0125	BAE Systems (Operations) Ltd: HS.748
G-2004-0001	BAE Systems (Operations) Ltd: British Aerospace ATP
2009-0053	BAE Systems (Operations) Ltd: British Aerospace ATP
2009-0074	BAE Systems (Operations) Ltd: British Aerospace ATP
G-2005-0012	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
G-2005-0024	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
G-2006-0003	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2006-0087	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2006-0128	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2006-0343	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2007-0087	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2008-0037	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2009-0135	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200
2009-0181	BAE Systems (Operations) Ltd: Handley Page HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200

G-2004-0018	BAE Systems (Operations) Ltd: British Aerospace Regional Aircraft Jetstream Series 3100
2006-0341	BAE Systems (Operations) Ltd: Jetstream Series 3100
G-2004-0017	BAE Systems (Operations) Ltd: British Aerospace Regional Aircraft Jetstream Series 3200
2007-0074	BAE Systems (Operations) Ltd: British Aerospace Regional Aircraft Jetstream Series 3200
G-2005-0006	BAE Systems (Operations) Ltd: Jetstream 4100
G-2005-0022	BAE Systems (Operations) Ltd: Jetstream 4100
2006-0131	BAE Systems (Operations) Ltd: Jetstream 4100
2007-0056	BAE Systems (Operations) Ltd: Jetstream 4100
2008-0036	BAE Systems (Operations) Ltd: Jetstream 4100
2008-0040	BAE Systems (Operations) Ltd: Jetstream 4100
2008-0041	BAE Systems (Operations) Ltd: Jetstream 4100
2009-0038	BAE Systems (Operations) Ltd: Jetstream 4100
2009-0052	BAE Systems (Operations) Ltd: Jetstream 4100
G-2004-0011	B-N Group Ltd: BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series
G-2004-0014 R1	B-N Group Ltd: BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series
G-2003-0012	B-N Group Ltd: BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series; BN2A-MkIII Trislander Series
G-2003-0013	B-N Group Ltd: BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series; BN2A-MkIII Trislander Series
2006-0143	B-N Group Ltd: BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series; BN2A-MkIII Trislander Series
2009-0105	Britten Norman Aircraft Ltd: BN2A, BN2T Islander Series
G-2005-0030	De-Havilland Support Ltd: Beagle B.121 (all variants)
2007-0013	Short Brothers plc: SC7 Skyvan Series 3, 3A and 3M
G-2004-0005 Cor.	Short Brothers plc: SD3-60
G-2006-0001	Short Brothers plc: SD3-60
2007-0107	Short Brothers plc: SD3-60
2006-0198	Short Brothers plc: SD3-30, SD3-60, SD3 Sherpa, SD3-60 Sherpa
2007-0039	Short Brothers plc: SD3-30, SD3-60, SD3 Sherpa, SD3-60 Sherpa
G-2004-0022	Short Brothers plc: SD3-60, SD3-Sherpa, SD3-60 Sherpa
2009-0013	Slingsby Advanced Composites Ltd: T67
G-2005-0004	Slingsby Aviation Ltd: T67
G-2005-0032	Slingsby Aviation Ltd: T67A
G-2004-0013	Slingsby Aviation Ltd: T67A, T67B, T67C Series, T67M, T67M-MkII, T67M200, T67M260 and T67M260-T3A

Engines

G-2003-0006 Cor.	Rolls-Royce plc: RB211-22B
G-2005-0003	Rolls-Royce plc: RB211-22B
2006-0181	Rolls-Royce plc: RB211-22B
2007-0310 R1	Rolls-Royce plc: RB211-22B and -524
G-2003-0009 Cor.	Rolls-Royce plc: RB211-524
G-2003-0011	Rolls-Royce plc: RB211-524
G-2005-0008	Rolls-Royce plc: RB211-524
G-2006-0002 Cor.	Rolls-Royce plc: RB211-524
2006-0180	Rolls-Royce plc: RB211-524
2009-0083	Rolls-Royce plc: RB211-524
2009-0089 Cor.	Rolls-Royce plc: RB211-524
2008-0176	Rolls-Royce plc: RB211-524 and -535
G-2005-0028 R1	Rolls-Royce plc: RB211-524, RB211-535E4, RB211-535C
2009-0073 R1	Rolls-Royce plc: RB211-524, Trent 500, 700, 800 Series
G-2003-0007 Cor.	Rolls-Royce plc: RB211-535
G-2004-0027	Rolls-Royce plc: RB211-535
2006-0182	Rolls-Royce plc: RB211-535
G-2003-0005 Cor.	Rolls-Royce plc: RB211 Trent 500
G-2005-0007 R1 Cor.	Rolls-Royce plc: RB211 Trent 500
2008-0042	Rolls-Royce plc: RB211 Trent 500
2008-0098	Rolls-Royce plc: RB211 Trent 500
2008-0109 R1	Rolls-Royce plc: RB211 Trent 500
2009-0103	Rolls-Royce plc: RB211 Trent 500
2005-0025	Rolls-Royce plc: RB211 Trent 500, 700, 800 Series
2007-0052 Cor.	Rolls-Royce plc: RB211 Trent 500, 700, 800 Series
G-2003-0001	Rolls-Royce plc: RB211 Trent 556-61
G-2003-0004 Cor.	Rolls-Royce plc: RB211 Trent 700
2007-0136 R1	Rolls-Royce plc: RB211 Trent 700
2009-0021 Cor.	Rolls-Royce plc: RB211 Trent 700 and 800 Series
2009-0187 R1	Rolls-Royce plc: RB211 Trent 700 and 800, RB211-524 and -535 Series
G-2004-0025	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60
2007-0206	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60
2006-0116	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60, 772C-60
2007-0201	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60, 772C-60
2007-0202 Cor.	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60, 772C-60

2007-0260 R1	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60, 772C-60
2009-0069	Rolls-Royce plc: RB211 Trent 768-60, 772-60, 772B-60, 772C-60
G-2003-0003 Cor.	Rolls-Royce plc: RB211 Trent 800
2007-0003 R1 Cor.	Rolls-Royce plc: RB211 Trent 800
2007-0004	Rolls-Royce plc: RB211 Trent 800
2008-0099 Cor.	Rolls-Royce plc: RB211 Trent 800
2009-0071 Cor.	Rolls-Royce plc: RB211 Trent 800
2009-0142	Rolls-Royce plc: RB211 Trent 800
G-2004-0008	Rolls-Royce plc: RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17
G-2004-0030	Rolls-Royce plc: RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17
2009-0051	Rolls-Royce plc: RB211 Trent 900
2007-0185	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 Turbo-shaft engines
2008-0024	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 Turbo-shaft engines
2008-0025 R1	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 Turbo-shaft engines
2008-0115 R1	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 and RTM 322-01/9A Turbo-shaft engines

Propellers

2006-0326	Dowty Propellers (Part of Smiths Aerospace Ltd) R321/4-82-F/8, R324/4-82-F/9, R333/4-82-F/12 and R334/4-82-F/13
2009-0147	Dowty Propellers (GE Aviation Systems Limited): R334/4-82-F/13
2008-0033	Dowty Propellers R354, R375, R389 and R390
2009-0005	Dowty Propellers R389 and R390
2007-0223 R2	Dowty Propellers R408 Series
2009-0114	Dowty Propellers (GE Aviation Systems Limited): R408/6-123-F/17

Equipment

2006-0264	Aviointeriors S.p.A: Passengers Seats, various Part Numbers, if equipped with a Rear Fitting Assembly having Part Numbers (P/N) 311889900017, 3121994E0017, 3118899C0017, 3121994A0017, 312199400017 or 3118899A0017
2008-0135	Aviointeriors S.p.A: Passengers Seats 12M () () - () () () () ()
2006-0241	Caledonian Airborne Systems CPT-600 Series/CPT-900 Series ADELTA and AD/AFELT
G-2008-0002	Cameron Balloons Ltd: CNL Fuel Cylinders which have a CB-0824-0001 Liquid Valve fitted
G-2004-0026	Cameron Balloons Ltd: Shadow/Shadow Stealth and Stratus - Triple and Quad Burners

G-2004-0028	Cameron Balloons Ltd: Solid Floor Baskets
2006-0375	Carling Technologies Inc: Rocker-type Switches, Part Number (P/N) TA201-(XX)-(X) Series
2008-0158 R2	Funkwerk Avionics GmbH: TRT600 Transponders
2008-0183	Funkwerk Avionics GmbH: TRT800A and TRT800H Transponders
2006-0269	Honeywell International Inc: MST 67A Mode 'S' Transponders
2008-0159	Honeywell International Inc: MST-67A Mode 'S' Transponders
2007-0156	Honeywell International Inc: Comm Units and Mode 'S' Transponders
2006-0286 R1	Intertechnique, Zodiac Aircraft Systems: Oxygen Reserve Cylinders
G-2008-0001	Lindstrand Balloons Ltd: Fuel Hoses
2006-0140 R4	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB; CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the applicability of this Directive
G-2003-0008	Mann Aviation Group (Engineering) Ltd: Camera System Installation
G-2004-0019	Mann Aviation Group (Engineering) Ltd: Camera System Installation
2006-0328	Messier Bugatti: Main Landing Gear (MLG) Wheel Assembly Part Numbers (P/N) C20500000 and P/N C20452000
2009-0100	Microturbo: SAPHIR 2 Auxiliary Power Units
2009-0200	Narco Avionics Inc: AT-150 Transponders
2007-0256	Pacific Scientific Company, HTL/KLN-TECH Division: Restraint Systems 2000029, 2000067, 2000115
2006-0220	Recaro Aircraft Seating: Models 3410, 3510 (A, B, C, D), 4400, 4420 and 6510
2009-0097	Rockwell Collins Inc: TDR-94 and TDR-94D Transponders
2009-0173	Rockwell Collins Inc: TDR-94 and TDR-94D Transponders
2008-0097	Sicma Aero Seat: Model 940() Series Passenger Seats
2008-0174	SPEKON Sächsische Spezialkonfektionen GmbH RE-5L Emergency Parachutes
2006-0334 R1	Thales Communications: VHF Data Radio, Part Numbers (P/N) EVR716-11-0300A, EVR716-11-0350A, EVR716-01-0100A, EVR716-01-0200A, EVR750-03-0100A
2006-0265	Various Aircraft: Mode 'C' and Mode 'S' Transponder Systems utilising Gilham code altitude input

Aircraft



**United Kingdom
Civil Aviation Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0012

Issue Date: 21 June 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 on 2004-6418 on 16 June 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:

Type/Model Designation(s):

AIRBUS UK LTD

BAC ONE-ELEVEN

Type Certificate Data Sheet No: BA3 applicable to 475 and 500 Series.

Superseded/ Revised ADs: None

ATA 28 – FUEL SYSTEM – REVISED OPERATING LIMITATIONS AND MAINTENANCE PRACTICES

Manufacturer(s): British Aircraft Corporation Ltd, British Aircraft Corporation (Operations) Ltd, British Aerospace Ltd, I.Av.B. (Intreprinderea De Avioane Bucuresti)/Romaero under licence from British Aerospace Ltd.

Applicability: Model BAC One-Eleven 200, 300, 400, 475 and 500 Series aeroplanes, certificated in any category.

Reason: Airbus UK has completed their review of the BAC One-Eleven fuel system required by SFAR 88 and CAA Airworthiness Notice 55. Following the review, Airbus UK has made application to the CAA for partial exemption from the full provisions of the Airworthiness Notice. A number of specific changes to operating and maintenance procedures are required to enhance safety and maintain the continued airworthiness of the BAC One-Eleven fleet.

Effective Date: 8 July 2004

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Compliance/Action: Within 3 months after the effective date of this Airworthiness Directive (AD), accomplish the following tasks in accordance with paragraphs a, b and c of this AD:

- a) Insert in the approved BAC One-Eleven Aircraft Flight Manual the applicable Flight Manual Amendment specified in Table 2 of Airbus UK Alert Service Bulletin (ASB) 28-A-PM6057, dated 10 May 2004 or later EASA approved revision.
- b) Perform the maintenance tasks at the initial and repeat intervals specified in Table 1 of Airbus UK Alert Service Bulletin 28-A-PM6057, or later EASA approved revision. For aircraft operating less than 1250 hours per year accomplish the maintenance tasks at the intervals specified in ASB 28-A-PM6057 Table 1 column 2 or column 3, whichever occurs earlier.
- c) Revise the Master Minimum Equipment List to incorporate BAC One-Eleven CAA Master Minimum Equipment List revision 4, dated 1 March 2004.

Note: Full compliance with Airbus UK BAC One-Eleven Alert Service Bulletin 28-A-PM6057 is necessary in order to fulfil the conditions associated with of the partial exemption granted to the Type Certificate Holder against JAA Fuel Tank Safety policy letter, reference 04/00/02/07/03-L024, dated 03 February 2003. Owners/Operators are also reminded that any defects identified as a result of the inspections required by the ASB should be reported to the Type Certificate Holder.

Reference Publications: Alert Service Bulletin 28-A-PM6057 may be obtained from Mr. M Stanbrook, BAC 1-11 Customer Support Department, Airbus UK Limited, New Filton House, Filton, Bristol BS99 7AR, United Kingdom.

The One-Eleven CAA MMEL can be downloaded in PDF format from the CAA Internet Site at <http://www.caa.co.uk/publications>.

Remarks: Enquires regarding this proposed Airworthiness Directive should be referred to Mr. N Williams, Civil Aviation Authority, Certification and Approvals Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573292 Fax: +44 (0)1293 573976, e-mail neil.williams@srg.caa.co.uk



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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LTD

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



**United Kingdom
Civil Aviation
Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0020

Issue Date: 6 July 2005

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 2005-6047 on 6 July 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LTD

BAE 146

Type Certificate Data Sheet No: BA16

Superseded ADs: 002-09-84 and 009-12-1987

ATA 53 – FUSELAGE – INSPECTION

Manufacturer(s): British Aerospace plc, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd.

Applicability: All model BAe 146 series aeroplanes with modification HCM00301A or B embodied and without modification HCM01698A (SB. 53-162-01698A Protective Tape and Sealant).

Reason: Chafing had been reported along the seal/fuselage contact area under wing to fuselage fairing access panels on both sides of the fuselage. Inspection of these areas in accordance with BAE Systems (Operation) Ltd Service Bulletins ISB 53-005 and ISB 53-067 were originally mandated by AD 002-09-84 and 009-12-87. In order to ensure the continued airworthiness for life extension it was necessary to review the corrective actions required by AD 002-09-84 and 009-12-87. As a result of this review it has been determined that these service bulletins needed to be revised to assure the continued structural integrity of the fuselage. This AD supersedes both AD 002-09-84 and 009-12-87 and mandates the repetitive inspections set out in the revised service bulletins.

Effective Date: 29 July 2005

Compliance/Action:

- A) For aircraft not previously inspected in accordance with BAE Systems Operations Ltd Service Bulletin ISB 53-005 and/or ISB 53-067, prior to the accumulation of 1000 landings since new, or 500 landings from the effective date of this AD, whichever occurs later perform the inspection detailed in BAE Systems Operations Ltd Service Bulletin ISB 53-005 rev 2 and ISB 53-067 rev 3 or later EASA approved revisions.
- B) For aircraft previously inspected in accordance with BAE Systems Operations Ltd Service Bulletin ISB 53-005 and ISB 53-067, prior to the accumulation of 4000 landings since the last inspection, perform the inspections detailed in BAE Systems Operations Ltd Service Bulletin ISB 53-005 rev 2 and ISB 53-067 rev 3 or later EASA approved revisions.

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- C) Thereafter, repeat the inspections detailed in BAE Systems Operations Ltd Service Bulletin ISB 53-005 rev 2 and ISB 53-067 rev 3 or later EASA approved revisions within 4000 landings since the last inspection in accordance with this AD.


Note: Any damage revealed as a result of the inspections required by this AD must be assessed in accordance with BAE Systems Operations Ltd Service Bulletin ISB 53-005 rev 2 and ISB 53-067 rev 3 or later EASA approved revisions prior to further flight.

Reference Publications: BAE Systems (Operations) Ltd Service Bulletins may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, 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 Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	AD No. : 2006 - 0132 Date: 18 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): BAe 146 (All Series)
TCDS Number : UK BA16	
Foreign AD : None	
Supersedure : None	
ATA 24	Electrical Systems – Inspection of Three-Phase Circuit Breakers
Manufacturer(s):	British Aerospace plc, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd.
Applicability:	All BAe 146 series aircraft.
Reason:	<p>Investigation into the cause of overheating of three-phase circuit breakers, used at various locations throughout the aircraft (but predominantly in the under floor electrical bay and the flightdeck), has identified a possible age related deterioration of the units. Failure of a circuit breaker will result in the generation of smoke or flames, and prevent the electrical load from being isolated from its electrical supply. The likelihood of an event, the subsequent; adverse operating conditions, reduced functional capability and potential for fire are unsafe conditions and generate the need for mandatory action.</p> <p>Inspection SB 24-141 has therefore been prepared to inspect all three-phase circuit breakers and wiring for cracking, discoloration, corrosion, security or burning. The bulletin is a one-time inspection targeted at aircraft, which are considered to be most at risk from an age related defect.</p>
Effective Date:	01 June 2006

Compliance:	<p>Within 12 months from the effective date of this Airworthiness Directive inspect and test all three-phase circuit breakers, terminal leads, wire looming and circuit breaker panels in accordance with Paragraph 2.C. of Service Bulletin 24-141 Revision 0 or later approved revision.</p> <p>Rectify any damage found and replace unserviceable units prior to further flight.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Limited Service Bulletin 24-141 Original issue or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 06-088 for consultation on 05 April 2006 with a comment period until 01 May 2006. No comment was raised during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006 - 0215 Date: 14 July 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s) : BAe 146 (All Series)
TCDS Number : UK BA16	
Foreign AD : None	
Supersedure : None	
ATA 53	Fuselage – Inspection of Longerons at Rib '0'
Manufacturer(s):	British Aerospace plc, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd.
Applicability:	All BAe 146 series aircraft.
Reason:	Cracking has been found on the centre fuselage top aft longeron at Rib '0' on an in-service aircraft. Subsequent investigation has indicated that the currently defined threshold and repeat inspection period must be reduced, and the area of inspection expanded for the BAe146 series 100 and 200. For the BAe146 series 300, only the repeat inspection period must be reduced, and the area of inspection expanded.
Effective Date:	31 July 2006
Compliance:	<p>The following measures are mandatory from the effective date of this AD:-</p> <p>(1) <u>All</u> BAe 146 Series 100 and BAe 146 Series 200 aircraft pre-mod HCM01709B or HCM01709C:-</p> <p>(a) For aircraft that have <u>not</u> been inspected in accordance with MRBR SSI/SII Task No.53-20-140A (MPD task 532040-SDI-10000-3) or ISB.53-173 Revision 1.</p>

	<p>Inspect and repair the forward six bolts in accordance with para.2.B of service bulletin 53-173 revision 2 prior to whichever condition occurs later:</p> <p>Accumulating 17000 total flights</p> <p>OR</p> <p>Within 500 flights, but not exceeding 24000 total flights.</p> <p>Inspect and repair the fasteners between the subframe and frame 30 in accordance with para.2.B of service bulletin 53-173 revision 2 prior to whichever condition occurs later:</p> <p>Accumulating 17000 total flights</p> <p>OR</p> <p>Within 4000 flights.</p> <p>Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 5000 flights for the forward six bolts and 11900 flights for fasteners between the subframe and frame 30, until the aircraft enters the Life Extension Programme (LEP).</p> <p>(b) For aircraft that <u>have</u> been inspected in accordance with MRBR SSI/SII Task No.53-20-140A (MPD task 532040-SDI-10000-3) or ISB.53-173 Revision 1.</p> <p>Inspect and repair the forward six bolts in accordance with para.2.B of service bulletin 53-173 revision 2 prior to whichever condition occurs later:</p> <p>Accumulating 5400 total flights since last inspection</p> <p>OR</p> <p>Within 500 flights, but not exceeding 12000 total flights.</p> <p>Inspect and repair the fasteners between the subframe and frame 30 in accordance with para.2.B of service bulletin 53-173 revision 2 within 4000 flights .</p> <p>Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 5000 flights for the forward six bolts and 11900 flights for fasteners between the subframe and frame 30, until the aircraft enters the LEP.</p> <p>(c) For aircraft that <u>have</u> had a replacement aft longeron installed, inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 prior to achieving 17000 flights following replacement.</p> <p>Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 5000 flights for the forward six bolts and 11900 flights for fasteners between the subframe and frame 30, until the aircraft enters the LEP.</p>
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NOTE: The threshold for an aircraft is reset if a replacement longeron is fitted.

(d) Where ISB 53-173 revision 1 has been accomplished, inspect the aircraft in accordance with para.2.B of service bulletin 53-173 revision 2, and do a high frequency eddy current inspection in accordance with Appendix 3 and a rotating eddy current inspection in accordance with NTM Part 6 20-00-03, within 4000 flights.

(2) BAe 146 Series 300 aircraft pre-mod HCM01709A:-

(a) For aircraft that have not been inspected in accordance with MRBR SSI/SII Task No.53-20-140A (MPD task 532040-SDI-10000-3) or ISB.53-173 Revision 1.

Inspect and repair the forward six bolts in accordance with para.2.B of service bulletin 53-173 revision 2 prior to accumulating 24000 flights.

Inspect and repair the fasteners between the subframe and frame 30 in accordance with para.2.B of service bulletin 53-173 revision 2 prior to whichever condition occurs later:

Accumulating 24000 total flights

OR

Within 4000 flights.

Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 4000 flights for the forward six bolts and 11900 flights for fasteners between the subframe and frame 30, until the aircraft enters the LEP.

(b) For aircraft that have been inspected in accordance with MRBR SSI/SII Task No.53-20-140A (MPD task 532040-SDI-10000-3) or ISB.53-173 Revision 1.

Inspect and repair the forward six bolts in accordance with para.2.B of service bulletin 53-173 revision 2 prior to whichever condition occurs later:


Accumulating 4000 total flights since last inspection

OR

Within 500 flights, but not exceeding 12000 flights.

Inspect and repair the fasteners between the subframe and frame 30 in accordance with para.2.B of service bulletin 53-173 revision 2, within 4000 flights.

	<p>Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 4000 flights for the forward six bolts and 11900 flights for fasteners between the subframe and frame 30, until the aircraft enters the LEP.</p> <p>(c) For aircraft that <u>have</u> had a replacement aft longeron installed, inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 prior to achieving 24000 flights following replacement.</p> <p>Thereafter inspect and repair in accordance with para.2.B of service bulletin 53-173 revision 2 at intervals not to exceed 4000 flights for the forward six bolts and 11900 flights for the fasteners between the subframe and frame 30, until the aircraft enters the LEP.</p> <p>NOTE: The threshold for an aircraft is reset if a replacement longeron is fitted.</p> <p>(d) Where ISB 53-173 revision 1 has been accomplished, inspect the aircraft in accordance with para.2.B of service bulletin 53-173 revision 2 and do a high frequency eddy current inspection in accordance with Appendix 3 and a rotating eddy current inspection in accordance with NTM Part 6 20-00-03, within 4000 flights.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Limited Inspection Service Bulletin 53-173 Rev 2 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 06-137 for consultation on 01 June 2006 with a comment period until 30 June 2006. No comment was received during consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704 E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0167</p> <p>Date: 02 September 2008</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>BAe 146 aircraft</p>
<p>TCDS Number: EASA.A.182</p>	
<p>Foreign AD: Not applicable</p>	
<p>Supersedure: None</p>	
ATA 55	Stabilisers – Horizontal Stabiliser Lower Skin & Joint Plates – 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 Series 100 and 200 aircraft, serial numbers as identified in BAE Systems (Operations) Limited Inspection Service Bulletin ISB.55-020.
Reason:	<p>BAE Systems (Operations) Ltd has determined that in order to assure the continued structural integrity of the horizontal stabilizer lower skin and joint plates in the rib 1 area of certain BAe 146 aircraft, a revised inspection programme for this area is considered necessary. The disbonding of joints can lead to corrosion which, if undetected, could result in degradation of the structural integrity of the horizontal stabilizer.</p> <p>For the reasons described above, this EASA AD requires the implementation of repetitive inspections and corrective actions, depending on findings. It also provides an approved repair as optional terminating action for the repetitive inspections.</p>
Effective Date:	16 September 2008

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 6 months after the effective date of this AD, inspect the horizontal stabilizer lower skin and joint plates in accordance with paragraphs 2.C.(1) through 2.C.(3) of BAE Systems (Operations) Limited ISB.55-020 (the ISB) and, if no damage is found, drill and ream four holes in accordance with paragraph 2.C.(4)(a) of the ISB and inspect the holes in accordance with paragraph 2.C.(4)(b) of the ISB. <ol style="list-style-type: none"> (a) If distortion or corrosion is found in the rivet holes, before further flight, contact BAE Systems (address indicated in the Remarks section of this AD) for approved repair instructions, to be accomplished prior to the fitment of the rivets. (b) If no distortion or corrosion is found, before next flight, install the four rivets in accordance with paragraph 2.C.(4)(c) of the ISB. (2) Thereafter, at intervals not exceeding 24 months, repeat the inspection in accordance with paragraphs 2.C.(1) through 2.C.(3) of the ISB. (3) If damage is found during any inspection as required by this AD, before next flight, contact BAE Systems in accordance with paragraph 2.C.(5) of the ISB and accomplish an approved repair in accordance with paragraph 2.C.(6) of the ISB. (4) After accomplishment of the repair in accordance with BAE Systems Repair Information Leaflet (RIL) HC551H9061 (at issue 2 or higher) on the left and right sides of the horizontal stabilizer, the repetitive inspections of paragraph (2) of this AD are no longer required.
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.55-020 Initial Issue dated 11 December 2007.</p> <p>BAE Systems Repair Information Leaflet (RIL) HC551H9061, issue 2 dated 16 November 2007, or issue 3 dated 31 January 2008.</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. This AD was posted on 28 July 2008 as PAD 08-085 for consultation until 25 August 2008. The Comment Response Document can be found at http://ad.easa.europa.eu. 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



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0001

Issue Date: 12 January 2005

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 2005-312 on 6 January 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 SERIES 100 AND 200

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 5 – TIME LIMITS – LANDING GEAR – RETIREMENT LIVES

Manufacturer(s): British Aerospace Plc, British Aerospace Regional Aircraft Ltd and British Aerospace (Commercial Aircraft) Ltd.

Applicability: All Model BAe 146 Series 100 and 200 aeroplanes.

Reason: Chapter 5, of the BAe 146 Aircraft Maintenance Manual at Revision 80, contains incorrect safe life information for nose landing gear assemblies Part/Type Numbers 200876001 and 200876003. Operation beyond the approved safe-life limit may result in development of fatigue cracks in the main fitting of the Nose Landing Gear (NLG), which could lead to sudden failure of the fitting and a hazardous NLG collapse, loss of directional control on the ground, hydraulic leaks and major structural damage.

Effective Date: 31 January 2005

Compliance/Action:

- a) Within 30 days of the effective date of this AD, confirm the part number of the NLG main fitting in accordance with to BAE Systems (Operations) Service Bulletin ISB.32-169, initial issue or later EASA approved revision.
- b) For NLG fitting sub assemblies listed in BAE Systems (Operations) Service Bulletin ISB 32-169, initial issue or later EASA approved revision, replace the NLG with a unit modified in accordance with Paragraph D of the service bulletin, prior to the thresholds stated below:

Remove the NLG from service prior to exceeding either (i) 8000 landings since last overhaul, or (ii) 35,000 landings since new, or iii) within the next 500 landings after the effective date of this AD if this occurs later than either (i) or (ii).

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Reference Publications: BAE Systems (Operations) Service Bulletin ISB.32-169 may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, 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 Directive should be referred to Mr R Minter, Civil Aviation Authority, Structures and Materials Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573535 Facsimile: +44 (0) 1293 573855 E-mail: richard.minter@srg.caa.co.uk



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0006

Issue Date: 2 March 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 2004-1698 on 26 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LTD

AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 34 – NAVIGATION - VHF NAVIGATION SYSTEM - TO INTRODUCE DISTANCE BEARING INDICATOR PART NO. 63543-280-2 - CORRECTION OF TRANSFORMER FAULT ON DISTANCE BEARING INDICATOR PART NO. 63543-280-1

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

Applicability: Model AVRO 146-RJ Series RJ70, RJ85 and RJ100 aeroplanes certificated in any category, fitted with Thales Avionics Distance Bearing Indicator (DBI) - part number 63543-280-1 with serial numbers 3084, 3171, 3442, 3443, 3485 to 3488, 3504, 3505, 3518 to 3521, 3528 to 3531, 3544 to 3547, 3551 to 3554, 3576, 3577, 3602 to 3605, 3624 to 3627, 3664, 3665, 3672, 3673, 3686, 3687, 3697 to 3700, 3717 to 3719, 3762 to 3765, 3787 to 3790, 3830 to 3833, 3858 to 3861, 3901, 3902, 3912 to 3915, 3955 to 3958, 3986 to 3989, 4017 to 4020, 4042 to 4045, 4070, 4071, 4099 to 4104, 4137 and 4138.

Reason: A manufacturing fault with the DBI PSU transformer could result in the propagation of the aircraft 115V AC input power supply through the instrument onto the DBI ARINC 429 Input/Output interfaces. An analysis of this failure concluded that at the aircraft level the failure effect could be loss of all aircraft primary navigation instruments.

Effective Date: 16 March 2004

Compliance/Action: Within four months after the effective date of this Airworthiness Directive, determine the part number and serial number of the Thales Distance Bearing Indicator installed, in accordance with BAE Systems (Operations) Service Bulletin SB 34-371-70671A dated 19 September 2003 or later CAA approved revision. If identified in the applicability above remove from the aeroplane and replace with a modified Thales Distance Bearing Indicator, part number 63543-280-2, or part number 63543-280-1 with a serial number not listed in the applicability above, or another approved Distance Bearing Indicator, in accordance with BAE Systems (Operations) Service Bulletin SB 34-371-70671A dated 19 September 2003 or later CAA approved revision.

Reference Publications: BAE Systems (Operations) Service Bulletin SB 34-371-70671A dated 19 September 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@src.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0009

Issue Date: 9 March 2005

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 2005-2100 on 3 March 2005.

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:

Type/Model Designation(s):

BRITISH AEROSPACE (OPERATIONS) LTD

AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 53 - FUSELAGE– CENTRE FUSELAGE SKIN – INSPECTION

Manufacturer(s): British Aerospace Regional Aircraft Ltd, British Aerospace (Operations) Ltd, BAE Systems (Operations) Ltd, British Aerospace (Commercial Aircraft) Ltd, British Aerospace Regional Aircraft Avro International Aerospace.

Applicability: Model AVRO 146-RJ all Series aeroplanes.

Reason: The manufacturer has determined that in order to assure the continued structural integrity of the fuselage skin adjacent to the rib 0 longeron between frames 29 to 31 of the AVRO 146-RJ aircraft a revised inspection programme for this area is considered necessary. Cracking if undetected could lead to catastrophic structural failure. This AD mandates revised inspection tasks and periods, and provides acceptable grace periods for aircraft that are approaching, or have exceeded the new inspection thresholds.

Effective Date: 29 April 2005

Compliance/Action:

- a) Within 30 days from the effective date of this AD, establish from the aircraft's technical records whether the aircraft has previously been inspected in accordance with British Aerospace (Operations) Ltd Avro 146-RJ Maintenance Review Board Report (MRBR) Issue 10 Task SSI 53-20-138 (Maintenance Planning Document Task References 532038DVI-DVI-10000-1 and 532038-DVI-10000-2).
- b) If the inspection has not been previously accomplished, perform a Detailed Visual Inspection of the external fuselage skin adjacent to the longeron at rib 0 from frame 29 to frame 31 in accordance with British Systems (Operations) Service Bulletin ISB 53-177, initial issue or later EASA approved revision at the intervals stated below:
 - i) For aircraft that have accumulated less than 22,000 flight cycles, perform the inspection prior to the accumulation of 22,000 flight cycles or within six months of the effective date of this AD whichever occurs later.
 - ii) For aircraft that have exceeded 22,000 flight cycles perform the inspection prior to accumulation of 24,000 flight cycles or within six months of the effective date of this AD whichever occurs sooner.

AD No: G-2005-0009

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- c) Following accomplishment of the initial inspection in accordance with MRBR Task SSI 53-20-138 or Paragraph B of this AD, perform all repeat inspections at the interval specified in British Systems (Operations) BAe146 MRBR issue 10 or later EASA approved revision.

Note: This AD supersedes the requirements of AD 008-04-83 Revision 1 for the initial accomplishment of MRBR Task SSI 53-20-138 only, all other limitations continue to apply.

Reference Publications: BAE Systems (Operations) Service Bulletin ISB 53-177 may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Phone: +44 (0) 1292 675207 Fax: +44 (0) 1292 675704 E-mail: Rapublications@baesystems.com

Remarks: Enquiries regarding this Directive should be referred to Mr. R Minter, Civil Aviation Authority, Structures and Materials Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573535 Fax: +44 (0) 1293 573855 E-mail: richard.minter@srg.caa.co.uk



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0031

Issue Date: 22 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 2004-12208 on 14 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 AND AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Supersedes AD: G-2004-0007

ATA 49 - AUXILIARY POWER UNIT - INTRODUCTION OF INSULATION BLANKETS AND EXHAUST DRAIN BLANK TO THE SUNDSTRAND APU EXHAUST

Manufacturer(s): British Aerospace plc, British (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Avro International Aerospace.

Applicability: All BAe 146 and AVRO 146-RJ series aircraft with Sundstrand APU installed (Modification HCM30373A) or Sundstrand APU installed with optional duct (Modification HCM30373A and HCM36166C).

Reason: APU exhaust duct temperatures within the ECS bay have been found to be higher than the certificated maximum. The ECS bay is not a designated fire zone hence there is no fire detection or suppression system and ventilation airflow around the APU exhaust is low.

As fuel and hydraulic pipe work pass through the ECS bay a risk of flammable fluid ignition exists if leaking fluid contacts the APU exhaust duct skin.

AD G-2004-0007 required incorporation of modification HCM36240A in accordance with Service Bulletin 49-068-36240A. In-service experience has indicated a problem with the thermal blanket retention method that could compromise the effectiveness of the blanket.

This AD requires the installation of an improved thermal blanket and retention method to address this unsafe condition.

Effective Date: 4 January 2005

Compliance/Action: Within six months of the effective date of this Airworthiness Directive, install modification HCM36244A that introduces insulation blankets and exhaust drain pipe blank to the Sundstrand APU exhaust in accordance with BAE Systems (Operations) Service Bulletin 49-072-36244A initial issue or later EASA approved revision.

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Reference Publications: BAE Systems (Operations) Service Bulletin SB 49-072-36244A at Initial Issue, 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 Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Fax: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0014

Issue Date: 31 May 2005

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 2005-4654 on 25 May 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 and AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 27- FLIGHT CONTROLS - REPLACEMENT OF ELEVATOR BEARINGS

Manufacturer(s): British Aerospace Systems (Regional Aircraft) Ltd, BAe Systems (Operations) Ltd, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Plc, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Ltd T/A Avro International Aerospace.

Applicability: All model BAe 146 and AVRO 146-RJ series aeroplanes.

Reason: Reported instances of flight control surface restrictions have been associated with the deterioration of control surface bearings. The current bearings are a "sealed-for-life" type with a light dust shield and have no provisions for re-greasing. Over time, the original lubrication is lost and moisture can enter the bearing assembly. This can be exacerbated by the use of pressure washing. This deterioration can lead to bearing corrosion and will eventually lead to control restrictions, particularly when moisture in the bearing freezes. This could result in a catastrophic event.

Effective Date: 30 June 2005

Compliance/Action: Replace the flight control system bearings detailed in Table 1 of this AD, in accordance with BAE Systems (Operations) Ltd Service Bulletin ISB.27-177 Initial Issue or later EASA approved revision, before 31 October 2006 or before each bearing achieves 8 years time in service, whichever occurs later.

Table 1

Bearings to be replaced	Applicable Service Information
Elevator Servo Tab Hinge Bearings	BAE Systems (Operations) Service Bulletin ISB.27-177 Para 2.B (2).
Elevator Servo Tab Mechanism Bearings	BAE Systems (Operations) Service Bulletin ISB.27-177 Para 2. B (3).
Elevator Trim Tab Hinge Bearings	BAE Systems (Operations) Service Bulletin ISB.27-177 Para 2. B (4).
Elevator Trim Tab Drive Rod Bearings	BAE Systems (Operations) Service Bulletin ISB.27-177 Para 2. B (5).

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Reference Publications: BAE Systems (Operations) Service Bulletins 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 Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk



**United Kingdom
Civil Aviation
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AIRWORTHINESS DIRECTIVE

AD No: G-2005-0017

Issue Date: 6 July 2005

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 2005-6050 on 6 July 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 AND AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 52 – MLG DOOR HINGES – INSPECTION/RECTIFICATION

Manufacturer(s): BAE Systems (Operations) Ltd, British Aerospace plc, British (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Trading As Avro International Aerospace.

Applicability: All Models BAe 146 and AVRO RJ series aeroplanes that have not been modified in accordance with BAe Systems Operations modification HCM01689A Inspection Service Bulletin 52-113 rev 1.

Reason: The Type Certificate Holder has received a number of recent in-service reports of Main Landing Gear door hinge bracket failures caused by stress corrosion of the bearing housing, accelerated by the subsequent expansion of the existing corrosion products. Hinge failure could result in door separation and represents a threat to the undercarriage systems and/or to those on the ground.

Effective Date: 29 July 2005

Compliance/Action: Within 12 months of the effective date of this AD, or prior to achieving 16 years from the date of construction, whichever is the later, for aircraft manufactured before the 1st March 1991, or within 2 years of the effective date of this AD for aircraft manufactured after 28th February 1991. Inspect the left and right main landing gear door hinge bracket assemblies in accordance with Paragraph 2C of BAE Systems (Operations) Service Bulletin 52-113 rev.1 or later EASA approved revision. Rectification where necessary must be performed in accordance with Paragraph 2D of BAE Systems (Operations) Service Bulletin 52-113 rev.1 or later EASA approved revision prior to further flight.

Reference Publications: BAE Systems (Operations) Service Bulletin ISB 52-113 may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 (0) 1292 675207 Fax: +44 (0) 1292 675704 E-mail: RApuplications@baesystems.com

Remarks: Enquiries regarding this Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0018

Issue Date: 20 July 2005

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 2005-6049 on 6 July 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 AND AVRO 146-RJ

Type Certificate Data Sheet No: BA16

| CORRECTION to AD No G-2005-0018 dated 6 July 2005 **Superseded AD: 002-05-2001**

ATA 57 – WING FLAP – INSPECTION

Manufacturer(s): BAE Systems (Operations) Ltd, British Aerospace plc, British (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Trading As Avro International Aerospace.

Applicability: All Models BAe 146 and AVRO RJ series aeroplanes.

Reason: This AD supersedes existing AD 002-05-2001 and introduces an improved means of performing inspections necessary to detect and correct corrosion of the flap structure and machined ribs. Failure to identify and correct corroded flap structure could lead to flap separation and reduced controllability of the aircraft.

Effective Date: 29 July 2005

Compliance/Action:

- A.) For aircraft not previously inspected in accordance with AD 002-05-2001, within 6 years from the date of manufacture of the aircraft (or flap), or within 2 years of the effective date of this AD, whichever occurs later, conduct a "flaps-off" inspection of the flaps structure and machined ribs for evidence of corrosion, and rectify any damage found, in accordance with BAE Systems (Operations) Service Bulletin 57-066 Revision 2 or later EASA approved revision.
- B.) If corrosion was detected during the initial inspection (carried out in accordance with paragraph A of this AD or superseded AD 002-05-2001) that extended into the boss bores, conduct a further "flaps-off" inspection of the flap structure and machined ribs for evidence of recurring corrosion. Do the inspection in accordance with BAE Systems (Operations) Service Bulletin 57-066 Revision 2 or later EASA approved revision between 2 years and 3 years after the initial inspection. Rectify any damage found either by component replacement or in accordance with a BAE Systems (Operations) approved repair scheme.

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C.) If corrosion was detected during the initial inspection (carried out in accordance with paragraph A of this AD or superseded AD 002-05-2001) that did not extend into the boss bores, conduct a "flaps-on" inspection of the flap structure and machined ribs for evidence of recurring corrosion. Do the inspection in accordance with BAE Systems (Operations) Service Bulletin 57-066 Revision 2 or later EASA approved revision between 2 years and 3 years after the initial inspection. Rectify any damage found either by component replacement or in accordance with a BAE Systems (Operations) approved repair scheme.

D.) Where the initial or subsequent inspection (carried out in accordance with either paragraph A, B, C of this AD or superseded AD 002-05-2001) confirms the absence of corrosion to the flap structure and machined ribs, no further action in accordance with this AD is required.

Reference Publications: BAE Systems (Operations) Service Bulletins may be obtained from Project Manager Group, Customer Information Department, BAE Systems (Operations) Ltd, 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 Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Fax: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk



**United Kingdom
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AIRWORTHINESS DIRECTIVE

AD No: G-2005-0026

Issue Date: 21 September 2005

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 2005-6198 on 24 August 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BAE 146 AND AVRO 146-RJ

Type Certificate Data Sheet No: BA16

Superseded/ Revised ADs: None

ATA 25- EQUIPMENT AND FURNISHINGS - INSTALLATION OF STRENGTHENED STRUCTURE FOR THE LEFT CONTROL CABLE DUCT AT FRAME 12 AND INSTALLATION OF A SUPPORT PLATE TO REINFORCE TOILET BULKHEAD STRUCTURE

Manufacturer(s): BAE Systems (Operations) Ltd, British Aerospace plc, British (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Trading As Avro International Aerospace

Applicability: All Models BAe 146 and AVRO 146-RJ series aeroplanes on which Service Bulletin 25-436-50303C has been installed.

Reason: Under certain conditions, if a Windscreen A Panel were to fail causing a rapid decompression and the flight deck door were in a closed position, the resultant differential pressure between the flight deck and cabin could result in deformation of the flight deck bulkhead at Frame 12 and the cable duct that is attached to it. This duct protects the primary flying control cables that run in this area and any deformation could result in the duct contacting these cables leading to restriction of the primary flying controls.

The work required to address the critical case involves the strengthening of the LH flying controls duct and re-qualification of the strength of the inboard partition of the 1L module.

Effective Date: 30 September 2005

Compliance/Action:

- A.) For aircraft on which Service Bulletin 25-436-50303C has been installed, before 30 June 2006, carry out the modification to control cable duct in accordance with Paragraph 2 – Part 1 of Service Bulletin 25-459-36241A Initial Issue or later EASA approved revision.
- B.) For aircraft on which Service Bulletin 25-436-50303C has been installed and which also have a toilet unit installed under modification HCM30033E or HCM30033F or HCM30033G or HCM30033N at the forward left position, before 30 June 2006, carry out the modifications to control cable duct and toilet bulkhead structure in accordance with Paragraph 2 – Part 1 and Part 2 of Service Bulletin 25-459-36241A Initial Issue or later EASA approved revision.


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Reference Publications: BAE SYSTEMS (Operations) Limited Service Bulletin 25-459-36241A, Initial Issue, 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 Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk

	<p>AD No : 2006-0061 – E</p> <p>[Corrected]</p> <p>Date: 17 March 2006</p>	
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>		
<p>Type Approval Holder's Name:</p> <p>BAE SYSTEMS (OPERATIONS) LTD</p>	<p>Type/Model designation(s):</p> <p>BAe 146 and AVRO 146-RJ (All series)</p>	
<p>TCDS Number : UK BA4 & BA16</p>		
<p>Foreign AD : - None</p>		
<p>Supersedure : None</p>		
<p>ATA 29</p>	<p>Hydraulic System – Removal from service of accumulators with suspect defect introduced at manufacture.</p>	
<p>Manufacturer(s):</p>	<p>BAE SYSTEMS (OPERATIONS) LTD.</p>	
<p>Applicability:</p>	<p>BAe 146 and AVRO 146-RJ (ALL SERIES)</p>	
<p>Reason:</p>	<p>[Correction: TCDS was BA15 is BA16]</p> <p>Following an in-service failure of a hydraulic accumulator, the manufacturer has identified two suspect batches of accumulator cylinders. Suspect hydraulic accumulators are identified in BAE Systems ISB29-A046. These accumulators may burst in service with the potential to cause a hazardous event on the aircraft, with an unacceptable probability of occurrence. Hazardous event being the resultant flight crew workload associated with the loss of one or more hydraulic circuits, combined with possible fuselage pressure vessel rupture and possible cabin contamination with hydraulic mist.</p>	
<p>Effective Date:</p>	<p>20 March 2006</p>	
<p>Compliance:</p>	<p>From the effective date of this AD, it is mandatory to comply with the requirements of BAe 146 series / Avro 146-RJ series aircraft ISB29-A046 - Removal from service of accumulators with suspect defect introduced at manufacture, at initial issue or later approved revisions. Note: The identification of suspect (batch number) accumulators must be accomplished within 48 hours of the effective date of the AD and where such an accumulator is identified it must be replaced or inspected within 48 hours of the effective date of the AD. Required inspections are mandated at 48 hour intervals thereafter, until terminated, as detailed in the Service Bulletin. Additionally:</p> <ol style="list-style-type: none"> 1. After 1 April 2006 only one suspect accumulator is allowed to be installed on an individual aircraft. 	


	2. Replace all suspect accumulators with serviceable units in accordance with BAe ISB29-A046 paragraph 2.D. not later than 31 May 2006.
Ref. Publications:	BAe 146 and AVRO 146-RJ Service Bulletin, ISB29-A046 initial issue or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be addressed to Mr M.Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.eu.int. 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport Ayshire, KA9 2RW, Scotland – (Ph: +44 1292 675207, Fax: +44 1292 675704) E-mail: Rapublications@baesystems.com.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No. : 2006 - 0137</p> <p>Date: 23 May 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD	BAe 146 and AVRO 146-RJ (All Series)
TCDS Number: UK BA16	
Foreign AD: None	
Supersedure: None	
ATA 32	Landing Gear – Nose Landing Gear- Introduction of a Revised Axle Spacer
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:	All Models BAe 146 and AVRO 146-RJ series aeroplanes.
Reason:	<p>The BAE146 nose wheel assembly abutment ring is manufactured with an internal chamfer on one side, so when correctly installed, the wheel clamping loads are not applied to the machined radius at the root of the stub axle. If installed incorrectly, i.e. the wrong way round, the abutment ring is displaced outboard from the correct position. This configuration allows the wheel to be installed but the wheel nut locking bolts will not be fully engaged. Normal operational forces can then act to cause the wheel nut to loosen and the wheel assembly to detach from the aircraft. In addition, the wheel clamping loads are applied to the stub axle radius, which may result in damage.</p> <p>The hazard to the aircraft and third parties due to wheel detachment is not adequately addressed by the probability of occurrence. It is therefore necessary to require corrective action.</p> <p>This Airworthiness Directive requires the replacement of the existing nose wheel abutment rings with revised nose wheel abutment rings that ensures that if during any subsequent wheel change, the abutment ring is fitted the wrong way round, the newly design abutment ring prevents the nose wheel retaining nut from engaging with the axle threads.</p>

	Note: BAE Systems Service Bulletin 32-174-70676A refers to the abutment ring as a spacer. AMM 32-42-17 401 identifies this part as an abutment ring (item 4). Item 3 of the AMM is identified as a spacer but this is not the part so described in the BAE SB.
Effective Date:	06 June 2006
Compliance:	After the effective date it is mandatory to modify the nose landing gear per SB 32-174-70676A Initial issue or later approved revision prior to 31 May 2007.
Ref. Publications:	BAE Systems Service Bulletin 32-174-70676A Initial issue or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD This AD was posted as PAD 06-091 for consultation on 06 April 2006 with a comment period until 01 May 2006. The Comment Response Document can be found at http://www.easa.eu.int/home/aw_dir_en.html. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No. : 2006 - 0138 Date: 23 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): BAe 146 and AVRO 146-RJ
TCDS Number : UK BA16	
Foreign AD: None	
Supersedure: None	
ATA 27	Flight Controls – Life Limitation of Lift Spoiler Actuators, Part Numbers P308-45-0002, P308-45-0102 and P308-45-0202
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:	All models BAe 146 and AVRO 146-RJ series aeroplanes.
Reason:	<p>The life limitation relating to the P308-45 series of lift spoiler jacks was originally qualified to 55,000 flight cycles and there is no new data to support an increase to this figure.</p> <p>The aircraft life is currently defined in Chapter 5 of the aircraft Maintenance Manual as 40,000, 43,000 or 50,000 cycles depending on variant. The life limit of the lift spoiler jack is not defined as this is in excess of the stated aircraft life.</p> <p>The lift spoiler jack life limitation has been reviewed as part of the BAe 146 and AVRO RJ aircraft (systems) Life Extension Programme. The lift spoiler actuator is most highly loaded at high flap angles with the aircraft operating near to the maximum permitted speed for that flap angle. The most likely flight phase for this failure to occur is therefore approach or take-off; the low altitude of these flight phases provides less time in which to safely control the increased roll rate. The unit life must remain at 55,000 cycles.</p> <p>A number of aircraft are approaching the applicable life limitation. Also, where accurate records are not available for individual units the calculated theoretical life may exceed 55,000 cycles. This has been determined as acceptable for the limited period defined within the AD compliance requirement.</p>


Effective Date:	06 June 2006
Compliance:	<p>After the effective date of this Airworthiness Directive</p> <p>a) Determine the life of each lift spoiler actuator/jack, part number P308-45-0002, P308-45-0102 or P308-45-0202, in accordance with Paragraph 1.D of Service Bulletin 27-178 Revision 0 or later approved revision.</p> <p>and</p> <p>b) Replace each lift spoiler actuator/jack part number P308-45-0002, P308-45-0102 or P308-45-0202, in accordance with Paragraph 2.A of Service Bulletin 27-178 Revision 0 or later approved revision prior to the part accumulating 55,000 flight cycles or before 1 September 2007, whichever occurs later.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Limited Service Bulletin 27-178 Revision 0 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 06-092 for consultation on 06 April 2006 with a comment period until 01 May 2006. The Comment Response Document can be found at http://www.easa.eu.int/home/aw_dir_en.html. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006 – 0139</p> <p>Date: 23 May 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD	BAe 146 and AVRO 146-RJ (All Series)
TCDS Number: UK BA16	
Foreign AD: None	
Supersedure: None	
ATA 27	Flight Controls – Inspection of Lift Spoiler Actuators
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:	All Models BAe 146 and AVRO 146-RJ series aeroplanes equipped with lift spoiler actuators P/N P308-45-0002 or P308-45-0102.
Reason:	<p>An aircraft on approach experienced an asymmetric uncommanded deployment of a lift spoiler that resulted in a roll rate that required significant control inputs. The failure was caused by corrosion at the thread where the eye-end was screwed into the piston of the lift spoiler actuator.</p> <p>The lift spoiler actuator is most highly loaded at high flap angles with the aircraft operating near to the maximum permitted speed for that flap angle. The most likely flight phase for this failure to occur is therefore approach or take-off; the low altitude of these flight phases provides less time in which to safely control the roll rate.</p>
Effective Date:	06 June 2006
Compliance:	a) After the effective date of this Airworthiness Directive, inspect the eye end assembly of aircraft lift spoiler actuators/jacks manufactured before 1 January 2000 or with Serial Numbers prefixed with DAWX or CSW for evidence of corrosion, damaged threads or thread fretting in accordance with Paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision. This inspection must be carried out at the earliest opportunity


	<p>and before 30 June 2006.</p> <p>Where lift spoiler jack eye-end assembly is found to have severe corrosion in accordance with paragraph 2.C of Service Bulletin 27-176 Revision 2 or later approved revision the unit must be replaced with a serviceable item prior to further flight.</p> <p>Where lift spoiler jack eye-end assembly is found to have light corrosion in accordance with paragraph 2.C of Service Bulletin 27-176 Revision 2 or later approved revision and is re-installed the unit must be re-inspected in accordance with paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision within 2 years.</p> <p>Where lift spoiler jack eye-end assembly is found to have no corrosion in accordance with paragraph 2.C. and is re-installed the unit must be re-inspected in accordance with paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision within 4 years.</p> <p>b) After the effective date of this Airworthiness Directive, inspect the eye end assembly of aircraft lift spoiler jacks manufactured after 31 December 1999, excluding units with Serial Numbers prefixed with DAWX or CSW, for evidence of corrosion, damaged threads or thread fretting in accordance with Paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision. This inspection must be carried out at the earliest opportunity and before 31 October 2006.</p> <p>Where lift spoiler jack eye-end assembly is found to have severe corrosion in accordance with paragraph 2.C of Service Bulletin 27-176 Revision 2 or later approved revision the unit must be replaced with a serviceable item prior to further flight.</p> <p>Where lift spoiler jack eye-end assembly is found to have light corrosion in accordance with paragraph 2.C of Service Bulletin 27-176 Revision 2 or later approved revision and is re-installed the unit must be re-inspected in accordance with paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision within 2 years.</p> <p>Where lift spoiler jack eye-end assembly is found to have no corrosion in accordance with paragraph 2.C of Service Bulletin 27-176 Revision 2 or later approved revision and is re-installed the unit must be re-inspected in accordance with paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision within 4 years.</p> <p>c) After the effective date of this Airworthiness Directive no lift spoiler jack may be installed on an aircraft without inspection for evidence of corrosion, damaged threads or thread fretting in accordance with Paragraph 2 of Service Bulletin 27-176 Revision 2 or later approved revision.</p> <p>d) Where the inspection requirements of Service Bulletin 27-176 original issue or revision 1 have been carried out this may be taken for compliance with the initial inspection requirements of this Airworthiness Directive. The repeat inspection requirements specified in paragraph (a) or (b) of this Airworthiness Directive must be applied from the date of initial inspection.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Limited Service Bulletin 27-176 Revision 2 or later approved revisions.

Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD.2. This AD was posted as PAD 06-089 for consultation on 05 April 2006 with a comment period until 01 May 2006. The Comment Response Document can be found at http://www.easa.eu.int/home/aw_dir_en_html.3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu.4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com
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EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 - 0342 Date: 09 November 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): BAe 146 and Avro 146-RJ
TCDS Number: UK BA16	
Foreign AD: None	
Supersedure: None	
ATA 25	Equipment & Furnishings - Flight Deck ECS Grilles – Introduction of Bolt Attachment
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:	All models BAe 146 and AVRO 146-RJ Series aeroplanes which have modification HCM00674A embodied.
Reason:	There are four ECS grilles located in the flight deck side consoles. There have been occurrences where a grille has become detached during flight. There is a risk that a loose grille could foul the rudder pedals and interfere with rudder/ brake control resulting in an unsafe condition.
Effective Date:	23 November 2006
Compliance:	Within six months of the effective date of this AD carry out the modification described in BAe Systems (Operations) Service Bulletin 25-495-60730A or later approved revision.
Ref. Publications:	BAe Systems (Operations) Limited Inspection Service Bulletin 25-495-60730A or later approved revision.


Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD.2. This AD was posted as PAD 06-232 for consultation on 05 October 2006 with a comment period until 03 November 2006. No comments were raised during the consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com
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EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0058 [Corrected: 02 March 2007] Date: 01 March 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE Systems (Operations) Ltd	BAe 146 and Avro 146-RJ
TCDS Number: United Kingdom No. BA 16	
Foreign AD: Not applicable	
Supersedure: This AD supersedes and cancels United Kingdom CAA AD 003-07-95.	
ATA 55	Stabilisers – Elevator Drain Holes – Modification
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 series aircraft, all serial numbers, unless previously modified per HCM01490A or HCM01490B or HCM01490C.
Reason:	<p>United Kingdom CAA AD 003-07-95 mandated the application of BAE Systems Service Bulletin SB 55-013-01490B which introduced a definitive standard of drain holes in the elevators. Since then, BAE Systems Aircraft Change Information Bulletin (ACIB) 27-181-50319A has introduced optional changes designed to mitigate the effects associated with use of thickened de-icing fluids. Part 5 of ACIB 27-181-50319A alters drainage holes which are in the elevator and which were introduced by BAE Systems Service Bulletin (SB) 55-013-01490B, in compliance with UK CAA AD 003-07-95. The embodiment of ACIB 27-181-HCM50319A does not affect compliance with the requirements of UK CAA AD 003-07-95. BAE Systems SB 55-013-01490B has now been reissued at Rev 3 to identify the pre and post ACIB 27-181-50319A standard.</p> <p>This EASA AD supersedes UK CAA AD 003-07-95, retains the requirements thereof and confirms that accomplishment of the modification in accordance with the instructions contained in Rev 3 of SB 55-013-01490B is acceptable. This AD has been republished to correct a typographical error in the 'Remarks' section, referencing the wrong PAD.</p>
Effective Date:	15 March 2007


Compliance:	<p>Required as indicated, unless accomplished previously, as originally required by UK CAA AD 003-07-95:</p> <p>Within 28 days after the effective date of this directive, modify the elevator drain holes in accordance with the instructions of BAE Systems (Operations) Ltd SB 55-013-01490B Revision 3.</p>
Ref. Publications:	BAE Systems (Operations) Limited SB 55-013-01490B Revision 3.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted on 17 January 2007 as PAD 07-007 for consultation until 19 February 2007. The comment response document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007–0075</p> <p>Date: 20 March 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE Systems (Operations) Ltd	BAe 146 and AVRO 146-RJ
TCDS Number : UK BA16	
Foreign AD : Not applicable	
Supersedure : None	
ATA 53	Fuselage – Aft Fuselage Skin under APU Heat Shield – 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:	Corrosion has been reported beneath the heat shield which is located around the APU exhaust outlet. Such corrosion could result in the fuselage being unable to sustain horizontal and vertical stabiliser loads. This is considered as potentially hazardous/catastrophic. This AD mandates inspections necessary to address the identified unsafe condition.
Effective Date:	03 April 2007
Compliance	<p>(1) Within one year after the effective date of this directive and thereafter at intervals not to exceed 2 years, perform a detailed visual inspection in accordance with paragraph 2C of BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB) 53-191 Initial Issue or later approved revision;</p> <p>(2) If corrosion is found during any of the visual inspections as required by paragraph (1) of this directive, before next flight, repair the affected area in accordance with paragraph 2D of BAE Systems (Operations) Ltd ISB 53-191;</p> <p>(3) After modification of the aircraft in accordance with BAE Systems (Operations) Ltd Service Bulletin (SB) 53-193-60732A (Mod. HCM60732A – Improved Sealing), the inspection interval may be extended to 4 years.</p>


Ref. Publications:	BAE Systems (Operations) Ltd ISB 53-191 Initial Issue; and BAE Systems (Operations) Ltd SB 53-193-60732A Initial Issue; or later approved revisions of these documents.
Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD.2. This AD was posted on 22 February 2007 as PAD 07-027 for consultation until 15 March 2007. No comments were received during the consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to the Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu.4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE Systems (Operations), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0076 Date: 21 March 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE Systems (Operations) Ltd	Type/Model designation(s) : BAe 146 and AVRO 146-RJ
TCDS Number : United Kingdom BA16	
Foreign AD : Not applicable	
Supersedure : Not applicable	
ATA 29	Hydraulic Power – Accumulators – Inspection/Replacement
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:	An accumulator cylinder had material defects and suffered an in-flight burst failure causing damage to the aircraft structure. This resulted in the issue of EASA Emergency AD 2006-0061-E that required the identification and check of cylinders from known suspect batches. Further investigations and checks by the accumulator manufacturer have concluded that all cylinders from a particular supplier may not have been correctly inspected at manufacture. To prevent the risk of further failures, this Airworthiness Directive (AD) requires all accumulators with cylinders from this supplier to be identified and inspected prior to re-installation.
Effective Date:	04 April 2007
Compliance:	(1) Within 6 weeks after the effective date of this AD, identify the installed accumulator in accordance with paragraph 2C of BAE Systems ISB 29-047 dated 03 October 2006, which makes reference to APPH Ltd. Service Bulletin AIR91666-29-03; (2) When an accumulator is identified as being affected by this directive, not later than 31 October 2009, remove the accumulator in accordance with paragraph 2D of BAE Systems ISB 29-047 dated 03 October 2006 and


	<p>magnetic particle inspect the cylinder in accordance with APPH Ltd. Service Bulletin AIR91666-29-03;</p> <p>(3) When any defects are found, before next flight, replace the accumulator with a serviceable unit;</p> <p>(4) After the effective date of this AD, no person may install a spare accumulator identified by APPH Ltd. Service Bulletin AIR91666-29-03 as a replacement part, unless it has been inspected in accordance with APPH Ltd. Service Bulletin AIR91666-29-02 or AIR91666-29-03 (See second Note in paragraph 1D(1) of BAE Systems (Operations) Ltd ISB 29-047 for further explanation).</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited ISB 29-047 dated 03 October 2006; and APPH Ltd. Service Bulletin AIR91666-29-03 dated July 2006, or later approved revisions of these documents.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted on 16 February 2007 as PAD 07-022 for consultation until 16 March 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0270 R1</p> <p>Date: 07 November 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (Operations) Limited	BAe 146 and Avro 146-RJ aircraft
TCDS Number: United Kingdom BA16	
Foreign AD: Not applicable	
Revision: This Airworthiness Directive (AD) revises and replaces EASA AD 2007-0270 dated 16 October 2007.	
ATA 57	Wings – Rear Spar Root Joint Attachment Fittings at Wing Rib 2 – Inspection
Manufacturer(s):	BAE SYSTEMS (Operations) Ltd, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd, British Aerospace plc, British Aerospace Regional Aircraft Ltd, British Aerospace Regional Aircraft Ltd trading as Avro International Aerospace.
Applicability:	BAe 146 and AVRO 146-RJ aircraft, all models, all serial numbers
Reason:	<p>British Aerospace originally issued Service Bulletin (SB) 57-033 in 1989 to detect fuel leaks and failed fasteners in the region of the rear spar root joint attachment fitting at wing rib 2. Accomplishment of this SB was mandated by CAA United Kingdom AD 044-09-89. Revisions 1 through 7 of this SB were introduced to inspect pre mod HCM01447A standard installations for fuel leaks and loose or broken bolts. Modification HCM01447A introduced tension bolts in the attachment fitting instead of the previous Hi-Lok bolts. Revision 8 of the SB introduced inspection instructions for post modification HCM 01447A installations because fuel tank leaks and failed fasteners have subsequently been found on aircraft post modification HCM01447A. Inspections of the post-mod HCM01447A standard are required to maintain the structural integrity of the wing. BAE Systems has now published SB 57-033 Revision 9 that specifies additional, calendar-time based, inspection criteria to control the stress corrosion failures of the pre and post modification HCM01447A installations.</p> <p>EASA AD 2007-0270 supersedes CAA UK AD 044-09-89 and requires the accomplishment of inspections and corrective actions, as necessary, in accordance with BAE Systems SB 57-033 Revision 9.</p> <p>This AD is revised to clarify that the calendar compliance times are to be counted from the effective date, not from the SB issue date.</p>


Effective Date:	30 October 2007
Compliance:	<p>Required as indicated, unless previously accomplished:</p> <p>From the effective date of this directive, perform the inspections and corrective actions, as necessary, at the thresholds and intervals specified in BAE Systems (Operations) Ltd Service Bulletin ISB.57-033 Revision 9 or later approved revisions, except that the calendar thresholds for the inspections are defined from the effective date of the AD and not from the issue date of the service bulletin.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Service Bulletin ISB 57-033 Revision 9, or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. The original issue of this AD was posted on 11 September 2007 as PAD 07-165 for consultation until 09 October 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: Ads@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: BAE SYSTEMS (OPERATIONS), Project Management Group, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland; Telephone: +44 1292 675207, Fax: +44 1292 675704; E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0277 Date: 05 November 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (Operations) Limited	Type/Model designation(s): BAe 146 and AVRO 146-RJ
TCDS Number: United Kingdom Nr. BA 16	
Foreign AD: Not applicable	
Supersedure: None	
ATA 53	Fuselage – Centre Fuselage Undercarriage Main Beam Sidestay Bolts at Frame 29 – Inspection/Replacement
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 series aeroplanes, all Models, all serial numbers.
Reason:	<p>During inspection of undercarriage main beam sidestays, bolts attaching the undercarriage main beam sidestay to frame 29 were found with the heads of the bolts sheared off. Loose bolt assemblies were also found.</p> <p>If sheared or loose bolts are not detected and replaced, a possible consequence is the collapse of the main landing gear.</p> <p>For the reasons described above, this Airworthiness Directive (AD) requires a one-time inspection of the bolt bores and bore dimensions and the installation of replacement bolts, as necessary.</p>
Effective Date:	19 November 2007
Compliance:	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within the next 4 000 Flight Cycles (FC) or 5 years, whichever occurs first after the effective date of this directive, perform the inspections and bolt replacements in accordance with the instructions of paragraphs</p>


	<p>2.C(1) through 2.C(3) and 2.D(1) through 2.D(3) of BAE SYSTEMS (Operations) Ltd Inspection Service Bulletin (ISB) 53-194 Original Issue or later approved revisions;</p> <p>Note: It may be necessary to temporarily reinstall any removed oversize bolts if replacements are not immediately available from BAE Systems.</p> <p>(2) If oversize replacement bolts are required as a result of the inspection, within 2 000 FC after the inspection, replace the affected bolts in accordance with the instructions of BAE SYSTEMS (Operations) Ltd ISB 53-194 Original Issue or later approved revisions.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Inspection Service Bulletin ISB.53-194 Original Issue or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 12 September 2007 as PAD 07-164 for consultation until 10 October 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: BAE SYSTEMS (Operations) Ltd, Project Management Group, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704; E-mail: RAPublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0303 Date: 14 December 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s) : BAe 146 and AVRO 146-RJ aircraft
TCDS Number : United Kingdom BA16	
Foreign AD : Not applicable	
Supersedure : None	
ATA 53	Fuselage – Forward and Aft Wing Links at Frames 26 and 29 – 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 aircraft, all Models, all serial numbers.
Reason:	<p>During removal of forward and aft wing links, corrosion has been found on the wing links and the wing link attachment bolts in areas that are not readily accessible during the currently required Maintenance Review Board Report (MRBR) zonal inspections or Corrosion Prevention and Control Programme (CPCP) inspections. If left uncorrected, such corrosion could adversely affect the structural integrity of the wing to fuselage joint.</p> <p>For this reason, this Airworthiness Directive (AD) requires repetitive detailed visual inspections at the forward and aft wing links and wing link attachment bolts for signs of corrosion, replacement of corroded nuts and bolts and repair of any defects.</p> <p>The MRBR and CPCP will be amended to include the repeat inspections.</p>
Effective Date:	28 December 2007
Compliance:	(1) Before accumulating 4 years Time Since New (TSN) or within 4 years of a wing link being repaired in accordance with a BAE Systems (Operations) Ltd and/or EASA approved repair scheme or within 2 years from the effective date of this AD, whichever occurs later, and


	<p>thereafter at intervals not to exceed 4 years, inspect the wing links in accordance with paragraph 2.C of BAE Systems (Operations) Ltd Inspection Service Bulletin 53-203;</p> <p>(2) If any corrosion is found on bolts or nuts, before next flight, replace the affected bolts and nuts with airworthy parts;</p> <p>(3) If any defects to the wing links are found during an inspection, before next flight, accomplish the necessary repairs in accordance with a BAE Systems (Operations) Ltd and/or EASA approved repair scheme.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited Service Bulletin 53-203 Initial Issue.</p> <p>The use of later approved revisions 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 12 November 2007 as PAD 07-199 for consultation until 10 December 2007. The Comment response Document can be found at http://ad.easa.europa.eu/ . 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0304</p> <p>Date: 14 December 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s) : BAe 146 and AVRO 146-RJ aircraft
TCDS Number: United Kingdom BA16	
Foreign AD: Not applicable	
Supersedure: This Airworthiness Directive (AD) supersedes EASA Emergency AD 2006-0091-E dated 20 April 2006.	
ATA 57	Wings – Top Skin under Rib 0 Joint Strap – 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:	<ul style="list-style-type: none"> - BAe 146 100 Series aircraft, serial number (s/n) E1144 and subsequent; - BAe 146 200 Series aircraft, s/n E2148 and subsequent; - BAe 146 300 Series aircraft, s/n E3141 and subsequent; - AVRO 146-RJ70 Series aircraft, s/n E1223 up to and including E1267; - AVRO 146-RJ85 Series aircraft, s/n E2208 up to and including E2277, and s/n E2288; and - AVRO 146-RJ100 Series aircraft, s/n E3221 up to and including E3276, and s/n E3282, E3283, E3284 and E3286.
Reason:	<p>At the Initial Issue of BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB) 57-a071, which was mandated by EASA AD 2006-0091-E, inspections for possible cracks were required on the wing top skin under the rib 0 joint strap. This ISB has now been revised, adding specific instructions for aircraft which have embodied a centre wing overwing refuel aperture repair. Changes consist of a revision of Appendix 1 (ultrasonic inspection) to define the extent of wing top skin inspection and the inclusion of Appendix 2 (radiographic inspection) to inspect further areas of the wing top skin at the outboard fastener row overlapped by the repair plate.</p> <p>This AD supersedes EASA Emergency AD 2006-0091-E and requires accomplishment of inspections and repair, as necessary, of the wing top skin under the rib 0 joint strap as specified in the revised ISB 57-a071.</p>
Effective Date:	28 December 2007


Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) From the effective date of this AD, perform the inspections specified in paragraph 2.C(1) and 2.C(2) of BAE Systems (Operations) Ltd ISB 57-a071 Revision 1, at the thresholds specified in paragraphs 1.D(1) to 1.D(4) of the ISB, as applicable, except that the inspection thresholds are defined from the effective date of this AD and not from the date of receipt of the revised service bulletin; (2) If any defects are found, carry out additional inspections in accordance with paragraph 2.C(3) of the ISB and, if cracks or corrosion are found, before next flight, either repair any damage in accordance with Structural Repair Manual task 57-10-15-001 or in accordance with a BAE Systems (Operations) Ltd and/or EASA approved repair scheme; (3) Repeat the inspections and repair, as necessary, at the intervals specified in paragraph 1.D(5) and 1.D(6) of the ISB. <p>Note: For aircraft without overwing refuel aperture repairs, the inspection tasks are unaffected by Revision 1 to BAE Systems (Operations) Ltd ISB 57-a071. Previous compliance with the initial issue of this service bulletin will therefore satisfy the initial inspection requirements of this AD.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin 57-a071 Revision 1.</p> <p>The use of later approved revisions 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 12 November 2007 as PAD 07-200 for consultation until 10 December 2007. The Comment response Document can be found at http://ad.easa.europa.eu/ . 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0305</p> <p>Date: 20 December 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name :</p> <p>BAE SYSTEMS (OPERATIONS) LTD</p>	<p>Type/Model designation(s) :</p> <p>BAe 146 and AVRO 146-RJ aircraft</p>
TCDS Number : United Kingdom (UK) BA16	
Foreign AD : Not applicable	
Supersedure : CAA UK Airworthiness Directive (AD) 015-10-98	
ATA 53	Fuselage – LH Nose Landing Gear Well Sidewall & Retraction Jack Attachment – 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 series aircraft, all Models, all serial numbers (s/n), except those subject to the Supplementary Structural Inspection Document (SSID) programme; and AVRO 146-RJ70 aircraft, all s/n up to and including s/n E1267; AVRO 146-RJ85 aircraft, all s/n up to and including s/n E2333; AVRO 146-RJ100 aircraft, all s/n up to and including s/n E3332.
Reason:	<p>Evidence of cracking has been found on several in-service aircraft in the bore and along the face of the retraction jack attachment boss on the left hand nose landing gear (NLG) sidewall which in some circumstances has led to the replacement of the sidewall.</p> <p>BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB) 53-152 has been extensively revised (now at Revision 3) since the Initial Issue was mandated by CAA UK AD 015-10-98. These are considered substantive changes.</p> <p>For the reason stated above, the present EASA AD, which supersedes CAA UK AD 015-10-98, requires the implementation of inspections in accordance with revision 3 of BAE Systems (Operations) Ltd ISB 53-152.</p>
Effective Date:	03 January 2008


Compliance:	<p>Required as indicated, unless previously accomplished:</p> <p>From the effective date of this Directive, accomplish the inspections and follow-up corrective actions, as necessary, at the thresholds and intervals specified in BAE Systems (Operations) Ltd ISB 53-152 Revision 3;</p> <p>Note 1: Inspections and rectification actions previously carried out in accordance with BAE Systems (Operations) Ltd ISB 53-152 Revision 2 or earlier also satisfy the requirements of this AD.</p> <p>Note 2: Carrying out any of the three closing actions in the ISB at Revision 3, Option B, C or F in Table 1, means that no further inspections are required until the aircraft enters the SSID programme. Previous accomplishment of Option B, C or F, using an earlier revision of the ISB, is also considered acceptable.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited ISB 53-152 Revision 3.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 13 November 2007 as PAD 07-205 for consultation until 11 December 2007. The Comment response Document can be found at http://ad.easa.europa.eu/ . 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA; E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE Systems (Operations), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0307 Date: 17 December 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): BAe 146 and AVRO 146-RJ aircraft
TCDS Number: United Kingdom BA16	
Foreign AD: Not applicable	
Supersedure: None	
ATA 53	Fuselage – Airbrake Upper Crossbeam – 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 aircraft, all Models, all serial numbers.
Reason:	<p>The airbrake upper crossbeam on an aircraft failed in-flight. The crossbeam failure caused damage to the rudder control system, resulting in loss of rudder control. Loss of rudder control will cause handling difficulties particularly during take-off, approach and landing phases in cross winds.</p> <p>BAE Systems (Operations) Ltd has published Inspection Service Bulletin (ISB) 53-200 that revises and supersedes the inspection requirements which are defined in the Maintenance Review Board Report (MRBR) SSI Task 53-40-125, Supplemental Structural Inspections Document (SSID) Tasks 53-40-125.1 and 53-40-125.2 (included in the Airworthiness Limitations Section of Aircraft Maintenance Manual Chapter 5 that is currently mandated as part of EASA AD 2007-0271) and in Maintenance Planning Document (MPD) Task Reference 534025-DVI-10000-1. These revised inspection requirements and reduced inspection periods are to ensure that any fatigue damage is detected before it causes upper airbrake crossbeam failure. MRBR, SSID and MPD will be amended in due course to reflect these revised inspection periods.</p> <p>For the reasons stated above, this Airworthiness Directive (AD) requires the inspection and, as necessary, repair of the airbrake upper crossbeam.</p>
Effective Date:	31 December 2007


Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) From the effective date of this directive, perform the initial inspection at the threshold specified in paragraph 1.D.(1) or 1.D.(2), as applicable, and in accordance with the instructions of paragraph 2.B, 2.C and 2.D of BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB) 53-200, except that the calendar inspection threshold in paragraph 1.D.(2) is defined from the effective date of the AD and not from the date of receipt of the service bulletin. The initial inspection includes the replacement of three rivets by three Hi-Lok Pins; (2) Thereafter, repeat the inspections at the intervals specified in paragraph 1.D.(3) and in accordance with the instructions of paragraph 2.B, 2.C and 2.D of BAE Systems (Operations) Ltd ISB 53-200; (3) If damage is found during any inspection, before next flight, accomplish the necessary repairs in accordance with the Structural Repair Manual. If the damage is outside allowed repair criteria, embody a BAE Systems (Operations) Ltd and/or EASA approved repair scheme.
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB 53-200 Initial Issue.</p> <p>The use of later approved revisions 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 12 November 2007 as PAD 07-198 for consultation until 10 December 2007. The Comment response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RAPublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2008-0003 Date: 08 January 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): BAe 146 and AVRO 146-RJ aircraft
TCDS Number: United Kingdom BA16	
Foreign AD: Not applicable	
Supersedure: None	
ATA 53	Fuselage – Wing Links – Identification / Inspection / Replacement
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 series aircraft, all Models and serial numbers as identified in paragraph 1.A(1) of BAE Systems (Operations) Ltd Inspection Service Bulletin (ISB) 53-175 Revision 1.
Reason:	<p>A potential fleet wide problem has been identified regarding the interchanging of wing links on all BAe 146 & AVRO 146-RJ aircraft during scheduled maintenance. Some operators erroneously believed that these parts were interchangeable. The effects of changing winglinks has resulted in either a shorter or longer wing link being fitted, which introduces local stresses in the wing top and bottom surfaces local to rib 2, wing links and wing link fitting attachment and the fuselage local to Frames 26 and 29. This condition, if not corrected, could result in a reduction of structural integrity of the fuselage/wing attachment with possible catastrophic consequences.</p> <p>For the reasons described above, the present Airworthiness Directive (AD) requires the accomplishment of inspections and rectification actions, as necessary.</p>
Effective Date:	22 January 2008


Compliance:	<p>Required from the effective date of this AD, perform the following actions referenced in BAE Systems (Operations) Ltd ISB 53-175 Revision 1:</p> <p>Note 1: Where the actions required by this AD are different from those stated in the ISB, the AD actions take precedence.</p> <ol style="list-style-type: none"> (1) For aircraft subject to MRBR requirements, within 30 days of the effective date of this AD, revise the SSI portion of the aircraft inspection schedule in accordance with paragraph 1D(2) of the ISB; (2) For aircraft subject to MRBR requirements, the revisions to the SSI portion of the aircraft inspection schedule can be terminated by performing the actions in paragraph 1D(3) of the ISB; (3) With reference to paragraph 1D(4) of the ISB, for operational aircraft subject to MRBR to SSID transition requirements or SSID requirements, determine the status of the wing links in accordance with paragraph 2C of the ISB and replace all the wing links which are not within tolerance. This action must be carried out prior to the aircraft reaching its MRBR airframe life limit; (4) When inspection to paragraph 2C of the ISB is required, Part A of the ISB must be accomplished initially and the relevant Inspection Reports completed and returned to BAE Systems per paragraph 2E of the ISB. For those links that cannot be confirmed as original by Part A (if for example the part number is missing or unreadable) then the documentation check of Part B may be done. If the check of the aircraft technical records does not positively identify the subject wing links as original, Part C or Part D, as applicable, must be carried out and the relevant Inspection Reports completed and returned to BAE Systems per paragraph 2E of the ISB; (5) With reference to paragraph 1D(5) of the ISB, for non-operational aircraft (e.g. in storage) subject to MRBR to SSID transition requirements or SSID requirements, prior to return to service, determine the status of the wing links in accordance with paragraph 2C of the ISB and replace all the wing links which are not within tolerance. <p>Note 2: Inspections and rectification work previously carried out in accordance with BAE Systems (Operations) Ltd ISB.53-175 Initial Issue also satisfy the requirements of this AD.</p> <p>Note 3: Where the ISB states that a task "...can be delayed for up to 12 months from receipt of the ISB", for the purpose of this AD that means that task can be delayed for up to 12 months from the effective date of this AD.</p>
Ref. Publications:	<p>BAE SYSTEMS (Operations) Limited Inspection Service Bulletin 53-175 Revision 1; the use of later approved revisions 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 accept Alternative Methods of Compliance for this AD. 2. This PAD was posted on 12 November 2007 as PAD 07-202 for consultation until 10 December 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0092 R1</p> <p>Date: 15 May 2008</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>
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].	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	BAe 146 and AVRO 146-RJ aircraft
TCDS Number: United Kingdom (UK) BA16	
Foreign AD: Not applicable	
Revision: This AD revises and replaces EASA AD 2008-0092 dated 13 May 2008.	
ATA 53	Fuselage – Frames 15, 18, 41 and 43 Web/Flange and Door Hinge Bosses – Inspection / Repair / Rework
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 series aircraft, all models, all serial numbers.
Reason:	<p>Following the discovery of corrosion on areas of fuselage frames that were not required to be inspected by UK CAA AD G-2005-0019, BAE Systems (Operations) Ltd has determined that in order to assure the continued structural integrity of the fuselage frames 15, 18, 41 and 43 of the BAe 146 and AVRO 146-RJ series aircraft, a revised inspection programme for this area is considered necessary. Cracking, if undetected, could lead to catastrophic structural failure. Consequently, Inspection Service Bulletin (ISB) 53-182 has been revised to add an eddy current inspection of the frame outer flanges and door hinge bosses which have also been found to be susceptible to corrosion.</p> <p>For the reasons described above, this EASA AD retains the inspections, repair and rework requirements of UK CAA AD G-2005-0019 (EASA Approval 2005-6048), which is superseded, and requires the accomplishment of inspections, repair and rework, as necessary, of the fuselage structure in accordance with BAE Systems (Operations) Ltd ISB 53-182 at Revision 1.</p> <p>This AD has been revised to clarify paragraph (3) of the Compliance.</p>
Effective Date:	27 May 2008

Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) From the effective date of this directive, at the thresholds specified in paragraph 1D of BAE Systems (Operations) Ltd ISB 53-182 Revision 1, perform the inspections in accordance with the instructions of paragraph 2C of the ISB;</p> <p>Note 1: Aircraft that have already been inspected in accordance with UK CAA AD G-2005-0019 (using the original issue of ISB 53-182) are considered compliant with the inspection requirements of paragraph (1) of this AD.</p> <p>(2) Thereafter, at intervals determined by paragraph 1D (8) Table 2 of the ISB, repeat the inspections in accordance with the instructions of paragraph 2C of the ISB;</p> <p>Note 2: As specified in Table 2 of the ISB, extended intervals may be applied for the repeat inspections if optional improved corrosion protection has been applied in accordance with paragraph 1D (7) of the ISB.</p> <p>(3) If defects are found during any inspection as required by paragraph (1) and (2) of this AD, before next flight, repair the defects in accordance with paragraph 1D (6) of the ISB.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited ISB 53-182 original issue dated 16 March 2005 and Revision 1 dated 06 August 2007.</p> <p>The use of later approved revisions of this document 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 original issue of this AD was posted on 10 April 2008 as PAD 08-050 for consultation until 08 May 2008. No comments were received during the consultation period. 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 questions concerning the technical content of the requirements in this AD, please contact: Project Management Group, Customer Information Department, BAE Systems (Operations), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom. Telephone +44 1292 675207, Facsimile +44 1292 675704; E-mail: RAPublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0168</p> <p>Date: 02 September 2008</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>	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	BAe 146 and AVRO 146-RJ aircraft
TCDS Number : EASA.A.182	
Foreign AD : Not applicable	
Supersedure : This AD supersedes United Kingdom (UK) CAA AD 015-08-91	
ATA 57	Wings – Wing Centre Section Top Skin and Joint Strap at Rib 0 – 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 aircraft, all models, all serial numbers, except aircraft for which the instructions contained in the applicable BAE Systems (Operations) Ltd Supplemental Structural Inspection Document (SSID) have been incorporated into the approved aircraft maintenance programme.
Reason:	<p>In 1991, the UK Civil Aviation Authority (CAA) issued AD 015-08-91, requiring the accomplishment of inspections of, and in case of crack findings, corrective actions on, the wing top skin at rib '0' of pre-modification HCM00851C BAe 146 series aircraft in accordance with British Aerospace Service Bulletin (SB) 57-41 dated 26 July 1991. Recently, BAE Systems (Operations) Ltd has determined that a revised inspection programme for the wing top skin and joint strap at rib '0' on all BAe 146 and AVRO 146-RJ aircraft is necessary to assure the continued structural integrity of this area. Cracking of the wing centre section top skin, if undetected, could lead to structural failure and consequent loss of the aircraft.</p> <p>For the reasons described above, this new EASA AD supersedes UK CAA AD 015-08-91 and requires repetitive high-frequency eddy current (HFEC), radiographic, ultrasonic, and detailed visual inspections of the wing top skin and joint strap at rib '0', the reporting of all inspection results to BAE Systems and, in case of findings, the accomplishment of corrective actions.</p>
Effective Date:	16 September 2008


Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Note: The instructions of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070 (the ISB), which is the subject of this AD, are divided in two parts; consequently, the statement in paragraph 1.C. of the ISB that there are three parts is incorrect and can be disregarded.</p> <ol style="list-style-type: none"> (1) Within the threshold and intervals defined in paragraph 1.D.(1) of the ISB, accomplish the initial and repetitive inspections, in accordance with paragraph 2.C. (Part 1) of the ISB, except that for the purpose of this AD, where paragraph 1.D.(1)(b) of the ISB specifies to inspect within 4 000 flights of receipt of the ISB, that instruction must be read as "within 3 000 flights after the effective date of this AD". (2) Within the threshold and intervals defined in paragraph 1.D.(2) of the ISB, accomplish the initial and repeat inspections in accordance with paragraph 2.C. (Part 2) of the ISB. (3) Within 30 days after each inspection as required by paragraph (1) and (2) of this AD, report the inspection results to BAE Systems (Operations) Ltd in accordance with paragraph 2.F. of the ISB. (4) When cracks or corrosion are found during any inspection as required by this AD, before next flight, repair any damage, either in accordance with the applicable Structural Repair Manual or in accordance with an approved BAE Systems repair. (5) Accomplishment of any repair does not constitute terminating action for the inspection requirements of this AD.
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-070 Initial Issue dated 15 October 2007.</p> <p>The use of later approved revisions of this document 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. This AD was posted on 31 July 2008 as PAD 08-088 for consultation until 28 August 2008. No comments were received during the consultation period. 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 questions 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

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0180</p> <p>Date: 30 September 2008</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>
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].	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	BAe 146 and AVRO 146-RJ aircraft
TCDS Number : EASA.A.182	
Foreign AD : Not applicable	
Supersedure : None	
ATA 53	Fuselage – Wing-to-Fuselage & Main Landing Gear (MLG) Door Fairing Panel Grommets – Inspection / Replacement
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 series aircraft, all models, all serial numbers, if post-modification HCM00633E and/or post-modification HCM00934A.
Reason:	<p>There have been a number of incidents where wing-to-fuselage or MLG door fairing panels have detached from the aircraft during flight. Subsequent inspection revealed the loss of the fairing panels to be due to failure of certain steel grommets, P/N SL5183 and HC535H0312, through which the attachment bolts are inserted. These failures may have been caused by improper installation of the grommets or damage resulting from maintenance procedures relating to paint stripping and repainting, allowing air loads to pull the panel through the grommet. A detaching panel could strike the aircraft during flight, causing damage. In addition, a detaching panel could become attached to the structure or control surfaces, resulting in reduced control of the aircraft.</p> <p>Following the application of BAE Systems (Operations) Ltd ISB 53-202 at Revision 1 to the first few, it has been discovered that removal of existing grommets P/N SL5183 and HC535H0312 may result in localised damage to the aluminium foil membrane attached to the inner surface of some fairing panels. BAE Systems (Operations) Ltd has therefore issued additional instructions in All Operators Message (AOM) 08-015V, including bonding checks and detailed procedures for applying an electro-conductive paste at each SL5185 grommet location in order to bridge any gap between grommet and the inner aluminium</p>

	<p>foil. The next revision of BAE Systems (Operations) Ltd ISB 53-202 will include the technical content of AOM 08-015V.</p> <p>For the reasons described above, this EASA AD requires repetitive inspections of the wing-to-fuselage & MLG door fairing panel grommets and, when damage is detected, the accomplishment of corrective actions.</p>
Effective Date:	14 October 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 4 000 flight cycles (FC) or 2 years after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 8 000 FC, conduct a visual inspection of the steel grommets on the fairing panels in accordance with paragraph 2.C of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-202 Revision 1 (the ISB). Any actions accomplished in accordance with the Initial Issue of the ISB do not constitute compliance with the requirements of this AD. (2) If damage is found during any inspection as required by paragraph (1) of this AD, before next flight, replace the grommets with new P/N SL5185 grommets in accordance with paragraph 2.C of the ISB. Concurrent with the installation of the new grommets, accomplish a bonding check and, when unsatisfactory bonding is detected, apply electro-conductive paste in accordance with the instructions of BAE Systems (Operations) Ltd AOM 08-015V (the AOM). Alternatively, if the replacement grommets are not available, a temporary repair may be accomplished in accordance with Appendix 3 of the ISB or an approved BAE Systems temporary repair scheme. (3) No later than during the next scheduled repetitive inspection as required by paragraph (1) of this AD, replace any temporary repair by replacing the grommets with new P/N SL5185 grommets in accordance with paragraph 2.C of the ISB. Concurrent with the installation of the new grommets, accomplish a bonding check and, when unsatisfactory bonding is detected, apply electro-conductive paste in accordance with the instructions of the AOM. (4) For aircraft (fairing panels) on which, prior to the effective date of this AD, new P/N SL5185 grommets have been installed without accomplishing an electrical bonding check, no later than during the next scheduled (repeat) inspection as required by paragraph (1) of this AD, accomplish a bonding check and, when unsatisfactory bonding is detected, apply electro-conductive paste in accordance with the instructions of the AOM. (5) After modification of an aircraft by replacement of all existing grommets with P/N SL5185 grommets on all panels, the accomplishment of the corresponding bonding checks and the application of electro-conductive paste, the repetitive inspections of this AD are no longer required for that aircraft.
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-202 Revision 1 dated 4 June 2008.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>BAE Systems (Operations) Ltd AOM 08-015V issue 1 dated 22 August 2008.</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. This AD was initially posted on 30 July 2008 as PAD 08-087 and again on 29 August 2008 as PAD 08-087R1 for consultation until 12 September 2008. The Comment Response Document can be found at

	<p>http://ad.easa.europa.eu.</p> <p>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.</p> <p>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</p>
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EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0014 Date: 21 January 2009 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 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].	
Type Approval Holder's Name: BAE Systems (Operations) Ltd	Type/Model designation(s): BAe 146 and AVRO 146-RJ aircraft
TCDS Number: EASA.A.182	
Foreign AD: Not applicable	
Supersedure: None	
ATA 57	Wings – Fixed Wing Leading Edge and Front Spar Structure – 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 aircraft, all models, all serial numbers.
Reason:	<p>During the removal of the wing removable leading edge on a BAe 146 aircraft for a repair (not related to the subject addressed by this AD), corrosion was found on the wing fixed leading edge structure. The investigation determined that the existing scheduled environmental and fatigue inspections would not have detected the corrosion or fatigue damage.</p> <p>Corrosion or fatigue damage in this area, if not detected and corrected, could lead to degradation of the structural integrity of the wing.</p> <p>For the reason described above, this AD requires repetitive inspections of the wing fixed leading edge and front spar structure for corrosion and/or fatigue damage and repair, depending on findings.</p>
Effective Date:	04 February 2009

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within the thresholds defined in paragraph 1.D.(1) of BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-072 (the ISB), except where modified by this paragraph, accomplish the initial environmental/fatigue inspections, in accordance with paragraph 2.C. (Method 1) or paragraph 2.D. (Method 2) of the ISB. Where paragraph 1.D.(1) of the ISB states "within 2 years from the initial issue of this inspection service bulletin" this shall be read as "within 18 months from the effective date of this AD". Similarly, where paragraph 1.D.(1) of the ISB states "within 1 year from the initial issue of this inspection service bulletin" this shall be read as "within 6 months from the effective date of this AD".</p> <p>Note 1: At the discretion of the aircraft owner/operator, enhanced corrosion protection may then be embodied on those areas subject to a detailed visual inspection (DVI) in accordance with paragraph 2.E. or paragraph 2.F. of the ISB. Embodiment of enhanced corrosion protection in accordance with paragraph 2.E. of the ISB allows the interval of the repetitive inspection (as required by paragraph (2) of this AD) to be extended in the area(s) of application.</p> <p>(2) After the initial inspection as required by paragraph (1) of this AD, within the intervals defined in paragraph 1.D.(2)(a) of the ISB, accomplish the repetitive environmental inspections in accordance with paragraph 2.C. (Method 1) or paragraph 2.D. (Method 2) of the ISB. Where previously applied, enhanced corrosion protection may then be re-applied, as desired, in accordance with paragraph 2.E. of the ISB. Re-application (or not) determines the interval for the next repetitive inspection.</p> <p>(3) After the initial inspection as required by paragraph (1) of this AD, within the intervals defined in paragraph 1.D.(2)(b) of the ISB, accomplish the repetitive fatigue inspections in accordance with paragraph 2.C. (Method 1) or paragraph 2.D. (Method 2) of the ISB.</p> <p>(4) When defects are found during any inspection as required by this AD, before next flight, repair any damage, either in accordance with the applicable Structural Repair Manual or in accordance with an approved BAE Systems repair.</p> <p>(5) Accomplishment of any repair does not constitute terminating action for the inspection requirements of this AD.</p> <p>Note 2: The inspections required by this AD supersede the Maintenance Review Board Report (MRBR), Maintenance Planning Document (MPD), Corrosion Prevention and Control Programme (CPCP) and Supplemental Structural Inspection Document (SSID) inspections defined in paragraph 1.C.(3) of the ISB.</p> <p>Note 3: Where the ISB refers to a Visual Inspection (VI), this term describes an inspection using visual inspection equipment as defined in Appendix 3 of the ISB. In other BAE Systems instructions for continued airworthiness, including the Maintenance Planning Document and the Corrosion Protection & Control Programme, such an inspection is referred to as a 'Special Detailed Inspection' (SDI). Later Revisions of the ISB will refer to SDIs where applicable.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.57-072 Initial Issue dated 22 February 2008.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<p>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD</p> <p>2. This AD was published on 05 January 2009 as PAD 09-002 for consultation until 19 January 2009. The Comment Response Document can be found at http://ad.easa.europa.eu/.</p>

	<p>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.</p> <p>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 (0)1292 675207, Facsimile +44 (0)1292 675704 E-mail: RApublications@baesystems.com</p>
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0020</p> <p>Date: 05 February 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	BAe 146 and AVRO 146-RJ aircraft
TCDS Number : EASA.A.182	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA AD 2008-0132 dated 16 July 2008.	
ATA 05	Time Limits / Maintenance Checks – Airworthiness Limitations – Implementation
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 aircraft, all models, all serial numbers.
Reason:	<p>The BAe 146 / AVRO 146-RJ Aircraft Maintenance Manual (AMM) includes Chapters 05-10 "Time Limits", 05-15 "Critical Design Configuration Control Limitations (CDCCL) - Fuel System Description and Operation" and 05-20 "Scheduled Maintenance Checks", which have been identified as requirements for continued airworthiness and EASA AD 2008-0132 was issued to require operators to comply with those instructions.</p> <p>Since the issuance of that AD, BAE Systems (Operations) Limited has amended the AMM to Revision 94 to remove Chapter 05-20-17 "Power Plant Scheduled Maintenance" from the AMM as the information within it is not an Airworthiness Limitation. In addition, Chapter 05-20-00 "Scheduled Maintenance" now includes references to the Maintenance Review Board Report (MRBR), Corrosion Prevention and Control Programme (CPCP) and the Supplemental Structural Inspection Document (SSID) and the current issue status of each of these documents is referenced in this new AD.</p> <p>Finally, after reviewing the sections of Chapter 05 that were mandated by EASA AD 2008-0132, it was realised that not all of the referenced parts of Chapter 05 were actually airworthiness limitations. The sub-chapters and paragraphs of Chapter 05 that are airworthiness limitations have now been</p>


	<p>more accurately defined.</p> <p>For the reasons described above, this EASA AD amends the requirements of EASA AD 2008-0132, which is superseded, and requires the implementation of the instructions, limitations, inspections and corrective measures as specified in the defined parts of Chapter 05 of the AMM at Revision 94.</p>																						
Effective Date:	19 February 2009																						
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within the next 3 months after the effective date of this AD, amend the approved aircraft maintenance schedule to incorporate the instructions of the sub-chapters of BAe 146 / AVRO 146-RJ AMM Chapter 05 at AMM Revision 94, as indicated in Table 1 of this AD.</p> <p>Within sub-chapter 05-20-00, the relevant issues of the supporting documents are as follows:</p> <ul style="list-style-type: none"> - CPCP Document No. CPCP-146-01, Revision 3 dated 15 July 2008, plus Temporary Revision TR 2.1 dated October 2008. - SSID Document No. SSID-146-01/02/03, Original Issue dated 12 July 2006. <p>Within sub-chapter 05-20-01, the relevant issue of the supporting document is as follows:</p> <ul style="list-style-type: none"> - MRBR Document No. MRB 146-01, Issue 2 Revision 14 dated March 2008, plus Temporary Revision TR 6.8 dated 27 October 2008. <p style="text-align: center;">Table 1</p> <table border="1"> <thead> <tr> <th>Sub-chapter</th><th>Subject</th></tr> </thead> <tbody> <tr> <td>05-10-01</td><td>Airframe Airworthiness Limitations before Life Extension Programme</td></tr> <tr> <td>05-10-05 *</td><td>Airframe Airworthiness Limitations, Life Extension Programme - Landings Life Extended</td></tr> <tr> <td>05-10-10 **</td><td>Airframe Airworthiness Limitations, Life Extension Programme - Calendar Life Extended</td></tr> <tr> <td>05-10-15</td><td>Aircraft Equipment - Airworthiness Limitations</td></tr> <tr> <td>05-10-17</td><td>Power Plant - Airworthiness Limitations</td></tr> <tr> <td>05-15-00</td><td>Critical Design Configuration Control Limitations (CDCCL) - Fuel System Description and Operation</td></tr> <tr> <td>05-20-00</td><td>Scheduled Maintenance, paragraphs 5 and 6 only, on the Corrosion Prevention and Control Programme (CPCP) and the Supplemental Structural Inspection Document (SSID)</td></tr> <tr> <td>05-20-01</td><td>Airframe Scheduled Maintenance – Before Life Extension Programme (MRBR Section 6)</td></tr> <tr> <td>05-20-10 **</td><td>Airframe Scheduled Maintenance, Life Extension Programme Calendar Life Extended</td></tr> <tr> <td>05-20-15</td><td>Aircraft Equipment Scheduled Maintenance</td></tr> </tbody> </table> <p>* Applicable only to aircraft post-modification HCM20011A or HCM20012A or HCM20013A.</p> <p>** Applicable only to aircraft post-modification HCM20010A.</p> <p>(2) Thereafter, within the thresholds and intervals indicated in that document,</p>	Sub-chapter	Subject	05-10-01	Airframe Airworthiness Limitations before Life Extension Programme	05-10-05 *	Airframe Airworthiness Limitations, Life Extension Programme - Landings Life Extended	05-10-10 **	Airframe Airworthiness Limitations, Life Extension Programme - Calendar Life Extended	05-10-15	Aircraft Equipment - Airworthiness Limitations	05-10-17	Power Plant - Airworthiness Limitations	05-15-00	Critical Design Configuration Control Limitations (CDCCL) - Fuel System Description and Operation	05-20-00	Scheduled Maintenance, paragraphs 5 and 6 only, on the Corrosion Prevention and Control Programme (CPCP) and the Supplemental Structural Inspection Document (SSID)	05-20-01	Airframe Scheduled Maintenance – Before Life Extension Programme (MRBR Section 6)	05-20-10 **	Airframe Scheduled Maintenance, Life Extension Programme Calendar Life Extended	05-20-15	Aircraft Equipment Scheduled Maintenance
Sub-chapter	Subject																						
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05-10-05 *	Airframe Airworthiness Limitations, Life Extension Programme - Landings Life Extended																						
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05-20-15	Aircraft Equipment Scheduled Maintenance																						

	<p>accomplish the tasks described in the above referenced parts of the AMM, except:</p> <ul style="list-style-type: none"> - the initial accomplishment for the CPCP TR 2.1 task must be done within 2 years after the effective date of this AD and - the initial accomplishment for the MRBR TR 6.8 task must be done within 2 years after the effective date of this AD. <p>Note: When a Temporary Revision is superseded by the inclusion of the information in a permanent update of the applicable document, the requirements of this AD still apply.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited BAe 146/AVRO 146-RJ AMM Chapters 05-10, 05-15 and 05-20 at Revision 94, dated 15 November 2008.</p> <p>The use of later approved revisions of this document 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. This AD was published on 05 January 2009 as PAD 09-003 for consultation until 02 February 2009. No comments were received during the consultation period. 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 questions 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

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0046</p> <p>Date: 02 March 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>	
Type 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	
Supersedure : None	
ATA 53	Fuselage – Frame 29 Wing-to-Fuselage Lug Plate Attachment Joint – 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:	<p>Reports have been received of finding corrosion at the Frame 29 wing-to-fuselage attachment lug plate joint. This condition, if not detected and corrected, could result in a degradation of the structural integrity of Frame 29 and the wing-to-fuselage attachment.</p> <p>The current method of inspecting the Frame 29 wing-to-fuselage attachment lug plate joint for corrosion is not considered adequate for finding corrosion in this particular area.</p> <p>To address this concern, BAE Systems (Operations) Limited has published Inspection Service Bulletin ISB.53-213, which replaces current Maintenance Review Board Report Structurally Significant Items Task 53-20-103 (equal to Maintenance Planning Document Tasks 532003-DVI-10000-1, 532003-DVI-10000-2 and 532003-DVI-10000-3) and Corrosion Prevention and Control Programme Task C53-230-02-01.</p> <p>For the reason described above, this AD requires repetitive inspections of the Frame 29 wing-to-fuselage attachment lug plate joint and repair(s), as necessary.</p>
Effective Date:	16 March 2009


Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 2 years after the effective date of this AD, accomplish the initial inspections of the Frame 29 wing-to-fuselage attachment lug plate joint in accordance with paragraphs 2.C. and 2.D. of BAE Systems (Operations) Limited ISB.53-213 (the ISB). This initial compliance time period replaces the one stated in paragraph 1.D.(2) of the ISB. (2) Thereafter, within the intervals defined in paragraph 1.D.(3) of the ISB, repeat the inspections of the Frame 29 wing-to-fuselage attachment lug plate joint in accordance with paragraphs 2.C. and 2.D of the ISB. (3) When, during any inspection as required by this AD, it is not possible to replace a removed bolt with a same part number replacement item, it is acceptable to replace it with an alternative bolt in accordance with an approved BAE Systems repair scheme. (4) When, during any inspection as required by this AD, defects are found, before further flight, accomplish the appropriate repair(s) in accordance with paragraph 2.C. of the ISB. (5) Repair of the aeroplane in accordance with paragraph 2.C. of the ISB does not constitute terminating action for the repetitive inspection requirements of this AD. (6) Within 30 days after each inspection as required by paragraphs (1) and (2) of this AD, send an Inspection Report to BAE Systems in accordance with paragraph 2.G of the ISB.
Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-213 Initial Issue dated 21 May 2008.</p> <p>The use of later approved revisions of this document 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. This AD was published on 22 January 2009 as PAD 09-020 for consultation until 05 February 2009. The Comment Response Document can be found at http://ad.easa.europa.eu/. 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

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0070</p> <p>Date: 26 March 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>	
Type 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	
Supersedure: This AD supersedes United Kingdom (UK) CAA AD G-2005-0002 dated 12 January 2005, EASA approval number 2005-313.	
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:	<p>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) Limited 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.</p> <p>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</p>

	<p>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.</p> <p>For the reasons described above, this AD retains the requirements of CAA UK AD G-2005-0002, which is superseded, and requires the 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.</p>
Effective Date:	09 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Restatement of AD G-2005-0002 requirements:</p> <p>For BAe 146 aeroplanes:</p> <ol style="list-style-type: none"> (1) Within 4 000 FC or prior to accumulating 16 000 FC since new, whichever occurs later after 27 June 2003 [the effective date of CAA UK AD 007-06-2003] and thereafter at intervals not to exceed 8 000 FC, accomplish an eddy current inspection of the forward fuselage skin in accordance with the instructions of BAE Systems (Operations) Limited ISB.53-167 (the ISB). <p>For AVRO 146-RJ aeroplanes:</p> <ol style="list-style-type: none"> (2) Within 2 000 FC or prior to accumulating 10 000 FC since new, whichever occurs later after 27 June 2003 [the effective date of CAA UK AD 007-06-2003] and thereafter at intervals not to exceed 4 000 FC, accomplish an eddy current inspection of the forward fuselage skin in accordance with the instructions of the ISB. <p>New requirements of this AD:</p> <ol style="list-style-type: none"> (3) After the effective date 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, as applicable to aeroplane model, accomplish the initial and repetitive inspections in accordance with the instructions of paragraph 2.B. of the ISB. (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 ISB. Repair of an aeroplane in accordance with paragraph 2.B.(4) of the ISB does not constitute terminating action for the inspection requirements of this AD. (5) Inspections and corrective actions accomplished prior to the effective date of this AD in accordance with BAE Systems (Operations) Limited ISB.53-167 at original issue or Revision 1 are acceptable to comply with the requirements of paragraphs (1) and (2) this AD. After the effective date of this AD, initial and repetitive inspections and corrective actions as required by paragraph (3) of this AD must be accomplished in accordance with BAE Systems (Operations) Limited ISB.53-167 at Revision 2. (6) The ISB at Revision 2 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 the effective date of this AD and not the issue date of the ISB at Revision 2. (7) Within 30 days after each inspection as required by this AD, send an Inspection Report to BAE Systems in accordance with paragraph 2.D.(1) of the ISB.

Ref. Publications:	<p>BAE Systems (Operations) Limited Inspection Service Bulletin ISB.53-167 Revision 2 dated 17 November 2008.</p> <p>The use of later approved revisions of this document 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 AD2. 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 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

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EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0197-E</p> <p>Date: 03 September 2009</p> <p>Note: This Emergency 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>	
Type 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
Supersedure :	This AD supersedes United Kingdom (UK) CAA AD 002-06-2000 dated June 2000 and EASA Emergency AD 2009-0043-E dated 27 February 2009.
ATA 32	Landing Gear – Nose Landing Gear – Inspection / Replacement
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:	<p>BAe 146 and AVRO 146-RJ aircraft, all models, all serial numbers (s/n), if a Nose Landing Gear (NLG) unit with Part Number (P/N) 200876001, P/N 200876002, P/N 200876003, P/N 200876004 or P/N 201138002 is installed, on which Messier-Dowty SB 146-32-150 has not been embodied, or if a Messier-Dowty NLG unit with one of these P/Ns is installed, which has had Messier-Dowty SB 146-32-150 declared as being embodied by Messier Services, Sterling, Virginia, United States of America.</p> <p>Note: Aeroplanes with a NLG unit P/N 201138002 installed having s/n M-DG-0169 or higher are not affected by this AD.</p>
Reason:	<p>In June 2000, prompted by a crack found at the top of the NLG oleo, BAE Systems (Operations) Ltd issued Inspection Service Bulletin (SB) 32-158. This SB was classified mandatory by the UK Civil Aviation Authority under AD number 002-06-2000, requiring repetitive non-destructive testing (NDT) inspections for cracking on the upper end of the NLG oleo. The AD also provided an optional terminating action for the repetitive inspections, by embodiment of Messier-Dowty SB.146-32-150.</p> <p>As part of a recent accident investigation, the examination of a fractured NLG main fitting showed that Messier-Dowty SB.146-32-150 had not been accomplished, although the records indicated that it had been. BAE Systems has determined that more NLG units could be similarly affected. These NLG units have been overhauled at Messier Services in Sterling,</p>

	<p>Virginia, in the United States.</p> <p>This condition, if not corrected, could result in NLG failure.</p> <p>To address this situation, EASA issued Emergency AD 2009-0043-E to require repetitive NDT inspections of each affected NLG unit and, if cracks are found, replacement with a serviceable unit, in accordance with the instructions of BAE Systems (Operations) Limited Alert Inspection Service Bulletin ISB.A32-180 and Messier-Dowty (M-D) SB 146-32-149.</p> <p>Subsequently, investigation and analysis by M-D has identified the need for a reduction of the inspection threshold and the repetitive inspection interval for the affected NLG units and has replaced M-D SB 146-32-149 with M-D SB 146-32-174. Consequently, BAE Systems SB 32-158 has been withdrawn and superseded by BAE Systems Alert ISB.A32-180 Revision 1.</p> <p>For the reasons described above, this Emergency AD retains the requirements of UK CAA AD 002-06-2000 and EASA Emergency AD 2009-0043-E, both of which are superseded, requires repetitive NDT inspections of each affected NLG unit and, if cracks are found, replacement with a serviceable unit and reduces the threshold and interval of the repetitive NDT inspections.</p>										
Effective Date:	07 September 2009										
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Before next flight after the effective date of this AD, determine whether an affected NLG unit is installed on the aircraft, as identified in paragraph 1.A.(1) of BAE Systems (Operations) Limited Alert Inspection Service Bulletin ISB.A32-180 Revision 1 (the ISB). At the time indicated in Table 1 of this AD, as applicable, inspect each affected NLG unit in accordance with the instructions of M-D SB 146-32-174.</p> <p style="text-align: center;">Table 1</p> <table> <tr> <th>NLG Status (on AD effective date)</th><th>Inspection Compliance Time</th></tr> <tr> <td>Included in s/n list in paragraph 1.D Part 1 of the ISB</td><td>Before next flight after the effective date of this AD.</td></tr> <tr> <td>Accumulated less than 4 700 cycles since new (paragraph 1.D Part 2 of the ISB)</td><td>Before accumulating 5 000 cycles (of the NLG) since new</td></tr> <tr> <td>Accumulated 4 700 cycles or more since new and less than 2 200 cycles since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 3 of the ISB)</td><td>Before accumulating 300 cycles (of the NLG) or within 2 months, whichever occurs first after the effective date of this AD.</td></tr> <tr> <td>Accumulated 4 700 cycles or more since new and 2 200 cycles or more since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 4 of the ISB)</td><td>Before accumulating 2 500 cycles (of the NLG) since the last inspection in accordance with M-D SB 146-32-149</td></tr> </table> <p>(2) Thereafter, at intervals not exceeding 300 cycles, repeat the inspection in accordance with M-D SB 146-32-174</p> <p>(3) If a crack is found during any inspection in accordance with Messier-Dowty SB 146-32-174, before further flight, replace the NLG with a serviceable unit.</p> <p>(4) Replacement of an affected NLG unit as required by paragraph (3) of this AD constitutes terminating action for the repetitive inspection requirements of paragraph (2) of this AD if the replacement NLG unit has been modified</p>	NLG Status (on AD effective date)	Inspection Compliance Time	Included in s/n list in paragraph 1.D Part 1 of the ISB	Before next flight after the effective date of this AD.	Accumulated less than 4 700 cycles since new (paragraph 1.D Part 2 of the ISB)	Before accumulating 5 000 cycles (of the NLG) since new	Accumulated 4 700 cycles or more since new and less than 2 200 cycles since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 3 of the ISB)	Before accumulating 300 cycles (of the NLG) or within 2 months, whichever occurs first after the effective date of this AD.	Accumulated 4 700 cycles or more since new and 2 200 cycles or more since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 4 of the ISB)	Before accumulating 2 500 cycles (of the NLG) since the last inspection in accordance with M-D SB 146-32-149
NLG Status (on AD effective date)	Inspection Compliance Time										
Included in s/n list in paragraph 1.D Part 1 of the ISB	Before next flight after the effective date of this AD.										
Accumulated less than 4 700 cycles since new (paragraph 1.D Part 2 of the ISB)	Before accumulating 5 000 cycles (of the NLG) since new										
Accumulated 4 700 cycles or more since new and less than 2 200 cycles since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 3 of the ISB)	Before accumulating 300 cycles (of the NLG) or within 2 months, whichever occurs first after the effective date of this AD.										
Accumulated 4 700 cycles or more since new and 2 200 cycles or more since the last inspection in accordance with M-D SB 146-32-149 (paragraph 1.D Part 4 of the ISB)	Before accumulating 2 500 cycles (of the NLG) since the last inspection in accordance with M-D SB 146-32-149										

	<p>in accordance with the requirements of Messier-Dowty SB 146-32-150, or if the replacement NLG is a P/N 201138002 unit with s/n M-DG-0169 or higher.</p> <p>(5) Modification of an affected NLG in accordance with M-D SB 146-32-150 constitutes terminating action for the repetitive inspection requirements of paragraph (2) of this AD for that NLG unit.</p> <p>(6) For an affected NLG unit that has had M-D SB 146-32-150 embodied by Messier Services in Sterling, Virginia, USA, verify that the SB has been embodied, in accordance with approved Messier-Dowty instructions. At the time of issuance of this AD, such instructions have not yet been published.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited Alert ISB.A32-180 Revision 1, dated 27 August 2009.</p> <p>Messier-Dowty SB 146-32-150 dated 22 May 2000 and Messier-Dowty SB 146-32-149 dated 17 April 2000, which has been replaced with Messier-Dowty SB 146-32-174 dated 26 August 2009.</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 safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 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 questions 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

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0002

Issue Date: 18 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 2004-1279 on 17 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

HS.748

Type Certificate Data Sheet No: None

Superseded/ Revised ADs: 003-12-2002

ATA 27 - FLIGHT CONTROLS – GUST LOCKS - INSTALLATION OF A BAULKING ACTUATOR ON THE ELEVATOR GUST LOCK

Manufacturer(s): Hawker Siddeley Aviation Ltd/British Aerospace PLC

Applicability: Model HS.748 all Series aeroplanes certificated in any category.

Reason: BAE Systems (Operations) Ltd Service Bulletin HS748-27-135 Revision 2 incorporates minor changes that correct erroneous wiring information which if not corrected could result in the incorrect operation of the rotary actuator baulk.

Effective Date: 16 March 2004


Compliance/Action:

- a) Within a period not exceeding 750 flight hours or 240 days after the installation of the baulk actuator in accordance with Part 2 of Service Bulletin HS748-27-135 Revision 1 or at next scheduled inspection of the baulk lever in accordance with Appendix 2 of Service Bulletin HS748-27-135 Revision 1 or 2, whichever occurs later, inspect Modification 7673 in accordance with Service Bulletin HS748-27-135 Revision 2 dated 2 October 2003 or later CAA approved revision and correct wiring as necessary. Function test the Elevator Gust Lock Baulk Actuator System in accordance with Appendix 1 of Service Bulletin HS748-27-135 Revision 2 dated 2 October 2003 or later CAA approved revision.
- b) Within a period not exceeding 750 flight hours or 240 days after the installation of the baulk actuator in accordance with Part 2 of Service Bulletin HS748-27-135 Revision 1 or 2, inspect Modification 7673 in accordance with Appendix 2 of Service Bulletin HS748-27-135 Revision 2 or later CAA approved revision. Repeat this inspection at an interval not exceeding 750 flight hours or 240 days thereafter.

Reference Publications: BAE Systems (Operations) Limited Service Bulletin SB HS748-27-135 Revision 2, 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 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 Facsimile: +44 (0) 1293 573976 E-mail: michael.gadd@srg.caa.co.uk

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0125</p> <p>Date: 02 July 2008</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>
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].	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE SYSTEMS (OPERATIONS) LTD	HS.748 aircraft
TCDS Number : None	
Foreign AD : Not applicable	
Supersedure : None	
ATA 05	Time Limits / Maintenance Checks – Fuel Tank Safety Airworthiness Limitations – Implementation
Manufacturer(s):	Hawker Siddeley Aviation Ltd, British Aerospace PLC
Applicability:	HS.748 aircraft, all models, all serial numbers.
Reason:	<p>Resulting from the assessment of fuel tank wiring installations required by SFAR 88 and equivalent JAA/EASA policy, BAE Systems (Operations) Limited has revised the HS.748 Aircraft Maintenance Manual (AMM), now at Revision 19, to introduce Chapter 05-10-00 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System". The CDCCLs provide instructions to retain critical ignition source prevention features during configuration changes that may be caused by modification, repair or maintenance actions.</p> <p>The CDCCLs have been identified as requirements for continued airworthiness to address the risk of fuel vapour ignition sources remaining undetected. This condition, if not corrected, could result in a fuel tank explosion and consequent loss of the aircraft.</p> <p>For the reasons described above, this EASA AD requires compliance with the instructions and limitations as specified in the CDCCLs.</p>
Effective Date:	16 July 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Within the next 3 months after the effective date of this AD, amend the approved aircraft maintenance schedule to incorporate the instructions and limitations of HS.748 AMM Chapter 05-10-00 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" at AMM Revision 19.</p>

Ref. Publications:	<p>BAE Systems (Operations) Limited HS.748 Aircraft Maintenance Manual, Chapter 05-10-00, Revision 19 dated 15 January 2008.</p> <p>The use of later approved revisions of this document 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. This AD was posted on 13 May 2008 as PAD 08-051R1 for consultation until 30 June 2008. No comments were received during the consultation period.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



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0001

Issue Date: 22 January 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 2004-444 on 16 January 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

BRITISH AEROSPACE ATP

Type Certificate Data Sheet No: BA23

Superseded/ Revised ADs: None

ATA 54 – NACELLES/PYLONS – INSPECTION OF BOLTS ATTACHING AFT ISOLATOR BRACKETS TO THE ENGINE SUBFRAME AFT MOUNTING BEAMS

Manufacturer(s): BAE SYSTEMS (Operations) Limited

Applicability: British Aerospace Model ATP aeroplanes post modification 35256A (Service Bulletin ATP-54-10).

Reason: Service experience indicates that engine vibration can cause a reduction in torque loading of the bolts attaching the aft isolators to the engine subframe. Testing has demonstrated that reduced torque loading has an adverse effect on the fatigue life of the attachment bolts. In-service bolt failures have been reported. Failure of all bolts in the bolt group will affect the ability of the engine sub-frame to control the effects of resonance and whirl flutter, and may result in engine separation.

The inspections and any required rectification actions detailed in BAE SYSTEMS Service Bulletin ATP-54-20 are required to be performed to ensure continued airworthiness of the aeroplane.

Effective Date: 26 January 2004

continued on next page

G-2004-0001


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Compliance/Action:


- a) Within 2,000 landings after the last torque check was performed, either after implementing SB ATP-54-10 or installation of the powerplant in accordance with AMM 71-00-00-400-810, inspect each bolt attaching the aft isolator bracket to the engine subframe in accordance with paragraph 2A of Service Bulletin ATP-54-20 dated 29 July 2003 or later CAA approved revision.
- b) Where bolts have exceeded 1,700 landings since the last torque check, inspect each bolt attaching the aft isolator bracket to the engine subframe in accordance with paragraph 2A of Service Bulletin ATP-54-20 dated 29 July 2003 or later CAA approved revision, prior to the aeroplane exceeding 300 landings from the effective date of the Airworthiness Directive.
- c) From the effective date of this Airworthiness Directive and prior to installation to an aeroplane, spare quick engine change units (QECU) sub-frames must be inspected in accordance with paragraph 2A of Service Bulletin ATP-54-20 dated 29 July 2003 or later CAA approved revision.
- d) Repeat the inspection of each bolt attaching the aft isolator bracket to the engine subframe in accordance with paragraph 2A of Service Bulletin ATP-54-20 dated 29 July 2003 or later CAA approved revision, at an interval not exceeding 2,000 landings.

Reference Publications: BAE SYSTEMS (Operations) Limited Service Bulletin ATP-54-20 dated 29 July 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, Aircraft Certification Section, 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

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0053</p> <p>Date: 05 March 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	ATP aeroplanes
TCDS Number : United Kingdom BA23	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA AD 2008-0141 dated 28 July 2008	
ATA 05	Time Limits / Maintenance Checks – Airworthiness Limitations – Implementation
Manufacturer(s):	British Aerospace plc, British Aerospace (Commercial Aircraft) Ltd
Applicability:	ATP aeroplanes, all serial numbers.
Reason:	<p>The BAE Systems (Operations) Limited ATP Aircraft Maintenance Manual (AMM), includes Chapters 05-10-11 "Mandatory Life Limitations (Airframe – Systems)", 05-10-12 "Mandatory Life Limitations (Airframe – Structures)", 05-10-14 "Mandatory Life Limitations (Powerplant/Engine/APU – Systems)", 05-10-15 "Mandatory Life Limitations (Powerplant/Engine/APU – Structures)", 05-10-17 "Structurally Significant Items (SSI's)", 05-20-00 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" and 05-23-00 "Certification Maintenance Requirements" which have been identified as mandatory actions for continued airworthiness.</p> <p>BAE Systems (Operations) Limited has amended the AMM to include revisions to Chapters 05-10-12 and 05-10-17 that introduce some revised and corrected tasks, including one with a more restrictive limitation.</p> <p>For the reasons described above, this EASA AD retains the requirements of EASA AD 2008-0141, which is superseded, and requires the implementation of the inspections and corrective measures as specified in Chapters 05-10-11, 05-10-12, 05-10-14, 05-10-15, 05-10-17, 05-20-00 and 05-23-00 of the ATP AMM at Revision 82.</p>
Effective Date:	19 March 2009

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within the next 3 months after the effective date of this AD, amend the approved aircraft maintenance programme to incorporate the instructions of ATP AMM at Revision 82 Chapters 05-10-11 "Mandatory Life Limitations (Airframe – Systems)", 05-10-12 "Mandatory Life Limitations (Airframe – Structures)", 05-10-14 "Mandatory Life Limitations (Powerplant/Engine/APU – Systems)", 05-10-15 "Mandatory Life Limitations (Powerplant/Engine/APU – Structures)", 05-10-17 "Structurally Significant Items (SSI's)", 05-20-00 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" and 05-23-00 "Certification Maintenance Requirements".</p> <p>(2) Thereafter, within the thresholds and intervals indicated in that document, accomplish the tasks described in BAE Systems (Operations) Limited ATP AMM Chapters 05-10-11, 05-10-12, 05-10-14, 05-10-15, 05-10-17, 05-20-00 and 05-23-00.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited ATP AMM, Chapters 05-10-11, 05-10-12, 05-10-14, 05-10-15, 05-10-17, 05-20-00 and 05-23-00 at Revision 82, dated 15 July 2008.</p> <p>The use of later approved revisions of this document 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. This AD was published on 04 February 2009 as PAD 09-028 for consultation until 04 March 2009. No comments were received during the consultation period. 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

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0074</p> <p>Date: 31 March 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>ATP aeroplanes</p>
<p>TCDS Number : United Kingdom BA23</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : This AD supersedes EASA AD 2006-0090 dated 20 April 2006.</p>	
ATA 51	Structures – New and Revised Inspections for Fatigue and Environmental Damage – Implementation
Manufacturer(s):	British Aerospace plc, British Aerospace (Commercial Aircraft) Ltd
Applicability:	ATP aeroplanes, all serial numbers.
Reason:	<p>A review of the results of the final fuselage fatigue test identified the need for additional and revised safety-related fatigue- and environmental inspections for the fuselage. These additional tasks were introduced by Service Bulletin (SB) ATP-51-002, which supplemented and in some cases revised those previously published in the Aircraft Maintenance Manual (AMM) Chapter 05-10-17 and the Maintenance Review Board Report (MRBR).</p> <p>As it was determined that these inspections were necessary to maintain the structural integrity of the aeroplane, EASA AD 2006-0090 was issued to require the inspections and, depending on findings, corrective actions as defined in BAE Systems (Operations) Limited SB ATP-51-002 (the SB) at original issue.</p> <p>Since the original Issue of the SB, three revisions have been published. Revision 1 of the SB included only editorial changes. Revision 2 of the SB corrected the fuselage frame designations in Parts 50 and 50A and extended the allowable time before initial inspection. In addition, the repeat inspection interval in Part 43 of the SB was reduced. In the latest Revision 3 of the SB, the grace period for the initial inspection in Part 50 has been clarified.</p> <p>Fatigue tasks in Parts 1 through 50 of the SB, i.e. those without an "A" suffix, have now been replicated in AMM Chapter 05-10-17 and MRBR Section 6. In addition, environmental tasks, those identified with an "A" suffix, have now</p>

	<p>been replicated in MRBR Section 6.</p> <p>For the reasons described above, this AD retains the requirements of EASA AD 2006-0090, which is superseded, and requires the accomplishment of the inspections and, depending on findings, corrective actions as defined in BAE Systems (Operations) Limited SB ATP-51-002 at Revision 3.</p>
Effective Date:	14 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) From 04 May 2006 [the effective date of EASA AD 2006-0090], accomplish the inspections and, depending on findings, corrective actions described in BAE Systems (Operations) Limited SB ATP-51-002. (2) Inspections and corrective actions accomplished prior to the effective date of this AD in accordance with BAE Systems (Operations) Limited SB ATP-51-002 at original issue or Revision 1 or Revision 2 are acceptable to comply with the requirements of paragraph (1) of this AD. (3) Within 30 days after the effective date of this AD, amend the approved aircraft maintenance schedule to incorporate the inspections as defined in BAE Systems (Operations) Limited SB ATP-51-002 at Revision 3. (4) Thereafter, within the thresholds and intervals indicated in the SB, accomplish the inspections and, depending on findings, corrective actions in accordance with the instructions of BAE Systems (Operations) Limited SB ATP-51-002 at Revision 3. Accomplishment of corrective actions in accordance with the SB does not constitute terminating action for the repetitive inspection requirements of this AD. (5) Within 30 days after each inspection as required by paragraph (4) of this AD, send an Inspection Report to BAE Systems in accordance with the instructions of paragraph 2 of the SB.
Ref. Publications:	<p>BAE Systems (Operations) Limited SB ATP-51-002 original issue dated 20 December 2005, Revision 1 dated 26 February 2007, Revision 2 dated 19 November 2007, and Revision 3 dated 3 April 2008.</p> <p>The use of later approved revisions of this document 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. This AD was published on 26 February 2009 as PAD 09-047 for consultation until 26 March 2009. No comments were received during the consultation period. 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.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0012

Issue Date: 20 April 2005

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 2005-3462 on 15 April 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

**HP 137 JETSTREAM MK 1, JETSTREAM
SERIES 200, 3100 AND 3200**

Type Certificate Data Sheet No: BA4 and BA15

Superseded/ Revised ADs: 003-06-2003

ATA 32 – MAIN LANDING GEAR – REDESIGNED FOR RADIUS ROD RETENTION

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: Models HP 137 Jetstream Mk 1, Jetstream Series 200, 3100 and 3200 aeroplanes.

Reason: A potential unsafe condition has been identified from a single in-service incidence of migration of the MLG radius rod housing from the spherical bearing attachment at the wing root, which could lead to detachment and sudden collapse of the MLG leg. This has been classified as a Hazardous condition.

The cause of this migration has been established as incorrect swaging of the bearing sleeve, which cannot be detected with the radius rod actuator installed on the aircraft. AD 003-060-2003 required frequent repetitive inspection of the effected area to detect migration within the radius rod cylinder spherical joint. This Airworthiness Directive supersedes AD 003-06-2003 and mandates the installation a modified retention washer to prevent detachment of the MLG radius rod should migration from the spherical bearing occur.

Effective Date: 29 April 2005

Compliance/Action:

a) For aeroplanes previously inspected in accordance with AD 003-060-2003 and not modified in accordance with paragraph b) of this Airworthiness Directive, within 50 flight cycles since last the inspection in accordance with AD 003-060-2003 and thereafter at intervals not to exceed 50 flight cycles, inspect the main landing gear radius rod spherical bearing for evidence of migration from the radius rod cylinder in accordance with BAE Systems Service Bulletin 32-JA030340 Revision 1, or later EASA approved revision.

b) Within 2000 flight hours or one year of the effective date of this Airworthiness Directive, whichever occurs later, install the redesigned radius rod retention washer in accordance with paragraph 2 of BAE Systems Service Bulletin 32-JM5413, Original Issue, or later EASA approved revision.

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c) Prior to the accumulation of 5,000 flight cycles since installation of the redesigned radius rod retention washer in accordance with paragraph b) of this Airworthiness Directive, and thereafter at intervals not to exceed 5000 flight cycles, carry out a visual inspection of the radius rod cylinder and the retention washer for evidence of spherical bearing migration towards contact, contact or contact damage with the retention washer.

If bearing migration or retention washer damage is observed the radius rod and/or retention washer must be replaced prior to further flight.

Reference Publications: BAE SYSTEMS (Operations) Limited Service Bulletins, SB 32-JM5413, Original Issue, dated 5 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 the Certification and Approvals Department, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: department.certification@srg.caa.co.uk



**United Kingdom
Civil Aviation
Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0024

Issue Date: 24 August 2005

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 2005-6188 on 22 August 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

**HP137 JETSTREAM MARK 1, JETSTREAM
SERIES 200, 3100 AND 3200**

Type Certificate Data Sheet No: BA4 & BA15

Superseded/ Revised ADs: None

ATA 32 – MAIN LANDING GEAR – REMOVAL FROM SERVICE OF AN INCORRECTLY HEAT TREATED DOWN LOCK PISTON IN THE RADIUS ROD ASSEMBLY

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 and Jetstream Series 200, 3100 and 3200 aeroplanes.

Reason: A batch of MLG downlock pistons with incorrect heat treatment have been installed into MLG radius rods fitted to the above aircraft types during overhaul. The effect of the incorrect heat treatment is reduced strength and hardness, which can lead to failure of the piston and/or contamination of the hydraulic system. Failure of the downlock piston in combination with a loss of hydraulic pressure could result in the collapse of the affected main landing gear, which during the critical phases of take-off and landing will result in a loss of directional control.

Effective Date: 30 September 2005

Compliance/Action: From the effective date of this AD.

- A.) At the next main landing gear radius rod overhaul but no later than 31 August 2010, remove from service and replace with a new or serviceable part any incorrectly heat treated radius rod down lock piston listed in Paragraph 1A of BAE SYSTEMS Service Bulletin 32-JA040547 Original Issue or later EASA approved revision. Replace defective components in accordance with Paragraph 1N of BAE SYSTEMS Service Bulletin 32-JA040547 Original Issue or later EASA revision.
- B.) No person shall install a radius rod assembly on an aircraft that contains a down lock piston identified in Paragraph 1A of BAE SYSTEMS Service Bulletin 32-JA040547 Original Issue or later EASA approved revision.

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Reference Publications: BAE SYSTEMS (Operations) Limited Service Bulletins 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 Certification and Approvals Department, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315, Facsimile: +44 (0) 1293 573976, E-mail: department.certification@srg.caa.co.uk



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2006-0003

Issue Date: 2 February 2006

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 2006-0039 on 31 January 2006.

In accordance with Article 10 of the Air Navigation Order 2005 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

**HP 137 JETSTREAM MK 1, JETSTREAM
SERIES 200, 3100 AND 3200**

Type Certificate Data Sheet No: BA4 & BA15

Superseded AD: 006-02-2003

ATA 57 – WING - INSPECTION OF BOLTS AT WING STUB SPIGOT POST ASSEMBLY AT FRAME 199

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: All Models Jetstream HP137 Mark 1 and Jetstream Series 200, 3100 and 3200 aeroplanes.

Reason: In-service reports have been received by BAE of failed bolts fitted to frame 199 wing spigot post assembly. If left uncorrected failure of these bolts will severely compromise the structural integrity of the wing to fuselage attachment. Failure of which would lead to loss of the aircraft. To address these concerns, BAE issued SB 57-JA020740 original issue in February 2003 mandated by CAA AD 006-02-2003. Recently received additional information has caused BAE to raise the Service Bulletin to revision 2. Revision 2 of the SB introduces various changes. One is substantive, it relates to the need to check for correct washer installation. Incorrect installation could lead to fretting and fatigue crack initiation in the fitting followed by failure or bending loads in the bolt leading to failure of the affected bolts. If left uncorrected failure of these bolts or a wing fitting will severely compromise the structural integrity of the wing to fuselage attachment. Failure of which would lead to loss of the aircraft. This substantive change to the service bulletin necessitates the raising of this superseding AD.


Effective Date: 28 February 2006

Compliance/Action: Required from the effective date of this AD, comply with the requirements given in BAE Jetstream Series 3100 and 3200 Service Bulletin 57-JA020740 Wing – Inspection of bolts at wing stub spigot post assembly at frame 199 Revision 2 or later approved revisions.


Reference Publications: BAE SYSTEMS (Operations) Limited Service Bulletins 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 may be directed to Civil Aviation Authority, Safety Regulation Group, AD Unit, Strategy & Standards Department, Aviation House, Gatwick, Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573802 Facsimile: +44 (0) 1293 573993 E-mail: ad.unit@srg.caa.co.uk


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006 - 0087</p> <p>Date: 18 April 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name :</p> <p>BAE SYSTEMS (OPERATIONS) LTD.</p>	<p>Type/Model designation(s) :</p> <p>HP 137 Jetstream MK 1, Jetstream Series 200, 3100 and 3200</p>
TCDS Number : UK BA4 & BA15	
Foreign AD : None	
Supersedure : UK CAA AD G-2005-0011	
ATA 32	Landing Gear – Main and Nose Landing Gears - To introduce life limitations and provide means of establishing total flight cycles since new for critical components.
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:	All Models HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200 aeroplanes.
Reason:	<p>This Airworthiness Directive, which supersedes UK AD G-2005-0011 is published in order to maintain the structural integrity of the applicable aircraft.</p> <p>The Service Bulletin provides life limits for critical landing gear components. Failure of such items could lead to unsafe conditions.</p> <p>This superseding AD is required as it has been identified that no life limit was explicitly stated in Service Bulletin 32-JA981042 Rev 4 for a correctly installed steering jack piston. To address this deficiency the SB has been revised. This AD mandates Service Bulletin 32-JA981042 Rev 5 or later EASA approved revisions.</p> <p>Background information: Jetstream Series 3100 and 3200 Service Bulletin 32-JA981042 was originally issued in November 2000 and mandated by UK AD 006-11-2000. The Service Bulletin was revised in 2004 to revision 4 to correct a part number and to add life limits for two new part numbers. UK AD G-2005-0011 was raised to mandate this revision, superseding UK AD 006-11-2000.</p> <p>UK AD G-2005-0011 is now superseded by this EASA AD.</p>

Effective Date:	28 April 2006
Compliance:	From the effective date of this AD, it is mandatory to comply with the requirements given in Jetstream Series 3100 and 3200 Service Bulletin 32-JA981042 Rev 5. Landing Gear – Main and Nose Landing Gears – To introduce life limitations and provide means of establishing total flight cycles since new for critical components, or later EASA approved revisions.
Ref. Publications:	Jetstream Series 3100 & 3200 Service Bulletin 32-JA981042 Rev 5 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-049 for consultation on 06 March 2006 with a comment period until 1 April 2006. No comment was raised during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int 4. For any question concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS) Prestwick International Airport, Ayrshire, KA9 2RW, Scotland – (Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RAPublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No. : 2006 - 0128 Date: 18 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s) : HP 137 Jetstream MK 1, Jetstream Series 200, 3100 and 3200
TCDS Number : UK BA4 & BA15	
Foreign AD : None	
Supersedure : None	
ATA 32	Landing Gear – Introduction of a Steering Jack With a Modified Gland Housing
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:	All Models HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200 aeroplanes.
Reason:	<p>Two incidents have been reported where the normal hydraulic supplies were lost due to failure/loss of the steering jack gland housing. This has been attributed to pre-existing thread damage on the steering jack gland housing. Three previous failures may also be due to this failure mechanism.</p> <p>Failure of the steering jack gland housing resulted in significant damage to the right hand undercarriage bay door, and could result in the nose landing gear jamming in a fully or partially retracted position. Landing in such a condition is considered as potentially unsafe due to the degraded control of the aircraft post touch down.</p> <p>Changes to the gland have been introduced in order to prevent further recurrence.</p>
Effective Date:	01 June 2006


Compliance:	After 1st July 2006 and prior to 1st July 2012, following the next removal for overhaul of steering jack part number 6182-1 to 6182-5 install a serviceable steering jack in accordance with Service Bulletin 32-JM5417 at Original Issue or later approved revision.
Ref. Publications:	Jetstream Series 3100 & 3200 Service Bulletin 32-JM5417 Original Issue or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-086 for consultation on 05 April 2006 with a comment period until 01 May 2006. No comment was raised during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirement in this AD, please contact 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

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0343</p> <p>Date: 09 November 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD	HP 137 Jetstream MK1, Jetstream Series 200, 3100 and 3200
TCDS Number: UK BA4 and BA15	
Foreign AD: None	
Supersedure: UK CAA AD G-2005-0010 (EASA Approval No. 2005-3460)	
ATA 32	Landing gear - Main Landing Gear Radius Rod - Inspection of Cylinder for Cracking
Manufacturer:	Handley Page Ltd, Scottish Aviation Limited, British Aerospace plc, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd., British Aerospace Regional Aircraft Ltd., Jetstream Aircraft Ltd., British Aerospace (Operations) Ltd.
Applicability:	All Models HP137 Jetstream MK1 and Jetstream Series 200, 3100 and 3200 aeroplanes with radius rod cylinder part numbers 1847/A to 1847/L and 1862/A to 1862/L.
Reason:	<p>Subsequent to the original issue of AD G-2005-0010 and the BAe Service Bulletin a third radius rod, which was not included in the applicability of the AD, has cracked in service. This AD and the related SB is revised to:</p> <p>(i) Expand applicability to include all Jetstream radius rods, and</p> <p>(ii) Revise the associated inspections</p> <p>This AD mandates additional inspections considered necessary to address the unsafe condition.</p>
Effective Date:	23 November 2006


Compliance:	Required from the effective date of this Directive, perform the inspections at the thresholds and intervals specified in BAe Systems (Operations) Service Bulletin 32-JA040945 revision 1 dated April 20 2006 or later approved revision.
Ref. Publications:	BAE SYSTEMS (Operations) Limited Inspection Service Bulletin 32-JA040945 Rev 1 or later approved revision.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 06-233 for consultation on 05 October 2006 with a comment period until 03 November 2006. No comments were raised during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0087</p> <p>Date: 30 March 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name:</p> <p>BAE SYSTEMS (OPERATIONS) LTD</p>	<p>Type/Model designation(s):</p> <p>HP 137 Jetstream MK 1, Jetstream Series 200, 3100 and 3200</p>
TCDS Number: UK BA4 and BA15	
Foreign AD: Not applicable	
Supersedure: Not applicable	
ATA 32	Landing Gear – Main Landing Gear (MLG) Radius Rod – Inspection / Replacement
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:	Models HP 137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200 aeroplanes, all models (variants), all serial numbers, if MLG radius rod cylinders with part number (P/N) 1847/A to 1847/L and 1862/A to 1862/L without strike-off 12 or 13 are installed.
Reason:	<p>There has been a report of landing gear radius rods suffering cracks starting in the flashline near the microswitch boss. Such cracks can result in loss of the normal hydraulic system and may lead to a landing gear collapse. Main landing gear collapse is considered as potentially hazardous/catastrophic. This AD mandates additional inspections considered necessary to address the identified unsafe condition.</p> <p>Note: The cause of this cracking is not related to previous cracking of the radius rod cylinder addressed by BAE Systems SB 32-JA040945 (CAA AD G-2005-0010), however, the consequences of a failure are the same.</p>
Effective Date:	13 April 2007

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 3 months after the effective date of this directive, inspect the Main Landing Gear Radius Rod Forged Cylinder Flashline in accordance with the accomplishment instructions of BAE Systems (Operations) Ltd Service Bulletin 32-JA060741 Original Issue or later approved revisions; (2) If cracks are found, before next flight, replace the radius rod assembly with a serviceable unit; (3) Thereafter, at intervals not to exceed 12 months, repeat the inspection as required by paragraph (1) of this directive; (4) During each radius rod overhaul, accomplish APPH Service Bulletin 1847-32-12 or 1862-32-12, as applicable, or perform a fluorescent dye penetrant inspection of the cylinder counterbore in accordance with APPH Component Maintenance Manual (CMM) 32-10-16 at Revision 11 or higher. <p>Note 1: Replacement of the affected radius rod assembly by installing a P/N 1847/A to 1847/L with strike-off 12 or 13, or 1847/M or later, and P/N 1862/A to 1862/L with strike-off 12 or 13, or 1862/M or later, constitutes terminating action for the repetitive inspection requirements of this directive.</p> <p>Note 2: After 13 July 2007, no person may install a spare radius rod assembly on an aircraft unless it has been inspected in accordance with the requirements of this directive.</p>
Ref. Publications:	BAE SYSTEMS (Operations) Limited Service Bulletin 32-JA060741 Original Issue or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted on 06 March 2007 as PAD 07-024 for consultation until 27 March 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2008-0037</p> <p>Date: 22 February 2008</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD	HP.137 Jetstream MK 1 aircraft; and Jetstream Series 200, 3100 and 3200 aircraft
TCDS Number : United Kingdom BA4 and BA15	
Foreign AD : Not applicable	
Supersedure : None	
ATA 32	Landing Gear – Nose Landing Gear (NLG) Wheel Outer Cone – 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, British Aerospace (Operations) Ltd.
Applicability:	Models HP.137 Jetstream Mk1 aircraft; and Jetstream Series 200, 3100 and 3200 aircraft, all models, all serial numbers
Reason:	<p>A failure mode has been identified following the examination of parts from another aircraft type (Jetstream 4100 series) that can lead to the loss of a nose-wheel. The Jetstream (HP.137) Mk1, 200, 3100 and 3200 series use a similar method for retaining the wheel assemblies on the landing gear axle and can therefore experience the same type of failure, i.e. a combination of excessive wear and/or adverse tolerances on the axle inner cone, outer cone or wheel hub splined sleeve cones resulting in the loss of the critical gap between the inner flange face of the wheel outer cone and the axle end face. If this gap is lost, it results in the wheel having free play along the length of the axle. This condition, if not corrected, can cause the wheel nut lock plate to break, leading to the wheel retention nut unscrewing and subsequent separation of the nose wheel from the landing gear axle.</p> <p>For the reasons described above, this AD requires repetitive inspections of the nose landing gear to ensure that the wheels are correctly retained and, depending on findings, replacement of worn parts.</p>
Effective Date:	07 March 2008


Compliance	<p>(1) Within 3 months of the effective date of this AD, inspect the left and right nose wheel attachments to the axle in accordance with paragraph 2 B of BAE Systems (Operations) Ltd Service Bulletin 32-JA070241;</p> <p>(2) If the measured gap size is less than 0.002 in (0.05 mm), before next flight, replace all worn parts;</p> <p>(3) If the measured gap size is equal to or more than 0.002 in (0.05 mm), depending on the exact finding, at intervals not to exceed the value as indicated in Table 1 of this AD (see below), repeat the inspection of the left and right nose wheel attachments to the axle in accordance with paragraph 2 B of BAE Systems (Operations) Ltd Service Bulletin 32-JA070241;</p> <table border="1"> <tr> <th colspan="2">Table 1</th></tr> <tr> <th>Measured Gap Size</th><th>Repeat Inspection Interval in Flight Hours (FH)</th></tr> <tr> <td>0.002 in. to 0.005 in. (0.05/0.13mm).</td><td>500 FH</td></tr> <tr> <td>More than 0.005 in. to 0.010 in. (0.13/0.25mm).</td><td>1 000 FH</td></tr> <tr> <td>More than 0.010 in. to 0.020 in. (0.25/0.51mm).</td><td>2 000 FH</td></tr> <tr> <td>More than 0.020 in. (0.51mm).</td><td>3 000 FH</td></tr> </table> <p>Note 1: If, during any repeat inspection as required by paragraph (3) of this AD, the finding has changed to another value (see Table 1 above), adjust the new interval accordingly.</p> <p>(4) If, during any repeat inspection as required by paragraph (3) of this AD, the measured gap size is found to be less than 0.002 in (0.05 mm), before next flight, replace the worn parts.</p> <p>Note 2: Replacement of parts does not constitute terminating action for the inspection requirements of this AD.</p>	Table 1		Measured Gap Size	Repeat Inspection Interval in Flight Hours (FH)	0.002 in. to 0.005 in. (0.05/0.13mm).	500 FH	More than 0.005 in. to 0.010 in. (0.13/0.25mm).	1 000 FH	More than 0.010 in. to 0.020 in. (0.25/0.51mm).	2 000 FH	More than 0.020 in. (0.51mm).	3 000 FH
Table 1													
Measured Gap Size	Repeat Inspection Interval in Flight Hours (FH)												
0.002 in. to 0.005 in. (0.05/0.13mm).	500 FH												
More than 0.005 in. to 0.010 in. (0.13/0.25mm).	1 000 FH												
More than 0.010 in. to 0.020 in. (0.25/0.51mm).	2 000 FH												
More than 0.020 in. (0.51mm).	3 000 FH												
Ref. Publications:	<p>BAE SYSTEMS (Operations) Limited Service Bulletin 32-JA070241.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 16 January 2008 as PAD 08-010 for consultation until 13 February 2008. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland; Telephone: +44 1292 675207; Fax: +44 1292 675704; E-mail: RAPublications@baesystems.com 												

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>
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>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

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EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0181-E Date: 12 August 2009 <p>Note: This Emergency 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	HP 137 Jetstream MK 1, Jetstream Series 200, 3100 and 3200 aeroplanes
TCDS Numbers : UK BA4 and EASA.A.191	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA Emergency AD 2009-0121-E dated 09 June 2009.	
ATA 32	Landing Gear – Main Landing Gear Radius Rod – Identification / Replacement
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:	HP 137 Jetstream MK 1, Jetstream Series 200, 3100 and 3200 aeroplanes, all Models, all serial numbers.
Reason:	<p>BAE Systems have been notified by the main landing gear (MLG) radius rod manufacturer, APPH Ltd, that a batch of incorrectly manufactured Buffer Springs (part number 184818) has been supplied to their parts distributor and maintenance- and repair organisation (MRO) facilities in North America.</p> <p>There is a risk that any radius rod fitted with one of these incorrectly manufactured Buffer Springs could jam in an unlocked position. This condition, if not corrected, could result in MLG collapse and consequent injury to occupants of the aeroplane. EASA issued AD 2009-0121-E to require the replacement of the affected radius rods.</p> <p>BAE Systems (Operations) Ltd Alert Service Bulletin (ASB) 32-A-JA090640 Revision 2 (the ASB) has now been issued, which identifies an additional seven affected radius rods by serial number (s/n).</p> <p>For the reasons described above, this AD retains the requirements of AD 2009-0121-E, which is superseded, and expands the applicability to include the replacement of the additional units.</p>
Effective Date:	14 August 2009

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Before next flight after the effective date of this AD, determine whether an affected radius rod is installed on the aeroplane, as identified by s/n in paragraph 2.B of the ASB. (2) If one of the affected radius rods is found to be installed, before further flight, replace it with a serviceable unit. (3) After the effective date of this AD, do not install any of the affected radius rods (as identified by s/n in the ASB) on an aeroplane, unless it has been sent to an authorised overhaul agency for inspection and rectification, if necessary, and marking in accordance with APPH Service Bulletin (SB) 1847-32-14 and/or 1862-32-14, as applicable.
Ref. Publications:	<p>BAE Systems (Operations) Limited ASB 32-A-JA090640 Revision 2, dated 11 August 2009.</p> <p>APPH Ltd SB 1847-32-14 and SB 1862-32-14, both dated June 2009.</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 safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 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



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0018

Issue Date: 22 July 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 2004-7766 on 16 July 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

**BRITISH AEROSPACE REGIONAL
AIRCRAFT JETSTREAM SERIES 3100**

Type Certificate Data Sheet No: BA15

Superseded/ Revised ADs: None

ATA 51 - STRUCTURES - INSPECTION - INTRODUCTION OF NEW AND REVISED INSPECTIONS FOR FATIGUE DAMAGE

Manufacturer(s): Scottish Aviation Ltd, Jetstream Aircraft Ltd, British Aerospace (Regional Aircraft) Ltd, British Aerospace (Operations) Ltd, BAE Systems (Operations) Ltd.

Applicability: All British Aerospace Regional Aircraft Jetstream Series 3100 aeroplane, certificated in any category.

Reason: The results of the formal review of the Jetstream 3200 wing fatigue test and aircraft life investigation have been read across to the Jetstream 3100 aircraft. In conjunction, an extensive review of the results of the Jetstream 3100 fatigue test has been completed and has identified the need to introduce additional safety related inspections.

Effective Date: 5 August 2004

Compliance/Action: From the effective date of this AD, perform the inspections at the thresholds and intervals specified in BAE Systems Service Bulletin 51-JA030544, Revision 1, STRUCTURES – Introduction of New and Revised Inspections for Fatigue Damage, dated 25 May 2004 or later EASA approved revision. If any damage is found, repairs must be performed in accordance with the aircraft structural repair manual or other approved repair scheme.

For the inspection task defined in BAE Systems Service Bulletin 51-JA030544, Revision 1, Appendix 1, Paragraph M, Part 14 (Inspection of Window Pans), attention is drawn to the fact that the Service Bulletin in the original issue contained a typographical error. This may have resulted in confusion as to the level of inspection required. If a detailed visual inspection was performed with the windows removed then full credit can be taken for accomplishment of the initial inspection. If a detailed visual inspection was performed with the windows installed the clarified non destructive inspection task stated in BAE Systems Service Bulletin 51-JA030544, Revision 1, Appendix 1, Paragraph M, Part 14, must be performed before 1 July 2005. Thereafter, all subsequent Window Pan inspections are to be accomplished on or before the repeat interval stated in BAE Systems Service Bulletin 51-JA030544, Revision 1 or later EASA approved revision.

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Credit may be taken for the remaining inspections previously accomplished in accordance with BAE Systems Service Bulletin 51-JA030544, Original issue, where the inspection task is unchanged by BAE Systems Service Bulletin 51-JA030544, Revision 1.

Notes: New requirements introduced by SB 51-JA030544, Revision 1, are stated in Paragraph M – Approval, Appendix 2, Part 1. For the tasks defined in SB 51-JA030544, Revision 1, Appendix 1, Paragraph M, Parts 14 and 15, where the initial inspection interval is stated as 25,800 landings or 10 years, the requirement: whichever occurs first, is to apply. Where the Repeat inspection interval is stated as: 4400 landings or 2 years, the requirement: which ever occurs first, is to apply. Where the inspection interval is stated as: 4400 landings or D check, this is to be read as: 4400 landings or 2 years whichever occurs first.

Reference Publications: BAE Systems Service Bulletin 51-JA030544, Revision 1, may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, 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 Directive should be referred to Mr A Sanderson, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573530, Facsimile: +44 (0) 1293 573855, E-mail: andrew.sanderson@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0341</p> <p>Date: 09 November 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD	Jetstream Series 3100
TCDS Number: UK BA15	
Foreign AD: None	
Supersedure: None	
ATA 25	Equipment & Furnishings - External Baggage Pod Restraint Net - Installation
Manufacturer:	British Aerospace plc, British Aerospace (Commercial Aircraft) Ltd.
Applicability:	All Model Jetstream 3100 Series aeroplanes.
Reason:	<p>An earlier design standard of the baggage pod is not equipped with a restraint net. If the baggage door opens inadvertently during flight and an item falls out, there is a risk to persons or property that might be under the aircraft.</p> <p>This AD mandates installation of a baggage restraint net on part number 31-5179-1 pods.</p>
Effective Date:	23 November 2006
Compliance:	<p>From the effective date of this Directive, establish whether a 31-5179-1 baggage pod is fitted to an aircraft, or is held in storage.</p> <p>Prior to 31 July 2007, modify affected pods in accordance with BAe Systems Service Bulletin 25-JK12199 Rev 0 or later approved revision, or remove them from service until they are modified.</p>

Ref. Publications:	BAE SYSTEMS (Operations) Service Bulletin 25-JK12199 Rev 0 or later approved revision.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-231 for consultation on 05 October 2006 with a comment period until 03 November 2006. No comments were raised during the consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0017

Issue Date: 22 July 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 2004-7765 on 16 July 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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LIMITED

**BRITISH AEROSPACE REGIONAL
AIRCRAFT JETSTREAM SERIES 3200**

Type Certificate Data Sheet No: BA15

Superseded AD: 003-05-2003

ATA 51 - STRUCTURES - INSPECTION - INTRODUCTION OF NEW AND REVISED INSPECTIONS FOR FATIGUE DAMAGE

Manufacturer(s): Scottish Aviation Ltd, Jetstream Aircraft Ltd, British Aerospace (Regional Aircraft) Ltd, British Aerospace (Operations) Ltd, BAE Systems (Operations) Ltd.

Applicability: Model British Aerospace Regional Aircraft Jetstream 3200 Series aeroplanes, certificated in any category.

Reason: A review of the Jetstream 3200 structure has been completed as part of an aircraft life extension investigation. This has generated a series of additional safety related inspections of the fuselage and wing structures. Details of these inspections were published in BAE Systems Service Bulletin (SB) 51-JA020940, Original Issue dated 22 August 2003.

This Airworthiness Directive (AD) supersedes CAA AD 003-05-2003 and mandates the contents of Revision 1 of BAE Systems Service Bulletin 51-JA020940. The SB now contains revised inspection techniques deemed necessary to adequately accomplish certain inspection tasks, and to specify grace periods applicable for aircraft that have exceeded the initial inspection thresholds specified in the SB.

Effective Date: 5 August 2004

continued on next page

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Compliance/Action: From the effective date of this AD perform the inspections at the threshold and intervals specified in BAE Systems Service Bulletin 51-JA020940, Revision 1, STRUCTURES - Introduction of New and Revised Inspections for Fatigue Damage, dated 20 May 2004, or later EASA approved revision. If any damage is found, repairs must be performed in accordance with the aircraft structural repair manual or other approved repair scheme.


For the inspection task defined in BAE Systems Service Bulletin 51-JA020940, Revision 1, Appendix 1, Paragraph M, Part 14 (Inspection of Window Pans), attention is drawn to the fact that the Service Bulletin in original issue contained a typographical error. This may have resulted in confusion as to the level of inspection required. If a detailed visual inspection was performed with the windows removed then full credit can be taken for the accomplishment of the initial inspection. If a detailed visual inspection was performed with the windows installed the clarified Non Destructive Inspection task stated in BAE Systems Service Bulletin 51-JA020940, Revision 1, Appendix 1, Paragraph M, Part 14, must be performed before 1 July 2005. Thereafter, all subsequent Window Pan inspections are to be accomplished on or before the repeat interval stated in BAE Systems Service Bulletin 51-JA020940, Revision 1 or later EASA approved revision.

Credit may be taken for the remaining inspections previously accomplished in accordance with BAE Systems Service Bulletin 51-JA020940, Original issue, where the inspection task is unchanged by BAE Systems Service Bulletin 51-JA020940, Revision 1.

Notes: New requirements introduced by SB 51-JA020940, Revision 1, are stated in Paragraph M - Approval, Appendix 2, Part 1. For the tasks defined in SB 51-JA020940, Revision 1, Appendix 1, Paragraph M, Parts 14 and 15, where the initial inspection interval is stated as 25,800 landings or 10 years, the requirement: whichever occurs first, is to apply. Where the Repeat inspection interval is stated as: 4400 landings or 2 years, the requirement: which ever occurs first, is to apply. Where the inspection interval is stated as: 4400 landings or D check, this is to be read as: 4400 landings or 2 years whichever occurs first.

Reference Publications: BAE Systems Service Bulletin 51-JA020940, Revision 1, may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Ltd, 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 A Sanderson, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573530, Facsimile: +44 (0) 1293 573855, E-mail: andrew.sanderson@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2007-0074 Date: 20 March 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAe Systems (Operations) Ltd	Type/Model designation(s): Jetstream Series 3200
TCDS Number: United Kingdom BA15	
Foreign AD: Not applicable	
Supersedure: United Kingdom CAA AD G-2004-0024, EASA Approval Number 2004-9648.	
ATA 05	Time Limits – Airworthiness Limitations
Manufacturer(s):	British Aerospace PLC; British Aerospace (Commercial Aircraft) Ltd; British Aerospace Regional Aircraft Ltd; Jetstream Aircraft Ltd; British Aerospace (Operations) Ltd.
Applicability:	Jetstream Series 3200 aeroplanes, all models (variants), all serial numbers.
Reason:	The Jetstream Series 3200 Aircraft Maintenance Manual (AMM) includes Chapter 05-10-05 "Airworthiness Limitations, Description and Operation" which is applicable to Jetstream Series 3200 aircraft. This Airworthiness Directive requires compliance with the tasks and limitations specified in Chapter 05-10-05 at Revision 18 for the affected aircraft in order to maintain airworthiness. Revision 18 includes a re-formatted Chapter 05-10-05 and technical changes due to the incorporation of airworthiness limitations introduced by service bulletins.
Effective Date:	03 April 2007
Compliance:	From the effective date of this Airworthiness Directive (AD), comply with the requirements of Jetstream Series 3200 AMM Chapter 05-10-05, "Airworthiness Limitations Description and Operation" at Revision 18 or later approved revisions.
Ref. Publications:	BAE SYSTEMS (Operations) Limited Jetstream Series 3200 Aircraft Maintenance Manual, Chapter 05-10-05.

Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD.2. This AD was posted on 22 February 2007 as PAD 07-018 for consultation until 15 March 2007. No comments were received during the consultation period.3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact: BAE SYSTEMS (OPERATIONS), Project Management Group, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com
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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0006

Issue Date: 7 February 2005

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 2005-1151 on 3 February 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LTD

JETSTREAM 4100

Type Certificate Data Sheet No: BA27

Superseded/ Revised ADs: None

ATA 24 - ELECTRICAL SYSTEM - MODIFICATION

Manufacturer(s): Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd.

Applicability: All Model Jetstream Series 4100 aeroplanes.

Reason: An operator of a Jetstream 4100 aeroplane suffered a total electrical failure just as the aircraft landed. Investigations were unable to determine all of the mechanisms for the total failure, however, it was established that a chafe of the exciter wire to the positive terminal of the starter-generator was a significant contributory factor to the incident.

The current routing of the small wiring at the starter-generator terminal block has the potential for incorrect routing and possible chafing damage. As the starter-generator is removed for overhaul at 600-hour intervals the potential exists for damage and/or mis-routing of wires during removal and re-installation. This AD requires the modification of the aircraft wiring to reduce the likelihood of total electrical failure.

Effective Date: 8 February 2005

Compliance/Action: Required at the next scheduled starter generator change or within six months, whichever occurs later, after the effective date of this AD, carry out the modification of the starter-generator terminal block wiring in accordance with BAE Systems Service Bulletin J41-24-041 Original Issue or later EASA approved revision.

Reference Publications: BAE Systems (Operations) Service Bulletin J41-24-041 at Original Issue, may be obtained from Project Management Group, Customer Information Department, BAE Systems (Operations) Limited, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Phone: +44 (0) 1292 675207 Fax: +44 (0) 1292 675704 E-mail: Rapublications@baesystems.com

Remarks: Enquiries regarding this Airworthiness Directive should be referred to Civil Aviation Authority, Safety Regulation Group, Certification and Approvals Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573315 Fax: +44 (0) 1293 573976 email: department.certification@srg.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0022

Issue Date: 17 August 2005

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 2005-6169 on 15 August 2005.

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:

Type/Model Designation(s):

BAE SYSTEMS (OPERATIONS) LTD

JETSTREAM 4100

Type Certificate Data Sheet No: BA27

Superseded/ Revised ADs: 002-05-97

ATA 32 – LANDING GEAR – MAIN WHEEL – TIE BOLTS – INTRODUCTION OF REVISED MAINTENANCE INSTRUCTIONS, LIFE REQUIREMENTS AND MODIFIED WHEELS

Manufacturer(s): Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace (Commercial Aircraft) Ltd, British Aerospace (Operations) Ltd.

Applicability: All Model Jetstream Series 4100 aeroplanes.

Reason: Following a series of failures to the 5/16" diameter wheel tie bolts which could result in wheel and/or tyre failure with consequential damage or impaired directional control Service Bulletin J41-32-058 Revision 1 was mandated by CAA AD 002-05-97. The service bulletin initially required an inspection of the tie bolts during each tyre change, subsequently changed at revision 1 to introduce a retirement life for wheel tie bolt sets after every fifth tyre change, or following failure of any individual wheel tie bolt in service.

Revision 2 of SB J41-32-058 covers revised Dunlop vendor service bulletin AHA1837-32-1157 at Revision 4 which changes the maintenance procedure for the main wheel tie bolts and, if carried out, removes the retirement life that was imposed on the bolts.

Improvements to the wheel design were made in 2000 by way of optional service bulletin J41-32-072. This later wheel variant incorporates tie bolts increased in diameter to 3/8" that do not require a retirement life. Its embodiment provides terminating action for the requirements of mandatory SB J41-32-058.

Effective Date: 30 September 2005

Compliance/Action:

- a) At the next main wheel tyre change after the effective date of this AD, carry out the accomplishment instructions detailed in paragraph 2 of BAE Systems Service Bulletin J41-32-058 Revision 1.

At every 5th main wheel tyre change the main wheel tie bolts must be discarded and replaced in accordance with paragraph 2 of BAE Systems Service Bulletin J41-32-058 Revision 1.

continued on next page

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For wheel bolts previously subject to AD 002-05-97, the five allowable tyre changes shall continue to be counted from the initial installation of the bolts when new.


OR

- b) From the effective date of this AD inspect the main wheel tie bolts at each tyre change in accordance with the instructions detailed in paragraph 2 of BAE Systems Service Bulletin J41-32-058 Revision 2. Wheel bolts maintained in accordance with this paragraph are not subsequently eligible for compliance in accordance with paragraph (a) of this AD.


BAE Systems Service Bulletin J41-32-072 Revision 1 or later EASA approved revision introduces a modified main wheel assembly incorporating larger diameter wheel tie bolts. Incorporation of this Service Bulletin/modification may be used as the terminating action for this AD.

Reference Publications: BAE Systems (Operations) Service Bulletins 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 Certification and Approvals Department, 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 Facsimile: +44 (0) 1293 573976 E-mail: department.certification@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No. : 2006 - 0131</p> <p>Date: 18 May 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE SYSTEMS (OPERATIONS) LTD	Jetstream 4100
TCDS Number : UK BA27	
Foreign AD : None	
Supersedure : UK G-2004-0003, EASA approval No. 2004-1538	
ATA 32	Landing Gear – Inspection of Nose Landing Gear Capsule for Free Movement & Introduction of Nose Landing Gear With New Shortening Mechanism Bearings
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace (Operations) Ltd and British Aerospace (Commercial Aircraft) Ltd.
Applicability:	All Models Jetstream 4100 Series aeroplanes.
Reason:	<p>Service Bulletin J41-A32-082 revision 1 was the subject of Emergency Airworthiness Directive G-2004-0003, and was issued following two incidents where the nose landing gear failed to fully extend. The EAD required repeat inspections of the NLG shortening mechanism to detect binding at the capsule bearings.</p> <p>Following a third incident in 2005 where the nose landing gear failed to fully extend on an aircraft that had been inspected in accordance with J41-A32-082 rev 1, a review identified that changes were necessary to ensure the inspection would detect NLG assemblies at risk of seizure. The changes comprise a modified 'free-fall' test and a reduced repeat inspection frequency, these being introduced in revision 2 of the SB This AD is required to fully address the unsafe condition previously identified.</p> <p>In addition, modification JM41670 (Service Bulletin J41-32-084) has been developed. This installs a nose landing gear with modified bearings and lubrication provisions in the shortening mechanism. Embodiment of this modification also allows a revised inspection frequency.</p>


Compliance:	<p>From the effective date of the AD the following is mandated:</p> <p>a) The initial inspection in accordance with Paragraph 2B of SB J41-A32-082 rev 2 or later approved revision, is to be performed prior to exceeding the greater of either: 400 flight hours since the AD effective date or 800 flight hours from the last inspection in accordance with SB J41-A32-082 rev 1, but this is not to exceed 3000 flight hours from the last inspection in accordance with SB J41-A32-082 rev 1. (3000 flight hours being the repeat interval defined in SB rev 1).</p> <p>If the check for free movement of the capsule is not satisfactory, remove the Nose Landing Gear and install a serviceable unit and inspect in accordance with Paragraph 2.B. of Service Bulletin J41-A32-082 Revision 2 or later approved revision before further flight.</p> <p>For aircraft without Service Bulletin J41-A32-084 Revision 0 or later approved revision embodied, (Modification JM41670), repeat the inspection in accordance with Paragraph 2.B. of Service Bulletin J41-A32-082 Revision 2 or later approved revision at an interval not exceeding 800 flight hours.</p> <p>For aircraft with Service Bulletin J41-A32-084 Revision 0 or later approved revision embodied, (Modification JM41670), repeat the inspection in accordance with Paragraph 2.B. of Service Bulletin J41-A32-082 Revision 2 or later approved revision at an interval not exceeding 3000 flight hours.</p> <p>b) After 3 months of the effective AD date; where there is a need to fit a replacement gear to an aircraft, the aircraft must be modified in accordance with Paragraph 2.B. of Service Bulletin J41-A32-084 Revision 0 or later approved revision. Additionally all aircraft must be so modified prior to 30 June 2012. Note: Paragraph 2.B. of Service Bulletin J41-A32-084 Revision 0 requires a check for free movement of the capsule, this is to be performed in accordance with Paragraph 2B of SB J41-A32-082 rev 2 or later approved revision.</p>
Ref. Publications:	Jetstream Series 4100 Service Bulletin J41-32A-082 Rev 2 and J41-32-084 Rev 0 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-087 for consultation on 05 April 2006 with a comment period until 01 May 2006. No comment was raised during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point – Certification directorate, EASA E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical contents of the requirements in this AD, please contact 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

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0056 Date: 01 March 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE Systems (Operations) Ltd	Type/Model designation(s): Jetstream 4100
TCDS Number: United Kingdom No. BA 27	
Foreign AD : Not applicable	
Supersedure : This AD supersedes and cancels United Kingdom CAA AD 005-03-97	
ATA 57	Wings – Wing Upper Splice Plate – Inspection
Manufacturer(s):	Jetstream Aircraft Ltd; British Aerospace Regional Aircraft Ltd; British Aerospace (Operations) Ltd; and British Aerospace (Commercial Aircraft) Ltd.
Applicability:	Jetstream 4100 Series aeroplanes, All models, construction numbers 41004 thru 41096 and 41102 thru 41104, on which either: - Service Bulletin (SB) J41-57-019 or equivalent inspection has not been carried out; or - SB J41-57-019 or equivalent inspection has been carried out and the wing upper splice plates have an eddy current reading of less than 35.0 % IACS.
Reason:	<p>In March 1997, British Aerospace Regional Aircraft Limited issued Jetstream 4100 SB J41-57-020 (subsequently mandated by UK CAA AD No. 005-03-97) following investigations which showed that the susceptibility of the wing upper splice plate to corrosion was linked to the material conductivity. The service bulletin introduced additional inspections to check the material conductivity. The service bulletin applicability was limited to aircraft construction numbers 41004 thru 41096.</p> <p>Revision 1 of that SB extends the applicability of this service bulletin to include aircraft construction numbers 41102 thru 41104. Consequently, CAA AD No. 005-03-97 is now superseded by the present EASA AD that retains the requirements of UK CAA AD 005-03-97 and expands the applicability thereof to three additional aircraft.</p> <p>Note: Aircraft construction numbers 41097 thru 41101 were inspected during production and do not require additional action.</p>
Effective Date:	15 March 2007


Compliance:	<p>Required as indicated, unless accomplished previously as originally required by UK CAA AD 005-03-97:</p> <ol style="list-style-type: none"> (1) Within 6 months after the effective date of this directive, accomplish an eddy current inspection of the wing upper splice plate Part Number (P/N) 14157126-3 in accordance with the instructions of British Aerospace Regional Aircraft SB J41-57-019 at original issue (Mar.11/97) or Revision 1 (Nov.26/97) or using an equivalent approved procedure. <p>Note 1: Wing upper splice plates that have an eddy current reading at or above 35.0% IACS require no further action.</p> <ol style="list-style-type: none"> (2) On aircraft that have an eddy current reading of less than 35.0% IACS, before next flight after the inspection as required by paragraph (1) of this directive, accomplish the borescope inspection of the wing upper splice plate P/N 14157126-3 in accordance with paragraphs 2.A and 2.B of BAE Systems (Operations) Limited SB J41-57-020 Revision 1. (3) When no corrosion is found, re-inspect the wing upper splice plate P/N 14157126-3 in accordance with paragraph 2.B of SB J41-57-020 Revision 1 at intervals not exceeding 12 months. (4) When corrosion is found that is less than the limits specified in Figure 1 of SB J41-57-020 Revision 1, re-inspect the wing upper splice plate P/N 14157126-3 in accordance with paragraph 2.B of SB J41-57-020 Revision 1 at intervals not exceeding 12 months and, within 3 years of the corrosion being discovered, replace the wing upper splice plate in accordance with SB J41-57-021 Revision 1. (5) When corrosion is found that is outside the acceptable limits, before next flight, either replace the wing upper splice plate in accordance with SB J41-57-021, or repair the wing upper splice plate in accordance with a repair approved by EASA. <p>Note 2: Installing a replacement wing upper splice plate with P/N 14157126-3PF in accordance with SB J41-57-021 provides a terminating action for the repeat inspection requirements paragraph (3) or (4), as applicable, of this directive.</p>
Ref. Publications:	<p>British Aerospace Regional Aircraft SB J41-57-019 Revision 1; BAE Systems (Operations) Limited SB J41-57-020 Revision 1; and BAE Systems SB J41-57-021 Revision 1; or later approved revisions.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted on 12 January 2007 as PAD 07-005 for consultation until 12 February 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.eu.int. 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Ph: +44 1292 675207, Fax: +44 1292 675704, E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2008-0036</p> <p>Date: 22 February 2008</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s) : Jetstream 4100 series aircraft
TCDS Number : United Kingdom BA 27	
Foreign AD : Not applicable	
Supersedure : None	
ATA 32	Landing Gear – Nose Landing Gear (NLG) Wheel Outer Cone – Inspection
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd and British Aerospace (Operations) Ltd
Applicability:	Jetstream 4100 Series aircraft, all models, all serial numbers.
Reason:	<p>A failure mode has been identified that can lead to loss of a nose wheel. Any combination of excessive wear and/or adverse tolerances on the axle inner cone, outer cone or wheel hub splined sleeve cones can result in the loss of the critical gap between the inner flange face of the wheel outer cone and the axle end face. If this gap is lost, it can result in the wheel having free play along the length of the axle. This condition, if not corrected, can result in breakage of the wheel nut lock plate leading to unscrewing of the wheel retention nut and subsequent separation of the nose wheel from the landing gear axle.</p> <p>For the reasons described above, this AD requires repetitive inspections of the nose landing gear to ensure that the wheels are correctly retained and, depending on findings, replacement of worn parts.</p>
Effective Date:	07 March 2008
Compliance:	<p>(1) Within 3 months of the effective date of this AD, inspect the left and right nose wheel attachments to the axle in accordance with paragraph 2 B of BAE Systems (Operations) Ltd Service Bulletin J41-32-086;</p> <p>(2) If the measured gap size is less than 0.002 in (0.05 mm), before next flight, replace all worn parts;</p> <p>(3) If the measured gap size is equal to or more than 0.002 in (0.05 mm), depending on the exact finding, at intervals not to exceed the value as</p>


	<p>indicated in Table 1 of this AD (see below), repeat the inspection of the left and right nose wheel attachments to the axle in accordance with paragraph 2 B of BAE Systems (Operations) Ltd Service Bulletin J41-32-086;</p> <table border="1"> <tr> <th colspan="2">Table 1</th></tr> <tr> <th>Measured Gap Size</th><th>Repeat Inspection Interval in Flight Hours (FH)</th></tr> <tr> <td>0.002 in. to 0.005 in. (0.05/0.13mm).</td><td>500 FH</td></tr> <tr> <td>More than 0.005 in. to 0.010 in. (0.13/0.25mm).</td><td>1 000 FH</td></tr> <tr> <td>More than 0.010 in. to 0.020 in. (0.25/0.51mm).</td><td>2 000 FH</td></tr> <tr> <td>More than 0.020 in. (0.51mm).</td><td>3 000 FH</td></tr> </table> <p>Note 1: If, during any repeat inspection as required by paragraph (3) of this AD, the finding has changed to another value (see Table 1 above), adjust the new interval accordingly.</p> <p>(4) If, during any repeat inspection as required by paragraph (3) of this AD, the measured gap size is found to be less than 0.002 in (0.05 mm), before next flight, replace the worn parts.</p> <p>Note 2: Replacement of parts does not constitute terminating action for the inspection requirements of this AD.</p>	Table 1		Measured Gap Size	Repeat Inspection Interval in Flight Hours (FH)	0.002 in. to 0.005 in. (0.05/0.13mm).	500 FH	More than 0.005 in. to 0.010 in. (0.13/0.25mm).	1 000 FH	More than 0.010 in. to 0.020 in. (0.25/0.51mm).	2 000 FH	More than 0.020 in. (0.51mm).	3 000 FH
Table 1													
Measured Gap Size	Repeat Inspection Interval in Flight Hours (FH)												
0.002 in. to 0.005 in. (0.05/0.13mm).	500 FH												
More than 0.005 in. to 0.010 in. (0.13/0.25mm).	1 000 FH												
More than 0.010 in. to 0.020 in. (0.25/0.51mm).	2 000 FH												
More than 0.020 in. (0.51mm).	3 000 FH												
Ref. Publications:	<p>BAE SYSTEMS (Operations) Limited Service Bulletin J41-32-086</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 16 January 2008 as PAD 08-009 for consultation until 13 February 2008. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Project Management Group, Customer Information Department, BAE SYSTEMS (OPERATIONS), Prestwick International Airport, Ayrshire, KA9 2RW, Scotland; Telephone: +44 1292 675207; Fax: +44 1292 675704; E-mail: RAPublications@baesystems.com 												

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2008-0040 Date: 27 February 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: BAE SYSTEMS (OPERATIONS) LTD	Type/Model designation(s): Jetstream 4100 series aircraft
TCDS Number: United Kingdom No. BA 27	
Foreign AD: Not applicable	
Supersedure: None	
ATA 28	Fuel System – Tank Bonding Leads – Inspection / Replacement; and Fuel Pipe Clearances – Inspection / Adjustment
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd and British Aerospace (Operations) Ltd
Applicability:	Jetstream 4100 Series aeroplanes, all models, all serial numbers.
Reason:	<p>Resulting from the assessment of fuel tank wiring installations required by SFAR 88 and equivalent JAA/EASA policy, BAE Systems identified two features in the Jetstream 4100 where the need for design changes was apparent. One of these is addressed by Service Bulletin (SB) J41-28-013 which introduces additional bonding leads between pipes, structure and various components to improve the electrical bond paths within the fuel tank areas. This design change is identified by modification number JM41659. Additionally, SB J41-28-013 provides instructions to inspect the existing bonding leads, to replace any defective leads and to examine all fuel system pipe runs in the wings to ensure appropriate clearances are maintained.</p> <p>Insufficient or defective bonding in the fuel tank area, if not corrected, could lead to ignition of fuel vapours and subsequent fuel tank explosion.</p> <p>For the reason stated above, this EASA Airworthiness Directive (AD) requires the installation of additional bonding leads, inspection of existing bonding leads and all fuel system pipe runs in the wings and follow-on corrective actions, as necessary.</p>
Effective Date:	12 March 2008


Compliance	<p>Required as indicated, unless accomplished previously:</p> <p>At the next major inspection or wing tank access, or within 24 months after the effective date of this AD, whichever occurs first, carry out the following actions:</p> <ol style="list-style-type: none"> (1) Inspect the bonding leads between ribs 1 and 9, and between ribs 16 and 19, in the left (LH) and right (RH) wings in accordance with paragraph 2B(2) of BAE Systems (Operations) Ltd Service Bulletin J41-28-013 Revision 1 and, before next flight, replace any defective bonding leads with airworthy parts; (2) Examine all fuel system pipe runs inside the LH and RH wings in accordance with paragraph 2B(3) of BAE Systems (Operations) Ltd Service Bulletin J41-28-013 Revision 1 and, if incorrect clearances are found, before next flight, adjust clearances; (3) Install additional electrical bonding of components within the LH and RH wings in accordance with paragraphs 2B(4) to 2B(15) of BAE Systems (Operations) Ltd Service Bulletin J41-28-013 Revision 1.
Ref. Publications:	<p>BAE Systems (Operations) Limited SB J41-28-013 Revision 1.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD has been published as PAD 08-013 on 28 January 2008 for consultation until 25 February 2008. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact: BAE Systems (Operations) Ltd, Project Management Group, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207; Fax: +44 1292 675704; E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE	
	AD No : 2008-0041 Date: 27 February 2008	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
Type Approval Holder's Name:		Type/Model designation(s):
BAE SYSTEMS (OPERATIONS) LTD		Jetstream 4100 series aircraft
TCDS Number: United Kingdom No. BA 27		
Foreign AD: Not applicable		
Supersedure: None		
ATA 28	Fuel System – Fuel Boost Pump Wiring – Modification; and Fuel Tank High Level Sensor Wiring – Inspection	
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd and British Aerospace (Operations) Ltd	
Applicability:	Jetstream 4100 Series aircraft, all models, all serial numbers.	
Reason:	<p>Resulting from the assessment of fuel tank wiring installations required by SFAR 88 and equivalent JAA/EASA policy, BAE Systems identified two features in the Jetstream 4100 where the need for design changes was apparent. One of these is addressed by Service Bulletin (SB) J41-28-014 which introduces changes to the wiring harness installations to the left (LH) and right (RH) fuel boost pumps, identified by modification number JM41672. In addition, to detect excessive cable lengths and evidence of chafing damage, SB J41-28-014 provides instructions to inspect and correct, as necessary, the internal fuel tank wiring routed to the LH and RH high level sensors.</p> <p>Internal fuel tank wiring chafing damage, if not corrected, could lead to ignition of fuel vapours and subsequent fuel tank explosion.</p> <p>For the reason stated above, this EASA Airworthiness Directive (AD) requires the replacement of the (LH and RH) fuel boost pump metallic conduit assemblies with loom assemblies and the inspection of internal fuel tank high level sensor wiring, including corrective actions, as necessary.</p>	
Effective Date:	12 March 2008	

Compliance	<p>Required as indicated, unless accomplished previously:</p> <p>At the next major inspection or wing tank access, or within 24 months after the effective date of this AD, whichever occurs first, carry out the following actions:</p> <p>(1) Modify the LH and RH wing fuel boost pump wiring in accordance with paragraphs 2B and 2C of BAE Systems (Operations) Ltd SB J41-28-014 Revision 1;</p> <p>(2) Inspect the LH and RH wing fuel high level sensor wiring in accordance with paragraph 2D of BAE Systems (Operations) Ltd SB J41-28-014 Revision 1;</p> <p>(3) When excess wiring and/or damaged wiring is found during the inspection as required by paragraph (2) of this AD, before next flight, accomplish the corrective actions as specified in paragraph 2D of BAE Systems (Operations) Ltd SB J41-28-014 Revision 1.</p>
Ref. Publications:	<p>BAE Systems (Operations) Limited SB J41-28-014 Revision 1.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD has been published as PAD 08-014 on 28 January 2008 for consultation until 25 February 2008. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact: BAE Systems (Operations) Ltd, Project Management Group, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland. Telephone: +44 1292 675207; Fax: +44 1292 675704; E-mail: RApublications@baesystems.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0038</p> <p>Date: 18 February 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>Jetstream 4100 aircraft</p>
<p>TCDS Number : United Kingdom BA27</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : This AD supersedes EASA AD 2007-0268 dated 8 October 2007</p>	
ATA 61	Propellers – Propeller Speed Warning System – Installation
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace (Operations) Ltd and British Aerospace (Commercial Aircraft) Ltd.
Applicability:	Jetstream 4100 aircraft, all models, all serial numbers.
Reason:	<p>During ground manoeuvring, prolonged operation with either engine in the restricted range between 82% and 90% RPM will result in damage to the propeller assembly that could eventually result in the release of a propeller blade.</p> <p>To correct this unsafe condition, EASA AD 2007-0268 was issued to require the installation of a Propeller Warning Placard and implementation of a corresponding Aircraft Flight Manual (AFM) limitation, instructing the flight crew to taxi with the condition lever at FLIGHT in order to minimise the time spent by the engines in the restricted range. BAE Systems has now developed a Propeller Speed Warning System, embodiment of which will allow taxiing with the condition lever at TAXI, through the introduction of a revised Flight Manual Limitation.</p> <p>For the reasons described above, this EASA AD retains the requirements of EASA AD 2007-0268, which is superseded, and requires the installation of a Propeller Speed Warning System.</p>
Effective Date:	04 March 2009

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 3 months after 22 October 2007 [the effective date of AD 2007-0268], replace the existing Propeller Limitations Placard in the cockpit in accordance with BAE Systems (Operations) Ltd Service Bulletin (SB) J41-11-027 and ensure that the AFM contains General Amendment G12 and Advance Amendment Bulletin No. 13. (2) Within the next 6 months after the effective date of this AD, install a Propeller Speed Warning System (modification JM41674) in accordance with Section 2 of BAE Systems (Operations) Ltd ACIB J41-61-014 and ensure that the AFM contains Particular Amendment P111. (3) After modification of an aircraft as required by paragraph (2) of this AD, the placard and AFM Advance Amendment Bulletin No. 13 as introduced by paragraph (1) of this AD are no longer required and must be removed from that aircraft.
Ref. Publications:	<p>BAE Systems (Operations) Limited SB J41-11-027 dated 29 March 2007 BAE Systems (Operations) Limited Jetstream 41 ACIB J41-61-014 Issue 6 Section 2, dated 17 December 2008.</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. This AD was published on 20 January 2009 as PAD 09-018 for consultation until 03 February 2009. No comments were received during the consultation period. 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.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0052</p> <p>Date: 05 March 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>
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].	
Type Approval Holder's Name :	Type/Model designation(s) :
BAE Systems (Operations) Ltd	Jetstream 4100 aeroplanes
TCDS Number : United Kingdom BA27	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA AD 2008-0094 dated 16 May 2008.	
ATA 05	Time Limits / Maintenance Checks – Airworthiness Limitations – Implementation
Manufacturer(s):	Jetstream Aircraft Ltd, British Aerospace Regional Aircraft Ltd, British Aerospace (Operations) Ltd and British Aerospace (Commercial Aircraft) Ltd.
Applicability:	Jetstream 4100 aeroplanes, all models, all serial numbers.
Reason:	<p>The Jetstream J41 Aircraft Maintenance Manual (AMM), includes Chapter 05-10-10 "Airworthiness Limitations", Chapter 05-10-20 "Certification Maintenance Requirements" and Chapter 05-10-30 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" which have been identified as mandatory actions for continued airworthiness.</p> <p>BAE Systems (Operations) Limited has issued Revision 31 of the AMM to amend the Structurally Significant Items (SSIs) in Chapter 05-10-10, incorporating all SSI tasks with a threshold above 30 000 flights.</p> <p>For the reasons described above, this EASA AD retains the requirements of EASA AD 2008-0094, which is superseded, and requires the implementation of the inspections and corrective measures as specified in Chapters 05-10-10, 05-10-20 and 05-10-30 of the J41 AMM at Revision 31.</p>
Effective Date:	19 March 2009

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 3 months after the effective date of this AD, amend the approved aircraft maintenance programme to incorporate the instructions of BAE Systems (Operations) Limited J41 AMM Chapters 05-10-10 "Airworthiness Limitations", 05-10-20 "Certification Maintenance Requirements" and 05-10-30 "Critical Design Configuration Control Limitations (CDCCL) – Fuel System" at Revision 31. (2) Thereafter, within the thresholds and intervals indicated in that document, accomplish the tasks described in BAE Systems (Operations) Limited J41 AMM, Chapters 05-10-10, 05-10-20 and 05-10-30.
Ref. Publications:	<p>BAE Systems (Operations) Limited J41 AMM, Chapters 05-10-10, 05-10-20 and 05-10-30 at Revision 31, dated 14 February 2009.</p> <p>The use of later approved revisions of this document 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. This AD was published on 22 January 2009 as PAD 09-022 for consultation until 19 February 2009. No comments were received during the consultation period. 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



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0011

Issue Date: 25 May 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 2004-5556 on 24 May 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:

B-N GROUP LTD

Type/Model Designation(s):

**BN2, BN2A, BN2B, BN2T, BN2T-4R AND
BN2T-4S ISLANDER SERIES**

Type Certificate Data Sheet No: BA8

Superseded/ Revised ADs: None

ATA 27- FLIGHT CONTROLS – ELEVATOR FINAL DRIVE ROD – INSPECTION

Manufacturer(s): B-N Group Ltd, Britten-Norman Ltd, Fairey Britten-Norman Ltd, Britten-Norman (Bembridge) Ltd, Pilatus Britten-Norman Ltd and PADC.

Applicability: Models BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S all series Islander aeroplanes, certificated in any category.

Reason: The aircraft manufacturer has identified several cases of corroded elevator final drive control rods. If not corrected corrosion of the interior surface could result in failure or collapse of the rod, resulting in loss of control or jamming of the elevator system.

Effective Date: 25 May 2004

Compliance/Action: Within the next 50 hours time-in-service or one month after the effective date of this AD, whichever occurs first, unless already accomplished, inspect the internal surface of the elevator system final drive control rod, in accordance with B-N Group Service Bulletin SB 303 issue 1 or later EASA approved revision.

If corrosion is found, the elevator drive control rod must be replaced before further flight.

Reference Publications: B-N Group Service Bulletin SB 303, Issue 1, dated 14 May 2004, may be obtained from B-N Group Ltd, Bembridge Airport, Bembridge, Isle of Wight, PO35 5PR, United Kingdom. Phone: +44 (0) 1983 872511 Fax: +44 (0) 1983 873246

Remarks: Enquires regarding this Airworthiness Directive should be referred to Mr. T Love, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573726 Fax: +44 (0) 1293 573976 E-mail: tony.love@srg.caa.co.uk

Note: This Airworthiness Directive was issued as an Emergency AD on 25 May 2004.

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**United Kingdom
Civil Aviation
Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0014 R1

Issue Date: 21 June 2005

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 2005-5970 on 17 June 2005.

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:

B-N GROUP LTD

Type/Model Designation(s):

**BN2, BN2A, BN2B, BN2T, BN2T-4R AND
BN2T-4S ISLANDER SERIES**

Type Certificate Data Sheet No: BA8

Revised ADs: G-2004-0014

ATA 55 – STABILISERS - HORIZONTAL STABILISER – INSPECTION

Manufacturer(s): B-N Group Ltd, Britten-Norman Ltd, Fairey Britten-Norman Ltd, Britten-Norman (Bembridge) Ltd, Pilatus Britten-Norman Ltd and PADC.

Applicability: All Models BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S series Islander aeroplanes.

Reason: There have been reports of loose horizontal stabiliser attachment bolts, failure to detect loose bolts could lead to loss of the horizontal stabiliser and subsequent loss of control. This AD has been revised to include an optional modification as terminating action for the repetitive inspections mandated by the initial issue of this AD.

Effective Date: 29 July 2005

Compliance/Action: Required within the next 50 Hours time-in service or two months from the effective date of this AD, whichever occurs first, unless done previously, and thereafter, at intervals not to exceed 1000 hours time-in-service, inspect the horizontal stabiliser attachment bolts and anchor nuts in accordance with B-N Group Ltd Service Bulletin 302 issue 2 or later EASA approved revision.

Embodiment of B-N Group Ltd modification NB-M-1787 constitutes terminating action for this Airworthiness Directive.

Reference Publications: B-N Group Service Bulletins may be obtained from B-N Group Ltd, Bembridge Airport, Bembridge, Isle of Wight, PO35 5PR, United Kingdom. Phone: +44 (0) 1983 872511 Fax: +44 (0) 1983 873246.

Remarks: Enquiries regarding this Airworthiness Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573315 Facsimile: +44 (0) 1293 573976 E-mail: Department.Certification@srg.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0012

Issue Date: 22 October 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

Approved by EASA under approval number 217 on 16 October 2003.

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:

B-N GROUP LTD

Type/Model Designation(s):

**BN2, BN2A, BN2B, BN2T, BN2T-4R AND
BN2T-4S ISLANDER SERIES
BN2A-MKIII TRISLANDER SERIES**

Type Certificate Data Sheet No: BA8 and BA6

ATA 25 – EQUIPMENT & FURNISHINGS - PASSENGER SEATS - INSPECTION

Manufacturer(s): Britten-Norman Ltd

Applicability: Britten-Norman BN2, BN2A, BN2B, BN2T, BN2T-4R, BN2T Islander series and BN2A-Mk III Trislander series aeroplanes certificated in any category, fitted with Futair F1005 series or BN Group Ltd type NB-16-2045 passenger seats, without modification NB-M-1756.

Reason: An incident has been reported where during boarding and loading of passengers on to an aeroplane, the tubing on a passenger seat rear frame failed.

Effective Date: 6 November 2003

Compliance/Action: Prior to the accumulation of 100 hours time-in-service (TIS) or within the next 100 landings after the effective date of this AD, whichever occurs first; and thereafter at intervals not to exceed 100 hours TIS or 100 landings, visually inspect each passenger seat frame in accordance with B-N Group Service Bulletin SB 286, Issue 1, dated 1 July 2003. If damage is found replace the seat frame with a serviceable item prior to further flight.

Repetitive inspections required by this AD may be terminated by accomplishment of B-N Group modification NB-M-1756 Part 2.

Note: Part 1 of NB-M-1756 is for new build seats.

Reference Publications: B-N Group Service Bulletin SB 286 Issue 1, dated 1 July 2003 and modification NB-M-1756 may be obtained from B-N Group Ltd, Bembridge Airport, Bembridge, Isle of Wight, PO35 5PR, United Kingdom. Phone: +44 (0) 1983 872511 Fax: +44 (0) 1983 873246

Remarks: Enquires regarding this Airworthiness Directive should be referred to Mr T Love, Civil Aviation Authority, Aircraft Certification Section, SRG, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573726 Fax: +44 (0) 1293 573976 E-mail: tony.love@srg.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0013

Issue Date: 5 November 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

Approved by EASA under approval number 435 on 28 October 2003.

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:

B-N GROUP LTD

Type/Model Designation(s):

**BN2, BN2A, BN2B, BN2T, BN2T-4R AND
BN2T-4S ISLANDER SERIES
BN2A MK III TRISLANDER SERIES**

Type Certificate Data Sheet No: BA6 and BA8

ATA 32 - LANDING GEAR- RETIREMENT LIVES

Manufacturer(s): Britten-Norman Ltd

Applicability: Britten-Norman BN2, BN2A, BN2B, BN2T, BN2T-4R Islander series and BN2A Mk III Trislander series aeroplanes certificated in any category, fitted with FHL (formerly Fairey Hydraulics Ltd) landing gear.

Reason: FHL landing gears and components installed in subject aeroplanes have finite fatigue lives that had not previously been published. This could result in components remaining in service beyond their finite fatigue lives.

Effective Date: 6 November 2003

Compliance/Action:


- a) Within one month after the effective date of this AD, determine the number of landings accumulated on all FHL main and nose landing gears using the criteria stated in B-N Group Service Bulletin SB 298, Issue 1, dated 1 July 2003. Any landing gear assemblies or components that have exceeded the fatigue lives stated in Paragraph 6 of B-N Group Service Bulletin SB 298, Issue 1, dated 1 July 2003, must be removed from service immediately.
- b) From the effective date of this AD, Owners/Operators must maintain records of the number of landings experienced by all FHL landing gears that remain in service.

Note: This is required to assure the fatigue lives of these landing gears are not exceeded.


Reference Publications: B-N Group Service Bulletin SB 298, Issue 1, dated 1 July 2003, may be obtained from B-N Group Ltd, Bembridge Airport, Bembridge, Isle of Wight, PO35 5PR, United Kingdom. Phone: +44 (0) 1983 872511 Fax: +44 (0) 1983 873246

Remarks: Enquires regarding this Directive should be referred to Mr. T Love, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573726 Fax: +44 (0) 1293 573976 E-mail: tony.love@srg.caa.co.uk

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0143</p> <p>Date: 30 May 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: B-N GROUP LTD	Type/Model designation(s): BN2, BN2A, BN2B, BN2T, BN2T-4R and BN2T-4S Islander Series BN2A-MkIII Trislander Series
TCDS Number: UK BA6, BA8	
Foreign AD: None	
Supersedure: UK G-2005-0034 (EASA approval No. 2005-6447)	
ATA 34	Navigation – Pitot / Static Pressure Head – Inspection and Test
Manufacturer(s):	B-N Group Ltd, Britten-Norman Ltd, Fairey Britten-Norman Ltd, Britten-Norman (Bembridge) Ltd, Pilatus Britten-Norman Ltd and PADC.
Applicability:	All Models BN2, BN2A, BN2B, BN2T, BN2t-4R and BN2T-4S Islander series and all BN2A Mk.III Trislander series aeroplanes.
Reason:	This AD supersedes CAA AD G-2005-0034. The related B-N SB 310, has been revised to issue 2. This new EASA superseding AD is required to addressing an unsafe condition that may exist on the applicable B-N aircraft. Incidences have been reported to Britten-Norman Aircraft Ltd where cracks have been found in the inner shell of the pitot/static pressure heads. This could result in incorrect readings on the pressure instrumentation e.g. altimeters, vertical speed indicators (rate-of climb) and airspeed indicators. This condition has been determined to be potentially hazardous. B-N Service Bulletin 310 issue 1 identified an inspection procedure and a leak test procedure to detect cracks. Issue 2 of the SB introduces an additional cautionary recommendation.
Effective Date:	06 June 2006
Compliance:	After the effective date of this AD and within 500 hours of performing the previous inspection in accordance with G-2005-0034 perform the inspection procedure and the leak test procedure as detailed in; Section 6 Action, of B-N Service Bulletin 310 Issue 2 or later approved revisions. Repeat this inspection procedure and leak test procedures at intervals not exceeding 500 hours. In addition within 500 hours of the initial inspection, as given in G-2005-0034, perform an initial check of the drain traps for moisture, repeat this check at intervals not exceeding 500 hours.

Ref. Publications:	Britten-Norman Service Bulletin 310 issue 2 or later approved revisions.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-115 for consultation on 03 May 2006 with a comment period until 12 May 2006. No comment was raised during consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu .4. For any questions concerning the technical content of the requirements in this AD, please contact Britten-Norman Aircraft Limited, Bembridge Airport, Isle of Wight, PO35 5PR, United Kingdom. Phone: +44 (0) 1983 872511 Fax: +44 (0) 1983 873246.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0105</p> <p>Date: 13 May 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name:	Type/Model designation(s):
Britten-Norman Aircraft Limited	BN2A, BN2B and BN2T series Islander
TCDS Number: UK CAA No.BA8	
Foreign AD: Not applicable	
Supersedure: None	
ATA 27	Elevator and Tab – Elevator Tip Assemblies – Inspection / Replacement
Manufacturer(s):	Britten-Norman Aircraft Limited, B-N Group Ltd., Britten-Norman Ltd., Fairy Britten-Norman Ltd., Britten-Norman (Bembridge) Ltd., Pilatus Britten-Norman Ltd., Philippine Aerospace Development Corporation (PADC)
Applicability:	BN2A-8, -9, -20, -21, -26, -27 and BN2B-20,-21, -26, -27 and BN2T, BN2T-2, -2R, - 4R and -4S Islanders, all serial numbers.
Reason:	<p>An event has been reported where Glass Fibre Reinforced Plastic (GFRP) elevator tips have been found deformed on in-service aircraft. The outboard three inches of the elevator tip assembly profiles (top and bottom surfaces) had changed from being convex profiles to concave profiles. There is concern that this could potentially result in, or be caused by, internal structural delamination and/or failure. Such a failure could have a serious effect on the aircraft handling and could potentially result in loss of control of the aircraft.</p> <p>For the reasons stated above, this new AD mandates inspection of the GFRP elevator tips and replacement of any deformed parts.</p>
Effective Date:	27 May 2009
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) At the next A-check (daily check) after the effective date of this AD, visually inspect for deformation of shape and signs of concavity the elevator tip assemblies (top and bottom surfaces) as instructed in</p>

	<p>paragraphs 6 and 9 of Britten-Norman Aircraft Service Bulletin BN-2/SB 313 issue 3.</p> <p>(2) If any sign of concavity is found, before further flight, inspect for delamination the elevator tip as instructed in paragraph 9 of BN-2/SB 313 issue 3.</p> <p>(2.1) <u>If delamination is found</u>, before further flight, replace the elevator tip by a serviceable one per drawing NB-31-235 or NB-31-873 as applicable to aeroplane models.</p> <p>(2.2) <u>If NO delamination is found</u>, at intervals not to exceed 50 flight hours and until accomplishment of paragraph (2.3) of this AD, inspect for delamination the elevator tip as instructed in paragraph 9 of BN-2/SB 313 issue 3.</p> <p>(2.3) Within 6 months after the effective date of this AD, unless already done as required by paragraph (2.1) of this AD, replace the elevator tip by a serviceable one per drawing NB-31-235 or NB-31-873 as applicable to aeroplane models.</p> <p>(3) After the effective date of this AD, do not install on any aeroplane elevator tips, unless they have already been inspected in accordance with Britten-Norman Aircraft Service Bulletin BN-2/SB 313 issue 3 and determined to be free from concavity and delamination.</p>
Ref. Publications:	<p>Britten-Norman Aircraft Service Bulletin BN-2/SB 313 issue 3;</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>Britten-Norman Drawing NB-31-235 or NB-31-873.</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. This AD was posted on 08 April 2009 as PAD 09-058 for consultation until 22 April 2009. No comments were received during the consultation period. 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: <p>Airworthiness, Britten-Norman Aircraft Ltd., Bembridge Airport, Isle of Wight, PO35 5PR, United Kingdom Phone: +44(0) 20 3371 4000 Fax: +44(0) 20 3371 4001 e-mail: jim.roberts@bnaircraft.com</p>



**United Kingdom
Civil Aviation
Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0030

Issue Date: 12 October 2005

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

DE HAVILLAND SUPPORT LIMITED

BEAGLE B.121 (ALL VARIANTS)

Type Certificate Data Sheet No: BA 1

Superseded/ Revised ADs: 2060 Pre 80

ATA 27 – RUDDER TORQUE TUBE ASSEMBLIES - INSPECTION

Manufacturer(s): Beagle Aircraft Limited, Beagle Aircraft (1969) Limited.

Applicability: All Model Beagle B.121 series aeroplanes.

Reason: The Type Certificate Holder (TCH) has received several reports of failed Rudder torque tube assemblies. The torque tube assemblies are subject to repetitive inspection in accordance Airworthiness Directive 2060 PRE 80. The recent failures occurred in service after the inspections required by AD 2060 PRE 80 had been performed. In the event of such failures, loss of directional control through both the Rudder and Nosewheel Steering may occur. The TCH has also received reports of loose rivets attaching the inboard Anchor Assembly to the Starboard Torque Tube.

This Airworthiness Directive supersedes AD 2060 PRE 80 and mandates revised detailed repetitive inspection of the torque tube assemblies.

Effective Date: 31 October 2005


Compliance/Action: Within 100 hours Time In Service (TIS) since the last inspection performed in accordance with AD 2060 PRE 80 (Scottish Aviation Limited Service Bulletin B121/65 Issue 1), and thereafter at intervals not exceeding 100 hours TIS, inspect the Rudder Torque Tube Assemblies in accordance with de Havilland Support Ltd Service Bulletin B121/65, Issue 2 or later approved revision. Cracked Rudder Torque Tube Assemblies must be replaced before further flight.

From the effective date of this AD, used Rudder Torque Assemblies held as spares must be inspected in accordance with de Havilland Support Ltd Service Bulletin B121/65, Issue 2 or later approved revision prior to installation.

Reference Publications: de Havilland Support Limited Service Bulletin B121/65, Issue 2 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB2 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com

Remarks: Enquiries regarding this Airworthiness Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573945 Fax: +44 (0) 1293 573976 E-mail: department.certification@srg.caa.co.uk

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0013</p> <p>Date: 11 January 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Short Brothers PLC	SC7 Skyvan Series 3, 3A and 3M,
TCDS Number: N/A	
Foreign AD: N/A	
Supersedure: EASA AD No 2006-0190	
ATA 51	Structures – Essential actions required to extend the Life of the Aircraft
Manufacturer(s):	Short Brothers PLC (formerly Short Brothers Ltd; Short Brothers & Harland Ltd).
Applicability:	All model SC7 Skyvan Series 3, 3A and 3M aeroplanes, except serial numbers SH.1845, SH.1847, SH.1883, SH.1889, SH.1943 and SH.1960.
Reason:	<p>Affected SC7 Aircraft that have not yet reached the operational service life threshold specified in Service Bulletin 51-51</p> <p>After the effective date of this AD, any affected Skyvan aircraft that are to remain in operational service beyond the applicable operational service life threshold specified in Service Bulletin 51-51 Para 1.C must incorporate the modifications and comply with the inspections and replacements of lifed items in accordance with Shorts Service Bulletin 51-51 Rev 8 or later approved revision. Additionally the owner/operator must incorporate the supplemental maintenance tasks specified in the Shorts Skyvan Maintenance Programme Appendix 1 part A or B, as appropriate, into their Approved Maintenance Schedule.</p> <p>Affected SC7 aircraft that have already reached the operational service life threshold specified in Service Bulletin 51-51</p> <p>(i) After the effective date of this AD, the Approved Maintenance Schedule for any affected Skyvan aircraft where the modifications, inspections and replacement of lifed items have already been accomplished in accordance with Shorts SB 51-51 Rev 6 or earlier revisions, must incorporate a task to visually inspect the internal structure of the wing strut attachment fitting in accordance with the Shorts Skyvan Maintenance Programme Appendix 1</p>

	<p>Part A or Part B, Section 57-00, Item 3.</p> <p><i>Note: Earlier revisions of SB 51-51 (prior to Rev 7) called for a Repeat Inspection every 2400 flights. Revision 7 corrects this, and calls for the Repeat Inspection at intervals in accordance with the Shorts Skyvan Maintenance Programme Appendix 1 Part A or Part B, Section 57-00, Item 3.</i></p> <p>If the aircraft has been maintained to an Approved Maintenance Schedule that does not incorporate a task to visually inspect the internal structure of the wing strut attachment fitting in accordance with the Shorts Skyvan Maintenance Programme Appendix 1 Part A or Part B, Section 57-00, Item 3, the following action must be accomplished.</p> <p>Establish the maintenance history associated with structural inspections of the internal wing strut attachment fitting and if found to be out of compliance with the 1100 flights/800 Hours Repeat Inspection interval, the aircraft must now be inspected within 3 months or 600 flights (whichever is the lesser) of the effective date of this AD.</p> <p>(ii) After the effective date of this AD, any affected Skyvan aircraft where the modifications, inspections and replacement of lifed items has already been accomplished in accordance with Shorts <u>SB 51-51 Rev 7</u>, must be inspected to ensure that the starboard flap operating levers P/N SC7-45-1766 have been replaced.</p> <p><i>Note: Revision 7 of the SB 51-51 omitted the starboard flap operating levers P/N SC7-45-1766, revision 8 corrects this omission.</i></p> <p>If the starboard flap operating levers were not replaced at the operational service life threshold, the life history status of the starboard flap operating levers part number SC7-45-1766 must be established. Where the life is found to be unknown, or above the life limit specified in the SB 51-51, revision 8 or later approved revisions, affected parts must be replaced within 3 months of the effective date of this AD.</p> <p>The above noted deficiencies associated with EASA AD 2006-0190 are considered to be substantive and an EASA AD is required superseding previous EASA AD 2006-0190.</p>
Effective Date:	25 January 2007
Compliance	From the effective date of this AD, establish the life history status of the starboard flap operating levers, part number SC7-45-1766. Where the life is found to be unknown, or above the life specified in the SB 51-51, revision 8 or later approved revisions, affected parts must be replaced within 3 months of the effective date of this AD.
Ref. Publications:	Short Brothers PLC Service Bulletin 51-51 issue 8 or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 06-267 on 12 December 2006 for consultation until 08 January 2007. No comments were received during the consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to the Airworthiness Directive Focal Point – Certification Directorate, EASA.

	<p>E-mail : ADs@easa.europa.eu</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact Airworthiness, Short Brothers PLC, PO Box 241, Airort Road, Belfast, BT3 9DZ Northern Ireland. Phone: +44 (0) 2890462469 Fax: +44 (0) 2890468444 E-mail: michael.mulholland@aero.bombardier.com</p>
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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0005

Issue Date: 4 January 2007

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 2004-1699 on 26 February 2004.

In accordance with Article 10 of the Air Navigation Order 2005 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 Holder's Name:

SHORTS BROTHERS PLC

Type/Model Designation(s):

SD3-60

CORRECTION to AD No. G-2004-0005 dated 2 March 2004

Type Certificate Data Sheet No: BA11

Superseded/ Revised ADs: 004-11-2002

ATA 53 - STABILIZERS – INSPECTIONS OF VERTICAL STABILIZER SHEAR ATTACHMENTS FOR CORROSION AND REPLACEMENT IF REQUIRED

Manufacturer(s): Short Brothers PLC

Applicability: Model SD3-60 aeroplanes (excluding SD3-60 Sherpa) certificated in any category.

Reason: Short Brothers Service Bulletin SD360-53-44 required a detailed visual inspection of the fin front spar web to fuselage upper skin shear attachment fitting p/n SD3-12-6978 and the fin rear spar web to root rib shear cleat p/n SD3-32-6384 for corrosion. As a consequence of additional reported findings of corrosion in the other fin attachment fittings, p/n SD3-12-6923 and SD3-32-6441/6694, a revised inspection/replacement programme is required to include additional fittings and to introduce appropriate continuing airworthiness instructions to determine the continued serviceability of the fittings when corrosion is detected.

This correction has been issued to update the contact details. The reference to the Air Navigation Order has also been updated. The technical content of the AD has not changed.

Effective Date: 16 March 2004

G-2004-0005

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Compliance/Action: Required at next 4800 Flight Hour structural inspection but no later than 30 May 2004, unless previously accomplished.

- A(i) Inspect vertical stabiliser shear attachment fittings part numbers SD3-12-6978, SD3-32-6384, SD3-12-6923 and SD3-32-6441 (or SD3-32-6694) for corrosion in accordance with Section 2 Accomplishment Instructions of Short Brothers Service Bulletin SD360-53-45 dated December 2003 or later CAA approved revision. Aircraft previously inspected in accordance with Short Brothers Service Bulletin SD360-53-44 are deemed to have satisfied the requirement for this initial inspection provided no corrosion was detected. Where corrosion was detected and the affected fitting has not yet been replaced, a review of the inspection findings must be made to determine if the corrosion was within the acceptable limits specified in SD360-53-45.
- (ii) Any corrosion detected on any of the fittings and assessed to be unacceptable must be replaced before further flight in accordance with Section 2 Part B of Short Brothers Service Bulletin SD360-53-45 dated December 2003 or later CAA approved revision.
- (iii) Where corrosion is detected on any of the fittings and assessed to be within acceptance limits, a repetitive inspection of each affected fitting shall be performed every 6 months commencing from the date of the initial inspection, until the fitting is replaced. Replacement of all corroded fittings is required no later than 18 months from the date of the initial inspection carried out in accordance with paragraph A(i) above.
- B Where no corrosion is detected or from the date of replacement, future inspections of the fittings shall be carried out in accordance with Short Brothers Recommended Maintenance Programme (Section 5-26-53, ATA 53-40, Item 12(d) and Section 5-26-55, ATA 55-30, Item 5(a) or equivalent reference in Supplement 1 for aircraft beyond half life), at intervals not exceeding 24 from the initial inspection/replacement.

Reference Publications: Short Brothers Service Bulletin SD360-53-45 dated December 2003 and Aircraft Maintenance Programme 5-26-53 and 5-26-55. Copies may be obtained from Short Brothers PLC, PO Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland.

Remarks: Enquires regarding this Airworthiness Directive should be directed to Civil Aviation Authority, Safety Regulation Group, AD Unit, Policy & Standards Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573802, Fax: +44 (0) 1293 573993, e-mail: ad.unit@srg.caa.co.uk



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2006-0001

Issue Date: 17 January 2006

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 2006-0016 on 17 January 2006.

In accordance with Article 10 of the Air Navigation Order 2005 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:

Type/Model Designation(s):

SHORT BROTHERS PLC

SD3-60

Type Certificate Data Sheet No: BA11

Superseded AD: G-2005-0021

ATA 55 - RUDDER HORN SPAR – INSPECTION

Manufacturer(s): Short Brothers PLC

Applicability: All Model SD3-60 aeroplanes.

Reason: There have been several in-service reports of cracking or corrosion of the rudder horn spar. On one aircraft the cracking had progressed to the point where the spar failed and the lower mass balance weights detached from the rudder horn spar, causing secondary structural damage to the rudder's front spar, rib 14 and outer skin. Detailed inspection of the removed rudder also revealed cracking of the cleats that attach the ribs to the horn spar. Failure to detect this cracking or corrosion at an early stage could lead to release of the rudder mass balance weights, which could have an adverse affect on the controllability of the aircraft if rib 14 is penetrated by a balance weight with the potential for restricting movement or jamming of the rudder. Additionally, loss of a balance weight could cause damage to other parts of the aircraft, or, serious or fatal injury to persons other than the aircraft occupants. This includes the scenario where a liberated mass balance weight could come to rest on a runway and the debris presents a hazard to other aircraft.

A restriction or jamming of the rudder is considered to be potentially catastrophic.

This AD supersedes AD G-2005-0021, in order to address corrosion findings revealed as a result of the initial inspections and to incorporate repetitive inspection in accordance with the Recommended Maintenance Programme.

Effective Date: 31 January 2006

Compliance/Action: For aircraft not previously inspected in accordance with AD G-2005-0021, before further flight, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 Revision 1, or later EASA approved revision. Any damage observed when performing the inspections required by this AD must be assessed, monitored and repaired in accordance with the instructions provided in Shorts Alert Service Bulletin SD360-55-A22 Revision 1 or later EASA approved revision.

continued on next page

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For those aircraft previously inspected in accordance with AD G-2005-0021 (Alert Service Bulletin SD360-55-A22 at Original Issue), shall be deemed to have satisfied the requirement of the initial inspection of Part B of Revision 1, if: -


1. No corrosion was detected, or;
2. Any detected corrosion was addressed in accordance with the Structural Repair Manual, or an approved repair.

If the extent of the corrosion and any corrective actions cannot be established from the original inspection records, then perform Part B of Shorts Alert Service Bulletin SD360-55-A22 Revision 1, or later EASA approved revision within 28 days of the effective date of this AD.

Repeat inspections shall be accomplished in accordance with section 1.D of the Alert Service Bulletin SD360-55-A22 Revision 1, or later EASA approved revision.

Reference Publications: Shorts Service Bulletins may be obtained from Short Brothers PLC, PO Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland.


Remarks: Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, AD Unit, Strategy & Standards Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573802, Fax: +44 (0) 1293 573993, e-mail: ad.unit@srg.caa.co.uk

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>EAD No : 2007-0107-E</p> <p>Date: 18 April 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Short Brothers PLC	SD3-60
TCDS Number: United Kingdom TCDS BA11	
Foreign AD: Not applicable	
Supersedure: This AD supersedes United Kingdom CAA AD G-2005-0013, EASA Approval Number 2005-4317.	
ATA 55	Stabilisers – Elevator Trim Tab Balance Weight Brackets – Inspection / Repair / Replacement
Manufacturer(s):	Short Brothers PLC
Applicability:	SD3-60 aircraft, all serial numbers
Reason:	<p>There have been several occurrences of cracked elevator trim tab balance weight attachment brackets, on one occasion the elevator trim tab mass balance weight bracket separated from the aircraft. The loss of an elevator trim tab mass balance weight bracket has the potential to cause damage to an aircraft, or cause serious injury to personnel. The CAA United Kingdom published AD 009-06-2003 to require the detection and replacement of defective elevator trim tab mass balance weight brackets. Following the discovery during a scheduled maintenance input of cracked elevator trim tab mass balance weight bracket on an aircraft modified in accordance with AD 009-06-2003, another Airworthiness Directive G-2004-0032 was considered necessary, this required inspection and timely replacement of the newly installed brackets. Investigation by the Type Certificate Holder (TCH) determined the new brackets were not manufactured in conformity with the applicable design data. The non-conforming brackets were all manufactured in 2003 and 2004.</p> <p>A batch of non-conforming brackets manufactured in 2003 and 2004 were reworked by the manufacturer and were considered as fully conforming brackets. Several of these 'reworked brackets' have also exhibited signs of premature failure, attributed to the welding operation required as part of the rework. Testing has confirmed a reduced service life for this standard of bracket which is now considered unsuitable for new installation and, if</p>

	<p>installed, is subject to the same inspection program as the non-conforming brackets. 'Reworked' brackets can be identified by markings on the brackets as detailed in Service Bulletins SD360-55-20 and SD360-55-A21.</p> <p>Airworthiness Directive G-2005-0013 superseded AD 009-06-2003 and AD G-2004-0032 and combined the necessary corrective actions into a single AD. The present Emergency AD supersedes CAA United Kingdom AD G-2005-0013, and addresses the issue of 'reworked' brackets. It also combines the necessary corrective actions into a single AD that assures the correct standard of elevator trim tab mass balance weight brackets are installed.</p>
Effective Date:	20 April 2007
Compliance:	<p>A) For aircraft fitted with new part number SD3-07-6011xA elevator trim tab balance weight brackets manufactured in the years 2003 or 2004, including re-worked brackets, either installed in accordance with Part B of Shorts Mandatory Service Bulletin SD360-55-20 initial issue (CAA-UK AD 009-06-2003) or Rev 1, or installed in accordance with Shorts Alert Service Bulletin SD360-55-A21 initial issue (CAA-UK AD G-2004-0032 or G-2005-0013):</p> <p>(1) Within 30 Flight Hours (FH) after the effective date of this directive, or within 250 FH since new (installation) or since the last inspection as required by previous ADs, whichever occurs later, and thereafter at intervals not to exceed 250 FH, inspect the elevator trim tab balance weight brackets in accordance with Part A of Shorts Alert Service Bulletin SD360-55-A21 Rev 1;</p> <p>(2) Prior to the accumulation of 1,750 FH since new or installation, replace the elevator trim tab balance weight attachment brackets with fully conforming brackets, manufactured in the year 2005 or later, in accordance with Part B of Alert Service Bulletin SD360-55-A21 Rev 1 or later EASA approved revision;</p> <p>B) For aircraft fitted with part number SD3-31-6213xB elevator trim tab mass balance weight brackets previously inspected in accordance with Shorts Service Bulletin SD360-55-20 initial issue (AD 009-06-2003) or Rev 1 and retained or refitted following approved repair in accordance with Part B of this Service Bulletin:</p> <p>(1) Within 4,800 FH since last inspection and thereafter at intervals not to exceed 4,800 FH, inspect the elevator trim tab brackets in accordance with Shorts Service Bulletin SD360-55-20 Rev 2;</p> <p>(2) Prior to the accumulation of 28,800 FH since new, replace the elevator trim tab balance weight support brackets with fully conforming brackets, manufactured in the year 2005 or later, in accordance with Part B of Shorts Service Bulletin SD360-55-20 Rev 2.</p> <p>C) Cracked brackets revealed as a result of any inspection required by this AD must be replaced before further flight with new fully conforming brackets, manufactured in the year 2005 or later, in accordance with Part B of Alert Service Bulletin SD360-55-A21 Rev 1, or Shorts Service Bulletin SD360-55-20 Rev 2.</p> <p>D) After the effective date of this AD, no person may install an Elevator trim tab on any aircraft unless it has been inspected to ensure that the elevator trim tab balance weight brackets have been replaced with fully conforming brackets, manufactured in the year 2005 or later, in accordance with Part B of Alert Service Bulletin SD360-55-A21 Rev 1, or Shorts Service Bulletin SD360-55-20 Rev 2.</p>

	E) For aircraft with elevator trim tab balance weight brackets that have been replaced with fully conforming brackets, manufactured in the year 2005 or later, in accordance with Part B of Shorts Service Bulletin SD360-55-A21 Rev 1, or SD360-55-20 Rev 2, no further action is required by this AD.
Ref. Publications:	Short Brothers PLC Service Bulletin (SB) SD360-55-20 Rev.2 and SB SD360-55-A21 Rev.1, or later approved revisions of these documents.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this Emergency AD should be referred to the AD Focal Point, Certification Directorate, EASA, e-mail ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Airworthiness, Short Brothers PLC, PO Box 241, Airport Road, Belfast, BT3 9DZ Northern Ireland, United Kingdom; Telephone +44(0)2890-462469; Fax +44(0)2890-468444; e-mail michael.mulholland@aero.bombardier.com


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006 - 0198</p> <p>Date: 11 July 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name :	Type/Model designation(s) :
SHORT BROTHERS PLC	SD3-30, SD3-60, SD3-SHERPA & SD3-60 SHERPA
TCDS Number : UK CAA BA11	
Foreign AD : none	
Supersedes : UK CAA AD G-2004-0021 R1	
ATA 28	Fuel - Fuel Tank Safety Fuel Airworthiness Limitations
Manufacturer(s):	Short Brothers PLC (formerly Short Brothers Ltd; Short Brothers & Harland Ltd).
Applicability:	All Model SD3-30, SD3-60, SD3-Sherpa & SD3-60-Sherpa aircraft.
Reason:	<p>Subsequent to accidents involving Fuel Tank System explosions in flight (Boeing 747-131 flight TWA800) and on ground, the FAA published Special Federal Aviation Regulation 88 (SFAR88) in June 2001. SFAR 88 required a safety review of the aircraft Fuel Tank System to determine that the design meets the requirements of FAR § 25.901 and § 25.981(a) and (b).</p> <p>A similar regulation has been recommended by the JAA to the European National Aviation Authorities in JAA letter 04/00/02/07/03-L024 of 3 February 2003. The review was requested to be mandated by NAA's using JAR § 25.901(c), § 25.1309.</p> <p>In August 2005 EASA published a policy statement on the process for developing instructions for maintenance and inspection of Fuel Tank System ignition source prevention (EASA D 2005/CPRO, www.easa.eu.int/home/cert_policy_statements_en.html) that also included the EASA expectations with regard to compliance times of the corrective actions on the unsafe and the not unsafe part of the harmonised design review results. On a global scale the TC holders committed themselves to the EASA published compliance dates (see EASA policy statement). The EASA policy statement</p>

	<p>has been revised in March 2006: the date of 31-12-2005 for the unsafe related actions has now been set at 01-07-2006.</p> <p>Fuel Airworthiness Limitations are items arising from a systems safety analysis that have been shown to have failure mode(s) associated with an 'unsafe condition' as defined in FAA's memo 2003-112-15 'SFAR 88 – Mandatory Action Decision Criteria'. These are identified in Failure Conditions for which an unacceptable probability of ignition risk could exist if specific tasks and/or practices are not performed in accordance with the manufacturers' requirements.</p> <p>This EASA Airworthiness Directive mandates the Fuel System Airworthiness Limitations, comprising maintenance/inspection tasks and Critical Design Control Configuration Limitations (CDCCL) for the type of aircraft, that resulted from the design reviews and the JAA recommendation and EASA policy statement mentioned above.</p> <p>Revision History: PAD 06-018R1 has been issued to endorse comments received for PAD 06-018 and due to the change of the EASA policy statement on fuel tank safety on March 2006.</p>										
Effective Date:	19 July 2006										
Compliance:	<p>Unless already accomplished, the following actions are rendered mandatory:</p> <p>1. Maintenance/Inspection Tasks</p> <ul style="list-style-type: none"> - Within 6 months after the effective date of this AD, perform the following tasks in accordance with the applicable Shorts Service Bulletin specified in Table 1 of this AD. <p>Table 1</p> <table> <tr> <th>Aircraft Type/Model</th><th>Applicable Service Bulletin</th></tr> <tr> <td>SD3-30</td><td>SD 330-28-37 initial issue dated June 2004</td></tr> <tr> <td>SD3-60</td><td>SD 360-28-23 initial issue dated June 2004</td></tr> <tr> <td>SD3-SHERPA</td><td>SD3 SHERPA-28-2 initial issue dated June 2004</td></tr> <tr> <td>SD3-60 SHERPA</td><td>SD360 SHERPA-28-3 initial issue dated June 2004</td></tr> </table> <ul style="list-style-type: none"> - Within 3 months after the effective date of this AD, incorporate the fuel system airworthiness limitations specified in Sections 5-20-01 and 5-20-02 of the Aircraft Maintenance Manual Publications as introduced by the Temporary Revisions detailed within the referenced publications section of this AD into the operator approved maintenance programme/Schedule. 	Aircraft Type/Model	Applicable Service Bulletin	SD3-30	SD 330-28-37 initial issue dated June 2004	SD3-60	SD 360-28-23 initial issue dated June 2004	SD3-SHERPA	SD3 SHERPA-28-2 initial issue dated June 2004	SD3-60 SHERPA	SD360 SHERPA-28-3 initial issue dated June 2004
Aircraft Type/Model	Applicable Service Bulletin										
SD3-30	SD 330-28-37 initial issue dated June 2004										
SD3-60	SD 360-28-23 initial issue dated June 2004										
SD3-SHERPA	SD3 SHERPA-28-2 initial issue dated June 2004										
SD3-60 SHERPA	SD360 SHERPA-28-3 initial issue dated June 2004										

	<ul style="list-style-type: none"> - Accomplishment of the tasks specified in Table 1 is required to ensure that baseline inspections/checks are accomplished. Subsequent repeat inspections/checks shall then be accomplished in accordance with Section 5-20-01 of the AMM at the established repeat intervals. <p>2. CDCCL</p> <ul style="list-style-type: none"> - It is the responsibility of the operator to ensure that their internal maintenance task control documentation is amended to reflect the data contained within section 5-20-02 of the AMM and provide appropriate text to highlight the existence of each CDCCL. - No retroactive action on aircraft in service is required further to the above mentioned amendment of the continued airworthiness documentation. 															
Ref. Publications:	<table border="1"> <thead> <tr> <th>Aircraft Type/Model</th><th>Section 5-20-01 as revised by</th><th>Section 5-20-02 as revised by</th></tr> </thead> <tbody> <tr> <td>SD3-60</td><td>TR 360-AMM-55</td><td>TR 360-AMM-56</td></tr> <tr> <td>SD3-30</td><td>TR 330-AMM-35</td><td>TR 330-AMM-36</td></tr> <tr> <td>SD3 Sherpa</td><td>TR SD3S-AMM-36</td><td>TR 360-AMM-37</td></tr> <tr> <td>SD360 Sherpa</td><td>TR SD360S-AMM-35</td><td>TR SD360S-AMM-36</td></tr> </tbody> </table> <p>or later approved revisions.</p>	Aircraft Type/Model	Section 5-20-01 as revised by	Section 5-20-02 as revised by	SD3-60	TR 360-AMM-55	TR 360-AMM-56	SD3-30	TR 330-AMM-35	TR 330-AMM-36	SD3 Sherpa	TR SD3S-AMM-36	TR 360-AMM-37	SD360 Sherpa	TR SD360S-AMM-35	TR SD360S-AMM-36
Aircraft Type/Model	Section 5-20-01 as revised by	Section 5-20-02 as revised by														
SD3-60	TR 360-AMM-55	TR 360-AMM-56														
SD3-30	TR 330-AMM-35	TR 330-AMM-36														
SD3 Sherpa	TR SD3S-AMM-36	TR 360-AMM-37														
SD360 Sherpa	TR SD360S-AMM-35	TR SD360S-AMM-36														
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-018R1 for consultation on 07 June 2006 with a comment period until 22 June 2006. No comment was raised during consultation period. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirements in this AD, please contact Airworthiness, Short Brothers PLC, PO Box 241, Airport Road, Belfast, BT3 9DZ, Northern Ireland. Phone: +44 2890462469; Fax: +44 2890468444 E-mail: michael.mulholland@aero.bombardier.com. 															

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EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	AD No.: 2007 - 0039-E Date: 16 February 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: Short Brothers PLC	Type/Model designation(s): SD3 series aeroplanes
TCDS Number: CAA-UK TCDS BA11	
Foreign AD: Not applicable	
Supersedure: Not applicable	
ATA 76, 32	Engine Controls / Landing Gear – Control Cables – Inspection/Replacement
Manufacturer(s): Short Brothers PLC; Short Brothers Ltd; Short Brothers & Harland Ltd.	
Applicability:	Model SD3-30, SD3-60, SD3 Sherpa and SD3-60 Sherpa aeroplanes, all serial numbers.
Reason:	<p>Following the identification of a failed propeller RPM cable end fitting and an LP fuel lever cable end fitting on an SD3 aircraft, several subsequent occurrences of control cable end fittings (type MS21260) with signs of pitting corrosion or cracking have been reported to Bombardier Shorts. All reported instances being identified during ground maintenance inspections on the SD3 fleet. Bombardier Shorts have performed examinations on the failed cable end fittings and established the root cause of failure as stress corrosion cracking of the SAE-AISI 303 stainless steel material they are manufactured from, initiated by pitting corrosion on the surface. The root cause of the stress corrosion is sustained tensile stress in a corrosive (warm, humid and salty) atmosphere.</p> <p>An analysis of the cable operated control systems installed on the SD3 aircraft types that use MS 21260 type end fittings has identified a number of potentially unsafe conditions due to a combination of failures that may result from this common mode cause.</p>
Effective Date:	20 February 2007

Compliance	<ol style="list-style-type: none"> (1) Not later than 09 March 2007, inspect the affected cable assembly end fittings in accordance with the referenced service bulletins; (2) If no pitting/corrosion or cracking is found, within 12 months after the inspection as required by paragraph (1) of this directive and thereafter at intervals not to exceed 12 months, repeat the inspection of the cable assembly end fittings in accordance with the applicable service bulletin; (3) When pitting/corrosion or cracking is found during any inspection, before next flight, replace the affected cable assembly with a new cable assembly; (4) After replacement, at intervals not to exceed 15 years, repeat the inspection of the new cable assembly end fittings in accordance with the applicable service bulletin.
Ref. Publications:	Short Brothers PLC Service Bulletins SD330-76-A09, SD360-76-A12, SD3 Sherpa-76-A02, SD360 Sherpa-76-A03, all Revision No 1, or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this Airworthiness Directive should be referred to the Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Airworthiness, Short Brothers PLC, PO Box 241, Airport Road, Belfast, BT3 9DZ Northern Ireland. Ph. +44(0)2890462469, fax +44(0)2890468444, e-mail michael.mulholland@aero.bombardier.com



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0022

Issue Date: 25 August 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 2004-9033 on 24 August 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:

SHORT BROTHERS PLC

Type/Model Designation(s):

SD3-60, SD3-SHERPA, SD3-60 SHERPA

Type Certificate Data Sheet No: BA11

Superseded AD: 007-08-92

ATA 32 - LANDING GEAR – MAIN LANDING GEAR – REAR PINTLE PIN – INSPECTION OF BUSH ASSEMBLY AT FORK END

Manufacturer(s): Short Brothers PLC

Applicability: Models SD3-60, SD3-Sherpa and SD3-60 Sherpa aeroplanes, certificated in any category.

Reason: Following an incident on an SD3 aircraft where a main landing gear rear pintle pin fork end failed. Investigation by the landing gear manufacturer determined that the primary cause of the failure was attributable to corrosion under the bushes in the fork end. Deteriorated or missing sealant around the edges of the bushes allowed the ingress of moisture and allowed the onset of corrosion. The CAA published Airworthiness Directive (AD) 007-08-92 which mandated accomplishment of Messier Dowty Service Bulletin 32-70SD and Shorts Service Bulletin SD360-32-33 to detect and correct corroded components.

Since the publication of AD 007-08-92 the aircraft manufacturer has informed the CAA of another incident on an SD3 aircraft where the pintle pin fork end had cracked. This AD supersedes CAA AD 007-08-92 and requires further inspections to identify damaged pintle pin fork ends.

Effective Date: 9 September 2004

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G-2004-0022

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Compliance/Action: Required at the next 'B' check, but no later than three months after the effective date of this AD, Carry out an inspection of the main landing gear rear pintle pin assemblies for correctly applied sealant in accordance with Shorts Service Bulletin SD360-32-37, SD3 SHERPA-32-5 or SD360 SHERPA-32-4 Section 1.C Part A, as applicable or later EASA approved revision.

If the sealant is incorrectly applied, at the next 'C' Check, but no later than 12 months after the effective date of this AD, perform a magnetic flaw detection inspection of the rear pintle pin fork ends in accordance with Shorts Service Bulletin SD360-32-37, SD3 SHERPA-32-5 or SD360 SHERPA-32-4 Section 1.C Part B, as applicable or later EASA approved revision.

Cracked pintle pin fork ends must be replaced with a serviceable item that has been inspected in accordance with this AD before further flight.

Reference Publications: Shorts Service Bulletins SD-360-37, SD Sherpa-32-5 and SD360 Sherpa-32-4 may be obtained from Short Brothers PLC, PO Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland.

Remarks: Enquiries regarding this AD may be directed to Civil Aviation Authority, Safety Regulation Group, Certification and Approvals Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573289, Fax: +44 (0) 1293 573976, e-mail: peter.moule@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0013</p> <p>Date: 28 January 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>Slingsby Advanced Composites, Ltd.</p>	<p>Type/Model designation(s) :</p> <p>T67 series airplanes</p>
<p>TCDS Number : EASA.A.390</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : This Airworthiness Directive (AD) supersedes CAA UK ADs 013-11-85, 005-05-87, 014-01-93, 004-03-94, 015-03-94, 006-02-96, 007-08-96, 012-01-97 and EASA AD 2007-0132</p>	
ATA 27	Flight Controls - Rudder Pedal and Ground Towing Damage – Inspection / Repair / Modification
Manufacturer(s):	Slingsby Advanced Composites, Ltd. (formerly known as Slingsby Aviation)
Applicability:	Model T67B, T67C series, T67M (excluding Works No. 1999), T67M-MkII, T67M200, T67M260 and T67M260-T3A, all serial numbers
Reason:	<p>A case has been reported of a Rudder Pedal touching the support Bracket of the Mixture/Propeller Speed Cables during spin recovery. Subsequent inspection showed that the floor was damaged, allowing the support bracket of the rudder bar to distort and the bar and its pedal to float to the left, beyond the limit allowed for safe operation.</p> <p>This condition, if not corrected, could result in loss of control of the aircraft during spin manoeuvres. To address this unsafe condition, Slingsby has issued Service Bulletins (SB) 187 and 188, both now at issue 4, to reinforce and clarify the need to carry out previously defined inspections of the rudder pedals and floor.</p> <p>This Airworthiness Directive (AD) retains the inspections required by eight existing CAA United Kingdom ADs (which are hereby superseded), adds additional ones and requires the accomplishment of all inspections and, if necessary, corrective actions, as specified in the 'action' instructions of Slingsby SB 187 and 188, which incorporate all previously referenced inspections.</p> <p>This AD also incorporates substantive changes embracing the mandatory implementation of Mod Bulletin M1030 - applicable only to aircraft covered by SB 187 - that increases clearance with the pedals by replacing the Propeller Speed/Mixture brackets.</p>

Effective Date:	11 February 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless already accomplished:</p> <p><u>(1) For T67M200 Works No. 2264 & 2265 only, T67M260 and T67M260-T3A:</u></p> <p>(1.1) Before next flight after the effective date of this AD, unless SB 187 Issue 1 or 2 or 3 has already been accomplished within the last 300 Flight Hours (FH) before the effective date of this AD, do all actions as instructed in paragraphs 1 to 32 of Slingsby Advanced Composites Limited Service Bulletin (SB) 187 Issue 4.</p> <p>Accomplishment of inspections, done in accordance with previous issues of SB 187 before the effective date of this AD, satisfies the inspection requirements of paragraph (1.1) of this AD. However, the change M1030 "introduction of revised propeller speed bracket for increase rudder pedal clearance" must be accomplished as instructed in paragraph 2 of Slingsby SB 187 Issue 4, as applicable.</p> <p>(1.2) Thereafter, at intervals not to exceed 300 FH or 12 Months from the last inspection, whichever occurs first, repeat the inspections as instructed in paragraphs 1 to 32 of Slingsby SB 187 Issue 4.</p> <p>(1.3) Within 300 FH or 12 Months from the effective date of this AD, whichever occurs first, unless previously accomplished, modify the airplane in accordance with Slingsby Modification Bulletin M1030 Issue 1.</p> <p><u>(2) For T67B, T67C series, T67M (excluding works no. 1999), T67M-MkII and T67M200 (excluding works no. 2264 & 2265):</u></p> <p>(2.1) Before next flight after the effective date of this AD, unless SB 188 Issue 1 or 2 or 3 has already been accomplished within the last 12 Months before the effective date of this AD, do all actions as instructed in paragraphs 1 to 30 of Slingsby Advanced Composites Limited Service Bulletin (SB) 188 Issue 4.</p> <p>Accomplishment of inspections, done in accordance with previous issues of SB 187 before the effective date of this AD, satisfies the inspection requirements of paragraph (2.1) of this AD.</p> <p>(2.2) Thereafter, at intervals not to exceed 12 Months from the last inspection, repeat the inspections as instructed in paragraphs 1 to 30 of Slingsby SB 188 Issue 4.</p> <p>NOTE: SACL Service Bulletins 187 & 188 both at Issue 4 call for SACL SB 120 [Inspection of rudder bar support brackets] also at Issue 4.</p>
Ref. Publications:	<p>Slingsby Advanced Composites, Ltd. SB 187 Issue 4 and SB 188 Issue 4.</p> <p>Slingsby Advanced Composites, Ltd. SB 120 Issue 4.</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 questions concerning the technical content of the requirements in this AD, please contact:

	<p>Slingsby Advanced Composites Ltd, Kirkbymoorside, York, YO62 6EZ, United Kingdom Telephone: +44 1751 432474 Fax: +44 1751 433016 E-mail: mike.rutter@slingsby.co.uk</p>
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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0004

Issue Date: 18 January 2005

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 2005-564 on 14 January 2005.

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:

Type/Model Designation(s):

SLINGSBY AVIATION LTD

T67

Type Certificate Data Sheet No: BA17

Superseded/ Revised ADs : 001-12-2002

ATA 51- STRUCTURES - INSPECTION OF TAILPLANE BRACKETS

Manufacturer(s): Slingsby Aviation Limited

Applicability: Model T67 all Series aeroplanes.

Reason: Several cases of cracked tailplane attachment brackets have been reported. Failure to detect and replace cracked brackets could lead to separation of the horizontal stabiliser and subsequent loss of control of the aircraft. This AD supersedes 001-12-2002 and now requires continued repetitive inspection of all T67 aeroplanes, this AD also mandates specific access requirements considered necessary to perform the required inspections.

Effective Date: 30 January 2005

Compliance/Action: Required from the effective date of this AD.

- A) For aircraft not inspected in accordance with Slingsby Aviation Ltd Service Bulletin 179 issue 1 or 2, prior to further flight gain access and inspect the tailplane support brackets in accordance with Slingsby Aviation Service Bulletin 179 issue 3 or later EASA approved revision.
- B) For aircraft previously inspected in accordance with issue 1 or 2 of Slingsby Aviation Ltd Service Bulletin 179, within 150 hours time-in-service or at the next Annual inspection, whichever occurs first, gain access and inspect the tailplane support brackets in accordance with in Slingsby Aviation Bulletin 179 issue 3 or later EASA approved revision.
- C) Thereafter, inspect the tailplane support brackets in accordance with Slingsby Aviation Bulletin 179 issue 3 or later EASA approved revision at intervals not exceeding 150 hours time-in-service.

Cracked tailplane support brackets must be replaced in accordance with Slingsby Aviation Ltd Service Bulletin 179 before further flight.

Note: Revision 3 of Slingsby Aviation Service Bulletin 179 introduces repetitive inspection of tailplane support brackets for aircraft where the brackets have previously been replaced in accordance with earlier revisions of SB 179.

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Reference Publications: Slingsby Aviation Service Bulletin 179 Issue 3 may be obtained from Slingsby Aviation Limited, Kirkbymoorside, York YO62 6EZ, United Kingdom.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to Civil Aviation Authority, Safety Regulation Group, Certification and Approvals Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom Phone: +44(0) 1293 573306 Fax: +44(0) 1293 573976 E-mail: alistair.maxwell@srg.caa.co.uk.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0032

Issue Date: 19 October 2005

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 2005-6366 on 17 October 2005.

In accordance with Article 10 of the Air Navigation Order 2005 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:

Type/Model Designation(s):

SLINGSBY AVIATION LIMITED

T67A

Type Certificate Data Sheet No: BA17

Superseded/ Revised ADs: None

ATA 51- STRUCTURES - INSPECTION OF TAILPLANE AND BRACKETS

Manufacturer(s): Slingsby Aviation Limited

Applicability: Model T67A aeroplanes.

Reason: A case has been reported of severe exfoliation corrosion of the two tailplane forward attachment fittings. The initial inspection of the part of the fittings visible from outside of the tailplane structure, revealed slight corrosion of one fitting only. However, when two holes were cut in the tailplane skins, in order to inspect the part of the fittings embedded in the tailplane structure, both fittings were found to be severely corroded. Other corroded fittings could exist on other aircraft. Severe corrosion could reduce the structural integrity of the tailplane attachment. Leading to loss of tailplane attachment and loss of aircraft control.

Note: The requirements of this Airworthiness Directive do not replace, or supersede, the requirements of AD G-2004-0013 dated 21 June 2004.

Effective Date: 31 October 2005

Compliance/Action: Before 30 November 2005 perform the access and inspections instructions given in Slingsby Aviation Service Bulletin, SB 183 issue 1 or later approved revisions. Perform the restorative instructions given in Slingsby Aviation Service Bulletin, SB 183 issue 1 or later approved revisions.

Reference Publications: Slingsby Aviation Service Bulletins may be obtained from Slingsby Aviation Limited, Kirkbymoorside, York YO62 6EZ, United Kingdom. Tel 01751 432474 ext 205.

Remarks: Enquiries regarding this Airworthiness Directive should be referred to Certification and approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom, Phone: +44(0) 1293 573945, FAX: +44(0) 1293 573976, E-mail: department.certification@srg.caa.co.uk

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0013

Issue Date: 21 June 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 on 2004-6425 on 17 June 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:

SLINGSBY AVIATION LIMITED

Type/Model Designation(s):

T67A, T67B, T67C SERIES, T67M, T67M-MKII, T67M200, T67M260 AND T67M260-T3A

Type Certificate Data Sheet No: BA17

Superseded/ Revised ADs: 005-07-97

ATA 51 - STRUCTURES - INSPECTION OF ALUMINIUM COMPONENTS FOR EXFOLIATION

Manufacturer(s): Slingsby Aviation Ltd

Applicability: T67A, T67B, T67C Series, T67M, T67M-MKII, T67M200, T67M260 and T67M260-T3A aeroplanes, certificated in any category.

Reason: Reports of a case of exfoliation (layer corrosion) in the forward tailplane attachment brackets, flap centre drive brackets and seat belt attachment brackets of a T67A aircraft previously lead to the issue of CAA AD 005-07-97. A recent report of exfoliation on the tailplane mounted, fuselage to tailplane aft attachment brackets on a T67C aircraft has resulted in the need to supersede AD 005-07-97. This AD extends applicability to include additional T67 aircraft models, revises inspection criteria and reiterates repetitive inspection intervals.

Effective Date: 8 July 2004

Compliance/Action: At the next Annual check after the effective date of this AD, and thereafter at intervals not to exceed 12 months, inspect the aluminium fittings detailed in Slingsby Aviation Service Bulletin 127 Issue 3 or later EASA approved revision. If corrosion is found as a result of these inspections, replace the affected component(s) before further flight.

Reference Publications: Slingsby Aviation Service Bulletin 127, dated 12 May 2004, may be obtained from Slingsby Aviation Limited, Kirkbymoorside, York YO62 6EZ, United Kingdom.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to Civil Aviation Authority, Safety Regulation Group, Certification and Approvals Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44(0) 1293 573306 FAX: +44(0) 1293 573976 E-mail: alistair.maxwell@srg.caa.co.uk.

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Engines



**United Kingdom
Civil Aviation Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0006

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211-22B

CORRECTION to AD No G-2003-0006 dated 18 September 2003

Type Certificate Data Sheet No: 1039

ATA 72 - ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-22B Series engines installed on, but not limited to, Lockheed L-1011 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

A Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 1 July 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

- (1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,
and
The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,
or
- (2) The component removal was for damage or a cause directly related to its removal,
or
- (3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

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AD No: G-2003-0006

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The list of Group A Parts is specified below:

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-006
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 1 to 5	All	72-32-31-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-000
High Pressure Compressor Rotor Stage 1 to 2 Disc Shaft	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-003
High Pressure Turbine Disc	All	72-41-51-200-000
Intermediate Pressure Turbine Disc	All	72-51-31-200-000
Intermediate Pressure Turbine Shaft	All	72-51-33-200-000
Low Pressure Stage 1 Turbine Disc	All	72-51-61-200-000
Low Pressure Stage 2 Turbine Disc	All	72-51-61-200-001
Low Pressure Stage 3 Turbine Disc	All	72-51-61-200-002
Low Pressure Turbine Shaft	All	72-51-63-200-000

Table 1

- B** Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.
- C** Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211–22B series Time Limits Manual Reference 05-20-01, dated 1 July 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Phone: +44 (0) 1293 573856 Fax: +44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0003

Issue Date: 24 January 2005

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 2005-530 on 13 January 2005.

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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

RB211- 22B

Type Certificate Data Sheet No: 1039

Superseded AD: 004-01-2000

ATA 72 - ENGINE – HP TURBINE DISC- INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-22B series engines installed in Lockheed L1011 aeroplanes with the following HP turbine discs fitted to the engines.

Part Number LK80622 Serial Number LQDY6316 onwards

Part Number LK80623 Serial Number CQDY5945 onwards

Part Number UL28267 All disc Serial Numbers

Reason: A population of HP turbine discs that were manufactured between 1989-1999 and which were subject to possible machining anomalies, were believed to have an increased chance of suffering from cooling air hole cracking, compared to the general fleet population of HP turbine discs. As a result of this risk, Rolls-Royce issued Mandatory Non-Modification Service Bulletin (NMSB) 72-C877 (CAA Airworthiness Directive 004-01-2000) which required in service inspections of the subject discs.

Two recent findings of cracked RB211 HP turbine discs, one of which had propagated further than expected, based on the risk model used to establish the original inspection thresholds defined in the above NMSB, have led to the need to revise the original inspection thresholds.

An HP turbine disc fracture would be uncontained and create a potential unsafe condition.

Accordingly, this AD introduces revised inspection thresholds and compliance times to reflect the increased risk of HP turbine disc cracking and potential disc fracture.

Effective Date: 24 January 2005

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page 2 of 2

Compliance/Action: Carry out an Eddy Current Inspection (ECI), as defined in Section 3 Accomplish Instructions of Rolls -Royce NMSB 72-AE717 original issue or later EASA approved revision in accordance with the following schedule:


- 1) If HP turbine disc cycles since new was greater than 9000 cycles on the 1 January 2005, then inspect the disc within 500 cycles from 1 January 2005 or before 11,000 cycles since new, whichever occurs first.
- 2) If HP turbine disc cycles since new was less than 9000 cycles on the 1 January 2005, then inspect the disc by whichever occurs first of either (a) or (b) below:
 - (a) Prior to reaching 9,500 cycles since new.
 - (b) At next shop visit where the HP turbine rotor is removed from the combustor outer case at between 1,500 cycles since new and 9,500 cycles since new.

Note: If a HP turbine rotor meets the cyclic life criteria defined in 2(b) and is currently undergoing a shop visit and, at the effective date of this Airworthiness Directive, has not yet been reinstalled into the Combustion outer Case, then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive.

- 3) If a disc has been previously inspected in accordance with Rolls-Royce NMSB 72-C877 or a focussed inspection carried out in accordance with Roll-Royce TSD594-J Overhaul Process Task 70-00-00-200-233 at greater than 1500 cycles since new, then either of these inspections meets the requirements of this Airworthiness Directive.

Reference Publications: Rolls-Royce RB211 NMSB 72-AE717 initial issue or later EASA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0)1332 242424 Fax: +44 (0)1332 249936.

Remarks: Enquiries regarding this Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Tel: 44 (0)1293 573201 Fax 44(0)1293 573979 E-mail tony.colling@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 – 0181</p> <p>Date: 26 June 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
ROLLS-ROYCE PLC	RB211-22B series engines (all marks)
TCDS No: UK-CAA Engine No. 1039	
Foreign AD : N/A	
Supersedure: N/A	
ATA 72; 41; 51	High Pressure Turbine (HPT) – Inspection of Disc Rim Cooling Air Holes for Cracks from Scoring Damage
Manufacturer(s):	Rolls-Royce plc
Applicability:	RB211-22B series engines (all marks) installed on, but not limited to, Lockheed L-1011 aircraft
Reason:	<p>HPT Discs recently inspected in accordance with the Engine Manual have exhibited cracks in the disc rim. The discs have failed to meet the inspection acceptance criteria and have been returned to Rolls-Royce for engineering investigation.</p> <p>This investigation has concluded that the cracks have resulted from scores within the cooling air holes in the disc rim that could have been introduced during new part manufacture or during overhaul of the disc. The engineering investigation has also concluded that if this cracking was undetected then it could result in uncontained disc failure.</p>
Effective Date:	10 July 2006
Compliance:	<p>Carry out an Eddy Current Inspection (ECI), as defined in Section 3., Accomplishment Instructions of Rolls-Royce NMSB 72-AE969 or later EASA approved revision on the HP turbine discs identified in Section 1.A.(4) of Rolls-Royce NMSB 72-AE969 or later EASA approved revision in accordance with the following schedule:</p> <p>1. Initial Inspection Requirements- inspect the HP Turbine disc by whichever is the soonest of the following conditions:</p>

1A. If HP turbine disc cycles since new is greater than 9500 cycles on the effective date of this Airworthiness Directive, then inspect the disc by whichever is the soonest of the following conditions:

- (a) Within 500 cycles from the effective date of this Airworthiness Directive
- (b) At next shop visit where the HP turbine rotor is removed from the Combustor Outer Case

1B. If

-the HP turbine disc cycles since new is greater than 9500 cycles on the effective date of this Airworthiness Directive

and

-the HP turbine rotor is currently undergoing a shop visit

and

has been removed from the Combustion Outer Case and it has not yet been reinstalled into the Combustion Outer Case,

then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive.

1C. If HP turbine disc cycles since new is less than 9500 cycles on the effective date of this Airworthiness Directive, then inspect the disc by whichever is the soonest of the following conditions:

- (a) Prior to reaching 10000 cycles since new.
- (b) At next shop visit where the HP turbine rotor is removed from the Combustor Outer Case and the HP turbine disc cycles since new is greater than 2750 cycles.

1D. If

-the HP turbine disc cycles since new is greater than 2750 cycles and less than 9500 cycles on the effective date of this Airworthiness Directive

and

-the HP turbine rotor is currently undergoing a shop visit

and

,has been removed from the Combustion Outer Case and it has not yet been reinstalled into the Combustion Outer Case,


then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive.

2. Further Inspection Requirements- repeat the inspection detailed above at every subsequent shop visit where the HP turbine blades have been removed from the HP turbine disc.

3. If a HP turbine disc has previously passed inspection to the Eddy Current Inspection procedure as defined in Rolls-Royce TSD594-J Overhaul Process Manual Task 70-00-00-200-223 and at a disc life above 2750 cycles since new that meets the criteria of section 1. above, then that inspection satisfies the requirements stated in section 1. of this Airworthiness Directive.

Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-131 for consultation on 24 May 2006 with a comment period until 16 June 2006. The comment Response Document can be found at http://ad.easa.eu.int/.3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.
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EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0310 R1 Date: 08 January 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Rolls-Royce plc	Type/Model designation(s) : RB211-22B and -524 Series Engines
TCDS Number: United Kingdom Engine TCDS No. 1039 and 1043	
Foreign AD: Not applicable	
Revision: This Airworthiness Directive (AD) revises and replaces AD 2007-0310 dated 19 December 2007.	
ATA 72	Engine – Low Pressure Turbine (LPT) Shaft – Inspection / Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211-22B series engines, all models, all serial numbers; and RB211-524B4-D-02, RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19 engines, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 747 series aircraft; and Lockheed L-1011 series aircraft.</p> <p>Note: Some RB211-524 series engines and all RB211-535 series Engines, although listed in the referenced Rolls-Royce Non Modification Service Bulletin (NMSB), are not affected by the same unsafe condition and therefore this AD does not apply to those engines.</p>
Reason:	<p>Several low pressure turbine (LPT) shafts have been found with cracks originating from the rear cooling air holes. The cracks were found at normal component overhaul, by the standard Magnetic Particle Inspection (MPI) technique defined in the associated engine manual. The cracks have been found to initiate from corrosion pits. Propagation of a crack from the rear cooling air holes may result in shaft failure and subsequently in an uncontained Low Pressure Turbine failure.</p> <p>For the reasons stated above, this AD requires the inspection of the affected engines' LPT shafts and replacement of the shaft, as necessary.</p> <p>This AD has been revised to delete Model RB211-524B4-02 engines from the Applicability and Compliance as it is not affected by the same unsafe condition.</p>
Effective Date:	02 January 2008

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <p>1. Initial Inspection Requirements</p> <p>(a) If on the effective date of this AD, the engine is undergoing a shop visit where the LPT shaft has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual and the LPT shaft has not been re-protected with corrosion resistant coating then, before installing the engine on an aircraft, the LPT shaft must be inspected in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336;</p> <p>(b) For all other engines, at the next engine shop visit after the effective date of this AD when the LPT shaft is completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual, inspect the LPT Shaft in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336.</p> <p>2. Repetitive Inspection Requirements – following initial inspection of an LPT shaft in accordance with paragraph 1 of this AD, the LPT shaft must be re-inspected in accordance with the accomplishment instructions of Rolls-Royce NMSB 72-AF336 and in accordance with the following schedule:</p> <table border="1"> <tr> <th>Engine Model</th><th>Maximum Time Between Inspections (engine cycles)</th></tr> <tr> <td>RB211-22B Series, all models</td><td>3 500</td></tr> <tr> <td>RB211-524B4-D-02</td><td>4 000</td></tr> <tr> <td>RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19</td><td>normal shop visit interval</td></tr> </table> <p>3. All LPT shafts inspected according to the schedule above and found to be cracked must be replaced with serviceable LPT shafts before installing the engine on an aircraft.</p>	Engine Model	Maximum Time Between Inspections (engine cycles)	RB211-22B Series, all models	3 500	RB211-524B4-D-02	4 000	RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19	normal shop visit interval
Engine Model	Maximum Time Between Inspections (engine cycles)								
RB211-22B Series, all models	3 500								
RB211-524B4-D-02	4 000								
RB211-524D4-19, RB211-524D4-39, RB211-524D4-B-19, RB211-524D4-B39, RB211-524D4X-19 and RB211-524D4X-B-19	normal shop visit interval								
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin No. RB211-72-AF336 original issue.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>								
Remarks :	<ol style="list-style-type: none"> If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. The original issue of this AD was posted on 20 November 2007 as PAD 07-212 for consultation until 18 December 2007. No comments were received during the consultation period. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. For any question concerning the technical content of the requirements in this AD, please contact: Rolls-Royce plc, Publication Services, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com/ 								



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0009

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211-524

CORRECTION to AD No G-2003-0009 dated 19 September 2003

Type Certificate Data Sheet No: 1043, 1046 and 1048

ATA 72 ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-524 Series engines installed on but not limited to Boeing 747, 767 and Lockheed L-1011 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

A Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1, 2 and 3 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 1 July 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

(1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,

and

The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,

or

(2) The component removal was for damage or a cause directly related to its removal,

or

(3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

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The list of Group A Parts is specified below:

Table 1 - RB211-524B/B3/B4 (on L1011)

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-05 (CONFIG 1) 72-31-12-200-013 (CONFIG 2)
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
High Pressure Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-006
High Pressure Turbine Bearing Inner Race Support Panel	All	72-41-51-200-005
High Pressure Turbine Disc	All	72-41-51-200-019
High Pressure Turbine Conical Shaft	All	72-41-51-200-021
Intermediate Pressure Turbine Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Stage 1 Turbine Disc	All	72-51-61-200-000 (CONFIG 1) 72-51-61-200-007 (CONFIG 2)
Low Pressure Stage 2 Turbine Disc	All	72-51-61-200-001 (CONFIG 1) 72-51-61-200-008 (CONFIG 2)
Low Pressure Stage 3 Turbine Disc	All	72-51-61-200-002 (CONFIG 1) 72-51-61-200-009 (CONFIG 2)
Low Pressure Turbine Shaft	All	72-51-63-200-000 (CONFIG 1) 72-51-63-200-003 (CONFIG 2)

Table 2 - RB211-524 B2/C2/D4 (on B747SP/-200/-300)

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-013
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002
High Pressure Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-006
High Pressure Turbine Bearing Inner Race Support Panel	All	72-41-51-200-005
High Pressure Turbine Disc	All	72-41-51-200-019
High Pressure Turbine Conical Shaft	All	72-41-51-200-021
Intermediate Pressure Turbine Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Stage 1 Turbine Disc	All	72-51-61-200-007
Low Pressure Stage 2 Turbine Disc	All	72-51-61-200-008
Low Pressure Stage 3 Turbine Disc	All	72-51-61-200-009
Low Pressure Turbine Shaft	All	72-51-63-200-003

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The list of Group A Parts is specified below:

Table 3 RB211-524G/H (on B747-400 & B767)

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-000
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Stage 1 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 2 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 3 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 4 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Stage 5 Disc	All	72-32-31-200-000
Intermediate Pressure Compressor Rotor Shaft Stages 6 to 7	All	72-32-31-200-001
Intermediate Pressure Compressor Front Stubshaft Drive Cone	All	72-32-31-200-008
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-010
High Pressure Compressor Rotor Stage 1 to 2 Disc	All	72-41-31-200-000 CONFIG 1
High Pressure Compressor Rotor Stage 3 Disc	All	72-41-31-200-001 CONFIG 1
High Pressure Compressor Rear Rotor Shaft Assembly	All	72-41-31-200-002 CONFIG 1
Compressor/Turbine Joint Flange Support Disc	All	72-41-31-200-003 CONFIG 1
High Pressure Compressor Rotor Shaft Assembly	All	72-41-31-200-014 CONFIG 2
High Pressure Turbine Disc	All	72-41-51-200-010 (CONFIG 1) 72-41-51-200-024 (CONFIG 2)
Intermediate Pressure Turbine Disc	All	72-51-31-200-003
Intermediate Pressure Turbine Shaft	All	72-51-33-200-005
Low Pressure Stage 1 Turbine Disc	All	72-51-61-200-007
Low Pressure Stage 2 Turbine Disc	All	72-51-61-200-008
Low Pressure Stage 3 Turbine Disc	All	72-51-61-200-009
Low Pressure Turbine Shaft	All	72-51-63-200-003

B Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.

C Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211-524 series Time Limits Manual Reference 05-20-01, dated 1 July 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR
Phone: +44 (0) 1293 573856 Fax 44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0011

Issue Date: 1 October 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211-524

Type Certificate Data Sheet No: 1043/1046/1048

Superseded AD: 005-07-95

ATA 72 – ENGINE - COMBUSTION LINER HEAD AND METERPANEL ASSEMBLY – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-524B2, 524C2, 524D4, 524B-02, 524B3, 524B4 engines incorporating RB211-72-7221 or SB RB211-72-7998 but not incorporating RB211-72-9670 or RB211-72-9764 combustion liners.

Model RB211-524G, 524H engines not incorporating SB RB211-72-9764.

These engines are installed on Boeing 747 series aeroplanes and Lockheed L-1011 series aeroplanes.

Reason: An RB211-524B4 engine suffered a combustion case burn-through as a result of combustor head break-up; this engine had been previously inspected within the inspection interval specified in revision 8 of the Rolls-Royce Service Bulletin RB211-72-B482. The revision 9 to Rolls-Royce Service Bulletin RB211-72-B482 is issued as an Alert Service Bulletin RB211-72-AB482 in accordance with the new procedures of JAR39; this revision reduces the inspection interval of RB211-524B series engines from 400 cycles to 200 cycles in line with all other engine marks. There are no other changes to the previous inspection requirements for all other engines.

A terminating action to this Directive is required by 31 December 2012.

This Directive supersedes CAA Airworthiness Directive 005-07-95.

Effective Date: 14 October 2003

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G-2003-0011

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Compliance/Action:**A. Combustion Liner Head Section**

At the threshold and within the intervals detailed below, inspect the combustion head section for break-up in accordance with the Accomplishment Instructions (paragraph 3A) and subject to the Acceptance Limits (paragraph 1E) of Rolls-Royce Alert Service Bulletin RB211-72-AB482 revision 9 dated 28 July 2003.

1. For **RB211-524C2, 524D4, 524G and 524H** engines as defined in the Applicability of this Directive,

a. The head section has not been previously repaired,

Inspect, unless already accomplished, the combustion head section between 1400 and 1600 cycles since new. For those combustion head sections, which have exceeded 1600 cycles since new and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 100 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 200 cycles thereafter.

b. The head section has previously been repaired in accordance with FRS5367/B,

Inspect, unless already accomplished, the combustion head section between 1800 and 2200 cycles since the repair FRS5367/B was carried out. For those combustion head sections, which have exceeded 2200 cycles since repair FRS5367/B and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 200 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 400 cycles thereafter.

c. The head section has been repaired by means other than FRS5367/B,

Inspect, unless already accomplished, the combustion head section between 500 and 700 cycles since the last head section repair was carried out. For those combustion head sections, which have exceeded 700 cycles since repair and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 100 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 200 cycles thereafter.

2. For **RB211-524B-02, 524B2, 524B3 and 524B4** engines as defined in the Applicability of this Directive,

a. The head section has not been previously repaired,

Inspect, unless already accomplished, the combustion head section between 3000 and 3200 cycles since new. For those combustion head sections, which have exceeded 3200 cycles since new and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 200 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 200 cycles thereafter.

b. The head section has previously been repaired in accordance with FRS5367/B,

Inspect, unless already accomplished, the combustion head section between 3000 and 3200 cycles since the repair FRS5367/B was carried out. For those combustion head sections, which have exceeded 3200 cycles since repair FRS5367/B and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 200 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 400 cycles thereafter.

c. The head section has been repaired by means other than FRS5367/B,

Inspect, unless already accomplished, the combustion head section between 2000 and 2200 cycles since last head section repair. For those combustion head sections, which have exceeded 2200 cycles since repair and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 200 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 200 cycles thereafter.

Note: If the Operator can confirm with the relevant Overhaul Base or Repair Vendor that the microbrazed repair, FRS5367, has been applied to all 18 struts, then this is equivalent to FRS5367/B.

Note: Head sections repaired by replacement of all 18 struts in accordance with FRS6548 are considered as equivalent to fitting a new head section for the purposes of this Directive.

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B. Meterpanel Assembly

For **RB211-524D4, 524G and 524H** engines incorporating SB72-7998, inspect the meterpanel assembly at the threshold and within the intervals detailed below in accordance with the Accomplishment Instructions (paragraph 3B) and subject to the Acceptance Limits (paragraph 1E) of Rolls-Royce Alert Service Bulletin RB211-72-AB482 revision 9 dated 28 July 2003,

1. The meterpanel assembly has not been previously repaired,

Inspect, unless already accomplished, the meterpanel assembly between 1000 and 1200 cycles since new. For those meterpanels, which have exceeded 1200 cycles since new and which have not been previously inspected in accordance with Service Bulletin RB211-72-B482 revision 8, inspect within 50 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 400 cycles.

Note: For those operators who do not use RB211-524H rating at any time, the inspection threshold may be increased to between 1800 and 2000 cycles.

2. The meterpanel has previously been repaired,

Inspect, unless already accomplished, the meterpanel assembly between 500 and 700 cycles since last repair, if a new meterpanel has not been fitted during this repair. For those meterpanels, which have exceeded 700 cycles since last repair and which have not been previously inspected to Service Bulletin RB211-72-B482 revision 8, inspect within 50 cycles from the effective date of this Directive.

Repeat the inspection at intervals not exceeding 400 cycles.

C. Terminating Action

The incorporation of the modifications RB211-72-9670 or RB211-72-9764 in the RB211-524B2, 524C2, 524D4, 524B-02, 524B3, 524B4 engines constitutes the terminating action to the requirements of this Directive.

The incorporation of the modification RB211-72-9764 in the RB211-524G and 524H engines constitutes the terminating action to the requirements of this Directive.

The incorporation of these modifications is required to be accomplished at next shop visit where the 04 module is refurbished or overhaul, but no later than 31 December 2012.

Reference Publications: Rolls-Royce Alert Service Bulletin RB211-72-AB482 may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom.

Remarks: Enquiries regarding this Directive should be directed to the Civil Aviation Authority, Propulsion Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573641 Fax: +44 (0) 1293 573979

For questions regarding the technical content of this Directive contact Rolls-Royce plc at the address shown above.

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0008

Issue Date: 8 March 2005

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 2005-2139 on 4 March 2005.

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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

RB211-524

Type Certificate Data Sheet No: 1043, 1046, 1048

Superseded AD: 006-04-2002

ATA 72 – ENGINE COMPRESSOR SECTION – INTERMEDIATE PRESSURE COMPRESSOR – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-524 series engines, all marks, which do not incorporate RB211-72-E182 bulletin and which are installed in Lockheed L-1011, Boeing 747 and 767 aircraft.

Reason: Cracking at the cooling air holes in the front spacer arm has been found in IP Compressor stage 5 disc at overhaul. The discs are predominantly high life, from RB211-524C2 and 524D4 engines but are common to all marks of 524 engines. It was concluded from the examination of these discs, that the cracking has the potential to affect disc integrity within the declared safe cyclic lives.

This directive supersedes an existing directive (previously referenced 006-04-2002) to limit its applicability to engines, which do not feature RB211-72-E182. It also adds a reference to the Service Bulletin RB211-72-E171 introducing an on-wing inspection technique for the RB211-524G/H engine types.

Effective Date: 18 March 2005

Compliance/Action:

(1) Remove IP Compressor Stage 5 discs from service before the cyclic life limits defined in Table 1 unless either of the following qualifying Magnetic Particle Inspection (MPI) or Eddy Current Inspection (ECI) are satisfied.

(a) Discs that have completed the workshop MPI or ECI in accordance with RB211-72-AD428 may remain in service post these workshop inspections for the cyclic lives given in Table 3 or until 1 December 2008 or until the cyclic life limit given in Table 4 is reached, whichever is sooner.

Or

(b) Discs that have completed satisfactory in-situ ECI in accordance with the appropriate instructions (given below) may remain in service post the in-situ inspection for the cyclic lives given in Table 3 or until 1 December 2008 or until the cyclic life limit given in Table 4 is reached whichever is sooner. The in-situ ECI can be used only once between workshop inspections.

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The appropriate instructions for the in-situ ECI are detailed in:

RB211-72-E148 for RB211-524B2 and C2 models
 RB211-72-E150 for RB211-524B4 and D4 models
 RB211-72-E171 for RB211-524G and H models

- (2) With effect of the 1 December 2008, remove from service any disc, which exceeds the cyclic life defined in Table 2. The provisions of paragraphs (1)(a) and (1)(b) cannot be applied post 1 December 2008.

Table 1: Cyclic life limits without qualifying NDT inspection

Effective Date	G2, G2-T, G3, G3-T, H2, H2-T, H-36, H-T-36	D4, D4-B, D4-B-39, D4X, D4X-B, D4-39	B2, B2-B, C2, C2-B	B-02, B-B-02, B3-02, B4-02, B4-D-02
30 November 2002	13500	16150	16000	16200
01 April 2003	13500	13500	13500	14000
01 December 2003	12000	13500	13500	14000
01 December 2004	11000	13500	12000	12000
01 December 2005	11000	12000	12000	12000

Table 2: Cyclic life limits effective on 01 December 2008

G2, G2-T, G3, G3-T, H2, H2-T, H-36, H-T-36	D4, D4-B, D4-B-39, D4X, D4X-B, D4-39	B2, B2-B, C2, C2-B	B-02, B-B-02, B3-02, B4-02, B4-D-02
7830	8700	8900	9000

Table 3: Cyclic life alleviation post qualifying NDT inspection

	G2, G2-T, G3, G3-T, H2, H2-T, H-36, H-T-36	D4, D4-B, D4-B-39, D4X, D4X-B, D4-39	B2, B2-B, C2, C2-B	B-02, B-B-02, B3-02, B4-02, B4-D-02
After MPI (workshop)	1600	2000	2000	2000
After ECI (workshop) in accordance with RB211-72-AD428	3800	4500	4500	4500
After ECI (in-situ)	1000	1200	1200	1200

Table 4: Cyclic life limits

G2, G2-T, G3, G3-T, H2, H2-T, H-36, H-T-36	D4, D4-B, D4-B-39, D4X, D4X-B, D4-39	B2, B2-B, C2, C2-B	B-02, B-B-02, B3-02, B4-02, B4-D-02
14140	19300	18700	22800

Reference Publications: Rolls-Royce Alert Service Bulletins RB211-72-AD428, RB211-72-E148, RB211-72-E150 and RB211-72-E171 may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Phone: +44(0)1293 573641 Fax: +44 (0)1293 573979 Email: christophe.denis@srg.caa.co.uk.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2006-0002

Issue Date: 13 February 2006

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 2006-0034 on 25 January 2006.

In accordance with Article 10 of the Air Navigation Order 2005 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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

RB211-524

Type Certificate Data Sheet No: 1043, 1046, 1048

CORRECTION to G-2006-0002 dated 31 January 2006

ATA 72 – ENGINE TURBINE SECTION – HIGH PRESSURE TURBINE – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-524 series engines, all marks, installed on Boeing 747 & 767 and Lockheed L1011 aeroplanes fitted with the following HP turbine discs only:

Part No FK24651:	Serial No LAQDY6061		(single disc)
Part No FK24651:	Serial No LDRCZ10453	to	Serial No LDRCZ10720 (inclusive)
Part No FK24651:	Serial No LQDY9903		(single disc)
Part No FK24651:	Serial No LQDY9924		(single disc)
Part No FK24790:	Serial No CRCZ6	to	CRCZ25 (inclusive)
Part No FK24790:	Serial No LDRCZ10717	to	LDRCZ14022 (inclusive)
Part No UL23166:	Serial No LQDY6516	to	LQDY8718 (inclusive)
Part No UL24561:	Serial No LQDY6389	to	LQDY6438 (inclusive)
Part No UL24994:	Serial No LQDY6405	to	LQDY8727 (inclusive)
Part No UL29472:	Serial No LAQDY6013	to	LAQDY6092 (inclusive)
Part No UL29472:	Serial No LDRCZ10029	to	LDRCZ10821 (inclusive)
Part No UL29472:	Serial No LDRCZ6000	to	LDRCZ6060 (inclusive)
Part No UL29472:	Serial No LQDY6592	to	LQDY9993 (inclusive)
Part No UL29473:	Serial No CRCZ24	to	CRCZ25 (inclusive)
Part No UL29473:	Serial No CZ12135	to	CZ12333 (inclusive)
Part No UL29473:	Serial No LAQDY6010	to	LAQDY6088 (inclusive)
Part No UL29473:	Serial No LDRCZ10003	to	LDRCZ15372 (inclusive)
Part No UL29473:	Serial No LDRCZ6001	to	LDRCZ9995 (inclusive)
Part No UL29473:	Serial No LQDY10001		(single disc)
Part No UL29473:	Serial No LQDY9606	to	LQDY9989 (inclusive)

This directive is not applicable to HP turbine discs, which are pre-modification SB72-7730, post-modification SB72-C109 or post-modification SB72-C762.

Effective Date: 15 February 2006

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Reason: A population of HP turbine discs that were manufactured between 1989-1999 and which were subject to possible machining anomalies, were believed to have an increased chance of suffering from cooling air hole cracking, compared to the general fleet population of HP turbine discs. As a result of this risk, Rolls-Royce issued Non-Modification Service Bulletin (NMSB) 72-C816, recommending in-service inspections of the subject discs.

Recently an RB211 HP turbine disc has been found with a crack which had propagated further than expected from the risk model that was used to establish the original inspection defined in the above NMSB; This has led to the need for a revision of the original inspection requirements.

An HP turbine disc fracture would be uncontained and create a potential unsafe condition. Accordingly, this AD introduces revised inspection requirements to reflect the increased risk of HP turbine disc cracking and potential disc fracture.

Compliance/Action: Carry out the eddy current inspection as detailed in Section 3 - Accomplishment Instructions of Rolls-Royce NMSB 72-AE718 original issue or later EASA approved revision in accordance with the following schedule:

1. The HP disc serial numbers listed in Table 1 are to be inspected as follows:

Table 1			
Part No	Serial No	Part No	Serial No
UL29473	LAQDY6043	UL29472	LQDY9125
UL29473	LAQDY6048	UL29472	LQDY9554
UL29473	LAQDY6079	UL29472	LQDY9582
UL29473	LDRCZ10057	UL29472	LQDY9895
UL29473	LDRCZ10264	UL29472	LQDY9910
UL29473	LDRCZ10415	UL29472	LQDY9947
UL29473	LDRCZ11402	UL29472	LQDY9960
UL29473	LDRCZ11425	UL24994	LQDY6777
UL29473	LDRCZ11497	UL24994	LQDY6792
UL29473	LDRCZ11663	UL24994	LQDY6859
UL29473	LDRCZ11679	UL24994	LQDY6860
UL29473	LDRCZ12301	UL24994	LQDY6866
UL29473	LDRCZ12308	UL24994	LQDY6869
UL29473	LDRCZ12316	UL24994	LQDY6934
UL29473	LDRCZ12319	UL24994	LQDY6946
UL29473	LQDY6957	UL24994	LQDY6963
UL29473	LQDY9075	UL23166	LQDY6745
UL29473	LQDY9084	UL23166	LQDY6846
UL29473	LQDY9557	UL23166	LQDY6848
UL29473	LQDY9906	UL23166	LQDY6954
UL29473	LQDY9956	FK24790	LDRCZ12492
UL29473	LQDY9970	FK24790	LDRCZ12694
UL29473	LQDY9985		

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A. For all RB211-524 engine marks except RB211-524D4 variants

- (a) If the HP turbine disc cycles were greater than 6150 cycles since new on 24 November 2005, inspect the HP turbine disc within 500 cycles from 24 November 2005.
- (b) If the HP turbine disc cycles were less than 6150 cycles since new on 24 November 2005, inspect the disc by whichever is the soonest of the conditions below:
 - i. Prior to reaching 6650 cycles since new. The HP turbine disc life at inspection must be greater than 700 cycles since new.
 - ii. At next shop visit where the HP turbine rotor is removed from the Combustor Outer Case and the HP turbine disc life is greater than 700 cycles since new. If a HP turbine disc that meets these cyclic life criteria is currently at shop visit, and if, at the effective date of this Airworthiness Directive, it has not yet been reinstalled into the Combustion Outer Case, then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive at the current shop visit.

B. For all RB211-524D4 engine mark variants

- (a) If the HP turbine disc cycles were greater than 5000 cycles since new on 24 November 2005, inspect the HP turbine disc within 500 cycles from 24 November 2005.
- (b) If the HP turbine disc cycles were less than 5000 cycles since new on 24 November 2005, inspect the HP turbine disc by whichever is the soonest of the conditions below:
 - i. Prior to reaching 5500 cycles since new. The HP turbine disc life at inspection must be greater than 700 cycles since new.

At the next shop visit where the HP turbine rotor is removed from the Combustor Outer Case and the HP turbine disc life is greater than 700 cycles since new. If a HP turbine disc that meets these cyclic life criteria is currently at shop visit, and if, at the effective date of this Airworthiness Directive, it has not yet been reinstalled into the Combustion Outer Case, then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive at the current shop visit.

2. For all other HP turbine discs specified in the Applicability of this Directive but not listed in Table 1 on page 2.


Inspect the HP turbine disc at next shop visit where the HP turbine rotor is removed from the Combustor Outer Case and the HP turbine disc life is greater than 700 cycles since new. If a HP turbine disc that meets these cyclic life criteria is currently at shop visit, and if, at the effective date of this Airworthiness Directive, it has not yet been reinstalled into the Combustion Outer Case, then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive at the current shop visit.

3. If a HP turbine disc has previously passed the inspection to Rolls-Royce NMSB 72-C816 or the focussed inspection carried out in accordance with Rolls-Royce TS594-J Overhaul Process Manual Task 70-00-00-200-223 at greater than 700 cycles since new, then either of these inspections meets the requirements of this Airworthiness Directive.

Reference Publications: Rolls-Royce Service Bulletins may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone +44 (0) 1332 242424 Fax +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573641 Fax: +44 (0) 1293 573979 E-mail: propulsion.dept@srg.caa.co.uk.


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 – 0180</p> <p>Date: 26 June 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name:</p> <p>ROLLS-ROYCE PLC</p>	<p>Type/Model designation(s):</p> <p>RB211-524-02, 524B2-19, 524B2-39, 524B-02, 524B3-02, 524C2-19, 524B4-02, 524B4-D-02, 524D4-19, 524D4-39, 524D4-B-19, 524D4-B-39, 524D4X-19, 524D4X-B-19, 524B-B-02, 524B2-B-19, 524C2-B-19, 524G2-19, 524G3-19, 524G2-T-19, 524G3-T-19, 524H-36, 524H2-19, 524H-T-36 and 524H2-T-19</p>
TCDS No: UK-CAA Engine No. 1043, 1046 and 1048	
Foreign AD : N/A	
Supersedure: N/A	
ATA 72; 41; 51	High Pressure Turbine (HPT) – Inspection of Disc Rim Cooling Air Holes for Cracks from Scoring Damage
Manufacturer(s):	Rolls-Royce plc
Applicability:	Models RB211-524-02, -524B2-19, -524B2-39, -524B-02, -524B3-02, -524C2-19, -524B4-02, -524B4-D-02, -524D4-19, -524D4-39, -524D4-B-19, -524D4-B-39, -524D4X-19, -524D4X-B-19, -524B-B-02, -524B2-B-19, -524C2-B-19, -524G2-19, -524G3-19, -524G2-T-19, -524G3-T-19, -524H-36, -524H2-19, -524H-T-36 and -524H2-T-19 installed on, but not limited to, Boeing 747, Boeing 767 and Lockheed L-1011 aircraft
Reason:	HPT Discs recently inspected in accordance with the Engine Manual have exhibited cracks in the disc rim. The discs have failed to meet the inspection acceptance criteria and have been returned to Rolls-Royce for engineering investigation.


	<p>This investigation has concluded that the cracks have resulted from scores within the cooling air holes in the disc rim that could have been introduced during new part manufacture or during overhaul of the disc. The engineering investigation has also concluded that if this cracking was undetected then it could result in uncontained disc failure.</p>
Effective Date:	10 July 2006
Compliance:	<p>Carry out an Eddy Current Inspection (ECI), as defined in Section 3., Accomplishment Instructions of Rolls-Royce NMSB 72-AE969 or later EASA approved revision on the HP turbine discs identified in Sections 1.A.(3) and 1.A.(4) of Rolls-Royce NMSB 72-AE969 or later EASA approved revision in accordance with the following schedule:</p> <p>1. Initial Inspection Requirements- inspect the HP Turbine disc by whichever is the soonest of the following conditions:</p> <p>1A. If the HP turbine disc cycles since new is greater than 2750 cycles on the effective date of this Airworthiness Directive, then inspect the disc at next shop visit where the HP turbine blades have been removed from the HP turbine disc.</p> <p>1B. If</p> <ul style="list-style-type: none"> -the HP turbine disc cycles since new is greater than 2750 cycles on the effective date of this Airworthiness Directive and -the HP turbine rotor is currently undergoing a shop visit and has not yet been reinstalled into the Combustor Outer Case and the HP turbine blades have been removed from the HP turbine disc, <p>then the HP turbine disc must be inspected in accordance with the requirements of this Airworthiness Directive.</p> <p>2. Further Inspection Requirements - repeat the inspection detailed at 1A. and 1B. above at every subsequent shop visit where the HP turbine blades have been removed from the HP turbine disc.</p> <p>3. If a HP turbine disc has previously passed inspection to the Eddy Current Inspection procedure as defined in Rolls-Royce TSD594-J Overhaul Process Manual Task 70-00-00-200-223 and at a disc life above 2750 cycles since new that meets the criteria detailed in section 1., then that inspection satisfies the requirements stated in section 1. of this Airworthiness Directive.</p>
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin Mod No: 72-AE969 or later approved revisions.
Remarks:	<p>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</p> <p>2. This AD was posted as PAD 06-132 for consultation on 24 May 2006 with a comment period until 16 June 2006. The Comment Response Document can be found at http://ad.easa.eu.int/.</p>

	<p>3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.</p>
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No: 2009 - 0083</p> <p>Date: 16 April 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
ROLLS-ROYCE PLC	RB211-524 Series Engines
TCDS Number : UK-CAA TCDS No. 1043	
Foreign AD : Not applicable	
Supersedure : None	
ATA 72	Engine – Low Pressure Turbine (LPT) Casing – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	RB211-524C2-19 and RB211-524C2-B-19 engines, all serial numbers. These engines are known to be installed, but not limited to Boeing 747 series aircraft.
Reason:	<p>A number of LPT casings have been found cracked during engine shop visit. Cracking of the LPT casing reduces the capability of the casing to contain debris in the event of an LPT stage 1 blade failure. Therefore, blade failure in an engine featuring a cracked LPT casing may result in release of uncontained high energy debris.</p> <p>For the reason described above, this AD requires repetitive inspections and corrective actions, depending on findings.</p>
Effective Date:	30 April 2009
Required Action(s) and Compliance Time(s):	<p><u>Initial Inspection Requirements:</u></p> <ol style="list-style-type: none"> 1. If at the effective date of this Airworthiness Directive the life of the LPT Casing is known and less than 4 500 Cycles Since New (CSN), carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) No. 72-AG076 before the life of the LPT casing has reached 4 500 CSN. 2. If at the effective date of this Airworthiness Directive the life of the LPT

	<p>Casing is known and greater than or equal to 4 500 CSN and the life of the LPT casing since last full Fluorescent Penetrant Inspection (FPI) is either known and greater than 4 500 Cycles or not known, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AG076 at the next shop visit.</p> <p>3. If at the effective date of this Airworthiness Directive the life of the LPT Casing is known and greater than or equal to 4 500 CSN and the life of the LPT casing since last full FPI is known and less than 4 500 Cycles, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AG076 before the life of the LPT Casing has reached 4 500 Cycles since last full FPI.</p> <p>4. If at the effective date of this Airworthiness Directive the life of the LPT Casing is not known and the life of the LPT casing since last full FPI is either not known or greater than or equal to 4 500 Cycles, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AG076 at the next shop visit.</p> <p>5. If at the effective date of this Airworthiness Directive the life of the LPT Casing is not known and the life of the LPT casing since last full FPI is known and less than 4 500 Cycles, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AG076 before the life of the LPT Casing has reached 4 500 Cycles since last full FPI.</p> <p><u>Repetitive Inspection Requirements:</u></p> <p>Following accomplishment of the actions associated with the initial inspection requirements detailed above, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AG076 at intervals not exceeding 4 500 Cycles.</p>
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non-Modification Service Bulletin (NMSB) No. 72-AG076</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>
Remarks :	<p>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</p> <p>2. This AD was posted on 09 February 2009 as PAD 09-032 for consultation until 09 March 2009. The Comment Response Document can be found at http://ad.easa.europa.eu.</p> <p>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</p> <p>4. For any question concerning the technical content of the requirements in this AD, please contact: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009 - 0089 [Corrected 17 April 2009]</p> <p>Date: 16 April 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
ROLLS-ROYCE PLC	RB211-524 Series Engines
TCDS Number : UK-CAA TCDS No. 1043, 1046 and 1048	
Foreign AD : Not applicable	
Supersedure : None	
ATA 78	Engine – Thrust Reverser Unit (TRU) – Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211-524D4-19, RB211-524D4-B-19, RB211-524D4-39, RB211-524D4-B-39, RB211-524D4X-B-19, RB211-524H-36, RB211-524H2-19, RB211-524H-T-36, RB211-524H2-T-19, RB211-524G2-19, RB211-524G3-19, RB211-524G2-T-19 and RB211-524G3-T-19 engines, all serial numbers, if equipped with a Thrust Reverser having a part number as identified in Rolls-Royce RB211 Propulsion Systems Non-Modification Service Bulletin (NMSB) No. 78-AG084.</p> <p>These engines are known to be installed, but not limited to Boeing 747 and Boeing 767 series aircraft.</p>
Reason:	<p>An investigation into the loss of a TRU during landing has revealed that this incident was preceded by the detachment of the TRUs fixed structure front ring rivet lines on the rear flange.</p> <p>It was concluded that the loss of rivet lines was directly associated with a previous translating cowl gearbox stubshaft fracture and the subsequent repair of the fixed structure to Engine Manual repair No. FRS5887.</p> <p>This repair instructs the replacement of the damaged section of the structure but does not require the rivets adjacent to the repair to be replaced although latest analysis has shown that the rivets may have weakened as a result a translating cowl gearbox stubshaft failure.</p> <p>Loss of a TRU during landing may release a significant amount of debris, adversely affecting the safety of flight operations. Thus, the loss of a TRU</p>

	<p>constitutes a potentially unsafe condition.</p> <p>This Airworthiness Directive instructs the replacement of potentially yielded rivets from TRUs in service in order to prevent a further TRU loss.</p> <p>This Airworthiness Directive has been re-issued to correct the reference to the Rolls-Royce NMSB and change it from 72-AG084 to 78-AG084.</p>
Effective Date:	30 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless accomplished previously.</p> <ol style="list-style-type: none"> 1. If a TRU has previously had Engine Manual repair No. FRS5887 and either Engine Manual repair No. FRS4976 or Engine Manual repair No. FRS6669 embodied jointly, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 78-AG084 before 31st December 2009. 2. If a TRU has previously had Engine Manual repair No. FRS4976 or Engine Manual repair No. FRS6669 embodied and it is not known whether this was performed jointly with Engine Manual repair No. FRS5887, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 78-AG084 before 31st December 2009. 3. If a TRU has previously had only Engine Manual repair No. FRS5887 embodied, carry out the actions specified in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 78-AG084 before 31st December 2012.
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System NMSB No. 78-AG084, initial issue, dated 01 December 2008.</p> <p>The use of later approved revisions of this document 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: Rolls-Royce plc, PO Box 31, Derby, DE24 8BJ, United Kingdom Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0176</p> <p>Date: 18 September 2008</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>Rolls-Royce plc</p>	<p>Type/Model designation(s) :</p> <p>RB211-524 and -535 Series Engines</p>
<p>TCDS Number : United Kingdom 1043, 1044, 1046, 1048 and 1049</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
ATA 72	Engine – High Pressure Turbine Disc – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211-524, RB211-535C and RB211-535E4 series engines that have High Pressure (HP) Turbine Discs installed, identified by part and serial number in Rolls-Royce Alert Non-Modification Service Bulletin 72-AF996 Revision 1 dated 17 July 2008 (the SB).</p> <p>These engines are known to be installed on, but not limited to, Lockheed Martin L-1011 aircraft, Boeing 747, 757 and 767 series aircraft, and Tupolev Tu204 aircraft.</p>
Reason:	<p>Rolls-Royce has recently discovered that there may be cracks present in certain HP turbine discs, due to a possible error in an eddy current inspection technique carried out during maintenance. The affected part- and serial numbers are identified in Rolls-Royce Alert Non-Modification Service Bulletin 72-AF996 Revision 1 (the SB). This condition, if not corrected, may lead to disc failure and subsequent high-energy debris release.</p> <p>For the reason described above, this new EASA AD requires the removal from service of the affected HP turbine discs and inspection thereof, prior to reinstallation.</p>
Effective Date:	02 October 2008

Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless previously accomplished:</p> <ol style="list-style-type: none"> (1) After the effective date of this AD, within the applicable time period indicated in Section 1.C 'Compliance' of the SB, each HP turbine disc identified in the SB must be removed from the aircraft and replaced with a serviceable disc. Prior to reinstallation on an engine, inspect each HP turbine disc in accordance with the instructions of the SB. (2) HP turbine discs that do not pass the inspection as required by paragraph (1) of this AD shall not be reinstalled on an engine and must be returned to Rolls-Royce for further investigation. (3) After the effective date of this AD, no person shall install any HP turbine disc identified in the SB on any engine, unless it has been inspected in accordance with the instructions of the SB and has passed that inspection.
Ref. Publications:	Rolls-Royce Alert Non-Modification Service Bulletin 72-AF996 Revision 1 dated 17 July 2008.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. Required actions and the risk assessment have warranted the immediate adoption of this Final AD with request for comments. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom; telephone +44 (0) 1332 242424; facsimile +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2005-0028 R1

Issue Date: 18 October 2005

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 2005-6350 on 3 October 2005.

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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

RB211-524, RB211-535E4, RB211-535C

Type Certificate Data Sheet No: 1043, 1044, 1046, 1048, 1049

Revised AD: G-2005-0028

ATA 72 – ENGINE COMPRESSOR SECTION – HIGH PRESSURE COMPRESSOR – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Models 524B2-I9, 524B-02, 524B3-02, 524C2-I9, 524B4-02, 524B4-D-02, 524D4-I9, 524D4-39, 524B-B-02, 524B2-B-19, 524D4-B-19, 524D4-B-39, 524C2-B-19, 524D4X-19, 524D4X-B-19, 524G2-19, 524G3-19, 524H-36, 524H2-19, 535E4-37, 535E4-B-37, 535E4-C-37, 535E4-B-75 and 535C-37 engines installed on Boeing 747, 757, 767, Lockheed L1011, Tristar and Tupolev 204 aeroplanes.

Reason: Overhaul inspection of HP Compressor 1 and 2 rotors has identified cracks running in an axial direction in the region of the weld land between the stage 1 and 2 rotor discs. If cracking of the weld land were allowed to propagate for extended periods then it could potentially hazard rotor integrity.

This Airworthiness Directive instructs an enhanced shop visit NDT inspection of the HP compressor interstage 1-2 weld for the whole fleet, in order to preclude the risk of a potentially uncontained failure of the HP compressor.

This Revision has been raised to remove engine models no longer certified and to clarify the intent of the compliance time.


Effective Date: 30 September 2005

Compliance/Action: Within 30 days from the effective date of this Airworthiness Directive, at every shop visit where the HP Compressor Stage 1-2 Rotor has been removed from the HP Stage 3 Disc, inspect the engine HP compressor interstage weld for evidence of cracks in accordance with the accomplishment instructions and subject to the acceptance criteria of Rolls-Royce Alert Service Bulletin RB211-72-AE359 initial issue or later EASA approved revision.

Reference Publications: Rolls-Royce Alert Service Bulletins may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone +44 (0) 1332 242424 Fax +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573641 Fax: +44 (0) 1293 573979 E-mail: christophe.denis@srg.caa.co.uk.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0073R1</p> <p>Date: 08 April 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>ROLLS-ROYCE PLC</p>	<p>Type/Model designation(s) :</p> <p>RB211-524, Trent 500, Trent 700 and Trent 800 series Engines</p>
<p>TCDS Numbers : EASA.E.042, EASA.E.060, United Kingdom Nos. 1046, 1048 and 1051</p>	
<p>Foreign AD : Not applicable</p>	
<p>Revision : This AD revises and replaces AD 2009-0073 dated 30 March 2009.</p>	
ATA 72	Engine – High Pressure (HP) Compressor Stage 1 to 4 Rotor Discs and HP Compressor Rotor Shafts – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>1) RB211 Trent 553-61, 553A2-61, 556-61, 556A2-61, 556B-61, 556B2-61, 560-61 and 560A2-61 engines, all serial numbers, if HP Compressor Stage 1 to 4 Rotor Discs, Part Number (P/N) FK30524 are installed. These engines are known to be installed on, but not limited to, Airbus A340 series aeroplanes.</p> <p>2) RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines, all serial numbers, if a HP Compressor Rotor Shaft, P/N FK22745, FK24031, FK26185, FK23313, FK25502, FK32129, FW20195, FW20196, FW20197, FW20638 or FW23711 is installed. These engines are known to be installed on, but not limited to, Airbus A330 series aeroplanes.</p> <p>3) RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17 engines, all serial numbers, if HP Compressor Stage 1 to 4 Rotor Discs, P/N FK24009, FK26167, FK32580, FW11590 or FW61622 are installed. These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes.</p> <p>4) RB211-524G2-T-19, RB211-524G3-T-19, RB211-524H-T-36 and RB211-524H2-T-19 engines, if a HP Compressor Rotor Shaft, P/N FK25502, FK20195 or FW23711 is installed. These engines are known to be installed on, but not limited to, Boeing 747 and Boeing 767 series aeroplanes.</p>
Reason:	<p>During manufacture of a number of HP Compressor Stage 1 and 2 discs with axial dovetail slots, anomalies at the disc post corners have been found. Fatigue crack initiation and subsequent crack propagation at the disc post may</p>

	<p>result in release of two blades and the disc post. This may potentially be beyond the containment capabilities of the engine casings. Thus, these anomalies present at the disc posts constitute a potentially unsafe condition.</p> <p>For the reasons described above, this AD requires repetitive inspections of the axial dovetail slots and follow-on corrective action, depending on findings.</p> <p>This revised AD has been issued to correct a discrepancy between the original AD Applicability and the related Rolls-Royce publication. In addition, a small editorial change has been made to paragraph (4) of the Compliance section, for clarification purposes.</p>
Effective Date:	14 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) If, on the effective date of this AD, the life of the HP Compressor Stage 1 to 4 Rotor Discs or the HP Compressor Rotor Shafts is equal to or greater than 1 000 Cycles Since New (CSN) and the engine is at Refurbishment (Level 3) shop visit, carry out the inspections defined in Section 3. Accomplishment Instructions of Rolls-Royce Non-Modification Service Bulletin (NMSB) 72-AF964, Revision 1. (2) If, on the effective date of this AD, the life of the HP Compressor Stage 1 to 4 Rotor Discs or the HP Compressor Rotor Shafts is equal to or greater than 1 000 CSN and the engine is at Overhaul (Level 4) shop visit, carry out the inspections defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB 72-AF964, Revision 1. (3) If, on the effective date of this AD, the life of the HP Compressor Stage 1 to 4 Rotor Discs or the HP Compressor Rotor Shafts is equal to or greater than 1 000 CSN and the HP Compressor Rotor is at piece part level, carry out the inspections defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB 72-AF964, Revision 1. (4) When the life of the HP Compressor Stage 1 to 4 Rotor Discs or the HP Compressor Rotor Shaft is greater than or equal to 1 000 CSN, carry out the actions defined in Section 3. Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF964, Revision 1 at every engine Refurbishment (Level 3) shop visit, every engine Overhaul (Level 4) shop visit and each time the HP Compressor is at piece part level.
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System NMSB 72-AF964 Revision 1</p> <p>The use of later approved revisions of this document 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. This AD was published on 17 February 2009 as PAD 09-039 for consultation until 10 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 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: Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com/



**United Kingdom
Civil Aviation Authority**

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0007

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211-535

CORRECTION to AD No G-2003-0007 dated 18 September 2003

Type Certificate Data Sheet No: 1044 and 1049

ATA 72 - ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-535 Series engines installed on, but not limited to, Boeing 757 and Tupolev Tu-204 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

- A** Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 1 July 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

- (1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,
and
The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,
or
- (2) The component removal was for damage or a cause directly related to its removal,
or
- (3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

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The list of Group A Parts is specified below:

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-12-200-000
Low Pressure Compressor Shaft	All	72-31-20-200-000
Intermediate Pressure Compressor Rotor Shaft	All	72-32-31-200-001
Intermediate Pressure Compressor Rotor Rear Stubshaft	All	72-33-21-200-000
High Pressure Compressor Rotor Disc Stages 1 & 2	All	72-41-31-200-000
High Pressure Compressor Rotor Disc Stage 3	All	72-41-31-200-001
High Pressure Compressor Rear Rotor Shaft Assy.	All	72-41-31-200-002
Compressor/Turbine Joint Flange Support Disc (Applicable to -535C only)	All	72-41-31-200-003
High Pressure Turbine Disc	All	72-41-51-200-000
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-000
Intermediate Pressure Turbine Shaft	All	72-51-33-200-000
Low Pressure Turbine Disc Stage 1	All	72-51-61-200-000
Low Pressure Turbine Disc Stage 2	All	72-51-61-200-001
Low Pressure Turbine Disc Stage 3	All	72-51-61-200-002
Low Pressure Turbine Shaft	All	72-51-63-200-000

Table 1

- B** Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.
- C** Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211-535 series Time Limits Manual Reference 05-20-01, dated 1 July 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Phone: +44 (0) 1293 573856 Fax: +44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0027

Issue Date: 19 November 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 2004-11146 on 18 November 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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

RB211-535

Type Certificate Data Sheet No: 1044 and 1049

Superseded AD: 003-12-99

ATA 72 – HIGH PRESSURE TURBINE (HPT) – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211-535 Series engines installed on Boeing 757 and Tupolev Tu-204 aeroplanes.

Reason: This Airworthiness Directive (AD) has been issued as a result of a recent finding of cracking on a RB211 High Pressure Turbine Disc that had propagated further than expected based on the risk model used to define the inspection thresholds defined in previous Mandatory NMSB 72-C817 (CAA AD 003-12-99).

A certain population of HP turbine discs that were manufactured between 1989-1999 and which were subject to possible machining anomalies are now believed to have an increased chance of suffering from cooling air hole cracking compared to the general fleet 1989-1999 disc population. The serial numbers of the RB211-535 discs that are in this subset are listed separately in this AD and have lower cyclic inspection thresholds than the general fleet population.

An HP turbine disc fracture would be uncontained and create a potential unsafe condition.

This AD introduces revised inspection thresholds and compliance times to reflect the increased risk of HP turbine disc cracking and potential disc fracture.

Effective Date: 22 November 2004

Compliance:

- 1) Carry out an Eddy Current Inspection (ECI), as defined below in "Action", of the HPT discs listed in Appendix 1 of this AD in accordance with the following schedule:
 - (a) If disc cycles since new were greater than 12,750 cycles on 8 October 2004, then inspect the disc within 250 cycles from 8 October 2004 or 14500 cycles since new whichever is sooner.
 - (b) If disc cycles since new were above 10,500 cycles and less than 12,750 cycles on 8 October 2004, then inspect within 500 cycles from 8 October 2004.
 - (c) If disc cycles since new were less than 10,500 cycles on 8 October 2004, then inspect the disc prior to 11,000 cycles since new or at next shop visit, whichever occurs first.

continued on next page

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2) Carry out an ECI, as defined below in "Action", of the HPT discs listed in Appendix 2 of this AD in accordance with the following schedule:

- (a) For those HPT discs with a life less than 13,700 cycles on the 29 January 2001, inspect the discs prior to reaching 14,500 cycles or at next shop visit after the effective date of this AD, whichever occurs first.
- (b) Inspect HPT discs with a life greater than 13,700 cycles on the 29 January 2001 at whichever occurs first of the following:
 - (i) Prior to reaching 15,300 cycles
 - (ii) Within 800 cycles from 29 January 2001
 - (iii) At the next shop visit where the HP Turbine rotor is removed from the Combustor Outer Case.

Note:

- 1. For the purposes of this AD, next shop visit is defined as the first shop visit opportunity when the HPT rotor is removed from the combustion case.
- 2. The requirements of the AD should not be applied to HP turbine discs until they have achieved 1500 cycles since new.
- 3. Any engine which is undergoing a shop visit at the effective date of this AD and the HPT rotor has been removed from the Combustor Outer Case and has not yet been refitted to the engine should be inspected in accordance with this AD prior to return to service. An HPT rotor which has been refitted at the effective date of this AD, need not be inspected at that time.
- 4. If a disc has previously been inspected at less than 1500 cycles since new, then that disc will require re-inspection in accordance with the requirements of this AD.
- 5. If a disc has previously passed inspection to NMSB 72-C817 (CAA AD 003-12-99) or a focussed inspection carried out in accordance with Rolls-Royce TS 594-J Overhaul Process Manual Task 70-00-00-200-223 at greater than 1500 cycles since new, then either of these inspections satisfies the inspection requirements of this AD.

Action:

CAUTION: DO NOT INSERT ANY HARD OR SHARP OBJECT INTO AIR COOLING HOLES. THIS MAY DAMAGE THE HOLE AND COULD INITIATE CRACKING. CLEANING OF THE HOLES SHOULD ONLY BE DONE IN ACCORDANCE WITH THE NORMAL PRIMARY CLEANING PROCEDURES. ANY RESIDUAL DEBRIS SHOULD BE REMOVED BY REPEATING THE CLEANING PROCEDURE.

- A. Thoroughly clean the HP turbine disc in accordance with the Primary Cleaning instructions in the Rolls-Royce Engine Manual (72-41-51).
- B. Inspect HP turbine discs in accordance with the inspection technique detailed in Rolls-Royce TS 594-J Overhaul Process Manual Task 70-00-00-200-223.
- C. On successful completion of the inspection, permanently etch, SB 72-AE651 onto the HP turbine disc adjacent to the part number.
- D. Record accomplishment of this AD and Alert Service Bulletin, SB 72-AE651 along with the HP turbine disc cycles since new in the 04 Module Log Card.

Reference Publications: Rolls-Royce Alert Service Bulletin, SB 72-AE651.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the United Kingdom Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Phone: +44 (0)1293 573856 Fax: +44 (0)1293 573979 E-mail: paul.camplisson@srg.caa.co.uk.

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Appendix 1

List of affected discs with an increased chance of suffering from machining anomalies.

Part No	Serial No.	Part No	Serial No.
LK80623	CQDY6397	UL27681	LDRCZ11893
LK80623	CQDY6504	UL27681	LDRCZ12893
UL27680	CQDY6451	UL27681	LDRCZ12985
UL27680	CQDY6452	UL27681	LDRCZ13044
UL27680	CQDY6466	UL27681	LDRCZ13047
UL27680	CQDY6468	UL27681	LQDY6803
UL27680	CQDY6471	UL27681	LQDY6814
UL27680	CQDY6496	UL27681	LQDY6847
UL27680	CQDY6505	UL27681	LQDY6868
UL27680	CQDY6653	UL27681	LQDY6875
UL27680	CQDY6656	UL27681	LQDY6892
UL27680	CQDY6657	UL27681	LQDY6898
UL27680	CQDY6684	UL27681	LQDY6904
UL27680	CQDY6883	UL27681	LQDY6909
UL27681	CQDY6465	UL27681	LQDY6910
UL27681	LAQDY6002	UL27681	LQDY9133
UL27681	LAQDY6083	UL27681	LQDY9574
UL27681	LAQDY6087	UL27681	LQDY9579
UL27681	LDRCZ10247	UL27681	LQDY9672
UL27681	LDRCZ10277	UL27681	LQDY9770
UL27681	LDRCZ10318	UL27681	LQDY9783
UL27681	LDRCZ10335	UL27681	LQDY9786
UL27681	LDRCZ10430	UL27681	LQDY9900
UL27681	LDRCZ10531	UL27681	LQDY9902
UL27681	LDCRZ10750	UL27681	LQDY9929
UL27681	LDRCZ10899	UL27681	LQDY9957
UL27681	LDRCZ11616	UL27681	LQDY9982
UL27681	LDRCZ11720	UL27681	LQDY9992
		UL27681	WGQDY0005


Appendix 2

List of affected discs manufactured between 1989 and 1999.

Part No.	Serial No
UL10323	CQDY6070 onwards
UL27680	All Discs
UL27681	All Discs
LK80622	LQDY6316 onwards
LK80623	CQDY5945 onwards
UL28267	All Discs

Note: This Airworthiness Directive was originally issued as an Emergency AD on 1 November 2004.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006 - 0182</p> <p>Date: 28 June 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211-535
TCDS Number : UK-CAA: 1044 and 1049	
Foreign AD : None	
Supersedure : None	
ATA 72	Engine Turbine Section – High Pressure Turbine - Inspection
Manufacturer:	Rolls-Royce PLC
Applicability:	RB211-535C, RB211-535E4, RB211-535E4-B, RB211-535E4-C
Reason:	<p>HPT Discs recently inspected in accordance with the Engine Manual have exhibited cracks in the disc rim. The discs have failed to meet the inspection acceptance criteria and have been returned to Rolls-Royce for engineering investigation.</p> <p>This investigation has concluded that the cracks have resulted from scores within the cooling air holes in the disc rim that could have been introduced during new part manufacture or during overhaul of the disc. The engineering investigation has concluded that if this cracking was undetected then it could result in uncontained disc failure and a potential unsafe condition for the aircraft.</p> <p>Background Information: UK CAA Airworthiness Directive G-2004-0027 for Reaming Induced Machining Anomalies (RIMA) addresses the same HPT Disc Rim cooling air hole feature as this AD.</p> <p>The Eddy Current Inspection procedure as defined in Rolls-Royce TSD594-J Overhaul Process Manual Task 70-00-00-200-223 has previously been required to be undertaken in Non-Mod Service Bulletins: 72-C816, 72-C817, 72-AE651, 72-AE717, 72-AE718.</p>

Effective Date:	10 July 2006
Compliance:	<p>Carry out an Eddy Current Inspection (ECI), as defined in paragraph 3, Accomplishment Instructions of Rolls-Royce NMSB 72-AE969 or later EASA approved revision, of RB211-535 series engine HP Turbine discs in accordance with the following schedule:</p> <ol style="list-style-type: none"> 1) If the HP Turbine disc has an accumulated life <u>less than or equal to</u> 17500 cycles since new on the effective date of this Directive, inspect the disc by whichever is the soonest of the following requirements: <ol style="list-style-type: none"> (a) Inspect the disc prior to reaching 18000 cycles since new. (b) Inspect the disc at next engine shop visit where the HP Turbine rotor is removed from the Combustor Outer Casing (COC) and the disc life is greater than 5000 cycles since new. (c) At current engine shop visit if the HP Turbine rotor has been removed from the COC and it has not yet been reinstalled into the COC on the effective date of this Directive and the disc life is greater than 5000 cycles since new. 2) If the HP Turbine disc has an accumulated life <u>greater than</u> 17500 cycles since new on the effective date of this Directive, inspect the disc by whichever is the soonest of the following requirements: <ol style="list-style-type: none"> (a) Inspect the disc within 500 cycles (b) Inspect the disc at next engine shop visit where the HP Turbine rotor is removed from the COC . (c) At current engine shop visit if the HP Turbine rotor has been removed from the COC and it has not yet been reinstalled into the COC on the effective date of this Directive. 3) Repeat the inspection of the of the HP Turbine disc at every subsequent engine shop visit where the HP Turbine blades are removed from the HP Turbine disc. 4) If an HP Turbine disc has previously been inspected in accordance with the Eddy Current Inspection requirements of Rolls-Royce TSD594-J Overhaul Process Manual Task 70-00-00-200-223 at an HP Turbine disc life of greater than 5000 cycles since new, then that inspection meets the initial inspection requirements of paragraphs (1) and (2) of this Directive. <p>Previous inspections may have been conducted as instructed in other Service Bulletins referenced in the Reason section of this Airworthiness Directive.</p>

Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin Mod No: 72-AE969
Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD.2. This AD was posted as PAD 06-134 for consultation on 29 May 2006 with a comment period until 16 June 2006. The Comment Response Document can be found at: http://ad.easa.eu.int/ .3. Enquiries regarding this Airworthiness Directive should be referred to Mr M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA, E-mail: ADs@easa.europa.eu .4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls Royce plc, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0005

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211 Trent 500

CORRECTION to AD No G-2003-0005 dated 18 September 2003

Type Certificate Data Sheet No: 1056

ATA 72 - ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211 Trent 500 Series engines installed on, but not limited to, Airbus A340 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

A Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 05 November 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

- (1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,
and
The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,
or
- (2) The component removal was for damage or a cause directly related to its removal,
or
- (3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

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AD No: G-2003-0005

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The list of Group A Parts is specified below:

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-16-200-801
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-801
Intermediate Pressure Compressor Rotor Shaft	All	72-32-31-200-801
Intermediate Pressure Rear Shaft	All	72-33-21-200-801
High Pressure Compressor Stage 1 to 4 Rotor Discs Shaft	All	72-41-31-200-803
High Pressure Compressor Stage 5 and 6 Discs and Cone	All	72-41-31-200-801
High Pressure Turbine Rotor Disc	All	72-41-51-200-801
High Pressure Turbine Front Coverplate	All	72-41-51-200-806
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-801
Intermediate Pressure Turbine Rotor Shaft	All	72-51-33-200-801
Low Pressure Turbine Stage 1 Rotor Disc	All	72-52-31-200-801
Low Pressure Turbine Stage 2 Rotor Disc	All	72-52-31-200-802
Low Pressure Turbine Stage 3 Rotor Disc	All	72-52-31-200-803
Low Pressure Turbine Stage 4 Rotor Disc	All	72-52-31-200-804
Low Pressure Turbine Stage 5 Rotor Disc	All	72-52-31-200-805
Low Pressure Turbine Rotor Shaft	All	72-52-33-200-801

Table 1

B Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.

C Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211 Trent 500 series Time Limits Manual Reference 05-20-01, dated 5 November 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR Phone: +44 (0) 1293 573856 Fax: +44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.



**United Kingdom
Civil Aviation
Authority**

**AIRWORTHINESS
DIRECTIVE**

AD No: G-2005-0007 R1

Issue Date: 4 January 2006

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 2005-6446 on 14 December 2005.

In accordance with Article 10 of the Air Navigation Order 2005 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:

ROLLS-ROYCE PLC

Type Certificate Data Sheet No: 1056

Type/Model Designation(s):

RB211 TRENT 500

CORRECTION to G-2005-0007 R1 dated 11 July 2005

ATA 72 – ENGINE TURBINE SECTION – HIGH PRESSURE TURBINE – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211 Trent 553-61, 556-61, 556B-61, 560-61, 553A2-61, 556A2-61, 556B2-61, 560A2-61 engines not incorporating modification RB211-72-E767. These engines are installed on Airbus A340-500/600 series aeroplanes.

Reason: During rework of service engines, some of the high pressure (HP) turbine rear seal plate locking plugs were found to be missing. This resulted in scoring of the HP turbine disc rear diaphragm and impact damage to the remaining locking plug retaining wires which could have led to the release of the rear seal plate. This situation may compromise the disc fatigue life.

This directive instructs a boroscope inspection of the HP turbine rear seal plate locking plugs for the whole fleet, in order to preclude the risk of an uncontained failure of the HPT disc.

Revision 1 of the directive reduces the applicability to engines, which do not incorporate the new locking plug assembly design (modification RB211-72-E767).

This correction to the Airworthiness Directive has been made to remove the reference to the fly-on acceptance criteria, which are not safety related. The airworthiness requirement remains unchanged.

Effective Date: 29 July 2005

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Compliance/Action:

At the threshold and within the intervals detailed below, inspect the engine turbine section for release or damage of the locking plug retaining wires, in accordance with section 3 - Accomplishment Instructions of Rolls-Royce Alert Service Bulletin RB211-72-AE358 revision 3 or later EASA approved revision.


1. For engines with a HP turbine disc cyclic life greater than 500 flight cycles since new or replacement of the locking plug retaining wires, whichever is the least, inspect by boroscope, the engine turbine section before 1000 flight cycles are reached.
2. For engines with a HP turbine disc cyclic life greater than 1000 flight cycles since new or replacement of the locking plug retaining wires, whichever is the least, inspect by boroscope within 50 flight cycles from the effective date of this Directive.
3. Repeat the boroscope inspection of the HP turbine disc at a maximum of 1000 flight cycle intervals.

Reference Publications: Rolls-Royce Alert Service Bulletin may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone +44 (0) 1332 242424 Fax +44 (0) 1332 249936.


Remarks: Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573641 Fax: +44 (0) 1293 573979
E-mail: christophe.denis@srg.caa.co.uk.

EASA	AIRWORTHINESS DIRECTIVE	
	AD No.: 2008-0042 Date: 27 February 2008	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
Type Approval Holder's Name:		Type/Model designations:
ROLLS-ROYCE PLC		RB211 Trent 500 Series Engines
TCDS Number: EASA E.060		
Foreign AD: Not applicable		
Supersedure: This Airworthiness Directive (AD) supersedes EASA AD No. 2007-0046 dated 22 February 2007.		
ATA 72	Engine – Intermediate Pressure Compressor (IPC) Drum – Identification / Replacement	
Manufacturer:	Rolls-Royce plc	
Applicability:	<p>Models RB211 Trent 553-61, 556-61, 556B-61, 560-61, 553A2-61, 556A2-61, 556B2-61 and 560A2-61 engines, all serial numbers, if IPC Drum P/N FK30102 is installed.</p> <p>These engines are known to be installed on, but not limited to, Airbus A340-500 and A340-600 series aircraft.</p>	
Reason:	<p>Following the discovery of strain induced porosity in a Trent 500 IPC Drum forging, engineering assessment concluded that the problem was caused by the forging process and believed to be a batch related occurrence. Strain induced porosity in the dovetail posts of the stage 1 of the IPC drum could result, in the worst case, in an uncontained loss of 2 IPC stage 1 blades. Thus, the presence of strain induce porosity in the IPC Drums constitutes a potentially unsafe condition. Initially, only nine discs coming from the same batch were identified as affected by this problem. For those nine discs, EASA AD No. 2007-0046 was issued to require replacement prior to the originally published cyclic life.</p> <p>Further engineering analysis has concluded that it is necessary to reduce the cyclic lives of the other discs with the same part number.</p> <p>For the reasons described above, the present AD retains the requirements of AD 2007-0046, which is superseded, and adds the required replacement of all other IPC Drums with Part Number (P/N) FK30102 at a new life cycle limit.</p>	
Effective Date:	12 March 2008	


Compliance:	<p>(1) At the next engine overhaul, or before accumulating 2 910 Cycles Since New (CSN), whichever occurs first after 08 March 2007 [the effective date of AD 2007-0046], remove each IPC Drum P/N FK30102 with the following serial numbers:</p> <table><tr><td>MW0134967</td><td>MW0131219</td><td>MW0156891</td></tr><tr><td>MW0158192</td><td>MW0164840</td><td>MW0168864</td></tr><tr><td>MW0168190</td><td>MW0171399</td><td>KHI00012</td></tr></table> <p>from the engine and replace with a serviceable drum in accordance with the instructions of Rolls-Royce Non Modification Service Bulletin (NMSB) RB211-72-AF258;</p> <p>(2) Before accumulating 5 830 CSN, remove each IPC Drum P/N FK30102 (with serial numbers other than those listed in paragraph (1) of this AD) from the engine and replace with a serviceable drum in accordance with the instructions of Rolls-Royce NMSB RB211-72-AF431;</p> <p>(3) After the effective date of this AD, no person shall install a spare IPC Drum P/N FK30102 on any engine, unless it has been verified not to have exceeded the new established life cycle limit as specified in Rolls-Royce NMSB RB211-72-AF258 and RB211-72-AF431, as applicable.</p>	MW0134967	MW0131219	MW0156891	MW0158192	MW0164840	MW0168864	MW0168190	MW0171399	KHI00012
MW0134967	MW0131219	MW0156891								
MW0158192	MW0164840	MW0168864								
MW0168190	MW0171399	KHI00012								
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin (NMSB) RB211-72-AF258 and RB211-72-AF431.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>									
Remarks :	<p>1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD.</p> <p>2. This AD has been published as PAD 08-012 on 29 January 2008 for consultation until 26 February 2008. No comments were received during the consultation period.</p> <p>3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact: Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com/</p>									

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0098</p> <p>Date: 21 May 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211 Trent 500 Series Engines
TCDS Number : EASA E.060	
Foreign AD : Not applicable	
Supersedure : None	
ATA 72	Engine – Low Pressure Turbine (LPT) Stage 3 Discs – Life Reduction
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>Models RB211 Trent 553-61, 556-61, 556B-61, 560-61, 553A2-61, 556A2-61, 556B2-61 and 560A2-61 engines, all serial numbers.</p> <p>These engines are known to be installed on, but not limited to, Airbus A340-500 and A340-600 series aircraft.</p>
Reason:	<p>Recent analysis of the LP Turbine Discs 1-5 carried out by Rolls-Royce plc concluded that it is necessary to reduce the Declared Safe Cyclic Life (DSCL) of all Trent 500 LPT Stage 3 Discs, Part Number (P/N) FK29581.</p> <p>EASA concurs with this conclusion and therefore this Airworthiness Directive requires replacement of LPT Stage 3 Discs P/N FK29581 at a cyclic life which is lower than the one originally published in the applicable Time Limits Manual.</p>
Effective Date:	04 June 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless previously accomplished:</p> <p>(1) After the effective date of this AD, each LPT Stage 3 Disc P/N FK29581 must be removed from service and replaced with a serviceable disc before accumulating 7 990 Cycles Since New (CSN), in accordance with the instructions of Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin RB211-72-AF781;</p>


	(2) After the effective date of this AD, no person shall install a spare LPT Stage 3 Discs P/N FK29581 on any engine or aircraft, unless it has been verified that the part has not yet accumulated 7 990 CSN.
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin RB211-72-AF781 dated 02 April 2008. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 07 April 2008 as PAD 08-018 for consultation until 05 May 2008. No comments were received during the consultation period. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom; telephone +44 (0) 1332 242424; facsimile +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0109 R1</p> <p>Date: 17 June 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>ROLLS-ROYCE PLC</p>	<p>Type/Model designation(s) :</p> <p>RB211 - Trent 500 engines</p>
<p>TCDS Number: EASA E.060</p>	
<p>Foreign AD : Not applicable</p>	
<p>Revision: This AD revises and replaces EASA AD 2008-0109 dated 06 June 2008.</p>	
ATA 72	Engine – Intermediate Pressure (IP) Turbine Blade Outer Shrouds – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211-Trent 500 series engines, all marks without Rolls-Royce service bulletin No. 72-D733 embodied.</p> <p>These engines are known to be installed on, but not limited to, Airbus A340-500 and Airbus A340-600 series aircraft.</p>
Reason:	<p>The IP turbine blade shrouds of the RB211-Trent 500 series engines feature closure welds (dust caps). Development engine testing has revealed the potential for dust caps to crack, lift and release. The latter may potentially allow hot annulus gas to be ingested down the core passages of IP turbine blades. Radial inflow of annulus gas into the IP disc rim region could cause local heating of the disc firtree, resulting in creep of the disc material. Failure of the disc rim in creep could simultaneously release two blades and a disc post. Failure to this extent could be beyond the containment capabilities of the casing. Consequently, release of the dust caps would constitute a potentially unsafe condition.</p> <p>This Airworthiness Directive is published to require inspection of IP Turbine Blade Outer Shrouds and, depending on the results, subsequent corrective actions.</p> <p>This AD has been revised in order to allow the option of carrying out the required inspections while the engine is not installed on an aircraft.</p>
Effective Date:	20 June 2008

Required action(s) and Compliance Time(s):	<p>1) Borescope Inspection</p> <p>Before 1st July 2008, carry out the borescope inspection as specified in Section 3, Accomplishment Instructions of Rolls-Royce Non Modification Service Bulletin (NMSB) No. 72-AF994.</p> <p>2) Actions following Borescope Inspection (see also 1 above)</p> <p>Depending on the results of the inspection carried out according to paragraph 1) of this AD, carry out the following:</p> <table border="1"> <thead> <tr> <th>Results of Borescope Inspection</th><th>Actions that Must Be Carried Out</th></tr> </thead> <tbody> <tr> <td>Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> is 0</td><td>At intervals not to exceed 100 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994</td></tr> <tr> <td>Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 0 but is equal to or less than 10</td><td>At intervals not to exceed 20 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994</td></tr> <tr> <td>Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 10 but is equal to or less than 20</td><td>At intervals not to exceed 10 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994</td></tr> <tr> <td>Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 20</td><td>Within 10 Cycles, remove engine from service and incorporate Rolls-Royce service bulletin No. 72-D733</td></tr> <tr> <td>Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>missing</u> is equal to or exceeds 1</td><td>Before further flight, remove engine from service and incorporate Rolls-Royce service bulletin No. 72-D733</td></tr> </tbody> </table> <p>Note: In deviation to the instructions of Rolls-Royce NMSB No. 72-AF994, the inspections required by 1) and 2) above can also be carried out while the engine is not installed on an aircraft.</p>	Results of Borescope Inspection	Actions that Must Be Carried Out	Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> is 0	At intervals not to exceed 100 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994	Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 0 but is equal to or less than 10	At intervals not to exceed 20 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994	Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 10 but is equal to or less than 20	At intervals not to exceed 10 Cycles, re-inspect engine in accordance with Section 3, Accomplishment Instructions of Rolls-Royce NMSB No. 72-AF994	Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>lifting</u> exceeds 20	Within 10 Cycles, remove engine from service and incorporate Rolls-Royce service bulletin No. 72-D733	Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>missing</u> is equal to or exceeds 1	Before further flight, remove engine from service and incorporate Rolls-Royce service bulletin No. 72-D733
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Total Number of IP Turbine Blade Outer Shroud Dust Caps <u>missing</u> is equal to or exceeds 1	Before further flight, remove engine from service and incorporate Rolls-Royce service bulletin No. 72-D733												
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin (NMSB) No. 72-AF994.</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: Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com 												

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0103</p> <p>Date: 30 April 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>ROLLS-ROYCE PLC</p>	<p>Type/Model designation(s) :</p> <p>RB211 - Trent 500 series engines</p>
<p>TCDS Number : EASA E.060</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure: This directive supersedes UK CAA AD G-2005-0029, dated 04 October 2005.</p>	
ATA 72	Engine – High Pressure (HP) / Intermediate Pressure (IP) Turbine Oil Vent Tube and Bearing Chamber – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>Model RB211-Trent 500 series engines, all serial numbers.</p> <p>These engines are known to be installed on, but not limited to, Airbus A340-500 and Airbus A340-600 series aeroplanes.</p>
Reason:	<p>In October 2003, an uncontained multiple IP turbine blade release occurred on an RB211 Trent 700 series engine. The blade release was the result of an overspeed of the IP turbine rotor that was caused by ignition and subsequent combustion of oil ejected from the HP/IP bearing chamber. Post incident analysis revealed that carbon build-up inside the HP/IP turbine bearing oil vent tube was a significant contributor to the ejection of oil from the HP/IP bearing chamber.</p> <p>The design of the HP/IP bearing support arrangement of the RB211 Trent 500 series engines is similar to the one of the RB211 Trent 700 engines. Therefore, UK CAA AD No. G-2005-0029 instructed repeat inspections of the HP/IP turbine bearing oil vent tubes of the RB211 Trent 500 series engines at specific intervals as required by Rolls-Royce Non Modification Service Bulletin (NMSB) No. RB211-72-AE836. Rolls-Royce engineering has evaluated the results of these inspections and concluded that the RB211 Trent 500 fleet does not exhibit a rate of carbon accumulation that would be sufficient to affect the function of the vent tube and that an inspection of the vent tube for carbon build-up whenever an engine is inducted into an overhaul facility would be sufficient to preserve airworthiness of the RB211 Trent 500 fleet. For relaxing the inspection requirements, Revision 2 of Rolls-Royce Non Modification Service Bulletin (NMSB) No. RB211-72-AE836 has been published.</p>


	This present AD supersedes UK CAA AD G-2005-0029 and requires compliance with Revision 2 of Rolls-Royce Non Modification Service Bulletin (NMSB) No. RB211-72-AE836 or later approved revisions.
Effective Date:	07 May 2009
Required Action(s) and Compliance Time(s):	Whenever an Intermediate Pressure (IP) Turbine Module (Module 51) or an engine is inducted into an overhaul facility, carry out the actions specified in paragraph 3.B., In-Shop Accomplishment Instructions of Rolls-Royce Non Modification Service Bulletin (NMSB) No. 72-AE836, Revision 2.
Ref. Publications:	Rolls-Royce Non Modification Service Bulletin (NMSB) No. 72-AE836, Revision 2. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.
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: Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>AD No: 2005-0025</p> <p>Issued: 26 October 2005</p>
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
Type Approval Holder's Name :	Type/Model designation(s) :
ROLLS-ROYCE PLC	RB211 Trent 500 series RB211 Trent 700 series RB211 Trent 800 series
TCDS Number: United Kingdom 1056, 1050, 1051.	
Foreign AD: N/A	
Supersedure/Revised ADs: None	
ATA 79	Engine Oil tank – Oil filler cap assembly – Inspection/Replacement
Manufacturer:	Rolls-Royce plc
Applicability:	<p>Models RB211 Trent 553-61, 553A2-61, 556-61, 556A2-61, 556B-61, 556B2-61, 560-61, 560A2-61 (installed on Airbus A340 aeroplanes)</p> <p>Models RB211 Trent 768-60, 772-60, 772B-60 engines (installed on Airbus A330 aeroplanes)</p> <p>Models RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17 (installed on Boeing 777 aeroplanes)</p>
Reason:	<p>Four in-service oil loss events in eight months have occurred following failures to refit the oil filler cap after oil servicing. The oil tank filler assembly secondary sealing feature (flap valve), which should have prevented significant loss of oil, was found to be compromised on these engines by an o-ring which had become unseated. Further investigation of the problem has revealed that the omission during manufacture of an optional notch on the o-ring location slot leads to the o-ring unseating during flight. The</p>

	<p>manufacturer has identified a batch of affected oil filler cap assemblies, which are identified by Rolls-Royce Alert Non Modification Service Bulletin RB211-79-AE964.</p> <p>Analysis has shown that the risk of multiple engine in-flight shutdowns is above acceptable limits due to the combined effects of the failure to refit the oil filler cap and of the dormant failure condition of the flap valve. Corrective action is therefore required to inspect the oil filler cap assembly and to replace those assemblies which are found to be from the affected batch.</p>
Effective Date:	28 October 2005
Action & Compliance:	<p>1) IDENTIFICATION OF AFFECTED ENGINES</p> <p>All engines:</p> <p>Inspect, within the compliance timescales indicated below, the oil filler cap assembly serial number in accordance with the Accomplishment Instructions (section 3) of Rolls-Royce Alert Non Modification Service Bulletin RB211-79-AE964 original issue (or later approved issue). "Affected engines" are those equipped with an "affected oil filler cap assembly" which are recognised by a serial number in the range 1156 through 1410 and that does <u>not</u> feature a letter "R" adjacent to the serial number.</p> <p>2) INTRODUCTION OF INDEPENDENT OVER CHECKING OF OIL FILLER CAP SECURITY</p> <p>All engines:</p> <p>Within 7 days after the Effective Date of this Airworthiness Directive implement an independent over check* for oil filler cap security following oil servicing for any aircraft installed with more than one affected engine (as defined above).</p> <p>3) REPLACEMENT OF AFFECTED OIL FILLER CAP ASSEMBLIES</p> <p>Replace affected oil filler cap assemblies in accordance with the Accomplishment Instructions (section 3) of Rolls-Royce Alert Non Modification Service Bulletin RB211-79-AE964 original issue (or later approved issue), as follows:</p> <p>a) Trent 700 series (Airbus A330 aeroplanes) and Trent 800 series (Boeing 777 aeroplanes) engines:</p> <p>i) For aircraft equipped with affected engines in both positions carry out the replacement on at least one</p>

	<p>engine within 75 days after the Effective Date of this Airworthiness Directive. No aircraft may be equipped with more than one affected engine beyond this date.</p> <p>ii) Carry out the replacement on the remaining affected engines within 165 days after the Effective Date of this Airworthiness Directive. No aircraft may be equipped with an affected engine beyond this date.</p> <p>b) Trent 500 series engines (Airbus A340 aeroplanes):</p> <p>i) For aircraft equipped with affected engines in positions 1 or 4, carry out the replacement for these engines within 75 days after the Effective Date of this Airworthiness Directive. No aircraft may be equipped with an affected engine in positions 1 or 4 beyond this date.</p> <p>ii) Carry out the replacement on the remaining affected engines within 165 days of the Effective Date of this Airworthiness Directive. No aircraft may be installed with an affected engine beyond this date.</p> <p>* For the purposes of this Airworthiness Directive "Independent over check" means inspection and confirmation by a qualified person who was not involved in the original fitting task.</p>
Ref. Publications:	<p>Rolls-Royce Alert Non Modification Service Bulletin RB211-79-AE964 may be obtained from Publication Services, Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936 or by registering on the website www.aeromanager.com.</p>
Remarks :	<p>Enquiries regarding this Airworthiness Directive should be referred to Mr. A T Boud, EASA Project Certification Manager – Propulsion, Certification Directorate. E-mail: tony.boud@easa.eu.int</p> <p>European Aviation Safety Agency</p> <p>Postfach 101253</p> <p>D-50452 Köln, Germany</p>

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EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2007- 0052 [Corrected: 28 February 2007] Date: 23 February 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
ROLLS-ROYCE PLC	RB211 Trent 500, 700 and 800 series Engines
TCDS Number: UK CAA 1056 / EASA:- E042 / UK CAA 1051	
Foreign AD: Not applicable.	
Supersedure: None.	
ATA 72	Engine - IP Compressor Shaft - Visual Borescope Inspection of Balance Land
Manufacturer:	Rolls-Royce PLC
Applicability:	<p>Models RB211 Trent 553-61, 556-61, 556B-61, 560-61, 553A2-61, 556A2-61, 556B2-61, 560A2-61. These engines are known to be installed on, but not limited to, Airbus A340-500/600 series aeroplanes.</p> <p>Models RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines. These engines are known to be installed on, but not limited to, Airbus A330 series aeroplanes.</p> <p>Models RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17. These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes.</p>
Reason:	<p>This Airworthiness Directive requires inspections for cracks in the rear balance land of the IP Compressor Rotor. The inspections comprise an on-wing one-off inspection by borescope for RR Trent 800 engines which must be completed within a short timescale, and in-shop inspections to be completed at each opportunity for RR Trent 500, 700 and 800 engines (the in-shop inspection may be carried out in lieu of the on-wing inspection for the Trent 800 engines if it is accomplished within the timescale applicable to the on-wing inspection).</p> <p>This action is necessary following the discovery of IP Compressor Rotor rear balance land cracking on an in-service Trent 800 engine. Stress analysis of the damaged rotor has shown a possible threat to the rotor integrity, the cracking therefore presents a potential unsafe condition.</p>

	<p>The cause of the cracking is currently not fully understood but evidence suggests it relates to an unusual balance weight condition.</p> <p>Correction 1: This AD was temporarily posted on the website as Emergency AD 2007-0052-E, and then it was considered more appropriate issuing it as AD 2007-0052.</p> <p>Correction 2: Raised to correct typographical errors in the previous correction note (2006 changed to 2007).</p>
Effective Date:	09 March 2007
Action and Compliance	<p>1) <u>Inspection- On-wing</u></p> <p>Applicable to RR Trent 800 engines not previously inspected per Rolls-Royce RB211 Propulsion System Alert Non Modification Service Bulletin RB211-72-AF260 original issue (or later approved issue):</p> <p>Within 400 flight cycles of the Effective Date of this AD inspect the IP Compressor rotor rear balance land for cracks in accordance with Rolls-Royce RB211 Propulsion System Alert Non Modification Service Bulletin RB211-72-AF313 original issue (or later approved issue) section 3 Accomplishment Instructions. Engines on which cracking is found should be rejected from service.</p> <p>2) <u>Inspection- In-shop</u></p> <p>Applicable to RR Trent 500, 700 and 800 engines at each shop visit in which the engine is sufficiently disassembled to access the IP Compressor Module rear face:</p> <p>Inspect the IP Compressor rotor rear balance land for cracks in accordance with Rolls-Royce RB211 Propulsion System Alert Non Modification Service Bulletin RB211-72-AF260 original issue (or later approved issue) section 3 Accomplishment Instructions.</p>
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin RB211-72-AF313 original issue.</p> <p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin RB211-72-AF260 original issue.</p>
Remarks:	<p>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.</p> <p>2. The required actions and the risk allowance have granted publication and notification of an immediate AD, ruling out the public consultation process.</p> <p>3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.</p>



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0001

Issue Date: 15 July 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211 TRENT 556-61

Type Certificate Data Sheet No: 1056

ATA 73 - ENGINE FUEL CONTROL - FUEL FLOW METER – INSPECTION

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211 Trent 556-61 engines installed on Airbus A340 aircraft – all engines prior to serial number 71125 except for those serial numbers listed in Rolls-Royce Alert Service Bulletin RB.211-73-AE200 dated 11 July 2003.

Reason: Fuel was observed to be running from the engine fan cowl doors during aircraft taxi in. Subsequent investigation identified the source of the fuel leak to be permanent distortion of the face of the fuel tube connecting flanges at the fuel flow meter. The distortion of the flange is not aggravated by service use but exposure to fuel pressures extrudes the seal through the gap between the flanges, leading to a fuel leak, which could rapidly increase in flight.

Effective Date: 18 July 2003

Compliance/Action: Required within 2 months after the effective date of this Directive, inspect the space between the seal and the HP fuel tube adaptor face on each side of the fuel flow transmitter in accordance with the accomplishment instructions specified in Rolls-Royce Alert Service Bulletin RB.211-73-AE200 dated 11 July 2003 or later CAA approved revision.

Reference Publications: Rolls-Royce Alert Service Bulletin RB.211-73-AE200 may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0)1332 242424, Fax: +44 (0)1332 249936.

Remarks: Enquiries regarding this Directive should be directed to the Civil Aviation Authority, Propulsion Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573641 Fax: +44 (0) 1293 573979. For questions regarding the technical content of this Directive contact Rolls-Royce plc at the address shown above.

Note: This Directive was issued as an Emergency AD on 15 July 2003.

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0004

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211 Trent 700

CORRECTION to AD No G-2003-0004 dated 18 September 2003

Type Certificate Data Sheet No: 1050

ATA 72 - ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211 Trent 700 Series engines installed on, but not limited to, Airbus A330 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

Reason for correction:

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

A Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 20 September 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

(1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,
and

The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,

or

(2) The component removal was for damage or a cause directly related to its removal,

or

(3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

continued on next page

AD No: G-2003-0004

page 2 of 2

The list of Group A Parts is specified below:


Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-16-200-801
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-801
Intermediate Pressure Compressor Rotor Shaft	All	72-32-31-200-801
Intermediate Pressure Rear Shaft	All	72-33-21-200-801
High Pressure Compressor Rotor Shaft	All	72-41-31-200-801
High Pressure Turbine Rotor Disc	All	72-41-51-200-801
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-801
Intermediate Pressure Turbine Rotor Shaft	All	72-51-33-200-801
Low Pressure Turbine Stage 1 Rotor Disc	All	72-52-31-200-801
Low Pressure Turbine Stage 2 Rotor Disc	All	72-52-31-200-802
Low Pressure Turbine Stage 3 Rotor Disc	All	72-52-31-200-803
Low Pressure Turbine Stage 4 Rotor Disc	All	72-52-31-200-804
Low Pressure Turbine Rotor Shaft	All	72-52-33-200-801

Table 1


- B** Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.
- C** Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211 Trent 700 series Time Limits Manual Reference 05-20-01, dated 20 September 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Phone: +44 (0) 1293 573856 Fax: +44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0136R1</p> <p>Date: 07 April 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211 Trent 700 series engines
TCDS Number : EASA.E.042	
Foreign AD : Not applicable	
Revision: This AD revises EASA AD 2007-0136, dated 14 May 2007.	
ATA 72	Engine – IP Compressor Shaft - Inspection
Manufacturer(s):	Rolls-Royce PLC
Applicability:	Models RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines. These engines are known to be installed on, but not limited to, Airbus A330 series aeroplanes.
Reason:	<p>This Airworthiness Directive requires inspections for cracks in the stage 2-3 interstage spacer of the IP Compressor Rotor during shop visit.</p> <p>This action is necessary following the discovery of IP Compressor Rotor stage 2-3 interstage spacer cracking on an in-service Trent 700 engine. Stress analysis of the damaged rotor has shown a possible threat to the rotor integrity. Therefore, the cracking presents a potential unsafe condition.</p> <p>Revision 1 of this Airworthiness Directive introduces an alleviation to remove the requirement for inspection when circumstances are such that inspections are unnecessary. Revision status information for the referenced RR Service Bulletins is also updated.</p>
Effective Date:	29 May 2007


<p>Required Action(s) and Compliance Time(s):</p>	<p><u>Inspection - In-shop:</u></p> <p>a) If the IP Compressor rotor is not removed from the IP Compressor Casing:</p> <p>Inspection of the IP compressor drum stage 2-3 interstage spacer is required in accordance with Rolls-Royce RB211 Propulsion System Alert NMSB 72-AE753 Revision 2 (or later approved issue) at every shop visit for drums that have accumulated in excess of 1000 cycles since new or since last inspection (to NMSB 72-AE753 (all approved issues) or NMSB 72-AF197 (all approved issues)). If an engine has had a surge event since new or last inspection, then inspection must be completed in accordance with NMSB 72-AE753 Revision 2 (or later approved issue) regardless of the number of cycles accumulated.</p> <p>b) If the IP Compressor rotor is removed from the IP Compressor Casing:</p> <p>Inspect the IP compressor drum stage 2-3 interstage spacer by Eddy Current Inspection in accordance with Rolls-Royce RB211 Propulsion System Alert NMSB 72-AF197 revision 1 (or later approved issue). Inspection must be carried out at current shop visit if the IP compressor drum has not yet been reinstalled into the IP compressor casings at the Effective Date of this Airworthiness Directive.</p> <p><u>IP Compressor drums on which cracking is identified by the above means must not be returned to service.</u></p>
<p>Ref. Publications:</p>	<p>Rolls-Royce RB211 Propulsion System Alert Non Modification Service Bulletin RB211-72-AF197 revision 1.</p> <p>Rolls-Royce RB211 Propulsion System Alert Non Modification Service Bulletin RB211-72-AE753 revision 2.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>
<p>Remarks :</p>	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The original AD was published as PAD 07-059 on 16 April 2007 for consultation until 10 May 2007. No comments were received during this period. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0021 [Corrected 09 February 2009]</p> <p>Date: 06 February 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>ROLLS-ROYCE plc</p>	<p>Type/Model designation(s) :</p> <p>RB211 Trent 700 and Trent 800 Engines</p>
<p>TCDS Number : UK CAA 1051, EASA.E.042</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
ATA 72	Engine – IP and HP Compressor shafts – Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines;</p> <p>These engines are known to be installed on, but not limited to, Airbus A330 series aircraft.</p> <p>And RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17 engines;</p> <p>These engines are known to be installed on, but not limited to, Boeing 777 series aircraft.</p>
Reason:	<p>In completing a review of Engine Manual repair/acceptance limits for titanium compressor shafts, Rolls-Royce has found the specified limits to be incorrect such that the shot peened surface layer at life critical features (the axial dovetail slots) may have been inadvertently removed in-service. Removal of the shot peened layer results in increased vulnerability of the part to tensile stresses, which could reduce the life of the shaft to below the published life limits. The acceptable limits for material loss on these surfaces have now been corrected in the Engine Manual.</p> <p>This AD identifies shafts for which such dressing operations have been known to have been carried out and requires that an inspection for compliance with the corrected Engine Manual limits be accomplished and that the shafts be dispositioned accordingly.</p> <p>This AD has been corrected to amend a typographical error within the Ref. Publications and to specify the Manual revision dates.</p>

Effective Date:	20 February 2009																																																																											
Required action(s) and Compliance Time(s):	The engine components as identified in Table 1 of this AD must be withdrawn from service prior exceeding the cyclic usage Compliance Period as specified in Table 1 of this AD, in order to carry out a one-time piece part full Focused Inspection, in accordance with current applicable RR Engine Manual acceptance limits (see Ref. Publications below).																																																																											
	Table 1 – List of affected shafts																																																																											
	<table><tr><th>Engine Type</th><th>Affected Component</th><th>Part Number</th><th>Shaft Serial Number</th><th>Compliance Period (Life from 04/12/08* in flight cycles)</th></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>MW0115238</td><td>750</td></tr><tr><td>Trent 800</td><td>1-4 HP Compressor Shaft</td><td>FK32580</td><td>MW0115512</td><td>750</td></tr><tr><td>Trent 800</td><td>1-4 HP Compressor Shaft</td><td>FK32580</td><td>MW0004708</td><td>2000</td></tr><tr><td>Trent 800</td><td>1-4 HP Compressor Shaft</td><td>FK32580</td><td>MW00063868</td><td>2500</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>DN65507</td><td>2500</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>DN65158</td><td>2500</td></tr><tr><td>Trent 800</td><td>1-4 HP Compressor Shaft</td><td>FK32580</td><td>MW0125467</td><td>3500</td></tr><tr><td>Trent 800</td><td>1-4 HP Compressor Shaft</td><td>FW11590</td><td>DN65189</td><td>3500</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>MW0091518</td><td>3500</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>MW0126365</td><td>3500</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>DN66422</td><td>4750</td></tr><tr><td>Trent 800</td><td>1-8 IP Compressor Shaft</td><td>FK24100</td><td>MW0203314</td><td>4750</td></tr><tr><td>Trent 700</td><td>1-8 IP Compressor Shaft</td><td>FK22279</td><td>DN63228</td><td>3250</td></tr><tr><td>Trent 700</td><td>1-8 IP Compressor Shaft</td><td>FK26048</td><td>MW0026046</td><td>4500</td></tr></table>	Engine Type	Affected Component	Part Number	Shaft Serial Number	Compliance Period (Life from 04/12/08* in flight cycles)	Trent 800	1-8 IP Compressor Shaft	FK24100	MW0115238	750	Trent 800	1-4 HP Compressor Shaft	FK32580	MW0115512	750	Trent 800	1-4 HP Compressor Shaft	FK32580	MW0004708	2000	Trent 800	1-4 HP Compressor Shaft	FK32580	MW00063868	2500	Trent 800	1-8 IP Compressor Shaft	FK24100	DN65507	2500	Trent 800	1-8 IP Compressor Shaft	FK24100	DN65158	2500	Trent 800	1-4 HP Compressor Shaft	FK32580	MW0125467	3500	Trent 800	1-4 HP Compressor Shaft	FW11590	DN65189	3500	Trent 800	1-8 IP Compressor Shaft	FK24100	MW0091518	3500	Trent 800	1-8 IP Compressor Shaft	FK24100	MW0126365	3500	Trent 800	1-8 IP Compressor Shaft	FK24100	DN66422	4750	Trent 800	1-8 IP Compressor Shaft	FK24100	MW0203314	4750	Trent 700	1-8 IP Compressor Shaft	FK22279	DN63228	3250	Trent 700	1-8 IP Compressor Shaft	FK26048	MW0026046	4500
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Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AG086 initial issue																																																																												
Rolls-Royce Trent 800 Engine Manual E-TRENT-2RR tasks 72-32-31-200-801 (1-8 IP Compressor Shaft inspection) and 72-41-31-200-801 (1-4 HP Compressor Shaft inspection). Manual revision date June 2008																																																																												
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0187R1 [Corrected: 11 September 2009]</p> <p>Date: 08 September 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>Rolls-Royce plc</p>	<p>Type/Model designation(s) :</p> <p>RB211 Trent 700 series and Trent 800 series turbofan engines, and RB211-535 series and -524 series turbofan engines</p>
<p>TCDS Numbers: EASA E.042, UK CAA No.1051, 1044, 1049, 1043, 1046 and 1048.</p>	
<p>Foreign AD : Not applicable</p>	
<p>Revision : This AD revises AD 2009-0187 dated 31 August 2009</p>	
ATA 72	Engine – Front Combustion Liner Head Section – Inspection / Replacement
Manufacturer(s):	Rolls-Royce plc.
Applicability:	<p>RB211Trent 700 series engines, all models, all serial numbers. These engines are known to be installed on, but not limited to, Airbus A330 series aeroplanes.</p> <p>RB211 Trent 800 series engines, all models, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes.</p> <p>RB211- 524 series engines, models RB211-524H-T-36, H2-T-19, G2-T-19 and G3-T-19, all serial numbers. These engines are known to be installed on, but not limited to, Boeing 747 and Boeing 767 series aeroplanes.</p> <p>RB211-535 series engines, models RB211-535E4-37, E4-B-37 and E4-C-37 in which Service Bulletin RB211-72-C230 has been incorporated. These engines are known to be installed on, but not limited to, Boeing 757 series aeroplanes.</p> <p>RB211- 535 series engines, model RB211-535E4-B-75 in which Service Bulletin RB211-72-C230 has been incorporated. These engines are known to be installed on, but not limited to, Tupolev Tu204 series aeroplanes.</p>

Reason:	<p>Routine inspections have revealed cracking on the head sections of two Trent 800 front combustion liners. Cracking in this position could result in an unsafe condition in which hot gas breakout with subsequent downstream component release leads to uncontained high energy debris.</p> <p>For the reason stated above, this Airworthiness Directive (AD) mandates initial inspection of the head section of the Front Combustion Liner (FCL) and possible repetitive inspections or replacement of the FCL depending upon the acceptance criteria defined in Rolls-Royce Service Bulletin 72-AG073 revision 1.</p> <p>Revision 1 of this AD is issued to confirm that inspection per the initial issue of Rolls Royce Service Bulletin No. RB211-72-AG073 is an acceptable means of compliance with the inspection requirements of the AD. This AD has been republished to correct a typographical error within the Service Bulletin reference of the <i>Reason</i> paragraph.</p>
Effective Date:	14 September 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless previously accomplished:</p> <p>For engines that will have accumulated 250 cycles or more, since new or since last front combustion liner head refurbishment, by 30 September 2009:</p> <p>(1) Before 31 December 2009, borescope inspect the head section of the front combustion liner in accordance with the accomplishment instructions of Rolls-Royce Service Bulletin No. RB.211-72-AG073 revision 1.</p> <p>It may be noted that the referenced Rolls-Royce Service Bulletin provides both on-wing (paragraph 3A) and in-shop (paragraph 3B) accomplishment instructions.</p> <p>(1.1) (a) If any crack is found during in-shop inspection, reject the FCL.</p> <p>(b) If any crack is found during on-wing inspection, follow the instructions for acceptance of the FCL with repeat inspections, or engine removal, in paragraph 3C of the referenced Rolls Royce Service Bulletin.</p> <p>The replacement of the FCL terminates the repetitive inspections required by paragraph (1.1) of this AD.</p> <p>(1.2) Within 30 days after any inspections when a crack is found, submit a detailed report of the findings to Rolls-Royce plc. To that end, use the contact details as given in the 'Remarks' section of this AD.</p> <p>(2) Accomplishment of the borescope inspection, done before the effective date of this AD, in accordance with the initial issue of Rolls-Royce Service Bulletin No. RB.211-72-AG073 is acceptable for compliance with the inspection requirements of this AD.</p>
Ref. Publications:	<p>Rolls-Royce Service Bulletin No. RB.211-72-AG073, Initial Issue.</p> <p>Rolls-Royce Service Bulletin No. RB.211-72-AG073, Revision 1.</p> <p>The use of later approved revisions of this document 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

	<p>Directorate, EASA. E-mail ADs@easa.europa.eu</p> <p>4. For any question concerning the technical content of the requirements in this AD, please contact:</p> <p>Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom Telephone: +44 (0) 1332 242424 Fax: +44 (0) 1332 249936 E-mail: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com</p>
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**United Kingdom
Civil Aviation
Authority**

**AIRWORTHINESS
DIRECTIVE**

AD No: G-2004-0025

Issue Date: 27 October 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 2004-10605 on 20 October 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:

ROLLS-ROYCE PLC

Type/Model Designation(s):

ROLLS-ROYCE RB211 TRENT 768-60, 772-60, 772B-60

Type Certificate Data Sheet No: 1050

Superseded/ Revised ADs: None

ATA 73 - FUEL AND CONTROL – EEC SOFTWARE – MODIFICATION

Manufacturer(s): Rolls-Royce plc

Applicability: Models RB211 Trent 768-60, 772-60, 772B-60 engines installed in Airbus A330 aeroplanes.

Reason: There have been six events of in-service loss of engine parameters displayed in the aircraft cockpit, combined with a freezing of engine power setting for the affected engine. Subsequent investigation has established the cause to be a fault in the engine software. A safety assessment has identified that this could result in hazardous asymmetric thrust, if the event were to occur during a take-off roll and in response the crew attempted to abort the take-off. This Airworthiness Directive requires the introduction of revised engine software.


Effective Date: 1 November 2004

Compliance/Action: Prior to 31 July 2006 install an EEC incorporating software to A12.4, or later approved standard of engine control software, in accordance with Rolls-Royce Alert Service Bulletin RB211-73-AE324 (original or later issue).


Reference Publications: Rolls-Royce Alert Service Bulletin RB211-73-AE324 original or later issue may be obtained from Publication Services, Rolls-Royce plc, P O Box 31, Derby, DE24 8BJ, United Kingdom.

Remarks: Enquiries regarding this AD may be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573199 Fax: +44 (0) 1293 573979 E-mail: tony.boud@srg.caa.co.uk.


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0206</p> <p>Date: 06 August 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211 TRENT 768-60, 772-60, 772B-60
TCDS Number: UK CAA 1050	
Foreign AD: Not applicable	
Supersedure: UK CAA AD G-2004-0010, EASA Approval No 2004-3674	
ATA 72	Engine – HP Compressor – Test/Modification
Manufacturer(s):	ROLLS-ROYCE PLC
Applicability:	Models RB211 Trent 768-60, 772-60 and 772B-60 engines. These engines are known to be installed, but not limited to Airbus A330 aeroplanes.
Reason:	<p>There have been a number of low power surges in service on Trent 700 engines. These surges occurred with the aeroplane on the ground as take-off power was being set or during taxi. The cause of the surges has been identified as excessive wear on the HPC casing front location feature. This causes increased HPC tip clearances resulting in loss of surge margin. Engines affected by this problem are also at risk of failure to respond due to surge on acceleration during descent, prior to flap selection.</p> <p>Routine ground testing for adequate surge margin will assure safe in-flight operation and embodiment of there designed HPC casing front location feature will remove the problem.</p> <p>This AD supersedes UK CAA AD G-2004-0010, EASA Approval Nr. 2004-3674, by extending the Terminating Action compliance limit of 4 500 cycles to 6 300 cycles from the Effective Date of the Airworthiness Directive.</p> <p>This Limit is required to ensure the Terminating Action modification is carried out at the next HP compressor overhaul. The limit is revised as a result of the agreed extension of the HP compressor drum life from 4 200 to 6 000 cycles.</p>

	<i>Note: the AD number has been changed because the original AD carried a CAA UK number and this superseding AD is now issued under the EASA AD system.</i>
Effective Date:	4 December 2003 (the effective date of AD G-2004-0010)
Compliance:	<p>1) In-Service Test</p> <p>Carry out a surge test in accordance with Rolls-Royce Alert Service Bulletin RB211-71-AD509 revision 3 or later approved revision, Section 3 Accomplishment Instructions before the engine exceeds 2 000 cycles since new or 1 000 cycles since HP Compressor overhaul, and subsequently at intervals of not more than;</p> <p>(a) 130 cycles</p> <p>or</p> <p>(b) 160 cycles if Rolls-Royce Alert Service Bulletin RB211-73-AE224 original issue or later approved revision, or later standard of engine control software is embodied.</p> <p>Note: For the purposes of this Airworthiness Directive, testing carried out in accordance with superseded AD 005-09-2001, AD G-2003-0014, or AD G-2004-0010 (Rolls-Royce Alert Service Bulletin RB211-71-AD509 revision 3, revision 2, revision1 or original issue) is deemed to be valid.</p> <p>2) Interim Action</p> <p>Fit an EEC incorporating a revised standard of engine control software as specified in Rolls-Royce Alert Service Bulletin RB211-73-AE224 original issue or later approved revision, or later standard of engine control software, before 1 July 2005.</p> <p>3) Terminating Action</p> <p>Fit redesigned HP compressor stage 1 casing and intermediate case outer location ring in accordance with Rolls-Royce Service Bulletin RB211-72-D574 original issue or later approved revision, Section 3 Accomplishment Instructions within 6300 cycles of the Effective Date of this Airworthiness Directive or before 30 June 2012 whichever is the sooner. Incorporation of this modification removes the requirement to carry out 1) In-Service Test and 2) Interim Action and therefore constitutes the terminating action for this Airworthiness Directive.</p>
Ref. Publications:	Rolls-Royce Alert Service Bulletin RB211-71-AD509 revision 3 or later approved issue, Rolls-Royce Alert Service Bulletin RB211-73-AE224 original issue or later approved revision, Rolls-Royce Service Bulletin RB211-72-D574 original issue or later approved revision
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted on 12 July 2007 as PAD 07-120 for consultation until 26 July 2007. No comments were received during this period. 3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - 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: Rolls-Royce plc, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332242424 Fax: +44 (0) 1332 249936.

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 – 0116 Date: 08 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: ROLLS-ROYCE PLC	Type/Model designation(s): RB211 TRENT 768-60, 772-60, 772B-60, 772C-60
TCDS No: EASA E.042	
Foreign AD number: N/A	
Supersedure: N/A	
ATA 72	Engine - LP Compressor – Blade Annulus Filler Revised Lives
Manufacturer(s):	Rolls-Royce plc
Applicability:	Models RB211 Trent 768-60, 772-60, 772B-60, 772C-60 engines (installed on Airbus A330 aeroplanes).
Reason:	Six occurrences of the release of a single fan annulus filler on Trent 700 engines have occurred during 2005. The events caused high N1 vibration, damage to the fan blades and fan casing and resulted in either an In-Flight-Shut-Down (IFSD), Air Turn Back (ATB) or Diversion (DIV). The frequency of the occurrences shows that there is a risk of a dual engine shutdown.
Effective Date:	15 May 2006
Compliance:	<p>If the FK21226 standard of annulus filler is installed on both aircraft engines or where the FK21226 standard is used on one engine and the FK22974 standard is used on the aircraft's other engine then</p> <ol style="list-style-type: none"> 1. For aircraft with the FK21226 standard of annulus fillers in both engines: <ol style="list-style-type: none"> a. the lives of annulus fillers on at least one engine must not exceed 7500 cycles after the effective date of this AD. 2. For aircraft with the FK21226 standard of annulus fillers installed on one engine and the FK22974 standard of annulus fillers installed on the other engine:


	<p>a. the lives of all annulus fillers on at least one engine must not exceed 7500 cycles after the effective date of this AD.</p> <p>3. By 31st December 2006, the lives of any FK21226 standard of annulus filler must not be allowed to exceed 6500 cycles.</p>
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin Mod No: 72-AF109 or later approved revisions.
Remarks:	<p>1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.</p> <p>2. This AD was posted as PAD 06-080 for consultation on 29 March 2006 with a comment period until 12 April 2006. No comment was raised during the consultation period.</p> <p>3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0201</p> <p>Date: 01 August 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: ROLLS-ROYCE plc	Type/Model designation(s): RB211 Trent 768-60, 772-60, 772B-60 and 772C-60
TCDS No: EASA E.042	
Foreign AD number: Not applicable	
<p>Supersedure: This AD supersedes EASA AD 2006-0355.</p> <p>[EASA AD 2006-0355 superseded CAA United Kingdom AD G-2004-0016 (EASA Approval Number 2004-6754), which superseded CAA-UK AD G-2003-0016 (EASA Approval Number 2003-1866)]</p>	
ATA 72	Engine – HP/IP Turbine Bearing Oil Vent Tubes – Inspection / Cleaning / Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	Models RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines, all serial numbers. These engines are known to be installed on, but not limited to, Airbus A330 series aeroplanes.
Reason:	<p>In October 2003 an uncontained multiple Intermediate Pressure (IP) turbine blade release occurred on an RB211 Trent 700 series engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the HP/IP bearing chamber. Post incident analysis established that blockage of the HP/IP turbine bearing oil vent tube, due to oil coking, is a significant factor in the failure sequence.</p> <p>Airworthiness Directive G-2003-0016 (EASA Approval Number 2003-1866) was issued requiring a one-time inspection and cleaning of the HP/IP turbine bearing vent tube. AD G-2004-0016 (EASA Approval Number 2004-6754) revised and superseded G-2003-0016 by introducing repetitive inspections/cleaning and some changes to the threshold lives.</p> <p>In April 2006 a vent pipe breach incident occurred on another engine, resulting in oil loss, in which it is suspected that carbon build up within the vent pipe was a contributing factor. This indicated that further measures were necessary to enhance the cleaning requirements in order to control carbon build-up. Airworthiness Directive EASA AD 2006-0355 was issued, superseding United Kingdom CAA AD G-2004-0016 and introducing enhanced cleaning requirements.</p>


	<p>Further analysis has now identified that previous intervention actions may have exacerbated the problem of carbon formation in the vent pipe. These intervention actions are believed to loosen carbon fragments which are subsequently released during engine running, leading to blockage downstream in the vent flow restrictor. The resultant reduced vent pipe flow will then cause accelerated carbon build up inside the pipe and increased likelihood of auto-ignition.</p> <p>This AD has therefore been revised to include an additional inspection of the vent pipe restrictor, which should only be carried out after an engine run to high power, following the vent pipe cleaning procedure.</p>
Effective Date:	15 August 2007
Compliance/Action:	<p>VENT TUBE INSPECTIONS</p> <p>A. On-Wing Compliance:</p> <p>(1) For engines with a 05 module installed that are below the threshold life of 10,000 hours or 2,500 cycles since new (whichever occurs first), carry out the Action (part C. below) within 3 months after reaching the threshold life.</p> <p>(2) For engines with a 05 module installed that has already exceeded the threshold life in (1) and have not previously undergone the Action (part C. below), carry out the Action within 1 month after the effective date of this Airworthiness Directive.</p> <p>Note: for the purposes of compliance with this Airworthiness Directive, inspection/cleaning carried out previously in accordance with the superseded Airworthiness Directives is deemed to be valid.</p> <p>Note: all engines should have previously met this requirement in compliance with the superseded AD.</p> <p>(3) Following return to service repeat the Action below within the intervals previously established.</p> <p>Note: re-inspection intervals previously established in compliance with the superseded Airworthiness Directives remain valid until this Airworthiness Directive is accomplished.</p> <p>B. In-Shop Compliance:</p> <p>Carry out the Action (part C. below) for engines at every engine shop visit.</p> <p>C. Action:</p> <p>(1) Inspect, clean and replace (as necessary) the HP/IP turbine bearing internal and external oil vent tubes and bearing chamber (if specified) and repeat inspect the Vent Flow Restrictor (after either high power ground run, or between 1 and 25 service cycles after inspection/cleaning) in accordance with Section 3 Accomplishment Instructions of Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AE302 Revision 5 (or later approved revision).</p> <p>(2) Acceptance Criteria and Re-inspection Requirements:</p> <p>a) HP/IP turbine bearing internal oil vent tubes confirmed to be</p>

	<p>free of carbon by passing the Rolls-Royce cleaning tool (HU80298) through the full length may be returned to service and are subject to repeat interval of 6,400 hours or 1,600 cycles (whichever occurs first).</p> <p>b) HP/IP turbine bearing internal oil vent tubes which contain blockage that prevents the Rolls-Royce cleaning tool (HU80298) from passing through the full length must be removed from service (with the engine) within 10 cycles after the inspection.</p> <p>c) HP/IP turbine bearing external oil vent tubes (IPC ref 79-22-49, 10-100 and 10-500) which contain carbon of visible (by borescope inspection) thickness after cleaning may not be returned to service.</p>
Ref. Publications:	Rolls-Royce Alert Non Mod Service Bulletin RB211-72-AE302 Revision 5 (or later approved revisions).
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOC) for this AD. 2. This AD has been posted as PAD 07-099 on 15 June 2007 for consultation until 28 June 2007. No comments were received during this period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0202 [Corrected: 08 August 2007]</p> <p>Date: 01 August 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: ROLLS-ROYCE plc	Type/Model designation(s): RB211 Trent 768-60, 772-60, 772B-60 and 772C-60
TCDS No: EASA E.042	
Foreign AD number: Not applicable	
Supersedure: Not applicable	
ATA 72	Engine – HP/IP Turbine Bearing Oil Vent Tube Restrictor – Inspection / Cleaning / Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>Models RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines inspected or modified prior to issue of this AD in accordance with:</p> <p>(a) IOR 72-E965 and not subsequently inspected in accordance with NMSB 72-AE302 rev 4 or 5;</p> <p>(b) NMSB 72-AE792 rev 2 or earlier issue and not subsequently inspected in accordance with NMSB 72-AE302 rev 4 or 5;</p> <p>(c) NMSB 72-AE302 rev 3 or earlier issue and not subsequently inspected in accordance with NMSB 72-AE792 rev 3.</p> <p>These engines are known to be installed on Airbus A330 series aeroplanes.</p>
Reason:	<p>In October 2003 an uncontained multiple Intermediate Pressure (IP) turbine blade release occurred on an RB211 Trent 700 series engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the HP/IP bearing chamber. Post incident analysis established that blockage of the HP/IP turbine bearing oil vent tube, due to oil coking, is a significant factor in the failure sequence.</p> <p>Further analysis has now identified that intervention actions that were introduced to address this problem may have increased the rate of carbon formation in the vent pipe. These intervention actions are believed to loosen carbon fragments which are subsequently released.</p> <p>This AD has been re-published to indicate that accomplishment of the actions in accordance with the original issue of Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF424 is an acceptable method of compliance.</p>
Effective Date:	15 August 2007


Compliance/Action:	<p><u>VENT FLOW RESTRICTOR INSPECTION</u></p> <p>A. 05 modules of engines in group (a) of the Applicability section (above), carry out the Action (part C. below) within 2 months of the Effective Date of this Airworthiness Directive.</p> <p>B. 05 modules of engines in group (b) and (c) of the Applicability section (above), carry out the Action (part C. below) within 6 months of the Effective Date of this Airworthiness Directive.</p> <p>C. <u>Action:</u></p> <p>Inspect and clean or reject (as necessary) the HP/IP turbine bearing external (IPC ref 79-22-49-10-500) oil vent tube in accordance with Section 3 Accomplishment Instructions of Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF424 at original issue, or Revision 1 or later approved revisions.</p> <p>Note: Vent flow restrictor inspection instructions, equivalent to those of NMSB 72-AF424 rev 1, were added to NMSB 72-AE302 and NMSB 72-AE792 at rev 4 and rev 3 respectively. Compliance with these NMSBs therefore constitutes satisfactory compliance to this Airworthiness Directive (this is reflected in the Applicability section of this Airworthiness Directive).</p>
Ref. Publications:	<p>Rolls-Royce Alert Non Mod Service Bulletin RB211-72-AF424 original issue or Revision 1;</p> <p>Rolls-Royce Alert Non Mod Service Bulletin RB211-72-AE302 Revision 4;</p> <p>Rolls-Royce Alert Non Mod Service Bulletin RB211-72-AE792 Revision 3; or later approved revisions of these documents.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOC) for this AD. 2. This AD was posted on 15 June 2007 as PAD 07-100 for consultation until 28 June 2007. The Comment Response Document can be found at http://ad.easa.europa.eu 3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0260R1</p> <p>Date: 25 March 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>Rolls-Royce plc</p>	<p>Type/Model designation(s) :</p> <p>RB211 TRENT 768-60, 772-60, 772B-60, 772C-60 engines</p>
<p>TCDS Number : EASA.E.042</p>	
<p>Foreign AD : Not applicable</p>	
<p>Revision: This AD revises EASA AD 2007-0260 dated 02 October 2007.</p>	
ATA 72	Engine – IP Turbine Bearing Oil Feed Tube – Inspection / Modification
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 768-60, 772-60, 772B-60, 772C-60 engines, except when previously modified in accordance with Rolls-Royce RB211 Service Bulletin (SB) SB 72-F117, SB 72-F048 or 72-F227.</p> <p>These engines are known to be installed on, but not limited to, Airbus A330 aeroplanes.</p>
Reason:	<p>In 2005, a Trent 700 engine was removed due to oil loss and low oil pressure. Investigation has established that the HP/IP turbine bearing oil feed tube had been fretted by a damaged outer heat shield causing a breach of the oil feed tube. This led to the escape of oil, some of which ignited in the cavity in front of the HP/IP turbine support structure causing heating damage to the rear of the HP turbine disc. This incident has demonstrated the possibility for HP turbine disc overheating as a result of HP/IP turbine bearing oil feed tube heat shield deterioration, which potentially could result in disc burst.</p> <p>EASA Airworthiness Directive (AD) 2006-0073 and its revision were issued to instruct inspection of the feed tube heat shields for damage to prevent the scenario described above.</p> <p>EASA AD 2007-0260 superseded EASA AD 2006-0073R1 retaining the requirements thereof and introducing the Terminating Actions section which references the recently published Rolls-Royce (RR) Service Bulletin (SB) 72-F227 as another terminating action.</p>

	<p>This AD Revision 1 extends the deadline for accomplishing the terminating action. This has been necessary to avoid a situation where operators are forced to apply IOR SB 72-F048 to remove undamaged heatshields on-wing, to satisfy the compliance date. The Compliance date has been extended to allow an appropriate interval for in-shop modification of all engines to SB 72-F227, which is the preferred terminating action for engines which have undamaged heatshields. Minor editorial changes have also been made.</p> <p>Note: EASA AD 2009-0069 instructs similar corrective action for the HP/IP turbine bearing <u>vent</u> and <u>scavenge</u> tubes and should not be confused with this Airworthiness Directive.</p>
Effective Date:	16 October 2007
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>1) <u>Inspection- On wing</u></p> <p>Inspect and assess the condition of the HP/IP turbine bearing internal oil feed tube in accordance with Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF045 revision 2 (or later approved issue) section 3 Accomplishment Instructions Part A as follows:</p> <p>a) For 05 modules which have not been previously inspected in accordance with the requirements of this AD (see Note 1 below):</p> <p>i) Carry out the inspection within 3 months of reaching the 05 module threshold life of 10 000 hours or 2 500 cycles, whichever occurs first, since new or since overhaul.</p> <p>ii) Determine the serviceability and establish interval to next inspection as follows:</p> <p>(a) HP/IPT support assemblies with no visible damage to the feed tube outer heat shields must be re-inspected at a 'never exceed' interval of 10 000 hours or 2 500 cycles, whichever occurs first.</p> <p>(b) HP/IPT support assemblies with partial cracking up to 90 degrees around the circumference or 10 mm along the length of the feed tube outer heat shield must be re-inspected at a 'never exceed' interval of 6 400 hours or 1600 cycles, whichever occurs first.</p> <p>(c) HP/IPT support assemblies with cracking in excess of that in 1) a) (ii) (b) but less than 360 degrees around the circumference of the feed tube outer heat shield must be re-inspected at a 'never exceed' interval of 1 600 hours or 400 cycles whichever, occurs first.</p> <p>(d) HP/IPT support assemblies with no feed tube outer heat shield material remaining that can cause further fretting are acceptable for continued operation with no further inspection, subject to any existing fretting being less than 0,46 mm (0.018in.) depth.</p> <p>(e) HP/IPT support assemblies with cracking around the complete circumference of the feed tube outer heat shield, or if there is any missing material from the heat shield, re-inspect or reject in accordance with the following;</p> <p>(i) If the insulation blanket is in place inside the heat shield and preventing fretting between the heat shield and the tube, then the tube must be re-inspected at a 'never exceed' interval of 1 600 hours or 400 cycles, whichever occurs first.</p>

	<ul style="list-style-type: none"> (ii) If the tube is fretted by loose heat shield material where the maximum depth of fretage is less than 0,46mm (0.018in.), then the tubes must be re-inspected at a 'never exceed' interval of 400 hours or 100 cycles, whichever occurs first. (iii) If it is not possible to determine the depth of fretage around the full 360 degrees of the tube (and 1a)ii)e(i) above is not applicable), then the assembly must be rejected from service within 50 cycles of the inspection being carried out. (iv) If the tube is fretted by loose heat shield material and the maximum depth of fretage is greater than 0,46mm (0.018in), then the assembly must be rejected from service within 10 cycles of the inspection being carried out. <p>b) For 05 modules which have been previously inspected in accordance with the requirements of this AD (see Note 1 below):</p> <ul style="list-style-type: none"> i) Inspect the HP/IPT support assembly oil feed tube and heatshield before reaching the 'never exceed' period as established by the previous inspection (per 1) a) ii) or 2) a) ii)). ii) Determine the serviceability and 'never exceed' period to the next inspection as detailed in 1) a) ii) above. <p>NOTE 1: For the purposes of compliance with this AD, HP/IP turbine support assembly internal oil feed tube/heatshield inspections carried out previously in accordance with the superseded/revised ADs (2006-0073, 2006-0073R1, 2007-0260) are deemed to be valid.</p> <p>2) <u>Inspection- In shop</u></p> <p>a) For 05 modules in-shop which are not undergoing strip and overhaul (See Note 3). Inspect and assess the condition of the HP/IP turbine bearing internal oil feed tube in accordance with Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF045 Revision 2 (or later approved issue) section 3 Accomplishment Instructions Part B as follows:</p> <ul style="list-style-type: none"> i) At every shop visit (regardless of module life since new or overhaul, and regardless of life since previous inspection). ii) Determine the serviceability and establish interval to next inspection of the HP/IPT support assemblies as follows: <ul style="list-style-type: none"> (a) HP/IPT support assemblies with no visible damage to the feed tube outer heat shield must be re-inspected at a 'never exceed' interval of 10 000 hours or 2 500 cycles, whichever occurs first. (b) HP/IPT support assemblies with partial cracking up to 90 degrees around the circumference or 10 mm along the length of the feed tube outer heat shield must be re-inspected at a 'never exceed' interval of 6 400 hours or 1 600 cycles, whichever occurs first. (c) HP/IPT support assemblies with visible cracking greater than 90 degrees of the circumference or 10 mm in length of the feed tube outer heat shield must be rejected and the Terminating Action as detailed in 3) below should be carried out. <p>b) For 05 modules in-shop which are undergoing strip and overhaul carry</p>
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	<p>out the Terminating Action as detailed in 3) below (See Note 3).</p> <p>3) <u>Terminating Action</u></p> <p>At the next 05 module overhaul after the effective date of this AD but not later than 31 May 2014, whichever occurs first, introduce revised HP/IP turbine bearing support structure in accordance with either:</p> <ul style="list-style-type: none"> a) RR Modification Service Bulletin RB211-72-F227 original or later approved issue (this is the preferred Terminating Action); or b) RR Modification Service Bulletin RB211-72-F117 original or later approved issue; or c) RR Immediate Operational Request Service Bulletin RB211-72-F048 (only available upon request from RR) original or later approved issue. <p>NOTE 2: The hours and cycles quoted in sections 1 and 2 above refer to those hours and cycles accrued on the 05 module.</p> <p>NOTE 3: For the purposes of this AD, the term "overhaul" refers to an 05 module shop visit where the HP/IP turbine internal oil tubes have been exposed and the tube heat shields subjected to a detailed visual inspection in accordance with the Trent 700 Engine Manual task 72-51-24-200-801.</p> <p>NOTE 4: Rolls-Royce Modification Service Bulletin 72-F227 reworks a Turbine Bearing Support Assembly which embodies SB 72-E708 and 72-F117.</p>
Ref. Publications:	<p>Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF045 Revision 2; Rolls-Royce Modification Service Bulletin RB211-72-F117 original issue; Rolls-Royce Immediate Operational Request Service Bulletin RB211-72-F048 original issue; Rolls-Royce Modification Service Bulletin RB211- 72-E708 Revision 2; Rolls-Royce Modification Service Bulletin RB211-72-F227 original issue.</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. This AD was posted on 24 August 2007 as PAD 07-156 for consultation until 21 September 2007. No comments were received during the consultation period. PAD 09-004, related to this AD but later cancelled, was posted on 07 January 2009 for consultation until 04 February 2009 .The Comment Response Document can be found at http://ad.easa.europa.eu. 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: Rolls-Royce plc, Publication Services, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0069</p> <p>Date: 25 March 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
Rolls-Royce plc	RB211 TRENT 768-60, 772-60, 772B-60, 772C-60 engines
TCDS Number : EASA.E.042	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA AD 2007-0255 dated 14 September 2007.	
ATA 72	Engine – IP Turbine Bearing Oil Vent & Scavenge Tube – Inspection / Modification
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 768-60, 772-60, 772B-60 and 772C-60 engines, except when previously modified in accordance with Rolls-Royce SB 72-E708, SB 72-E965 or SB72-F227.</p> <p>These engines are known to be installed on, but not limited to, Airbus A330 series aircraft.</p>
Reason:	<p>In 2004, two Trent 700 engines were removed due to high oil consumption. Investigation has established that the HP/IP turbine bearing oil tubes had been fretted by the tubes' damaged heat shields. On both occasions, the outer heat shield had fretted through the tube wall, in one case affecting the feed tube and the other on the scavenge tube. A previous service incident has shown that ingestion of HP3 cooling air into a breached scavenge- or vent tube can cause over-pressurisation of the HP/IP bearing chamber. This would cause oil ejection from the rear of the chamber. The possible ignition of this oil could result in an IPT shaft failure, leading to IPT disc overspeed and resultant release of hazardous high energy debris.</p> <p>For the reasons described above, CAA United Kingdom issued Airworthiness Directive (AD) G-2005-0016, requiring the inspection of the vent- and scavenge tubes and heatshields for damage. That AD was revised and subsequently superseded by EASA AD 2005-0024, retaining the requirements thereof and requiring the modification of the tubes to delete or upgrade the outer heatshield. EASA AD 2007-0255 superseded EASA AD 2005-0024, retaining the requirements thereof and adding an inspection of the vent pipe restrictor, to ensure that blockage of the restrictor, due to carbon deposits</p>

	<p>loosened by the heatshield inspection, does not occur.</p> <p>This AD, superseding EASA AD 2007-0255 for the addition of 772C-60 engine type to the Applicability and retaining its requirements, extends the deadline for accomplishing the terminating action. This has been necessary to avoid a situation where operators are forced to apply IOR SB 72-E965 to remove undamaged heatshields on-wing to satisfy the compliance date. The compliance date has been extended to allow an appropriate interval for in-shop modification of all engines to SB 72-F227, which is the preferred terminating action for engines which have undamaged heatshields. Compliance paragraph (1)a)ii)(d) has also been added to clarify the action for the case of no possible further fretting, reflecting the form of the requirements in the RR Service Bulletin. Minor editorial changes have also been made.</p> <p>Note: EASA AD 2007-0260R1 instructs similar corrective action for the HP/IP turbine bearing oil feed tube and should not be confused with this Airworthiness Directive.</p>
Effective Date:	08 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) <u>Inspection - On wing</u></p> <p>Inspect and assess the condition of the HP/IP turbine support assembly internal oil vent and scavenge tubes and heatshields in accordance with Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AE792 revision 4 (or later approved issue) section 3 Accomplishment Instructions Part A as follows:</p> <p>a) For 05 modules which have not been previously inspected in accordance with the requirements of this AD (see Note 1 below):</p> <p>i) Carry out the inspection within 3 months of reaching the 05 module threshold life of 10 000 hours or 2 500 cycles (whichever occurs first) since new or since overhaul.</p> <p>ii) Determine the serviceability and establish interval to next inspection as follows:</p> <p>(a) HP/IPT support assemblies with no visible damage to the internal oil vent and scavenge tubes outer heatshields must be re-inspected at a 'never exceed' interval of 10 000 hours or 2 500 cycles, whichever occurs first.</p> <p>(b) HP/IPT support assemblies with partial cracking up to 90 degrees around the circumference or 10 mm along the length of the internal oil vent and/or scavenge tube outer heatshields must be re-inspected at a 'never exceed' interval of 6 400 hours or 1 600 cycles, whichever occurs first.</p> <p>(c) HP/IPT support assemblies with cracking in excess of that in (1) a) ii) (b) but less than 360 degrees around the circumference of either of the internal oil vent and scavenge tube outer heatshields must be re-inspected at a 'never exceed' interval of 1 600 hours or 400 cycles, whichever occurs first.</p> <p>(d) HP/IPT support assemblies with no internal oil vent and scavenge tube outer heatshield material remaining that can cause further fretting are acceptable for continued operation with no further inspection, subject to any existing fretting being less than 0,46 mm (0.018in.) depth.</p> <p>(e) HP/IPT support assemblies with cracking around the complete circumference of either internal oil vent or scavenge tube outer heatshield, or if there is any missing material from either outer heat shield, re-inspect or reject in accordance with the following;</p> <p>(i) If the insulation blanket is in place inside the heat shield and</p>

	<p>preventing fretting between the heat shield and the tube, re-inspect at a 'never exceed' interval of 1 600 hours or 400 cycles, whichever occurs first.</p> <ul style="list-style-type: none"> (ii) If either vent or scavenge tube is fretted at the outer heatshield position where the maximum depth of fretting at any point around the full 360 degrees of each tube is less than 0,46 mm (0.018in.), re-inspect at a 'never exceed' interval of 400 hours or 100 cycles, whichever occurs first. (iii) If it is not possible to determine the maximum depth of fretting around the full 360 degrees of either vent or scavenge tube and (1) a) ii) (e) (i) is not applicable, then the HP/IP turbine support assembly must be rejected from service within 50 cycles of the inspection being carried out. (iv) If either vent or scavenge tube is fretted at the outer heatshield position and the maximum depth of fretting is greater than 0,46 mm (0.018in.), then the HP/IP turbine support assembly must be rejected from service within 10 cycles of the inspection being carried out. <ul style="list-style-type: none"> b) For 05 modules which have been previously inspected in accordance with the requirements of this AD (see Note 1 below): <ul style="list-style-type: none"> ii) Inspect the HP/IPT support assembly internal oil vent and scavenge tube and heatshield before reaching the 'never exceed' period as previously established by the previous inspection (per (1) a) ii) or (2) a) ii)). iii) Determine the serviceability and 'never exceed' period to the next inspection as detailed in (1) a) ii) above. c) After a high power ground run or not later than 25 service cycles after heatshield inspection, inspect the Vent Flow Restrictor in accordance with Section 3 Accomplishment Instructions of Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AE792 Revision 4 (or later approved revision). <p>Note 1: For the purposes of compliance with this AD, 05 module inspections carried out previously in accordance with the superseded ADs (G-2005-0016, 2005-0024, 2007-0255) are deemed to be valid.</p> <p>(2) <u>Inspection- In shop</u></p> <ul style="list-style-type: none"> a) For 05 modules in-shop which are not undergoing strip and overhaul (See Note 3 below). Inspect and assess the condition of the HP/IPT support assembly internal oil vent and scavenge tubes and heatshields in accordance with Rolls-Royce Alert Non-Modification Service Bulletin RB211-72-AE792 revision 4 (or later approved issue) section 3 Accomplishment Instructions Part B as follows: <ul style="list-style-type: none"> i) At every shop visit (regardless of module life since new or overhaul, and regardless of life since previous inspection). ii) Determine the serviceability and establish interval to next inspection as follows: <ul style="list-style-type: none"> (a) HP/IPT support assemblies with no visible damage to the internal oil vent and scavenge tubes outer heatshields must be re-inspected at a 'never exceed' interval of 10 000 hours or 2 500 cycles, whichever occurs first. (b) HP/IPT support assemblies with visible cracking up to 90 degrees around the circumference or 10 mm along the length of either the internal oil vent or scavenge tube outer heatshields must be re-inspected at a 'never exceed' interval of 6 400 hours or 1 600 cycles, whichever occurs first.
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	<p>(c) HP/IPT support assemblies with visible cracking greater than 90 degrees of the circumference or 10 mm in length of either the internal oil vent or scavenge tube outer heatshields must be rejected and the Terminating Action as detailed in 3) below should be carried out.</p> <p>b) For 05 modules in-shop, which are undergoing strip and overhaul carry out the Terminating Action as detailed in 3) below (See Note 3 below).</p> <p>c) Inspect the Vent Flow Restrictor following the engine pass-off test in accordance with Section 3 Accomplishment Instructions of Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AE792 Revision 4 (or later approved revision).</p> <p>(3) Terminating Action</p> <p>At the next 05 module overhaul, but not later than 31 May 2014, whichever occurs first, introduce revised HP/IP turbine bearing support structure in accordance with either:</p> <p>a) RR Modification Service Bulletin RB211-72-F227 original (or later approved issue) (this is the preferred Terminating Action) or;</p> <p>b) RR Modification Service Bulletin RB211-72-E708 revision 2 (or later approved issue) or;</p> <p>c) RR Immediate Operational Request RB211-72-E965 revision 1 (or later approved issue) (only available upon request from RR).</p> <p>Note 2: The hours and cycles quoted in paragraph 1(a) and 2(a) above refer to those hours and cycles accumulated on the 05 module.</p> <p>Note 3: For the purposes of this AD, the references to "overhaul" refer to an 05 module shop visit where the HP/IP turbine internal vent and scavenge tubes have been exposed and the tube heat shields subjected to a detailed visual inspection in accordance with the Trent 700 Engine Manual task 72-51-24-200-801.</p> <p>Note 4: Rolls-Royce Modification Service Bulletins 72-F227 rework a Turbine Bearing Support Assembly which embodies SB 72-E708 and 72-F117.</p>
Ref. Publications:	<p>RR Non-Modification Service Bulletin RB211-72-AE792 Revision 4; RR Modification Service Bulletin RB211-72-F227 original issue; RR Modification Service Bulletin RB211-72-AE708 revision 2; RR Modification Service Bulletin RB211-72-F117 original issue; RR Modification Service Bulletin RB211-72-E965 revision 1. 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. PAD 09-005, related to this AD but later cancelled, was posted on 07 January 2009 for consultation until 04 February 2009. The Comment Response Document can be found at http://ad.easa.europa.eu. 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: Rolls-Royce plc, Publication Services, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0003

Issue Date: 25 November 2003

This AD is issued by the UK CAA as the Primary Airworthiness Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

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:

Type/Model Designation(s):

ROLLS-ROYCE plc

RB211 TRENT 800

CORRECTION to AD No G-2003-0003 dated 18 September 2003

Type Certificate Data Sheet No: 1051

ATA 72 - ENGINE – GROUP A (CRITICAL) PARTS – FOCUSED INSPECTIONS

Manufacturer(s): Rolls-Royce plc

Applicability: Model RB211 Trent 800 Series engines installed on, but not limited to, Boeing 777 aeroplanes certificated in any category.

Reason: To prevent Group A (Critical) rotating engine part failure, which could result in an uncontained engine failure and damage to the aeroplane.

Reason for correction:

This correction has been issued to clarify that compliance action should only be carried out at an appropriate level of engine workshop visit, and to ensure common text with the Time Limits Manual reference.

Effective Date: 26 September 2003

Compliance/Action:

- A** Within 40 days from the effective date of this Directive, at each engine workshop visit inspect the Group A components listed in Table 1 of the Directive when these components are disassembled to piece-part level. This shall be carried out in accordance with the disassembly procedures contained in the Engine Manual and referenced in Time Limits Manual 05-20-01, dated 1 October 2002.

The inspections to be carried out on these Group A components are those referred to as, "Focus Inspect" in the relevant Engine Manual inspection task, and are applicable when the following conditions are satisfied:

- (1) The component has been completely disassembled to piece-part level in accordance with the appropriate disassembly procedures contained in the Engine Manual,
and
The part has accumulated in excess of 100 flight cycles in service since the last piece-part inspection,
or
- (2) The component removal was for damage or a cause directly related to its removal,
or
- (3) Where serviceable used components, for which the inspection history is not fully known, are being returned to service.

continued on next page

G-2003-0003

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The list of Group A Parts is specified below:

Part Nomenclature	Part No.	Engine Manual Inspection Task
Low Pressure Compressor Rotor Disc	All	72-31-16-200-801
Low Pressure Compressor Rotor Shaft	All	72-31-20-200-801
Intermediate Pressure Compressor Rotor Shaft	All	72-32-31-200-801
Intermediate Pressure Rear Shaft	All	72-33-21-200-801
High Pressure Compressor Stage 1 to 4 Rotor Discs Shaft	All	72-41-31-200-801
High Pressure Compressor Stage 5 & 6 Discs and Cone	All	72-41-31-200-802
High Pressure Turbine Rotor Disc	All	72-41-51-200-801
Intermediate Pressure Turbine Rotor Disc	All	72-51-31-200-801
Intermediate Pressure Turbine Rotor Shaft	All	72-51-33-200-801
Low Pressure Turbine Stage 1 Rotor Disc	All	72-52-31-200-801
Low Pressure Turbine Stage 2 Rotor Disc	All	72-52-31-200-802
Low Pressure Turbine Stage 3 Rotor Disc	All	72-52-31-200-803
Low Pressure Turbine Stage 4 Rotor Disc	All	72-52-31-200-804
Low Pressure Turbine Stage 5 Rotor Disc	All	72-52-31-200-805
Low Pressure Turbine Rotor Shaft	All	72-52-33-200-801


Table 1

B Unless already accomplished, operators must amend their Approved Maintenance Programmes to reflect the inspection requirements stated above.


C Operators must maintain records of the Mandatory inspections arising from this Directive, as they are accomplished throughout the life of each Group A component.

Reference Publications: Rolls-Royce RB211 Trent 800 series Time Limits Manual Reference 05-20-01, dated 1 October 2002 or later CAA approved revision. Copies may be obtained from Rolls-Royce plc, Technical Publications, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

Remarks: Enquiries regarding this Airworthiness Directive should be directed to the Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR Phone: +44 (0) 1293 573856 Fax: +44 (0) 1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No: 2007-0003R1 [Corrected 06 February 2009]</p> <p>Date: 15 January 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE plc	Type/Model designation(s) : RB211 Trent 800 series Engines
TCDS Number : UK-CAA 1051	
Foreign AD : Not applicable	
Supersedure : This AD revises EASA AD 2007-0003 dated 08 January 2007.	
ATA 05	Time Limits – Engine Critical Parts Lives
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>Rolls-Royce RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17 engines</p> <p>These engines are known to be installed on, but not limited to, Boeing 777 series aeroplanes.</p>
Reason:	<p>The original issue of this Airworthiness Directive mandates revised lives and life accounting methodology of the Trent 800 engine Critical Parts.</p> <p>Revision of the Critical Part lives has been necessary due to actual operational flight profiles not conforming to those assumed at entry into service and is associated with a revised Flight Profile Monitoring methodology (originally based on engine thrust rating but now based on operating shaft speeds) introduced by Rolls-Royce.</p> <p>The new Flight Profile Monitoring methodology allows for seven new profiles replacing the previous three. Six of these profiles, A to F, are intended to cover the requirements of most operators. The Declared Life (in Standard Duty Cycles) is published for each part and life usage may be accounted by factoring the number of flights flown. The factor to be used is defined according to the Flight Profile which is applicable to the fleet.</p> <p>The seventh profile, called "Heavy", will be applicable to fleets operating outside profiles A to F. A separate Declared Life (in Flight Cycles) is published for each</p>


	<p>part and life usage is accounted without factoring.</p> <p>This AD is necessary as life reductions are applicable in some cases and failure to comply with the revised life limits could result in an unsafe condition.</p> <p>Revision 1 of this AD introduces an updated reference to the related Rolls-Royce Service Bulletin. Also the additional Information has been removed from the "Reason" paragraph. This addressed related ADs and is no longer considered to be necessary.</p> <p>This AD has been corrected to replace the word "defined" with "referred to" within the Compliance paragraph and to refer to a specific publication of revised lives within Note 2.</p>
Effective Date:	22 January 2007
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Not later than 31 January 2007, amend the Engine Maintenance Schedule by incorporating the revised Trent 800 engine declared life limits and associated Beta factors (where applicable) for Critical Parts referred to in Rolls-Royce Service Bulletin RB211-72-AE935 rev 7, or later approved revisions, Appendix 2 of Section 3 of the Service Bulletin.</p> <p>Note 1: For the purposes of compliance with this AD, compliance with EASA AD 2007-0003 original issue is deemed to be valid.</p> <p>Note 2: The revised lives originally defined in earlier revisions of Rolls-Royce Service Bulletin RB211-72-AE935 have been published in Chapter 5 of the Rolls-Royce Trent 800 Time Limits Manual since March 2008.</p>
Ref. Publications:	<p>Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin Alert 72-AE935 Revision 7.</p> <p>The use of later approved revisions is acceptable for compliance with the requirements of this AD.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) 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 Airworthiness Directive should be referred to the Airworthiness Directive Focal Point - 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 Rolls-Royce plc, PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936.

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2007-0004 Date: 08 January 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s)
Rolls-Royce plc	RB211 Trent 800 series Engines
TCDS Number: UK CAA 1051	
Foreign AD: Not applicable	
Supersedure: This AD supersedes and cancels EASA AD 2006-0239 R2 dated 13 October 2006, the original publication of which superseded and cancelled CAA UK Airworthiness Directive 002-08-2002.	
ATA 05	Time Limits - HP Compressor Stage 5-6 Rotor Disc Cyclic Life
Manufacturer:	Rolls-Royce plc
Applicability:	RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17, known to be installed on Boeing 777 series aeroplanes.
Reason:	<p>Rolls-Royce Service Bulletin RB 211-72-AE082 was initially issued in 2002 and was made mandatory by UK CAA Airworthiness Directive 002-08-2002.</p> <p>The Service Bulletin addressed cracking in Trent 800 HP Compressor stage 5-6 rotor disc stage 5 and 6 loading slots. A cyclic life limit lower than that declared in the Time Limits manual was applied to the disc. The cyclic life was a function of engine thrust rating and model with a lower life being applied to the higher thrust rating models. Later revisions (2 & 3) introduced further life reductions and a rework solution to restore component life.</p> <p>Rolls-Royce has now introduced a Multiple Flight Profile Monitoring methodology (NMSB 72-AE935) for life limited parts in which the published lives are in the form of Standard Duty Cycles. Standard Duty Cycles are obtained by multiplying flight cycles by a factor (the Beta factor) that is defined according to the flight profile group which is applicable to the fleet. A separate flight profile (called "Heavy") is also introduced and is based on normal flight cycles.</p> <p>Rolls-Royce has therefore re-issued Service Bulletin RB 211-72-AE082 to define this new methodology. As this is a significant revision to the original Service Bulletin affecting compliance methodology, it was deemed necessary to supersede CAA Airworthiness Directive 002-08-2002, which was done by the issuance of EASA AD 2006-0239.</p>


	<p>Revision 1 of EASA AD 2006-0239 was issued to delay the introduction of the new cyclic lives.</p> <p>Revision 2 of EASA AD 2006-0239 was necessary due to a delay in the introduction of the new Multiple Flight Profile Monitoring methodology which has affected the dates quoted in the Compliance section.</p> <p>A minor error was then discovered in the lifing calculations for FK25230 which resulted in a reduction in some of the lives. It was therefore necessary to supersede EASA Airworthiness Directive 2006-0239 with this AD.</p> <p>This AD is necessary as life reductions are applicable in some cases and failure to comply with the revised life limits could result in an unsafe condition.</p>
Effective Date:	22 January 2007
Compliance:	<p>The following HP Compressor stage 5-6 rotor disc cyclic life limits must be complied with as detailed below:</p> <ol style="list-style-type: none"> 1) Up to and including 30 January 2007: <ul style="list-style-type: none"> Part number FK 25230 and FK 27899: <ol style="list-style-type: none"> a) Trent 875-17, 877-17, 884-17, 884B-17, 892-17 and 892B-17 ratings, no component to exceed 7500 flight Cycles. b) Trent 895-17 rating, no component may exceed 7370 Flight Cycles. 2) From 31 January 2007 to 31 May 2009: <ol style="list-style-type: none"> a) Part number FK 25230: <ol style="list-style-type: none"> i) Aircraft operating within Multiple Flight Profile Monitoring (other than "Heavy") as defined in the Aircraft Maintenance Manual 70-01-10, no component may exceed 7470 Standard Duty Cycles. ii) Aircraft operating in the "Heavy" Flight Profile as defined in the Aircraft Maintenance Manual 70-01-10, no component may exceed 6410 Flight Cycles. b) Part number FK 27899: <ol style="list-style-type: none"> i) Aircraft operating within Multiple Flight Profile Monitoring (other than "Heavy") as defined in the Aircraft Maintenance Manual 70-01-10, no component may exceed 7500 Standard Duty Cycles. ii) Aircraft operating in the "Heavy" Flight Profile as defined in the Aircraft Maintenance Manual 70-01-10, no component may exceed 7400 Flight Cycles. 3) After 31 May 2009: <ul style="list-style-type: none"> Part Number FK 25230 and FK 27899: Aircraft operating within Multiple Flight Profile Monitoring or the "Heavy" Flight Profile as defined in the Aircraft Maintenance

	Manual 70-01-10, no component may exceed 5000 Standard Duty Cycles or 5000 Flight Cycles respectively.
Ref. Publications:	Rolls-Royce RB211 Propulsion System Non Modification Service Bulletin Alert RB211-72-AE082 Revision 5 or later approved revisions.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. The original AD 2006-0239 was posted on 07 July 2006 as PAD 06-179 for consultation until 07 August 2006. No comments were received during the consultation period. Given this fact and the limited time available it was considered reasonable not to submit this AD for consultation.3. Enquiries regarding this Airworthiness Directive should be referred to the Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom; Telephone +44 (0)1332-242424; Facsimile +44 (0)1332-249936.


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0099 [Corrected 12 June 2008]</p> <p>Date: 21 May 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE plc	Type/Model designation(s) : RB211 Trent 800 Engines
TCDS Number : UK CAA 1051	
Foreign AD : Not applicable	
Supersedure : None	
ATA 72	Engine – HP Compressor stage 1- 4 shaft – Life Limit Reduction
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17 engines, all serial numbers, in which HP Compressor Stage 1-4 shaft Part Number FK32580 are installed.</p> <p>These engines are known to be installed on, but not limited to, Boeing 777 series aircraft.</p>
Reason:	<p>During manufacture of HP Compressor stage 1 discs a small number of parts have been rejected due to a machining defect that was found during inspection.</p> <p>Analysis of the possibility of less severe examples having been undetected and passed into service has concluded that action is required to reduce the risk of failure.</p> <p>It is therefore necessary to reduce the life limit from that currently published for the applicable parts. This Airworthiness Directive specifies the new life limits that must now be applied.</p> <p>This AD has been republished to correct the TCDS Number, improve the wording in the Applicability paragraph and to introduce a minor editorial change within the Compliance paragraph.</p>
Effective Date:	04 June 2008

Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>RB211 Trent 800 Critical Part lives may be monitored by one of two methods: "Multiple Flight Profile Monitoring"; or "Heavy Flight Profile" (for details refer to RR Engine Manual Airworthiness Limitations Section). This Compliance section is therefore divided into two sections to address these two possibilities.</p> <p>(1) <u>Multiple Flight Profile Monitoring parts:</u></p> <p>(a) On the effective date of this AD, if the part life is equal to or over 5 580 Standard Duty Cycles (SDC) then the part must be withdrawn from service before exceeding 7 780 SDC.</p> <p>Note 1: Standard Duty Cycles (SDC) is the product of Flight Cycles and Beta Factor, as specified in the RR Engine Manual Airworthiness Limitations Section.</p> <p>(b) On the effective date of this AD, if the part life is between 3 380 SDC and 5 580 SDC then the part should be withdrawn from service before exceeding a further 2 200 SDC.</p> <p>(c) On the effective date of this AD, if the part life is equal to or below 3 380 SDC then the part must be withdrawn from service before exceeding 5 580 SDC.</p> <p>Note 2: Operators should be aware that reassessment of the revised life limit in accordance with this AD (including possible reassessment of the applicable subsection (a), (b), or (c) (above)) will be necessary if, at some time in the future, the operator changes the flight profile that was applicable before the Effective Date, such that parts which are the subject of this AD are affected. To recalculate the revised life limit, the life of the part, in Standard Duty Cycles, at the Effective Date must be recalculated from the part's entry into service (zero life), and must use the Beta factor(s) for the new flight profile(s).</p> <p>(2) <u>Heavy Flight Profile parts:</u></p> <p>(a) On the effective date of this AD, if the part life is equal to or over 5 280 Flight Cycles then the part must be withdrawn from service before exceeding 7 480 Flight Cycles.</p> <p>(b) On the effective date of this AD, if the part life is between 3 080 Flight Cycles and 5 280 Flight Cycles then the part should be withdrawn from service before exceeding a further 2 200 Flight Cycles.</p> <p>(c) On the effective date of this AD, if the part life is equal to or below 3 080 Flight Cycles then the part must be withdrawn from service before exceeding 5 280 Flight Cycles.</p>
Ref. Publications:	<p>Rolls-Royce Alert Non Modification Service Bulletin RB211-72-AF825</p> <p>The use of later approved revisions of this document 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. This AD was posted on 31 March 2008 as PAD 08-046 for consultation until 28 April 2008. The Comment Response Document can be found at http://ad.easa.europa.eu. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0071 [Corrected 14 April 2009]</p> <p>Date: 08 April 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
ROLLS-ROYCE plc	RB211 Trent 800 engines
TCDS Number : United Kingdom No. 1051	
Foreign AD : Not applicable	
Supersedure : This AD supersedes CAA United Kingdom (UK) AD G-2004-0009, EASA approval number 2004-5258.	
ATA 72	Engine – High Pressure (HP) / Intermediate Pressure (IP) Turbine Bearing Oil Vent Tube – Inspection / Cleaning / Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17 engines, all serial numbers.</p> <p>These engines are known to be installed on, but not limited to, Boeing 777 series aircraft.</p>
Reason:	<p>During 2004, an incident was reported involving uncontained multiple IP turbine blade release on a Trent 700 engine. The blade release was the result of an overspeed of the IP turbine rotor that was initiated by an internal fire in the HP/IP bearing chamber. Post-incident analysis and investigation has established that blockage of the HP/IP turbine bearing oil vent tube due to carbon deposits was a significant factor in the failure sequence. The Trent 800 has a similar type design standard to that of the Trent 700 and has also been found in service to be susceptible to carbon deposits in the oil vent tube.</p> <p>This condition, if not corrected, could lead to further cases of uncontained turbine blade release.</p> <p>CAA UK AD G-2004-0009 was issued to require a one-off on-wing inspection of the internal condition of the vent tube with a re-inspection required in the case of heavy carbon build up being found. Rolls-Royce has now established that inspection and cleaning at overhaul is sufficient and necessary to control carbon build up in the tubes.</p> <p>For the reasons described above, this AD, which supersedes CAA UK AD G-2004-0009 (EASA approval 2004-5258), requires inspection of the HP/IP turbine vent tube and bearing chamber during each shop visit of the engine.</p>

	This corrected AD is issued to amend a typographical error within the Reason paragraph, changing the reference to the superseded CAA UK AD from G-0004-0009 to G-2004-0009.
Effective Date:	22 April 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated:</p> <p>At the next engine shop visit after the effective date of this AD, and thereafter at each engine shop visit, inspect the HP/IP turbine bearing internal and external oil vent tubes and bearing chamber and take corrective action, depending on findings, in accordance with the accomplishment instructions of Rolls-Royce Alert Non Modification Service Bulletin (NMSB) RB211-72-AE362 Revision 1.</p> <p>Note: At this time, no terminating action is available for the repetitive inspection requirements of this AD.</p>
Ref. Publications:	<p>Rolls-Royce Alert NMSB RB211-72-AE362 Revision 1 dated 3 April 2009.</p> <p>The use of later approved revisions 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. This AD was published on 09 February 2009 as PAD 09-033 for consultation until 09 March 2009. No comments were received during the consultation period. 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009 - 0142</p> <p>Date: 13 July 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE plc	Type/Model designation(s) : RB211 Trent 800 Engines
TCDS Number : CAA UK 1051	
Foreign AD : Not applicable	
Supersedure : None	
ATA 79	Engine – Fuel System, Fuel-to-oil Heat Exchanger (FOHE) – Replacement
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 895-17, 892-17, 892B-17, 884-17, 884B-17, 877-17 and 875-17 engines.</p> <p>These engines are known to be installed on, but not limited to Boeing 777 series aircraft.</p>
Reason:	<p>This Airworthiness Directive has been raised following an incident involving dual loss of engine response in the final stages of approach leading to touchdown short of the runway. The phenomenon involved in the loss of engine response has also been seen in flight affecting just one engine.</p> <p>Post incident analysis and investigation has established that, under certain ambient conditions, ice can accumulate on the walls of the fuel pipes within the aircraft fuel system, which can then be released downstream when fuel flow demand is increased. This released ice can then collect on the FOHE front face and limit fuel flow through the FOHE. This type of icing event was previously unknown and creates ice concentrations in the fuel system beyond those specified in the certification requirements.</p> <p>To mitigate the risk of dual engine FOHE blockage within the Trent 800 engine powered Boeing 777 fleet, which constitutes a potential unsafe condition, this Airworthiness Directive instructs replacement of the FOHE with a modified standard incorporating enhanced anti-icing and de-icing performance.</p>

Effective Date:	27 July 2009
Required Action(s) and Compliance Time(s):	<p>Within 6 000 flight hours from 10 July 2009 or before 01 January 2011, whichever occurs first:</p> <p>Replace the FOHE with an FOHE modified in accordance with Rolls-Royce Alert Service Bulletin RB211-79-AG257, dated 24 June 2009 (published 10 July 2009).</p>
Ref. Publications:	<p>Rolls-Royce Alert Service Bulletin RB211-79-AG257, dated 24 June 2009 (published 10 July 2009).</p> <p>The use of later approved revisions 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: Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936. Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0008

Issue Date: 29 April 2004

This AD is issued by the UK CAA acting for and 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 2004-2827 on 23 March 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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

**RB211 TRENT 875-17, 877-17, 884-17,
884B-17, 892-17, 892B-17, 895-17**

Type Certificate Data Sheet No: 1051

Superseded ADs: 001-02-2001 and G-2003-0015

ATA 72 – ENGINE – FAN BLADE – INSPECTION/LUBRICATION/MODIFICATION

Manufacturer(s): Rolls-Royce plc

Applicability: Models RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17 engines, fitted with fan blades to Rolls-Royce Service Bulletin RB211-72-C629 (part numbers; FK30842, FK 30840, FK30838), RB211-72-C905 (part numbers; FW12960, FW13175, FW12961, FW12962), RB211-72-D390 (part number; FW18548), OR RB211-72-E044 (part number; FW23552) standards installed on Boeing 777 aeroplanes certificated in any category.

Reason: There has been one incident of fan blade failure and several instances of fan blade roots found cracked on Trent 800 engines in service. The cracking has been shown to be the result of significant operating stress levels and a breakdown of lubrication between the fan blade root and the fan disc slot. Cracking can be avoided by maintaining lubrication of the fan blade roots. A risk analysis has concluded that mandatory action instructing fan blade root lubrication is necessary to avoid an unacceptable risk of a multiple fan blade failure, which would be a potentially hazardous event.

Airworthiness Directive (AD) G-2003-0015 introduced reduced intervals between re-lubrications (iaw Rolls-Royce Service Bulletin RB211-72-AD347) for SB72-C905, SB72-D390 and SB72-E044 standard fan blades. This change was prompted by observations of poor blade root condition on service run engines, which showed that the rate of deterioration of lubrication was higher than previously believed. A Terminating Action for SB72-C629 and SB72-C905 standard of fan blades was also introduced.

This AD (G-2004-0008) supersedes AD's G-2003-0015 and 001-02-2001, and has been issued for the following reasons:

- a) To introduce re-lubrication of fan blade roots to Rolls-Royce Service Bulletin RB211-72-C905, 72-D390 and 72-E044 standards, which have never been removed since delivery of the new engine, to have a 1200 cycle threshold as stated in Rolls-Royce Service Bulletin RB211-72-AD347 R6.
- b) To introduce the amended Mandatory repeat inspection requirements of Rolls-Royce Service Bulletin RB211-72-AD344 R7, applicable to Rolls-Royce Service Bulletin RB211-72-C629 and -C905 standard fan blades, thereby superseding the requirements of AD 001-02-2001.

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Effective Date: 12 May 2004**Compliance/Action:**1) Inspection of Fan Blade Root (in accordance with R-R Alert Service Bulletin RB211-72-AD344 R7)

Fan blades to Rolls-Royce Service Bulletin RB211-72-C629 or RB211-72-C905 standards; Inspect according to aeroplane type and engine rating combinations, on or before the threshold lives and subsequent repeat intervals not exceeding the intervals specified in Tables 1,2,3 and 4 below. Note that fan blades to Rolls-Royce Service Bulletin RB211-72-D390 (full form root profile) and RB211-72-D672 (laser shock peen) are not subject to this inspection. Fan blades are to be inspected in accordance with Rolls-Royce Alert Service Bulletin RB211-AD344 Revision 7, Section 3 Accomplishment Instructions.

TABLE 1 BLADES NOT FEATURING SB72-C905

B777 AEROPLANE CATEGORY	GROSS WEIGHT (1000 lbs)	ENGINE RATING	INSPECTION	
			THRESHOLD (CYCLES)	REPEAT (CYCLES)
(1A) -300	660	892, 884B	600	80
	632,5			
(1B) -200ER	656	895		
(2) -200ER	648	892,892B	1200	100
	632,5			
(3A) -300	580	892, 884B	2000	600
(3B) -200ER	555	884	2000	600
(3C) -200	545	877	2000	600
	535	875		

TABLE 2 BLADES NOT FEATURING SB72-C905 BUT RELUBRICATED AT 600 CYCLES FREQUENCY OR LESS

B777 AEROPLANE CATEGORY	GROSS WEIGHT (1000 lbs)	ENGINE RATING	INSPECTION	
			THRESHOLD (CYCLES)	REPEAT (CYCLES)
(1A) -300	660	892, 884B	600	80
	632,5			
(1B) -200ER	656	895		
(2) -200ER	648	892,892B	1200	100
	632,5			
(3A) -300	580	892, 884B	2400	600
(3B) -200ER	555	884	2400	600
(3C) -200	545	877	2400	600
	535	875		

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TABLE 3 BLADES WHICH (a) INCLUDED SB72-C905 FROM NEW OR (b) WERE REWORKED TO SB72-C905 AT LESS THAN 600 CYCLES SINCE NEW OR PREVIOUS REWORK TO SB72-C629 OR (c) REWORKED TO SB72-C905 WITH VERIFIABLE RE-LUBRICATION AT INTERVALS NOT EXCEEDING 600 CYCLES

B777 AEROPLANE CATEGORY	GROSS WEIGHT (1000 lbs)	ENGINE RATING	INSPECTION	
			THRESHOLD (CYCLES)	REPEAT (CYCLES)
(1A) -300	660	892, 884B	600	100
	632,5			
(1B) -200ER	656	895		
(2) -200ER	648	892,892B	1200	125
	632,5			
(3A) -300	580	892, 884B	2400	600**
(3B) -200ER	555	884	2400	600**
(3C) -200	545	877	2400	600**
	535	875		

TABLE 4 BLADES REWORKED TO SB72-C905 AT GREATER THAN 600 CYCLES SINCE NEW OR PREVIOUS RE-WORK TO SB72-C629

B777 AEROPLANE CATEGORY	GROSS WEIGHT (1000 lbs)	ENGINE RATING	INSPECTION	
			THRESHOLD (CYCLES)	REPEAT (CYCLES)
(1A) -300	660	892, 884B	600	100
	632,5			
(1B) -200ER	656	895		
(2) -200ER	648	892,892B	1200	125
	632,5			
(3A) -300	580	892, 884B	2000	600
(3B) -200ER	555	884	2000	600
(3C) -200	545	877	2000	600
	535	875		

2) Re-lubricate fan blade root (in accordance with R-R Alert Service Bulletin RB211-72-AD347 R6)

a) Fan blades to Rolls-Royce Service Bulletin RB211-72-C629, -C905, -D390, and -E044 standards;

Re-lubricate fan blade roots in accordance with Rolls-Royce Alert Service Bulletin RB211-72-AD347 Revision 6, Section 3 Accomplishment Instructions prior to achieving 600 cycles in service since new or last re-lubrication. Subsequently, re-lubricate at repeat intervals not exceeding 600 cycles in service.

b) Fan blades to Rolls-Royce Service Bulletin RB211-72-C905, -D390, and -E044 standards which have never been removed from the engine since delivery of the new engine;

Re-lubricate fan blade roots in accordance with Rolls-Royce Alert Service Bulletin RB211-72-AD347 revision 6, section 3 Accomplishment Instructions on first removal or prior to achieving 1200 cycles in service since new. Subsequently, re-lubricate at repeat intervals not exceeding 600 cycles in service.

c) Fan blades to Rolls-Royce Service Bulletin RB211-72-C905, -D390, and -E044 standards with lives in excess of 400 cycles since new (that are not covered by paragraph b), above) or since last re-lubrication at the Effective Date of this AD, a one-off increased interval is permitted as follows;

Re-lubricate fan blade roots in accordance with Rolls-Royce Alert Service Bulletin RB211-72-AD347 Revision 6, section 3 Accomplishment Instructions prior to achieving a further 200 cycles in service, but not to exceed 1200 cycles since new or since last re-lubrication. Subsequently, re-lubricate at repeat intervals not exceeding 600 cycles in service.

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3) Terminating Action (in accordance with Rolls-Royce Service Bulletin RB211-72-D672)

Fan blades to Rolls-Royce Service Bulletin RB211-72-C629 and RB211-72-C905;
 Apply laser shock peen, Metco 58 and dry film lubricant (DFL) in accordance with Rolls-Royce Service Bulletin RB211-72-D672 Initial Issue, Section 3 Accomplishment Instructions at next shop visit where the fan blade is refurbished or overhauled, or prior to 31 December 2009, whichever occurs first. Incorporation of this modification removes the Mandatory requirements to carry out Part 1, root inspection, and Part 2, root re-lubrication, (refer to Remarks Section for details) detailed in the Compliance/Action section of this Airworthiness Directive, and therefore constitutes the terminating action for this AD.

Note: There is currently no terminating action for fan blades to Rolls-Royce Service Bulletins RB211-72-D390 and RB211-72-E044 standards.

Note: Previous compliance with the inspection and lubrication tasks of ADs G-2003-0015, 001-03-2001 and 001-02-2001 are, for the purposes of this Airworthiness Directive, deemed to be equivalent inspection and lubrication tasks.

Reference Publications: Rolls-Royce Alert Service Bulletins RB211-72-AD344 Revision 7 and RB211-72-AD347 Revision 6, and Rolls-Royce Service Bulletin RB211-72-D672 initial issue, may be obtained from Publication Services, Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424 Fax: +44 (0) 01332 249936

Note: Later EASA approved Service Bulletin issues than the issues quoted within are also considered to be acceptable to meet the requirements of this Airworthiness Directive.

Remarks: Note that while the Terminating Action terminates the requirements of this AD, the re-lubrication remains a recommended action by the manufacturer for SB72-D672 standard fan blades.

The fan blade part numbers associated with the Service Bulletin standards addressed above are as follows;

SB 72-C629 (Fan blade cutback root profile)	SB 72-C905 (Fan blade Metco58 anti-fret coating)	SB 72-D390 (Full form root profile fan blades)	SB 72-E044 (Fan blade root revised shear key slot)
FK30838 FK30840 FK30842	FW12960 FW12961 FW12962 FW13175	FW18548	FW23552

Enquiries regarding this AD should be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573199 Fax: +44 (0)1293 573979 E-mail: pete.woollacott@srg.caa.co.uk.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0030

Issue Date: 23 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 on 2004-12165 on 14 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:

Type/Model Designation(s):

ROLLS-ROYCE PLC

**RB211 TRENT 875-17, 877-17, 884-17,
884B-17, 892-17, 892B-17, 895-17**

Type Certificate Data Sheet No: 1051

Superseded AD: G-2004-0015

ATA 72 – ENGINE - ENGINE FAN BLADE – ROOT SHEAR KEY SLOT INSPECTION/REWORK

Manufacturer(s): Rolls-Royce plc

Applicability: Models RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17 engines fitted with fan blades to SB RB211-72-D390 (part number FW 18548) standard installed on Boeing 777 Series aeroplanes.

Reason: This Airworthiness Directive has been raised to ensure that the correct profile of the shear key slot in the L.P. compressor (fan) blade root has been manufactured to the specified design dimensions. Service experience has shown that sharp edges in the area of the fan blade root have the potential to generate stress risers with a consequential reduction in fan blade life. A risk analysis has concluded that Mandatory action is necessary to avoid an unacceptable risk of multiple fan blade failure, which would be a potentially hazardous event.

Airworthiness Directive (AD) 001-05-2003 was initially raised to introduce a requirement to inspect and rework fan blade roots in compliance with Rolls-Royce Mandatory SB RB211-72-E055 (Original issue and Revision 1).

Airworthiness Directive G-2004-0015 superseded AD 001-05-2003 by reflecting a change in the Compliance Section of Rolls-Royce SB RB211-72-AE055 Revision 2, permitting the movement of fan blades between aircraft type /engine rating combinations.

This AD supersedes AD G-2004-0015 to introduce revised rework life conversion formulae. This AD also introduces, in some instances, lower rework lives for re-defined aircraft/engine rating combinations, which take into account aircraft gross weight.

Effective Date: 24 January 2005

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Compliance/Action: Carry out rework to all SB 72-D390 standard L.P. compressor (fan) blades as defined in Rolls Royce S.B.RB211-72-AE055 Revision 5, Section 3 Accomplishment Instructions, on or before the rework lives since new stated in the table below;

B777 AIRCRAFT (CATEGORY)	MAXIMUM AIRCRAFT TAKEOFF WEIGHT (GROSS WEIGHT) (1000lbs)	ENGINE RATING	REWORK LIFE (CYCLES SINCE NEW)
- 300	660	892, 884B	2400
	632.5		
- 200 Series	656	892, 895	
- 200 Series	648	892, 892B	3200
	632.5	892B	
- 200 Series	632.5	892	4100
	555	884	
	545	877	
	535	875	
	506		

NOTE 1: Where LP compressor blades have been moved between 'Aircraft Type/Engine Rating' combinations, then the life remaining to rework may be calculated as follows:

Formula 1 (Conversion to a Lower Rework Life).

$$\frac{(\text{Higher rework life limit} - \text{Total flights in higher rework life})}{\text{Higher rework life limit}} = A$$

Lower rework life limit x A = Flight Cycles Remaining

Total flights at the higher rework life limit + Flight Cycles Remaining = Revised rework life limit for the fan blades

Formula 2 (Conversion to a Higher Rework Life).

$$\frac{(\text{Lower rework life limit} - \text{Total flights in Lower rework life})}{\text{Lower rework life limit}} = A$$

Higher rework life limit x A = Flight Cycles Remaining

Total flights at the lower rework life limit + Flight Cycles Remaining = Revised rework life limit for the fan blades.


Rework carried out in accordance with ADs 001-05-2003 and G-2004-0015 is deemed to be acceptable for the purposes of compliance with this Airworthiness Directive.

Reference Publications: Rolls-Royce Alert Service Bulletins RB211-72-AE055 Revision 5 and RB211-72-E044 Revision 2 may be obtained from Publication Services, Rolls-Royce plc. PO Box 31, Derby, DE24 8BJ, United Kingdom. Phone: +44 (0) 1332 242424 Fax: +44 (0) 1332 249936

Remarks: Later EASA approved Service Bulletin issues to those quoted within are also considered to be acceptable to meet the requirements of this Airworthiness Directive.

The fan blade part number associated with SB RB211-72-D390 addressed within is FW 18548, for full form root profile blades.


Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, Propulsion Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573199 Fax: +44 (0) 1293 57397 E-mail: pete.woollacott@srg.caa.co.uk.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0051</p> <p>Date: 05 March 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE PLC	Type/Model designation(s) : RB211 Trent 900 series engines
TCDS Number : EASA.E.012	
Foreign AD : Not applicable	
Supersedure : This AD supersedes EASA AD 2008-0202, dated 17 November 2008.	
ATA 72	Engine – HP Turbine Nozzle Guide Vane (NGV) Convex Surface - Inspection
Manufacturer(s):	Rolls-Royce plc
Applicability:	<p>RB211 Trent 900 series engines, all marks, which do not incorporate modification SB 72-G025.</p> <p>These engines are known to be installed on, but not limited to, Airbus A380 series aeroplanes.</p>
Reason:	<p>Evidence from development testing and flight test Trent 900 engines has identified cracking on some HP Turbine Nozzle Guide Vane (NGV) Convex Surfaces. Analysis of test data and review of the manufacturing process has revealed compounding effects that may contribute to a shortfall in component life and an increased likelihood of premature cracking in this region. Excessive cracking on the Convex Surface may lead to the release of NGV material or the blockage of Turbine gas flow. This results in a risk of fracture to the HP Turbine Blade.</p> <p>Not all NGV assemblies are affected. It is believed that the problem, if it exists, will manifest itself below 1000 cycles.</p> <p>Single release of HP Turbine Blade on more than one engine could result in multiple engine loss of power or In-Flight Shut Down (IFSD). This event presents a potential unsafe condition to the aeroplane.</p> <p>EASA AD 2008-0202 was published to require inspection of the HPT NGV Convex Surfaces and, depending on the results, subsequent corrective actions.</p> <p>Since issuance of EASA AD 2008-0202 Rolls-Royce plc has inspected several sets of HPT NGV's returning from service, and determined that tighter limits are needed on some dimensions for some types of damage. It has also been</p>


	<p>determined that relaxed inspection intervals can be allowed for some type of damage and when no damage is found. These new limits are defined in updated Table 1 and Table 2 in section 3.B of Rolls-Royce RB211-Trent 900 Alert Non Modification Service Bulletin (NMSB) 72-AF995 Revision 2.</p> <p>Since issuance of EASA AD 2008-0202, Rolls-Royce plc has also introduced a new standard of HPT NGV's with modification SB 72-G025 that increases the cooling flow of the aerofoils by increasing the cooling hole diameters. This modification will significantly reduce the risk of aerofoil cracking and material release therefore deleting the need for inspection beyond normal maintenance procedures.</p> <p>This AD supersedes EASA AD 2008-0202 by retaining the same requirements as in AD 2008-0202 except that:</p> <ul style="list-style-type: none"> - Revised inspection limits provided in Rolls-Royce RB211-Trent 900 Alert NMSB 72-AF995 Revision 2 must be used. - Applicability is limited to Trent 900 engines which do not incorporate modification SB 72-G025.
Effective Date:	19 March 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Before accumulating 400 total cycles, inspect the HPT NGV Convex Surfaces, in accordance with the accomplishment instructions in section 3.A of Rolls-Royce RB211-Trent 900 Alert Non Modification Service Bulletin (NMSB) 72-AF995 Revision 2.</p> <p><u>If no damage is identified at first inspection:</u></p> <ul style="list-style-type: none"> - repeat inspections must be carried out at intervals less than 250 Cycles apart. - if repeat inspections reveal no damage at 1000 cycles revert to normal inspection maintenance as detailed in the Rolls-Royce RB211-Trent 900 Maintenance Planning Document (MPD). <p><u>If any damage is identified:</u></p> <ul style="list-style-type: none"> - refer to the Table 1 and Table 2 in section 3.B. of Rolls-Royce RB211-Trent 900 Alert NMSB 72-AF995 Revision 2 for re-inspection intervals and rejection criteria.
Ref. Publications:	<p>Rolls-Royce RB211-Trent 900 NMSB 72-AF995 Revision 2, dated 09 February 2009.</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: Rolls-Royce plc., P.O. Box 31, Derby, DE24 8BJ, United Kingdom; Telephone: +44 (0) 1332 242424, Fax: +44 (0) 1332 249936; Email: tech.help@rolls-royce.com or download the publication from https://www.aeromanager.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2007-0185 Date: 11 July 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : ROLLS-ROYCE TURBOMECA Ltd	Type/Model designation(s) : Turbo-shaft engines RTM 322-01/9
TCDS Number : EASA.E.009	
Foreign AD : Not applicable	
Supersedure : Not applicable	
ATA 73	Fuel system - Fuel filter pre-blockage switch - Replacement/Modification
Manufacturer(s):	ROLLS-ROYCE TURBOMECA Ltd
Applicability:	RTM322-01/9 turbo-shaft engines. These engines are known to be installed, but not limited to, NH Industries - NH 90 helicopters.
Reason:	<p>This Airworthiness Directive requires the replacement of the fuel filter pre-blockage switch P/N 9550177700 by a fuel filter pre-blockage switch P/N 9550004900 (modification C3037)</p> <p>This action is necessary following the discovery of fuel filter pre-blockage electrical switches not operating properly (no fuel filter pre-blockage indication). This may lead, due to fuel contamination, to fuel filter clogging without pilot indication and then opening of the fuel filter by-pass that could lead to the engine IFSD.</p> <p>Fuel contamination may be a common cause and therefore could potentially affect both engines installed in the same helicopter.</p>
Effective Date:	24 July 2007
Compliance:	Within 75 engine operating hours, but not later than 31 December 2007, whichever occurs first after the effective date of this AD, implement modification C3037 in accordance with Rolls-Royce Turbomeca Ltd Alert Service Bulletin:


	<ul style="list-style-type: none"> • SBP-M3-A-73-31-05-01A-A (paper format) or • DMC: M3-A-73-31-05-01A-932A-A and M3-A-73-31-05-01A-933A-A (electronic format). <p>Replacement of fuel filter pre-blockage electrical switch and return of the corresponding certificate to TURBOMECA must be performed according to the above Alert Service Bulletin.</p>
Ref. Publications:	<p>Rolls-Royce Turbomeca Ltd Alert Service Bulletin :</p> <ul style="list-style-type: none"> • SBP-M3-A-73-31-05-01A-A (paper format) or • DMC: M3-A-73-31-05-01A-932A-A and M3-A-73-31-05-01A-933A-A (electronic format).
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. This AD was posted as PAD 07-088 on 30 May 2007 for consultation until 27 June 2007. No comments were received during this period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA. E mail: Ads@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2008-0024 Date: 12 February 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : ROLLS-ROYCE TURBOMECA Ltd	Type/Model designation(s) : RTM 322-01/9 turboshaft engines
TCDS Number : EASA E.009	
Foreign AD : Not applicable	
Supersedure : None	
ATA 04	Life Limits / Critical Parts - First Stage High Pressure Turbine Rotor Assembly - Service Life Limitations
Manufacturer(s):	Rolls-Royce Turbomeca Ltd
Applicability:	RTM322-01/9 turboshaft engines, all serial numbers, if operated in a desert environment (high concentration of airborne sand or dust). These engines are known to be installed on, but not limited to, NH Industries NH90 (military) helicopters.
Reason:	<p>Cracks have been discovered in the roots of first stage high pressure (HP1) turbine blades in engines which have operated in a desert or similar environment. Investigation has shown that crack initiation was due to the following factors:</p> <ul style="list-style-type: none"> • Sand contamination within the engine; • High concentrations of sulphur in the sand and in the air where the sand is found; • A silver sealing wire installed in the HP1 turbine rotor assembly. <p>The sand causes a reduction in cooling efficiency and therefore a higher operating temperature, which melts the silver wire. The sulphur in the sand or the air combines with the molten silver to form silver sulphate, which is deposited on the blade roots and can result in stress-corrosion cracking.</p> <p>Cracks in the HP1 turbine blade root may eventually cause an increase in load in the HP1 disc leading to possible cracking of the disc and release of hazardous high energy debris.</p>
Effective Date:	26 February 2008

Compliance:	<p>Effective immediately, if the engine is, or has been, operated in a desert environment, the life of the HP1 turbine rotor assembly is reduced from 2000 HP cycles (the value currently shown in the Airworthiness Limitations Section of the RTM322-01/9 Engine Base Maintenance Manual) to the following:</p> <ul style="list-style-type: none"> • For aircraft with a vortex air intake filter pack <ul style="list-style-type: none"> ○ 550 HP cycles – recorded by the aircraft automatic life counting system ○ 600 HP cycles – manually recorded • For aircraft without a vortex air intake filter pack <ul style="list-style-type: none"> ○ 350 HP cycles – recorded by the aircraft automatic life counting system ○ 400 HP cycles – manually recorded <p>For additional details, consult the referenced Rolls-Royce Turbomeca Service Bulletin.</p> <p>When the HP1 turbine disc reduced life limit has been reached, the engine or module 02 must be removed and sent to an approved repair centre in accordance with the referenced Rolls-Royce Turbomeca Service Bulletin.</p>
Ref. Publications:	<p>Rolls-Royce Turbomeca Alert Service Bulletin SBP-M3-A-04-30-00-01A-A-A.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>RTM322-01/9 Engine Base Maintenance Manual M3-A-EBM-00-D, data module DM M3-04-30-72-42A-000A-A</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 11 January as PAD 08-001 for consultation until 08 February 2008. No comments were received during this period. 3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Rolls-Royce plc, PO Box 3, Filton, BS34 7QE, England Telephone: +44 (0) 117 97 90700; Fax: +44 (0) 117 97 95498

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0025R1</p> <p>Date: 06 July 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : ROLLS-ROYCE TURBOMECA Ltd	Type/Model designation(s) : RTM322-01/9 turboshaft engines
TCDS Number : EASA.E.009	
Foreign AD : Not applicable	
Revision : This AD revises EASA AD 2008-0025, dated 12 February 2008	
ATA 04	Life Limits / Critical Parts - Special Regular Inspections after Operation in Cold Weather Conditions and Low Altitude
Manufacturer(s):	Rolls-Royce Turbomeca Ltd
Applicability:	<p>RTM322-01/9 turboshaft engines, all serial numbers, except those incorporating the modification C3003 standard HP2 turbine blades.</p> <p>These engines are known to be installed in, but not limited to, NH Industries NH90 (military) helicopters.</p>
Reason:	<p>During NH90 flight development testing an RTM322 engine suffered a second stage high pressure (HP2) turbine blade rupture. Investigation by Rolls-Royce Turbomeca (RRTM) concluded that the cause was a high cycle fatigue (HCF) blade vibration phenomenon that can occur when the engine is operated in low ambient temperatures at low pressure altitude.</p> <p>An increase in gas pressure at these conditions can be sufficient to initiate cracks in the HP2 turbine blade if the gas generator is operated at a speed that causes vibration of the blade at its natural frequency. Loss of a HP2 turbine blade may lead to an in-flight shutdown (IFSD). As both engines on the NH90 are exposed to similar conditions, there is the possibility of a common-mode event and dual-IFSD. As a consequence of this event the current RTM322-01/9 fleet is subject to a flight envelope restriction that limits engine operation at low ambient temperatures and low pressure altitudes. Recently, there have been additional occurrences of HP2 turbine blade cracking or rupture in other RTM322 variants. RRTM has therefore re-assessed the risk associated with this event and has developed a further flight envelope restriction on the RTM322-01/9 engine.</p>

	<p>For the reasons stated above, this Airworthiness Directive (AD) requires the implementation of a flight envelope restriction on RTM322-01/9 engines.</p> <p>This revised AD has been issued to introduce Modification C3003 as an optional terminating action to the AD.</p>
Effective Date:	26 February 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless accomplished previously:</p> <p>Before next flight after the effective date of this AD, implement the revised flight envelope restriction:</p> <p>Engine operation is no longer permitted within Zone A defined in figure 1 of RRTM Alert Service Bulletin SBP-M3-A-04-40-00-01A-A-A.</p> <p>For engines that have previously been operated in Zone A, the information defined within the Alert Service Bulletin must be provided to RRTM. RRTM will then assess whether operation can continue and advise what inspections are required. Pending such assessment by RRTM and completion of the required inspections, no further flight is permitted.</p> <p>A re-designed HP2 Turbine Blade is available as modification C3003 which removes the risk of blade cracking due to operation at low temperature and at low altitude.</p>
Ref. Publications:	<p>Rolls-Royce Turbomeca Ltd Alert Service Bulletin SBP-M3-A-04-40-00-01A-A-A.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. The original AD was posted on 11 January 2008 as PAD 08-002 for consultation until 08 February 2008. No comments were received during this period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Rolls-Royce plc, PO Box 3, Filton, BS34 7QE, England; Telephone: +44 (0) 117 97 90700; Fax: +44 (0) 117 97 95498


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0115R1</p> <p>Date: 27 November 2008</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>	
<p>Type Approval Holder's Name :</p> <p>ROLLS-ROYCE TURBOMECA Ltd</p>	<p>Type/Model designation(s) :</p> <p>RTM 322-01/9 and RTM 322-01/9A turbo-shaft engines</p>
<p>TCDS Number : EASA.E.009</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure: This AD revises EASA AD 2008-0115, dated 17 June 2008.</p>	
ATA 72	Engine – Compressor Module – Replacement
Manufacturer(s):	Rolls-Royce Turbomeca Ltd
Applicability:	<p>RTM 322-01/9 and RTM 322-01/9A turboshaft engines, all serial numbers.</p> <p>These engines are known to be installed on, but not limited to, NH Industries NH90 (military) helicopters.</p>
Reason:	<p>The deterioration of the abrasible layer bonded to the front bearing housing, subsequent cabin bleed air contamination and low oil pressure indication have led, on Turbomeca TM333-2B2 engines, to a commanded engine in-flight shut-down (IFSD). The deterioration consists of separation of the abrasible layer from the surface to which it is bonded.</p> <p>The same bonding process is also applied to abrasible layers on components within the Compressor Module (M01) of the RTM322-01/9 and RTM-01/9A.</p> <p>The affected components are the front bearing housing and first stage diffuser hub. A similar deterioration to that seen on the Turbomeca TM333-2B2 engine may also cause cabin air bleed contamination, low oil pressure indication and/or IFSD. In the case of a dual engine IFSD, this could result in the helicopter making an emergency landing in autorotation mode.</p> <p>Following the development of a revised bonding process, which includes rework of affected components, this revision 1 is issued to introduce the incorporation of the associated RRTM modifications C3068 and C3069 as an acceptable means to comply with the requirements of this Airworthiness Directive (AD).</p> <p>For the reason stated above, this AD requires either the removal and replacement of the affected Compressor Modules or incorporation of both RRTM modifications C3068 and C3069.</p>

Effective Date:	01 July 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p><u>RTM322-01/9 turboshaft engines</u></p> <ul style="list-style-type: none"> • Within 20 operating hours but not later than 4 weeks after the effective date of this AD, if both engines installed on a given helicopter are equipped with a Compressor Module M01 listed in Table 001 of the Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin EMSBP-M3-A-72-31-00-03A-A-A, replace one engine with an engine not equipped with a Compressor Module on the list or replace one Compressor Module with a Compressor Module not on the list, in accordance with the instructions in the referenced Emergency Mandatory Service Bulletin. • Within 500 operating hours but not later than 18 months after the effective date of this AD, if only one engine installed on a given helicopter is equipped with a Compressor Module M01 listed in Table 001 of the Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin EMSBP-M3-A-72-31-00-03A-A-A, replace the engine with an engine not equipped with a Compressor Module on the list or replace the Compressor Module with a Compressor Module not on the list, in accordance with the instructions in the referenced Emergency Mandatory Service Bulletin. <p><u>RTM322-01/9A turboshaft engines</u></p> <ul style="list-style-type: none"> • Within 20 operating hours but not later than 4 weeks after the effective date of this AD, if both engines installed on a given helicopter are equipped with a Compressor Module M01 listed in Table 002 of the Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin EMSBP-M3-A-72-31-00-03A-A-A, replace one engine with an engine not equipped with a Compressor Module on the list, in accordance with the instructions in the referenced Emergency Mandatory Service Bulletin. • Within 500 operating hours but not later than 18 months after the effective date of this AD, if only one engine installed on a given helicopter is equipped with a Compressor Module M01 listed in Table 002 of the Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin EMSBP-M3-A-72-31-00-03A-A-A, replace the engine with an engine not equipped with a Compressor Module on the list, in accordance with the instructions in the referenced Emergency Mandatory Service Bulletin. <p>When the engine or Module 01 has been removed, it must be sent to an approved repair centre in accordance with the instructions in the referenced Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin.</p> <p>ALTERNATE MEANS OF COMPLIANCE</p> <p>The use of a replacement engine (for the RTM322-01/9 and RTM322-01/9A) or a replacement Compressor Module (for the RTM322-01/9) incorporating both RRTM modifications C3068 and C3069 is acceptable to comply with the requirements of this AD.</p> <p>Note: For the purpose of this AD Operating Hours may be considered equivalent to Flight Hours and either may be used in the determination of replacement or modification times of the Engine / Compressor Modules.</p>
Ref. Publications:	<p>Rolls-Royce Turbomeca Emergency Mandatory Service Bulletin EMSBP-M3-A-72-31-00-03A-A-A initial issue and issue 002.</p> <p>The use of later approved revisions of this document 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 original AD was posted on 13 May 2008 as PAD 08-057 for consultation until 10 June 2008. No comments were received during the consultation period.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 your usual or nearest TURBOMECA technical representative (refer to http://www.turbomeca-support.com).
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Propellers

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	EAD No : 2006-0326-E Issued: 23 October 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Dowty Propellers (part of Smiths Aerospace Limited)	Type/Model designation(s) : R321/4-82-F/8, R324/4-82-F/9, R333/4-82-F/12 and R334/4-82-F/13
TCDS Number : United Kingdom CAA Letter 9/80/PR7/6, dated 3 April 1981 (for R321 and R324); and Propeller TCDS No.108 (for R333) and 115 (for R334).	
Foreign AD : Not applicable	
Supersedure : Not applicable	
ATA 61	Propellers – Blades – Inspection / Rework
Manufacturer(s):	Dowty Propellers
Applicability:	All Dowty R321/4-82-F/8, R324/4-82-F/9, R333/4-82-F/12 and R334/4-82-F/13 propellers, if blades are installed with serial numbers (s/n) A156121 through A156132, A156137 through A156160, A156165 to A156168, A156177 through A156184, A156194 and A156196 through A156200. These propellers are known to be installed on, but not limited to CASA 212; M7 Aerospace (formerly Fairchild; Swearingen) SA227TT, SA227AT and SA227AC; and BAE Systems (formerly British Aerospace) Jetstream 3100 and 3200 series aeroplanes.
Reason:	One propeller blade has recently been identified after delivery from Dowty Propellers where the blade counterweight capscrew holes have not been correctly drilled. If the capscrew holes are not machined to their required depth, it may appear that the capscrew has been correctly assembled, but the counterweight will not be properly retained. This condition, if not corrected, could result in failure (due to fatigue) of one or more capscrews, release of the counterweight during propeller operation and consequent risk of injury to aircraft occupants and persons on the ground. Dowty has concluded that the problem is associated only with blades manufactured between April and July 2006, identified by serial number in the applicability section of this directive. Since an unsafe condition has been identified that is likely to exist or develop on other aircraft that have these propeller blades installed, this Emergency Airworthiness Directive is issued to require the identification, inspection and, where necessary, rework of the affected propeller blades.
Effective Date:	24 October 2006


Compliance:	<ol style="list-style-type: none"> 1. Before next flight after the effective date of this directive, identify the propeller blades that have a serial number listed in the applicability section of this directive and inspect the affected blades in accordance with the instructions contained in the referenced Dowty Propellers Alert Service Bulletin (ASB), as applicable; 2. When discrepancies are found, before further flight, the counterweight attachment holes must be re-machined. Contact Dowty Propellers, address indicated in the remarks section of this directive, for advice. 3. After the effective date of this directive, no person may install one of the listed s/n propeller blades on an aircraft unless the blade has been inspected and, if necessary, reworked in accordance with the requirements of this directive.
Ref. Publications:	Dowty Propellers ASB 61-A1133 (for R334) or ASB 61-A1134 (for R321, R324 and R333), as applicable, both dated 20 October 2006 or a later approved revision.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact: Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, United Kingdom; Tel +44 (0) 1452 716000 Fax +44 (0) 1452 716001; e-mail mtowkan@dap.dowty.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009 - 0147</p> <p>Date: 07 July 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>GE Aviation Systems Ltd trading as Dowty Propellers</p>	<p>Type/Model designation(s) :</p> <p>R334/4-82-F/13 propellers</p>
<p>TCDS Number : United Kingdom (UK) 115</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : This AD supersedes CAA UK AD G-2005-0027, dated 8 September 2005</p>	
<p> </p>	
ATA 61	Propellers - Propeller Hub Wall Cracking - Inspection
<p> </p>	
Manufacturer(s):	<p>GE Aviation Systems Ltd, trading as Dowty Propellers (formerly 'Dowty Rotor', 'Dowty Aerospace Propellers', 'Dowty Aerospace Gloucester' or 'Dowty Propellers')</p>
Applicability:	<p>Model R334/4-82-F/13 propellers with hub assemblies part number (P/N) 660709201 and fitted to CASA C-212 aeroplanes.</p>
Reason:	<p>A failure has occurred on the threaded inserts in the rear hub causing fatigue cracks which led to hub separations on CASA C-212 aeroplanes.</p> <p>Airworthiness Directive G-2005-0027 had been issued to mandate reduced repetitive inspection intervals for NDT inspection of these propellers with hub assemblies part number 660709201.</p> <p>This AD supersedes AD G-2005-0027, retaining the requirements and reducing the applicability to propellers with hub assemblies P/N 660709201. This AD also introduces a terminating action to the inspection requirements.</p>
Effective Date:	21 July 2009


<p>Required Action(s) and Compliance Time(s):</p>	<p>Required as indicated unless accomplished previously:</p> <p>1. <u>For Hub assemblies P/N 660709201 which have not been inspected within the last 300 flight cycles/hours of the effective date of this AD:</u></p> <p>Carry out the inspection in accordance with the accomplishment instructions of Dowty SB 61-1119 rev 5 within 10 flight hours or 20 calendar days from the effective date of this AD, whichever occurs first.</p> <p>2. <u>For hub assemblies P/N 660709201 which have been inspected within the last 300 flight cycles/hours of the effective date of this AD:</u></p> <p>Carry out the inspection in accordance with the accomplishment instructions of Dowty SB 61-1119 rev 5 within 300 flight hours or flight cycles since the last inspection, whichever occurs first.</p> <p>3. <u>For hub assemblies part no. 660709201, other than zero time assemblies, held in storage or assembled in propellers held in storage:</u></p> <p>Inspect in accordance with the accomplishment instructions of Dowty SB 61-1119 rev 5, prior to installation of the propeller on to an aeroplane.</p> <p>4. Thereafter repeat the inspection every 300 flight hours or 300 flight cycles, whichever occurs first.</p> <p>5. Remove from service any propeller or hub that does not satisfy the acceptance criteria for further operation.</p> <p>6. The installation of a revised hub assembly in accordance with Dowty Service Bulletin 61-1138 terminates the repetitive inspection requirements of paragraph 4 of this AD.</p>
<p>Ref. Publications:</p>	<p>Dowty Alert Service Bulletin 61-1119 rev 5, dated 01 July 2009.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>
<p>Remarks :</p>	<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: Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, United Kingdom Tel +44 (0) 1452 716067 – Fax +44 (0) 1452 716001 E-mail Mike.Towkan@ge.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2008-0033 Date: 19 February 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agree with the Authority of the State of Registry.	
Type Approval Holder's Name: Dowty Propellers	Type/Model designation(s): R354, R375, R389 and R390 propellers
TCDS: United Kingdom Numbers 103, 109, 112 and 113.	
Foreign AD No.: Not applicable	
Supersedure: None	
ATA 61	Propellers – Blade Outer Sleeve - Inspection
Manufacturer(s):	Dowty Propellers (part of GE Aviation Systems)
Applicability:	Models R354/4-123-F/13, R354/4-123-F/20, R375/4-123-F/21, R389/4-123-F/25, R389/4-123-F/26 and R390/4-123-F/27 propellers, all serial numbers. These propellers are known to be installed on Saab SF340A and 340B aircraft.
Reason:	<p>A number of propeller blade outer sleeves have been found with cracks since 1996. Testing has shown that blade retention integrity is not affected by this cracking. However, this condition, if not detected and corrected, can lead to blade counterweight release, possibly resulting in damage to the aircraft and injury to occupants or persons on the ground.</p> <p>For the reason stated above, this AD requires the inspection of the blade outer sleeves and replacement of propeller blades where the outer sleeve is found to have crack indications.</p>
Effective Date:	04 March 2008
Compliance:	<p>Required as indicated, unless previously accomplished:</p> <ol style="list-style-type: none"> (1) At the next scheduled 1 600 Flight Hours (FH) aircraft check after the effective date of this AD, or after any blade accumulates 15 000 FH time in service, whichever occurs later, and thereafter at intervals not to exceed 1 600 FH, inspect the blade outer sleeves for cracks; (2) When during any inspection as required by paragraph (1) of this AD, visual indication of a crack on the outer sleeve is found, before next flight, replace the affected propeller blade with an airworthy unit; (3) Replacement of the blade does not constitute terminating action for the inspection requirements of this AD.


Ref. Publications:	<p>Dowty Propellers Alert Service Bulletin No. SF340-61-A106.</p> <p>The use of later approved revisions of this document 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 accept Alternative methods of Compliance for this AD.2. This AD has been published as PAD 08-011 on 18 January 2008 for consultation until 15 February 2008. No comments were received during the consultation period.3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA – E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact: Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, United Kingdom; Telephone: +44 (0) 1452 716067; Fax +44 (0) 1452 716001; E-mail Mike.Towkan@ge.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0005 Date: 08 January 2009 <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>	
Type Approval Holder's Name :	Type/Model designation(s) :
Dowty Aerospace Propellers	R389 and R390 propellers
TCDS Numbers: United Kingdom (UK) 112 and 113	
Foreign AD : Not applicable	
Supersedure : This AD supersedes CAA UK AD 006-10-99 dated 26 October 1999.	
ATA 61	Propellers – Hub Assembly – Inspection
Manufacturer(s): Dowty Aerospace Propellers	
Applicability:	<p>Models R389/4-123-F/25, R389/4-123-F/26 and R390/4-123-F/27 propellers, all serial numbers, fitted with Part Number (P/N) 660714241 or P/N 660714255 hub assemblies, including P/N 660714241 hub assemblies that have been reworked in accordance with Dowty drawing 660714259.</p> <p>These propellers are known to be installed on Saab SF340A and 340B aircraft.</p>
Reason:	<p>Current propeller maintenance philosophy recognizes the possibility of hub cracks and the need for Non-Destructive Testing (NDT) checks. This condition, if not detected and corrected, could cause premature failure of a propeller hub, resulting in propeller detachment and consequent damage to and loss of control of the aircraft.</p> <p>The standard time between overhaul (TBO) for Dowty R389 and R390 propeller hubs has been established at 7 500 flight hours (FH), when hubs must be scanned for cracks in accordance with the applicable Dowty Component Maintenance Manual (CMM). The CMM describes the so-called 'B scan' NDT method, which is not convenient for aircraft operators to perform. To adequately address this safety issue, Dowty published Alert Service Bulletin (ASB) SF340-61-95 that describes additional NDT checks that can be accomplished by the aircraft operator.</p> <p>In October 1999, the UK Civil Aviation Authority (CAA) mandated the accomplishment of these NDT checks by issuing AD 006-10-99. In January 2008, Dowty revised the ASB to update and improve the inspection methods</p>

	<p>that must be used for crack detection.</p> <p>For the reasons described above, this new EASA AD retains the requirements of UK CAA AD 006-10-99, which is superseded, and requires the inspection of the propeller hub rear half wall in accordance with the revised method(s) as published by Dowty Propellers.</p>
Effective Date:	22 January 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 1 200 FH after 26 October 1999 [the original issue date of Dowty ASB SF340-61-95 and UK CAA AD 006-10-99] and thereafter at intervals not to exceed 1 200 FH, inspect the propeller hubs in accordance with the instructions of Dowty Propellers ASB SF340-61-95 (2) Inspections and corrective actions accomplished prior to the effective date of this AD, in accordance with Dowty ASB SF340-61-95 at original issue or Revision 1 or Revision 2 or Revision 3 or Revision 4, are acceptable to comply with the initial requirements of paragraph (1) of this AD. After the effective date of this AD, repetitive inspections and corrective actions must be accomplished in accordance with Dowty ASB SF340-61-95 at Revision 5. (3) Within 30 days after each inspection as required by paragraph (1) of this AD, send an inspection report to Dowty Propellers in accordance with paragraph 2.B of Dowty ASB SF340-61-95. (4) When cracks are detected during any inspection as required by this AD, before next flight, replace the hub with a serviceable unit. Replacement of the hub does not constitute terminating action for the repetitive inspection requirements of this AD. (5) Modification of the affected propellers in accordance with Dowty Service Bulletin (SB) SF340-61-105 (at any revision) constitutes terminating action for the repetitive inspection requirements of this AD.
Ref. Publications:	<p>Dowty Propellers ASB SF340-61-95 Revision 5 dated 22 January 2008.</p> <p>Dowty Propellers SB SF340-61-105 original issue dated 10 May 2004 or Revision 1 dated 03 March 2006.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with 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. This AD was published on 20 November 2008 as PAD 08-123 for consultation until 18 December 2008. The Comment Response Document can be found at http://ad.easa.europa.eu/ . 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: Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, United Kingdom Tel +44 (0) 1452 716067 – Fax +44 (0) 1452 716001 E-mail Mike.Towkan@ge.com


EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2007-0223 R2</p> <p>Date: 26 October 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Dowty Propellers	Type/Model designation(s) : R408 series propellers
TCDS Number: EASA P.002	
Foreign AD: Not applicable	
Revision: This Airworthiness Directive (AD) revises EASA AD 2007-0223R1 dated 04 October 2007.	
ATA 61	Propellers - Blades Metallic Leading Edge Guard - Inspection
Manufacturer(s):	Dowty Propellers
Applicability:	<p>All R408/6-123-F/17 propellers equipped with blade assemblies Part Number (P/N) 697071200-18, 697071210-18, 697071227-18, 697071240-18, 697071245-18 and 697071257-18, where the bonded metallic leading edge guard has accumulated 1 200 Flight Hours (FH) or less since installation.</p> <p>These propellers are known to be installed on, but not limited to, Bombardier Inc. (formerly de Havilland Canada) Models DHC-8-400, DHC-8-401 and DHC-8-402.</p>
Reason:	<p>Three in-service propellers have been found to have blades which have lost the bonded metallic leading edge guard. If the leading edge guard comes off as the propeller turns, it could cause secondary damage to aircraft or injury to personnel. For the reasons described above, EASA issued Emergency AD 2007-0223-E to require repetitive inspections of the blade Leading Edge (L/E) guards for correct bonding until they accumulate more than 1 200 FH time in service.</p> <p>Revision 1 of this AD was issued to clarify the required inspections and follow-up actions depending on findings and to make reference to the latest Dowty Alert Service Bulletin (ASB) revision.</p> <p>This AD has been further revised for clarification, specifying that blades repaired at the tip are only allowed to continue up to 500 hours in service after repair. This limitation was already in the Dowty ASB and the Note is added to the AD to avoid the impression that the AD does not require the same limitation.</p>

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 50 FH or within 1 month after the effective date of this AD, whichever occurs first, inspect all the concerned blade assemblies where the bonded metallic L/E guard has accumulated 1 200 FH or less since installation, in accordance with the instructions of Dowty Propellers ASB No. D8400-61-A69; (2) Within 50 FH or 1 month after installing a replacement blade, inspect the concerned blade assembly where the bonded metallic L/E guard has accumulated 1 200 FH or less since installation, in accordance with the instructions of Dowty Propellers ASB No. D8400-61-A69; (3) After the inspection as required by paragraph (1) or (2) of this AD, as applicable, at intervals not to exceed 100 FH, repeat the inspection of the concerned blade assemblies in accordance with the instructions of Dowty Propellers ASB No. D8400-61-A69 until the bonded blade L/E guard has accumulated more than 1 200 FH since installation; (4) When, during any of the inspections as required by paragraphs (1), (2) or (3) of this AD, disbonding is found, apply the criteria as indicated in Appendix A of Dowty Propellers ASB No. D8400-61-A69 Revision 1 and, within the associated time period, repair or replace the affected blade assembly, as necessary, in accordance with the instructions of Dowty Propellers ASB No. D8400-61-A69 Revision 1. <p>Note: Blades that have been repaired within the first 101,6 mm (4.0 inches) of the tip of the blade as specified in Appendix D of the referenced ASB are allowed to continue in service for another 500 FH after accomplishment of the repair. Repair does not terminate the repetitive inspection requirements of paragraph (3) of this directive.</p>
Ref. Publications:	<p>Dowty Propellers Alert Service Bulletin No. D8400-61-A69 initial issue dated 15 August 2007 or Revision 1 dated 18 September 2007, or later approved revisions.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA - E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Dowty Propellers, Anson Business Park, Cheltenham Road East Gloucester GL2 9QN, United Kingdom Tel +44 (0) 1452 716000 - Fax +44 (0) 1452 716001 e-mail mtowkan@dap.dowty.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0114</p> <p>Date: 28 May 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>GE Aviation Systems Limited, trading as Dowty Propellers</p>	<p>Type/Model designation(s) :</p> <p>R408/6-123-F/17 propellers</p>
<p>TCDS Number: EASA.P.002</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
ATA 61	Propellers – Backplate Assembly – Sealant Application
Manufacturer(s):	Dowty Propellers
Applicability:	<p>Model R408/6-123-F/17 propellers, all serial numbers (s/n).</p> <p>These propellers are known to be installed on, but not limited to, Bombardier DHC-8-400, DHC-8-401 and DHC-8-402 aeroplanes.</p> <p>Note: Transport Canada AD CF-2009-01, applicable to Bombardier DHC-8 Series 400 aeroplanes, was issued on 19 January 2009 for the same unsafe condition that is addressed by this AD.</p>
Reason:	<p>Friction or contact between a propeller de-ice bus bar and the backplate assembly can cause failure of the bus bar and a consequent intermittent short circuit. Such a short circuit can cause a dual AC generator shutdown that, particularly in conjunction with an engine failure in icing conditions, could result in reduced controllability of the aeroplane.</p> <p>For the reason described above, this AD requires initial and repetitive application of sealant between the propeller bus bar assemblies and the backplate assembly.</p>
Effective Date:	11 June 2009


Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 5 000 flight hours (FH) after the effective date of this AD, apply sealant between the bus bar assemblies and the backplate assembly in accordance with the instructions of Dowty Propellers Alert Service Bulletin (ASB) D8400-61-66. (2) All affected Hub, Actuator and Backplate Assembly Line-Replaceable Units (LRU) with s/n DAP0347 and higher have received the initial sealant application prior to delivery/installation and are therefore already compliant with the requirement of paragraph (1) of this AD. (3) Prior to accumulating 10 000 FH after the initial sealant application and thereafter at intervals not to exceed 10 000 FH, re-apply sealant between the bus bar assemblies and the backplate assembly in accordance with the instructions of Dowty Propellers ASB D8400-61-66. (4) After modification of all propellers on an aeroplane as required by paragraph (1) of this AD, do not install any Dowty R408/6-123-F/17 propeller on that aeroplane, unless sealant has been applied between the bus bar assemblies and the backplate assembly of that propeller in accordance with the requirements of this AD.
Ref. Publications:	<p>Dowty Propellers ASB D8400-61-66 dated February 2007.</p> <p>The use of later approved revisions of this document is acceptable for compliance with 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: Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL2 9QN, United Kingdom Tel +44 (0) 1452 716067 – Fax +44 (0) 1452 716001 E-mail Mike.Towkan@ge.com

Equipment


EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 - 0264 Date: 30 August 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: AVIOINTERIORS S.p.A.	Type/Model designations: Passengers Seats, various Part Numbers, if equipped with a Rear Fitting Assembly having Part Numbers (P/N) 311889900017, 3121994E0017, 3118899C0017, 3121994A0017, 312199400017 or 3118899A0017
ETSO Approval: All affected seats were approved under Italian National regulations, which are equivalent to the present ETSO approvals.	
Foreign AD: FAA AD 2001-11-11	
Supersedure: Not applicable.	
ATA 25	Equipment & Furnishings – Passenger Seats Rear Fitting Assembly Attachment – Replacement
Manufacturer:	Aviointeriors S.p.A.
Applicability:	<p>Passenger Seats (P/N's as listed in the referenced Aviointeriors Service Bulletin) manufactured before October 19, 1998 and on which the requirements of FAA AD 2001-11-11 were not accomplished (Aviointeriors SB 181/A16-03 Rev. A, SB 153/E33-01 Rev. B, SB 11F/E32-01 Rev. A, SB 181/A16-02 Rev. B and SB 184/E23-01 Rev. A) or seats to which the original issue of Aviointeriors SB 180/A84-01 was not applied.</p> <p>The affected seats are known to be installed on, but not limited to, the following aircraft:</p> <ul style="list-style-type: none"> - Airbus A319, A320 and A321 series; - Boeing 737, 747 and 777 series; - McDonnell Douglas DC-9, DC-10 and MD90 series.
Reason:	The actions specified by this AD are intended to prevent unrestrained movement of the passenger seats during high forward deceleration of the airplane, which could result in injury to the passengers or crew members during an emergency landing.

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	<p>High torque during seat installation or improper maintenance operation resulted in broken shear plunger screws and subsequent disengagement of the shear plunger from the seat track.</p> <p>The phenomenon was first observed in the late 1990's when it seemed to be limited to Boeing aircraft. For this reason, the FAA issued AD 2001-11-11, the content and terms of compliance of which are not affected by this EASA AD.</p> <p>Improved fittings were introduced in production by Aviointeriors since October 1998 and the Service Bulletin 180/A84-01 was originally issued on July 2001 to recommend the modification on in service seats.</p> <p>Three cases were recently found on Airbus aircraft. This justifies the issuance of this AD to require replacement of all the affected passenger seats' rear fitting assembly attachments.</p>
Effective Date:	13 September 2006
Compliance:	Within 18 months after the effective date of this directive, replace the existing rear fitting assembly attachment with the new improved attachment in accordance with the modification instructions defined in Aviointeriors Service Bulletin 180/A84-01 Rev.1 dated May 04, 2006.
Ref. Publications:	Aviointeriors Service Bulletin 180/A84-01 Rev. 1 or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-188 for consultation on 18 July 2006 with a comment period until 8 August 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Aviointeriors S.p.A. Engineering Product Support ; Phone: + 39 0773 689291 ; Fax: +39 0773 631546 ; E-mail : avio@aviointeriors.it

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2008-0135 Date: 16 July 2008 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 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name : Aviointeriors S.p.A.	Type/Model designation(s) : Passengers Seats 12M()(-)()(-)()(-)()(-)()
ETSO Approval: EASA 21O.001	
Foreign AD: Not applicable	
Supersedure: EASA AD 2006-0350 issued on 22 November 2006.	
ATA 25	Equipment & Furnishings – Passenger Seat Backrest - Replacement
Manufacturer(s):	Aviointeriors S.p.A.
Applicability:	Passenger Seats 12M()(-)()(-)()(-)(), all part numbers (P/N) equipped with backrest P/N 313033000000 or 313033100000, as listed in Section 1.A of Aviointeriors Service Bulletin (SB) 12M/F68-06. The affected seats are known to be installed on, but not limited to, the following aircraft: - ATR 42 series; - ATR 72 series.
Reason:	Failures of the recline actuator metal fitting have been reported on seat backrests of in-service aircraft. EASA AD 2006-0350, which is superseded by this AD, was issued to initially mandate a one-time inspection of the applicable backrests, replace all fittings that have tool marks and re-identify the backrest seat P/N. Since the issuance of the AD, cycle testing performed by Aviointeriors identified a life limitation also for backrests that do not have tool marks. Consequently the present AD mandates the replacement of those backrests before reaching the threshold specified in the compliance paragraph of this AD. Actions required by this AD are intended to prevent further failures of the seat backrests which could result in injury to passengers or crew members during an emergency landing.

Effective Date:	30 July 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless already accomplished:</p> <ul style="list-style-type: none"> ▪ Before the accumulation of 13 000 total flight cycles (FC) since the seat first installation on aircraft but no later than 31 January 2009, whichever occurs first, replace the backrest P/N 313033000000 and/or 313033100000 in accordance with the instructions given in Aviointeriors Service Bulletin (SB) 12M/F68-06. <p>In case at the effective date of this AD seats have already exceeded the FC threshold mentioned above, it is allowed to perform the backrest replacement within 500 FC after the effective date of this AD, but no later 31 January 2009, whichever occurs first.</p> <ul style="list-style-type: none"> ▪ <u>After the effective date of this AD, no person shall install</u> Aviointeriors passenger seat assembly P/N 12M() () () () () with backrests having P/N 313033000000 or 313033100000 (being either unmarked or marked with "O" as per Aviointeriors SB 12M/F68-01 Revision 1) on any aircraft. ▪ In case there is no possibility to replace the seat backrests within the required compliance time, the aircraft may be dispatched with the affected seat installed provided: <ul style="list-style-type: none"> • Seat is placarded as "Do not occupy" and measures are taken to be sure that the affected seat remains unoccupied during the flight duration; and • Affected seat does not block any emergency exit; and • Affected seat does not restrict any passenger to get access to the main aisle.
Ref. Publications:	<p>Aviointeriors Service Bulletin 12M/F68-01 Revision 1 dated 2 October 2006; Aviointeriors Service Bulletin 12M/F68-06 Revision new dated 17 June 2008.</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. This AD was posted on 25 June 2008 as PAD 08-075 for consultation until 10 July 2008. The Comment Response Document can be found at http://ad.easa.europa.eu. 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: Aviointeriors S.p.A. Engineering Product Support; Phone: + 39 0773 689291; Fax: +39 0773 631546, E-mail : avio@aviointeriors.it

EASA	AIRWORTHINESS DIRECTIVE														
	<p>AD No.: 2006 – 0241</p> <p>Date: 10 August 2006</p>														
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.															
Type Approval Holder's Name :	Type/Model designation(s) :														
CALEDONIAN AIRBORNE SYSTEMS	CPT-600 Series/ CPT-900 Series ADELTA and AD/AFELT														
ETSOA Number : UK CAA WR00799 (CPT-600); EASA ETSO.210.259 (CPT-900)															
Foreign AD : N/A															
Supersedure : N/A															
ATA 31	Navigation - Automatic Deployable Emergency Locator Transmitter (ADELT) and Automatic Deployable/ Automatic Fixed Emergency Locator Transmitter (AD/AFELT)														
Manufacturer:	Caledonian Airborne Systems.														
Applicability:	<p>Caledonian Airborne Systems CPT-600/-900 ADELTA and AD/AFELT known to be installed on, but not limited to, the following aircraft:</p> <table border="0"> <tr> <td>Eurocopter</td><td>Puma AS-332 and AS-365N Dauphin</td></tr> <tr> <td>Sikorsky</td><td>S-61; Sikorsky S-76:</td></tr> <tr> <td>Bell Helicopter Textron</td><td>Model 212 and 214 series</td></tr> <tr> <td>Eurocopter</td><td>Model Bolkow BO 105</td></tr> <tr> <td>EADS</td><td>ATR-42.</td></tr> </table> <p>Note: for information, the ADELTA and AD/AFELT may also be installed on the following military aircraft.</p> <table border="0"> <tr> <td>Eurocopter</td><td>Cougar AS-532, Panther AS-565 and Super Frelon AS-321</td></tr> <tr> <td>Sikorsky:</td><td>Black Hawk S-70A</td></tr> </table>	Eurocopter	Puma AS-332 and AS-365N Dauphin	Sikorsky	S-61; Sikorsky S-76:	Bell Helicopter Textron	Model 212 and 214 series	Eurocopter	Model Bolkow BO 105	EADS	ATR-42.	Eurocopter	Cougar AS-532, Panther AS-565 and Super Frelon AS-321	Sikorsky:	Black Hawk S-70A
Eurocopter	Puma AS-332 and AS-365N Dauphin														
Sikorsky	S-61; Sikorsky S-76:														
Bell Helicopter Textron	Model 212 and 214 series														
Eurocopter	Model Bolkow BO 105														
EADS	ATR-42.														
Eurocopter	Cougar AS-532, Panther AS-565 and Super Frelon AS-321														
Sikorsky:	Black Hawk S-70A														
Reason:	During maintenance activity a beacon failed to deploy, highlighting wear in the main case P/N BC85-051 and profiling of the piston P/N BC85-052 which														

	<p>is prone to cupping seizures.</p> <p>Original main cases P/N BC85-051 up to S/N 311 were manufactured from stainless steel AISI 303. In May 1990 the material specification changed to stainless steel 6S80D that has three times the hardness.</p> <p>The wear highlighted was on an original main case P/N BC85-051 and took the form of "cupping" around the locking sphere holes that prevented the separation of the sleeve retainer from the main case.</p> <p>Original Pistons P/N BC85-052 up to S/N 299 were manufactured prior to 1990 and their sphere contact profile is more prone to cupping seizures.</p> <p>After investigation by Caledonian Airborne Systems they advise that original main cases and pistons, which are now in excess of 15 years age, be removed from service.</p>
Effective Date:	24 August 2006
Compliance:	<p>Compliance is required not later than 6 months from the effective date of this Airworthiness Directive.</p> <p>To comply with this Airworthiness Directive, modify the affected Caledonian Airborne Systems, Type CPT-600/-900 ADELTA and AD/AFELT Systems by replacing the main case P/N BC85-051 and piston P/N BC85-052 with improved units made of stainless steel 6S80D in accordance with Caledonian Airborne Systems Service Bulletin No.CPT-600/900/SB-01.</p>
Ref. Publications:	Caledonian Airborne Systems Service Bulletin No. CPT-600/900/SB-01 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-149 for consultation on 13 June 2006 with a comment period until 26 June 2006. The comment response document can be found at http://ad.easa.eu.int/ 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirements in this AD, please contact Laith Samarai, Caledonian Airborne Systems, Caledonian House, Ninian Road, Aberdeen Airport, Aberdeen, Grampian AB21 0PD. Scotland. United Kingdom E-Mail: LaithSamarai@caledonian-airborne.com



United Kingdom Civil Aviation Authority

EMERGENCY AIRWORTHINESS DIRECTIVE

AD No: G-2008-0002

Issue Date: 14 January 2008

This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 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: CAMERON BALLOONS LIMITED (CBL)	Type/Model Designation(s): CBL FUEL CYLINDERS WHICH HAVE A CB-0824-0001 LIQUID VALVE FITTED.
Type Certificate Data Sheet No: All Cameron Balloons	
Superseded/ Revised ADs: None	
ATA 28 – INLET SELF-SEAL VALVES	
Manufacturer: Cameron Balloons Limited (CBL)	
Applicability: All gas cylinders supplied by CBL balloons which have a CB-0824-0001 Rego Type Cylinder Liquid Valve fitted which is date stamped between 12/05 and 08/06.	
<p>Reason: Defective inlet self seal valves have been identified. Detachment of a seal inside the valve could result in partial or complete blockage of the burner supply.</p> <p>On a hopper balloon this failure would result in an uncontrolled descent. In some circumstances this could result in serious injury.</p>	
Effective Date: 16 January 2008	
<p>Compliance/Action: The following measures are mandatory from the effective date of this AD: -</p> <ol style="list-style-type: none"> (1) Before further flight, inspect the balloons' cylinder to identify whether the Cylinder Liquid Valve is from the affected batch of valves. CBL Service Bulletin No. 17 provides information on how to identify the affected valves. (2) Before using a cylinder that is from the affected batch in a single cylinder balloon, replace the self-seal valve in accordance with CBL Service Bulletins 16 and 17. (3) Any cylinder from the affected batch, which is installed in a multi cylinder balloon, if it is to be used on a hopper balloon, must be modified in accordance with CBL Service Bulletins 16 and 17 before flight. (4) Other cylinders from the affected batch, which are used on multi- cylinder balloons, may remain in service. <p>Note : It is recommended the self-seal valve is also replaced on cylinders from the affected batch which are used on multi cylinder balloons. This should be done in accordance with CBL Service Bulletin 16.</p>	

Reference Publications:

Cameron Balloons Service Bulletins 16 and 17 rev 0 or later approved revision, may be obtained from Cameron Balloons Ltd, St John's Street, Bedminster, Bristol, BS3 4NH, United Kingdom.

Tel: +44 (0)117 9637216 Fax +44 (0)117 9661168 Email: enquiries@cameronballoons.co.uk

Remarks:

Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44(0) 1293 573292 FAX: +44(0)1293 573976.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0026

Issue Date: 1 November 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 2004-10824 on 29 October 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:

CAMERON BALLOONS LIMITED

Type/Model Designation(s):

**SHADOW/SHADOW STEALTH AND
STRATUS - TRIPLE AND QUAD BURNERS**

Superseded/ Revised ADs: None

ATA 28 - TRIPLE AND QUAD BURNER SUPPORT – INSPECTION

Manufacturer(s): Cameron Balloons Limited.

Applicability: All Cameron Shadow/Shadow Stealth - Triple, Quad and Stratus Triple, Quad gimballed burner assemblies installed on, but not limited to Cameron Balloons Ltd A, N, O, Z, Thunder S1, S2 and Colt A series hot air balloons, certificated in any category.

Reason: The manufacturer has identified several occurrences of cracked welds between the burner support plate and the burner mounting tube following road transportation. Failure to identify a cracked or damaged burner support assembly could result in burner separation and an uncontrolled flame that presents a hazard to the envelope and the balloon's occupants and persons on the ground.

Effective Date: 2 November 2004

Compliance/Action: Before further flight after the effective date of this AD, inspect the burner support plate and mounting tube in accordance with Cameron Balloons Ltd Service Bulletin No 13 issue A or later EASA approved revision. Any cracked or damaged support plates or mounting tubes must be replaced with items that have been satisfactorily inspected in accordance with Cameron Balloons Ltd Service Bulletin No 13 issue A or later EASA approved revision before further flight.

Reference Publications: Cameron Service Bulletin No 13, may be obtained from Cameron Balloons Ltd, St Johns Street, Bedminster, Bristol BS3 4NH, United Kingdom. Phone +44 (0) 117 9637216, Fax +44 (0) 117 9661168.

Remarks: Enquires regarding this AD should be referred to Mr. N Williams, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573292 Fax: +44 (0) 1293 573976 E-mail: neil.williams@srg.caa.co.uk

Note: This Airworthiness Directive was originally issued as an Emergency AD on 1 November 2004.

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0028

Issue Date: 24 November 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 2004-11238 on 22 November 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:

Type/Model Designation(s):

CAMERON BALLOONS LIMITED

SOLID FLOOR BASKETS

Type Certificate Data Sheet No: Not Applicable

Superseded/ Revised ADs: None

ATA 53 – SOLID FLOOR BASKETS – INSPECTION

Manufacturer(s): Cameron Balloons Limited, Thunder Balloons Ltd, Colt Balloons Ltd, Thunder and Colt Ltd and Sky Balloons Ltd.

Applicability: All solid floor baskets manufactured by Cameron Balloons Limited, Thunder Balloons Ltd, Colt Balloons Ltd, Thunder and Colt Ltd and Sky Balloons Ltd.

Reason: The manufacturer has identified several occurrences of damaged basket suspension wires on the underside of solid floor baskets. It is thought that damage to the basket occurs as a result of inappropriate handling when loading and unloading the basket from a vehicle or trailer. Failure to identify and rectify damaged suspension wires could result in the failure of one or more wires that may result in the basket tipping and causing injury to its occupants.

Effective Date: 26 November 2004

Compliance/Action:

- a) Within 7 days of the effective date of this AD, revise the CAA approved Flight Manual (FM) for any balloon fitted with a Cameron solid floor basket by incorporating the following into the Normal Procedures section of the FM.

This may be accomplished by inserting a copy of this AD into the FM.

ADDITIONAL FLIGHT MANUAL INFORMATION (Section 4 – Normal Procedures):

Pre-Flight Check Of Basket Suspension Wires

Solid floor baskets must have no damage to the rawhide wire protectors sufficient to expose the suspension wires. Check also for wire damage where the wires are visible between the protectors and the skids. Any such damage must be inspected by a qualified inspector and repaired if necessary before flight in accordance with Cameron Balloons Maintenance Manual section 6.16.4.

continued on next page

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Note:- Balloons for which Issue 9 amendment 1 of Cameron Balloons CAA Approved Flight Manual is applicable may use the manual as an acceptable means of compliance with paragraph a) of this AD.


- b) Within 31 days of the effective date of this AD, inspect the basket suspension wires and rawhide protectors in accordance with Cameron Balloons Service Bulletin No 12 revision 0 or later EASA approved revision. If any damage in excess of that permitted by Cameron Balloons Maintenance Manual Issue 9 Section 6.16.4 or later EASA approved revision must be repaired in accordance manufacturers approved data before further flight.

The action required by Paragraph a) of this AD may be carried out by an owner/operator holding at least a private pilots licence. An entry must be made in the balloon's records showing compliance with this AD.


Reference Publications: The documents referenced above may be obtained from Cameron Balloons Ltd, St Johns Street, Bedminster, Bristol BS3 4NH, United Kingdom. Phone: +44 (0) 117 9637216 Fax: +44 (0) 117 9661168 Website: www.cameronballoons.co.uk

Remarks: Enquires regarding this AD should be referred to Mr. N Williams, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573292 Fax: +44 (0) 1293 573976 E-mail: neil.williams@srg.caa.co.uk


This Airworthiness Directive was originally issued as an Emergency AD on 24 November 2004.

	<p>AD No.: 2006 - 0375</p> <p>Date: 15 December 2006</p>	
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>		
<p>Approval Holder's Name:</p> <p>Carling Technologies, Inc.</p>	<p>Type/Model designations:</p> <p>Rocker-type Switches, Part Number (P/N) TA201-(XX)-(X) series</p>	
<p>TCDS Number: Not applicable</p>		
<p>Foreign AD: None.</p>		
<p>Supersedes: This AD supersedes and cancels EASA AD 2006-0274, which superseded and cancelled CAA United Kingdom Additional AD 001-09-96.</p>		
<p>ATA 24</p>	<p>Electrical Power – Switches – Inspection/Replacement</p>	
<p>Manufacturer:</p>	<p>Carling Technologies, Inc.</p>	
<p>Applicability:</p>	<p>Rocker-type Switches, having Carling P/N TA201-(XX)-(X), all versions. These same switches are also identified by, but not limited to, Piper P/N 47664-07; Grumman P/N TB201-TB-W or B206; and Cessna P/N S 1824-1 or S 2160-1. The affected switches are known to be installed on, but not limited to, aircraft manufactured by the Piper Aircraft Corporation, Cessna Aircraft Company and Grumman American Aviation Corporation, certificated under FAR Part 23.</p>	
<p>Reason:</p>	<p>During the 1990's, numerous incidents have occurred on light aircraft in the United Kingdom where smoke was released in the cockpit due to overheated rocker-type switches, manufactured by Carling. These switches do not appear to be of sufficient integrity or electrical rating for the heavy duty type circuits (e.g. strobe light- and pitot head circuits) in which they are installed. An investigation did not result in replacement switches being found that would remedy the problem.</p> <p>Since an unsafe condition had been identified, likely to exist or develop on other aircraft with these switches installed, EASA issued AD 2006-0274 to supersede CAA UK Additional AD 001-09-96 and require the repetitive inspection and, where necessary, replacement of the affected switches.</p> <p>The present AD supersedes EASA AD 2006-0274 to correct the quoted Piper P/N and further expand the applicability, specifying that all versions of the Carling P/N TA201-(XX)-(X) series are affected by this directive.</p>	
<p>Effective Date:</p>	<p>29 December 2006</p>	

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1) Not later than at the next annual inspection after 15 September 2006 [the effective date of EASA AD 2006-0274], or within 12 months after the last inspection as previously required by CAA UK Additional AD 001-09-96 or EASA AD 2006-0274, whichever occurs later, visually inspect the affected switches; 2) Thereafter, at intervals not exceeding 12 months, repeat the inspection; 3) If during an inspection as required by paragraph 1) and 2) of this directive any sign of overheating adjacent to the rear terminals is found, before next flight, replace the affected switch. <p>Replacement with identical switches does not terminate the requirement of the repeat inspection.</p>
Ref. Publications:	None.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Carling Technologies, Inc. 60 Johnson Ave Plainville, CT 06062-1177 - USA Telephone +1-860-793-9281; Facsimile +1-860-793-9231; E-mail custservice@carlingtech.com; Website www.carlingtech.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0158R2</p> <p>Date: 12 November 2008</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>	
Type Approval Holder's Name :	Type/Model designation(s) :
Funkwerk Avionics GmbH	TRT600 transponders
ETSO Authorisation: LBA 10.930\063NTS	
Foreign AD :	Not applicable
Revision :	This AD revises and replaces EASA AD 2008-0158R1 dated 17 October 2008.
ATA 34	Navigation – Mode-S Transponders – Limitation
Manufacturer(s):	Filser Electronic GmbH
Applicability:	<p>TRT600 Mode-S Transponders, all part numbers, all serial numbers.</p> <p>These transponders are known to be installed on, but not limited to, the following aircraft types:</p> <ul style="list-style-type: none"> - AMS-Flight (Rolladen-Schneider) LS 4 series Sailplanes - DG Flugzeugbau DG-800 and DG-1000 series (Powered) Sailplanes - Diamond Aircraft Industries DA 20 aircraft - Extra EA-200 and EA-300 series aircraft - HB-Flugtechnik GmbH HB 21 and HB 23 series Powered Sailplanes - Scheibe SF 25 C Powered Sailplanes - Schempp-Hirth Discus, Ventus and Nimbus series (Powered) Sailplanes - Schleicher Gliders and Powered Sailplanes - Stemme S 10 series Powered Sailplanes.
Reason:	<p>EASA has received reports of intermittent loss of detection on Mode-S Secondary Surveillance Radar (SSR) of aircraft equipped with Funkwerk Avionics TRT800A Transponders. Reports from Air Navigation Service Providers (ANSP), as well as data from flight trials, have shown that the unit fails to perform as expected. Operation of these transponders in airspace where Mode S interrogations are used by the ground systems could create disruptions in the Air Traffic Management process, potentially compromising aircraft safety.</p> <p>Because recent investigations and analyses have shown that, contrary to earlier indications, the TRT800 transponders are not affected by this unsafe</p>


	<p>condition, AD 2008-0158 was revised (R1) to delete the TRT800 from the Applicability.</p> <p>Funkwerk Avionics has now developed a modification (Mod-Index 10), approved by EASA, which has been demonstrated to remedy the unsafe condition for TRT800A and TRT800H transponders in the current ATC environment.</p> <p>For the reason described above, the requirements for TRT800A and TRT800H transponders have been transferred to EASA AD 2008-0183 and EASA AD 2008-0158 has been revised (R2) accordingly.</p> <p>For more details, see EASA Safety Information Bulletin (SIB) 2008-84R1 which identifies further issues that may lead to future AD action.</p>
Effective Date:	04 September 2008
Required Action(s) and Compliance Time(s):	<p>Within 7 days after the effective date of this AD, accomplish the following:</p> <p>(1) Amend the applicable Aircraft Flight Manual (AFM), Limitations section, to include the following:</p> <p>“Do not operate this aircraft in airspace where a transponder is required and Mode S interrogation is used by the ground system, unless accepted by the relevant ANSP(s) prior to entering this airspace”.</p> <p>This may be accomplished by inserting a copy of this AD into the AFM, section Limitations.</p> <p>(2) Install a placard in full view of the pilot(s), with the following instructions:</p> <p>“Do not operate this aircraft in airspace where a transponder is required and Mode S interrogation is used by the ground system, unless accepted by the relevant ANSP(s) prior to entering this airspace”.</p>
Ref. Publications:	EASA Safety Information Bulletin 2008-84R1 dated 12 November 2008.
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: Funkwerk Avionics GmbH, Gewerbestrasse 2, D-86875, Waal, Federal Republic of Germany Telephone +49 (0)8246 96 99 0, Fax: +49 (0)8246 1049 E-mail service@funkwerk-avionics.com Website: http://shop.funkwerk-avionics.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0183</p> <p>Date: 12 November 2008</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>Funkwerk Avionics GmbH</p>	<p>Type/Model designation(s) :</p> <p>TRT800A and TRT800H Transponders</p>
ETSO Authorisations: EASA.210.268, EASA.210.269	
Foreign AD : Not applicable	
Supersedure : None	
ATA 34	Navigation – Mode-S Transponders – Replacement
Manufacturer(s):	Funkwerk Avionics GmbH, Filser Electronic GmbH
Applicability:	<p>This AD applies to the following Mode-S transponders, except those marked Mod-Index 10:</p> <ul style="list-style-type: none"> - TRT800A, all Part Numbers (P/N), serial numbers (s/n) up to and including 40539908, and - TRT800H, all P/N, s/n up to and including 30250007. <p>These transponders are known to be installed on, but not limited to, the following aircraft types:</p> <ul style="list-style-type: none"> - APEX (Robin) DR1050, DR250, DR350 and DR400 series aircraft - Cessna 150, 172, 182, 210, T303 and 337 series aircraft, including those originally manufactured by Reims Aviation in France - Diamond Aircraft Industries DV 20 aircraft - Extra EA-300 series aircraft - Grob G 109 B Powered Sailplanes - Grob G 115 series aircraft - Mooney M20J aircraft - Piper PA-28 series aircraft - Scheibe SF 25 C Powered Sailplanes - True Flight Holdings (Grumman, American) AA-5B aircraft.
Reason:	<p>EASA has received reports of intermittent loss of detection on Mode-S Secondary Surveillance Radar (SSR) of aircraft equipped with Funkwerk Avionics TRT800A Transponders. Reports from Air Navigation Service Providers (ANSP), as well as data from flight trials, have shown that the unit fails to perform as expected.</p>


	<p>Based on the information provided in the reports, EASA has determined that operation of these transponders in airspace where Mode S interrogations are used by the ground systems could create disruptions in the Air Traffic Management process, potentially compromising aircraft safety.</p> <p>Consequently, EASA issued AD 2008-0158 to require the implementation of an operational limitation on all aircraft equipped with these transponders, and the installation of a placard in full view of the pilot(s).</p> <p>Funkwerk Avionics has now developed a modification (Mod-Index 10), approved by EASA, which has been demonstrated to remedy the unsafe condition addressed by EASA AD 2008-0158 in the current ATC environment.</p> <p>For the reason described above, this new EASA AD retains the requirements of EASA AD 2008-0158 for TRT800A and TRT800H transponders, although the limitation and placard wording are changed. In addition, this new AD requires replacement of the affected transponders with modified units. Aircraft affected by this AD must introduce the Aircraft Flight Manual (AFM) limitation and placard as specified in this new AD, replacing those introduced by EASA AD 2008-0158, until the transponder is replaced with a modified (Mod-Index 10) unit. After installation of a modified unit, the limitation and placard must be removed from the aircraft. At the same time, AD 2008-0158 has been revised (R2) to transfer the requirements for TRT800A and TRT800H transponders to this new AD.</p> <p>For more details, see EASA Safety Information Bulletin (SIB) 2008-84R1, which identifies further issues which may lead to future AD action.</p>
Effective Date:	19 November 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 7 days after the effective date of this AD, accomplish the following:</p> <p>(a) Amend the applicable AFM, section Limitations, to include the following:</p> <p>“Due to a performance problem of the transponder, do not operate this aircraft in airspace where a transponder is required, except as published by the appropriate ATS (Air Traffic Service) Authority”.</p> <p>This may be accomplished by inserting a copy of this AD into the AFM, section Limitations.</p> <p>(b) Install a placard in full view of the pilot(s), with the following instructions:</p> <p>“Do not operate this aircraft in airspace where a transponder is required, except as published by the appropriate ATS (Air Traffic Service) Authority”.</p> <p>Note: The AFM limitation and placard as required by paragraph (1) of this AD replace those previously required by EASA AD 2008-0158, which must be removed.</p> <p>(2) Within the next 24 months after the effective date of this AD, replace the affected transponder with a unit that has been modified in accordance with Funkwerk Avionics Service Bulletin (SB) TRT800-A-H-1 Revision 1.04 dated 17 October 2008.</p> <p>(3) After modification of an aircraft as required by paragraph (2) of this AD, the AFM limitation and placard as required by paragraph (1) of this AD are no longer necessary and shall be removed from the aircraft.</p> <p>(4) After 18 November 2010, no person shall install a transponder, as identified in the Applicability of this AD, on any aircraft, unless it has been modified in accordance with Funkwerk Avionics SB TRT800-A-H-1 Revision 1.04 dated 17 October 2008.</p>
Ref. Publications:	Funkwerk Avionics SB TRT800-A-H-1 Revision 1.04 dated 17 October 2008.

	<p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>EASA Safety Information Bulletin 2008-84R1 dated 12 November 2008.</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. This AD was posted on 17 October 2008 as PAD 08-117 for consultation until 31 October 2008. No comments were received during the consultation period.3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA; E-mail ADs@easa.europa.eu4. For any question concerning the technical content of the requirements in this AD, please contact: Funkwerk Avionics GmbH, Gewerbestrasse 2, D-86875, Waal, Federal Republic of Germany Telephone +49 (0)8246 96 99 0, Fax: +49 (0)8246 1049 E-mail service@funkwerk-avionics.com Website: http://shop.funkwerk-avionics.com

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0269</p> <p>Date: 04 September 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designations:
Honeywell International Inc.	MST 67A Mode 'S' transponder
ETSOA Number: None	
Foreign AD: None.	
Supersedes: CAA United Kingdom Additional AD 001-01-2003 and any corresponding EU Member State ADs that were issued in response to that AD.	
ATA 34	Navigation Systems – Mode S Transponder - Modification
Manufacturer	Honeywell International Inc.
Applicability	<p>Honeywell MST 67A Mode 'S' transponders having Part Numbers (P/N) 066-01143-1101, 066-01143-1201 and 066-01143-1301, Serial Nos 1141 and below, and P/N 066-01143-1602, Serial Nos 1503 and below.</p> <p>This equipment is known to be installed in, but not limited to, Learjet Inc. (Gates) 31A, Raytheon Aircraft Company (Beech) 200 series, Sabreliner Corporation (North American) NA-265 series and SAAB SF340A and 340B aircraft.</p>
Reason:	When the aircraft is interrogated by a ground radar system, the transponder does not reply correctly. This results in the ground radar system discarding the reply and not displaying the aircraft on the radar screen. To eliminate corruption in the PI field in Mode 'S', this directive requires the affected units to be modified so that a correct response to a Mode 'S' all call is produced.
Effective Date:	14 September 2006
Compliance:	<p>Required as indicated, unless previously accomplished in accordance with the requirements of CAA United Kingdom Additional AD 001-01-2003 or any corresponding EU Member State ADs that were issued in response to that AD.</p> <p>Within the next 15 days after the effective date of this directive, modify the MST 67A Mode 'S' transponder in accordance with the instruction contained in Honeywell Software Bulletin SWB MST 67A–SW2.</p>


Ref. Publications:	Honeywell Software Bulletin SWB MST 67A–SW2
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-171 for consultation on 05 July 2006 with a comment period until 24 July 2006. No comments were received during the consultation period.3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Honeywell International Inc. One Technology Center 23500 W.105th St -MS 37 Olathe Kansas 66061 USA

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0159</p> <p>Date: 25 August 2008</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>
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].	
Type Approval Holder's Name :	Type/Model designation(s) :
Honeywell International Inc.	MST-67A Mode-S Transponders
ETSO Approval Number : EASA.210.150	
Foreign AD : None	
Supersedure : None	
ATA 34	Navigation Systems – Mode-S Transponder – Modification / Replacement
Manufacturer(s):	Honeywell International Inc.
Applicability:	<p>MST-67A Mode-S Transponders Part Number (P/N) 066-01143-2001, serial numbers up to and including MST67A-F1450; and P/N 066-01143-2101, serial numbers up to and including MST67A-G2850, when installed in aircraft that must comply with Mode-S Enhanced Surveillance (EHS) operational requirements (see Note below).</p> <p>These transponders are known to be installed on, but not limited to, Cessna Model 550, 560 and 650 "Citation" series, Gulfstream Aerospace Corporation G-1159B, Gulfstream (IAI) Model 1125 "Astra", Hawker Beechcraft (Raytheon) Hawker 800 series and Sabreliner Corporation (North American) NA-265 series aircraft.</p> <p>Note: The requirements of Mode S EHS apply to IFR flights operated as General Air Transport (GAT) by fixed wing aircraft having a maximum take-off mass greater than 5 700 kg or a maximum cruising true airspeed in excess of 250 knots in the designated Mode-S EHS airspace in Europe, which at the moment includes Germany, France, the United Kingdom and The Netherlands. For more information regarding Mode-S EHS designated airspace, consult the Eurocontrol website at www.eurocontrol.int/mode-s and local Aeronautical Information Circulars (AIC).</p>
Reason:	The Honeywell MST-67A Transponder does not set bit 25 to 1 in the Mode-S Datalink Capability Report (also known as BDS 1,0) as required by ICAO Annex 10, Volume IV, Fifth Edition, July 2007. When the Mode S Secondary Surveillance Radars (SSR) receive the Datalink Capability Report with bit 25 set to zero, the Mode S SSR radar assumes that the Enhanced Surveillance

	<p>parameters are not available and therefore never requests the EHS downlink parameters from the aircraft.</p> <p>In addition, the Mode-S Sub network Version Number (MSSVN) is coded to zero, which prevents the Mode-S SSR radar from correctly decoding BDS registers 4,0, 5,0 and 6,0. The MSSVN should be coded to 'three' as the MST 67A is designed to be compliant with ICAO Annex 10, Volume IV, Fifth Edition, July 2007. As a result of these anomalies, the affected MST-67A units do not support Mode-S enhanced surveillance. This condition, if not corrected, could result in the Mode-S SSR radar detecting the aircraft as Elementary (ELS) only, creating disruptions in the Air Traffic Management process and potentially compromising aircraft safety.</p> <p>To address and correct this unsafe condition, Honeywell has developed software update 01/04, which is available for in-service application through Honeywell Service Bulletin (SB) MST 67A-34-56.</p> <p>For the reasons described above, this EASA AD requires a temporary Airplane Flight Manual (AFM) limitation to ensure the flight crew is aware of this anomaly, and the modification of all affected Honeywell MST-67A transponders to incorporate the new software update. After the installation of modified transponders, the limitation may be removed from the AFM.</p>
Effective Date:	08 September 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless previously accomplished:</p> <ol style="list-style-type: none"> (1) Before next flight after the effective date of this AD, amend the applicable AFM, Section Limitations, to incorporate the following: "MODE-S TRANSPONDER: KNOWN TRANSMISSION ANOMALY - NO EHS DAPS" This may be accomplished by inserting a copy of this AD into the applicable AFM, Section Limitations. After the effective date of this AD, each flight plan (item 18) should be amended accordingly. (2) Within 18 months after the effective date of this AD, modify the Honeywell MST-67A Transponders in accordance with Honeywell SB MST 67A-34-56, or replace the transponder with a unit incorporating Software 01/04. As an alternative, software version 01/03 may be used, provided that the owner/operator has determined that the aircraft is not affected by the problems identified in paragraph 1.C of Honeywell SB MST 67A-34-56. Honeywell Software Bulletin (SWB) MST 67A-SW5, Publication 605-07740-0050, pertains to this subject. Note: The wording in paragraph 1.C of Honeywell SB MST 67A-34-56 may lead to confusion. MST-67A Transponders with 01/03 software do accept Aircraft/Flight Identification Labels 233 through 236 with SSM set to '00', but will not accept the labels if SSM is set to '11'. (3) After installation of modified transponders on an aircraft as required by paragraph (2) of this AD, the limitation as required by paragraph (1) of this AD may be removed from the AFM of that aircraft. (4) After 04 March 2010, no person shall install a spare MST-67A Transponder, identified by part- and serial number in the Applicability section of this AD, on any aircraft operating under IFR in designated EHS airspace in Europe, unless it has been modified in accordance with Honeywell SB MST 67A-34-56 or Honeywell SWB MST 67A-SW5.
Ref. Publications:	<p>Honeywell Service Bulletin MST 67A-34-56, Publication number 605-07740-0060, Revision 0, dated 05 March 2008.</p> <p>Honeywell Software Bulletin MST 67A-SW5, Publication number 605-07740-0050, Revision 0, dated 07 November 2007.</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. This AD was posted on 23 July 2008 as PAD 08-080 for consultation until 20 August 2008. The Comment Response Document can be found at http://ad.easa.europa.eu.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: Honeywell International, Inc., 23500 W 105th Street, Olathe, Kansas 66061, United States of America Telephone (800) 601-3099 (USA) or +1 602 365-3099 (International), E-mail: ATS-CRC-Group@Honeywell.Com
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0156</p> <p>Issued: 31 May 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name :</p> <p>Honeywell International, Inc.</p>	<p>Type/Model designation(s) :</p> <p>Comm Units and Mode S Transponders</p>
ETSO Authorization Number: Various, including EASA.21O.006 (for XS-857A) and EASA.21O.012 (for RCZ-8XX).	
Foreign AD : United States FAA 2006-19-04	
Supersedure: This AD supersedes and cancels EASA AD 2005-0021.	
ATA 23	Communication – Comm Units & Transponders – Modification / Replacement
Manufacturer(s):	Honeywell International, Inc. [and any predecessor company]
Applicability:	<p>This Airworthiness Directive (AD) applies to :</p> <p>(1) RCZ-833J part numbers (P/Ns) 7510700-763 and -863; RCZ-833K P/Ns 7510700-765 and -875; RCZ-851J P/N 7510700-813; RCZ-851K P/N 7510700-815; and RCZ-854J P/Ns 7510700-725 and -825 Communication Units; and</p> <p>(2) XS-856A P/Ns 7517400-865 and -885; XS-856B P/Ns 7517400-866 and -886; and XS-857A P/Ns 7517400-876 and -896 Mode S Transponder Units.</p> <p>The referenced equipment is known to be installed on, but not limited to the following aeroplanes:</p> <p>BAE Systems (Operations) Ltd. Jetstream 4100 series; Bombardier BD-700-1A10 and BD-700-1A11; Cessna Model 525, 550, 560 and 650 series; Dassault Model Falcon 900EX and Falcon 2000EX series; EMBRAER Model EMB-135 and -145 series; Learjet Model 45; Lockheed Model 382G series; Raytheon Model Hawker 800, Hawker 800XP, and Hawker 1000 series.</p>

Reason:	<p>A design deficiency causes the transponder to revert to standby mode if a change of the 4096 ATC code (also referred to as the Mode A code) is not completed within 5 seconds. As a consequence, the SSR radar symbol and label associated with the aircraft's position will no longer be shown on the ATC ground radar display. Also, aircraft collision avoidance systems (ACAS) on board own and other aircraft will be compromised. Current operational procedures, typically, do not require the crew to recheck the transponder status after changing the 4096 ATC Code. This type of failure will increase ATC workload and will result in improper functioning of ACAS.</p> <p>EASA AD 2005-0021 was issued to require modification within 9 months of P/N 7510700-725, -763, -765, -813, -815, -825, -863 and -875 Communication units, or replacement thereof with modified units. This AD takes over this requirement for those P/N's and adds the P/N 7517400-865, -866, -876, -885, -886 and -896 Mode S Transponder Units now addressed by FAA AD 2006-19-04.</p>
Effective Date:	14 June 2007
Compliance:	<p>Unless accomplished previously in accordance with either EASA AD 2005-0021 or FAA AD 2006-19-04, compliance is required as follows:</p> <p>(1) For aeroplanes equipped with Honeywell RCZ-833J, RCZ-833K, RCZ-851J, RCZ-851K or RCZ-854J Communication Units, P/N's as listed in part (1) of the applicability section of this directive:</p> <p>(a) Within 5 days after 01 August 2005 [the effective date of EASA AD 2005-0021], amend the applicable Airplane Flight Manual, Normal Procedures Section, to include the following statement:</p> <p>"After completion of any 4096 ATC Code change (also referred to as Mode A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."</p> <p>(b) Within 9 months after 01 August 2005 [the effective date of EASA AD 2005-0021], modify the affected Communications Units in accordance with the instructions contained in Honeywell Alert Service Bulletin (ASB) A24-3851-002 or ASB A24-3851-005, as applicable;</p> <p>Note 1: Accomplishment of the modification or replacement with a modified unit in accordance with the instructions contained in Honeywell ASB 7510700-23-A0048 and, as necessary, ASB 7517400-23-A6015 Revision 001 is an acceptable alternative to the requirements of paragraph (1)(b) of this directive.</p> <p>(c) Concurrently with the modification or replacement as required by paragraph (1)(b) of this directive, but not later than 9 months after the effective date of this directive, replace the XS-852E/F mode S transponder of the COM unit with a new or modified XS-852E/F mode S transponder that has MOD V installed, in accordance with Honeywell Alert Service Bulletin 7510700-23-A0047 Revision 001, dated July 29, 2005.</p> <p>(2) For all airplanes, unless already accomplished in accordance with paragraph (1)(a) of this directive:</p> <p>(a) Within 5 days after the effective date of this directive, amend the applicable Airplane Flight Manual, Normal Procedures Section, to include the following statement:</p> <p>"After completion of any 4096 ATC Code change (also referred to as Mode</p>

	<p>A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."</p> <p>(3) For aircraft equipped with Honeywell XS-856A, XS-856B or XS-857A Mode S Transponder Units, P/N's as listed in part (2) of the applicability section of this directive:</p> <p>(a) Unless already accomplished in accordance with the requirements of FAA AD 2006-19-04, within 9 months after the effective date of this directive, replace the modification plate of the transponder with a new plate and test the transponder, in accordance with the Accomplishment Instructions of Honeywell Alert Service Bulletin 7517400-23-A0017, dated January 23, 2006. If the transponder fails the test, before further flight, reinstall MOD Y into the transponder as specified in paragraph (3)(b) of this directive.</p> <p>(b) Before or concurrently with the actions required by paragraph (3)(a) of this directive, install MOD Y into the applicable mode S transponder, in accordance with the Accomplishment Instructions of Honeywell Alert Service Bulletin 7517400-23-A6016, dated August 30, 2005.</p> <p>(4) After accomplishing the replacements or modifications required by paragraph (1)(b) and/or (2)(b) and (3) of this directive, as applicable, the AFM amendment required by paragraph (1)(a) and/or (2)(a) of this directive may be removed from the AFM.</p>
Ref. Publications:	<p>Honeywell Technical Newsletter A23-1146-004; Honeywell Alert Service Bulletin (ASB) A21-3851-002; Honeywell ASB A24-3851-005; Honeywell ASB 7510700-23-A0047 Rev.1; Honeywell ASB 7510700-23-A0048; Honeywell ASB 7517400-23-A0017; Honeywell ASB 7517400-23-A6015 Rev.1; Honeywell ASB 7517400-23-A6016; or later approved revisions thereof.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted on 14 May 2007 as PAD 07-085 for consultation until 28 May 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Honeywell International, Inc., Customer Service Technical Operations Center, 21111 N. 19th Avenue, Phoenix, Arizona 85027-2708, United States of America; telephone (USA and Canada) 1-800-601-3099 or (International) 1-602-365-3099.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006–0286R1</p> <p>Date: 22 March 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Approval Holder's Name:</p> <p>INTERTECHNIQUE, Zodiac Aircraft Systems</p>	<p>Type/Model designations:</p> <p>Oxygen Reserve Cylinders</p>
TCDS Number: Not applicable.	
Foreign AD: Not applicable.	
Revision/Supersedure: This AD revises and supersedes Emergency AD (EAD) 2006-0286-E dated 21 September 2006, including the 2 corrected versions thereof which were subsequently published.	
ATA 35	Oxygen - Oxygen Reserve Cylinders – Removal/Emptying
Manufacturer(s):	INTERTECHNIQUE (F5341)
Applicability:	Oxygen Reserve Cylinders having Part Number (P/N) GLF(XXX)-(X), GLD(XXX)-(X), PC2300 and SLF300, which are known to be installed on, but not limited to Airbus A300 series aircraft; Dassault Aviation (AMD-BA) Mystère-Falcon 20, Mystère-Falcon 50, Falcon 200 and Falcon 900 aircraft; Pilatus aircraft; Eurocopter SA 315 B and AS 350 B3 helicopters; and Hindustan Aeronautics Limited helicopters.
Reason:	<p>This Airworthiness Directive (AD) is issued following information concerning the risk of high-pressure oxygen cylinder tearing with sudden emptying. These cylinders are used for missions at high altitudes or to ensure respiratory aid for passengers feeling sick.</p> <p>It has been demonstrated that the material characteristics of the Aluminium Alloy 5283 (AA5283) from which the cylinders are manufactured deteriorate in the course of time and may possibly lead these oxygen cylinders to tear and abruptly vent aboard an aircraft.</p> <p>This AD has been revised to avoid unnecessary aircraft-on-ground situations and extends the compliance time in paragraph 1.2 from 6 months to 12 months.</p>
Effective Date:	25 September 2006

Compliance:	<p>Required as indicated, unless accomplished previously in accordance with EAD 2006-0261-E or EAD 2006-0286-E:</p> <ol style="list-style-type: none"> Before the next flight, identify the year of manufacture of each affected P/N oxygen reserve cylinder made of AA5283 and remove it from the aircraft at the time indicated below: <ol style="list-style-type: none"> When operated in salt-laden atmospheric conditions (contact with sea water, spindrift, etc.), upon accumulating 15 years TIS since manufacture, or within 15 days after the effective date of this AD, whichever occurs later; or When operated in normal climatic conditions, upon accumulating 25 years time-in-service (TIS) since manufacture date, or within 12 months after the effective date of this AD, whichever occurs later; or When the TIS cannot positively be established, within 15 days after the effective date of this directive. Immediately after removal from the aircraft, empty the oxygen reserve cylinder in accordance with the instructions described in INTERTECHNIQUE Service Bulletin (SB) GLD/GLF-35-150 dated 20 September 2006. For Oxygen Reserve Cylinders held as spares, identify the year of manufacture of each affected P/N oxygen reserve cylinder made of AA5283 and empty all oxygen reserve cylinders that have reached or exceeded 25 years after manufacture, in accordance with the instructions described in INTERTECHNIQUE SB GLD/GLF-35-150 dated 20 September 2006. After the effective date of this AD, no Oxygen Reserve Cylinder with P/N as affected by this AD may be installed in any aircraft as replacement part, except within the TIS or time since manufacture limits as specified by paragraphs 1.1, 1.2 and 3 of this directive.
Ref. Publications:	<p>INTERTECHNIQUE Service Bulletin GLD/GLF-35-150 ; and EUROCOPTER AS 350 Alert Service Bulletin No. 05.00.54, EUROCOPTER SA 315 Alert Service Bulletin No. 05.42, or any subsequent approved revision of these documents.</p>
Remarks:	<ol style="list-style-type: none"> If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. Enquiries regarding this AD should be addressed to AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. For any questions concerning the technical content of the requirements in this AD, please contact: INTERTECHNIQUE, Zodiac Aircraft Systems, 61 rue Pierre Curie BP 1, 78373 Plaisir Cedex France; telephone +33 (0)1-3054-8200; facsimile + 33 (0)1-3055-7161; email: apyrault@intertechnique.zodiac.com; or EUROCOPTER (STDI) - Aéroport de Marseille Provence 13725 Marignane Cedex – France; telephone +33 (0)4-4285-9797 ; facsimile +33 (0)4-4285-99-66; e-mail: Directive.technical-support@eurocopter.com.



United Kingdom Civil Aviation Authority

EMERGENCY AIRWORTHINESS DIRECTIVE

AD No: G-2008-0001

Issue Date: 9 January 2008

This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 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:	Type/Model Designation(s):
LINDSTRAND HOT AIR BALLOONS LTD (LHAB)	ALL LINDSTRAND HOT AIR BALLOONS

Type Certificate Data Sheet No: EASA BA501, BA502, BA503, BA504, BA505, BA506, BA120 and BA021

Superseded AD: G-2003-0010

ATA 28 - FUEL HOSES - REPLACEMENT OF DEFECTIVE HOSES

Manufacturer(s): Flexquip

Applicability: Lindstrand supplied burner hoses manufactured by Flexquip as identified in LHAB Service Bulletin (SB) No. 11.

Reason: Defective burner hoses have been identified which might develop a leak. A significant leak, if it was ignited, could hazard the balloon and occupants.

Since the issue of AD G-2003-0010 there have been occurrences of hose failure in batches not identified in the earlier bulletins. LHAB Service Bulletin (SB) No 11 supersedes the earlier SBs and revises the applicability as required.

Effective Date: 12 January 2008

Compliance/Action: The following measures are mandatory from the effective date of this AD: -


- (1) Before further flight inspect any balloon burners to determine whether it has a hose from the affected batch - see LHAB SB No.11,
 - (2) For hoses from the affected batch, carry out the inspection and test identified in LHAB SB No.11, replace any defective hose with a serviceable hose.
 - (3) For hoses from the affected batch, at an interval of not more than ten flight hours, repeat the inspection and test identified in LHAB SB No.11. Replace any defective hose with a serviceable hose.
- and
- (4) For hoses from the affected batch, at or before the next annual inspection, replace the hose with a serviceable one.

Note

Hoses removed as defective should be made unusable.

Reference Publications: LHAB Service Bulletin No 11, may be obtained from Lindstrand Hot Air Balloons Ltd, Maesbury Road, Oswestry, Shropshire, SY10 8ZZ. Tel: +44 1691 671717, Fax: +44 1691 671122.

Remarks: Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573292 Fax: +44 (0) 1293 573976.

EASA	AIRWORTHINESS DIRECTIVE																								
	<p>AD No.: 2006-0140R4</p> <p>Date: 17 April 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>Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB</p>	<p>Type/Model designation(s) :</p> <p>CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive.</p>																								
TCDS Number :	A number of Supplemental Type Certificates (STCs) have been identified that are affected by the requirements of this AD. For clarity, these are listed in the Applicability paragraph (Table 1) of this directive.																								
Foreign AD :	None																								
Revision :	This AD revises and replaces EASA AD 2006-0140R3 dated 19 February 2009																								
ATA 21	Air Conditioning - Zonal Drying System Deactivation																								
Manufacturer(s):	CTT Systems AB																								
Applicability:	<p>CTT Systems AB Zonal Drying System P/N 1000-001, 2000-000, 2000-005, 2001-001, 2001-006, 3000-000 Rev.A, 3000-001, 3000-002 Rev.A and 3000-002 Rev.D, known to be installed in, but not limited to, Airbus A330-243 and A330-322; Boeing 737-700, 737-800, 747-400, and 767-300 series; Bombardier CL-600-2B19; and McDonnell Douglas MD-11 series aeroplanes.</p> <p>The following STCs have been identified to be affected by the requirements of this AD:</p> <p style="text-align: center;">Table 1</p> <table border="1"> <thead> <tr> <th>STC Number</th><th>Issued by</th><th>Holder</th><th>Applicable to</th></tr> </thead> <tbody> <tr> <td>TA0259</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Airbus A330-322 (s/n 120)</td></tr> <tr> <td>LBA.21E2.TA0270</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Bombardier CL-600-2B19</td></tr> <tr> <td>LBA.21E2.TA0307</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Boeing 737-700</td></tr> <tr> <td>LBA.21E2.TA0609</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Airbus A330-243</td></tr> <tr> <td>LBA.21E2.TA0636*</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Boeing 737-800</td></tr> </tbody> </table>	STC Number	Issued by	Holder	Applicable to	TA0259	LBA	Lufthansa Technik AG	Airbus A330-322 (s/n 120)	LBA.21E2.TA0270	LBA	Lufthansa Technik AG	Bombardier CL-600-2B19	LBA.21E2.TA0307	LBA	Lufthansa Technik AG	Boeing 737-700	LBA.21E2.TA0609	LBA	Lufthansa Technik AG	Airbus A330-243	LBA.21E2.TA0636*	LBA	Lufthansa Technik AG	Boeing 737-800
STC Number	Issued by	Holder	Applicable to																						
TA0259	LBA	Lufthansa Technik AG	Airbus A330-322 (s/n 120)																						
LBA.21E2.TA0270	LBA	Lufthansa Technik AG	Bombardier CL-600-2B19																						
LBA.21E2.TA0307	LBA	Lufthansa Technik AG	Boeing 737-700																						
LBA.21E2.TA0609	LBA	Lufthansa Technik AG	Airbus A330-243																						
LBA.21E2.TA0636*	LBA	Lufthansa Technik AG	Boeing 737-800																						

	TA0733	LBA	Lufthansa Technik AG	Boeing 747-400
	SA 0003 NL	RLD	CTT Systems AB	McDonnell Douglas MD-11
	SA 0009 NL **	RLD	CTT Systems AB	Boeing 767-300
	EASA.A.S.02547	EASA	CTT Systems AB	Boeing 767-300
	Z 21-74-01	FOCA	SR Technics, TEC	McDonnell Douglas MD-11
	Z 25-20-77	FOCA	Jet Aviation Basel, AG	Boeing 737-700 (s/n 32627)
<p>* LBA.21E2.TA0636 was approved by EASA under Approval Number 2004-4416.</p> <p>** RLD STC SA 0009 NL has been superseded by EASA.A.S.02547 on March 1, 2006.</p> <p>Note: The approval list for the installation of the affected Zonal Drying System in Table 1 may be not exhaustive. In case the relevant aircraft are not listed therein, this does not exempt any aircraft having an affected Zonal Drying System P/N installed from compliance with this directive.</p>				
Reason:	<p>One incident had been reported where the regeneration air ducting downstream of a Zonal Drying System P/N 3000-002, installed in a Boeing 747-400 aircraft, showed signs of premature material failure. As the root cause for the failure was initially not known, all other Zonal Drying Systems of similar design could have been affected by the same unsafe condition, therefore EASA AD 2006-0140-E mandated their de-activation.</p> <p>Investigation showed that such failure was caused by combustion of contaminants in the dryer unit.</p> <p>Revision 1 was issued following the development of a new dryer unit which removes this combustion risk.</p> <p>The installation of the new dryer unit is approved through the EASA STCs listed in Table 2 of the Required action and Compliance Time section of this AD and once installed in a subject aircraft corrects the unsafe condition and terminates the requirements of EASA AD 2006-0140-E. Consequently, the Zonal Drying System can be re-activated.</p> <p>Revision 2 was issued to correct the number of one STC listed in the Applicability section of this AD: it was No. Z 25-02-77 , it is No. Z 25-20-77.</p> <p>Revision 3 was issued to add two STCs in Table 2 of the Required action and Compliance Time section terminating the requirements of paragraph 1. of this AD.</p> <p>This Revision 4 is issued to add one more STC terminating the requirements of paragraph 1. and to update the revision number of STC EASA.A.S.02547 in Table 2 of the Required action and Compliance Time section of this AD.</p>			
Effective Date:	25 May 2006			
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1. Before next flight after the effective date of this directive, switch off the Zonal Drying System installed in accordance with one of the STCs listed in Table 1 of the Applicability section of this AD and set system inoperative by pulling and securing the affected circuit breaker in accordance with relevant maintenance instructions. 2. On aircraft where the following STCs are installed, the requirements of paragraph 1. of this AD are no longer applicable and the Zonal Drying System accordingly modified can be re-activated: 			

	<table><tr><th colspan="4">Table 2</th></tr><tr><th>STC Number</th><th>Issued by</th><th>Holder</th><th>Applicable to</th></tr><tr><td>EASA.A.S.03502 Revision 1</td><td>EASA</td><td>Lufthansa Technik AG</td><td>Bombardier CL-600-2B19</td></tr><tr><td>EASA.A.S.03504 Revision 1</td><td>EASA</td><td>Lufthansa Technik AG</td><td>Boeing 737-700</td></tr><tr><td>EASA.A.S.03505 Revision 1</td><td>EASA</td><td>Lufthansa Technik AG</td><td>Boeing 737-800</td></tr><tr><td>EASA.A.S.03506 Revision 1</td><td>EASA</td><td>Lufthansa Technik AG</td><td>Boeing 747-400</td></tr><tr><td>EASA.A.S.03507 Revision 1</td><td>EASA</td><td>Lufthansa Technik AG</td><td>Airbus A330-200</td></tr><tr><td>EASA.A.S.02547 Revision 2</td><td>EASA</td><td>CTT Systems AB</td><td>Boeing 767-300</td></tr><tr><td>EASA.A.S.03738</td><td>EASA</td><td>CTT Systems AB</td><td>Boeing MD 11</td></tr><tr><td>EASA.A.S.03844 Revision 1</td><td>EASA</td><td>Jet Aviation AG</td><td>Boeing 737-700 IGW (s/n 32627)</td></tr></table>	Table 2				STC Number	Issued by	Holder	Applicable to	EASA.A.S.03502 Revision 1	EASA	Lufthansa Technik AG	Bombardier CL-600-2B19	EASA.A.S.03504 Revision 1	EASA	Lufthansa Technik AG	Boeing 737-700	EASA.A.S.03505 Revision 1	EASA	Lufthansa Technik AG	Boeing 737-800	EASA.A.S.03506 Revision 1	EASA	Lufthansa Technik AG	Boeing 747-400	EASA.A.S.03507 Revision 1	EASA	Lufthansa Technik AG	Airbus A330-200	EASA.A.S.02547 Revision 2	EASA	CTT Systems AB	Boeing 767-300	EASA.A.S.03738	EASA	CTT Systems AB	Boeing MD 11	EASA.A.S.03844 Revision 1	EASA	Jet Aviation AG	Boeing 737-700 IGW (s/n 32627)
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STC Number	Issued by	Holder	Applicable to																																						
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EASA.A.S.03504 Revision 1	EASA	Lufthansa Technik AG	Boeing 737-700																																						
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EASA.A.S.03844 Revision 1	EASA	Jet Aviation AG	Boeing 737-700 IGW (s/n 32627)																																						
Ref. Publications:	<p>CTT Systems AB Information Letters IL06-01 dated May 5, 2006, IL06-02 issue 2 dated May 8, 2006 and IL06-03 dated May 10, 2006; and (for Lufthansa Technik STCs only) Lufthansa Technik AG Service Information Letter LHT 06-001, Revision IR dated May 12, 2006.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>																																								
Remarks :	<p>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</p> <p>2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification.</p> <p>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 .</p> <p>4. For any question concerning the technical content of the requirements in this AD, please contact CTT Systems AB P.O. Box 1042, S-611 29 Nyköping, Sweden – Ph.+46-(0)155-205900, Fax +46-(0)155-205925, E-mail: ctt@ctt.se or (for Lufthansa Technik STCs) Lufthansa Technik AG - Hamburg, Germany. Ph.: +49-(0) 40-5070-4747, Fax.: +49 (0) 40-5070-4855. E-mail: bernd.staffel@lht.dlh.de .</p>																																								

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United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2003-0008

Issue Date: 17 September 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 9(7)(b) of the Air Navigation Order 2000 as amended the following action required by 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:

Type/Model Designation(s):

MANN AVIATION GROUP (ENGINEERING) LTD

CAMERA SYSTEM INSTALLATION

Type Certificate Data Sheet No: None

ATA 25 - CAMERA SYSTEM INSTALLATION - RE-WORK OF THE TAIL ROTOR AND CYCLIC CONTROL CUT-OUTS OF THE FLOOR MOUNTED PLATFORM PANEL

Manufacturer(s): Mann Aviation Group (Engineering) Ltd (MAG(E))

Applicability: Eurocopter Model AS350 and AS355 helicopters, certificated in any category that have been modified in accordance with MAG(E) modification 350-1521 or 350-1680. Installation of Camera platform.

Reason: MAG(E) have been made aware that, in one case, clearance between the Mounting Panel cut-outs and the primary controls was inadequate. This could potentially result in restriction or jamming of the pedals or cyclic control.

Effective Date: Upon receipt from 18 September 2003.

Compliance/Action:

- a. Required before further flight from the effective date of this AD, inspect helicopters which have MAG(E) modification 350-1521 or 350-1680 installed for continued short term acceptability in accordance with paragraph 2A of MAG(E) SB-A25-001. Platform panels bearing part number 350-1521-103, which do not have the specified clearance, must be removed from service immediately.
- b. Panels with Part Number 350-1521-103 held in store or those which have been removed in accordance with paragraph (a) must before next installation or within 30 days of the effective date of this AD whichever is sooner, be modified in accordance with the INSTRUCTIONS given in paragraph 2 of MAG(E) SB-A25-001.
- c. For Panels inspected in accordance with paragraph (a) that have remained installed, within 30 days of the effective date of this AD, modify the Panel Part Number 350-1521-103 in accordance with the INSTRUCTIONS given in paragraph 2 of MAG(E) SB-A25-001.

continued on next page

G-2003-0008

page 2 of 2

Reference Publications: MAG(E) Service Bulletin, SB-A25-001 Issue 1, may be obtained from: Mann Aviation Group (Engineering) Ltd, Fair Oaks Airport, Chobham, Woking, GU24 8HX, United Kingdom. Phone : +44 (0) 1276 857888 Fax: +44 (0) 1276 857810 E-mail: engineering@alanmann.co.uk

Remarks: Enquires regarding this AD should be referred to Mr N Williams, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573292 Fax: +44 (0)1293 573976 E-mail: neil.williams@srg.caa.co.uk

Note: This Directive was issued as an Emergency AD on 17 September 2003.



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2004-0019

Issue Date: 27 July 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 2004-7852 on 22 July 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:

Type/Model Designation(s):

MANN AVIATION GROUP (ENGINEERING) LTD

CAMERA SYSTEM INSTALLATION

Type Certificate Data Sheet No: None

Superseded/ Revised ADs: None

ATA 25 - CAMERA SYSTEM INSTALLATION - REPLACEMENT OF FLOOR MOUNTED PLATFORM PANEL HOLD DOWN HOOK AND MODIFICATION OF PLATFORM BEAM

Manufacturer(s): Mann Aviation Group (Engineering) Ltd (MAG(E))

Applicability: Eurocopter Model AS350 and AS355 helicopters, certificated in any category that have been modified in accordance with MAG(E) modification 350-1521, 350-1680 or 350-1707. Installation of Camera platform.

Reason: MAG(E) have been made aware of failures of an old standard of the camera platform hold down hook (p/n 350-1521-109). Failure of the hook could result in inadequate retention of the platform and camera that might hazard the aircraft. A new standard of hook (p/n 350-1521-139) replaces the defective item.

The design investigation has also highlighted a deficiency in the way that the hold down hook interfaces with the aircraft and platform, this is resolved by re-working the platform beam.

Effective Date: 5 August 2004

Compliance/Action: Within three months after the effective date of this Airworthiness Directive (AD), accomplish the following tasks in accordance with paragraph a and b of this AD:

- (a) Inspect the camera platform hold down hook to determine the standard of hook installed, in accordance with paragraph 2 of MAG(E) Service Bulletin SB-A25-002, Issue 1, dated 20 May 2004 or later EASA approved revision. If a part number 350-1521-109 hook is found to be installed, replace the -109 hook with a Part Number 350-1521-139 hook in accordance with MAG(E) Service Bulletin SB-A25-002, Issue 1 or later EASA approved revision.
- (b) Modify the Mounting Arm in accordance with MAG(E) Service Bulletin SB-A25-002, Issue 1 or later EASA approved revision.


continued on next page

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Reference Publications: MAG(E) Service Bulletin, SB-A25-002, Issue 1, dated 20 May 2004, may be obtained from Mann Aviation Group (Engineering) Ltd, Fair Oaks Airport, Chobham, Woking, GU24 8HX, United Kingdom. Phone : +44 (0) 1276 857888 Fax: +44 (0) 1276 857810 E-mail: engineering@alanmann.co.uk


Remarks: Enquires regarding this AD should be referred to Mr. N Williams, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573292 Fax: +44 (0)1293 573976 E-mail: neil.williams@srg.caa.co.uk

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006-0328 Issued: 23 October 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : MESSIER BUGATTI	Type/Model designation(s) : Main Landing Gear (MLG) Wheel Assembly Part Numbers (P/N) C20500000 and P/N C20452000.
Equipment approval Number(s): DGAC France QAC 141 ref. 951610 dated 7 April 1995 and 983406 dated 22 June 1998.	
Foreign AD : Not applicable.	
Supersedure : Not applicable.	
ATA 32	Landing Gear – Main Landing Gear Wheel Assembly – Inspection/Repair
Manufacturer(s):	Messier-Goodrich S.A.; Goodrich-Messier Inc.
Applicability:	Messier-Goodrich S.A. or Goodrich-Messier Inc. Main Landing Gear (MLG) Wheel Assemblies having P/N C20500000 and P/N C20452000, known to be installed on, but not limited to, AIRBUS A321 series aircraft.
Reason:	<p>Some operators have reported wheel corrosion, mainly under the heat-shield overlap area. In some cases a circular crack initiated from a corrosion pit. When the crack is initiated under the bead seat, it does not lead to tire pressure loss, and can cause a flange separation as experienced by few operators.</p> <p>This Airworthiness Directive (AD) mandates the inspection and, if necessary, repair of the MLG wheel assembly.</p>
Effective Date:	02 November 2006


Compliance:	<ol style="list-style-type: none"> 1. At each tire change after the effective date of this directive, inspect the MLG wheel assembly in accordance with the instructions of MESSIER-BUGATTI and GOODRICH Service Bulletin (SB) C20452-32-3254. 2. If damage is found, before next flight, repair the MLG wheel assembly in accordance with the instructions of MESSIER-BUGATTI and GOODRICH SB C20452-32-3254.
Ref. Publications:	MESSIER-BUGATTI and GOODRICH Service Bulletin C20452-32-3254 Revision 2 or any later approved revision.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-215 for consultation on 19 September 2006 with a comment period until 03 October 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, 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 AIRBUS - Fax 33 5 61 93 44 51 or contact MESSIER-GOODRICH – tech-pub@messier-bugatti.com.

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0100</p> <p>Date: 04 May 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
MICROTURBO	SAPHIR 2 Auxiliary Power Units
TSO authorization : Letter 4188 DTA/M dated 19 July 1971	
Foreign AD :	Not applicable
Supersedure :	None
ATA 49	Auxiliary Power Unit – Exhaust Thermal Insulation – Replacement
Manufacturer(s):	Microturbo
Applicability:	<p>Microturbo SA Saphir 2 Model 016 Auxiliary Power Units (APUs) on which the exhaust thermal insulation has been replaced since 01 January 1995.</p> <p>These APUs are known to be installed on, but are not limited to, Dassault Falcon 20 aeroplanes.</p>
Reason:	<p>Due to a lapse in manufacturing quality control, the exhaust thermal insulation of certain Microturbo SA Saphir 2 Model 016 APUs may not meet the approved design standard, and may fail in service. The affected part numbers are 016-33-01 (Inner Thermal Insulation), 016-33-02 (Outer Thermal Insulation) and 016-33-03 (EGT Sensor Thermal Insulation). Only parts replaced since 1995 are affected.</p> <p>This condition, if not corrected, could result in rapid deterioration and physical breakdown of the exhaust thermal insulation, leading to loss of insulation efficiency and ultimately exposure of the hot APU exhaust section and risk of fire.</p> <p>Since the issue of Safety Information Notice (SIN) 2007-23, EASA has issued AD Policy (document C.Y001-01 dated 28 July 2008), confirming the Agency to be competent to issue Mandatory Continuing Airworthiness Information to require correction of unsafe conditions resulting from production and/or maintenance deficiencies.</p>

	For the reasons described above, this AD replaces SIN 2007-23, requiring the inspection and replacement of affected exhaust thermal insulation.
Effective Date:	18 May 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless accomplished previously.</p> <ol style="list-style-type: none"> 1. Within 10 APU operating hours from the effective date of this AD, if the exhaust thermal insulation has been replaced since 01 January 1995, inspect the exhaust thermal insulation for signs of deterioration. Repeat the inspection at intervals not exceeding 10 APU operating hours. If deterioration is detected, replace the exhaust thermal insulation before operating the APU again, in accordance with the accomplishment instructions in the referenced Microturbo Alert Service Bulletin. 2. Within 50 APU operating hours from the effective date of this AD, if the exhaust thermal insulation has been replaced since 01 January 1995, replace the exhaust thermal insulation in accordance with the accomplishment instructions in the referenced Microturbo Alert Service Bulletin.
Ref. Publications:	<p>Microturbo Alert Service Bulletin 49-11A76 Revision 1, dated 6 September 2007</p> <p>The use of later approved revisions of this document 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. This AD was posted on 20 February 2009 as PAD 09-043 for consultation until 20 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 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: MICROTURBO - Support Clients, 8, Chemin du pont de Rupé, BP 62089 31019 Toulouse - Cedex 2 – FRANCE Telephone +33 (0)5 61 37 55 00; Fax: +33 (0)5 61 70 74 45 E-mail technical.support@microturbo.fr

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0200 Date: 08 September 2009 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 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name :	Type/Model designation(s) :
Narco Avionics Inc.	AT-150 transponders
ETSO Authorisation Number: LBA 10.930/34 and CAA UK VC00245	
Foreign AD:	FAA AD 2004-08-16, dated 16 April 2004.
Supersedure :	None
ATA 34	Navigation – Mode A/C Transponder – Check / Modification
Manufacturer(s):	Narco Avionics Inc.
Applicability:	Narco Avionics Inc AT-150 Mode-A/C transponders, all Part numbers, all Serial Numbers. These transponders are known to be installed on, but not limited to, aircraft certificated (validated) by EASA under CS 23, and aircraft certificated (validated) by EU Member States or associated countries prior to 28 September 2003 under equivalent National Standards.
Reason:	EASA has received reports of significantly erroneous Mode C altitude replies to Secondary Surveillance Radar (SSR) interrogations from aircraft equipped with Narco Avionics AT-150 Mode A/C Transponders. The defect occurs sporadically and may be apparent only during limited periods of a given flight. The erroneous Mode C replies are derived from the transmission of internal register contents that are corrupted. If the transponder incorrectly interprets a P4 pulse as a P2 Side Lobe Suppression (SLS) pulse, then replies to interrogations will be suppressed. If a Mode A interrogation reply is suppressed by the AT-150 in this way, the reply generator registers can retain the (unsent) Mode A data and new Mode C data is added to it before being transmitting as an erroneous Mode C value following interrogation. Narco Avionics AT-150 Service Bulletins (SB) No.1 and No.6 are technically equivalent and add a resistor and a transistor to the decode circuit that ensures that the transponder can differentiate between a P2 and a P4 interrogation pulse. Narco Avionics SB AT150 No. 6 was previously mandated by FAA AD 2004-08-16 (to address performance issues with Mode S stations and TCAS)


	<p>and if embodied is considered effective. SB AT150 No. 6 was only applicable to a limited range of serial numbers and an equivalent design change should be embodied on later production transponders at manufacture.</p> <p>However during investigation of the erroneous Mode C replies it was evident that some transponders outside of the applicability range of SB No.6 may not have the intended configuration of decoder circuit either.</p> <p>The intention of this AD is therefore to ensure that all AT-150 transponders, irrespective of serial number, have the effective configuration of decoder circuit.</p>
Effective Date:	22 September 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1. Within 12 months after the effective date of this AD, conduct the tests prescribed in the 'Testing the Modification' section of Narco Avionics SB AT150 No. 6 to ensure that the transponder decoder circuit configuration is to the standard equivalent to post-embodiment of Narco Avionics SB AT150 No. 6. <p><i>Note: Depending upon the origin of the installation of the resistor and transistor, they may be designated as RSB6 and QSB6 or R508 and Q415.</i></p> <ol style="list-style-type: none"> 2. If the test reveals that the transponder decoder circuit configuration is not to the standard equivalent to post-embodiment of Narco Avionics SB AT150 No. 6: <ol style="list-style-type: none"> 2.1. Modify those units of applicable serial numbers in accordance with the corrective action of Narco Avionics SB AT150 No. 6. 2.2. Contact Narco Avionics Inc. for instructions and corrective actions for units outside of Narco Avionics SB AT150 No. 6 serial number applicability range. 3. After the effective date of this AD, all AT-150 transponders must have decoder circuits confirmed to meet the post SB AT150 No. 6 configuration and operation before re-installation on aircraft. 4. Corrective actions done before the effective date of this AD and in accordance with the instructions of Narco Avionics SB AT150 No. 6 are acceptable for compliance with the requirements of this AD.
Ref. Publications:	<p>Narco Avionics Service Bulletin AT150 No.1, dated 29 July 1977</p> <p>Narco Avionics Service Bulletin AT150 No. 6, dated 31 January 2003</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. This AD was posted on 31 July 2009 as PAD 09-095 for consultation until 28 August 2009. No comments were received during the consultation period. 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: Narco Avionics Inc, 270 Commerce Drive, Suite 200, Fort Washington, PA 19034, United States of America, PHONE +1-295-643-2905, FAX (215)-643-0197, Website: www.narco-avionics.com

EASA	AIRWORTHINESS DIRECTIVE												
	<p>AD No.: 2007 - 0256</p> <p>Date: 19 September 2007</p>												
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.													
Type Approval Holder's Name:	Type/Model designations:												
Pacific Scientific Company, HTL/KIN-TECH Division	Restraint Systems: 2000029, 2000067, 2000115												
TSOA Number: various ETSOA Number: various, e.g. CAA UK Approval Number AR01193, AR0197, AR01199.													
Foreign AD: None													
Supersedure: None													
ATA 25	Equipment and Furnishing - Seat Restraint System Plastic Rotary Buckle Handle - Inspection/Replacement												
Manufacturer:	Pacific Scientific Company												
Applicability:	<p>All the Pacific Scientific rotary buckles p/n's 1111430-XX and 1111475-XX used on restraint systems p/n's:</p> <table border="0"> <tr> <td>2000029-01</td> <td>2000067-01</td> <td>2000115-101</td> </tr> <tr> <td>2000029-03</td> <td></td> <td>2000115-121</td> </tr> <tr> <td>2000029-101</td> <td></td> <td></td> </tr> <tr> <td>2000029-121</td> <td></td> <td></td> </tr> </table> <p>manufactured from November 2004 through May 2007 inclusive.</p> <p>These p/n's are known to be installed on, but not limited to, Eurocopter a/c models AS 350, AS 355, EC120, EC 130, EC 155.</p> <p>The applicability of this AD is limited to rotorcraft only and is not intended for aeroplanes.</p>	2000029-01	2000067-01	2000115-101	2000029-03		2000115-121	2000029-101			2000029-121		
2000029-01	2000067-01	2000115-101											
2000029-03		2000115-121											
2000029-101													
2000029-121													
Reason:	<p>Pacific Scientific has received field reports of several instances of cracking on the guarded rotary buckle assembly plastic handle part numbers 1111430-XX and 1111475-XX with a date of manufacture from November 2004 through May 2007 inclusive.</p> <p>Preliminary testing performed by Pacific Scientific on buckle assemblies with cracked plastic handles indicates that in some circumstances when a load is</p>												


	<p>placed on the restraint system, the straps may not release as intended when the buckle is rotated.</p> <p>These circumstances are:</p> <ul style="list-style-type: none"> • a passenger who weights more than 50 kg and • an aircraft upside down. <p>This could therefore result in a potential unsafe condition in event of an emergency landing or when the occupant is bearing on the buckle.</p> <p>The above is considered possible to take place for helicopters only and not for large aeroplanes.</p> <p>This AD requires identification of all affected buckles, an inspection for cracks and ultimate replacement of the entire batch of suspect buckles.</p>
Effective Date:	03 October 2007
Compliance:	<p>Required as follows, unless already accomplished, in accordance with the instructions of Pacific Scientific SB 25-1111432 original issue dated May 22, 2007:</p> <ol style="list-style-type: none"> 1. within 30 days after the effective date of this AD, inspect the seat restraint systems, installed on seats or held as spare, to identify if the buckles part numbers are those affected by this AD; if yes, check the buckles for integrity. 2. Immediately replace any cracked buckle with an airworthy part or mark the seat as "un-operative". 3. In the 6 months following the effective date of this AD repeat inspection of the buckles affected by this AD before any flight and immediately replace them with an airworthy part if any start of cracking is detected or mark the seat as "un-operative". Not later than 6 months after the effective date of this AD, replace all rotary buckles, as identified in the Applicability section of this AD, with an airworthy part. 4. After 6 months from the effective date of this AD, no person may install on any aircraft as a replacement part any spare rotary buckle having P/N 1111430-XX or 1111475-XX with a manufacturing date from November 2004 through May 2007 inclusive, or install any spare restraint system having the above mentioned buckle part numbers and manufacturing date.
Ref. Publications:	Pacific Scientific SB 25-1111432 issue dated May 22, 2007.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 03 August 2007 as PAD 07-134 for consultation until 07 September 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: <i>Pacific Scientific Aviation Services</i> 11700 N.W. 102nd Rd. # 6 Miami, Florida 33178 United States Ph: 305-477-4711 Fax: 305-477-9799

	<p>Contact: Edel Mena www.pacscimiami.com</p> <p><u><i>Pacific Scientific UK Ltd.</i></u> Howarth Road, Maidenhead Berkshire SL6 1AP United Kingdom Ph: 44-1628 68-2200 Fax: 44-1628-68 2250 Contact: Ross Hamilton</p> <p><u><i>Pacific Scientific Germany</i></u> Unit 6 Hagen Park Miramstrasse 74 34123 Kassel Germany Tel: + 49 (0) 561 57981 0 Fax: + 49 (0) 561 57981 25 Contact: Michael Hippe</p>
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EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 - 0220 Date: 19 July 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name :	Type/Model designation(s) :
Recaro Aircraft Seating GmbH & Co. KG	3410, 3510(A,B,C,D), 4400, 4420, 6510
ETSO Number : LBA: 30.131/26, EASA.21O.0153, EASA.21O.0172, EASA.21O.249, EASA.21O.306, LBA: 30.131/118 JTSC, LBA.O.11.111/3 JTSC, LBA.O.11.111/2 JTSC	
Foreign AD : None	
Supersedure : None	
ATA 25	Equipment – Passenger Seats - Inspection of Seatbelt Shackle
Manufacturer:	Recaro Aircraft Seating GmbH & Co. KG
Applicability:	<p>Passenger Seats Type 3410, 3510 (A,B,C,D), 4400, 4420 and 6510 delivered after 1st November 2005 and before 5th May 2006.</p> <p>This equipment is known to be installed on but not limited to the following aircraft: A318-100, A319-100, A320-200, A321-200, A330-200, A330-300, A340-200, A340-300, A340-600, B737-300, B737-400, B737-500, B737-700, B737-800, B737-900, B747-300, B747-400, B767-300, B777-200, B777-300</p>
Reason:	During incoming inspection an improperly riveted seat belt shackle has been determined. This could lead to a malfunction of the seat belt attachment. The cause could be tracked down to an improper process at the shackle supplier ANCRA. The existence of similar occurrences can not be excluded.
Effective Date:	31 July 2006
Compliance:	<p>The following measures are rendered mandatory from the effective date of this AD:</p> <p>Unless already accomplished,</p> <ul style="list-style-type: none"> - perform a one time detailed visual inspection of the seat shackles of the related seats within the next 8 weeks following the effective date of this AD. - if necessary apply the associated corrective actions.


	<p>The inspection results, if defects are found, must be reported to Recaro</p> <p>The occurrence of similar cases on seats from other manufacturers must be reported to the Agency.</p>
Ref. Publications:	<p>Recaro Service Bulletin:</p> <p>3410-25BQ555, Original Issue, dated 19 May 2006</p> <p>3510-25BQ073, Original Issue, dated 18 May 2006</p> <p>4400-25BQ046, Original Issue, dated 19 May 2006</p> <p>4420-25BQ128, Original Issue, dated 19 May 2006</p> <p>6510-25BQ115, Original Issue, dated 19 May 2006</p> <p>or later approved revisions.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-138, -139, -140, -141 and -142 for consultation on 02 June 2006 with a comment period until 16 June 2006. The Comment Response Document can be found at http://ad.easa.eu.int/ . 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - 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 Recaro Aircraft Seating GmbH & Co, Technical Publications, Daimlerstrasse 21, 74523 Schwaebisch Hall, Germany, phone +49 791 5037185, fax: +49 791 5037211.

EASA	AIRWORTHINESS DIRECTIVE						
	<p>AD No.: 2009-0097</p> <p>Date: 22 April 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 : Rockwell Collins Inc.</p>	<p>Type/Model designation(s) : TDR-94 and TDR-94D transponders</p>						
ETSO Authorisation Number : EASA.21O.280 Rev.C							
Foreign AD : None							
Supersedure : None							
ATA 34	Navigation – Mode S Transponder – Check / Modification						
Manufacturer(s):	Rockwell Collins Inc.						
Applicability:	<p>Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows:</p> <table border="1"> <thead> <tr> <th>Type</th><th>P/N (all serial numbers)</th></tr> </thead> <tbody> <tr> <td>TDR-94</td><td>622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408</td></tr> <tr> <td>TDR-94D</td><td>622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408</td></tr> </tbody> </table> <p>These transponders are known to be installed on, but not limited to, the following aeroplanes:</p> <ul style="list-style-type: none"> - ATR 42 and ATR 72, all models. - Bombardier (formerly Canadair) CL-600-1A11, CL-600-2A12 (601 Variant), CL-600-2B16 (601-3A, 601-3R and 604 Variants), CL-600-2B19, CL-600-2C10, CL-600-2D15 and CL-600-2D24. - Bombardier (formerly De Havilland Canada) DHC-8, all models. - Dassault Aviation Mystère-Falcon 50 (including EX variant), Mystère-Falcon 900, Falcon 900EX, Falcon 2000 and Falcon 2000EX. - Gulfstream G-IV. - Hawker Beechcraft (formerly Raytheon, Beech) 200 and 400 series, all models. - SAAB SF340A and 340B. 	Type	P/N (all serial numbers)	TDR-94	622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408	TDR-94D	622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408
Type	P/N (all serial numbers)						
TDR-94	622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408						
TDR-94D	622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408						

Reason:	<p>The European Air Navigation Service Providers (ANSP) have implemented Advanced Surface Movement Guidance & Control Systems (A-SMGCS) to improve the surveillance and control of on-ground aeroplanes and vehicles, providing conflict detection and alerting on runways.</p> <p>To ensure proper and effective operation of the A-SMGCS, transponder replies to Air Traffic Control Radar Beacon System (ATCRBS) and All-Call interrogations must be inhibited when the aeroplane is on ground.</p> <p>Rockwell Collins TDR-94 and TDR-94D Mode S Transponders have two Air/Ground Discrete inputs that may be connected to the aeroplane Weight-On-Wheels system. A connection to the Air/Ground #2 discrete will implement an inhibition of ATCRBS, ATCRBS/Mode-S All-Call and Mode-S Only All-Call replies when the aeroplane is on the ground. No on-ground reply inhibition occurs if the connection is to the Air/Ground #1 discrete.</p> <p>An aeroplane with this transponder interface problem, if not corrected, does not meet the specifications of ICAO Annex 10 volume IV amendment 77 section 3.1.2.10.3.10 "Inhibition of replies" which would lead to degradation of the functioning of the A-SMGCS, could affect the ATC functions in tower, approach and en-route sectors, increase the risk of undetected runway incursions and endangering the aeroplane, its occupants and persons on the ground.</p> <p>For the reasons described above, this new EASA AD requires a check of the transponder Air/Ground discrete input connections and, in case of discrepancies, the accomplishment of corrective action.</p>
Effective Date:	06 May 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 12 months after the effective date of this AD, accomplish the following: <p>Verify that the transponder Air/Ground discrete input connections are installed in accordance with Table 1 of Rockwell Collins Service Information Letter TDR94() SIL 07-1 (ref. 523-0809129-001000). If the wiring installation is not compliant with the information provided in Table 1 of the SIL, modify the aeroplane Air/Ground discrete input connections in accordance with approved aeroplane modification instructions.</p> (2) ATR aeroplanes modified in accordance with ATR Service Bulletin (SB) ATR42-34-0164 or SB ATR72-34-1093 (modification n° 05602), as applicable to aeroplane model, including those ATR aeroplanes on which modification n° 05602 was incorporated during production, are not affected by this AD, as this modification is equal to the requirements of paragraph (1) of this AD. (3) Bombardier CL-600-2B19, serial number 7122, if modified in accordance with Bombardier SB 601R-34-146, is not affected by this AD, as this modification is equal to the requirements of paragraph (1) of this AD. (4) Dassault aeroplanes modified in accordance with Dassault Aviation SB F50-457 (modifications M2966 and M2968), SB F50-469 (modification M2998), SB F900-354 (modification M3896), SB F900-368 (modification M5013), SB F900EX-239 (modification M3896), SB F900EX-270 (modification M5013), F2000-312 (modifications M2624 and M2632), SB F2000-327 (modification M2468), SB F2000EX-043 (modification M2624) or SB F2000EX-084 (modification M2468), as applicable to aeroplane model, are not affected by this AD, as these modifications are equal to the requirements of paragraph (1) of this AD.
Ref. Publications:	Rockwell Collins Service Information Letter TDR-94() SIL 07-1, document reference 523-0809129-001000, dated 25 May 2007.

Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.2. This AD was initially published on 09 October 2008 as PAD 08-113 for consultation until 30 October 2008 and then republished on 03 March 2009 as PAD 08-113R1 for extended consultation until 31 March 2009. The Comment Response Documents can be found at http://ad.easa.europa.eu/.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: Rockwell Collins Inc., 400 Collins Road NE, Cedar Rapids, Iowa 52498, United States of America, telephone +1-319-265-5467 Website: www.rockwellcollins.com Email: response@rockwellcollins.com
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EASA	AIRWORTHINESS DIRECTIVE						
	AD No.: 2009-0173 Date: 05 August 2009 <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>							
Type Approval Holder's Name :	Type/Model designation(s) :						
Rockwell Collins Inc.	TDR-94 and TDR-94D transponders						
ETSO Authorisation Number : EASA.210.280 Rev.C							
Foreign AD :	None						
Supersedure :	None						
ATA 34	Navigation – Mode S Transponder – Modification / Replacement						
Manufacturer(s):	Rockwell Collins Inc.						
Applicability:	<p>Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows:</p> <table border="1"> <thead> <tr> <th>Type</th><th>P/N (all serial numbers)</th></tr> </thead> <tbody> <tr> <td>TDR-94</td><td>622-9352-007, 622-9352-008 and 622-9352-108</td></tr> <tr> <td>TDR-94D</td><td>622-9210-007, 622-9210-008 and 622-9210-108</td></tr> </tbody> </table> <p>when installed in an aeroplane operating in European Designated Mode S Airspace and equipped with Honeywell AZ800 or AZ810 (all part numbers) air data computers (ADC) where the data bus interface between the Honeywell ADC and the Rockwell Collins transponder is providing the Selected Altitude data input to the transponder.</p> <p>These transponder/ADC combinations are known to be installed on, but not limited to, the following aeroplanes:</p> <ul style="list-style-type: none"> - ATR 42 and ATR 72 series (See exemption under 'Required Action'). - Bombardier (formerly Canadair) CL-600-2A12 (601 Variant) and CL-600-2B16 (601-3A and 601-3R Variants). - Bombardier (formerly De Havilland Canada) DHC-8 series. - Dassault Aviation Mystère-Falcon 900 series. - Gulfstream G-IV. <p>Note: For more information regarding Mode-S designated airspace, please consult the Eurocontrol website at www.eurocontrol.int/mode-s and local Aeronautical Information Circulars (AIC).</p>	Type	P/N (all serial numbers)	TDR-94	622-9352-007, 622-9352-008 and 622-9352-108	TDR-94D	622-9210-007, 622-9210-008 and 622-9210-108
Type	P/N (all serial numbers)						
TDR-94	622-9352-007, 622-9352-008 and 622-9352-108						
TDR-94D	622-9210-007, 622-9210-008 and 622-9210-108						


Reason:	<p>A mismatch between the ARINC and GAMA specifications for the Selected Altitude in Motion Bit of label 102 in certain Rockwell Collins TDR-94 transponders is causing incorrect transmission of the Mode-S EHS Selected Altitude parameter.</p> <p>This condition, if not corrected, could lead to invalid Selected Altitude data being transmitted to Mode S ground stations, creating disruptions in the Air Traffic Management process and potentially compromising aeroplane safety.</p> <p>For the reasons described above, this new EASA AD requires the modification or replacement of the affected transponders and prohibits reinstallation of unmodified units.</p>																																
Effective Date:	19 August 2009																																
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 12 months after the effective date of this AD, accomplish either paragraph (1.1) or (1.2):</p> <p>(1.1) Modify the transponder and the aeroplane in accordance with approved aeroplane modification instructions. Details of the transponder modification are provided in Table 1 and Table 2 of this AD.</p> <p>or</p> <p>(1.2) Replace the transponder, in accordance with approved aeroplane modification instructions, with a TDR-94 unit identified by P/N 622-9352-309 or -409, or a TDR-94D unit identified by P/N 622-9210-309 or -409, as applicable.</p> <table><caption>Table 1 – TDR-94 Transponders</caption><tr><th>Current P/N</th><th>New P/N (options)</th><th>Rockwell Collins Service Bulletin (SB) instructions to be used for modification</th></tr><tr><td rowspan="2">622-9352-007</td><td>622-9352-309</td><td>TDR-94/94D-34-506</td></tr><tr><td>622-9352-409</td><td>TDR-94/94D-34-507</td></tr><tr><td rowspan="2">622-9352-008</td><td>622-9352-309</td><td>TDR-94/94D-34-505</td></tr><tr><td>622-9352-409</td><td>TDR-94/94D-34-507</td></tr><tr><td>622-9352-108</td><td>622-9352-409</td><td>TDR-94/94D-34-505</td></tr></table> <table><caption>Table 2 – TDR-94D Transponders</caption><tr><th>Current P/N</th><th>New P/N (options)</th><th>Rockwell Collins SB instructions to be used for modification</th></tr><tr><td rowspan="2">622-9210-007</td><td>622-9210-309</td><td>TDR-94/94D-34-506</td></tr><tr><td>622-9210-409</td><td>TDR-94/94D-34-507</td></tr><tr><td rowspan="2">622-9210-008</td><td>622-9210-309</td><td>TDR-94/94D-34-505</td></tr><tr><td>622-9210-409</td><td>TDR-94/94D-34-507</td></tr><tr><td>622-9210-108</td><td>622-9210-409</td><td>TDR-94/94D-34-505</td></tr></table>	Current P/N	New P/N (options)	Rockwell Collins Service Bulletin (SB) instructions to be used for modification	622-9352-007	622-9352-309	TDR-94/94D-34-506	622-9352-409	TDR-94/94D-34-507	622-9352-008	622-9352-309	TDR-94/94D-34-505	622-9352-409	TDR-94/94D-34-507	622-9352-108	622-9352-409	TDR-94/94D-34-505	Current P/N	New P/N (options)	Rockwell Collins SB instructions to be used for modification	622-9210-007	622-9210-309	TDR-94/94D-34-506	622-9210-409	TDR-94/94D-34-507	622-9210-008	622-9210-309	TDR-94/94D-34-505	622-9210-409	TDR-94/94D-34-507	622-9210-108	622-9210-409	TDR-94/94D-34-505
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622-9210-108	622-9210-409	TDR-94/94D-34-505																															

	<p>(2) Rockwell Collins TDR 94 transponders with P/N 622-9352-409 and TDR94D transponders with P/N 622-9210-409 are ADS-B capable. Concurrent with accomplishment of the modification of the aeroplane as required by paragraph (1) of this AD, the ADS-B function must be disabled, unless compliance with EASA AMC 20-24 has been demonstrated.</p> <p>(3) After modification of an aeroplane as required by paragraphs (1) of this AD, do not install a transponder, as identified by P/N in the Applicability section of this AD, on that aeroplane.</p> <p>Exemption:</p> <p>ATR-42 and ATR-72 aeroplanes on which the affected transponder and ADC installation has been done in accordance with an ATR design definition, although equipped with transponders and Honeywell AZ800 or AZ810 ADC as listed in the Applicability section of this AD, are exempt from having to meet the requirements of this AD, since on these aeroplanes' original architecture, the Selected Altitude is not provided by the ADC.</p>
Ref. Publications:	<p>Rockwell Collins Service Bulletins:</p> <p>TDR-94/94D-34-505 dated 2 September 2008</p> <p>TDR-94/94D-34-506 dated 2 September 2008</p> <p>TDR-94/94D-34-507 dated 9 September 2008</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. This AD was posted on 08 October 2008 as PAD 08-114 for consultation until 30 October 2008 and subsequently republished on 03 March 2009 as PAD 08-114R1 for extended consultation until 31 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 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: Rockwell Collins Inc., 400 Collins Road NE, Cedar Rapids, Iowa 52498, United States of America, telephone +1-319-265-5467 Website: www.rockwellcollins.com Email: response@rockwellcollins.com


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0097</p> <p>Date: 20 May 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name : SICMA AERO SEAT	Type/Model designation(s) : Model 940() Series Passenger Seats
ETSO Approval: F.O.136, EASA.210.094	
Foreign AD : Not applicable	
Supersedure : This Airworthiness Directive supersedes EASA AD 2008-0080, dated 28 April 2008.	
ATA 25	Equipment & Furnishings – Passenger Seats – Inspection / Repair / Modification
Manufacturer(s):	Sicma Aero Seat
Applicability:	<p>Passenger Seats models 9401, 9402, 9404, 9405, 9406, 9407, 9408 and 9409, all Part Numbers (P/N), except front row and aft facing seat and those modified to 'Amendment B' standard.</p> <p>The affected seats are known to be installed on, but not limited to, ATR 42 and ATR 72 series aircraft.</p>
Reason:	<p>Several occurrences of cracked central and lateral spreaders on passenger seats models 9401 and 9402 have been reported to Sicma Aero Seat.</p> <p>This condition, if not corrected, can lead to further cracking of the seat spreaders, causing injury to passengers or crew members during heavy turbulence in flight or in the event of an emergency landing.</p> <p>For the reasons stated above, this Airworthiness Directive (AD) requires repetitive inspections of the affected seats and, depending on findings, the repair or replacement of damaged spreaders with an improved design ('Amendment B' standard). The replacement of all spreaders (i.e. modification to 'Amendment B' standard) terminates the repetitive inspection requirements.</p> <p>This AD, superseding EASA AD 2008-0080, retains the original requirements, but adds a seat model (9409) that was inadvertently missing in the original AD and excludes front row and aft facing seats from the applicability.</p>

Effective Date:	03 June 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 6 months after 13 May 2008, the effective date of EASA AD 2008-0080, inspect the affected seats in accordance with the instructions of paragraph (§) A item 1 of Sicma Aero Seat (Sicma) Service Bulletin (SB) 94-25-013; (2) Depending on the inspection results, within the criteria and the applicable interval as specified in § A-1 Decision Tree of Sicma SB 94-25-013, repeat the inspection as required by § (1) of this AD; or (3) When deficiencies or cracks are found during any of the inspections required by § (1) and (2) of this AD, within the threshold defined by the criteria specified in § A-1 Decision Tree of Sicma SB 94-25-013, repair the affected spreaders in accordance with the instructions of Sicma SB 94-25-011, or modify the seat to 'Amendment B' standard, replacing all the spreaders, in accordance with the instructions of Sicma SB 94-25-012; <p>Note 1: The aircraft may only be dispatched with non-repaired or unmodified seats within the provisions of the applicable Master Minimum Equipment List item(s).</p> <p>Note 2: Any discrepancies discovered during inspections required by this AD should be reported to Sicma Aero Seat, address indicated in the 'Remarks' section of this AD.</p> <ol style="list-style-type: none"> (4) After 13 November 2008, no person shall install any Sicma seat affected by this AD on any airplane as a replacement part, unless it has been modified to 'Amendment B' standard in accordance with Sicma SB 94-25-012; (5) The replacement of all spreaders on any affected seat assembly (modification to 'Amendment B' standard) in accordance with Sicma SB 94-25-012 terminates the inspection requirements of this AD for that seat assembly.
Ref. Publications:	<p>Sicma Aero Seat Service Bulletin No.94-25-011 issue 2</p> <p>Sicma Aero Seat Service Bulletin No.94-25-012 original issue</p> <p>Sicma Aero Seat Service Bulletin No.94-25-013 issue 4</p> <p>The use of any later approved revision 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: Sicma Aero Seat, Rue Robert Maréchal Sénior, Z.I. La limoise, 36100 Issoudun, France ; telephone +33 (0) 2 54 03 39 39 ; FAX: +33 (0) 2 54 03 39 00; e-mail : mcoureau@sicma.zodiac.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0174</p> <p>Date: 15 September 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>SPEKON Sächsische Spezialkonfektionen GmbH</p>	<p>Type/Model designation(s) :</p> <p>RE-5L Emergency Parachutes</p>
<p>JTSO approval : LBA.040.010/89 JTSO</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
ATA 25	Emergency Parachute - Replacement of the Drogue Parachute.
Manufacturer(s):	SPEKON Sächsische Spezialkonfektionen GmbH
Applicability:	<p>RE-5L Emergency Parachutes series 4 and 5 from serial number (s/n) 72245 up to 72369 inclusive and s/n 72371.</p> <p>NOTE: These parachutes have been manufactured between 21 April 2008 and 21 August 2008.</p>
Reason:	<p>One case of cracked grommet has been found on the pilot chute of a RE-5L parachute. An internal process review has revealed that drogue parachutes installed in RE-5L Emergency Parachutes series 4 and 5 as listed in the applicability of this AD, may present some crack initiations.</p> <p>This condition if left uncorrected could create an obstruction of the closing loop and prevent the main parachute from being pulled out of its storage pack.</p> <p>For the reason described above, this AD mandates the replacement of the identified drogue parachutes.</p>
Effective Date:	17 September 2008


Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 15 days after the effective date of this AD, replace the drogue parachute by a serviceable one as instructed in the SPEKON Safety Bulletin No. 01/2008 Issue 2.</p> <p>(2) After the effective date of this AD, no person shall install drogue parachutes removed per the requirements of paragraph (1) of this AD on any parachutes.</p> <p>To that end, conform to the applicable procedures about the control of unserviceable components.</p>
Ref. Publications:	<p>SPEKON Sicherheitsmitteilung (Safety Bulletin) No. 01/2008 Issue 2</p> <p>The use of later approved revisions of this document 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 questions concerning the technical content of the requirements in this AD, please contact: <p style="text-align: center;">SPEKON Sächsische Spezialkonfektionen GmbH Nordstraße 40 - 02782 Seifhennersdorf – Germany Phone: +49 (0)3586 456-0 Fax: +49 (0)3586 456 167 E-mail: info@spekon.com</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006–0334R1 Date: 19 March 2009 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 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].	
Type Approval Holder's Name : THALES COMMUNICATIONS	Type/Model designation(s) : VHF Data Radio, Part Numbers EVR716-11-0300A EVR716-11-0350A EVR716-01-0100A EVR716-01-0200A EVR750-03-0100A
ETSOA Number : JTSO F.O.025	
Foreign AD : Not applicable	
Revision : This AD revises EASA AD 2006-0334 dated 31 October 2006	
ATA 23	Communications - Thales Communications VHF Data Radio - Modification
Manufacturer(s):	Thales Communications.
Applicability:	Thales VHF Data Radio, Part Numbers: EVR716-11-0300A EVR716-11-0350A EVR716-01-0100A EVR716-01-0200A EVR750-03-0100A known to be installed on, but not limited to, the following aircraft: - Bombardier DHC-8-400 (all models); - Airbus A318, A319, A320, A321, A330, A340 (all models); - Boeing 717, 727, 737, 747, 757, 767, 777 (all models).
Reason	During the past few years, a phenomenon known as 'PLOC' (Prolonged Loss of Communications) has emerged. Over one thousand reports of this type of problem have been received from operators of various types of

	<p>aircraft with different manufacturer's equipment. It is suspected that the actual number of occurrences is higher, but due to some 'PLOC' occurrences having a short time interval they were either not noticed by the crew or not reported. Various studies were performed by Eurocontrol, UK CAA and operators to determine if there was a common reason for the occurrences. The results were not totally conclusive because other technical reasons, within the reported occurrences, may have caused the crew to experience a loss of communication. One type of 'PLOC' occurrence can be caused by equipment not receiving radio communication from an Air Traffic Controller or another aircraft. Typically, this type of failure is temporary and can be corrected by the crew of the aircraft transmitting a radio message. Following this transmission, the equipment correctly receives all incoming radio signals. This type of failure is referred to a 'sleeping receiver' problem.</p> <p>This type of problem causes workload issues for the Air Traffic Controller and can result in a reduction in safety levels. It is important, therefore, to do all that is possible to reduce or eliminate this type of occurrence.</p> <p>Thales, during exhaustive testing, managed to re-create the problem of the 'sleeping receiver' once. Further testing failed to induce the failure and the actual cause of the problem still remains unknown.</p> <p>Thales, however, instigated a design change to eliminate the possibility of this type of occurrence by checking every 20ms, when not transmitting, that the "sleeping receiver" conditions are not fulfilled and by forcing it into receive mode if it is not the case. The modified Thales VHF data radio is now installed on some aircraft. Since installing the modified radio no report of any "PLOC" occurrences attributable to a 'sleeping receiver' has been received.</p> <p>For this reason, it is considered that the modification as per Thales Service Bulletins mentioned in the Ref. Publications of this AD should be mandatory for all aircraft with these models of radio installed.</p> <p>This Revision 1 is issued to extend the AD compliance time, which originally was 30 months, to 42 months from the AD effective date.</p>
Effective Date:	14 November 2006
Required action(s) and Compliance Time(s):	<p>Compliance is required no later than 42 months from the effective date of this AD.</p> <p>To comply with this Airworthiness Directive, the following Service Bulletins must be incorporated into the Thales VHF Data Radios. The affected part numbers and associated Service Bulletins are listed below.</p> <p>For Part Numbers: EVR716-11-0300A & EVR716-11-0350A - Thales Communications Service Bulletins No. EVR716-23-015 is required.</p> <p>For Part Numbers: EVR716-01-0200A - Thales Communications Service Bulletins No. EVR716-23-012 Initial Issue or EVR716-23-012 Rev. 01 is required.</p> <p>For Part Numbers: EVR716-01-0100A & EVR750-03-0100A - Thales Communications Service Bulletins No EVR7-23-05 Initial Issue or EVR7-23-05 Rev. 01 is required.</p> <p>Once the manufacturer Service Bulletins are embodied into the applicable units, no further action is required by this AD.</p>
Ref. Publications:	<p>Thales Communications Service Bulletins:</p> <p>EVR716-23-015; EVR716-23-012 Initial Issue or Rev. 01; EVR7-23-05 Initial Issue or Rev. 01.</p>

	The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted as PAD 06-148R1 for consultation on 20 September 2006 with a comment period until 11 October 2006. The Comment Response Document can be found at http://ad.easa.europa.eu/. 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: Marian Kwartnik, Thales Communications Product Program Manager, Land & Joint Systems - UAN/DIN/PRN/ATH 160, Bd de Valmy - B° 82 - 92704 Colombes Cedex-France. Ph.: +33(0)1 41 30 42 40 ; Fax : +33(0)1 41 30 41 71 E-Mail: marian.kwartnik@fr.thalesgroup.com.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0265</p> <p>Date: 30 August 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name:</p> <p>Various</p>	<p>Type/Model designations:</p> <p>Mode 'C' and Mode 'S' Transponder Systems utilising Gilham code altitude input.</p>
ETSOA Number: Not applicable.	
Foreign AD: Not applicable.	
Supersedes: CAA United Kingdom AD 002-12-99 Rev.2 and any corresponding EU Member State ADs that were issued in response to that AD.	
ATA 34	Navigation Systems – Mode S and C Transponders – Check
Manufacturers:	Various
Applicability:	<p>All aircraft equipped with one or more Mode 'C' or Mode 'S' transponder systems which utilise Gilham code altitude input. This type of equipment is known to be installed on, but not limited to, the following aircraft:</p> <p>BAE Systems 146 series;</p> <p>BAE Systems Jetstream 3100 series; and</p> <p>Boeing 747-200 series.</p>
Reason:	<p>There have been a number of incidents where incorrect transponder altitude resulted in loss of aircraft separation during ACAS manoeuvres. This directive requires the identification of incorrect transmission of altitude data from transponders which utilise Gilham coded altitude encoders as a sensor input. Where aircraft transponders accept dual Gilham coded altitude encoders, the transponder altitude data comparator must also be checked for correct operation.</p>
Effective Date:	13 September 2006.
Compliance:	<p>Within the next 6 months after the effective date of this directive and thereafter at intervals not to exceed 24 months, check the Mode 'C' or Mode 'S' transponder system(s) in accordance with paragraphs (1) through to (9) below, complying with all precautions detailed in the applicable maintenance manuals and correct all adverse findings prior to further flight.</p>

	<p>Note 1: For aircraft which have been checked in accordance with CAA United Kingdom AD 002-12-99 Rev.2 or any corresponding EU Member State AD, initial compliance with this directive is required not later than 24 months from the previous check required by those Directives.</p> <p>Note 2: Altitude testing may be restricted to the operating envelope of the aircraft.</p> <ol style="list-style-type: none"> (1) Connect an air data test set to the No. 1 and No. 2 (where applicable) Pitot/Static system. (2) In the aircraft flight deck/cockpit, select the No. 1 Mode 'C' or Mode 'S' transponder (as applicable) and select Air Data source No. 1. (3) Select the air data test set to the following altitude reporting values: <ul style="list-style-type: none"> 1,000 feet; 4,100 feet; 15,700 feet and; 31,000 feet. (4) For each selected altitude, verify that the Mode 'C' or Mode 'S' transponder (as applicable) altitude reporting is within tolerance (± 125 feet), and record the altitude as follows: <ul style="list-style-type: none"> 1,000 feet = Actual reading (± 125 feet) 4,100 feet = Actual reading (± 125 feet) 15,700 feet = Actual reading (± 125 feet) 31,000 feet = Actual reading (± 125 feet) (5) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above. (6) In the aircraft flight deck/cockpit, select the No. 2 Mode 'C' or Mode 'S' transponder (if applicable) and select Air Data source No. 1 and repeat paragraphs (3) and (4) above. (7) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above. (8) Where aircraft have the availability of a third air data source, that provides altitude data to the transponder system, then repeat checks (3) and (4) above, for No. 1 and/or No.2 Mode C or Mode S transponder systems connected to Air Data source No. 3. (9) Confirm by inspection and reference to aircraft and equipment Maintenance Manuals and Wiring Diagrams, that, where dual Air Data sources are used, the transponder altitude data comparator function is enabled. Using appropriate test equipment, demonstrate that the comparator detects altitude data differences between the dual encoders of more than 600 feet. <p>If the comparator function is not enabled or is unserviceable, rectify before further flight (this requirement is only applicable to aircraft which utilise dual Air Data sources).</p> <p>Note 3: The comparator function is only available when Mode S transponders are installed.</p>
Ref. Publications:	None
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-170 for consultation on 07 August

	<p>2006 with a comment period until 21 August 2006. No comments were received during the consultation period.</p> <ol style="list-style-type: none">3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact: Kevin Hallworth, Avionics Specialist. E-Mail: kevin.hallworth@easa.europa.eu
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Part 3B **Airworthiness Directives issued by EASA for products and equipment designed outside the EU**

The Airworthiness Directives issued by EASA that are applicable to products designed outside the EU are listed below and supplied in full on the following pages.

Details of the Airworthiness Directives cancelled or superseded from this section can be found in Appendix 2.

AD/AAD No. Applicability

Aircraft

2005-0031	Aerotek, Aviat and Christen Pitts Series
2006-0173	Bell 212
2006-0319	Bell 222 Series
2007-0234 R1	Boeing: 737-600, 737-700, 737-800, 737-900 Series
2009-0101	Boeing: 747-400, 747-400D, 747-400F, 757-200, 757-200CB, 757-200PF, 767-200, 767-300 and 767-300F
2007-0120	Bombardier Aerospace CL-600-2B16 (604 Variant)
2007-0272	Bombardier Inc DHC-8-400 Series
2006-0170	Brantly (Hynes) Series
2008-0078	Cessna: 182 and F182 Series
2004-0001	Cessna: Citation 750
2006-0267	Cessna: F150, FA150, FRA150, F152 and FA152 Series
2005-0031	Christen Pitts Series. See Aerotek entry above
2004-0010	Embraer 170-100
2007-0123	Embraer EMB-100 aircraft
2007-0264	Embraer EMB-135BJ
2007-0193	Embraer EMB-135 and EMB-145
2007-0265	Embraer EMB-135 (except -135BJ) and EMB-145 Series
2006-0172 R1	Enstrom 28 and 280 Series
2006-0292	Enstrom F-28 and 280 Series
2006-0290	Enstrom 480 Series
2005-0036 R1	Grumman American (incl. American Aviation, Gulfstream American, True Flight Holdings LLC and Tiger aircraft) AA-1 and AA-5 Series.
2009-0180	Gulfstream GIV-X and GV-SP
2005-0001	Gulfstream GV-SP
2008-0197	McDonnell Douglas Corporation: DC-9-10, -20, -30, -40, and -50 Series, DC-9-81/82/83/87, MD-88, MD-90, and 717 Airplanes
2006-0168	MD Helicopters Inc. (MDHI): MD 600N
2005-0032 Cor.	Piper Aircraft: PA-28 and PA-32
2005-0034	Piper Aircraft: PA-28 and PA-32
2005-0035	Piper Aircraft: PA-28 and PA-32

2006-0062	Raytheon HS 125 and Hawker Series
2006-0063	Raytheon HS 125 700A/B and BAe 125 800A/B
2005-0019	Robinson R22/All models
2006-0065	Robinson R22/All models
2006-0167	Robinson R22/All models
2006-0145	Robinson R44 Series
2006-0166	Robinson R44 Series
2007-0274	Schweizer Aircraft Corp. 269D Helicopters
2006-0171 R1	Schweizer (Hughes) 269 Series
2006-0144	Sikorsky S58 Series
2006-0064	Sikorsky S61N

Engines

2005-0011	Honeywell International Inc. TPE331-12UA, -12UAR and -12UHR Engines installed in BAE Jetstream 32 series and Fairchild SA 227 (Metro) series aircraft
2005-0012 R1	International Aero Engines (IAE) V2500-A1 and V2500-A5 Series Engines, installed in, but not limited to, Airbus A319, A320 and A321 series aircraft
2005-0023 R3	Lycoming Piston Engines: All Engines
2004-0008 R1	PWJT8D-200 Engines fitted with 4th stage LP turbine discs listed in Table A of P&W Alert Service Bulletin A6274 known to be installed in, but not limited to, Boeing B727 aircraft
2004-0004	PWJT8D-200 Engines modified according to IBERIA Engineering Bulletin 72-8525 installed in, but not limited to, McDonnell Douglas (now Boeing) MD-80 aircraft
2004-0009 R2	Rolls-Royce Corporation Model 250 Series Engines installed in single- and twin-engined helicopters
2004-0005	Rolls-Royce Corporation Model 501-D13 and 501-D13A Engines installed in, but not limited to, Lockheed L188C Electra aircraft

Propellers

None at present.

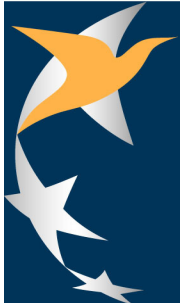
Equipment

2006-0264	Aviointeriors S.p.A: Passengers Seats, various Part Numbers, if equipped with a Rear Fitting Assembly having Part Numbers (P/N) 311889900017, 3121994E0017, 3118899C0017, 3121994A0017, 312199400017 or 3118899A0017
2008-0135	Aviointeriors S.p.A: Passengers Seats 12M () () - () () () () ()
2006-0241	Caledonian Airborne Systems CPT-600 Series/CPT-900 Series ADELTA and AD/AFELT
2006-0375	Carling Technologies Inc: Rocker-type Switches, Part Number (P/N) TA201-(XX)-(X) Series
2008-0158 R2	Funkwerk Avionics GmbH: TRT600 Transponders


2008-0183	Funkwerk Avionics GmbH: TRT800A and TRT800H Transponders
2006-0269	Honeywell International Inc: MST 67A Mode 'S' Transponders
2008-0159	Honeywell International Inc: MST 67A Mode 'S' Transponders
2007-0156	Honeywell International Inc: Comm Units and Mode S Transponders
2006-0286 R1	Intertechnique, Zodiac Aircraft Systems: Oxygen Reserve Cylinders
2006-0140 R4	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB; CTT Systems AB: Zonal Drying System, Part Numbers (P/N) as listed in the applicability of this Directive
2006-0328	Messier Bugatti: Main Landing Gear (MLG) Wheel Assembly Part Numbers (P/N) C20500000 and P/N C20452000
2009-0100	Microturbo: SAPHIR 2 Auxiliary Power Units
2009-0200	Narco Avionics Inc: AT-150 Transponders
2007-0256	Pacific Scientific Company, HTL/KIN-TECH Division: Restraint Systems: 2000029, 2000067, 2000115
2006-0220	Recaro Aircraft Seating: Models 3410, 3510 (A, B, C, D), 4400, 4420 and 6510
2009-0097	Rockwell Collins Inc: TDR-94 and TDR-94D Transponders
2009-0173	Rockwell Collins Inc: TDR-94 and TDR-94D Transponders
2008-0097	Sicma Aero Seat: Model 940() Series Passenger Seats
2008-0174	SPEKON Sächsische Spezialkonfektionen GmbH RE-5L Emergency Parachutes
2006-0334 R1	Thales Communications: VHF Data Radio, Part Numbers (P/N) EVR716-11-0300A, EVR716-11-0350A, EVR716-01-0100A, EVR716-01-0200A, EVR750-03-0100A
2006-0265	Various Aircraft: Mode 'C' and Mode 'S' Transponder Systems utilising Gilham code altitude input

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Aircraft

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No. : 2005-0031</p> <p>Date: 8 December 2005</p>
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
<p>Type Approval Holder's Name Sky International, Inc.</p>	<p>Type/Model designation(s) (PITTS) S-1 SERIES AIRCRAFT</p>
<p>FAA TCDS A8SO</p>	
<p>Foreign AD: No State of Design AD</p>	
<p>Supersedure: Supersedes UK CAA AD 002-06-93 Rev 1</p>	
ATA 55	Structure – Tailplane Support Tube – Modification/Replacement.
<p>Manufacturer:</p>	<p>Aviat Aircraft, Inc. Afton Wyoming, Pitts Aviation Enterprises, Aerotek Inc. and Pitts Aerobatics.</p>
<p>Applicability:</p>	<p>S-1S and S-1T aircraft not having external tailplane leading edge lower diagonal support tubes fitted.</p>
<p>Reason:</p>	<p>A near catastrophic in-flight failure of the tailplane support tube indicated that an inadequate design standard existed for this tube. Failure of the tube could result in complete separation of the tailplane and loss of the aircraft.</p>
<p>Effective Date:</p>	<p>20 December 2005</p>
<p>Compliance:</p>	<p>Required within 1 month from the effective date of this Directive,</p> <p>Inspect the leading edge tailplane support tube located within the fuselage to establish its design standard. If the support tube is identified as Part No. 1-210-126, it must be replaced with a support tube Part No. 1-210-166 or approved equivalent.</p> <p>Replacement, if required, must be carried out prior to further aerobatic flight or not later than 25 flight hours from carrying out the initial inspection if the aircraft is to be flown for non-aerobatic flight. Modify by installing in the cockpit in full view of the pilot the following placard if the aircraft is to be flown for non-aerobatic flight:</p>


	<p>AEROBATICS PROHIBITED UNTIL FULL COMPLIANCE WITH EASA AD 2005-0031</p> <p>NOTE: Letters to be clear and at least 4 mm high on a contrasting background. The placard must be removed when the aircraft is in full compliance with this Directive.</p>
Ref. Publications:	Service Bulletin No.14 available from Sky International Inc. 672 South Washington Street, Afton, Wyoming 83110. (Note: The licensed manufacturer is Aviat Aircraft, Inc. Box 1240, 672 South Washington Street, Afton, Wyoming)
Remarks:	<p>This AD was previously published for comment as PAD 05-016. The comments received are addressed in the Comment Response Document on PAD 05-016 published on the EASA web site.</p> <p>Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int</p> <p>NAAAs are advised that homebuilt Pitts aircraft of a similar design, which are not under the responsibility of EASA may also be affected.</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2006 - 0173 Date: 19 June 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Bell Helicopter Textron Inc.	Bell 212
TCDS Number: FAA H4SW Rev. 27	
Foreign AD: None	
Supersedure: UKCAA Additional Airworthiness Directives 003–07–87	
ATA 22	Auto Flight - Auto Pilot - Modification
Manufacturer(s):	Bell Helicopter Textron Inc
Applicability:	All Bell 212 series helicopters equipped with Sperry 'Helipilot' automatic flight control system.
Reason:	A National Aviation Authority, prior to the formation of EASA, has determined that the switch for disconnection of the "Helipilot" control should be relocated to improve the ability of the pilot to react to adverse conditions. This is considered necessary should divergent oscillations be encountered, which have in the past resulted in fatality. EASA concurs with this position.
Effective Date:	03 July 2006
Compliance:	Compliance is required not later than 31 May 2007. Modify the location of the "Helipilot" disconnect switch to relocate the switch to one of the pilot's primary flying controls. This must be in accordance with an EASA approved modification.
Ref. Publications:	None
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-103 for consultation on 19 April 2006 with a comment period until 15 May 2006. The Comment Response Document can be


	<p>found at http://ad.easa.eu.int/.</p> <p>3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu</p> <p>4. For questions concerning the technical contents of this AD requirements, contact Bell Helicopter Textron Inc.</p>
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006-0319</p> <p>Issued: 16 October 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Type Approval Holder's Name :</p> <p>Bell Helicopter Textron Canada Ltd.</p>	<p>Type/Model designation(s) :</p> <p>Bell 222 series</p>
TCDS Number : Transport Canada H-88	
Foreign AD : Not applicable.	
Supersedure : Not applicable.	
ATA 22	Auto Flight – Rotorcraft Flight Manual - Limitation
Manufacturer(s):	Bell Helicopters, Inc.; Bell Helicopter Textron, Inc.; and Bell Helicopter Textron Canada Limited.
Applicability:	Bell 222B and 222U helicopters, all serial numbers
Reason:	Validation flight testing by a European Member State aviation authority has shown that stability augmentation is necessary for single-pilot operation of the Bell 222B and 222U under IFR conditions.
Effective Date:	31 October 2006
Compliance:	<p>(a) Within 1 month after the effective date of this AD, amend the Rotorcraft Flight Manual (RFM), Limitations Section, to include the following:</p> <p style="text-align: center;">SINGLE PILOT OPERATION UNDER IFR CONDITIONS PROHIBITED</p> <p>This may be accomplished by inserting a copy of this directive into the Limitations section of the applicable RFM.</p>

	<p>(b) After installation of an appropriate Automatic Flight Control System (AFCS) with Navigational Computer (NAVC), the limitation as required by paragraph (a) of this directive may be removed from the RFM.</p> <p>Note 1: Installation of AFCS/NAVC Auto Pilot Part, Bell P/Ns 222-706-009 and 222-706-089, has already been accepted by EASA as an acceptable means of compliance with this AD.</p> <p>Note 2: The optional installation as described by paragraph (b) of this directive may only be accomplished in accordance with instructions that have been approved or accepted by the Agency.</p>
Ref. Publications:	None available.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA Manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-216 for consultation on 28 August 2006 with a comment period until 25 September 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail ADs@easa.eu.int. 4. For any question concerning the technical content of the requirements in this AD, please contact Bell Helicopter Textron Division of Textron Canada Ltd, 12 800 rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone +1-403-275-3555, e-mail comlspares@bellhelicopter.textron.com.

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>EAD No : 2007-0234 R1-E</p> <p>Date: 10 September 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : The Boeing Company	Type/Model designation(s) : 737 series aircraft
TCDS Number: FAA (USA) Nr. A16WE	
Foreign AD: FAA Emergency Airworthiness Directive (EAD) 2007-18-52, issued 28 August 2007	
<p>Revision: This EAD revises EASA EAD 2007-0234-E dated 29 August 2007.</p> <p>For aircraft operated under EU regulations, the requirements of this EAD take precedence over those contained in FAA EAD 2007-18-52.</p>	
ATA 57	Wings – Slat Track Downstop Assembly & Parts – Inspection / Repair / Replacement
Manufacturer(s):	Boeing Airplane Company
Applicability:	<p>Model 737-600, 737-700, 737-800 and 737-900 series aircraft, all serial numbers.</p> <p>Note: The FAA EAD applies also to Model 737-700C and 737-900ER aircraft; as these Models have not been validated in Europe at this time, no aircraft operated under EU regulations and/or registered in EU Member States are affected. For that reason, this EAD cannot be applied to those aircraft.</p>
Reason:	<p>EASA has received reports of parts of the main slat track downstop assembly coming off the main slat track. In one case, a nut fell into the slat track housing (referred to as "slat can") and, during a subsequent slat retraction, the track made contact with the nut, pushing it into the wall of the can and puncturing it. That operator reported finding fuel leaking from the drain hole in the slat track housing at the No. 5 slat track position. In another case, an initial investigation revealed that following retraction of the slats after landing on a Model 737-800 airplane, loose parts of the main slat track downstop assembly punctured the slat can, which resulted in a fuel leak and a fire that ultimately destroyed the airplane.</p> <p>Loose or missing parts from the main slat track downstop assemblies, if not detected and corrected, could result in a fuel leak and consequent fire.</p> <p>To address and correct the unsafe condition described above, the Federal Aviation</p>


	<p>Administration (FAA), the responsible authority of the State of Design for the affected type design, has issued Emergency Airworthiness Directive (EAD) 2007-18-51 on 25 August 2007. This was subsequently superseded by EAD 2007-18-52 on 28 August 2007. That EAD requires, within 10 days after receipt of that document by the owner or operator of an affected aircraft, repetitive detailed or borescope inspections of the slat track downstop assembly to verify that proper hardware is installed and corrective actions, if necessary. Corrective actions include installing a new or serviceable part; and doing a detailed inspection of the inside of the slat can for foreign object debris (FOD) and damage, and removing any FOD and repairing damage that is found. For aircraft on which no discrepancies are found, that EAD requires, within 24 days after receipt, a one-time torquing of the nut and bolt. This EASA EAD requires those same actions, but establishes a date for these required actions to become effective for all aircraft operated under EU regulations, and requires the initial inspection and corrective actions, if necessary, to be accomplished within the next 10 days after that date. The one-time torquing of the nut and bolt, as applicable, is required within 20 days of that same date. In all other aspects, this EAD contains the same requirements as FAA EAD 2007-18-52, which is attached to this directive.</p> <p>This EAD has been revised to correct the applicability and to reference the validation and acceptance by EASA of alternative methods of compliance.</p>
Effective Date:	29 August 2007
Compliance:	<p>(a) Within the next 10 days after the effective date of this directive, accomplish the tasks described in paragraph (f) of FAA EAD 2007-18-52 (attached to this EASA EAD);</p> <p>(b) Within the next 20 days after the effective date of this directive, accomplish the tasks described in paragraph (g) of FAA EAD 2007-18-52.</p> <p>All other aspects and requirements of FAA EAD 2007-18-52 remain unchanged and can be considered as 'adopted' in accordance with EASA ED Decision 2/2003.</p>
Ref. Publications:	<p>Boeing Service Letter 737-SL-57-084-B, dated 10 July 2007;</p> <p>Boeing Correspondence (Multi-Operator Message) Service Request ID 1-523812011-1, issued 25 August 2007; and</p> <p>Boeing Correspondence (Multi-Operator Message) Service Request ID 1-527463441-1, 1-527463441-2 or 1-527463441-3, issued 28 August 2007.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: The Boeing Company, Fleet Support Engineering P.O. Box 3707, Seattle, Washington 98124-2207, United States of America; Telephone +1-425-237 0300; Facsimile +1-425-237 0352; E-mail bruce.a.dickinson@boeing.com; Website http://www.myboeingfleet.com.

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0101 Date: 28 May 2009 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 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].	
Type Approval Holder's Name : Boeing	Type/Model designation(s) : 747-400, 747-400D, 747-400F, 757-200, 757-200CB, 757-200PF, 767-200, 767-300 and 767-300F
TCDS Number : FAA TCDS : A20WE (Boeing 747) and A2NM (Boeing 757); EASA TCDS : IM.A.035 (Boeing 767)	
Foreign AD : FAA 2004-10-05	
Supersedure: This directive partially supersedes FAA AD 2004-10-05 dated 05 May 2004 and supersedes EASA AD 2005-0026R1 dated 14 December 2005.	
ATA 31	Indicating / Warning – Overspeed Warning System - Modification
Manufacturer(s):	The Boeing Company
Applicability:	All model 747-400, 747-400D, 747-400F, 757-200, 757-200CB, 757-200PF, 767-200, 767-300 and 767-300F aeroplanes, all serial numbers: <ul style="list-style-type: none"> not previously modified in accordance with FAA Airworthiness Directive 2004-10-05 paragraph (c)(1), (c)(2) or (c)(3) as applicable to the aeroplane type, or delivered new with the overspeed reset function activated (through the master warning push buttons), or modified in accordance with FAA AD 2004-10-05 paragraph (b) titled: 'Optional Interim Action'.
Reason:	The FAA interpretation of FAR 25.1303(c)(1) differs from that accepted within Europe. The consequence is that the FAA approved a modification standard that did not comply with European requirements of an overspeed warning system. As a result, for aeroplanes registered in the Member States of the European Union to comply with the intent of FAA AD 2004-10-05, it was not acceptable to perform the optional interim action (paragraph (a)(2) of FAA AD 2004-10-05 resulting in the installation of Boeing Special Attention Service Bulletin (SB) 747-31-2313, Revision 1, or Boeing Special Attention SB 757-31-0068 Revision 1, or Boeing Special Attention SB 767-31-0149


	<p>Revision 1, as detailed in paragraph (b) of FAA AD 2004-10-05. Consequently, the only means by which the unsafe condition defined in the referenced FAA AD could be addressed and the aeroplanes remain compliant to JAR/CS25.1303(c)(1), was complying with EASA AD 2005-0026R1.</p> <p>This AD, which supersedes EASA AD 2005-0026R1 retaining its requirements, is issued to include references to the service information issued by Boeing to allow de-modification of the resettable overspeed warning for aeroplanes delivered new with the overspeed reset function (through the master warning push buttons) activated or modified in-service in accordance with either Boeing Special Attention SB 747-31-2313, 757-31-0068 or 767-31-0149 (or any revision thereof).</p>
Effective Date:	11 June 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless already accomplished:</p> <p>Reminder of EASA AD 2005-0026R1 requirements:</p> <p>(1.) Within 24 months after 14 December 2005 for 747 aeroplanes or 05 September 2005 for 757 and 767 aeroplanes (effective dates of AD 2005-0026R1), carry out the modifications specified in Boeing Alert SB 747-34A2460 Revision 2, Boeing SB 757-34A0222 Revision 2, or Boeing SB 767-34A0332 Revision 2, as applicable to the aeroplane type. This requirement supersedes the one specified in paragraphs (a)(2) and (b) of FAA AD 2004-10-05. In all other respects, the requirements of FAA AD 2004-10-05 are effective for aeroplanes registered in the EU Member States and must be complied with.</p> <p>EASA AD 2009-0101 requirements:</p> <p>(2.) Within 30 days from the effective date of this AD, any aeroplane previously modified in-service in accordance with either Boeing Special Attention SB 747-31-2313 Revision 1 or later revision, 757-31-0068 Revision 1 or later revision or 767-31-0149 Revision 1 or later revision, and any aeroplane delivered new with the overspeed reset function (through the master warning push buttons) activated, must be de-modified in accordance with Boeing SB 747-31-2332 Revision 1, Boeing SB 757-31-0166 Revision 0 or Boeing SB 767-31-0240 Revision 0, as applicable to the aeroplane type.</p> <p>(3.) If paragraph (1.) of this AD was not previously incorporated on the aeroplane, or the aeroplane was delivered new without equivalent in-production changes to the Air Data Computer system, then paragraph (1.) of this AD must be accomplished concurrently with the de-modification of the aeroplane as required by paragraph (2.) of this AD.</p> <p>(4.) Additional instructions specified in FAA AD 2004-10-05 and subsequent revisions or supersedures are required to be complied with per this AD. Reference must be made to the FAA documents.</p>
Ref. Publications:	<p>Boeing Alert SB 747-34A2460 Revision 2, Boeing SB 747-31-2332 Revision 1; Boeing SB 757-34A0222 Revision 2, Boeing SB 757-31-0166 Revision 0; Boeing SB 767-34A0332 Revision 2; Boeing SB 767-31-0240 Revision 0.</p> <p>The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<p>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.</p>

ENCL 17B Rev. 2009-01-0	
	<ol style="list-style-type: none">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: Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, USA. E-mail: Brady.J.Mitchell@boeing.com.


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EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2007–0120 Date: 03 May 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name :	Type/Model designation(s) :
Bombardier Aerospace	CL-600-2B16 (604 variant)
TCDS Number : EASA IM.A.023 (Transport Canada A-131)	
Foreign AD: None	
Supersedure: Not applicable	
ATA 34	Navigation – Mode S Transponder Wiring – Modification
Manufacturer:	Bombardier Aerospace
Applicability:	Model CL-600-2B16 (604 variant) aircraft, serial number (s/n) 5301 through 5630, if modified in-service by Bombardier Aerospace Service Bulletin (SB) 604-34-040 or 604-34-041; and aircraft s/n 5631 through 5665.
Reason:	<p>When operating in European Mode S Designated Airspace, the Mode S ground stations may lose detection of Bombardier CL-600-2B16 aircraft equipped with Mode S Enhanced Surveillance (EHS) transponders</p> <p>Investigation of this problem revealed that the Rockwell Collins TDR-94D transponder, P/N 622-9210-008 [installed in production aircraft from s/n 5631 onwards and by optional in-service retrofit modification through Bombardier Aerospace SB 604-34-040 or SB 604-34-041 on any preceding s/n aircraft] does not reply to "ALL CALL" interrogation used by pure Mode S ground radar stations.</p> <p>The reason for the inability of the TDR-94D transponder to communicate with pure Mode S ground radar is due to a wire strapping that was added for Aircraft Type Category identification during the installation of the above referenced modifications. The Aircraft Type Category strapping is part of future Automatic Dependent Surveillance-Broadcast (ADS-B) function. As the aircraft becomes airborne, this strapping causes the transponder to generate a software error which prevents Mode S "ALL CALL" replies.</p> <p>This condition, if not corrected, could lead to further incidents of Mode S loss of detection by ground stations.</p> <p>For the reason stated above, this Airworthiness Directive (AD) requires the</p>


	<p>removal of the Aircraft Type Category strapping wires to both transponders (1P1RF/2P1RF Pin 21 to ground). This strapping is only used for ADS-B, and it is not used for the other transponders functions.</p> <p>Note: The current Mode A and Mode C Secondary Surveillance Radar (SSR) does detect Air Traffic Control Radar Beacon System (ATCRBS) type communications from the TDR-94D transponder. This method of SSR is, however, to be progressively replaced in certain European countries by Mode S SSR ground radar systems. The introduction of Mode S will be significantly affected if this problem remains for any length of time.</p>
Effective Date:	18 May 2007
Compliance:	<p>Required as indicated, unless accomplished previously:</p> <p>Within the next 3 months after the effective date of this directive, remove the Aircraft Type Category strapping wires to both transponders (1P1RF/2P1RF Pin 21 to ground) in accordance with the instructions of Bombardier Aerospace Service Bulletin (SB) 604-34-054.</p> <p>Note: For aircraft that have incorporated the corrective actions suggested in the Bombardier Advisory Wire AW 604-34-0078 via Service Request for Product Support Action (SRPSA), the requirement of this AD is already met through Bombardier drawing 604-70482 Engineering Order (EO), Revision D-1. In this case, no further action is required other than to record the Service Bulletin incorporation (and AD compliance) in the Log Book and to send the SB Incorporation Sheet to Bombardier Business Aircraft Customer Support (BBACS).</p>
Ref. Publications:	Bombardier Aerospace Service Bulletin No. SB 604-34-054 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted on 03 April 2007 as PAD 07-052 for consultation until 02 May 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point – Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact Bombardier CRC (Customer Response Center) group: Tel: 1-800-567-1511 (N. America) +1-14-855-7453 (International) Fax: +1-514-855-8000 E-mail: ac.yul@aero.bombardier.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0272</p> <p>Date: 16 October 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Bombardier, Inc.	Type/Model designation(s) : DHC-8-400 series aircraft
TCDS Number: EASA IM.A.191; Canada A-142	
Foreign AD: Transport Canada Civil Aviation (TCCA) Airworthiness Directive (AD) No. CF-2007-20 R1, issued 11 October 2007.	
Supersedure: This AD supersedes EASA Emergency AD 2007-0252-E, dated 13 September 2007. NOTE: For aircraft operated under EU regulations, the requirements of this AD take precedence over those contained in TCCA AD CF-2007-20 R1.	
ATA 32	Landing Gear – Main Landing Gear System & Parts - Inspection
Manufacturer(s):	Bombardier, Inc.
Applicability:	<p>Model DHC-8-401 and DHC-8-402 aircraft, all serial numbers.</p> <p>Note: The TCCA AD applies also to Model DHC-8-400 aircraft; as this Model has not been validated in Europe at this time, no aircraft operated under EU regulations and/or registered in EU Member States are affected. For that reason, this AD cannot be applied to those aircraft.</p>
Reason:	<p>Two recent cases of main landing gear collapse on Bombardier Model DHC-8-400 series aircraft have been reported, occurring shortly after touchdown. Main landing Gear collapse during landing can result in loss of control of the aircraft.</p> <p>To address and correct the unsafe condition described above, Transport Canada Civil Aviation (TCCA), the responsible authority of the State of Design for the affected type design, issued Emergency Airworthiness Directive (EAD) CF-2007-20 on 12 September 2007. That directive has now been revised to amend the time compliance in paragraph C.2 (3 months in addition to 500 flight hours), to add new paragraph C.3 to cater for retract actuator which has accumulated less than 4 000 landings or 2 years since new and to add new paragraphs B.2 and C.4 to require that the respective inspections be repetitively performed until terminating action becomes available.</p> <p>This EASA AD requires those same actions, except for ferry flights, where reference is made to Airplane Flight Manual (AFM) Supplement No.94. The provisions in that</p>


	document take precedence over points 4 (the reference to AOM Section 4.8), 5 and 6 of paragraph E "Flight Crew Limitations and Procedures". In all other aspects, this AD contains the same requirements as TCCA AD CF-2007-20R1, which is attached to this directive.
Effective Date:	25 October 2007
Compliance:	<p>Required as indicated, unless previously accomplished:</p> <p>In deviation from paragraph E "Flight Crew Limitations and Procedures" points 4, 5 and 6 of TCCA EAD CF-2007-20R1, ferry flights are permitted only in accordance with the instructions, procedures and limitations as specified in EASA-approved Supplement No.94 "Ferry Flight with Landing Gear Extended" to DHC-8 Series 400 (Q400) AFM Document No. PSM 1-84-1A (JAA).</p> <p>All other aspects and requirements of TCCA EAD CF-2007-20R1 remain unchanged and can be considered as 'adopted' in accordance with EASA ED Decision 2/2003.</p> <p>Note: Any actions already accomplished in accordance with EASA Emergency AD 2007-0252-E after 13 September 2007 can be considered in compliance with the corresponding tasks as required by TCCA AD CF-2007-20R1.</p>
Ref. Publications:	<p>Bombardier Repair Drawing (RD) 8/4-32-059 Issue 5; and</p> <p>Bombardier DHC-8 Series 400 Maintenance Requirements Manual (PSM 1-84-7), Part 1 (Maintenance Review Board Report), tasks Z700-03E (left hand) and Z700-04E (right hand).</p> <p>Bombardier All Operator Messages No. 235, 236A, 237, 238, 239, 240, 243, 245, 247 and 250 also pertain to this subject.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. Required actions and the risk assessment have warranted the immediate adoption of this Final AD with request for comments. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Bombardier, Inc. 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5 Canada; telephone +1-416-375 4000; facsimile +1-416375 4539; E-mail thd.qseries@aero.bombardier.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2006 - 0170 Date: 19 June 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Brantly International, Inc.	Brantly (Hynes) Series Helicopters
TCDS Number: FAA 2H2 Rev. 23	
Foreign AD: None	
Supersedure: UKCAA Additional Airworthiness Directives 0467 PRE 78	
ATA 05	Time Limits - Replacement
Manufacturer(s):	Brantly International Inc.
Applicability:	All Brantly series helicopters fitted with tail rotor blades Part No. B2-111-11.
Reason:	A National Aviation Authority, prior to the formation of EASA, has determined that a Mandatory Replacement Life for the tail rotor blade Part No. B2-111-11 is necessary to maintain an acceptable level of safety. EASA concurs with this position.
Effective Date:	03 July 2006.
Compliance:	<p>Compliance with this Directive requires that the tail rotor blades, Part No. B2-111-11, are subject to a Mandatory Replacement Life of 1,500 hours.</p> <p>This Directive does not apply to tail rotor blades Part No. B2-111-11A.</p>
Ref. Publications:	None
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-100 for consultation on 19 April 2006 with a comment period until 15 May 2006. The Comment Response Document can be found at http://ad.easa.eu.int/. 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA.

	<p>E-mail: ADs@easa.eu.int</p> <p>4. For questions concerning the technical contents of this AD requirements, contact Brantly International Inc. Wilbarger County Airport, 12399 Airport Drive, Vernon, Texas 76384</p>
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EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2008-0078 Date: 24 April 2008
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
STC Approval Holder's Name : Société de Motorisations Aéronautiques (SMA)	Type/Model designation(s): Cessna 182 and F182 series aircraft
Supplemental Type Certificate (STC) Number: EASA.A.S.00774	
Foreign AD : Not applicable	
Supersedure: None	
ATA 75	Engine Air – Air Inlet Manifold Hose Clamps – Inspection
Manufacturers:	Société de Motorisations Aéronautiques (SMA)
Applicability:	Cessna Model 182M, 182N, 182P, 182Q, 182R, and (Reims-manufactured) F182P and F182Q aircraft, all serial numbers, if modified in accordance with STC EASA.A.S.00774 (SMA SR305-230 engine installation)
Reason:	<p>Hose disconnections on the air inlet manifold circuit have been reported to SMA. This condition, if not corrected, could result in a loss of turbo boost and significant loss of engine power, which is not compatible with maintaining constant altitude flight.</p> <p>For this reason, as a temporary measure pending the approval and availability of a final modification, the present EASA Airworthiness Directive (AD) requires repetitive inspections of the air inlet manifold hoses and hose clamps and follow-on corrective action(s), as necessary, specified in SMA Service Bulletin (SB) SB-C182-75-002 Revision 2.</p>
Effective Date:	08 May 2008
Compliance:	<p>Required as indicated, unless accomplished previously:</p> <p>Note: Previous accomplishment of SMA SB-C182-75-002 original issue or Revision 1 does not constitute compliance with the requirements of this AD.</p> <ol style="list-style-type: none"> (1) Within 14 days after the effective date of this AD or after modification of the aircraft in accordance with STC EASA.A.S. 00774, whichever occurs later, and thereafter at intervals not to exceed 50 FH, inspect the air inlet manifold hoses and hose clamps in accordance with SMA SB-C182-75-002 Revision 2; (2) If, during the inspection as required by paragraph (1) of this AD, any discrepancies or damaged parts are found, before next flight, perform the

	<p>corrective actions in accordance with the accomplishment instructions of SMA SB-C182-75-002 Revision 2 and replace any damaged clamps and hoses with airworthy parts;</p> <p>(3) Replacement of parts does not constitute terminating action for the inspection requirements of this AD.</p>
Ref. Publications:	<p>SMA SB N° SB-C182-75-002 Revision 2 dated 25 February 2008.</p> <p>The use of later approved revisions of this document 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 accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 07 April 2008 as PAD 08-015R1 for consultation until 21 April 2008. No comments were received during this period. 3. Enquiries regarding this AD should be referred to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu. 4. For any questions concerning the technical content of the requirements in this AD, please contact: SMA, Service Client, 10-12 rue Didier Daurat, 18021 Bourges – France ; Telephone: +33 (0)2 48 67 56 00 - Fax: +33 (0)2 48 50 01 41 ; E-mail : customer_services@smasr.com

EASA	AIRWORTHINESS DIRECTIVE
	AD N° : 2004-0001 Issued/Date: 12 October 2004


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

Type Approval Holder's Name:	Type/Model designation
CESSNA AIRCRAFT COMPANY	CITATION 750
TCDS Number: JAA/25/99-021 (FAA T00007W1 Rev 1)	
Foreign AD Nr: None	
Supersedure: None	


ATA 35 – OXYGEN SYSTEM – MODIFICATION

Manufacturer(s):	Cessna Aircraft Company.
Applicability:	Cessna Citation 750 aircraft serial number –0001 Through –0219, certificated in any category with modification 4611185 Observers Seat, that do not have Cessna Modification 4690160-1 Oxygen System installed, or Cessna installed Modification 6719229-1 Passenger Briefing Card and part number 6705024-1 and 6705024-3 Placards.
Reason:	In the case of cabin depressurisation the occupant of the Observers Seat in the flight deck may not be aware that their Oxygen mask will drop down behind their seat. This is not in compliance with the Type Certification basis and is considered to represent a potential unsafe condition. Delay in locating and donning the oxygen mask may lead to hypoxia and loss of consciousness.
Approval Number Date	2004-9796 22 September 2004
Effective Date:	15 October 2004
Compliance /Action:	Required within three months after the effective date of this AD, insert the Flight Manual amendment, install the Placards and Briefing card specified in Cessna 750 Service Bulletin SB750-11-17 initial issue or approved later revision
Ref. Publications:	Cessna Aircraft Company Service Bulletin SB 750-11-17, may be obtained from Cessna Aircraft Company, Citation Customer Support, P.O. Box 7706, Wichita, KS 67277, U.S.A. Telephone: +1 316-517-5650, Facsimile: +1 316-517-8500

Remarks	<p>Enquiries regarding this Airworthiness Directive should be referred to Mr. Pascal Medal, EASA Large Aircraft Certification Manager - Certification Directorate E-mail: Pascal.MEDAL@cec.eu.int</p> <p>Temporary address (until 3 November 2004): European Aviation Safety Agency Office G-12 02174 Rue de Geneve 12 B-1049 Brussels, Belgium</p> <p>Postal address after 3 November 2004: European Aviation Safety Agency Postfach 101253 D-50452 Koeln, Germany</p>
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EASA	AIRWORTHINESS DIRECTIVE												
	<p>AD No.: 2006 - 0267</p> <p>Date: 31 August 2006</p>												
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.													
<p>Type Approval Holder's Name :</p> <p>No TC Holder at time of publication</p> <p>(The TC previously held by REIMS AVIATION, S.A. is under transfer to the Cessna Aircraft Company)</p>	<p>Type/Model designation(s) :</p> <p>F150, FA150, FRA150, F152 and FA152 series</p>												
TCDS Number : France 107													
Foreign AD : FAA 80-11-04													
Supersedure : DGAC AD 1984-067-IMP(A) R1													
ATA 55	Stabilizers – Horizontal and Vertical Stabilizer Attachment– Inspection/Replacement												
Manufacturer:	Reims Aviation, S.A.												
Applicability:	<p>This airworthiness directive applies to Reims Aviation aircraft models and serial numbers listed below, unless the NAS 10684A nutplate has been replaced in accordance with DGAC France AD 1984-067-IMP(A) R1:</p> <table border="1"> <tr> <td>F150F, F150G, F150H and F150J</td><td>F150-0001 thru F150-0529</td></tr> <tr> <td>F150K, F150L and F150M</td><td>F15000530 thru F15001428</td></tr> <tr> <td>FA150K and FA150L</td><td>FA1500001 thru FA1500120</td></tr> <tr> <td>FRA150L and FRA150M</td><td>FRA1500121 thru FRA1500336</td></tr> <tr> <td>F152</td><td>F15201429 thru F15201828</td></tr> <tr> <td>FA152</td><td>FA1520337 thru FA1520372</td></tr> </table>	F150F, F150G, F150H and F150J	F150-0001 thru F150-0529	F150K, F150L and F150M	F15000530 thru F15001428	FA150K and FA150L	FA1500001 thru FA1500120	FRA150L and FRA150M	FRA1500121 thru FRA1500336	F152	F15201429 thru F15201828	FA152	FA1520337 thru FA1520372
F150F, F150G, F150H and F150J	F150-0001 thru F150-0529												
F150K, F150L and F150M	F15000530 thru F15001428												
FA150K and FA150L	FA1500001 thru FA1500120												
FRA150L and FRA150M	FRA1500121 thru FRA1500336												
F152	F15201429 thru F15201828												
FA152	FA1520337 thru FA1520372												

Reason:	<p>To detect cracked NAS 1068A4 nutplates which, if allowed to go undetected, could result in separation of the vertical or vertical and horizontal tail assembly from the airplane.</p> <p>This AD supersedes DGAC France AD 1984-067-IMP(A) R1, which was issued in 1984 to take into account FAA AD 80-11-04, adding a time deadline to get all the NAS 10684A nutplates replaced by AN365-428, MS20365-428, MS21042L4 or MS21044N4 nuts. This calendar time limit is now withdrawn.</p>
Effective Date:	14 September 2006
Compliance:	<p>Unless accomplished previously, within 100 hours time-in-service (TIS) after the effective date of this AD, and thereafter at intervals not to exceed 100 hours TIS, accomplish the following:</p> <p>A) Using a suitable light and mirror, visually inspect the eight NAS 1068A4 nutplates installed on the Part Number 0432004-9 vertical fin aft attachment bracket for cracks in the threaded part (nut body) and/or base of the nutplate in accordance with the instructions in Reims Aviation Bulletin Service (BS) 24 Revision n°1 or Cessna Single Engine Service Information Letter SE79-49, Revision # 1;</p> <p>B) If any NAS 10684A nutplate is found cracked, before next flight, replace it with a serviceable part;</p> <p>C) The repetitive inspections are no longer required if the NAS 10684A nutplates are replaced with AN365-428, MS20365-428, MS21042L4 or MS21044N4 nuts.</p>
Ref. Publications:	<p>Reims Aviation SB 24, Revision n°1 or later approved revisions; or</p> <p>Cessna Single Engine Service Information Letter SE79-49, Revision # 1, dated April 28, 1980 or later approved revisions.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance for this AD. 2. This AD was posted as PAD 06-150 for consultation on 13 June 2006 with a comment period until 30 June 2006. The Comment Response Document can be found on the Agency's website at http://www.easa.europa.eu/home/aw_dir_en.html. 3. Enquiries regarding this Airworthiness Directive should be referred to the Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions regarding the technical content of the requirements of this AD, please contact: The Cessna Aircraft Company, Product Support, P.O. Box 7706, Wichita, Kansas 67277-7706, United States of America; telephone: +1 (316) 517-5800; facsimile: +1 (316) 942- 9006.

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	AD N° : 2004-0010 (ERJ 170-100) Issued 23 December 2004


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

Type Approval Holder's Name: Embraer – Empress Brasileira de Aeronáutica S.A	Type/Model designation(s) Embraer 170-100
TCDS Number: IM.A.001	


	ATA 31 – Indicating/Warning System – Operating procedures and Flight Manual Limitations
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Manufacturer(s):	Embraer – Empress Brasileira de Aeronáutica S.A
Applicability:	All Embraer 170-100 aircraft
Reason:	In the case of an EPIC avionics system failure, blanking of all primary and secondary pilots display units and loss of Autopilot and associated functions may occur. This is not in accordance with the Type Certification basis and is considered to represent a potential unsafe condition. CTA are to raise an Airworthiness Directive to embody the modification in Service Bulletin SB 170-31-0002 which addresses this issue. Until the reference modification is embodied additional operational limitations are considered necessary to mitigate against the risk of an EPIC system failure occurring in low visibility conditions during take-off or landing operations.
Approval number, date	2004-12535 23 December 2004
Effective Date:	27 December 2004
Compliance:	Within 72 hours of the effective date of this AD accomplish the following:

	<p>a) Insert Embraer Operational Bulletin 170-011/04 dated December 14 2004 into the Aircraft Flight Manual (Embraer AFM-1479) Emergency and Abnormal Procedures Section 4.</p> <p>b) The following operational limitations must be inserted in the Aircraft Flight Manual. (This can be achieved by inserting a copy of this AD in the AFM Limitations Section).</p> <p>1) Minimum approach Decision Height (DH): 500ft Above Runway Threshold Elevation (ARTE).</p> <p>2) Take-off in Runway Visual Range (RVR) below 600 metres is prohibited.</p> <p>Note: Embodiment of the Embraer modification in Service Bulletin SB 170-31-0002 is a terminating action for this AD and the limitations imposed by para a) and b) can be removed.</p>
Ref. Publications:	<p>Embraer Operational Bulletin 170-011/04 can be obtained from: Embraer – Empress Brasileira de Aeronáutica S.A, Av. Brigaderio Faria Lima, 2170- CEP 12227-901, S.J. dos Campos, Brasil. Tel: +(5512)3927-1706, Fax: +(55 12) 3927-2477, e-mail: opereng@embraer.com.br</p>
Remarks	<p>Enquiries regarding this Airworthiness Directive should be referred to Mr. Paul van Daalen, EASA Airworthiness Directives Focal Point – Certification Directorate. e-mail: Paul.van-daalen@easa.eu.int Address: European Aviation Safety Agency Postfach 101253 D-50452 Koln, Germany</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0123</p> <p>Date: 04 May 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name EMBRAER	Type/Model designation EMB-110 aircraft
TCDS Number: Brazil (CTA) Nr. EA-7202	
Foreign AD: None	
Supersedure: This EASA AD supersedes CAA United Kingdom Additional AD 001-08-97	
ATA 34	Navigation – Attitude indicator – Modification/Addition
Manufacturer(s):	Empresa Brasileira de Aeronáutica, S.A. (Embraer)
Applicability:	Model EMB-110 aircraft, all variants, all serial numbers
Reason:	<p>As a result of a fatal UK accident on 24 May 1995 involving an Embraer EMB-110 “Bandeirante”, the UK AAIB issued Safety Recommendation 95-35 which recommended the fitment of a third artificial horizon, operated from an independent power supply and protected from voltage transients affecting the aircraft power supplies, for aircraft in the Public Transport Category with more than nine seats. (AAIB Aircraft Accident Report 2/96 refers).</p> <p>At the time the UK CAA reviewed the reliability of attitude indicator information on other aeroplanes with more than nine passenger seats, and concluded that specific action was only justified on the EMB-110.</p> <p>Although JAR-OPS 1.652 requires all aeroplanes with a maximum approved passenger seating configuration of more than nine seats, operating for the purposes of Commercial Air Transport in accordance with Instrument Flight Rules (IFR), to be equipped with a standby attitude indicator in addition to the attitude display required for each pilot, not all aeroplanes operating within Europe are operated in accordance with JAR-OPS 1. To ensure the continued safety of EMB-110 aeroplanes that are not subject to the provisions of JAR-OPS 1, this EASA AD requires the installation of a 3rd attitude indicator.</p>


Effective Date:	18 May 2007
Compliance:	Within 24 months after the effective date of this directive, unless accomplished previously, modify the affected aircraft by installing a third attitude indicator on the main instrument panel in accordance with Embraer Service Bulletin 110-34-0084 Revision 1 or equivalent approved design.
Ref. Publications:	Embraer Service Bulletin 110-34-0084 Revision 1
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA Manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC's) for this AD.2. This AD was posted on 22 November 2005 as PAD 05-023 for consultation until 21 December 2005. The Comment Response Document (CRD) can be found at http://ad.easa.europa.eu/.3. Enquiries regarding this Proposed Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail ADs@easa.europa.eu4. For any questions concerning the technical aspects of the requirements in this AD, please contact: Embraer – Empresa Brasileira De Aeronáutica S.A., Dept. Technical Publications, Av. Brig. Faria Lima, 2170 São José Dos Campos - Sp - 12227-901, Brasil; Fax: ++ 55 12 3927-7546 e-mail: distrib@embraer.com.br

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0264</p> <p>Date: 09 October 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Empresa Brasileira de Aeronáutica S.A.	Type/Model designation(s) : EMB-135BJ
TCDS Number: EASA IM.A.032; ANAC (Agência Nacional de Aviação Civil - Brazil) EA-9606	
Foreign AD: This AD is related to, and prompted by ANAC AD Nr. 2007-08-01.	
Replacement: For aircraft that operate under EU Regulations, the requirements of this AD take precedence over those contained in ANAC AD 2007-08-01.	
ATA 28	Fuel System - Fuel Tank System Airworthiness Limitations (AWL) - Implementation
Manufacturer(s):	Empresa Brasileira de Aeronáutica, S.A. (EMBRAER)
Applicability:	Model EMB-135BJ aircraft, all serial numbers.
Reason:	<p>ANAC has issued a new airworthiness directive (AD) for all Embraer Model EMB-135BJ aircraft. This AD requires revising the approved maintenance plan by incorporating new airworthiness limitations (AWLs) for fuel tank systems to satisfy the RBHA-E88 (equivalent to FAA SFAR-88) requirements. This AD results from a design review of the fuel tank systems. ANAC has issued this AD to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions, which, in combination with flammable fuel vapours, could result in a fuel tank explosion and consequent loss of the airplane.</p> <p>ANAC AD Nr. 2007-08-01 (copy attached) mandates the Fuel System Limitation Items, including the Critical Design Configuration Control Limitations (CDCCL), for EMB-135BJ aircraft with a final compliance time of 31 December 2008. However, Embraer has voluntarily anticipated and respected the "EASA policy statement on the process for developing instructions for maintenance and inspection of fuel tank ignition source prevention" [EASA D2005/CPRO, later revised EASA D2006/CPRO, 8 March 2006] by publishing the Fuel System Limitation Items in Embraer Maintenance Planning Guide (MPG), document No. MPG-1483 Revision 5, dated 22 March 2007.</p> <p>The EASA compliance time schedule is considered to be a straightforward application of Regulation (EC) No 2042/2003 Part M.A.302 in relation to the publication of the Airworthiness Limitations (including CDCCL) by Embraer in</p>


	<p>document No. MPG-1483.</p> <p>According to Part M.A.302(f) and (g), operators should have been aware of these Fuel Airworthiness Limitations as published by Embraer and implemented these into their aircraft maintenance programme as a result of the required annual review.</p> <p>With this EASA AD, EASA endorses the technical content of the ANAC Brasil AD 2007-08-01.</p> <p>However, in deviation from the ANAC AD, EASA requires the incorporation of the relevant tasks into the aircraft maintenance programme before 01 December 2007.</p>
Effective Date:	23 October 2007
Compliance:	<p>EASA endorses the technical content of ANAC AD 2007-08-01, which is attached as an appendix to this directive, except regarding paragraphs (a) and (b) of that document, which must be applied as follows:</p> <p>(a) Before 01 December 2007, revise the approved maintenance program to incorporate the tasks presented in the Appendix 2, Section A2.5.2: Fuel System Limitation Items, as shown in the MPG-1483 Revision 5, dated 22 March 2007;</p> <p>(b) Before 01 December 2007, revise the approved maintenance program to incorporate items 1), 2) and 3) of the Appendix 2, Section A2.4: Critical Design Configuration Control Limitations (CDCCL), as shown in the MPG-1483 Revision 5, dated 22 March 2007;</p> <p>Accomplishing the revision in accordance with a later revision of Embraer document No. MPG-1483 is an acceptable method of compliance if the revision is approved by EASA directly or through Agency Decision 2004/03/CF by ANAC (formerly identified as DAC/CTA).</p>
Ref. Publications:	Embraer Maintenance Planning Guide (MPG), document No. MPG-1483 Revision 5, dated 22 March 2007.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 30 August 2007 as PAD 07-160 for consultation until 28 September 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Embraer – Empresa Brasileira de Aeronáutica S.A., Technical Publications Av. Brig. Faria Lima, 2170. São José Dos Campos - SP - 12227-901 Brasil ; Fax: ++ 55 12 3927-7546 e-mail: distrib@embraer.com.br

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007- 0193- E</p> <p>Date: 17 July 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : EMBRAER	Type/Model designation(s) : EMB-145 (-135)
TCDS Number: EASA.IM.A.032	
Foreign AD: Not applicable	
Supersedure: Not applicable	
ATA N/A	Airplane Flight Manual – Emergency and Abnormal Procedures — Amendment
Manufacturer(s):	Embraer - Empresa Brasileira de Aeronáutica SA
Applicability:	EMB-145 (-135) all models per EASA TCDS IM.A.032
Reason:	<p>This AD is issued to require operators to follow a specific procedure if facing a LG/LEVER DISAGREE EICAS message.</p> <p>It was reported that the LG/LEVER DISAGREE EICAS message was displayed on approach after commanding the landing gear lever to DOWN and having three GREEN landing gear position indications. The crew decided to continue the approach and landing procedure. As soon as the crew identified that the landing gear was not extended properly, a go-around procedure was successfully performed. During manoeuvre, the airplane settled momentarily onto the flaps and belly.</p> <p>As corrective action, EMBRAER issued Operational Bulletin 145-001-07, enforcing the AFM procedure related to the LG/LEVER DISAGREE EICAS message. Prior to incorporation of this AD the ANAC and the EASA AFM procedures contain differences; therefore an EASA AFM revision needs to be incorporated.</p>
Effective Date:	19 July 2007


Compliance:	<p>1.) Before next flight, replace the Emergency Procedure LANDING GEAR/LEVER DISAGREE in the AFM Emergency and Abnormal Procedures Section 3 by the following procedure:</p> <p>LANDING GEAR/LEVER DISAGREE</p> <p>OR</p> <p>NOSE LANDING GEAR UP DOOR OPEN</p> <p>EICAS Message: LG/LEVER DISAGREE</p> <p style="padding-left: 40px;">NLG UP/DOOR OPN (some airplanes may have an indication light instead of the EICAS message)</p> <p>Confirm the message on EICAS, check landing gear indication and, even if Landing Gear Indication shows three green lights:</p> <p>AirspeedMAXIMUM 200 KIAS</p> <p>Landing GearCYCLE</p> <p>If the message persists:</p> <p style="padding-left: 40px;">In a retraction:</p> <p style="padding-left: 80px;">Landing GearDOWN</p> <p style="padding-left: 80px;">Airspeed.....MAXIMUM 250 KIAS</p> <p style="padding-left: 80px;">Land at the nearest suitable airport. Leave and avoid icing conditions.</p> <p style="padding-left: 40px;">In an extension:</p> <p style="padding-left: 80px;">ABNORMAL LANDING GEAR</p> <p style="padding-left: 80px;">EXTENSION ProcedureACCOMPLISH</p> <p><i>Note: This may be accomplished by inserting a copy of this EAD into the AFM.</i></p> <p>2.) Within the next 40 calendar days or 400 flight hours after the effective date of this AD, whichever occurs first, replace the inserted above mentioned procedure by incorporating EMBRAER AFM revisions -135/1541 Revision 6 or -135/1283 Revision 20 or -145/1154 Revision 66 as applicable into the AFM Emergency and Abnormal Procedures Section 3.</p>
Ref. Publications:	EMBRAER AFM revisions -135/1541 Revision 6 or -135/1283 Revision 20 or -145/1154 Revision 66 as applicable
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOC) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification 3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - 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: EMBRAER Continued Airworthiness Group. E-mail: continued.airworthiness@embraer.com.br

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0265</p> <p>Date: 09 October 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Empresa Brasileira de Aeronáutica S.A.	Type/Model designation(s) : EMB-135 (except -135BJ) and EMB-145 series
TCDS Number: EASA IM.A.032; Agência Nacional de Aviação Civil (ANAC - Brazil) EA-9606	
Foreign AD: This AD is related to, and prompted by ANAC AD Nr. 2007-08-02.	
Replacement: For aircraft that operate under EU Regulations, the requirements of this AD take precedence over those contained in ANAC AD 2007-08-02.	
ATA 28	Fuel System - Fuel Tank System Airworthiness Limitations (AWL) - Implementation
Manufacturer(s):	Empresa Brasileira de Aeronáutica, S.A. (EMBRAER)
Applicability:	<p>Model EMB-145, EMB-145EP, EMB-145ER, EMB-145EU, EMB-145LR, EMB-145LU, EMB-145MK, EMB-145MP, EMB-135ER and EMB-135LR aircraft, all serial numbers.</p> <p>Note 1: Because the Models EMB-135KE, EMB-135KL, EMB-145MR and EMB-145XR have not been validated in Europe at this time, no aircraft operated under EU regulations and/or registered in EU Member States are affected. For that reason, this AD cannot be applied to those aircraft.</p> <p>Note 2: The applicability statement of ANAC AD 2007-08-02 includes a Note, excluding aircraft modified in accordance with Brazilian Supplemental Type Certificate (CHST) Nos. 2002S06-09, 2002S06-10 or 2003S08-01. None of these STCs have been validated in Europe at this time.</p>
Reason:	<p>ANAC has issued a new airworthiness directive (AD) for all Embraer Model EMB-135 and EMB-145 series aircraft. This AD requires revising the approved maintenance plan by incorporating new airworthiness limitations (AWLs) for fuel tank systems to satisfy the RBHA-E88 (equivalent to FAA SFAR-88) requirements. This AD results from a design review of the fuel tank systems. ANAC has issued this AD to prevent the potential for ignition sources inside fuel tanks caused by latent failures, alterations, repairs, or maintenance actions, which, in combination with flammable fuel vapours, could result in a fuel tank explosion and consequent loss of the airplane.</p> <p>ANAC AD Nr. 2007-08-02 (copy attached) mandates the Fuel System Limitation</p>


	<p>Items, including the Critical Design Configuration Control Limitations (CDCCL), for EMB-135 and EMB-145 series aircraft with a final compliance time of 31 December 2008. However, Embraer has voluntarily anticipated and respected the "EASA policy statement on the process for developing instructions for maintenance and inspection of fuel tank ignition source prevention" [EASA D 2005/CPRO, later revised EASA D 2006/CPRO, 8 March 2006] by publishing the Fuel System Limitation Items in Embraer Maintenance Review Board Report (MRBR), Document No. MRB-145/1150 Revision 10, dated 04 August 2006.</p> <p>The EASA compliance time schedule is considered to be a straightforward application of Regulation (EC) No 2042/2003 Part M.A.302 in relation to the publication of the Airworthiness Limitations (including CDCCL) by Embraer in document No. MRB-145/1150. According to Part M.A.302(f) and (g), operators should have been aware of these Fuel Airworthiness Limitations as published by Embraer and implemented these into their aircraft maintenance programme as a result of the required annual review.</p> <p>With this EASA AD, EASA endorses the technical content of the ANAC AD 2007-08-02. However, in deviation from the ANAC AD, EASA requires the incorporation of the relevant tasks into the aircraft maintenance programme before 01 December 2007.</p>
Effective Date:	23 October 2007
Compliance:	<p>EASA endorses the technical content of ANAC AD 2007-08-02, which is attached as an appendix to this directive, except regarding paragraphs (a) and (b) of that document, which must be applied as follows:</p> <p>(a) Before 01 December 2007, revise the approved maintenance program to incorporate the tasks presented in the Appendix 2, Section A2.5.2: Fuel System Limitation Items, as shown in the MRB-145/1150 Revision 10, dated 04 Aug. 2006;</p> <p>(b) Before 01 December 2007, revise the approved maintenance program to incorporate items 1), 2) and 3) of the Appendix 2, Section A2.4: Critical Design Configuration Control Limitations (CDCCL), as shown in the MRB-145/1150 Revision 10, dated 04 Aug. 2006;</p> <p>Accomplishing the revision in accordance with a later revision of Embraer document No. MRB-145/1150 is an acceptable method of compliance if the revision is approved by EASA directly or through Agency Decision 2004/03/CF by ANAC (formerly identified as DAC/CTA).</p>
Ref. Publications:	Embraer Maintenance Review Board Report (MRBR), Document No. MRB-145/1150 Revision 10, dated 04 August 2006.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 30 August 2007 as PAD 07-161 for consultation until 28 September 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Embraer – Empresa Brasileira de Aeronáutica S.A., Technical Publications, Av. Brig. Faria Lima, 2170. São José Dos Campos - SP - 12227-901 Brasil ; Fax: ++ 55 12 3927-7546 e-mail: distrib@embraer.com.br

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 – 0172R1 Date: 26 June 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Enstrom Helicopter Corporation	Enstrom F-28A and 280 Helicopters
TCDS Number: FAA H1CE	
Foreign AD: None	
Supersedure: UKCAA Additional Airworthiness Directive AD 001-07-85	
ATA 64	Tail Rotor – Blade Grip – Inspection and Rework
Manufacturer:	Enstrom Helicopter Corporation
Applicability:	All Enstrom F-28A and 280 helicopters fitted with narrow chord tail rotor forged blade grips Part Nos. 28–15012 or 28–150024–11.
Reason:	<p>A National Aviation Authority, prior to the formation of EASA, has determined that Mandatory Compliance with the inspection and rework requirements of a TC Holder Service Directive Bulletin is necessary in order to reduce the risk of tail rotor blade failure. EASA concurs with this position.</p> <p>Revision 1 of this AD 2006-0172 has been issued to correct the reference to the UK CAA Additional Airworthiness Directive which has been superseded by this AD and to better define the AD applicability.</p>
Effective Date:	03 July 2006
Compliance:	<p>Compliance with this Directive is required before further flight, after the effective date of this Directive.</p> <p>Inspect and rework the tail rotor blade assembly in accordance with Service Directive Bulletin 0067. Subsequent to the initial inspection and rework, re-inspect tail rotor blade assemblies at Daily, 50 hour, and 100 hour intervals thereafter in accordance with paragraph 'J' of the SDB.</p>
Ref. Publications:	Enstrom Service Directive Bulletin 0067


Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-102 for consultation on 19 April 2006 with a comment period until 15 May 2006. No comment was raised during consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - 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 Enstrom Helicopter Corporation.
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No: 2006 – 0292</p> <p>Date: 29 September 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Enstrom Helicopter Corporation	Enstrom F-28 and 280 Series Helicopters
TCDS Number: FAA H1CE	
Foreign AD: None	
Supersedure: United Kingdom CAA Additional AD 007-12-83 Revision 1	
ATA 64	Tail Rotor – Pitch Link & Pitch Arm Plate – Inspection/Replacement
Manufacturer:	Enstrom Helicopter Corporation
Applicability:	All Enstrom F-28 and 280 series helicopters.
Reason:	<p>This AD results from an EASA review of UK CAA Additional AD's submitted for consideration under EC 1592/2002 Article 10.1 to become EU requirements.</p> <p>In this case EASA concurs with the UK CAA that an unsafe condition exists.</p> <p>Inspection of the tail rotor pitch change links is necessary to prevent loss of yaw control.</p>
Effective Date:	09 October 2006
Compliance:	<p>Required as indicated, unless already accomplished in accordance with CAA-UK AAD 007-12-83 Revision 1:</p> <ol style="list-style-type: none"> 1) Within the next 10 flight hours (FH) after the effective date of this directive, inspect the tail rotor pitch change links for tightness of attachment between the link rod end and the drive arm on the tail rotor blade grip; 2) If loss of torque at the bolted joint is such that the AN4 pitch link bolt can be freely turned by hand, before next flight, replace the bolt with a new bolt of the same Part Number and check the pitch link bolt hole in the pitch arm plate for wear. Thereafter, at intervals not to exceed 100 FH, re-inspect the subject bolted joints for wear. 3) If the hole is worn to a dimension in excess of 0.251 inches, before next flight, replace the pitch arm plate with a serviceable part of the same Part Number.


Ref. Publications:	None
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-160 for consultation on 23 June 2006 with a comment period until 14 July 2006. No comments were received during the consultation period.3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - 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 Enstrom Helicopter Corporation U.S.A. - P.O. Box 490, 2209 22nd Street - Menominee, Michigan 49858; United States of America; e-mail: customerservice@enstromhelicopter.com.

EASA	AIRWORTHINESS DIRECTIVE												
	AD No: 2006-0290												
	Date: 29 September 2006												
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.													
Type Approval Holder's Name:		Type/Model designation(s):											
Enstrom Helicopter Corporation		Enstrom 480 Series											
TCDS Number: FAA H1CE													
Foreign AD: None													
Supersedure : United Kingdom CAA Additional AD G-2003-0002													
ATA 05	Time Limits / Maintenance Checks – Life Limited Components – Replacement												
Manufacturer(s):	Enstrom Helicopter Corporation												
Applicability:	All 480 and 480B Helicopters												
Reason:	<p>This AD results from an EASA review of UK CAA Additional AD's submitted for consideration under EC 1592/2002 Article 10.1 to become EU requirements.</p> <p>In this case EASA concurs with the UK CAA that an unsafe condition exists.</p> <p>The original certificated component Mandatory Replacement Lives have not been substantiated in accordance with European requirements.</p>												
Effective Date:	09 October 2006												
Compliance:	<p>After the effective date of this directive, replacement of the listed parts is required at or before the accumulation of the following times in service:</p> <table border="1"> <thead> <tr> <th rowspan="2">Description</th><th rowspan="2">Original Part Number</th><th colspan="2">Mandatory Replacement Time In Service</th></tr> <tr> <th>480</th><th>480B</th></tr> </thead> <tbody> <tr> <td>Main Rotor Pitch Change Bellcrank</td><td>28-14207-101</td><td>3,130 hours</td><td>3,130 hours</td></tr> </tbody> </table>			Description	Original Part Number	Mandatory Replacement Time In Service		480	480B	Main Rotor Pitch Change Bellcrank	28-14207-101	3,130 hours	3,130 hours
Description	Original Part Number	Mandatory Replacement Time In Service											
		480	480B										
Main Rotor Pitch Change Bellcrank	28-14207-101	3,130 hours	3,130 hours										

	Main Rotor Hub Plate	28-14280-1/-3/-5 and 28-14281-1/-3/-5	1,275 hours	1,029 hours *
	Main Rotor Blade Retention Pin	28-14007-3	3,276 hours	3,276 hours
	Extension Tube	4112011-5	1,250 hours	1,000 hours
	Ring gear	28-13108-7	1,200 hours	1,200 hours
	Spar Fitting Rivet Attachment	MS20470AD5-4	1,000 hours	N/A
* Only -5 is applicable to 480B model.				
Ref. Publications:	Enstrom Service Information Letter (SIL) T-002 updates the service lives for all other life-limited components, included in FAA TCDS H1CE. Enstrom TH-28/480 series Maintenance Manual, Table 3-1 "Mandatory Retirement Life Limits" also contains related information.			
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-078 for consultation on 28 March 2006 with a comment period until 28 April 2006 which was subsequently extended. The Comment Response Document can be found at http://ad.easa.eu.int/ . 3. Enquiries regarding this Airworthiness Directive should be referred to the AD Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int. 4. For any question concerning the technical content of the requirements in this AD, please contact the Enstrom Helicopter Corporation U.S.A. - P.O. Box 490, 2209 22nd Street - Menominee, Michigan 49858; United States of America; e-mail: customerservice@enstromhelicopter.com 			

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2005-0036 R1</p> <p>Date: 29 May 2008</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>True Flight Holdings LLC</p>	<p>Type/Model designation(s) :</p> <p>AA-1 and AA-5 series aircraft</p>
<p>TCDS Numbers: United States No.A11EA and A16EA</p>	
<p>Foreign AD: FAA 76-17-03, Amendment 39-2699.</p>	
<p>Revision: This AD revises and replaces EASA AD 2005-0036 dated 22 December 2005. The original AD superseded CAA United Kingdom (UK) AD Gulfstream AA-1/AA-5 0527 PRE 78 REV 2, deviating from and thereby replacing the relevant State of Design FAA AD 76-17-03.</p>	
ATA 50	Structure – Bonded Joints – Inspection / Repair
Manufacturer(s):	American Aviation Corporation, Grumman American Aviation Corporation and Gulfstream American Corporation.
Applicability:	AA-1, AA-1A, AA-1B, AA-1C, AA-5, AA-5A, and AA-5B aircraft, all serial numbers.
Reason:	<p>There have been at least 14 separate findings of delamination of bonded joints inside control surfaces, wing and empennage structures of AA-1 and AA-5 series aircraft registered in the UK. FAA AD 76-17-03 dated 30 August 1976 requires a non-repetitive inspection and rework of the control surface bonded joints in accordance with Grumman American Service Letter (SL) 74-2. However, the findings on the UK fleet showed that bonded joints of other structural components, wings and empennage, are also prone to extensive delamination. This prompted the CAA UK to issue deviating AD 0527.</p> <p>Delamination of wing and empennage joints, if not detected and reworked, would lead to a loss of structural integrity and eventual catastrophic failure.</p> <p>EASA concurred with the CAA UK AD 0527, which is superseded, and has also been made aware of additional reports of delamination on foreign registered aircraft.</p> <p>This AD has been revised to clear up an apparent 'mismatch' between the Applicability and Compliance sections, which have led to confusion. Incidentally, the TC holder name has been changed and some editorial improvements have been implemented for reasons of standardisation.</p>
Effective Date:	30 December 2005

Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 150 flight hours (FH) or 12 months after the effective date of this AD, or after the last inspection as required by CAA UK AD 0527 Rev 2 or FAA AD 76-17-03, as applicable, whichever occurs first, and thereafter at intervals not to exceed 150 FH or 12 months, whichever occurs first, inspect all bonding lines, including all the trailing edges and ribs in the wings and empennage in accordance with the instructions of Grumman American SL 74-2 as follows:</p> <p>(a) On Models AA-1 and AA-1A aircraft, all serial numbers, Model AA-1B aircraft up to serial number (s/n) 0650 inclusive, and Model AA-5 s/n 0001: The mid span joint and cover strip is fully bonded with a single rib at the joint line. Removal of the mid span cover strips is not required, a detailed visual inspection of all bonding lines, including the external mid span strip using appropriate equipment from within the wing structure, is acceptable.</p> <p>(b) On Model AA-1B s/n 0651 and up, Model AA-1C, all serial numbers, Model AA-5, s/n 0002 and up, and Models AA-5A and AA5-B aircraft, all serial numbers: The mid span joint has two wing ribs close together at the joint line and the cover strip is riveted in place. To facilitate the inspection of all the wing rib bonding lines at the mid span joint, the metal strips covering the wing panel joints must be removed to allow detailed inspection of all bonding lines.</p> <p>Note 1: To minimise the damage caused by repeated de-riveting, the mid span cover strips may be re-fitted using riv-nuts in accordance with Fletcher Inc. Service Kit (SK) 155.</p> <p>Note 2: When ribs in the integral fuel tanks require reattachment the area of riveting must be sealed as specified in paragraph 7-20-03 of the TC holder's Service Manual.</p> <p>(2) When, during an inspection as required by paragraph (1) of this AD, any delamination is found, before next flight, accomplish the repair in accordance with the instructions of Grumman American SK No. 125A.</p>
Ref. Publications:	<p>Grumman American SL 74-2 and Grumman American SK No. 125A.</p> <p>Fletcher Inc. Service Kit 155 is available from: Fletcher Inc., 9000 Randolph Street, Houston, Texas 77061, United States of America; Telephone +1 713-641-2023.</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 original issue of this AD was posted on 11 November 2005 as PAD 05-020 for consultation until 11 December 2005. The Comment Response Document can be found at http://ad.easa.europa.eu/. 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 questions concerning the technical content of the requirements in this AD, please contact: True Flight Holdings LLC, 810 Pine Point Circle, Valdosta, Georgia 31602, United States of America; telephone +1 229-242-6337; e-mail info@trueflightaerospace.com; website www.trueflightaerospace.com/.

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0180-E</p> <p>Date: 24 August 2009</p> <p>Note: This Emergency 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
Gulfstream Aerospace Corporation	GIV-X and GV-SP aeroplanes
TCDS Number : EASA.IM.A.070	
Foreign AD :	FAA AD 2009-17-01; this AD is identical in intent and required action(s) to FAA AD 2009-17-01, but applies to different serial number (s/n) aeroplanes.
Supersedure :	None
ATA 49	Airborne Auxiliary Power – Auxiliary Power Unit (APU) Enclosure (Firewall) – Inspection / Limitation
Manufacturer(s):	Gulfstream Aerospace Corporation
Applicability:	Model GIV-X aeroplanes, s/n 4147, 4151 and 4153 through 4171 inclusive, and Model GV-SP aeroplanes, s/n 5205, 5218, 5220 through 5224 inclusive, and 5226 through 5249 inclusive.
Reason:	<p>Gulfstream Aerospace has reported that an improper, flammable sealant has been used on the exterior of the APU enclosure (firewall) on G-IV, GIV-X, GV, and GV-SP aeroplanes. This condition, if not corrected, and under certain conditions such as an APU failure or an APU compartment fire, could lead to ignition of the exterior surfaces of the APU enclosure, possibly resulting in propagation of an uncontained fire to other critical areas of the aeroplane.</p> <p>FAA AD 2009-17-01 has been issued to address and correct this problem for certain aeroplanes of this type design and this AD has been adopted by EASA.</p> <p>However, EASA has determined that the FAA AD does not apply to an additional group of aeroplanes on which this unsafe condition is likely to exist or develop. To address this additional group of aeroplanes, the FAA has updated TCDS A12EA (Revision 33) to list these aeroplanes and the required standard with which these should comply. European regulations require EASA to issue an AD when an unsafe condition has been determined.</p> <p>For the reasons described above, this AD requires, for those aeroplane s/n that are not covered by FAA AD 2009-17-01, a one-time inspection for sealant applied to the exterior of the APU enclosure, and, depending on findings, a revision of the Airplane Flight Manual (AFM) to prohibit operation of the APU during certain</p>

	<p>ground and flight operations.</p> <p>EASA considers this AD to be an interim action. If a final solution is later identified, further AD action may follow.</p>								
Effective Date:	26 August 2009								
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Prior to the issuance of an EASA Certificate of Airworthiness, or within 21 days after the effective date of this AD, whichever occurs later, perform a general visual inspection of the exterior of the APU enclosure (firewall) to detect sealant on rivets or fillet seals on panel joints, in accordance with the Accomplishment Instructions of the applicable Gulfstream Alert Customer Bulletin (ACB) specified in Table 1 of this AD. Despite the fact that the individual aeroplane serial numbers to which this AD applies are not listed in the referenced Gulfstream ACB, the instructions contained in the model-specific ACB must be used to accomplish the required inspection. If no exterior sealant is found applied during the inspection, no further action is required by this AD.</p> <p>Note 1: For the purposes of this AD, a general visual inspection is: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to ensure visual access to all surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."</p> <p style="text-align: center;">Table 1</p> <table border="1"> <tr> <td>GIV-X (G350) aeroplanes</td><td>G350 ACB No. 8A, dated 30 June 2009</td></tr> <tr> <td>GIV-X (G450) aeroplanes</td><td>G450 ACB No. 8A, dated 30 June 2009</td></tr> <tr> <td>GV-SP (G500) aeroplanes</td><td>G500 ACB No. 9A, dated 30 June 2009</td></tr> <tr> <td>GV-SP (G550) aeroplanes</td><td>G550 ACB No. 9A, dated 30 June 2009</td></tr> </table> <p>(2) If exterior sealant is found applied during the inspection done in accordance with paragraph (1) of this AD, before further flight, revise the Limitations Section of the applicable Gulfstream JAA AFM, to include the information in the applicable Gulfstream AFM supplement specified in Table 2 or Table 3, as applicable to aeroplane model and s/n. These AFM supplements introduce limitations on the use of the APU during certain ground and flight operations. Thereafter, operate the airplane according to the limitations specified in the applicable AFM supplement.</p> <p>Note 2: This AFM revision may be done by inserting a copy of the applicable AFM supplement in to the applicable AFM, which are specified in Appendix 1 of this AD. When the supplement has been included in the general revisions of the AFM, the general revisions may be inserted in the AFM, provided the relevant information in the general revision is identical to that in the applicable AFM supplement specified in Appendix 1 of this AD.</p>	GIV-X (G350) aeroplanes	G350 ACB No. 8A, dated 30 June 2009	GIV-X (G450) aeroplanes	G450 ACB No. 8A, dated 30 June 2009	GV-SP (G500) aeroplanes	G500 ACB No. 9A, dated 30 June 2009	GV-SP (G550) aeroplanes	G550 ACB No. 9A, dated 30 June 2009
GIV-X (G350) aeroplanes	G350 ACB No. 8A, dated 30 June 2009								
GIV-X (G450) aeroplanes	G450 ACB No. 8A, dated 30 June 2009								
GV-SP (G500) aeroplanes	G500 ACB No. 9A, dated 30 June 2009								
GV-SP (G550) aeroplanes	G550 ACB No. 9A, dated 30 June 2009								
Ref. Publications:	Gulfstream Alert Customer Bulletins (ACB) G350 No. 8A, G450 ACB No. 8A, G500 ACB No. 9A, and G550 ACB No. 9A, all dated June 30, 2009.								
Remarks :	<p>1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this EAD.</p> <p>2. The safety assessment has requested not to implement the full consultation</p>								

	<p>process and an immediate publication and notification.</p> <p>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.</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact: Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, Georgia 31402-2206, United States of America. Telephone +1 912-965-4987 or +44 (0)1582-506671, Fax +1 912-965-3520. e-mail pubs@gulfstream.com, Internet http://www.gulfstream.com</p>
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APPENDIX 1

For GIV-X series (G450/G350) aeroplane serial numbers 4147, 4151, and S/N 4153 through 4171, the Gulfstream Airplane Flight Manual Supplements (AFMS) noted in Table 1 below must be attached to the applicable JAA G450 AFM, or the applicable JAA G350 AFM:


Table 2

S/N	AFMS Nr.	S/N	AFMS Nr.
4147	G450-2009-04-4147	4162	G450-2009-04-4162
4151	G450-2009-04-4151	4163	G450-2009-04-4163
4153	G450-2009-02 or G450-2009-04-4153	4164	G450-2009-04-4164
4154	G450-2009-02 or G450-2009-04-4154	4165	G450-2009-04-4165
4155	G450-2009-02 or G450-2009-04-4155	4166	G450-2009-04-4166
4156	G450-2009-02 or G450-2009-04-4156	4167	G450-2009-04-4167
4157	G450-2009-02 or G450-2009-04-4157	4168	G450-2009-04-4168
4158	G450-2009-04-4158	4169	G450-2009-04-4169
4159	G450-2009-04-4159	4170	G450-2009-04-4170
4160	G450-2009-02 or G450-2009-04-4160	4171	G450-2009-04-4171
4161	G450-2009-04-4161		

For GV-SP series (G550/G500) aeroplane serial numbers 5205, 5218, S/N 5220 through 5224, and S/N 5226 through 5249, the Gulfstream AFMS noted in Table 2 below must be attached to the applicable JAA G550 AFM, or the applicable JAA G500 AFM:

Table 3

S/N	AFMS Nr.	S/N	AFMS Nr.
5205	G550-2009-02 or G550-2009-05-5205	5235	G550-2009-05-5235
5218	G550-2009-05-5218	5236	G550-2009-05-5236
5220	G550-2009-02 or G550-2009-05-5220	5237	G550-2009-05-5237
5221	G550-2009-02 or G550-2009-05-5221	5238	G550-2009-05-5238
5222	G550-2009-02 or G550-2009-05-5222	5239	G550-2009-05-5239
5223	G550-2009-02 or G550-2009-05-5223	5240	G550-2009-05-5240
5224	G550-2009-05-5224	5241	G550-2009-05-5241
5226	G550-2009-02 or G550-2009-05-5226	5242	G550-2009-05-5242
5227	G550-2009-02 or G550-2009-05-5227	5243	G550-2009-05-5243
5228	G550-2009-02 or G550-2009-05-5228	5244	G550-2009-05-5244
5229	G550-2009-02 or G550-2009-05-5229	5245	G550-2009-05-5245
5230	G550-2009-02 or G550-2009-05-5230	5246	G550-2009-05-5246
5231	G550-2009-05-5231	5247	G550-2009-05-5247
5232	G550-2009-05-5232	5248	G550-2009-05-5248
5233	G550-2009-05-5233	5249	G550-2009-05-5249
5234	G550-2009-05-5234		

EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	AD N° 2005-0001 (GV-SP) Issued 13 January 2005


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

Type Approval Holder's Name: Gulfstream Aerospace Corporation	Type/Model designation(s) Gulfstream GV-SP
TCDS Number: I.M.A.002 (FAA A12EA)	
Foreign AD: None	
Supersedure: This AD supersedes EASA member state AD number: United Kingdom G-2004-0033.	


	ATA 31 – Indicating/Warning System – Operating procedures and Flight Manual Limitations
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Manufacturer(s):	Gulfstream Aerospace Corporation
Applicability:	All Gulfstream GV-SP aircraft
Reason:	In the case of an EPIC avionics system failure, blanking of all pilots display units and loss of Autopilot and associated functions may occur. This is not in accordance with the Type Certification basis and is considered to represent a potential unsafe condition. Until the ASC 43 and ACS 902 (Cert Bravo II) standard software is embodied additional operational limitations are considered necessary to mitigate against the risk of an EPIC system failure occurring.
Approval number, date	2005-160 on 12 January 2005
Effective Date:	13 January 2005
Compliance:	<p>Within 72 hours of the effective date of this AD accomplish the following:</p> <p>a) Insert Gulfstream Aerospace Corporation G550 Airplane Flight Manual Revision 2, Dated 12 Jan 2005 into the JAA/EASA Aircraft Flight Manual. Ref GAC-AC-JAA-G550-OPS-0001.</p> <p>b) The following operational limitations must be inserted in the Aircraft Flight Manual. (This can be achieved by inserting a copy of this AD in the AFM Limitations Section).</p> <p>1) For approaches the Decision Altitude/Height (DA/H) or the Minimum Descent Altitude/Height (MDA/H) must be</p>


	<p>not lower than 300 ft Above Runway Threshold Elevation (ARTE).</p> <p>2) Take-off in Runway Visual Range (RVR) below 600 meters is prohibited.</p> <p>c) Within 50 flight hours from the effective date of this AD, and thereafter at intervals not to exceed 60 days: Do an inspection of the avionics standard communication bus (ASCB) for any noise interference indications in accordance with the accomplishment Instructions of Gulfstream G550 Alert customer Bulletin 2, dated October 27, 2004, including Appendix A. If any noise interference indication is found during any inspection, before further flight, replace the ASCB with a new ASCB.</p> <p>d) Within 90 days or 300 flight hours from the effective date of this AD, whichever occurs first, embody Gulfstream ASC 43 and 902 in accordance with the aircraft manufacturers instructions.</p> <p>Accomplishment of paragraph d of this AD terminates the test requirements of paragraph c and removes the limitations stated in paragraph b.</p>
Ref. Publications:	<p>Gulfstream Aerospace Corporation Flight Manual amendment G550 airplane flight manual revision 2 may be obtained from Gulfstream Aerospace, Flight Crew Publications, P.O. Box 2206, M/S C-20, Savannah, GA 31402, USA, Tel: +1 912.965.3694 Fax: +1 912.965.3520, Email: frank.mcgee@gulfstream.com</p>
Remarks	<p>Enquiries regarding this Airworthiness Directive should be referred to Mr. Paul van Daalen, EASA Airworthiness Directives Focal Point – Certification Directorate. E-mail: paul.van-daalen@easa.eu.int Address: European Aviation Safety Agency Postfach 101253 D-50452 Köln, Germany</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008- 0197</p> <p>Date: 29 October 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>McDonnell Douglas Corporation</p>	<p>Type/Model designation(s) :</p> <p>DC-9-10, -20, -30, -40, and -50 Series, DC-9-81/82/83/87, MD-88, MD-90, and 717 airplanes</p>
TCDS Number:	U.S.A No. A6WE
Foreign AD :	Not applicable
Supersedure :	None
ATA 31	Central Aural Warning System – Airplane Flight Manual and Pre-Start Check of the Take-off Warning System – Introduction
Manufacturer(s):	McDonnell Douglas Corporation (previously Douglas Aircraft Co.), The Boeing Company.
Applicability:	All McDonnell Douglas Model DC-9-10, DC-9-20, DC-9-30, DC-9-40, and DC-9-50 airplanes; Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), and DC-9-87 (MD-87) airplanes; Model MD-88 airplanes; Model MD-90-30 airplanes and Model 717-200 airplanes.
Reason:	<p>In August 2008, a McDonnell Douglas DC-9-82 (MD-82) airplane crashed while attempting to take off from runway 36L at Madrid's Barajas International Airport.</p> <p>Although the preliminary report issued by Spain's Comisión de Investigación de Accidentes e Incidentes de Aviación Civil (CIAIAC) did not identify the probable causes of the accident, it states that the data recordings suggest the flaps/slats were not set for takeoff and the Take-Off Warning (TOW) did not occur.</p> <p>After a similar accident in 1987 where it was concluded that the flaps/slats were not set for takeoff and the TOW did not occur, McDonnell Douglas recommended all MD-80 series operators conduct a check of the TOW system before engine start prior to every flight. It has been found that some operators' procedures no longer reflect the initial intent of the recommendation made by McDonnell Douglas as the check is performed less frequently.</p>

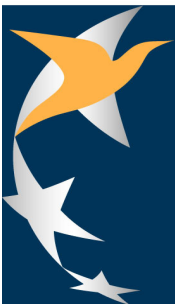
	<p>A defective TOW system could let an improper take-off configuration undetected to the flight crew and result in loss of control during the initial climb. As a consequence, to ensure that all operators of MD-80 series airplanes perform the TOW system check before every flight, this Airworthiness Directive requires an update of the Airplane Flight Manual (AFM) to make the frequency mandatory.</p> <p>The AD also extends to the DC-9 and 717-200 aircraft as the design of the TOW system is common to all three types.</p>
Effective Date:	12 November 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>Within 15 days after the effective date of this AD, Amend the PROCEDURES section of the applicable Airplane Flight Manual to incorporate the following check.</p> <p>This may be done by inserting a copy of this AD into the AFM after the TABLE OF CONTENTS pages of the PROCEDURES section.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>TAKEOFF WARNING SYSTEM</p> <p><i>Note: This check is mandatory and must be carried out before the first engine start before every flight.</i></p> <p>Before engine start, and with power on the aircraft:</p> <p>Takeoff Warning/Throttles.....CHECK/IDLE</p> <p>Move both throttles toward full forward position and observe takeoff warning sounds. Move throttles to idle and observe warning is silenced.</p> <p><i>NOTE: If takeoff warning does not sound, maintenance action is required prior to takeoff. Confirmation of takeoff warning system operation does not ensure that correct takeoff values for stabilizer trim, centre of gravity, or flap/slats position have been set.</i></p> </div>
Ref. Publications:	Not applicable
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 questions concerning the technical content of the requirements in this AD, please contact: <p style="text-align: center;">Boeing Commercial Airplanes</p> <p style="text-align: center;">Attention: Data and Service Management, Dept. C1-L5A (D800-0024)</p> <p style="text-align: center;">Long Beach Division, 3855 Lakewood Boulevard</p> <p style="text-align: center;">Long Beach, California 90846, United States of America</p>

EASA	AIRWORTHINESS DIRECTIVE								
	AD No: 2006 - 0168								
	Date: 14 June 2006								
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.									
Type Approval Holder's Name:		Type/Model designation(s):							
MD Helicopters Inc. (MDHI)		MD 600N							
TCDS Number: FAA H3WE Issue 21									
Foreign AD: None									
Supersedure: None									
ATA 27 / 5		Flight Controls / Time Limits - Replacement							
Manufacturer(s):		MD Helicopters Inc.							
Applicability:		All MD 600N Helicopters							
Reason:		<p>To phase out the use of flight control components with life limits of less than 1000 flight hours.</p> <p>This AD is proposed following EASA review of UK CAA Article 10.1 submissions. In this case EASA concurs with the UK CAA that a potential unsafe condition exists.</p> <p>During validation of the MD600 by UK CAA, a number of components were identified that were not considered adequately robust in their design against fatigue, resulting in very short retirement lives. EASA concurs with that position and proposes to phase out the earlier standard of parts as detailed below.</p>							
Effective Date:		28 June 2006							
Compliance:		<p>The following components, on reaching their declared life limitation, must be replaced by the appropriate replacement parts as listed below;</p> <table border="1"> <thead> <tr> <th>Description</th><th>Original Part</th><th>Replacement Part</th></tr> </thead> <tbody> <tr> <td>Cyclic Stick Socket</td><td>369A7141</td><td>600N7141</td></tr> </tbody> </table>		Description	Original Part	Replacement Part	Cyclic Stick Socket	369A7141	600N7141
Description	Original Part	Replacement Part							
Cyclic Stick Socket	369A7141	600N7141							


	<table><tr><td>Housing, Collective Stick</td><td>369A7347</td><td>600N7347</td></tr><tr><td>Tube – Collective Pitch, Pilot</td><td>369A7348</td><td>600N7348</td></tr><tr><td>Cyclic Stick Socket</td><td>369A7802</td><td>600N7802</td></tr><tr><td>Housing, Collective Stick</td><td>369A7820</td><td>600N7820</td></tr><tr><td>Tube – Collective Pitch, Pilot</td><td>369H7354-3</td><td>600N7354</td></tr><tr><td>Housing, Collective Stick</td><td>369H7837</td><td>600N7820</td></tr><tr><td>Tube – Collective Pitch, Co-Pilot</td><td>369H7838-3</td><td>600N7838</td></tr></table>	Housing, Collective Stick	369A7347	600N7347	Tube – Collective Pitch, Pilot	369A7348	600N7348	Cyclic Stick Socket	369A7802	600N7802	Housing, Collective Stick	369A7820	600N7820	Tube – Collective Pitch, Pilot	369H7354-3	600N7354	Housing, Collective Stick	369H7837	600N7820	Tube – Collective Pitch, Co-Pilot	369H7838-3	600N7838
Housing, Collective Stick	369A7347	600N7347																				
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Housing, Collective Stick	369H7837	600N7820																				
Tube – Collective Pitch, Co-Pilot	369H7838-3	600N7838																				
Ref. Publications:	None																					
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-074 for consultation on 06 April 2006 with a comment period until 02 May 2006. The Comment Response Document can be found at http://ad.easa.eu.int/.3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int4. For any question concerning the technical content of the requirements in this AD, please contact MD Helicopter Inc. (Ph.: +1 (480) 346-6552: +1 (800) 388-3378: Fax: (480) 346-6809) E-mail pubs@mdhelicopters.com																					

EASA	AIRWORTHINESS DIRECTIVE
	AD No. : 2005-0032 [Corrected] Date: 13 December 2005
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name The New Piper Aircraft, Inc.	Type/Model designation PA-28 and PA-32
FAA TCDS 2A13 and A3SO	
Foreign AD: None	
Supersedure: Supersedes CAA UK AAD 001-08-98	
ATA 57	Structure – Wing – Inspection
Manufacturer(s):	Piper Aircraft Corporation and The New Piper Aircraft, Inc.
Applicability:	Piper PA-28 and PA-32 series aircraft as detailed in Piper Service Bulletin 1006.
Reason:	<p>[Corrected: Ref. to PAD 05-019 has been introduced in "Remarks"]</p> <p>EASA has been made aware of significant corrosion findings on the wing spar caps behind the fuel tanks of PA-28 and PA-32 series aircraft. The UK occurrence database references at least 18 reports made to CAA-UK from 1977 to date. In addition similar reports of corrosion findings have since been found in the Dutch fleet and also in the USA, (an FAA Alert was issued in September 1992).</p> <p>Piper devised a Service Bulletin No 1006 dated August 15, 1997 on the subject of "Corrosion Inspection of Main Spar Behind Fuel Tanks". Piper determined that specific thorough inspection, defect rectification and preventative treatment as described in SB 1006 was necessary over and above the routine Service/Maintenance manual instructions. Note that this area is difficult to inspect and often missed due to insufficient disassembly or difficulty in gaining access, (note that the removal of leading edge fuel tanks is necessary to facilitate inspection).</p> <p>Corrosion found has been beyond practical repair limits in a number of cases requiring spar or wing replacement.</p> <p>If not detected significant corrosion in the spar cap area will affect the structural integrity of the spar, and left uncorrected could result in catastrophic structural failure of the wing.</p>


Effective Date:	20 December 2005
Compliance:	<p>Required at the next 150 hour or Annual Check whichever is the sooner following the aircraft reaching 7 years time in service. For aircraft exceeding 7 years time in service compliance is required at the next 150 hour or Annual Check, whichever occurs first following the effective date of this Directive. For aircraft previously inspected in accordance with SB1006 not later than 7 years after that inspection.</p> <p>Inspect the wing main spar behind the fuel tanks for corrosion in accordance with Service Bulletin 1006. If corrosion or other discrepancies are detected replace or repair the affected parts. Apply corrosion prevention fluid treatment and replace flexible fuel vent hoses in accordance with the SB.</p> <p>Repeat the inspection and other requirements described above at intervals not exceeding 7 years.</p> <p>NOTE: Alternative fluids meeting MIL–C–81309, MIL–C–23411 or Mil Spec 16173, Grade 4 may be used in place of that specified in the SB.</p>
Ref. Publications:	Piper Service Bulletin 1006, available from The New Piper Aircraft, Inc. 2926 Piper Drive, Vero Beach, Florida 32960
Remarks:	<p>This AD was previously published for comment as PAD 05-019. The comments received are addressed in the Comment Response Document on PAD 05-019 published on the EASA web site.</p> <p>Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int</p> <p>For questions concerning the technical contents of this AD requirement(s), contact The New Piper Aircraft, Inc. at the address given above.</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2005-0034 Date: 21 December 2005
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name The New Piper Aircraft, Inc.	Type/Model designation PA-28 and PA-32
FAA TCDS 2A13 and A3SO	
Foreign AD: FAA AD 70-26-04	
Supersedure: Supersedes FAA AD 70-26-04 and CAA UK AAD 001-05-2000	
ATA 55	Structure – balance weight tube – Inspection
Manufacturer:	Piper Aircraft Corporation and The New Piper Aircraft, Inc.
Applicability:	PA-28-140, PA-28-150, PA-28-160, PA-28-180, PA-28S-180, PA-28-235, PA-28R-180, PA-28R-200 all serial numbers. PA-32-260, PA-32-300, PA-32S-300 all serial numbers.
Reason:	<p>This AD is proposed in response to further reports of stabilator balance tube cracking being found on aircraft not previously included in the applicability of the State of Design FAA AD 70-26-04, and in the heavier tubes that were specified as a terminating action in accordance with Piper Service Letter 576.</p> <p>The wider aircraft applicability and continued inspections are necessary to detect cracking which could lead to failure of the stabilator balance weight tube, producing an unbalanced aerodynamic control surface, leading to flutter and potential catastrophic loss of control / structural failure.</p>
Effective Date:	30 December 2005
Compliance:	<p>Required not later than 55 flight hours from the effective date of this Directive, unless previously accomplished in which case within 200 flight hours from that inspection.</p> <p>Inspect the stabilator balance weight tube for cracks in accordance with Service Bulletin 327. If cracks are found replace the tube before further flight.</p> <p>Repeat inspection at intervals not exceeding 200 flight hours.</p>


Ref. Publications:	Piper Service Bulletin 327, available from The New Piper Aircraft, Inc. 2926 Piper Drive, Vero Beach, Florida 32960
Remarks:	<p>This AD was previously published for comment as PAD 05-017. The comments received are addressed in the Comment Response Document on PAD 05-017 published on the EASA web site.</p> <p>Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int</p> <p>For questions concerning the technical contents of this AD's requirement(s), contact The New Piper Aircraft, Inc. at the address given above.</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2005-0035 Date: 22 December 2005
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name The New Piper Aircraft, Inc.	Type/Model designation PA-28 and PA-32
FAA TCDS 2A13	
Foreign AD: None	
Supersedure: Supersedes CAA UK AAD 002-06-99	
ATA 32	Structure – Main undercarriage – Inspection
Manufacturer(s):	Piper Aircraft Corporation and The New Piper Aircraft, Inc.
Applicability:	PA-28-140 Cherokee Cruiser 28-20001 through 28-7725290 PA-28-150 Cherokee 28-1 through 28-4377 and 28-1760A PA-28-151 Warrior 28-7415001 through 28-7715314 PA-28-160 Cherokee 28-1 through 28-4377 and 28-1760A PA-28-161 Warrior II 28-7716001 through 2816109 PA-28-161 Warrior III 2816110 Only PA-28-161 Cadet 2841001 through 2841365 PA-28-180 Cherokee 28-3 through 28-7205318 PA-28-180 Archer 28-E13, 28-7305001 through 28-7505259 PA-28-235 Cherokee Pathfinder 28-10001 through 28-7710089 and 28-E11 PA-32-260 Cherokee Six 260 32-1 through 32-7800008
Reason:	The above referenced CAA UK AAD was raised in response to an incident in 1995 and recurring failures of the main landing gear leg castings, (Part No. 65319-02, -03 or -04), due to cracking on the oleo torque link attach lugs. The potential for similar events exists in the European fleet. These failures can remain undetected until the aircraft touches the ground during landing, leading to collapse of the associated main landing gear, consequential airframe damage and loss of control. These events carry a risk of serious injury and potential for loss of life.


	<p>Since publication of the CAA AAD Piper has produced Service Bulletin No. 1131 dated August 18, 2003 to address this unsafe condition. Piper SB 1131 seeks inspections of the oleo lugs as defined in the UK AAD Piper 002-06-99 (but at 100 hourly intervals). This EASA AD adopts the 100 hour inspection interval in line with the Piper SB and the applicability of the Piper SB, which varies from the CAA AD.</p>
Effective Date:	30 December 2005
Compliance:	<p>Required prior to the accumulation of 2000 flight hours. For aircraft in excess of 2000 flight hours, compliance is required at the next 100 hrs inspection, or annual inspection, whichever comes first, unless previously accomplished in which case within 100 hours from that inspection.</p> <p>Inspect the cast main landing gear cylinder torque link attach lugs (Piper Part No. 65319-02, -03 or -04) for cracks. Using a 10x power magnifying glass, inspect the top and bottom radii at the torque link attach lugs where it connects to the strut housing. If no cracks are found by this method, use dye penetrant inspection to check for cracks according to Piper Service Bulletin No.1131 or using the dye penetrant process that can be found in the PA-28-181 airplane maintenance manual, Chapter 20, Section 20-10-00. If cracks are found, the main landing gear oleo housing must be replaced before further flight.</p> <p>Repeat inspection at intervals not exceeding 100 flight hours.</p> <p>Replacement of the cast housing with a forged cylinder Part No. 65490 terminates the need for repeat inspections.</p>
Ref. Publications:	Service Bulletin 1131, available from The New Piper Aircraft, Inc. 2926 Piper Drive, Vero Beach, Florida 32960
Remarks:	<p>This AD was previously published for comment as PAD 05-018. The comments received are addressed in the Comment Response Document on PAD 05-018 published on the EASA web site.</p> <p>Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int</p> <p>For questions concerning the technical contents of this AD's requirement(s), contact The New Piper Aircraft, Inc. at the address given above.</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2006-0062</p> <p>Date: 21 March 2006</p>
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
<p>Type Approval Holder's Name : Raytheon Aircraft Company</p>	<p>Type/Model designation(s) : Raytheon HS 125 and Hawker Series</p>
<p>TCDS Number :FAA TCDS A3EU</p>	
<p>Foreign AD : None</p>	
<p>Supersedure : UK CAA AAD 1609 PRE 80</p>	
<p>ATA 71</p>	<p>Power Plant - Possible incorrect assembly of the fairlead for starter/generator cables</p>
<p>Manufacturer(s):</p>	<p>Raytheon Aircraft Company, Hawker Siddeley (HS), British Aerospace (BAe)</p>
<p>Applicability:</p>	<p>Applicable to Raytheon HS 125 Series 700 aircraft without modification 252643 fitted.</p> <p><i>NOTE: Modification 252643 introduces a fairlead that cannot be assembled incorrectly</i></p>
<p>Reason:</p>	<p>Whilst acting as State of Design for the British Aerospace 125 Series aircraft the UK CAA was notified of examples of incorrect assembly of the fairlead for the starter/generator cables causing the cables to foul on the edge of the aperture in the engine pylon firewall. Chafing of cables on aircraft structure could lead to high power electrical arcing, with the attendant risk of uncontrolled fire. This airworthiness directive requires inspection of the starter/generator cables at the engine pylon firewall for fouling. Where a foul exists and the cable insulation is breached, then the cable is required to be changed. This action is required in order to reduce the risk of an uncontrolled fire onboard the aeroplane.</p> <p>EASA has reviewed UK CAA AAD and concurred that an unsafe condition may exist.</p>
<p>Effective Date:</p>	<p>5 April 2006</p>

Compliance:	Within 12 months after the effective date of this AD inspect the starter/generator cables where they pass through the engine pylon firewall for signs of fouling and damaged insulation in accordance with Hawker Siddeley Aviation Ltd Alert Service Bulletin 71-A28. Repeat inspection at 25 hours intervals until terminating modification.
Ref. Publications:	Hawker Siddeley Aviation Ltd Alert Service Bulletin 71-A28 or later approved revisions.
Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-001 for consultation on 06 January 2006 with a comment period until 06 February 2006. No comment was raised during the consultation period.3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int.4. For any question concerning the technical content of the requirements in this AD, please contact Raytheon Aircraft Company, (Ph.: +1 800 796 2665 or +1 316 676 8238, E-mail: tmdec@rac.ray.com.)

EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006-0063 Date: 21 March 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: Raytheon Aircraft Company	Type/Model designation(s) : Raytheon HS 125 700A, B and BAe 125 800 A, B
TCDS Number :FAA TCDS A3EU	
Foreign AD : FAA AD 91-03-06	
Supersedure : UK CAA AAD 014-08-90	
ATA 24	Electrical Power - Inspection of the generator control unit earth wire
Manufacturers:	Raytheon Aircraft Company, Hawker Siddeley (HS), British Aerospace (BAe)
Applicability:	Raytheon HS 125 Series 700A, 700B, and BAe 125 800A, 800B and earlier Series aircraft retrofitted with Garrett TFE731 engines. <i>NOTE: Later Series aircraft embody BAe Modification 253159, which introduces a modified Generator Control Unit incorporating overvoltage protection.</i>
Reason:	<p>Whilst acting as State of Design for the British Aerospace 125 Series aircraft the UK CAA was notified of a potential for disconnection of the engine generator control unit earth connection and resulting D.C. generator over voltage. An over voltage could cause battery overhear with consequent risk of battery explosion or fire. This airworthiness directive requires inspection of the engine generator control unit earth wire at the starter/generator terminal block in order to reduce the risk of a battery explosion or fire causing catastrophic loss of the aeroplane.</p> <p>EASA has reviewed UK CAA AAD and concurred that an unsafe condition may exist.</p>
Effective Date:	05 April 2006


Compliance:	Within 12 months after effective date of this AD, inspect the generator control unit wire at starter/generator terminal block for signs of damage in accordance with British Aerospace Alert Service Bulletin 24-A278
Ref. Publications:	British Aerospace Alert Service Bulletin 24-A278 or later approved revisions.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-002 for consultation on 06 January 2006 with a comment period until 06 February 2006. No comment was raised during the consultation period.3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail ADs@easa.eu.int.4. For any question concerning the technical content of the requirements in this AD, please contact Raytheon Aircraft Company, (Ph.: +1 800 796 2665 or +1 316 676 8238, E-mail: tmdc@rac.ray.com.)

EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2005- 0019 Issue Date: 05 July 2005
<p>This AD is issued by EASA representing the States of Registry for the affected aircraft.</p> <p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
Type Approval Holder's Name Robinson Helicopter Company	Type/Model designation(s) R22/ All models
FAA TCDS H10WE	
Foreign AD No.: None	
Initial Issue.	


	ATA 62/10 – Rotor Blades - Replacement
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Manufacturer(s):	Robinson Helicopter Company
Applicability:	Robinson R-22, R22 ALPHA, R22 BETA, R22 MARINER, certificated in any category, equipped with Rotor blades P/N A016-2
Reason:	<p>Several cases of P/N A016-2 Main Rotor Blade failure of have occurred. Some accidents were fatal.</p> <p>These blade failures were caused by fatigue cracks. Investigation showed that at least two of these blade failures were initiated by internal corrosion. No non-destructive testing inspection methods are available to discover such corrosion and the initiation of cracks.</p> <p>(Other fatigue cracks have been caused by overload of the rotor by exceeding manifold pressure limitations.)</p> <p>Fatigue cracking leads to a reduction in stiffness of the rotor blade, this in turn leads to an increase in vibration. The crack length increases within a short time and can ultimately lead to separation of the blade and consequent loss of aircraft control.</p> <p>In response to the above situation Robinson Helicopter Company released Service Bulletin SB-94 dated 14 December 2004. This Service Bulletin</p>


	<p>specifies the allowable compliance times, spare parts and working procedures for the replacement of P/N A016-2 blades.</p> <p>This airworthiness directive mandates compliance with SB-94, and revises the compliance timescales.</p> <p>The replacement blades with P/N A016-4 have an improved corrosion resistance and service life.</p> <p>SB-94 will be notified by the FAA via a Special Airworthiness Information Bulletin (SAIB).</p>
Effective Date:	05 July 2005
Compliance:	Replace all P/N A016-2 rotor blades with P/N A016-4 rotor blades in accordance with Robinson Helicopter Company Service Bulletin SB-94 before 01 December 2005.
Ref. Publications:	<p>R22 Service Bulletin SB-94, dated 14.12.2004.</p> <p>Robinson Helicopter Company 2901 Airport Drive Torrance California 90505 USA</p>
Remarks:	<p>This AD was posted for consultation as PAD 05-008 on 22 March 2005. Comments have been received and considered in the AD text.</p> <p>Enquiries with regard to this AD should be referred to Mr. M. Mazzeletti, EASA Certification Manager Rotorcraft, Balloons and Airships Unit, Certification Directorate: Massimo.Mazzeletti@easa.eu.int.</p> <p>For questions concerning R22 Service Bulletin SB-94, contact Robinson Helicopter Company, address as listed above.</p> <p>European Aviation Safety Agency Postfach 101253 D-50452 Köln, Germany</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006-0065 Date: 23 March 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Robinson Helicopter Company	R22
TCDS Number: FAA H10WE Rev. 12	
Foreign AD: None	
Supersedure: None	
ATA 32	Landing Gear – Skids – Modification
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R22 Helicopters
Reason:	For helicopters with original shorter skid configuration, handling is considered to be excessively demanding for autorotative landings on to surfaces other than paved surfaces.
Effective Date:	06 April 2006.
Compliance:	Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest Install landing skid extensions, part numbers A937-1 and A937-2, and improved landing skid shoes A667-5 (4 per helicopter) and A667-6 (2 per helicopter).
Ref. Publications:	None
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-030 for consultation on 13 February 2006 with a comment period until 14 March 2006. No comment was raised during the consultation period.


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| | <ol style="list-style-type: none">3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA.
E-mail: ADs@easa.eu.int4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company (Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198). |
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EASA	PROPOSED AIRWORTHINESS DIRECTIVE
	<p>AD No: 2006 - 0167</p> <p>Date: 14 June 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Robinson Helicopter Company	R22
TCDS Number: FAA H10WE Rev. 12	
Foreign AD: None	
Supersedure: CAA Additional Airworthiness Directives 002–10–94	
ATA 52	Doors – Hinges – Modification
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R22 Helicopters
Reason:	To reduce the likelihood of an in-flight separation of a door from the helicopter.
Effective Date:	28 June 2006
Compliance:	<p>Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest</p> <p>Replace the left and right hand lower door-mounted hinge parts (Part Nos. A227–3 and A227–4) with parts having the same Part No. but to Revision H or later standard.</p> <p>Parts to be replaced have a clevis pin which protrudes only ¼ inch from the hinge bracket. Revision G and H parts have a clevis pin which protrudes 0.45 inches.</p> <p>Revision G parts, if fitted, are acceptable provided that the hole drilled in the clevis pin is orientated so as to permit installation of a split pin. Install split pins (cotter pins) Part No. MS24665–151 in upper and lower hinges of both left and right hand doors.</p>
Ref. Publications:	None
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-094 for consultation on 06 April 2006 with a comment period until 05 May 2006. The Comment Response Document can be


	<p>found at http://ad.easa.eu.int/.</p> <p>3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA. E-mail: ADs@easa.eu.int</p> <p>4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company (Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198).</p>
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EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006 - 0145 Date: 29 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Robinson Helicopter Company	Type/Model designation(s) : Robinson R44 Series
TCDS Number : FAA Type Certificate H11NM Revision 3	
Foreign AD : None	
Supersedure : DGAC France AD 2000-075A	
ATA 04	Flight Manual - Modification
Manufacturer(s):	Robinson Helicopter Company
Applicability:	All Robinson R44 series helicopters manufactured before 04/04/2000.
Reason:	Issue 1 of Flight manual in French language approved by DGAC France on March 18, 1994 and its revision 1 approved January 24, 1995 include obsolete data the use of which would affect flight safety of the operated aircraft.
Effective Date:	12 June 2006
Compliance:	Remove from the helicopter the Flight manual in French language approved by DGAC France on March 18, 1994 and its revision 1 approved on January 24, 1995. Replace it by the Flight manual Issue 2 approved by DGAC France on 01 December 1999 (or later approved versions).
Ref. Publications:	Flight manual Issue 2 approved by DGAC France on 01 December 1999 or later approved revisions.


Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-065 for consultation on 17 March 2006 with a comment period until 10 April 2006. No comment was raised during the consultation period.3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, 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 Robinson Helicopter Company, 2901 Airport Drive, Torrance California 90505, USA
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EASA	AIRWORTHINESS DIRECTIVE	
	AD No: 2006 - 0166 Date: 14 June 2006	
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.		
Type Approval Holder's Name:		Type/Model designation(s):
Robinson Helicopter Company		R44
TCDS Number: FAA H11NM Rev. 3		
Foreign AD: None		
Supersedure: CAA Additional Airworthiness Directives 003-10-94 REV 1		
ATA 52	Doors – Hinges – Modification	
Manufacturer(s):	Robinson Helicopter Company	
Applicability:	All Robinson R44 Helicopters	
Reason:	To reduce the likelihood of an in-flight separation of a door from the helicopter.	
Effective Date:	28 June 2006	
Compliance:	Required within the next 1000 hours time-in-service (TIS) or within 2 years after the effective date of this AD, whichever occurs soonest Install split pins (cotter pins) Part No. MS24665-151 in lower hinges on all four cabin doors. Installation of ring-cotter Part No. B427-1 is an acceptable alternative. NOTE: These split pins are required in addition to the split pins which are installed in the upper hinges of each door.	
Ref. Publications:	None	
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-093 for consultation on 06 April 2006 with a comment period until 05 May 2006. The Comment Response Document can be found at http://ad.easa.eu.int/ .	


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| | <ol style="list-style-type: none">3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - Certification Directorate, EASA.
E-mail: ADs@easa.eu.int4. For questions concerning the technical contents of this AD requirements, contact Robinson Helicopter Company
(Ph.: +1 (310) 539 0508; Fax +1 (310) 539 5198). |
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EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	AD No : 2007- 0274-E Date: 19 October 2007
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Schweizer Aircraft Corporation	Type/Model designation(s) : 269D helicopters
TCDS Number : United States (FAA) 4H12	
Foreign AD : Not applicable	
Supersedure : None	
ATA 53	Fuselage – Aft Fuselage Assembly and Horizontal Stabiliser Attachment – Inspection / Repair / Modification
Manufacturer(s):	Schweizer Aircraft Corporation
Applicability:	Model 269D and 269D Configuration 'A' helicopters, serial numbers 0001 through 0062A inclusive, if equipped with 269D3300-1 Aft Fuselage Assemblies.
Reason:	<p>Cases of loose horizontal stabilizers and cracking of the extruded tailboom support structure on Model 269D helicopters have been reported to EASA and to Schweizer Aircraft Corporation, the holder of the affected design approval. If undetected, wear in the attachment brackets of the horizontal stabiliser can lead to its separation in flight, and cracks in the tailboom could result in loss of its effectiveness, which could ultimately lead to loss of control of the helicopter.</p> <p>Schweizer has now developed instructions, repairs and modifications, published in Service Bulletin (SB) DB-018.2, to address these problems.</p> <p>To detect early signs of wear in the attachment brackets of the horizontal stabiliser that can lead to its separation in flight and to detect cracks in the tailboom that can lead to loss of its effectiveness, this EASA Emergency Airworthiness Directive (AD) requires introduction of a daily before-first-flight inspection of the tailboom support structure for cracks, repair of any cracks before next flight and subsequent repetitive inspections and corrective actions, as necessary. In addition, this AD requires a structural modification of the forward horizontal stabiliser support brackets and installation of an inspection panel in the aft fuselage assembly.</p> <p>Note: On 23 March 2007, EASA published Safety Information Notice Number 2007-05 to address this safety matter.</p>
Effective Date:	23 October 2007

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Before next flight after the effective date of this AD and thereafter prior to the first flight of each day, inspect the aft fuselage tailboom support structure in accordance with Part I of the accomplishment instructions of Schweizer SB DB-018.2 dated 13 July 2007; (2) When cracks are found, before next flight, repair the structure in accordance with Part II of the accomplishment instructions of Schweizer SB DB-018.2 dated 13 July 2007; (3) Within 200 Flight Hours (FH) after accomplishment of any repair as required by paragraph (2) of this AD and thereafter at intervals not to exceed 200 FH, inspect the interior structure in accordance with Part II of the accomplishment instructions of Schweizer SB DB-018.2 dated 13 July 2007; <p>Note: The daily inspections as required by paragraph (1) of this AD are still required after any repair as required by paragraph (2) of this AD.</p> <ol style="list-style-type: none"> (4) Within the next 100 FH or 3 months, whichever occurs first after the effective date of this directive, modify the aft fuselage assembly and forward horizontal stabilizer support brackets in accordance with Part III of the accomplishment instructions of Schweizer SB DB-018.2 dated 13 July 2007.
Ref. Publications:	Schweizer SB DB-018.2 dated 13 July 2007 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. The safety assessment has resulted in a decision not to implement the full consultation process but to proceed immediately with publication and notification. 3. Enquiries regarding this AD should be referred to the AD Focal Point, Certification Directorate, EASA; E-mail ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Schweizer Aircraft Corporation, Elmira/Corning Regional Airport 1250 Schweizer road, Horseheads, New York 14845, USA Phone: +1 (607) 739-3821 Fax: +1 (607) 796-2488 E-mail: schweizer@sacusa.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 – 0171 R1 Date: 14 September 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Schweizer Aircraft Corporation	Schweizer (Hughes) 269 Series
TCDS Number: United States of America (FAA) 4H12	
Foreign AD: None	
Supersedure: EASA AD 2006-0171 dated 19 June 2006, which superseded United Kingdom CAA Additional AD 002-02-2000 Revision 1	
ATA 28	Fuel – Fuel Vent System – Modification
Manufacturer(s):	Schweizer Aircraft Corporation; Hughes Helicopters, Inc.
Applicability:	All 269A, 269A-1, 269B, 269C and 269C-1 helicopters.
Reason:	<p>To prevent release of fuel from the fuel tank vent in the event of a roll-over on landing the helicopter and the subsequent risk of fire, this Airworthiness Directive requires the modification of the Fuel Vent System.</p> <p>Note : United Kingdom AAIB Safety Recommendation 95-12 refers.</p> <p>This AD has been revised to correct the applicability (the requirement does not apply to 269D helicopters), the compliance statement and the referenced TC holder's service letter.</p>
Effective Date:	24 September 2006
Compliance:	Within the next 1,000 hours time-in-service after 03 July 2006 [the effective date of the original issue of this AD] but not later than 03 July 2008, whichever occurs first, modify the helicopter's Fuel Vent System by incorporating the applicable Schweizer Aircraft Corporation Modification Kit as listed in the referenced Schweizer Service Letter L-169.
Ref. Publications:	Schweizer Service Letter L-169 dated 10 August 2000.

Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-101 for consultation on 19 April 2006 with a comment period until 15 May 2006. No comments were received during the consultation period.3. Enquiries regarding this AD should be referred to the AD Focal Point - Certification Directorate, EASA. e-mail ads@easa.eu.int.4. For questions concerning the technical contents of this AD requirements, contact: Schweizer Aircraft Corporation, P.O. Box 147, Elmira, New York, 14902, United States of America; telephone +1-607-739-3821; facsimile +1-607-796-2488; e-mail schweizer@sacusa.com.
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EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006- 0144 Date: 29 May 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Sikorsky Aircraft Corporation	Type/Model designation : Sikorsky S58 series helicopters.
TCDS Number : FAA Type Certificate 1H11 Revision 18	
Foreign AD: None.	
Supersedure: DGAC-F AD 67-18-1	
ATA 62	Rotors - Blades – Inspection / Modification
Manufacturer:	Sikorsky Aircraft
Applicability:	Sikorsky S58 series helicopters having blades manufactured in France by Sud Aviation La Courneuve (current Eurocopter)
Reason:	Some blades for S58 might not have yet installed a BIM (see reference publication). This would allow some cracks to develop undetected, and consequently lead to a potential in-flight blade rupture, with catastrophic effects.
Effective Date:	12 June 2006
Compliance	<p>At the first scheduled maintenance inspection after the effective date of this AD apply BIM modification in accordance with Sikorsky Service Bulletin 58B15-4M on the main rotor blades S1615-20100 having the following serial numbers: SA 446, SA 887, SA 1094, SA 1097, SA 1824, SA 1825, SA 1826, SA 1853, SA 1854, 58M 12160, 58M 17951</p> <p>After the installation, the BIM operating instructions must be observed (pre-flight check of the indicator, scheduled system check).</p> <p>Note: The life limitations for the blades are the ones described in FAA AD 60-17-03R1, and subsequent revisions.</p>

Ref. Publications:	Service Bulletin 58B15-4M of June 21, 1978 or later FAA approved revisions.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-064 for consultation on 17 March 2006 with a comment period until 10 April 2006. No comment was raised during the consultation period.3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu .4. For questions concerning the technical contents of this AD requirement(s), contact: Sikorsky Aircraft Corporation, 6900 Main Street, P.O. Box 9729 Stratford, Connecticut 06615-9129 - USA.

EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2006-0064 Date: 23 March 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designation(s):
Sikorsky Aircraft Corporation	S61N
TCDS Number: FAA 1H15 Issue 15	
Foreign AD: None	
Supersedure: None	
ATA 32	Landing Gear – Modification
Manufacturer(s):	Sikorsky Aircraft Corporation
Applicability:	All S61N Helicopters Serial Number 61143 to 61216 fitted with small sponsons part number S6125-50201-001/-002
Reason:	To provide acceptable floatation stability for off-shore operations.
Effective Date:	06 April 2006.
Compliance:	Required within 4 years after the effective date of this AD. Fit Sikorsky S61N large sponsons, part number S6125-51200-001/-002/-003, and incorporate Auxiliary Flotation Bags into the large sponsons in accordance with Sikorsky Special Service Instruction 61-106A
Ref. Publications:	Sikorsky Special Service Instruction 61-106A or later approved revisions.
Remarks:	1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-023 for consultation on 02 February 2006 with a comment period until 01 March 2006. No comment was raised during the consultation period.

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| | <ol style="list-style-type: none">3. Enquiries regarding this AD should be addressed to Mr. M. Capaccio, AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.eu.int4. For questions concerning the technical contents of this AD requirement(s), contact: Sikorsky Aircraft Corporation, 6900 Main Street, P.O. Box 9729 Stratford, Connecticut 06615-9129 - USA. |
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Engines

EASA	AIRWORTHINESS DIRECTIVE			
	AD No: 2005-0011 Issued/Date: 01 April 2005			
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>				
Type Approval Holder's Name: Honeywell International Inc.		Type/Model designation(s): TPE331-12UA, -12UAR and -12UHR engines		
TCDS Number: FAA E4WE				
Foreign AD No: See Compliance Note				
Supersedure: None				
<table border="1" style="width: 100%;"> <tr> <td style="width: 15%;">ATA 72</td> <td>Engine Reduction Gear and Shaft Section - Modification</td> </tr> </table>			ATA 72	Engine Reduction Gear and Shaft Section - Modification
ATA 72	Engine Reduction Gear and Shaft Section - Modification			
Manufacturer(s):		Honeywell International Inc.		
Applicability:		Honeywell International Inc. TPE331-12UA, -12UAR and -12UHR engines installed in BAE Jetstream 32 series and Fairchild SA 227 (Metro) series aircraft.		
Reason:		<p>There have been 20 reported bull gear rim or web separations and 13 high speed pinion torque shaft failures on TPE331-12UAR/UHR engines. Sixteen of the bull gear failures resulted in an in-flight shut down and three of these were on engines which were in compliance with FAA AD 2002-12-09. In 13 events, the gearbox was pierced by gear fragments and in four of these incidents gear debris was ejected from the right hand engine, struck by the propeller and impacted the aircraft fuselage. In one of these events a bull gear fragment penetrated the cabin. Compliance with this Airworthiness Directive is required to prevent bull gear failures that could result in penetration of the aircraft fuselage by gear fragments and possible injury to cabin occupants.</p>		
Approval number, date		2005-2777, 31 March 2005		
Effective Date:		01 April 2005		
Compliance:		<p>1. For engines operated on the left side of the aircraft (looking from the rear).</p> <p>A. Engines Pre SB TPE331-A72-2087 Required at next turbine (hot) section inspection, gearbox inspection, engine overhaul, or when the diaphragm assembly is out of the engine, whichever occurs first after the effective date of this AD. Modify the engine reduction gear and shaft section by replacing the intermediate housing and gear (diaphragm) assembly in accordance with Honeywell International Inc. Service Bulletin TPE331-A72-2114 paragraph 2.A.</p> <p>B. Engines Post SB TPE331-A72-2087</p>		


	<p>(i) Required not later than 3600 hours time in service of bull gear part no. 3108295-1 and high speed pinion part no. 3101741-2 or since overhaul of diaphragm matched housing set part no. 3101540-8/-9. Make entries in the engine and applicable component maintenance record cards in accordance with Honeywell International Inc. Service Bulletin TPE331-A72-2114 paragraph 2.C.</p> <p>(ii) Required when unscheduled access to the diaphragm assembly occurs as defined in Honeywell International Inc. Service Bulletin TPE331-A72-2087 paragraph 2.D. Make entries in the engine and applicable component maintenance record cards in accordance with Honeywell International Inc. Service Bulletin TPE331-A72-2114 paragraph 2.C.</p> <p>(iii) Required not later than 7100 hours time in service of bull gear part no. 3108295-1 and high speed pinion part no. 3101741-2. Modify the engine reduction gear and shaft section by replacing the intermediate housing and gear (diaphragm) assembly in accordance with Honeywell International Inc. Service Bulletin TPE331-A72-2114 paragraph 2.A.</p> <p>2. For engines operated on the right side of the aircraft (looking from the rear).</p> <p>A. Required in accordance with paragraphs (i), (ii) or (iii) below, whichever occurs first. Modify the engine reduction gear and shaft section by replacing the intermediate housing and gear (diaphragm) assembly in accordance with Honeywell International Inc. Service Bulletin TPE331-A72-2114 paragraph 2.A.</p> <p>(i) at next turbine (hot) section inspection, gearbox inspection, engine overhaul, or when the diaphragm assembly is out of the engine, whichever occurs first.</p> <p>(ii) within 900 hours time in service of bull gear part no. 3102585-1, 3107118-1, 3108197-1, 3107161-1 or 3108295-1 and high speed pinion part no. 3101741-2 or 3108392-1, after the effective date of this AD.</p> <p>(iii) within 12 months after the effective date of this AD.</p> <p>NOTE: Compliance with this Airworthiness Directive provides a time extension and alternative means of compliance with FAA AD 2002-12-09 paragraph (c). Compliance with paragraph 1.A or 1.B(iii) or 2.A of this Airworthiness Directive provides terminating action for FAA AD 2002-12-09 paragraphs (a), (b) and (c).</p>
Ref. Publications:	Honeywell International Inc. Service Bulletins TPE331-A72-2114 and TPE331-A72-2087 may be obtained from Honeywell Engines, Systems and Services, Technical Data Distribution, M/S 2101-201, P.O. Box 29003, Phoenix, AZ 85038-9003, USA. Telephone: +1 602 365 2493 (General Aviation), +1 602 365 5535 (Commercial). Fax: +1 602 365 5577 (General Aviation and Commercial).
Remarks	This AD was posted as PAD 05-007 for consultation on 21 February 2005 with a comment period until 31 March 2005.

	<p>Only one editorial comment had been received and incorporated.</p> <p>Enquiries regarding this Airworthiness Directive should be referred to: Mr. Klaus Böwing, EASA Certification Manager Propulsion; klaus.boewing@easa.eu.int</p> <p>EASA Postfach 101253 D-50452 Köln Germany</p>
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EASA	AIRWORTHINESS DIRECTIVE
	AD No: 2005-0012R1 Issued/Date: 16 August 2005
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
Type Approval Holder's Name: International Aero Engines	Type/Model designation(s): International Aero Engines (IAE) V2500-A1 and V2500-A5 series engines
TCDS Number: FAA E31NE and E40NE	
Foreign AD No: None	
Supersedure: This AD supersedes EASA member state AD number: France 2003-355(B)R2	
ATA 73	Fuel filter cover – Inspection / modification
Manufacturer(s):	International Aero Engines
Applicability:	International Aero Engines (IAE) V2500-A1 and V2500-A5 series engines, known to be installed in, but not limited to, Airbus A319, A320 and A321 series aircraft .
Reason:	<p>Potential of heavy fuel loss.</p> <p>The fuel filter cover of the Fuel Cooled Oil Cooler (FCOC) is retained with six bolts inserted into helicoil inserts. Overtightning of these bolts caused loosening of inserts and led to heavy fuel loss on two aeroplanes.</p>
Approval number, date	2005-6177, 16 August 2005
Effective Date:	01 May 2005
Compliance:	<p>Compliance with this AD is required as indicated, unless already done, from the effective date of this AD</p> <p>1. Within 500 flight hours after the effective date, for non modified V2500-A1 engines in accordance with Service Bulletin IAE 79-0085 and for non modified V2500-A5 engines in accordance with Service Bulletin IAE 79-0086, inspect the area of the fuel filter cover of the Fuel Cooled Oil Cooler (FCOC). If fuel leakage is observed, comply with instructions of the All Operator Wire (AOW) 1048.</p> <p>Note: at every other opening of the fuel filter cover strictly apply AMM procedures.</p>


	<p>2. No later than July 31, 2007 or at the next removal of the Fuel Cooled Oil Cooler (FCOC) alone or installed on a higher assembly:</p> <p>2.1 For V2500-A1 engines, all models, apply modifications in accordance with Service Bulletin IAE 79-0085, dated June 19, 2002 or later revision.</p> <p>2.2 For V2500-A5 engines, all models, having a Serial Number lower than V11375, apply modifications in accordance with Service Bulletin IAE 79-0086, dated August 08, 2002 or later revision.</p>
Ref. Publications:	<p>All Operators Wire (AOW) 1048 Service Bulletin IAE 79-0085 Service Bulletin IAE 79-0086</p>
Remarks	<p>This AD was posted as PAD 05-001 for consultation on 17 January 2005 with a comment period until 31 March 2005. A Comment/Response Document (CRD) has been created and is published on EASA website.</p> <p><u>Based on request of TC-Holder the compliance time under paragraph 2 has been extended.</u></p> <p>Enquiries regarding this AD and the CRD should be referred to: Mr. Klaus Böwing, EASA Certification Manager Propulsion; klaus.boewing@easa.eu.int</p> <p>EASA Postfach 101253 D-50452 Köln Germany</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No. : 2005 - 0023R3</p> <p>Date: 29 May 2006</p>
No person may operate a product to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: Lycoming Engines	Type/Model designation(s): All Lycoming Piston Engines
TCDS Number: FAA 1E1, 1E4, 1E7, 1E10, 1E11, E10EA, E11EA, 1E12, 1E13, 1E14, E14EA,, 1E15, E16EA, E19EA, E26EA, E00004NY, E-223, E-228, E-229, E-256, E-274, E-275, E-276, E-277, E-279, E-284, E-285, E-286, E-295, E-304, TC 199, TC 210, TC 227	
Foreign AD: None	
Supersedure: This AD supersedes AD's in several EU Member States including France 1999-088(A) R3, and Netherlands NL 1994-046/3	
ATA 72	Engine - Exhaust Valve and Guide – Inspection
Manufacturer:	Lycoming Engines (Formerly Textron Lycoming)
Applicability:	All Lycoming piston engine models identified by the above FAA TCDS's, installed in aeroplanes and rotorcraft.
Reason:	<p>To prevent exhaust valve sticking and power loss.</p> <p>This problem was formerly addressed by national Airworthiness Directive or other mandatory maintenance requirement in several European Union Member States.</p> <p>AD 2005-0023R1 is issued to increase the 50 hour period before the initial inspection, due to allow more time to obtain the required tooling, and to increase the inspection interval to be consistent with scheduled maintenance activities.</p> <p>AD 2005-0023R2 is issued to remove the requirement for inspection of engines installed on fixed wing aeroplanes and fitted with "Hi-Chrome" Exhaust Valves and Guides. This is in response to evidence submitted since the original issue of this AD, which details the service experience of these engines, and indicates that an unsafe condition does not exist.</p> <p>AD 2005-0023R3 is issued to extend the period for establishing whether engines installed on fixed wing aeroplanes are fitted with "Hi-Chrome" Exhaust Valves and Guides for cases where previous inspections in accordance with Lycoming SB 388 have been carried out.</p>

Effective Date:	1 November 2005
Compliance:	<p>a) Carry out inspection of exhaust valves and guides in accordance with Lycoming Service Bulletin No. 388C dated November 22, 2004 at the intervals indicated in Paragraphs 1 and 2 below. The inspections must be carried out in accordance with the procedures defined in Part 1 or Part 2-A.</p> <p>b) If the results of the inspection are outside the recommended limits, carry out the rectification actions defined in the Service Bulletin.</p> <p>c) Record inspection valve guide clearance measurements, and incorporation status of SI 1485A if applicable, in the engine logbook.</p> <p>1. Rotorcraft Engines</p> <p>i) Exhaust Valves and Guides not previously inspected in accordance with Lycoming SB 388 :</p> <ol style="list-style-type: none"> Inspect before completing 100 operating hours from the effective date of this AD, or 330 hours operating time since new/overhaul, whichever occurs later. Thereafter, repeat at an interval not to exceed 330 operating hours. <p>ii) Exhaust Valves and Guides previously inspected in accordance with Lycoming SB 388 :</p> <ol style="list-style-type: none"> Inspect within 330 operating hours of the previous inspection. Thereafter, repeat at an interval not to exceed 330 operating hours. <p>2. Aeroplane Engines</p> <p>A. Before June 20, 2006 establish whether the engine is fitted with the "Hi-Chrome" Exhaust Valve Guide, by referring to Lycoming Service Instruction 1485A. In cases where the Exhaust Valves and Guides have been previously inspected in accordance with Lycoming SB 388, this should be established within 440 operating hours of the previous inspection or before June 20, 2006, whichever is later. No further actions relating to this AD are required for aeroplane engines fitted with "Hi-Chrome" exhaust valve guides.</p> <p>B. Aeroplane Engines not fitted with "Hi-Chrome" exhaust valve guide.</p> <p>i) Exhaust Valves and Guides not previously inspected in accordance with Lycoming SB 388:</p> <ol style="list-style-type: none"> Inspect before completing 100 operating hours from the effective date of this AD, or 440 hours operating time since new/overhaul, whichever occurs later. Thereafter, repeat at an interval not to exceed 440 operating hours. <p>ii) Exhaust Valves and Guides previously inspected in accordance with Lycoming SB 388 :</p> <ol style="list-style-type: none"> Inspect within 440 operating hours of the previous inspection. Thereafter, repeat at an interval not to exceed 440 operating hours.

Ref. Publications:	Lycoming Service Bulletin No. 388C dated 22 November 2004; Lycoming Service Instruction 1485A dated July 2, 2003; or later approved revisions.
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 05-002 for consultation on 21 February 2005 with a comment period until 31 March 2005. The Comment Response Document can be found at http://www.easa.eu.int/home/aw_dir_en.html3. Enquiries regarding this Airworthiness Directive should be referred to: Mr M. Capaccio, AD Focal Point, Certification Directorate EASA. E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Lycoming Engines, 652 Oliver Street, Williamsport, PA 17701, USA (Ph.: 001-570-323-6181; Fax: 001-570-327-7101) E-mail: www.lycoming.textron.com

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EASA	AIRWORTHINESS DIRECTIVE
	AD N° : 2004-0008 R1 Issued/Date: 02 February 2005


No person may operate a product to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name	Type/Model designation(s)
Pratt & Whitney	PW JT8D engines
TCDS Number: FAA E2EA	
Foreign AD: 97-19-14	
Supersedure: This AD supersedes EASA member state AD number:	
United Kingdom 004-10-97 and EASA AD 2004-0008	

ATA 72 – 4th Stage low pressure turbine disc - Inspection

Manufacturer:	Pratt & Whitney
Applicability:	PW JT8D-1, -1B, -7, -7B, -9, -11, -15, -17, -17R engines fitted with 4th stage LP turbine discs listed in Table A of P&W Alert Service Bulletin A6274 known to be installed in, but not limited to, Boeing B727 aircraft.
Reason:	LP Turbine disc cracks
Effective Date:	15 June 2005
Compliance:	<p>For discs that have accumulated more than 3000 cycles since an inspection in accordance with A6274 on the effective date of this AD, inspect in accordance with the requirements of A6274 within 1000 cycles.</p> <p>For discs that have accumulated 3000 cycles or less since inspection in accordance with A6274 on the effective date of this AD, inspect in accordance with A6274 on or before reaching 3000 cycles since inspection.</p> <p>Repeat inspect at intervals not to exceed 3000 cycles.</p> <p>(original UK effectivity date was 10 November 1997)</p>
Ref. Publications:	P&W Alert SB A6274
Remarks	Enquiries regarding this Airworthiness Directive should be referred to: Mr Klaus Böwing, EASA Certification Manager Propulsion; klaus.boewing@easa.eu.int

	EASA Postfach 101253 D-50452 Köln Germany
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EASA	AIRWORTHINESS DIRECTIVE
	AD N° : 2004-0004 Issued/Date: 14, December 2004

No person may operate a product to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.


Type Approval Holder's Name Pratt & Whitney	Type/Model designation(s) PW JT8D-200 engines modified according to IBERIA Engineering Bulletin 72-8525
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TCDS Number: FAA E9NE
Foreign AD: None
Supersedure: This AD supersedes EASA member states AD numbers: Spain 05/00 R1 and France 2000-233(B) R1


ATA 72 - Second stage airseal LP turbine - inspection and eventually replacement

Manufacturer:	Pratt & Whitney
Applicability:	Pratt & Whitney JT8D-200 engines, known to be installed in, but not limited to, McDonnell Douglas (now Boeing) MD-80 aircraft with IBERIA Engineering Bulletin No. 72-8525 embodied, especially serial numbers 725502, 726895, 725901, 726893, 725873, 726904, 725621, 725585, 725868, 725863, 726094, 725969, 725525, 725963, 725467, 725906, 725968, 725569, 725656, 725508, 725922, 725478, 726808, 726897, 725626, 725996, 718587, 725871, 725669, 726849, 725571, 725516, 718271, 725546, 725538, 726818, 725632, 725894, 725557, 725589, 725622, 725584, 725905, 726806, 725653, 726062, 725893, 725900, 725645, 726910, 725958, 726883, 725842, 726885, 726035, 725574, 725864, 725590, 725687, 726906, 725602, 725886, 725517, 725880, 726896, 725422, 726028, 726855, 726881, 726891, 726911, 726927, 726946, 726954, 726977, 696373, 696377, 725424, 725651, 725668, 718431, 718190, 718074, 725829, 718184, 718078, 718079, 718189, 725601, 718558, 718071, 718186, 725730, 718146, 718123, 725377, and any other Pratt & Whitney JT8D-200 engine with IBERIA Engineering Bulletin No. 72-8525 embodied.

Reason:	JT8D-200 engines with IBERIA Engineering Bulletin No. 72-8525 embodied present a risk of detachment of the independent ring integrated with the air seal in the second stage of the low pressure turbine. If not corrected, this situation can lead to engine malfunction.
(14) Effective Date:	14 December 2004
(15) Compliance:	<p>The following actions are required for engines that have accumulated more than 2000 flight hours since the incorporation of the IBERIA Engineering Bulletin No.72-8525 unless already accomplished as per DGAC-France AD 2000-233(B)R1 or DGAC-Spain AD 05/00 R1.</p> <ol style="list-style-type: none"> 1. An inspection of the affected airseal assembly, in accordance with the IBERIA Engineering Communication No. 72-8038, dated May 08, 2000, must be performed no later than 10 days from the effectivity date of this AD. This inspection must be repeated at intervals not exceeding 250 engine flight hours. 2. Any engine in which 2 adjacent fastening pins are found detached, or which 2 ring segments (adjacent or not) are found loose, shall be removed from service. Only one ferry flight to a maintenance base is allowed. 3. Any engine in which the independent ring is found broken or with a crack that could provoke the breakage of the ring shall be removed from service as soon as possible, but no later than 15 days or 100 flight hours from detection of the defect whichever occurs first. 4. If any of the events in the paragraph 2. or in the paragraph 3 is found, the second engine installed on the same aircraft should be immediately inspected. If a breakage of the ring or a crack that could provoke its breakage are found in both engines of the same airplane, at least one of the engines must be replaced before further flight with an engine with the ring intact. 5. The replacement of the affected airseal with an airseal having Pratt & Whitney Service Bulletin No. 6245 correctly embodied will put an end to the inspections mandatory by this AD.
(16) Ref. Publications:	Pratt & Whitney Service Bulletin No. 6245
(17) Remarks	<p>Enquiries regarding this Airworthiness Directive should be referred to: Mr Klaus Böwing, EASA Certification Manager Propulsion; klaus.boewing@easa.eu.int</p> <p>EASA Postfach 101253 D-50452 Köln Germany</p>

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD N° : 2004-0009 R2</p> <p>Issued/Date: 25 November 2005</p>
<p>No person may operate a product to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>	
<p>Type Approval Holder's Name</p> <p>Rolls Royce Corporation (formerly Allison Engine Company)</p>	<p>Type/Model designation(s)</p> <p>Model 250 series engines installed in single- and twin-engined helicopters</p>
<p>TCDS Number: FAA E10CE, E4CE, E1GL</p>	
<p>Foreign AD: None</p>	
<p>Supersedure: This AD revises EASA AD 2004-0009R1, and supersedes the following EASA member state AD: CAA UK 010-12-92 Rev. 2 - Effectivity Date 03 March 1995</p>	
<p>ATA 73</p>	<p>Engine control system pipes - Inspection</p>
<p>Manufacturer:</p>	<p>Rolls Royce Corporation</p>
<p>Applicability:</p>	<p>Rolls Royce Corporation (formerly Allison) Model 250 series engines installed in single- and twin engined helicopters</p>
<p>Reason:</p>	<p>To prevent in-flight shut down due to incorrect installation of control system plumbing</p>
<p>Effective Date:</p>	<p>15 December 2004</p>
<p>Compliance:</p>	<p>1. Inspect the 'B'-nuts of all control system plumbing connecting the Gas Producer Fuel Control, the Power Turbine Governor, or the Compressor (Pc, Py, Pr, Pg, Po, P1, P2, pipelines) for indication of slippage at intervals not exceeding 100 hours.</p> <p>2. During maintenance which involves disturbing any control system plumbing connecting the Gas Producer Fuel Control, the Power Turbine Governor, or the Compressor (Pc, Py, Pr, Pg, Po, P1, P2, pipelines),:-</p> <p>a) Comply with the requirements of Allison (now Rolls Royce Corp.) Alert Commercial Service Letter Reference CSL-A-169, A-1166, A-2113, A-3117 and A-4036 Recommendations 2 to 9 and 11 to 16.</p> <p>b) Record the 'B'-nut torque values in the relevant aircraft technical records.</p>

Ref. Publications:	Allison (now Rolls Royce Corp.) Alert Commercial Service Letter Reference CSL-A-169, A-1166, A-2113, A-3117 and A-4036
Remarks	<p>Revision 1 is raised to clarify the pipes affected by this AD.</p> <p>Revision 2 is raised for the following reasons:-</p> <ol style="list-style-type: none">1. To clarify that the repetitive 100 hour visual inspection for 'B'-nut slippage is required for compliance.2. To delete the initial detailed inspection. This is now only required when the pipes are disturbed for some other reason. This change is to minimise the risk of maintenance error.3. To delete reference to Recommendation 1 of the Alert Commercial Service Letter, which is contrary to other EASA requirements. <p>Enquiries regarding this Airworthiness Directive should be referred to: Mr M. Capaccio, AD Focal Point, Certification Directorate, EASA.</p> <p>E-mail: ADs@easa.eu.int</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD N° : 2004-0005 Issued/Date: 15, December 2004

No person may operate a product to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name	Type/Model designation(s)
Rolls Royce Corporation (formerly Allison Engine Company)	Rolls-Royce Corporation Model 501-D13 and 501-D13A engines
TCDS Number: FAA E282	
Foreign AD: None	
Supersedure: This AD supersedes EASA member state AD number: United Kingdom 009-03-91 rev. 1	

ATA 72 – Engine reduction gear assembly - Modification

Manufacturer:	Rolls Royce Corporation
Applicability:	Rolls Royce Corporation (formerly Allison) Model 501-D13 and 501-D13A engines known to be installed in, but not limited to, Lockheed L188C Electra aircraft.
Reason:	Propeller drive gear failure
Effective Date:	15 December 2004
Compliance:	<p>Modify the engine reduction gear assembly by embodying the following Allison (now Rolls Royce Corp.) Commercial Engine Bulletins:</p> <p>72-109 72-169 72-219 72-264 72-317 72-372 73-88 72-110 72-174 72-231 72-268 72-347 72-374 72-114 72-180 72-234 72-269 72-350 72-375 72-138 72-192 72-243 72-280 72-355 72-376 72-166 72-199 72-255 72-281 72-356 72-382 72-167 72-215 72-256 72-282 72-357 72-389 72-168 72-216 72-261 72-294 72-358 72-390</p> <p>and Overhaul the reduction gear assembly to the latest issue of the Engine Overhaul Manual IRC3 (including the changes introduced by Temporary Revision 72–10), by an</p>


	<p>Allison (now Rolls Royce Corp.) authorised overhaul centre, as listed in Allison (now Rolls Royce Corp.) Commercial Service Letter CSL230 or any Part 145 Maintenance Organisation which is approved to overhaul the reduction gear assembly.</p> <p>Repeat the overhaul requirement of this Directive at every reduction gear assembly overhaul.</p> <p>(original UK effectivity date was 04 April 1994)</p>
Ref. Publications:	See Engine Bulletins referenced above
Remarks	<p>Enquiries regarding this Airworthiness Directive should be referred to: Mr Klaus Böwing, EASA Certification Manager Propulsion; klaus.boewing@easa.eu.int</p> <p>EASA Postfach 101253 D-50452 Köln Germany</p>

Propellers


None at present.

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Equipment

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006 - 0264 Date: 30 August 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name: AVIOINTERIORS S.p.A.	Type/Model designations: Passengers Seats, various Part Numbers, if equipped with a Rear Fitting Assembly having Part Numbers (P/N) 311889900017, 3121994E0017, 3118899C0017, 3121994A0017, 312199400017 or 3118899A0017
ETSO Approval: All affected seats were approved under Italian National regulations, which are equivalent to the present ETSO approvals.	
Foreign AD: FAA AD 2001-11-11	
Supersedure: Not applicable.	
ATA 25	Equipment & Furnishings – Passenger Seats Rear Fitting Assembly Attachment – Replacement
Manufacturer:	Aviointeriors S.p.A.
Applicability:	<p>Passenger Seats (P/N's as listed in the referenced Aviointeriors Service Bulletin) manufactured before October 19, 1998 and on which the requirements of FAA AD 2001-11-11 were not accomplished (Aviointeriors SB 181/A16-03 Rev. A, SB 153/E33-01 Rev. B, SB 11F/E32-01 Rev. A, SB 181/A16-02 Rev. B and SB 184/E23-01 Rev. A) or seats to which the original issue of Aviointeriors SB 180/A84-01 was not applied.</p> <p>The affected seats are known to be installed on, but not limited to, the following aircraft:</p> <ul style="list-style-type: none"> - Airbus A319, A320 and A321 series; - Boeing 737, 747 and 777 series; - McDonnell Douglas DC-9, DC-10 and MD90 series.
Reason:	The actions specified by this AD are intended to prevent unrestrained movement of the passenger seats during high forward deceleration of the airplane, which could result in injury to the passengers or crew members during an emergency landing.


	<p>High torque during seat installation or improper maintenance operation resulted in broken shear plunger screws and subsequent disengagement of the shear plunger from the seat track.</p> <p>The phenomenon was first observed in the late 1990's when it seemed to be limited to Boeing aircraft. For this reason, the FAA issued AD 2001-11-11, the content and terms of compliance of which are not affected by this EASA AD.</p> <p>Improved fittings were introduced in production by Aviointeriors since October 1998 and the Service Bulletin 180/A84-01 was originally issued on July 2001 to recommend the modification on in service seats.</p> <p>Three cases were recently found on Airbus aircraft. This justifies the issuance of this AD to require replacement of all the affected passenger seats' rear fitting assembly attachments.</p>
Effective Date:	13 September 2006
Compliance:	Within 18 months after the effective date of this directive, replace the existing rear fitting assembly attachment with the new improved attachment in accordance with the modification instructions defined in Aviointeriors Service Bulletin 180/A84-01 Rev.1 dated May 04, 2006.
Ref. Publications:	Aviointeriors Service Bulletin 180/A84-01 Rev. 1 or later approved revisions.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-188 for consultation on 18 July 2006 with a comment period until 8 August 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Aviointeriors S.p.A. Engineering Product Support ; Phone: + 39 0773 689291 ; Fax: +39 0773 631546 ; E-mail : avio@aviointeriors.it

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2008-0135 Date: 16 July 2008 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 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name : Aviointeriors S.p.A.	Type/Model designation(s) : Passengers Seats 12M()(-)()(-)()(-)()(-)()
ETSO Approval: EASA 21O.001	
Foreign AD: Not applicable	
Supersedure: EASA AD 2006-0350 issued on 22 November 2006.	
ATA 25	Equipment & Furnishings – Passenger Seat Backrest - Replacement
Manufacturer(s):	Aviointeriors S.p.A.
Applicability:	Passenger Seats 12M()(-)()(-)()(-)(), all part numbers (P/N) equipped with backrest P/N 313033000000 or 313033100000, as listed in Section 1.A of Aviointeriors Service Bulletin (SB) 12M/F68-06. The affected seats are known to be installed on, but not limited to, the following aircraft: - ATR 42 series; - ATR 72 series.
Reason:	Failures of the recline actuator metal fitting have been reported on seat backrests of in-service aircraft. EASA AD 2006-0350, which is superseded by this AD, was issued to initially mandate a one-time inspection of the applicable backrests, replace all fittings that have tool marks and re-identify the backrest seat P/N. Since the issuance of the AD, cycle testing performed by Aviointeriors identified a life limitation also for backrests that do not have tool marks. Consequently the present AD mandates the replacement of those backrests before reaching the threshold specified in the compliance paragraph of this AD. Actions required by this AD are intended to prevent further failures of the seat backrests which could result in injury to passengers or crew members during an emergency landing.


Effective Date:	30 July 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless already accomplished:</p> <ul style="list-style-type: none"> ▪ Before the accumulation of 13 000 total flight cycles (FC) since the seat first installation on aircraft but no later than 31 January 2009, whichever occurs first, replace the backrest P/N 313033000000 and/or 313033100000 in accordance with the instructions given in Aviointeriors Service Bulletin (SB) 12M/F68-06. <p>In case at the effective date of this AD seats have already exceeded the FC threshold mentioned above, it is allowed to perform the backrest replacement within 500 FC after the effective date of this AD, but no later 31 January 2009, whichever occurs first.</p> <ul style="list-style-type: none"> ▪ <u>After the effective date of this AD, no person shall install</u> Aviointeriors passenger seat assembly P/N 12M() () () () () with backrests having P/N 313033000000 or 313033100000 (being either unmarked or marked with "O" as per Aviointeriors SB 12M/F68-01 Revision 1) on any aircraft. ▪ In case there is no possibility to replace the seat backrests within the required compliance time, the aircraft may be dispatched with the affected seat installed provided: <ul style="list-style-type: none"> • Seat is placarded as "Do not occupy" and measures are taken to be sure that the affected seat remains unoccupied during the flight duration; and • Affected seat does not block any emergency exit; and • Affected seat does not restrict any passenger to get access to the main aisle.
Ref. Publications:	<p>Aviointeriors Service Bulletin 12M/F68-01 Revision 1 dated 2 October 2006; Aviointeriors Service Bulletin 12M/F68-06 Revision new dated 17 June 2008.</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. This AD was posted on 25 June 2008 as PAD 08-075 for consultation until 10 July 2008. The Comment Response Document can be found at http://ad.easa.europa.eu. 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: Aviointeriors S.p.A. Engineering Product Support; Phone: + 39 0773 689291; Fax: +39 0773 631546, E-mail : avio@aviointeriors.it

EASA	AIRWORTHINESS DIRECTIVE														
	<p>AD No.: 2006 – 0241</p> <p>Date: 10 August 2006</p>														
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.															
Type Approval Holder's Name :	Type/Model designation(s) :														
CALEDONIAN AIRBORNE SYSTEMS	CPT-600 Series/ CPT-900 Series ADELTA and AD/AFELT														
ETSOA Number : UK CAA WR00799 (CPT-600); EASA ETSO.210.259 (CPT-900)															
Foreign AD : N/A															
Supersedure : N/A															
ATA 31	Navigation - Automatic Deployable Emergency Locator Transmitter (ADELT) and Automatic Deployable/ Automatic Fixed Emergency Locator Transmitter (AD/AFELT)														
Manufacturer:	Caledonian Airborne Systems.														
Applicability:	<p>Caledonian Airborne Systems CPT-600/-900 ADELTA and AD/AFELT known to be installed on, but not limited to, the following aircraft:</p> <table border="0"> <tr> <td>Eurocopter</td><td>Puma AS-332 and AS-365N Dauphin</td></tr> <tr> <td>Sikorsky</td><td>S-61; Sikorsky S-76:</td></tr> <tr> <td>Bell Helicopter Textron</td><td>Model 212 and 214 series</td></tr> <tr> <td>Eurocopter</td><td>Model Bolkow BO 105</td></tr> <tr> <td>EADS</td><td>ATR-42.</td></tr> </table> <p>Note: for information, the ADELTA and AD/AFELT may also be installed on the following military aircraft.</p> <table border="0"> <tr> <td>Eurocopter</td><td>Cougar AS-532, Panther AS-565 and Super Frelon AS-321</td></tr> <tr> <td>Sikorsky:</td><td>Black Hawk S-70A</td></tr> </table>	Eurocopter	Puma AS-332 and AS-365N Dauphin	Sikorsky	S-61; Sikorsky S-76:	Bell Helicopter Textron	Model 212 and 214 series	Eurocopter	Model Bolkow BO 105	EADS	ATR-42.	Eurocopter	Cougar AS-532, Panther AS-565 and Super Frelon AS-321	Sikorsky:	Black Hawk S-70A
Eurocopter	Puma AS-332 and AS-365N Dauphin														
Sikorsky	S-61; Sikorsky S-76:														
Bell Helicopter Textron	Model 212 and 214 series														
Eurocopter	Model Bolkow BO 105														
EADS	ATR-42.														
Eurocopter	Cougar AS-532, Panther AS-565 and Super Frelon AS-321														
Sikorsky:	Black Hawk S-70A														
Reason:	During maintenance activity a beacon failed to deploy, highlighting wear in the main case P/N BC85-051 and profiling of the piston P/N BC85-052 which														


	<p>is prone to cupping seizures.</p> <p>Original main cases P/N BC85-051 up to S/N 311 were manufactured from stainless steel AISI 303. In May 1990 the material specification changed to stainless steel 6S80D that has three times the hardness.</p> <p>The wear highlighted was on an original main case P/N BC85-051 and took the form of "cupping" around the locking sphere holes that prevented the separation of the sleeve retainer from the main case.</p> <p>Original Pistons P/N BC85-052 up to S/N 299 were manufactured prior to 1990 and their sphere contact profile is more prone to cupping seizures.</p> <p>After investigation by Caledonian Airborne Systems they advise that original main cases and pistons, which are now in excess of 15 years age, be removed from service.</p>
Effective Date:	24 August 2006
Compliance:	<p>Compliance is required not later than 6 months from the effective date of this Airworthiness Directive.</p> <p>To comply with this Airworthiness Directive, modify the affected Caledonian Airborne Systems, Type CPT-600/-900 ADELTA and AD/AFELT Systems by replacing the main case P/N BC85-051 and piston P/N BC85-052 with improved units made of stainless steel 6S80D in accordance with Caledonian Airborne Systems Service Bulletin No.CPT-600/900/SB-01.</p>
Ref. Publications:	Caledonian Airborne Systems Service Bulletin No. CPT-600/900/SB-01 or later approved revisions.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-149 for consultation on 13 June 2006 with a comment period until 26 June 2006. The comment response document can be found at http://ad.easa.eu.int/ 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point – Certification Directorate, EASA. E-mail: ADs@easa.europa.eu . 4. For any questions concerning the technical content of the requirements in this AD, please contact Laith Samarai, Caledonian Airborne Systems, Caledonian House, Ninian Road, Aberdeen Airport, Aberdeen, Grampian AB21 0PD. Scotland. United Kingdom E-Mail: LaithSamarai@caledonian-airborne.com

	<p>AD No.: 2006 - 0375</p> <p>Date: 15 December 2006</p>	
<p>No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.</p>		
<p>Approval Holder's Name:</p> <p>Carling Technologies, Inc.</p>	<p>Type/Model designations:</p> <p>Rocker-type Switches, Part Number (P/N) TA201-(XX)-(X) series</p>	
<p>TCDS Number: Not applicable</p>		
<p>Foreign AD: None.</p>		
<p>Supersedes: This AD supersedes and cancels EASA AD 2006-0274, which superseded and cancelled CAA United Kingdom Additional AD 001-09-96.</p>		
<p></p>		
<p>ATA 24</p>	<p>Electrical Power – Switches – Inspection/Replacement</p>	
<p></p>		
<p>Manufacturer:</p>	<p>Carling Technologies, Inc.</p>	
<p>Applicability:</p>	<p>Rocker-type Switches, having Carling P/N TA201-(XX)-(X), all versions. These same switches are also identified by, but not limited to, Piper P/N 47664-07; Grumman P/N TB201-TB-W or B206; and Cessna P/N S 1824-1 or S 2160-1. The affected switches are known to be installed on, but not limited to, aircraft manufactured by the Piper Aircraft Corporation, Cessna Aircraft Company and Grumman American Aviation Corporation, certificated under FAR Part 23.</p>	
<p>Reason:</p>	<p>During the 1990's, numerous incidents have occurred on light aircraft in the United Kingdom where smoke was released in the cockpit due to overheated rocker-type switches, manufactured by Carling. These switches do not appear to be of sufficient integrity or electrical rating for the heavy duty type circuits (e.g. strobe light- and pitot head circuits) in which they are installed. An investigation did not result in replacement switches being found that would remedy the problem.</p> <p>Since an unsafe condition had been identified, likely to exist or develop on other aircraft with these switches installed, EASA issued AD 2006-0274 to supersede CAA UK Additional AD 001-09-96 and require the repetitive inspection and, where necessary, replacement of the affected switches.</p> <p>The present AD supersedes EASA AD 2006-0274 to correct the quoted Piper P/N and further expand the applicability, specifying that all versions of the Carling P/N TA201-(XX)-(X) series are affected by this directive.</p>	
<p>Effective Date:</p>	<p>29 December 2006</p>	

Compliance:	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1) Not later than at the next annual inspection after 15 September 2006 [the effective date of EASA AD 2006-0274], or within 12 months after the last inspection as previously required by CAA UK Additional AD 001-09-96 or EASA AD 2006-0274, whichever occurs later, visually inspect the affected switches; 2) Thereafter, at intervals not exceeding 12 months, repeat the inspection; 3) If during an inspection as required by paragraph 1) and 2) of this directive any sign of overheating adjacent to the rear terminals is found, before next flight, replace the affected switch. <p>Replacement with identical switches does not terminate the requirement of the repeat inspection.</p>
Ref. Publications:	None.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu 4. For any questions concerning the technical content of the requirements in this AD, please contact: Carling Technologies, Inc. 60 Johnson Ave Plainville, CT 06062-1177 - USA Telephone +1-860-793-9281; Facsimile +1-860-793-9231; E-mail custservice@carlingtech.com; Website www.carlingtech.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0158R2</p> <p>Date: 12 November 2008</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>	
Type Approval Holder's Name :	Type/Model designation(s) :
Funkwerk Avionics GmbH	TRT600 transponders
ETSO Authorisation: LBA 10.930\063NTS	
Foreign AD :	Not applicable
Revision :	This AD revises and replaces EASA AD 2008-0158R1 dated 17 October 2008.
ATA 34	Navigation – Mode-S Transponders – Limitation
Manufacturer(s):	Filser Electronic GmbH
Applicability:	<p>TRT600 Mode-S Transponders, all part numbers, all serial numbers.</p> <p>These transponders are known to be installed on, but not limited to, the following aircraft types:</p> <ul style="list-style-type: none"> - AMS-Flight (Rolladen-Schneider) LS 4 series Sailplanes - DG Flugzeugbau DG-800 and DG-1000 series (Powered) Sailplanes - Diamond Aircraft Industries DA 20 aircraft - Extra EA-200 and EA-300 series aircraft - HB-Flugtechnik GmbH HB 21 and HB 23 series Powered Sailplanes - Scheibe SF 25 C Powered Sailplanes - Schempp-Hirth Discus, Ventus and Nimbus series (Powered) Sailplanes - Schleicher Gliders and Powered Sailplanes - Stemme S 10 series Powered Sailplanes.
Reason:	<p>EASA has received reports of intermittent loss of detection on Mode-S Secondary Surveillance Radar (SSR) of aircraft equipped with Funkwerk Avionics TRT800A Transponders. Reports from Air Navigation Service Providers (ANSP), as well as data from flight trials, have shown that the unit fails to perform as expected. Operation of these transponders in airspace where Mode S interrogations are used by the ground systems could create disruptions in the Air Traffic Management process, potentially compromising aircraft safety.</p> <p>Because recent investigations and analyses have shown that, contrary to earlier indications, the TRT800 transponders are not affected by this unsafe</p>


	<p>condition, AD 2008-0158 was revised (R1) to delete the TRT800 from the Applicability.</p> <p>Funkwerk Avionics has now developed a modification (Mod-Index 10), approved by EASA, which has been demonstrated to remedy the unsafe condition for TRT800A and TRT800H transponders in the current ATC environment.</p> <p>For the reason described above, the requirements for TRT800A and TRT800H transponders have been transferred to EASA AD 2008-0183 and EASA AD 2008-0158 has been revised (R2) accordingly.</p> <p>For more details, see EASA Safety Information Bulletin (SIB) 2008-84R1 which identifies further issues that may lead to future AD action.</p>
Effective Date:	04 September 2008
Required Action(s) and Compliance Time(s):	<p>Within 7 days after the effective date of this AD, accomplish the following:</p> <p>(1) Amend the applicable Aircraft Flight Manual (AFM), Limitations section, to include the following:</p> <p>“Do not operate this aircraft in airspace where a transponder is required and Mode S interrogation is used by the ground system, unless accepted by the relevant ANSP(s) prior to entering this airspace”.</p> <p>This may be accomplished by inserting a copy of this AD into the AFM, section Limitations.</p> <p>(2) Install a placard in full view of the pilot(s), with the following instructions:</p> <p>“Do not operate this aircraft in airspace where a transponder is required and Mode S interrogation is used by the ground system, unless accepted by the relevant ANSP(s) prior to entering this airspace”.</p>
Ref. Publications:	EASA Safety Information Bulletin 2008-84R1 dated 12 November 2008.
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: Funkwerk Avionics GmbH, Gewerbestrasse 2, D-86875, Waal, Federal Republic of Germany Telephone +49 (0)8246 96 99 0, Fax: +49 (0)8246 1049 E-mail service@funkwerk-avionics.com Website: http://shop.funkwerk-avionics.com

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0183</p> <p>Date: 12 November 2008</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>Funkwerk Avionics GmbH</p>	<p>Type/Model designation(s) :</p> <p>TRT800A and TRT800H Transponders</p>
ETSO Authorisations: EASA.210.268, EASA.210.269	
Foreign AD : Not applicable	
Supersedure : None	
ATA 34	Navigation – Mode-S Transponders – Replacement
Manufacturer(s):	Funkwerk Avionics GmbH, Filser Electronic GmbH
Applicability:	<p>This AD applies to the following Mode-S transponders, except those marked Mod-Index 10:</p> <ul style="list-style-type: none"> - TRT800A, all Part Numbers (P/N), serial numbers (s/n) up to and including 40539908, and - TRT800H, all P/N, s/n up to and including 30250007. <p>These transponders are known to be installed on, but not limited to, the following aircraft types:</p> <ul style="list-style-type: none"> - APEX (Robin) DR1050, DR250, DR350 and DR400 series aircraft - Cessna 150, 172, 182, 210, T303 and 337 series aircraft, including those originally manufactured by Reims Aviation in France - Diamond Aircraft Industries DV 20 aircraft - Extra EA-300 series aircraft - Grob G 109 B Powered Sailplanes - Grob G 115 series aircraft - Mooney M20J aircraft - Piper PA-28 series aircraft - Scheibe SF 25 C Powered Sailplanes - True Flight Holdings (Grumman, American) AA-5B aircraft.
Reason:	<p>EASA has received reports of intermittent loss of detection on Mode-S Secondary Surveillance Radar (SSR) of aircraft equipped with Funkwerk Avionics TRT800A Transponders. Reports from Air Navigation Service Providers (ANSP), as well as data from flight trials, have shown that the unit fails to perform as expected.</p>


	<p>Based on the information provided in the reports, EASA has determined that operation of these transponders in airspace where Mode S interrogations are used by the ground systems could create disruptions in the Air Traffic Management process, potentially compromising aircraft safety.</p> <p>Consequently, EASA issued AD 2008-0158 to require the implementation of an operational limitation on all aircraft equipped with these transponders, and the installation of a placard in full view of the pilot(s).</p> <p>Funkwerk Avionics has now developed a modification (Mod-Index 10), approved by EASA, which has been demonstrated to remedy the unsafe condition addressed by EASA AD 2008-0158 in the current ATC environment.</p> <p>For the reason described above, this new EASA AD retains the requirements of EASA AD 2008-0158 for TRT800A and TRT800H transponders, although the limitation and placard wording are changed. In addition, this new AD requires replacement of the affected transponders with modified units. Aircraft affected by this AD must introduce the Aircraft Flight Manual (AFM) limitation and placard as specified in this new AD, replacing those introduced by EASA AD 2008-0158, until the transponder is replaced with a modified (Mod-Index 10) unit. After installation of a modified unit, the limitation and placard must be removed from the aircraft. At the same time, AD 2008-0158 has been revised (R2) to transfer the requirements for TRT800A and TRT800H transponders to this new AD.</p> <p>For more details, see EASA Safety Information Bulletin (SIB) 2008-84R1, which identifies further issues which may lead to future AD action.</p>
Effective Date:	19 November 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 7 days after the effective date of this AD, accomplish the following:</p> <p>(a) Amend the applicable AFM, section Limitations, to include the following:</p> <p>“Due to a performance problem of the transponder, do not operate this aircraft in airspace where a transponder is required, except as published by the appropriate ATS (Air Traffic Service) Authority”.</p> <p>This may be accomplished by inserting a copy of this AD into the AFM, section Limitations.</p> <p>(b) Install a placard in full view of the pilot(s), with the following instructions:</p> <p>“Do not operate this aircraft in airspace where a transponder is required, except as published by the appropriate ATS (Air Traffic Service) Authority”.</p> <p>Note: The AFM limitation and placard as required by paragraph (1) of this AD replace those previously required by EASA AD 2008-0158, which must be removed.</p> <p>(2) Within the next 24 months after the effective date of this AD, replace the affected transponder with a unit that has been modified in accordance with Funkwerk Avionics Service Bulletin (SB) TRT800-A-H-1 Revision 1.04 dated 17 October 2008.</p> <p>(3) After modification of an aircraft as required by paragraph (2) of this AD, the AFM limitation and placard as required by paragraph (1) of this AD are no longer necessary and shall be removed from the aircraft.</p> <p>(4) After 18 November 2010, no person shall install a transponder, as identified in the Applicability of this AD, on any aircraft, unless it has been modified in accordance with Funkwerk Avionics SB TRT800-A-H-1 Revision 1.04 dated 17 October 2008.</p>
Ref. Publications:	Funkwerk Avionics SB TRT800-A-H-1 Revision 1.04 dated 17 October 2008.

	<p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p> <p>EASA Safety Information Bulletin 2008-84R1 dated 12 November 2008.</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. This AD was posted on 17 October 2008 as PAD 08-117 for consultation until 31 October 2008. No comments were received during the consultation period.3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA; E-mail ADs@easa.europa.eu4. For any question concerning the technical content of the requirements in this AD, please contact: Funkwerk Avionics GmbH, Gewerbestrasse 2, D-86875, Waal, Federal Republic of Germany Telephone +49 (0)8246 96 99 0, Fax: +49 (0)8246 1049 E-mail service@funkwerk-avionics.com Website: http://shop.funkwerk-avionics.com

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0269</p> <p>Date: 04 September 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designations:
Honeywell International Inc.	MST 67A Mode 'S' transponder
ETSOA Number: None	
Foreign AD: None.	
Supersedes: CAA United Kingdom Additional AD 001-01-2003 and any corresponding EU Member State ADs that were issued in response to that AD.	
ATA 34	Navigation Systems – Mode S Transponder - Modification
Manufacturer	Honeywell International Inc.
Applicability	<p>Honeywell MST 67A Mode 'S' transponders having Part Numbers (P/N) 066-01143-1101, 066-01143-1201 and 066-01143-1301, Serial Nos 1141 and below, and P/N 066-01143-1602, Serial Nos 1503 and below.</p> <p>This equipment is known to be installed in, but not limited to, Learjet Inc. (Gates) 31A, Raytheon Aircraft Company (Beech) 200 series, Sabreliner Corporation (North American) NA-265 series and SAAB SF340A and 340B aircraft.</p>
Reason:	When the aircraft is interrogated by a ground radar system, the transponder does not reply correctly. This results in the ground radar system discarding the reply and not displaying the aircraft on the radar screen. To eliminate corruption in the PI field in Mode 'S', this directive requires the affected units to be modified so that a correct response to a Mode 'S' all call is produced.
Effective Date:	14 September 2006
Compliance:	<p>Required as indicated, unless previously accomplished in accordance with the requirements of CAA United Kingdom Additional AD 001-01-2003 or any corresponding EU Member State ADs that were issued in response to that AD.</p> <p>Within the next 15 days after the effective date of this directive, modify the MST 67A Mode 'S' transponder in accordance with the instruction contained in Honeywell Software Bulletin SWB MST 67A–SW2.</p>


Ref. Publications:	Honeywell Software Bulletin SWB MST 67A–SW2
Remarks:	<ol style="list-style-type: none">1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD.2. This AD was posted as PAD 06-171 for consultation on 05 July 2006 with a comment period until 24 July 2006. No comments were received during the consultation period.3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu4. For any questions concerning the technical content of the requirements in this AD, please contact Honeywell International Inc. One Technology Center 23500 W.105th St -MS 37 Olathe Kansas 66061 USA

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2008-0159 Date: 25 August 2008 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 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].	
Type Approval Holder's Name : Honeywell International Inc.	Type/Model designation(s) : MST-67A Mode-S Transponders
ETSO Approval Number : EASA.210.150	
Foreign AD : None	
Supersedure : None	
ATA 34	Navigation Systems – Mode-S Transponder – Modification / Replacement
Manufacturer(s):	Honeywell International Inc.
Applicability:	<p>MST-67A Mode-S Transponders Part Number (P/N) 066-01143-2001, serial numbers up to and including MST67A-F1450; and P/N 066-01143-2101, serial numbers up to and including MST67A-G2850, when installed in aircraft that must comply with Mode-S Enhanced Surveillance (EHS) operational requirements (see Note below).</p> <p>These transponders are known to be installed on, but not limited to, Cessna Model 550, 560 and 650 "Citation" series, Gulfstream Aerospace Corporation G-1159B, Gulfstream (IAI) Model 1125 "Astra", Hawker Beechcraft (Raytheon) Hawker 800 series and Sabreliner Corporation (North American) NA-265 series aircraft.</p> <p>Note: The requirements of Mode S EHS apply to IFR flights operated as General Air Transport (GAT) by fixed wing aircraft having a maximum take-off mass greater than 5 700 kg or a maximum cruising true airspeed in excess of 250 knots in the designated Mode-S EHS airspace in Europe, which at the moment includes Germany, France, the United Kingdom and The Netherlands. For more information regarding Mode-S EHS designated airspace, consult the Eurocontrol website at www.eurocontrol.int/mode-s and local Aeronautical Information Circulars (AIC).</p>
Reason:	The Honeywell MST-67A Transponder does not set bit 25 to 1 in the Mode-S Datalink Capability Report (also known as BDS 1,0) as required by ICAO Annex 10, Volume IV, Fifth Edition, July 2007. When the Mode S Secondary Surveillance Radars (SSR) receive the Datalink Capability Report with bit 25 set to zero, the Mode S SSR radar assumes that the Enhanced Surveillance

	<p>parameters are not available and therefore never requests the EHS downlink parameters from the aircraft.</p> <p>In addition, the Mode-S Sub network Version Number (MSSVN) is coded to zero, which prevents the Mode-S SSR radar from correctly decoding BDS registers 4,0, 5,0 and 6,0. The MSSVN should be coded to 'three' as the MST 67A is designed to be compliant with ICAO Annex 10, Volume IV, Fifth Edition, July 2007. As a result of these anomalies, the affected MST-67A units do not support Mode-S enhanced surveillance. This condition, if not corrected, could result in the Mode-S SSR radar detecting the aircraft as Elementary (ELS) only, creating disruptions in the Air Traffic Management process and potentially compromising aircraft safety.</p> <p>To address and correct this unsafe condition, Honeywell has developed software update 01/04, which is available for in-service application through Honeywell Service Bulletin (SB) MST 67A-34-56.</p> <p>For the reasons described above, this EASA AD requires a temporary Airplane Flight Manual (AFM) limitation to ensure the flight crew is aware of this anomaly, and the modification of all affected Honeywell MST-67A transponders to incorporate the new software update. After the installation of modified transponders, the limitation may be removed from the AFM.</p>
Effective Date:	08 September 2008
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless previously accomplished:</p> <ol style="list-style-type: none"> (1) Before next flight after the effective date of this AD, amend the applicable AFM, Section Limitations, to incorporate the following: "MODE-S TRANSPONDER: KNOWN TRANSMISSION ANOMALY - NO EHS DAPS" This may be accomplished by inserting a copy of this AD into the applicable AFM, Section Limitations. After the effective date of this AD, each flight plan (item 18) should be amended accordingly. (2) Within 18 months after the effective date of this AD, modify the Honeywell MST-67A Transponders in accordance with Honeywell SB MST 67A-34-56, or replace the transponder with a unit incorporating Software 01/04. As an alternative, software version 01/03 may be used, provided that the owner/operator has determined that the aircraft is not affected by the problems identified in paragraph 1.C of Honeywell SB MST 67A-34-56. Honeywell Software Bulletin (SWB) MST 67A-SW5, Publication 605-07740-0050, pertains to this subject. Note: The wording in paragraph 1.C of Honeywell SB MST 67A-34-56 may lead to confusion. MST-67A Transponders with 01/03 software do accept Aircraft/Flight Identification Labels 233 through 236 with SSM set to '00', but will not accept the labels if SSM is set to '11'. (3) After installation of modified transponders on an aircraft as required by paragraph (2) of this AD, the limitation as required by paragraph (1) of this AD may be removed from the AFM of that aircraft. (4) After 04 March 2010, no person shall install a spare MST-67A Transponder, identified by part- and serial number in the Applicability section of this AD, on any aircraft operating under IFR in designated EHS airspace in Europe, unless it has been modified in accordance with Honeywell SB MST 67A-34-56 or Honeywell SWB MST 67A-SW5.
Ref. Publications:	<p>Honeywell Service Bulletin MST 67A-34-56, Publication number 605-07740-0060, Revision 0, dated 05 March 2008.</p> <p>Honeywell Software Bulletin MST 67A-SW5, Publication number 605-07740-0050, Revision 0, dated 07 November 2007.</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. This AD was posted on 23 July 2008 as PAD 08-080 for consultation until 20 August 2008. The Comment Response Document can be found at http://ad.easa.europa.eu.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: Honeywell International, Inc., 23500 W 105th Street, Olathe, Kansas 66061, United States of America Telephone (800) 601-3099 (USA) or +1 602 365-3099 (International), E-mail: ATS-CRC-Group@Honeywell.Com
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No : 2007-0156</p> <p>Issued: 31 May 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : Honeywell International, Inc.	Type/Model designation(s) : Comm Units and Mode S Transponders
ETSO Authorization Number: Various, including EASA.210.006 (for XS-857A) and EASA.210.012 (for RCZ-8XX).	
Foreign AD : United States FAA 2006-19-04	
Supersedure: This AD supersedes and cancels EASA AD 2005-0021.	
ATA 23	Communication – Comm Units & Transponders – Modification / Replacement
Manufacturer(s):	Honeywell International, Inc. [and any predecessor company]
Applicability:	<p>This Airworthiness Directive (AD) applies to :</p> <p>(1) RCZ-833J part numbers (P/Ns) 7510700-763 and -863; RCZ-833K P/Ns 7510700-765 and -875; RCZ-851J P/N 7510700-813; RCZ-851K P/N 7510700-815; and RCZ-854J P/Ns 7510700-725 and -825 Communication Units; and</p> <p>(2) XS-856A P/Ns 7517400-865 and -885; XS-856B P/Ns 7517400-866 and -886; and XS-857A P/Ns 7517400-876 and -896 Mode S Transponder Units.</p> <p>The referenced equipment is known to be installed on, but not limited to the following aeroplanes:</p> <p>BAE Systems (Operations) Ltd. Jetstream 4100 series; Bombardier BD-700-1A10 and BD-700-1A11; Cessna Model 525, 550, 560 and 650 series; Dassault Model Falcon 900EX and Falcon 2000EX series; EMBRAER Model EMB-135 and -145 series; Learjet Model 45; Lockheed Model 382G series; Raytheon Model Hawker 800, Hawker 800XP, and Hawker 1000 series.</p>


Reason:	<p>A design deficiency causes the transponder to revert to standby mode if a change of the 4096 ATC code (also referred to as the Mode A code) is not completed within 5 seconds. As a consequence, the SSR radar symbol and label associated with the aircraft's position will no longer be shown on the ATC ground radar display. Also, aircraft collision avoidance systems (ACAS) on board own and other aircraft will be compromised. Current operational procedures, typically, do not require the crew to recheck the transponder status after changing the 4096 ATC Code. This type of failure will increase ATC workload and will result in improper functioning of ACAS.</p> <p>EASA AD 2005-0021 was issued to require modification within 9 months of P/N 7510700-725, -763, -765, -813, -815, -825, -863 and -875 Communication units, or replacement thereof with modified units. This AD takes over this requirement for those P/N's and adds the P/N 7517400-865, -866, -876, -885, -886 and -896 Mode S Transponder Units now addressed by FAA AD 2006-19-04.</p>
Effective Date:	14 June 2007
Compliance:	<p>Unless accomplished previously in accordance with either EASA AD 2005-0021 or FAA AD 2006-19-04, compliance is required as follows:</p> <p>(1) For aeroplanes equipped with Honeywell RCZ-833J, RCZ-833K, RCZ-851J, RCZ-851K or RCZ-854J Communication Units, P/N's as listed in part (1) of the applicability section of this directive:</p> <p>(a) Within 5 days after 01 August 2005 [the effective date of EASA AD 2005-0021], amend the applicable Airplane Flight Manual, Normal Procedures Section, to include the following statement:</p> <p>"After completion of any 4096 ATC Code change (also referred to as Mode A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."</p> <p>(b) Within 9 months after 01 August 2005 [the effective date of EASA AD 2005-0021], modify the affected Communications Units in accordance with the instructions contained in Honeywell Alert Service Bulletin (ASB) A24-3851-002 or ASB A24-3851-005, as applicable;</p> <p>Note 1: Accomplishment of the modification or replacement with a modified unit in accordance with the instructions contained in Honeywell ASB 7510700-23-A0048 and, as necessary, ASB 7517400-23-A6015 Revision 001 is an acceptable alternative to the requirements of paragraph (1)(b) of this directive.</p> <p>(c) Concurrently with the modification or replacement as required by paragraph (1)(b) of this directive, but not later than 9 months after the effective date of this directive, replace the XS-852E/F mode S transponder of the COM unit with a new or modified XS-852E/F mode S transponder that has MOD V installed, in accordance with Honeywell Alert Service Bulletin 7510700-23-A0047 Revision 001, dated July 29, 2005.</p> <p>(2) For all airplanes, unless already accomplished in accordance with paragraph (1)(a) of this directive:</p> <p>(a) Within 5 days after the effective date of this directive, amend the applicable Airplane Flight Manual, Normal Procedures Section, to include the following statement:</p> <p>"After completion of any 4096 ATC Code change (also referred to as Mode</p>

	<p>A Code), check the status of the transponder. If the transponder indicates that it is in standby mode, re-select the desired mode (i.e. the transponder should be in the active mode)."</p> <p>(3) For aircraft equipped with Honeywell XS-856A, XS-856B or XS-857A Mode S Transponder Units, P/N's as listed in part (2) of the applicability section of this directive:</p> <p>(a) Unless already accomplished in accordance with the requirements of FAA AD 2006-19-04, within 9 months after the effective date of this directive, replace the modification plate of the transponder with a new plate and test the transponder, in accordance with the Accomplishment Instructions of Honeywell Alert Service Bulletin 7517400-23-A0017, dated January 23, 2006. If the transponder fails the test, before further flight, reinstall MOD Y into the transponder as specified in paragraph (3)(b) of this directive.</p> <p>(b) Before or concurrently with the actions required by paragraph (3)(a) of this directive, install MOD Y into the applicable mode S transponder, in accordance with the Accomplishment Instructions of Honeywell Alert Service Bulletin 7517400-23-A6016, dated August 30, 2005.</p> <p>(4) After accomplishing the replacements or modifications required by paragraph (1)(b) and/or (2)(b) and (3) of this directive, as applicable, the AFM amendment required by paragraph (1)(a) and/or (2)(a) of this directive may be removed from the AFM.</p>
Ref. Publications:	<p>Honeywell Technical Newsletter A23-1146-004; Honeywell Alert Service Bulletin (ASB) A21-3851-002; Honeywell ASB A24-3851-005; Honeywell ASB 7510700-23-A0047 Rev.1; Honeywell ASB 7510700-23-A0048; Honeywell ASB 7517400-23-A0017; Honeywell ASB 7517400-23-A6015 Rev.1; Honeywell ASB 7517400-23-A6016; or later approved revisions thereof.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted on 14 May 2007 as PAD 07-085 for consultation until 28 May 2007. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: Honeywell International, Inc., Customer Service Technical Operations Center, 21111 N. 19th Avenue, Phoenix, Arizona 85027-2708, United States of America; telephone (USA and Canada) 1-800-601-3099 or (International) 1-602-365-3099.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006-0286R1</p> <p>Date: 22 March 2007</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
<p>Approval Holder's Name:</p> <p>INTERTECHNIQUE, Zodiac Aircraft Systems</p>	<p>Type/Model designations:</p> <p>Oxygen Reserve Cylinders</p>
TCDS Number: Not applicable.	
Foreign AD: Not applicable.	
Revision/Supersedure: This AD revises and supersedes Emergency AD (EAD) 2006-0286-E dated 21 September 2006, including the 2 corrected versions thereof which were subsequently published.	
ATA 35	Oxygen - Oxygen Reserve Cylinders – Removal/Emptying
Manufacturer(s):	INTERTECHNIQUE (F5341)
Applicability:	Oxygen Reserve Cylinders having Part Number (P/N) GLF(XXX)-(X), GLD(XXX)-(X), PC2300 and SLF300, which are known to be installed on, but not limited to Airbus A300 series aircraft; Dassault Aviation (AMD-BA) Mystère-Falcon 20, Mystère-Falcon 50, Falcon 200 and Falcon 900 aircraft; Pilatus aircraft; Eurocopter SA 315 B and AS 350 B3 helicopters; and Hindustan Aeronautics Limited helicopters.
Reason:	<p>This Airworthiness Directive (AD) is issued following information concerning the risk of high-pressure oxygen cylinder tearing with sudden emptying. These cylinders are used for missions at high altitudes or to ensure respiratory aid for passengers feeling sick.</p> <p>It has been demonstrated that the material characteristics of the Aluminium Alloy 5283 (AA5283) from which the cylinders are manufactured deteriorate in the course of time and may possibly lead these oxygen cylinders to tear and abruptly vent aboard an aircraft.</p> <p>This AD has been revised to avoid unnecessary aircraft-on-ground situations and extends the compliance time in paragraph 1.2 from 6 months to 12 months.</p>
Effective Date:	25 September 2006


Compliance:	<p>Required as indicated, unless accomplished previously in accordance with EAD 2006-0261-E or EAD 2006-0286-E:</p> <ol style="list-style-type: none"> Before the next flight, identify the year of manufacture of each affected P/N oxygen reserve cylinder made of AA5283 and remove it from the aircraft at the time indicated below: <ol style="list-style-type: none"> When operated in salt-laden atmospheric conditions (contact with sea water, spindrift, etc.), upon accumulating 15 years TIS since manufacture, or within 15 days after the effective date of this AD, whichever occurs later; or When operated in normal climatic conditions, upon accumulating 25 years time-in-service (TIS) since manufacture date, or within 12 months after the effective date of this AD, whichever occurs later; or When the TIS cannot positively be established, within 15 days after the effective date of this directive. Immediately after removal from the aircraft, empty the oxygen reserve cylinder in accordance with the instructions described in INTERTECHNIQUE Service Bulletin (SB) GLD/GLF-35-150 dated 20 September 2006. For Oxygen Reserve Cylinders held as spares, identify the year of manufacture of each affected P/N oxygen reserve cylinder made of AA5283 and empty all oxygen reserve cylinders that have reached or exceeded 25 years after manufacture, in accordance with the instructions described in INTERTECHNIQUE SB GLD/GLF-35-150 dated 20 September 2006. After the effective date of this AD, no Oxygen Reserve Cylinder with P/N as affected by this AD may be installed in any aircraft as replacement part, except within the TIS or time since manufacture limits as specified by paragraphs 1.1, 1.2 and 3 of this directive.
Ref. Publications:	<p>INTERTECHNIQUE Service Bulletin GLD/GLF-35-150 ; and EUROCOPTER AS 350 Alert Service Bulletin No. 05.00.54, EUROCOPTER SA 315 Alert Service Bulletin No. 05.42, or any subsequent approved revision of these documents.</p>
Remarks:	<ol style="list-style-type: none"> If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. Enquiries regarding this AD should be addressed to AD Focal Point, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. For any questions concerning the technical content of the requirements in this AD, please contact: INTERTECHNIQUE, Zodiac Aircraft Systems, 61 rue Pierre Curie BP 1, 78373 Plaisir Cedex France; telephone +33 (0)1-3054-8200; facsimile + 33 (0)1-3055-7161; email: apyrault@intertechnique.zodiac.com; or EUROCOPTER (STDI) - Aéroport de Marseille Provence 13725 Marignane Cedex – France; telephone +33 (0)4-4285-9797 ; facsimile +33 (0)4-4285-99-66; e-mail: Directive.technical-support@eurocopter.com.

EASA	AIRWORTHINESS DIRECTIVE																								
	<p>AD No.: 2006-0140R4</p> <p>Date: 17 April 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>Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB</p>	<p>Type/Model designation(s) :</p> <p>CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive.</p>																								
TCDS Number :	A number of Supplemental Type Certificates (STCs) have been identified that are affected by the requirements of this AD. For clarity, these are listed in the Applicability paragraph (Table 1) of this directive.																								
Foreign AD :	None																								
Revision :	This AD revises and replaces EASA AD 2006-0140R3 dated 19 February 2009																								
ATA 21	Air Conditioning - Zonal Drying System Deactivation																								
Manufacturer(s):	CTT Systems AB																								
Applicability:	<p>CTT Systems AB Zonal Drying System P/N 1000-001, 2000-000, 2000-005, 2001-001, 2001-006, 3000-000 Rev.A, 3000-001, 3000-002 Rev.A and 3000-002 Rev.D, known to be installed in, but not limited to, Airbus A330-243 and A330-322; Boeing 737-700, 737-800, 747-400, and 767-300 series; Bombardier CL-600-2B19; and McDonnell Douglas MD-11 series aeroplanes.</p> <p>The following STCs have been identified to be affected by the requirements of this AD:</p> <p style="text-align: center;">Table 1</p> <table border="1"> <thead> <tr> <th>STC Number</th><th>Issued by</th><th>Holder</th><th>Applicable to</th></tr> </thead> <tbody> <tr> <td>TA0259</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Airbus A330-322 (s/n 120)</td></tr> <tr> <td>LBA.21E2.TA0270</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Bombardier CL-600-2B19</td></tr> <tr> <td>LBA.21E2.TA0307</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Boeing 737-700</td></tr> <tr> <td>LBA.21E2.TA0609</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Airbus A330-243</td></tr> <tr> <td>LBA.21E2.TA0636*</td><td>LBA</td><td>Lufthansa Technik AG</td><td>Boeing 737-800</td></tr> </tbody> </table>	STC Number	Issued by	Holder	Applicable to	TA0259	LBA	Lufthansa Technik AG	Airbus A330-322 (s/n 120)	LBA.21E2.TA0270	LBA	Lufthansa Technik AG	Bombardier CL-600-2B19	LBA.21E2.TA0307	LBA	Lufthansa Technik AG	Boeing 737-700	LBA.21E2.TA0609	LBA	Lufthansa Technik AG	Airbus A330-243	LBA.21E2.TA0636*	LBA	Lufthansa Technik AG	Boeing 737-800
STC Number	Issued by	Holder	Applicable to																						
TA0259	LBA	Lufthansa Technik AG	Airbus A330-322 (s/n 120)																						
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LBA.21E2.TA0636*	LBA	Lufthansa Technik AG	Boeing 737-800																						

	TA0733	LBA	Lufthansa Technik AG	Boeing 747-400
	SA 0003 NL	RLD	CTT Systems AB	McDonnell Douglas MD-11
	SA 0009 NL **	RLD	CTT Systems AB	Boeing 767-300
	EASA.A.S.02547	EASA	CTT Systems AB	Boeing 767-300
	Z 21-74-01	FOCA	SR Technics, TEC	McDonnell Douglas MD-11
	Z 25-20-77	FOCA	Jet Aviation Basel, AG	Boeing 737-700 (s/n 32627)
<p>* LBA.21E2.TA0636 was approved by EASA under Approval Number 2004-4416.</p> <p>** RLD STC SA 0009 NL has been superseded by EASA.A.S.02547 on March 1, 2006.</p> <p>Note: The approval list for the installation of the affected Zonal Drying System in Table 1 may be not exhaustive. In case the relevant aircraft are not listed therein, this does not exempt any aircraft having an affected Zonal Drying System P/N installed from compliance with this directive.</p>				
Reason:	<p>One incident had been reported where the regeneration air ducting downstream of a Zonal Drying System P/N 3000-002, installed in a Boeing 747-400 aircraft, showed signs of premature material failure. As the root cause for the failure was initially not known, all other Zonal Drying Systems of similar design could have been affected by the same unsafe condition, therefore EASA AD 2006-0140-E mandated their de-activation.</p> <p>Investigation showed that such failure was caused by combustion of contaminants in the dryer unit.</p> <p>Revision 1 was issued following the development of a new dryer unit which removes this combustion risk.</p> <p>The installation of the new dryer unit is approved through the EASA STCs listed in Table 2 of the Required action and Compliance Time section of this AD and once installed in a subject aircraft corrects the unsafe condition and terminates the requirements of EASA AD 2006-0140-E. Consequently, the Zonal Drying System can be re-activated.</p> <p>Revision 2 was issued to correct the number of one STC listed in the Applicability section of this AD: it was No. Z 25-02-77 , it is No. Z 25-20-77.</p> <p>Revision 3 was issued to add two STCs in Table 2 of the Required action and Compliance Time section terminating the requirements of paragraph 1. of this AD.</p> <p>This Revision 4 is issued to add one more STC terminating the requirements of paragraph 1. and to update the revision number of STC EASA.A.S.02547 in Table 2 of the Required action and Compliance Time section of this AD.</p>			
Effective Date:	25 May 2006			
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1. Before next flight after the effective date of this directive, switch off the Zonal Drying System installed in accordance with one of the STCs listed in Table 1 of the Applicability section of this AD and set system inoperative by pulling and securing the affected circuit breaker in accordance with relevant maintenance instructions. 2. On aircraft where the following STCs are installed, the requirements of paragraph 1. of this AD are no longer applicable and the Zonal Drying System accordingly modified can be re-activated: 			

	<p style="text-align: center;">Table 2</p> <table> <tr> <th>STC Number</th> <th>Issued by</th> <th>Holder</th> <th>Applicable to</th> </tr> <tr> <td>EASA.A.S.03502 Revision 1</td> <td>EASA</td> <td>Lufthansa Technik AG</td> <td>Bombardier CL-600-2B19</td> </tr> <tr> <td>EASA.A.S.03504 Revision 1</td> <td>EASA</td> <td>Lufthansa Technik AG</td> <td>Boeing 737-700</td> </tr> <tr> <td>EASA.A.S.03505 Revision 1</td> <td>EASA</td> <td>Lufthansa Technik AG</td> <td>Boeing 737-800</td> </tr> <tr> <td>EASA.A.S.03506 Revision 1</td> <td>EASA</td> <td>Lufthansa Technik AG</td> <td>Boeing 747-400</td> </tr> <tr> <td>EASA.A.S.03507 Revision 1</td> <td>EASA</td> <td>Lufthansa Technik AG</td> <td>Airbus A330-200</td> </tr> <tr> <td>EASA.A.S.02547 Revision 2</td> <td>EASA</td> <td>CTT Systems AB</td> <td>Boeing 767-300</td> </tr> <tr> <td>EASA.A.S.03738</td> <td>EASA</td> <td>CTT Systems AB</td> <td>Boeing MD 11</td> </tr> <tr> <td>EASA.A.S.03844 Revision 1</td> <td>EASA</td> <td>Jet Aviation AG</td> <td>Boeing 737-700 IGW (s/n 32627)</td> </tr> </table>	STC Number	Issued by	Holder	Applicable to	EASA.A.S.03502 Revision 1	EASA	Lufthansa Technik AG	Bombardier CL-600-2B19	EASA.A.S.03504 Revision 1	EASA	Lufthansa Technik AG	Boeing 737-700	EASA.A.S.03505 Revision 1	EASA	Lufthansa Technik AG	Boeing 737-800	EASA.A.S.03506 Revision 1	EASA	Lufthansa Technik AG	Boeing 747-400	EASA.A.S.03507 Revision 1	EASA	Lufthansa Technik AG	Airbus A330-200	EASA.A.S.02547 Revision 2	EASA	CTT Systems AB	Boeing 767-300	EASA.A.S.03738	EASA	CTT Systems AB	Boeing MD 11	EASA.A.S.03844 Revision 1	EASA	Jet Aviation AG	Boeing 737-700 IGW (s/n 32627)
STC Number	Issued by	Holder	Applicable to																																		
EASA.A.S.03502 Revision 1	EASA	Lufthansa Technik AG	Bombardier CL-600-2B19																																		
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Ref. Publications:	<p>CTT Systems AB Information Letters IL06-01 dated May 5, 2006, IL06-02 issue 2 dated May 8, 2006 and IL06-03 dated May 10, 2006; and (for Lufthansa Technik STCs only) Lufthansa Technik AG Service Information Letter LHT 06-001, Revision IR dated May 12, 2006.</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 safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 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 CTT Systems AB P.O. Box 1042, S-611 29 Nyköping, Sweden – Ph.+46-(0)155-205900, Fax +46-(0)155-205925, E-mail: ctt@ctt.se or (for Lufthansa Technik STCs) Lufthansa Technik AG - Hamburg, Germany. Ph.: +49-(0) 40-5070-4747, Fax.: +49 (0) 40-5070-4855. E-mail: bernd.staffel@lht.dlh.de . 																																				


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EASA	AIRWORTHINESS DIRECTIVE
	AD No : 2006-0328 Issued: 23 October 2006
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name : MESSIER BUGATTI	Type/Model designation(s) : Main Landing Gear (MLG) Wheel Assembly Part Numbers (P/N) C20500000 and P/N C20452000.
Equipment approval Number(s): DGAC France QAC 141 ref. 951610 dated 7 April 1995 and 983406 dated 22 June 1998.	
Foreign AD : Not applicable.	
Supersedure : Not applicable.	
ATA 32	Landing Gear – Main Landing Gear Wheel Assembly – Inspection/Repair
Manufacturer(s):	Messier-Goodrich S.A.; Goodrich-Messier Inc.
Applicability:	Messier-Goodrich S.A. or Goodrich-Messier Inc. Main Landing Gear (MLG) Wheel Assemblies having P/N C20500000 and P/N C20452000, known to be installed on, but not limited to, AIRBUS A321 series aircraft.
Reason:	<p>Some operators have reported wheel corrosion, mainly under the heat-shield overlap area. In some cases a circular crack initiated from a corrosion pit. When the crack is initiated under the bead seat, it does not lead to tire pressure loss, and can cause a flange separation as experienced by few operators.</p> <p>This Airworthiness Directive (AD) mandates the inspection and, if necessary, repair of the MLG wheel assembly.</p>
Effective Date:	02 November 2006


Compliance:	<ol style="list-style-type: none"> 1. At each tire change after the effective date of this directive, inspect the MLG wheel assembly in accordance with the instructions of MESSIER-BUGATTI and GOODRICH Service Bulletin (SB) C20452-32-3254. 2. If damage is found, before next flight, repair the MLG wheel assembly in accordance with the instructions of MESSIER-BUGATTI and GOODRICH SB C20452-32-3254.
Ref. Publications:	MESSIER-BUGATTI and GOODRICH Service Bulletin C20452-32-3254 Revision 2 or any later approved revision.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Method of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-215 for consultation on 19 September 2006 with a comment period until 03 October 2006. No comments were received during the consultation period. 3. Enquiries regarding this AD should be addressed to the AD Focal Point, 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 AIRBUS - Fax 33 5 61 93 44 51 or contact MESSIER-GOODRICH – tech-pub@messier-bugatti.com.

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2009-0100 Date: 04 May 2009 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 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name : MICROTURBO	Type/Model designation(s) : SAPHIR 2 Auxiliary Power Units
TSO authorization : Letter 4188 DTA/M dated 19 July 1971	
Foreign AD : Not applicable	
Supersedure : None	
ATA 49	Auxiliary Power Unit – Exhaust Thermal Insulation – Replacement
Manufacturer(s):	Microturbo
Applicability:	Microturbo SA Saphir 2 Model 016 Auxiliary Power Units (APUs) on which the exhaust thermal insulation has been replaced since 01 January 1995. These APUs are known to be installed on, but are not limited to, Dassault Falcon 20 aeroplanes.
Reason:	Due to a lapse in manufacturing quality control, the exhaust thermal insulation of certain Microturbo SA Saphir 2 Model 016 APUs may not meet the approved design standard, and may fail in service. The affected part numbers are 016-33-01 (Inner Thermal Insulation), 016-33-02 (Outer Thermal Insulation) and 016-33-03 (EGT Sensor Thermal Insulation). Only parts replaced since 1995 are affected. This condition, if not corrected, could result in rapid deterioration and physical breakdown of the exhaust thermal insulation, leading to loss of insulation efficiency and ultimately exposure of the hot APU exhaust section and risk of fire. Since the issue of Safety Information Notice (SIN) 2007-23, EASA has issued AD Policy (document C.Y001-01 dated 28 July 2008), confirming the Agency to be competent to issue Mandatory Continuing Airworthiness Information to require correction of unsafe conditions resulting from production and/or maintenance deficiencies.

	For the reasons described above, this AD replaces SIN 2007-23, requiring the inspection and replacement of affected exhaust thermal insulation.
Effective Date:	18 May 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated unless accomplished previously.</p> <ol style="list-style-type: none"> 1. Within 10 APU operating hours from the effective date of this AD, if the exhaust thermal insulation has been replaced since 01 January 1995, inspect the exhaust thermal insulation for signs of deterioration. Repeat the inspection at intervals not exceeding 10 APU operating hours. If deterioration is detected, replace the exhaust thermal insulation before operating the APU again, in accordance with the accomplishment instructions in the referenced Microturbo Alert Service Bulletin. 2. Within 50 APU operating hours from the effective date of this AD, if the exhaust thermal insulation has been replaced since 01 January 1995, replace the exhaust thermal insulation in accordance with the accomplishment instructions in the referenced Microturbo Alert Service Bulletin.
Ref. Publications:	<p>Microturbo Alert Service Bulletin 49-11A76 Revision 1, dated 6 September 2007</p> <p>The use of later approved revisions of this document 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. This AD was posted on 20 February 2009 as PAD 09-043 for consultation until 20 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 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: MICROTURBO - Support Clients, 8, Chemin du pont de Rupé, BP 62089 31019 Toulouse - Cedex 2 – FRANCE Telephone +33 (0)5 61 37 55 00; Fax: +33 (0)5 61 70 74 45 E-mail technical.support@microturbo.fr

EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2009-0200</p> <p>Date: 08 September 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>Narco Avionics Inc.</p>	<p>Type/Model designation(s) :</p> <p>AT-150 transponders</p>
<p>ETSO Authorisation Number: LBA 10.930/34 and CAA UK VC00245</p>	
<p>Foreign AD: FAA AD 2004-08-16, dated 16 April 2004.</p>	
<p>Supersedure : None</p>	
ATA 34	Navigation – Mode A/C Transponder – Check / Modification
Manufacturer(s):	Narco Avionics Inc.
Applicability:	<p>Narco Avionics Inc AT-150 Mode-A/C transponders, all Part numbers, all Serial Numbers.</p> <p>These transponders are known to be installed on, but not limited to, aircraft certificated (validated) by EASA under CS 23, and aircraft certificated (validated) by EU Member States or associated countries prior to 28 September 2003 under equivalent National Standards.</p>
Reason:	<p>EASA has received reports of significantly erroneous Mode C altitude replies to Secondary Surveillance Radar (SSR) interrogations from aircraft equipped with Narco Avionics AT-150 Mode A/C Transponders. The defect occurs sporadically and may be apparent only during limited periods of a given flight.</p> <p>The erroneous Mode C replies are derived from the transmission of internal register contents that are corrupted.</p> <p>If the transponder incorrectly interprets a P4 pulse as a P2 Side Lobe Suppression (SLS) pulse, then replies to interrogations will be suppressed. If a Mode A interrogation reply is suppressed by the AT-150 in this way, the reply generator registers can retain the (unsent) Mode A data and new Mode C data is added to it before being transmitting as an erroneous Mode C value following interrogation. Narco Avionics AT-150 Service Bulletins (SB) No.1 and No.6 are technically equivalent and add a resistor and a transistor to the decode circuit that ensures that the transponder can differentiate between a P2 and a P4 interrogation pulse.</p> <p>Narco Avionics SB AT150 No. 6 was previously mandated by FAA AD 2004-08-16 (to address performance issues with Mode S stations and TCAS)</p>


	<p>and if embodied is considered effective. SB AT150 No. 6 was only applicable to a limited range of serial numbers and an equivalent design change should be embodied on later production transponders at manufacture.</p> <p>However during investigation of the erroneous Mode C replies it was evident that some transponders outside of the applicability range of SB No.6 may not have the intended configuration of decoder circuit either.</p> <p>The intention of this AD is therefore to ensure that all AT-150 transponders, irrespective of serial number, have the effective configuration of decoder circuit.</p>
Effective Date:	22 September 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> 1. Within 12 months after the effective date of this AD, conduct the tests prescribed in the 'Testing the Modification' section of Narco Avionics SB AT150 No. 6 to ensure that the transponder decoder circuit configuration is to the standard equivalent to post-embodiment of Narco Avionics SB AT150 No. 6. <p><i>Note: Depending upon the origin of the installation of the resistor and transistor, they may be designated as RSB6 and QSB6 or R508 and Q415.</i></p> <ol style="list-style-type: none"> 2. If the test reveals that the transponder decoder circuit configuration is not to the standard equivalent to post-embodiment of Narco Avionics SB AT150 No. 6: <ol style="list-style-type: none"> 2.1. Modify those units of applicable serial numbers in accordance with the corrective action of Narco Avionics SB AT150 No. 6. 2.2. Contact Narco Avionics Inc. for instructions and corrective actions for units outside of Narco Avionics SB AT150 No. 6 serial number applicability range. 3. After the effective date of this AD, all AT-150 transponders must have decoder circuits confirmed to meet the post SB AT150 No. 6 configuration and operation before re-installation on aircraft. 4. Corrective actions done before the effective date of this AD and in accordance with the instructions of Narco Avionics SB AT150 No. 6 are acceptable for compliance with the requirements of this AD.
Ref. Publications:	<p>Narco Avionics Service Bulletin AT150 No.1, dated 29 July 1977</p> <p>Narco Avionics Service Bulletin AT150 No. 6, dated 31 January 2003</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. This AD was posted on 31 July 2009 as PAD 09-095 for consultation until 28 August 2009. No comments were received during the consultation period. 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: Narco Avionics Inc, 270 Commerce Drive, Suite 200, Fort Washington, PA 19034, United States of America, PHONE +1-295-643-2905, FAX (215)-643-0197, Website: www.narco-avionics.com

EASA	AIRWORTHINESS DIRECTIVE												
	<p>AD No.: 2007 - 0256</p> <p>Date: 19 September 2007</p>												
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.													
Type Approval Holder's Name:	Type/Model designations:												
Pacific Scientific Company, HTL/KIN-TECH Division	Restraint Systems: 2000029, 2000067, 2000115												
TSOA Number: various ETSOA Number: various, e.g. CAA UK Approval Number AR01193, AR0197, AR01199.													
Foreign AD: None													
Supersedure: None													
ATA 25	Equipment and Furnishing - Seat Restraint System Plastic Rotary Buckle Handle - Inspection/Replacement												
Manufacturer:	Pacific Scientific Company												
Applicability:	<p>All the Pacific Scientific rotary buckles p/n's 1111430-XX and 1111475-XX used on restraint systems p/n's:</p> <table border="0"> <tr> <td>2000029-01</td> <td>2000067-01</td> <td>2000115-101</td> </tr> <tr> <td>2000029-03</td> <td></td> <td>2000115-121</td> </tr> <tr> <td>2000029-101</td> <td></td> <td></td> </tr> <tr> <td>2000029-121</td> <td></td> <td></td> </tr> </table> <p>manufactured from November 2004 through May 2007 inclusive.</p> <p>These p/n's are known to be installed on, but not limited to, Eurocopter a/c models AS 350, AS 355, EC120, EC 130, EC 155.</p> <p>The applicability of this AD is limited to rotorcraft only and is not intended for aeroplanes.</p>	2000029-01	2000067-01	2000115-101	2000029-03		2000115-121	2000029-101			2000029-121		
2000029-01	2000067-01	2000115-101											
2000029-03		2000115-121											
2000029-101													
2000029-121													
Reason:	<p>Pacific Scientific has received field reports of several instances of cracking on the guarded rotary buckle assembly plastic handle part numbers 1111430-XX and 1111475-XX with a date of manufacture from November 2004 through May 2007 inclusive.</p> <p>Preliminary testing performed by Pacific Scientific on buckle assemblies with cracked plastic handles indicates that in some circumstances when a load is</p>												


	<p>placed on the restraint system, the straps may not release as intended when the buckle is rotated.</p> <p>These circumstances are:</p> <ul style="list-style-type: none"> • a passenger who weights more than 50 kg and • an aircraft upside down. <p>This could therefore result in a potential unsafe condition in event of an emergency landing or when the occupant is bearing on the buckle.</p> <p>The above is considered possible to take place for helicopters only and not for large aeroplanes.</p> <p>This AD requires identification of all affected buckles, an inspection for cracks and ultimate replacement of the entire batch of suspect buckles.</p>
Effective Date:	03 October 2007
Compliance:	<p>Required as follows, unless already accomplished, in accordance with the instructions of Pacific Scientific SB 25-111432 original issue dated May 22, 2007:</p> <ol style="list-style-type: none"> 1. within 30 days after the effective date of this AD, inspect the seat restraint systems, installed on seats or held as spare, to identify if the buckles part numbers are those affected by this AD; if yes, check the buckles for integrity. 2. Immediately replace any cracked buckle with an airworthy part or mark the seat as "un-operative". 3. In the 6 months following the effective date of this AD repeat inspection of the buckles affected by this AD before any flight and immediately replace them with an airworthy part if any start of cracking is detected or mark the seat as "un-operative". Not later than 6 months after the effective date of this AD, replace all rotary buckles, as identified in the Applicability section of this AD, with an airworthy part. 4. After 6 months from the effective date of this AD, no person may install on any aircraft as a replacement part any spare rotary buckle having P/N 111430-XX or 111475-XX with a manufacturing date from November 2004 through May 2007 inclusive, or install any spare restraint system having the above mentioned buckle part numbers and manufacturing date.
Ref. Publications:	Pacific Scientific SB 25-111432 issue dated May 22, 2007.
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can accept Alternative Methods of Compliance for this AD. 2. This AD was posted on 03 August 2007 as PAD 07-134 for consultation until 07 September 2007. The Comment Response Document can be found at http://ad.easa.europa.eu/. 3. Enquiries regarding this AD should be referred to the AD Focal Point - 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: <i>Pacific Scientific Aviation Services</i> 11700 N.W. 102nd Rd. # 6 Miami, Florida 33178 United States Ph: 305-477-4711 Fax: 305-477-9799

	<p>Contact: Edel Mena www.pacscimiami.com</p> <p><u><i>Pacific Scientific UK Ltd.</i></u> Howarth Road, Maidenhead Berkshire SL6 1AP United Kingdom Ph: 44-1628 68-2200 Fax: 44-1628-68 2250 Contact: Ross Hamilton</p> <p><u><i>Pacific Scientific Germany</i></u> Unit 6 Hagen Park Miramstrasse 74 34123 Kassel Germany Tel: + 49 (0) 561 57981 0 Fax: + 49 (0) 561 57981 25 Contact: Michael Hippe</p>
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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0220</p> <p>Date: 19 July 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name :	Type/Model designation(s) :
Recaro Aircraft Seating GmbH & Co. KG	3410, 3510(A,B,C,D), 4400, 4420, 6510
ETSO Number : LBA: 30.131/26, EASA.210.0153, EASA.210.0172, EASA.210.249, EASA.210.306, LBA: 30.131/118 JTSO, LBA.O.11.111/3 JTSO, LBA.O.11.111/2 JTSO	
Foreign AD : None	
Supersedure : None	
ATA 25	Equipment – Passenger Seats - Inspection of Seatbelt Shackle
Manufacturer:	Recaro Aircraft Seating GmbH & Co. KG
Applicability:	<p>Passenger Seats Type 3410, 3510 (A,B,C,D), 4400, 4420 and 6510 delivered after 1st November 2005 and before 5th May 2006.</p> <p>This equipment is known to be installed on but not limited to the following aircraft: A318-100, A319-100, A320-200, A321-200, A330-200, A330-300, A340-200, A340-300, A340-600, B737-300, B737-400, B737-500, B737-700, B737-800, B737-900, B747-300, B747-400, B767-300, B777-200, B777-300</p>
Reason:	During incoming inspection an improperly riveted seat belt shackle has been determined. This could lead to a malfunction of the seat belt attachment. The cause could be tracked down to an improper process at the shackle supplier ANCRA. The existence of similar occurrences can not be excluded.
Effective Date:	31 July 2006
Compliance:	<p>The following measures are rendered mandatory from the effective date of this AD:</p> <p>Unless already accomplished,</p> <ul style="list-style-type: none"> - perform a one time detailed visual inspection of the seat shackles of the related seats within the next 8 weeks following the effective date of this AD. - if necessary apply the associated corrective actions.


	<p>The inspection results, if defects are found, must be reported to Recaro</p> <p>The occurrence of similar cases on seats from other manufacturers must be reported to the Agency.</p>
Ref. Publications:	<p>Recaro Service Bulletin:</p> <p>3410-25BQ555, Original Issue, dated 19 May 2006</p> <p>3510-25BQ073, Original Issue, dated 18 May 2006</p> <p>4400-25BQ046, Original Issue, dated 19 May 2006</p> <p>4420-25BQ128, Original Issue, dated 19 May 2006</p> <p>6510-25BQ115, Original Issue, dated 19 May 2006</p> <p>or later approved revisions.</p>
Remarks :	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-138, -139, -140, -141 and -142 for consultation on 02 June 2006 with a comment period until 16 June 2006. The Comment Response Document can be found at http://ad.easa.eu.int/ . 3. Enquiries regarding this Airworthiness Directive should be referred to Mr. M. Capaccio, Airworthiness Directive Focal Point - 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 Recaro Aircraft Seating GmbH & Co, Technical Publications, Daimlerstrasse 21, 74523 Schwaebisch Hall, Germany, phone +49 791 5037185, fax: +49 791 5037211.

EASA	AIRWORTHINESS DIRECTIVE						
	AD No.: 2009-0097 Date: 22 April 2009 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 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].							
Type Approval Holder's Name : Rockwell Collins Inc.	Type/Model designation(s) : TDR-94 and TDR-94D transponders						
ETSO Authorisation Number : EASA.21O.280 Rev.C							
Foreign AD : None							
Supersedure : None							
ATA 34	Navigation – Mode S Transponder – Check / Modification						
Manufacturer(s):	Rockwell Collins Inc.						
Applicability:	Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows: <table border="1"> <thead> <tr> <th>Type</th><th>P/N (all serial numbers)</th></tr> </thead> <tbody> <tr> <td>TDR-94</td><td>622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408</td></tr> <tr> <td>TDR-94D</td><td>622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408</td></tr> </tbody> </table> <p>These transponders are known to be installed on, but not limited to, the following aeroplanes:</p> <ul style="list-style-type: none"> - ATR 42 and ATR 72, all models. - Bombardier (formerly Canadair) CL-600-1A11, CL-600-2A12 (601 Variant), CL-600-2B16 (601-3A, 601-3R and 604 Variants), CL-600-2B19, CL-600-2C10, CL-600-2D15 and CL-600-2D24. - Bombardier (formerly De Havilland Canada) DHC-8, all models. - Dassault Aviation Mystère-Falcon 50 (including EX variant), Mystère-Falcon 900, Falcon 900EX, Falcon 2000 and Falcon 2000EX. - Gulfstream G-IV. - Hawker Beechcraft (formerly Raytheon, Beech) 200 and 400 series, all models. - SAAB SF340A and 340B. 	Type	P/N (all serial numbers)	TDR-94	622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408	TDR-94D	622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408
Type	P/N (all serial numbers)						
TDR-94	622-9352-004, 622-9352-005, 622-9352-006, 622-9352-007, 622-9352-008, 622-9352-108, 622-9352-207, 622-9352-308, and 622-9352-408						
TDR-94D	622-9210-004, 622-9210-005, 622-9210-006, 622-9210-007, 622-9210-008, 622-9210-108, 622-9210-207, 622-9210-308 and 622-9210-408						

Reason:	<p>The European Air Navigation Service Providers (ANSP) have implemented Advanced Surface Movement Guidance & Control Systems (A-SMGCS) to improve the surveillance and control of on-ground aeroplanes and vehicles, providing conflict detection and alerting on runways.</p> <p>To ensure proper and effective operation of the A-SMGCS, transponder replies to Air Traffic Control Radar Beacon System (ATCRBS) and All-Call interrogations must be inhibited when the aeroplane is on ground.</p> <p>Rockwell Collins TDR-94 and TDR-94D Mode S Transponders have two Air/Ground Discrete inputs that may be connected to the aeroplane Weight-On-Wheels system. A connection to the Air/Ground #2 discrete will implement an inhibition of ATCRBS, ATCRBS/Mode-S All-Call and Mode-S Only All-Call replies when the aeroplane is on the ground. No on-ground reply inhibition occurs if the connection is to the Air/Ground #1 discrete.</p> <p>An aeroplane with this transponder interface problem, if not corrected, does not meet the specifications of ICAO Annex 10 volume IV amendment 77 section 3.1.2.10.3.10 "Inhibition of replies" which would lead to degradation of the functioning of the A-SMGCS, could affect the ATC functions in tower, approach and en-route sectors, increase the risk of undetected runway incursions and endangering the aeroplane, its occupants and persons on the ground.</p> <p>For the reasons described above, this new EASA AD requires a check of the transponder Air/Ground discrete input connections and, in case of discrepancies, the accomplishment of corrective action.</p>
Effective Date:	06 May 2009
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 12 months after the effective date of this AD, accomplish the following: <p>Verify that the transponder Air/Ground discrete input connections are installed in accordance with Table 1 of Rockwell Collins Service Information Letter TDR94() SIL 07-1 (ref. 523-0809129-001000). If the wiring installation is not compliant with the information provided in Table 1 of the SIL, modify the aeroplane Air/Ground discrete input connections in accordance with approved aeroplane modification instructions.</p> (2) ATR aeroplanes modified in accordance with ATR Service Bulletin (SB) ATR42-34-0164 or SB ATR72-34-1093 (modification n° 05602), as applicable to aeroplane model, including those ATR aeroplanes on which modification n° 05602 was incorporated during production, are not affected by this AD, as this modification is equal to the requirements of paragraph (1) of this AD. (3) Bombardier CL-600-2B19, serial number 7122, if modified in accordance with Bombardier SB 601R-34-146, is not affected by this AD, as this modification is equal to the requirements of paragraph (1) of this AD. (4) Dassault aeroplanes modified in accordance with Dassault Aviation SB F50-457 (modifications M2966 and M2968), SB F50-469 (modification M2998), SB F900-354 (modification M3896), SB F900-368 (modification M5013), SB F900EX-239 (modification M3896), SB F900EX-270 (modification M5013), F2000-312 (modifications M2624 and M2632), SB F2000-327 (modification M2468), SB F2000EX-043 (modification M2624) or SB F2000EX-084 (modification M2468), as applicable to aeroplane model, are not affected by this AD, as these modifications are equal to the requirements of paragraph (1) of this AD.
Ref. Publications:	Rockwell Collins Service Information Letter TDR-94() SIL 07-1, document reference 523-0809129-001000, dated 25 May 2007.

Remarks :	<ol style="list-style-type: none">1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.2. This AD was initially published on 09 October 2008 as PAD 08-113 for consultation until 30 October 2008 and then republished on 03 March 2009 as PAD 08-113R1 for extended consultation until 31 March 2009. The Comment Response Documents can be found at http://ad.easa.europa.eu/.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: Rockwell Collins Inc., 400 Collins Road NE, Cedar Rapids, Iowa 52498, United States of America, telephone +1-319-265-5467 Website: www.rockwellcollins.com Email: response@rockwellcollins.com
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EASA	AIRWORTHINESS DIRECTIVE						
	<p>AD No.: 2009-0173</p> <p>Date: 05 August 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>Rockwell Collins Inc.</p>	<p>Type/Model designation(s) :</p> <p>TDR-94 and TDR-94D transponders</p>						
<p>ETSO Authorisation Number : EASA.210.280 Rev.C</p>							
<p>Foreign AD : None</p>							
<p>Supersedure : None</p>							
ATA 34	Navigation – Mode S Transponder – Modification / Replacement						
<p>Manufacturer(s):</p>	<p>Rockwell Collins Inc.</p>						
<p>Applicability:</p>	<p>Rockwell Collins Mode S Transponders identified by type and Part Number (P/N) as follows:</p> <table border="1"> <thead> <tr> <th>Type</th><th>P/N (all serial numbers)</th></tr> </thead> <tbody> <tr> <td>TDR-94</td><td>622-9352-007, 622-9352-008 and 622-9352-108</td></tr> <tr> <td>TDR-94D</td><td>622-9210-007, 622-9210-008 and 622-9210-108</td></tr> </tbody> </table> <p>when installed in an aeroplane operating in European Designated Mode S Airspace and equipped with Honeywell AZ800 or AZ810 (all part numbers) air data computers (ADC) where the data bus interface between the Honeywell ADC and the Rockwell Collins transponder is providing the Selected Altitude data input to the transponder.</p> <p>These transponder/ADC combinations are known to be installed on, but not limited to, the following aeroplanes:</p> <ul style="list-style-type: none"> - ATR 42 and ATR 72 series (See exemption under 'Required Action'). - Bombardier (formerly Canadair) CL-600-2A12 (601 Variant) and CL-600-2B16 (601-3A and 601-3R Variants). - Bombardier (formerly De Havilland Canada) DHC-8 series. - Dassault Aviation Mystère-Falcon 900 series. - Gulfstream G-IV. <p>Note: For more information regarding Mode-S designated airspace, please consult the Eurocontrol website at www.eurocontrol.int/mode-s and local Aeronautical Information Circulars (AIC).</p>	Type	P/N (all serial numbers)	TDR-94	622-9352-007, 622-9352-008 and 622-9352-108	TDR-94D	622-9210-007, 622-9210-008 and 622-9210-108
Type	P/N (all serial numbers)						
TDR-94	622-9352-007, 622-9352-008 and 622-9352-108						
TDR-94D	622-9210-007, 622-9210-008 and 622-9210-108						


Reason:	<p>A mismatch between the ARINC and GAMA specifications for the Selected Altitude in Motion Bit of label 102 in certain Rockwell Collins TDR-94 transponders is causing incorrect transmission of the Mode-S EHS Selected Altitude parameter.</p> <p>This condition, if not corrected, could lead to invalid Selected Altitude data being transmitted to Mode S ground stations, creating disruptions in the Air Traffic Management process and potentially compromising aeroplane safety.</p> <p>For the reasons described above, this new EASA AD requires the modification or replacement of the affected transponders and prohibits reinstallation of unmodified units.</p>																																
Effective Date:	19 August 2009																																
Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 12 months after the effective date of this AD, accomplish either paragraph (1.1) or (1.2):</p> <p>(1.1) Modify the transponder and the aeroplane in accordance with approved aeroplane modification instructions. Details of the transponder modification are provided in Table 1 and Table 2 of this AD.</p> <p>or</p> <p>(1.2) Replace the transponder, in accordance with approved aeroplane modification instructions, with a TDR-94 unit identified by P/N 622-9352-309 or -409, or a TDR-94D unit identified by P/N 622-9210-309 or -409, as applicable.</p> <table><caption>Table 1 – TDR-94 Transponders</caption><tr><th>Current P/N</th><th>New P/N (options)</th><th>Rockwell Collins Service Bulletin (SB) instructions to be used for modification</th></tr><tr><td rowspan="2">622-9352-007</td><td>622-9352-309</td><td>TDR-94/94D-34-506</td></tr><tr><td>622-9352-409</td><td>TDR-94/94D-34-507</td></tr><tr><td rowspan="2">622-9352-008</td><td>622-9352-309</td><td>TDR-94/94D-34-505</td></tr><tr><td>622-9352-409</td><td>TDR-94/94D-34-507</td></tr><tr><td>622-9352-108</td><td>622-9352-409</td><td>TDR-94/94D-34-505</td></tr></table> <table><caption>Table 2 – TDR-94D Transponders</caption><tr><th>Current P/N</th><th>New P/N (options)</th><th>Rockwell Collins SB instructions to be used for modification</th></tr><tr><td rowspan="2">622-9210-007</td><td>622-9210-309</td><td>TDR-94/94D-34-506</td></tr><tr><td>622-9210-409</td><td>TDR-94/94D-34-507</td></tr><tr><td rowspan="2">622-9210-008</td><td>622-9210-309</td><td>TDR-94/94D-34-505</td></tr><tr><td>622-9210-409</td><td>TDR-94/94D-34-507</td></tr><tr><td>622-9210-108</td><td>622-9210-409</td><td>TDR-94/94D-34-505</td></tr></table>	Current P/N	New P/N (options)	Rockwell Collins Service Bulletin (SB) instructions to be used for modification	622-9352-007	622-9352-309	TDR-94/94D-34-506	622-9352-409	TDR-94/94D-34-507	622-9352-008	622-9352-309	TDR-94/94D-34-505	622-9352-409	TDR-94/94D-34-507	622-9352-108	622-9352-409	TDR-94/94D-34-505	Current P/N	New P/N (options)	Rockwell Collins SB instructions to be used for modification	622-9210-007	622-9210-309	TDR-94/94D-34-506	622-9210-409	TDR-94/94D-34-507	622-9210-008	622-9210-309	TDR-94/94D-34-505	622-9210-409	TDR-94/94D-34-507	622-9210-108	622-9210-409	TDR-94/94D-34-505
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622-9210-108	622-9210-409	TDR-94/94D-34-505																															

	<p>(2) Rockwell Collins TDR 94 transponders with P/N 622-9352-409 and TDR94D transponders with P/N 622-9210-409 are ADS-B capable. Concurrent with accomplishment of the modification of the aeroplane as required by paragraph (1) of this AD, the ADS-B function must be disabled, unless compliance with EASA AMC 20-24 has been demonstrated.</p> <p>(3) After modification of an aeroplane as required by paragraphs (1) of this AD, do not install a transponder, as identified by P/N in the Applicability section of this AD, on that aeroplane.</p> <p>Exemption:</p> <p>ATR-42 and ATR-72 aeroplanes on which the affected transponder and ADC installation has been done in accordance with an ATR design definition, although equipped with transponders and Honeywell AZ800 or AZ810 ADC as listed in the Applicability section of this AD, are exempt from having to meet the requirements of this AD, since on these aeroplanes' original architecture, the Selected Altitude is not provided by the ADC.</p>
Ref. Publications:	<p>Rockwell Collins Service Bulletins:</p> <p>TDR-94/94D-34-505 dated 2 September 2008</p> <p>TDR-94/94D-34-506 dated 2 September 2008</p> <p>TDR-94/94D-34-507 dated 9 September 2008</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. This AD was posted on 08 October 2008 as PAD 08-114 for consultation until 30 October 2008 and subsequently republished on 03 March 2009 as PAD 08-114R1 for extended consultation until 31 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 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: Rockwell Collins Inc., 400 Collins Road NE, Cedar Rapids, Iowa 52498, United States of America, telephone +1-319-265-5467 Website: www.rockwellcollins.com Email: response@rockwellcollins.com


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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2008-0097</p> <p>Date: 20 May 2008</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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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>	
Type Approval Holder's Name :	Type/Model designation(s) :
SICMA AERO SEAT	Model 940() Series Passenger Seats
ETSO Approval: F.O.136, EASA.210.094	
Foreign AD : Not applicable	
Supersedure : This Airworthiness Directive supersedes EASA AD 2008-0080, dated 28 April 2008.	
ATA 25	Equipment & Furnishings – Passenger Seats – Inspection / Repair / Modification
Manufacturer(s):	Sicma Aero Seat
Applicability:	<p>Passenger Seats models 9401, 9402, 9404, 9405, 9406, 9407, 9408 and 9409, all Part Numbers (P/N), except front row and aft facing seat and those modified to 'Amendment B' standard.</p> <p>The affected seats are known to be installed on, but not limited to, ATR 42 and ATR 72 series aircraft.</p>
Reason:	<p>Several occurrences of cracked central and lateral spreaders on passenger seats models 9401 and 9402 have been reported to Sicma Aero Seat.</p> <p>This condition, if not corrected, can lead to further cracking of the seat spreaders, causing injury to passengers or crew members during heavy turbulence in flight or in the event of an emergency landing.</p> <p>For the reasons stated above, this Airworthiness Directive (AD) requires repetitive inspections of the affected seats and, depending on findings, the repair or replacement of damaged spreaders with an improved design ('Amendment B' standard). The replacement of all spreaders (i.e. modification to 'Amendment B' standard) terminates the repetitive inspection requirements.</p> <p>This AD, superseding EASA AD 2008-0080, retains the original requirements, but adds a seat model (9409) that was inadvertently missing in the original AD and excludes front row and aft facing seats from the applicability.</p>

Effective Date:	03 June 2008
Required action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within the next 6 months after 13 May 2008, the effective date of EASA AD 2008-0080, inspect the affected seats in accordance with the instructions of paragraph (§) A item 1 of Sicma Aero Seat (Sicma) Service Bulletin (SB) 94-25-013; (2) Depending on the inspection results, within the criteria and the applicable interval as specified in § A-1 Decision Tree of Sicma SB 94-25-013, repeat the inspection as required by § (1) of this AD; or (3) When deficiencies or cracks are found during any of the inspections required by § (1) and (2) of this AD, within the threshold defined by the criteria specified in § A-1 Decision Tree of Sicma SB 94-25-013, repair the affected spreaders in accordance with the instructions of Sicma SB 94-25-011, or modify the seat to 'Amendment B' standard, replacing all the spreaders, in accordance with the instructions of Sicma SB 94-25-012; <p>Note 1: The aircraft may only be dispatched with non-repaired or unmodified seats within the provisions of the applicable Master Minimum Equipment List item(s).</p> <p>Note 2: Any discrepancies discovered during inspections required by this AD should be reported to Sicma Aero Seat, address indicated in the 'Remarks' section of this AD.</p> <ol style="list-style-type: none"> (4) After 13 November 2008, no person shall install any Sicma seat affected by this AD on any airplane as a replacement part, unless it has been modified to 'Amendment B' standard in accordance with Sicma SB 94-25-012; (5) The replacement of all spreaders on any affected seat assembly (modification to 'Amendment B' standard) in accordance with Sicma SB 94-25-012 terminates the inspection requirements of this AD for that seat assembly.
Ref. Publications:	<p>Sicma Aero Seat Service Bulletin No.94-25-011 issue 2</p> <p>Sicma Aero Seat Service Bulletin No.94-25-012 original issue</p> <p>Sicma Aero Seat Service Bulletin No.94-25-013 issue 4</p> <p>The use of any later approved revision 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: Sicma Aero Seat, Rue Robert Maréchal Sénior, Z.I. La limoise, 36100 Issoudun, France ; telephone +33 (0) 2 54 03 39 39 ; FAX: +33 (0) 2 54 03 39 00; e-mail : mcoureau@sicma.zodiac.com

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2008-0174 Date: 15 September 2008 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 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive 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].	
Type Approval Holder's Name : SPEKON Sächsische Spezialkonfektionen GmbH	Type/Model designation(s) : RE-5L Emergency Parachutes
JTSO approval : LBA.040.010/89 JTSO	
Foreign AD : Not applicable	
Supersedure : None	
ATA 25	Emergency Parachute - Replacement of the Drogue Parachute.
Manufacturer(s):	SPEKON Sächsische Spezialkonfektionen GmbH
Applicability:	RE-5L Emergency Parachutes series 4 and 5 from serial number (s/n) 72245 up to 72369 inclusive and s/n 72371. NOTE: These parachutes have been manufactured between 21 April 2008 and 21 August 2008.
Reason:	One case of cracked grommet has been found on the pilot chute of a RE-5L parachute. An internal process review has revealed that drogue parachutes installed in RE-5L Emergency Parachutes series 4 and 5 as listed in the applicability of this AD, may present some crack initiations. This condition if left uncorrected could create an obstruction of the closing loop and prevent the main parachute from being pulled out of its storage pack. For the reason described above, this AD mandates the replacement of the identified drogue parachutes.
Effective Date:	17 September 2008


Required Action(s) and Compliance Time(s):	<p>Required as indicated, unless accomplished previously:</p> <p>(1) Within 15 days after the effective date of this AD, replace the drogue parachute by a serviceable one as instructed in the SPEKON Safety Bulletin No. 01/2008 Issue 2.</p> <p>(2) After the effective date of this AD, no person shall install drogue parachutes removed per the requirements of paragraph (1) of this AD on any parachutes.</p> <p>To that end, conform to the applicable procedures about the control of unserviceable components.</p>
Ref. Publications:	<p>SPEKON Sicherheitsmitteilung (Safety Bulletin) No. 01/2008 Issue 2</p> <p>The use of later approved revisions of this document 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 questions concerning the technical content of the requirements in this AD, please contact: <p style="text-align: center;">SPEKON Sächsische Spezialkonfektionen GmbH Nordstraße 40 - 02782 Seifhennersdorf – Germany Phone: +49 (0)3586 456-0 Fax: +49 (0)3586 456 167 E-mail: info@spekon.com</p>

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2006–0334R1 Date: 19 March 2009 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 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].	
Type Approval Holder's Name : THALES COMMUNICATIONS	Type/Model designation(s) : VHF Data Radio, Part Numbers EVR716-11-0300A EVR716-11-0350A EVR716-01-0100A EVR716-01-0200A EVR750-03-0100A
ETSOA Number : JTSO F.O.025	
Foreign AD : Not applicable	
Revision : This AD revises EASA AD 2006-0334 dated 31 October 2006	
ATA 23	Communications - Thales Communications VHF Data Radio - Modification
Manufacturer(s):	Thales Communications.
Applicability:	Thales VHF Data Radio, Part Numbers: EVR716-11-0300A EVR716-11-0350A EVR716-01-0100A EVR716-01-0200A EVR750-03-0100A known to be installed on, but not limited to, the following aircraft: - Bombardier DHC-8-400 (all models); - Airbus A318, A319, A320, A321, A330, A340 (all models); - Boeing 717, 727, 737, 747, 757, 767, 777 (all models).
Reason	During the past few years, a phenomenon known as 'PLOC' (Prolonged Loss of Communications) has emerged. Over one thousand reports of this type of problem have been received from operators of various types of

	<p>aircraft with different manufacturer's equipment. It is suspected that the actual number of occurrences is higher, but due to some 'PLOC' occurrences having a short time interval they were either not noticed by the crew or not reported. Various studies were performed by Eurocontrol, UK CAA and operators to determine if there was a common reason for the occurrences. The results were not totally conclusive because other technical reasons, within the reported occurrences, may have caused the crew to experience a loss of communication. One type of 'PLOC' occurrence can be caused by equipment not receiving radio communication from an Air Traffic Controller or another aircraft. Typically, this type of failure is temporary and can be corrected by the crew of the aircraft transmitting a radio message. Following this transmission, the equipment correctly receives all incoming radio signals. This type of failure is referred to a 'sleeping receiver' problem.</p> <p>This type of problem causes workload issues for the Air Traffic Controller and can result in a reduction in safety levels. It is important, therefore, to do all that is possible to reduce or eliminate this type of occurrence.</p> <p>Thales, during exhaustive testing, managed to re-create the problem of the 'sleeping receiver' once. Further testing failed to induce the failure and the actual cause of the problem still remains unknown.</p> <p>Thales, however, instigated a design change to eliminate the possibility of this type of occurrence by checking every 20ms, when not transmitting, that the "sleeping receiver" conditions are not fulfilled and by forcing it into receive mode if it is not the case. The modified Thales VHF data radio is now installed on some aircraft. Since installing the modified radio no report of any "PLOC" occurrences attributable to a 'sleeping receiver' has been received.</p> <p>For this reason, it is considered that the modification as per Thales Service Bulletins mentioned in the Ref. Publications of this AD should be mandatory for all aircraft with these models of radio installed.</p> <p>This Revision 1 is issued to extend the AD compliance time, which originally was 30 months, to 42 months from the AD effective date.</p>
Effective Date:	14 November 2006
Required action(s) and Compliance Time(s):	<p>Compliance is required no later than 42 months from the effective date of this AD.</p> <p>To comply with this Airworthiness Directive, the following Service Bulletins must be incorporated into the Thales VHF Data Radios. The affected part numbers and associated Service Bulletins are listed below.</p> <p>For Part Numbers: EVR716-11-0300A & EVR716-11-0350A - Thales Communications Service Bulletins No. EVR716-23-015 is required.</p> <p>For Part Numbers: EVR716-01-0200A - Thales Communications Service Bulletins No. EVR716-23-012 Initial Issue or EVR716-23-012 Rev. 01 is required.</p> <p>For Part Numbers: EVR716-01-0100A & EVR750-03-0100A - Thales Communications Service Bulletins No EVR7-23-05 Initial Issue or EVR7-23-05 Rev. 01 is required.</p> <p>Once the manufacturer Service Bulletins are embodied into the applicable units, no further action is required by this AD.</p>
Ref. Publications:	<p>Thales Communications Service Bulletins:</p> <p>EVR716-23-015; EVR716-23-012 Initial Issue or Rev. 01; EVR7-23-05 Initial Issue or Rev. 01.</p>

	The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD.
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted as PAD 06-148R1 for consultation on 20 September 2006 with a comment period until 11 October 2006. The Comment Response Document can be found at http://ad.easa.europa.eu/. 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: Marian Kwartnik, Thales Communications Product Program Manager, Land & Joint Systems - UAN/DIN/PRN/ATH 160, Bd de Valmy - B° 82 - 92704 Colombes Cedex-France. Ph.: +33(0)1 41 30 42 40 ; Fax : +33(0)1 41 30 41 71 E-Mail: marian.kwartnik@fr.thalesgroup.com.

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EASA	AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2006 - 0265</p> <p>Date: 30 August 2006</p>
No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise agreed with the Authority of the State of Registry.	
Type Approval Holder's Name:	Type/Model designations:
Various	Mode 'C' and Mode 'S' Transponder Systems utilising Gilham code altitude input.
ETSOA Number: Not applicable.	
Foreign AD: Not applicable.	
Supersedes: CAA United Kingdom AD 002-12-99 Rev.2 and any corresponding EU Member State ADs that were issued in response to that AD.	
ATA 34	Navigation Systems – Mode S and C Transponders – Check
Manufacturers:	Various
Applicability:	<p>All aircraft equipped with one or more Mode 'C' or Mode 'S' transponder systems which utilise Gilham code altitude input. This type of equipment is known to be installed on, but not limited to, the following aircraft:</p> <p>BAE Systems 146 series;</p> <p>BAE Systems Jetstream 3100 series; and</p> <p>Boeing 747-200 series.</p>
Reason:	<p>There have been a number of incidents where incorrect transponder altitude resulted in loss of aircraft separation during ACAS manoeuvres. This directive requires the identification of incorrect transmission of altitude data from transponders which utilise Gilham coded altitude encoders as a sensor input. Where aircraft transponders accept dual Gilham coded altitude encoders, the transponder altitude data comparator must also be checked for correct operation.</p>
Effective Date:	13 September 2006.
Compliance:	<p>Within the next 6 months after the effective date of this directive and thereafter at intervals not to exceed 24 months, check the Mode 'C' or Mode 'S' transponder system(s) in accordance with paragraphs (1) through to (9) below, complying with all precautions detailed in the applicable maintenance manuals and correct all adverse findings prior to further flight.</p>

	<p>Note 1: For aircraft which have been checked in accordance with CAA United Kingdom AD 002-12-99 Rev.2 or any corresponding EU Member State AD, initial compliance with this directive is required not later than 24 months from the previous check required by those Directives.</p> <p>Note 2: Altitude testing may be restricted to the operating envelope of the aircraft.</p> <ol style="list-style-type: none"> (1) Connect an air data test set to the No. 1 and No. 2 (where applicable) Pitot/Static system. (2) In the aircraft flight deck/cockpit, select the No. 1 Mode 'C' or Mode 'S' transponder (as applicable) and select Air Data source No. 1. (3) Select the air data test set to the following altitude reporting values: <ul style="list-style-type: none"> 1,000 feet; 4,100 feet; 15,700 feet and; 31,000 feet. (4) For each selected altitude, verify that the Mode 'C' or Mode 'S' transponder (as applicable) altitude reporting is within tolerance (± 125 feet), and record the altitude as follows: <ul style="list-style-type: none"> 1,000 feet = Actual reading (± 125 feet) 4,100 feet = Actual reading (± 125 feet) 15,700 feet = Actual reading (± 125 feet) 31,000 feet = Actual reading (± 125 feet) (5) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above. (6) In the aircraft flight deck/cockpit, select the No. 2 Mode 'C' or Mode 'S' transponder (if applicable) and select Air Data source No. 1 and repeat paragraphs (3) and (4) above. (7) In the aircraft flight deck/cockpit, select Air Data source No. 2 (if applicable) and repeat paragraphs (3) and (4) above. (8) Where aircraft have the availability of a third air data source, that provides altitude data to the transponder system, then repeat checks (3) and (4) above, for No. 1 and/or No.2 Mode C or Mode S transponder systems connected to Air Data source No. 3. (9) Confirm by inspection and reference to aircraft and equipment Maintenance Manuals and Wiring Diagrams, that, where dual Air Data sources are used, the transponder altitude data comparator function is enabled. Using appropriate test equipment, demonstrate that the comparator detects altitude data differences between the dual encoders of more than 600 feet. <p>If the comparator function is not enabled or is unserviceable, rectify before further flight (this requirement is only applicable to aircraft which utilise dual Air Data sources).</p> <p>Note 3: The comparator function is only available when Mode S transponders are installed.</p>
Ref. Publications:	None
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, the responsible EASA manager for the related product has the authority to accept Alternative Methods of Compliance (AMOCs) for this AD. 2. This AD was posted as PAD 06-170 for consultation on 07 August

	<p>2006 with a comment period until 21 August 2006. No comments were received during the consultation period.</p> <p>3. Enquiries regarding this AD should be addressed to the AD Focal Point, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu</p> <p>4. For any questions concerning the technical content of the requirements in this AD, please contact: Kevin Hallworth, Avionics Specialist. E-Mail: kevin.hallworth@easa.europa.eu</p>
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Part 4 UK Mandatory Requirements for Airworthiness for EASA Aircraft, under Article 14(1)

This Part 4 notifies in full the requirements currently made mandatory by the CAA under the provisions of Article 14(1) of Regulation (EC) No. 216/2008.

1 Requirements notified by the CAA under the provisions of Article 14(1) of Regulation (EC) No. 216/2008

1.1 Generic Requirements for EASA aircraft

Generic Requirements (not type-specific) are given in full, with their applicability, in Appendix 1 to this CAP 747.

1.2 Specific Requirements for EASA Products and Equipment

The UK requirements that are applicable to specific EASA Products and Equipment are notified in this Section 2, Part 4 of CAP 747. A record of requirements removed from this Section can be found in Appendix 2.

a) Aircraft

Bell 206 Series Helicopters
Bell 212 Series Helicopters
Boeing 727 Series 100, 100C and 200
Boeing 737-200 and -200 ADV Series
Boeing 737-300, 400 and 500 Series
Boeing 737-300 PEMCO Freighter/QC STC Conversion
Boeing 747-400 Series Aircraft
Boeing 757 Series Aircraft
Boeing 767 Series Aircraft
Boeing (Douglas) DC8-63 and 63F
Boeing (McDonnell Douglas) DC-9 Series
Boeing (McDonnell Douglas) DC-10 Series
Bombardier (De Havilland Canada) DHC-7

Cessna Series Aircraft
Dornier DO.28 Series Aircraft
Eurocopter France Aerospatiale AS 355 Series Helicopters
Learjet 35A/36A
Lockheed L-188 Series Aircraft
Scheibe Series Motor Gliders
Sikorsky S61 Series Helicopters

b) Engines

None at present.

c) **Propellers**

None at present.

d) **Equipment**

None at present.

Aircraft

BELL 206 SERIES HELICOPTERS

1 CAA Additional Airworthiness Directives

1.1 001-02-2002

Description

Inspection of fuel boost pumps and internal fuel cell hoses for correct configuration.

Applicability – Compliance – Requirement

Applicable to Bell 206A and 206B helicopters equipped with fuel boost pumps Part No. 206-062-681, Bell 206A and 206B helicopters with Serial Nos. prior to 2212 and Bell 206A and 206B helicopters with Serial Nos. 2212 to 3566 which have not complied with Bell Technical Bulletin 206-82-75.

Compliance is required not later than 3 months from the effective date of this Directive, which is 1 March 2002. Bell 206A and 206B helicopters equipped with fuel boost pumps Part No. 206-062-681 must comply with Part I of this Directive. Bell 206A and 206B helicopters with Serial Nos. prior to 2212 and Bell 206A and 206B helicopters with Serial Nos. 2212 to 3566 which have not complied with Bell Technical Bulletin 206-82-75 must comply with Part II of this Directive.

Requirement:

Part I: Inspection of Fuel Boost Pump 206-062-681.

- a) From the logbook, determine the Part No. of fuel boost pump installed.
- b) If fuel boost pump 206-062-681 is installed, proceed with the next step c), otherwise if fuel boost pump has a different Part No. proceed with Part II of this Directive, if applicable.
- c) In accordance with the applicable Maintenance Manual paragraph 12, drain fuel system.
- d) In accordance with the applicable Maintenance Manual paragraph 28, remove the two fuel boost pumps. Inspect them for presence of fuel boost pump umbrella check valve Part No. E6-34-1, existing on the top of the body pump (Refer to figure 1 in Parker Aerospace Product Reference Memo Number: 50). If valve is missing, procure a new valve and install it in accordance with the Parker Aerospace Product Reference Memo Number: 50.

Part II: Inspection of Fuel System Tubes.

With reference to the applicable Illustrated Parts Breakdown Manual chapter 28 figure 28-2, inspect internal fuel cell hoses as follows:

- a) Verify internal fuel cell hoses for presence of anti-chafing covering.
- b) Verify presence of spacer clamp Part No. MS21919 as shown in figure 28-2 item 65 and 66 of applicable illustrated Parts Breakdown Manual.
- c) If required, replace internal fuel cell hoses and/or install spacer clamp.

Return helicopter to flight configuration.

NOTE: ENAC (the Italian Aviation Authority) have issued AD 2000-356 applicable to Agusta Bell AB206A, AB206B and AB206B III helicopters on this subject.

BELL 212 SERIES HELICOPTERS

1 Additional Airworthiness Directives

1.1 001-06-99

Applicable to Bell 212 helicopters Serial Nos. 30501 through 31311 and 35001 through 35102 fitted with servo actuator Part No. 212-076-004-All (HR Part No. 41000570) that has been repaired or overhauled.

Compliance is required prior to the issue of a UK Certificate of Airworthiness from the effective date of this Directive which is 5 July 1999.

Inspect the servo actuator for unauthorized actuating lever assemblies in accordance with Alert Service Bulletin 212-98-103. Failure of the servo actuator could cause loss of control and possible loss of the helicopter.

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BOEING 727 SERIES 100, 100C AND 200

1 Additional Requirements and Special Conditions

1.1 Comparator Warning Indicator

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator.

BOEING 737-200 AND -200 ADV SERIES

1 Additional Requirements and Special Conditions

1.1 Comparator Warning Indicator

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator.

BOEING 737-300, 400 AND 500 SERIES

1 Additional Requirements and Special Conditions

1.1 Attitude Comparator (EFIS Equipped Aircraft)

The optional attitude comparator and an acceptable associated warning are required for compliance with BCAR Chapter D6-10. The comparator warning must be provided with positive attention getting qualities (e.g. flashing).

BOEING 737-300 PEMCO FREIGHTER/QC STC CONVERSION

1 Additional Requirements and Special Conditions

For Aircraft converted with the PEMCO main deck cargo door approved in FAA STC SA2969SO using PEMCO document MDL 2373 rev G or earlier, the following additional requirements apply.

1.1 Structures

- 1.1.1 Compliance to CS 25.307, proof of strength, must be shown for the new modified and affected structure of the fuselage and door.
- 1.1.2 Compliance to CS 25.519, jacking, must be shown by the provision of adequate instructions for the maintenance manual.
- 1.1.3 Compliance to CS 25.571, damage tolerance, must be shown for the new, modified and affected structure of the fuselage and door.
- 1.1.4 Compliance to CS 25.605, fabrication methods, must be shown by the provision of adequate instructions for maintenance and inspection.
- 1.1.5 Compliance to CS 25.561 and 787, emergency landing condition and stowage compartments, must be shown to ensure correct application of the applicable inertias in both the passenger and cargo roles.

For existing converted aircraft compliance to the above may be accomplished by embodiment of PEMCO Service Bulletin SB737-52-0033. For new conversions of aircraft PEMCO MDL 2373 at rev H or later satisfies the above.

1.2 Systems

- 1.2.1 Compliance to CS 25.783 and 1309, doors and door system integrity, must be shown in respect of dormant failures within the main deck cargo door which could result in door opening in flight or pressurisation of the aircraft with the door not properly closed, latched and locked.

For existing converted aircraft compliance to the above may be accomplished by embodiment of PEMCO Service Bulletin SB737-29-0011. For new conversions of aircraft PEMCO MDL 2373 at rev K or later satisfies the above.

BOEING 747 SERIES AIRCRAFT

1 Additional Requirements and Special Conditions

1.1 Attitude Comparison (BOEING 747-400 SERIES)

To comply with CS 25.1303(b)(5) the attitude comparator warning must give an immediately effective warning (e.g. a warning on or immediately adjacent to the PFD) that is not inhibited during any flight phase.

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BOEING 757 SERIES AIRCRAFT

1 Additional Requirements and Special Conditions

1.1 **Applicable** to Boeing 757 Series.

Attitude Display Systems

The attitude display system shall comply with the requirements of BCAR Chapter D6-10, as subsequently endorsed by the guidance material to CS 25.1303(b)(5). Either a comparator warning indicator shall be installed or it shall be established that the probability of any self-monitoring system allowing dangerously incorrect information to be displayed without a clear warning shall be extremely remote.

BOEING 767 SERIES AIRCRAFT

1 Additional Requirements and Special Conditions

1.1 Attitude Display Systems

The attitude display system shall comply with the requirements of BCAR Chapter D6-10, as subsequently endorsed by the guidance material to CS 25.1303(b)(5). Either a comparator warning indicator shall be installed, or it shall be established that the probability of any self-monitoring system allowing dangerously incorrect information to be displayed without a clear warning shall be extremely remote.

BOEING (DOUGLAS) DC8 SERIES 50

1 Additional Requirements and Special Conditions

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1.1 Flap Selector

A gated flap selector is required in accordance with Issue 4 of BCAR, Chapter D4-8, paragraph 3.1 and Appendix paragraph 3.1.

BOEING (DOUGLAS) DC8-63 AND 63F

1 Additional Requirements and Special Conditions

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1.1 Flap Selector

A gated flap selector is required in accordance with Issue 4 of BCAR, Chapter D4-8, paragraph 3.1 and Appendix paragraph 3.1.

BOEING (McDONNELL DOUGLAS) DC-9 SERIES

1 Additional Requirements and Special Conditions

1.1 **Applicable** to McDonnell Douglas DC-9 Series 10 and 30.

Comparator Warning Indicator

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator. Annunciation must be adjacent to each pilot's ADI.

BOEING (McDONNELL DOUGLAS) DC-10 SERIES

1 Additional Requirements and Special Conditions

1.1 Comparator Warning Indicator (Series 10 Only)*

Comparator warning indicators are required for the two independent vertical gyro systems. The independence of these systems shall not be violated by the comparator.

*Although not a UK Additional Requirement for the series 30 aircraft, it is included in the JAA commonly agreed Type Certification Basis, for both the series 10 and 30. Compliance with this requirement for the series 30 may therefore be required for import into other JAA countries.

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BOMBARDIER (DE HAVILLAND CANADA) DHC-7

1 Additional Requirements and Special Conditions

1.1 Comparator Warning Indicator

Comparator warning indicators are required for the two vertical gyro systems and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator. Annunciation must be adjacent to each pilot's ADI.

I

CESSNA SERIES AIRCRAFT

1 Additional Requirements and Special Conditions

1.1 **Applicable** to 525 Citation Jet.

1.1.1 Passenger Door Lock Warning

In order to comply with CS 23.783(e)(3), a warning of any unlocked condition of the door mechanism must be provided to the flight crew.

2 Additional Airworthiness Directives

2.1 008-01-89 REV 2

Applicable to 300 and 400 series aircraft fitted with electrically operated landing gear.

Compliance is required at the next scheduled check from the effective date of this Directive which is 1 February 1989.

Remove and **inspect** bolts Part No. NAS 464P4-26 or AN4-25A (as applicable) and bushes Part No. S133-4P32 or 0841225-4 (as applicable) in the left and right main landing gear retraction linkage assemblies for evidence of corrosion, seizure and/or overloading in shear. Rectify as necessary, lubricate with grease and re-assemble.

Repeat inspection at intervals not exceeding 12 months or 600 flight hours whichever is the sooner.

Revision 2 became effective on 8 November 1999.

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DORNIER DO.28 SERIES AIRCRAFT

1 CAA Additional Airworthiness Directives

1.1 0877 PRE 78

Description

Before the CAA can recommend issue of Certificate of Airworthiness the following Dornier modifications must be embodied.

Applicability – Compliance – Requirement

Applicable to Dornier Do.28B-1 Series aircraft.

- 1) Maximum 'tail heavy' tailplane setting from 10.5° reduced to 9°.
- 2) Trailing edge strips on lift flaps.
- 3) Quadrant on lower elevator lever.
- 4) Extension brackets on elevator control bell crank on frame 3.
- 5) Elevator control cable extension.
- 6) Elevator tab rod linked at fuselage frame 18.
- 7) Rigging specification for elevator tabs.
- 8) Control column stop spaced for 'elevator down'.
- 9) Speed limitation placard revised.
- 10) Airspeed indicator range arc revised.

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EUROCOPTER FRANCE AEROSPATIALE AS 355 SERIES HELICOPTERS

1 CAA Additional Airworthiness Directives

1.1 003–10–2001 Rev 2

Description

Power Plant – Engine and gearbox cowling latching.

Applicability – Compliance – Requirement

Applicable to AS355F, F1, F2 and N helicopters.

Compliance is required not later than 22 June 2002.

Modify by installing a CAA approved cockpit warning system that indicates improperly latched engine and gearbox cowlings;

or

Modify by installing a CAA approved secondary latching system on the engine and gearbox cowlings to prevent them opening in flight.

NOTE: The intent of this Directive can be satisfied by:

- 1 McAlpine Helicopters modification MCH/A/355/597 which provides an additional warning that indicates improperly latched engine and gearbox cowlings.
- 2 Aerospace Design Facilities modification ADF 350/5-101 which provides an additional secondary latch.
- 3 Aero Engineering Design Ltd modification 31–10–013 which provides cockpit warnings of improperly latched cowlings via sensors activated by secondary securing straps.
- 4 An alternative method of compliance that provides an acceptable level of safety if approved by the CAA Certification and Approvals Department.

The original Directive became effective on 8 November 2001. Revision 1 became effective on 25 February 2002. Revision 2 became effective on 4 October 2002.

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LEARJET 35A/36A

1 Additional Requirements and Special Conditions

1.1 Comparator Warning Indicator

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. Alternatively self-contained standby instruments may be located in close proximity to each main horizon indicator.

The independence of the main attitude indicators shall not be violated by the comparator.

1.2 Flap Gates

A flap gate must be introduced at the discontinued approach climb setting and must comply with the requirements of BCAR Chapter D4-8, paragraphs 1.12.1 and 3.3.1.

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LOCKHEED L-188 SERIES AIRCRAFT

1 Additional Requirements and Special Conditions

Applicable to L188 Electra.

1.1 Smoke Detectors

Smoke detector systems installed in Class E Cargo compartments must be in compliance with CS 25.855 and 25.857.

1.2 Loss of Propeller

As a result of the accident and incident record, a Reduction Gear Assembly cockpit magnetic chip detection system, acceptable to the CAA, must be fitted. Associated aircraft Flight Manual Instructions must require engine shutdown as soon as possible following such an indication, or following a single unsuccessful burn-off should a Fuzz Burn-off system be fitted.

1.3 Standby Artificial Horizon

As a result of the accident and incident record, either an acceptable artificial horizon comparator or, a standby artificial horizon must be fitted. If a standby artificial horizon is installed it must comply with the specification detailed in 2.3.1 of Airworthiness Notice No. 81.

2 Additional Airworthiness Directives

2.1 002-05-99

Applicable to L-188A and L-188C aircraft all Serial numbers.

Compliance is required not later than 29 February 2000.

Modify all aircraft which have been fitted with a main cabin cargo door for which the initial opening movement is not inward or which could hazard the aircraft if open in flight, by embodiment of:

- 1) a) independent mechanical locks to secure the latches in the fully latched position, or
b) individual positive mechanical means to retain each latch in the fully latched position. It must not be possible to position the mechanical means in the retaining position if the latch is not in the fully latched position.
- 2) a red visual warning which signals to the appropriate crewmember if the cargo door is not fully closed, latched and locked or if locks are not installed, fully closed and fully latched. The warning system shall be designed such that any termination failure (e.g. cable chafe or earth loss) will result in a fail-safe warning being generated. A warning must also be generated if the mechanical retention means required under 1) above, are not all retained in the fully latched (or locked) position.

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SCHEIBE SERIES MOTOR GLIDERS

1 CAA Additional Airworthiness Directives

1.1 001-07-82

Description

Inspection of wing centre joint and additional limitations.

Applicability – Compliance – Requirement

Applicable to SF25 and SF28 Series motor gliders and Slingsby T61A, B, C and D motor gliders.

Compliance is required as detailed below.

- 1 Before further flight after receipt of this Directive:

NOTE: Aircraft inspected to CAA AD 003-06-82 or Slingsby TI 103/T61 will be deemed to be in compliance with this paragraph.

- 1.1
 - a) With the main rigging pin pulled fully upwards by means of the Tee handle, such that the safety pin is hard against the lower face of the top boom lug fitting establish that the plain untapered portion of main pin shank protrudes below the port bottom boom lug fitting.
 - b) If difficulty is encountered in establishing paragraph 1.1 a) inspection, due to poor access the wings must be removed and port wing inspected in accordance with paragraph 1.1 a).
- 1.2 Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.
- 1.3 Establish whether more than one safety pin hole exists in the main pin. If more than one safety pin hole exists the aircraft must not be flown until the correct hole has been established by compliance with inspection to paragraph 1.1 a) or 1.1 b) and the redundant hole made unusable.

- 2 At Each Rigging:

NOTE: Aircraft inspected to CAA AD 003-06-82 or Slingsby TI 103/T61 will be deemed to be in compliance with this paragraph.

- 2.1 Accomplish the inspection contained in paragraph 1.1 a) or 1.1 b). Extreme care must be exercised when aligning the fittings to ensure that the lugs are not splayed during mainplane rigging, following inspection to 1.1 b).
- 2.2 Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.
- 3 Inform Slingsby Aviation if:
 - 3.1 Plain portion of pin does not protrude.
 - 3.2 Additional safety pin hole exists.
 - 3.3 Any damage likely to have a detrimental effect upon the airworthiness of the aircraft is found.

- 4 Additional Flight Limitations:
 - 4.1 Turns steeper than 60° angle of bank, Loops, Chandelles, Spins or winch launches are prohibited on aircraft fitted with:
 - 4.1.1 Main pin No. 653B-51-514.
 - 4.1.2 Main pin with bottom end radius greater than 3 mm.
 - 4.1.3 Main pin with more than one safety locking pin hole or where the safety locking pin hole exceeds .125" diameter.
 - 4.1.4 Safety locking pins made from less than 12 SWG (.104") piano wire (spring steel).
 - 4.2 A placard prohibiting manoeuvres stated in paragraph 4.1 shall be installed in full view of the pilot(s) if any of the conditions contained in 4.1.1, 4.1.2 or 4.1.3 and 4.1.4 are not met.
 - 4.3 If compliance under 4.1 permits aerobatic manoeuvres the aircraft shall be placarded in accordance with Airworthiness Notice No 51, Issue 1, paragraphs 3.2 and 3.3 and it is strongly recommended that an accelerometer red-lined at +3.5g be fitted in this event.

SIKORSKY S61 SERIES HELICOPTERS

1 Additional Airworthiness Directives

1.1 002-12-2002 REV 1

Applicable to Sikorsky S-61L, N and NM helicopters.

Compliance is required not later than 31 January 2003.

Modify the port and starboard General Electric (GE) CT58 series engines by replacing the magnetic chip detectors located on the engine's power turbine accessory drives with electrical chip detectors (ECD) Part No. 3049T42P01 or Part No. 3018T72P01, plus O-ring Part No. R1309P111. Wire lock detectors following installation. Remote wiring and plug breaks to the ECD and the aircraft may be installed in order to facilitate insitu continuity testing of the ECD. Any such modification must be CAA approved.

Inspect the electrical chip detector on both engines for debris, by means of a suitable continuity check at each daily inspection and after each engine shutdown at a place where S61 maintenance facilities or appropriately authorised personnel are available. The time between checks must not exceed 8 (eight) flying hours. Should the ECD check indicate that metal is present, remove the ECD plug, examine the debris on the plug in order to determine its source, then store for further examination by GE. If the debris is uncharacteristic of normal operating experience and cannot be discounted as originating from a bearing then the following actions must be carried out before further flight.

- 1) Replace the engine with a serviceable unit.
- 2) During replacement of the engine, the engine to MGB drive train will be removed as part of the process. Therefore:
 - i) Prior to re-installation carry out visual inspections for condition and serviceability of the IDS, Thomas Coupling, EMRSA, Lord Mounts, Gimbal Ring, T Bolts/nuts and Splined Coupling. Replace defective parts.
 - ii) Carry out a visual inspection of the MGB input drive assembly for damage and/or oil leaks. If there is evidence of damage or oil leaks, investigate the cause. Once the cause has been established, rectify in accordance with the appropriate service manuals. Replacement of the MGB with a serviceable unit or repairing it in accordance with the appropriate service manuals is acceptable.

NOTE: An alternative means of compliance with this Directive may be accepted by the CAA. The original Directive became effective on 17 December 2002. Revision 1 became effective on 28 January 2003.

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Engines

| None at present.

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Propellers

None at present.

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Equipment

| None at present.

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Section 3 Non EASA Aircraft

Part 1 Introduction

- 1 The information presented in this Section applies to Non-EASA aircraft. For more information on the classification of aircraft as EASA or Non-EASA, see Section 1 of this CAP 747.
- 2 The categories of requirements that must be complied with by Non-EASA aircraft that are registered in the UK and are eligible for Certificates of Airworthiness are specified in Section 1, Part 1 of CAP 747, which references this Section 3.
This Section 3 contains:
 - a) State of Design Airworthiness Directives for Non-EASA aircraft that are not published elsewhere,
 - b) Requirements applied by the CAA under Article 10 of the Air Navigation Order 2005 (as amended) for Non-EASA aircraft and any engine, propeller, part or appliance installed in the aircraft.
- 3 Non-EASA aircraft registered in the UK and eligible for Permits to Fly must be in compliance with the requirements of CAP 661 Mandatory Permit Directives.

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Part 2 Airworthiness Directives and Mandatory Information Issued by States of Design

1 Published Data

The full text of State of Design Airworthiness Directives may be obtained from the National Aviation Authorities of the States of Design.

For information applicable to products designed in the UK, see Part 3A of this Section 3. For State of Design data for products of other nations a contact list of National Aviation Authorities is provided in Section 1, Part 3 of this CAP 747.

2 State of Design Airworthiness Directives and Mandatory Requirements not published elsewhere

When a State of Design issues an Airworthiness Directive or other mandatory airworthiness information, it is obliged under the International Convention on Civil Aviation to notify all other ICAO Member States. Where the CAA receives such notification from a State of Design that is not listed in Section 1, Part 3 of this CAP 747, the CAA publishes the data in full here.

a) Aircraft

None at present.

b) Engines

None at present.

c) Propellers

None at present.

d) Equipment

None at present.

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Aircraft

None at present.

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Engines

None at present.

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Propellers

None at present.

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Equipment

None at present.

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Part 3 Airworthiness Directives and Mandatory Requirements Issued by the CAA

- 1 This Section 3, Part 3 notifies the requirements applicable to Non-EASA aircraft. (This includes requirements that were published previously in CAPs 455, 473, 474 and 480.)
- 2 Airworthiness Directives issued by the CAA for Non-EASA products and equipment designed in the UK are provided in Part 3A of this Section 3 of CAP 747.
- 3 Airworthiness Directives issued by the CAA for Non-EASA products and equipment designed outside the UK are provided in Part 3B of this Section 3 of CAP 747.
- 4 Generic Requirements (not type-specific) that are applicable to Non-EASA aircraft are given in full, with their applicability, in Appendix 1 to this CAP 747.

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Part 3A Airworthiness Directives and Mandatory Requirements Issued by the CAA for Non-EASA Products and Equipment Designed in the UK

- 1 For products of UK design the mandatory information issued by the CAA after 28 September 2003 (as State of Design) is listed below and published in full in this Section 3, Part 3A of CAP 747.
- 2 For products of UK design the mandatory information issued by the CAA prior to 28 September 2004 (as State of Design) is published in CAP 476 and remains in force.
- 3 Details of the Airworthiness Directives cancelled or superseded from this Section can be found in Appendix 3 of CAP 747. Where a Mandatory Requirement published previously in CAP 476 is deleted, this will be notified by amendment of CAP 747, Appendix 6.
- 4 **Airworthiness Directives and Mandatory Requirements**

AD No.	Applicability
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a) Aircraft	
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G-2008-0004	All Scottish Aviation Bulldog Aircraft
G-2009-0001	DHC-1 Chipmunk (All marks)
G-2009-0002	Thruxton Jackaroo (Modified DH82A)

b) Engines	
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None at present.	
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c) Propellers	
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None at present.	
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d) Equipment	
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None at present.	
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Aircraft



United Kingdom Civil Aviation Authority

AIRWORTHINESS DIRECTIVE

AD No: G-2008-0004

Issue Date: 20 February 2008


This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 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: DE HAVILLAND SUPPORT LIMITED	Type/Model Designation(s): ALL SCOTTISH AVIATION BULLDOG AIRCRAFT
Type Certificate Data Sheet No: BA7	
Superseded AD: None	
ATA 32 - MAIN LANDING GEAR RADIUS ARMS – NDT INSPECTION	
Manufacturer(s): Scottish Aviation Ltd	
Applicability: All Scottish Aviation Bulldog aircraft which have accumulated 5000 flying hours or greater.	
Reason: Fatigue cracks have been found in main landing gear (MLG) radius arms of Scottish Aviation Bulldog aircraft during NDT inspection. To minimise the risk of catastrophic failure of MLG radius arms in service, a repetitive NDT inspection requirement has now been introduced which is applicable to all series and models of Scottish Aviation Bulldog aircraft.	
Effective Date: 16 July 2008	
Compliance/Action: Compliance required as detailed in Bulldog Service Bulletin BDG/100/172.	
Reference Publications: de Havilland Support Limited Bulldog Service Bulletin BDG/100/172 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB2 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com	
Remarks: Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0)1293 573292 Fax: +44 (0) 1293 573976 Email: department.certification@caa.co.uk	

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	United Kingdom Civil Aviation Authority		AIRWORTHINESS DIRECTIVE	
			AD No: G-2009-0001 Issue Date: 22 January 2009	
This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).				
In accordance with Article 10 of the Air Navigation Order 2005 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 Holder's Name: de Havilland Support Limited		Type/Model Designation(s): DHC-1 Chipmunk (All Marks)		
TCDS:	Not applicable			
Supersedure:	Not applicable			
ATA 27	Flap Operating System – Latch Plate – Bogus Parts			
Manufacturer(s):	de Havilland Aircraft Co. Ltd			
Applicability:	English-built DHC-1 Chipmunk (all marks) fitted with flap operating system Latch Plate Part No. C1-CF-1489, or where the Part No. of the installed Latch Plate is unknown.			
Reason:	A report has been received of a flap operating system Latch Plate supplied under Part No. C1-CF-1489 failing in service. Investigation has shown that the part in question had not been manufactured in accordance with the applicable de Havilland drawing. This has resulted in rapid wear and failure of the part. To minimise the risk of uncommanded flap retraction, a one-off inspection has been introduced to detect any bogus Latch Plate that may have been installed, or is currently held in stores.			
Effective Date:	31 January 2009			
Compliance/Action:	Compliance required as detailed in Chipmunk TNS CT(C1) No. 208 at the next scheduled maintenance inspection after the effective date of this AD.			
Reference Publications:	de Havilland Support Limited Chipmunk Technical News Sheet CT(C1) No. 208 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB22 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com			
Remarks:	1. This AD was posted as PAD 1891 for consultation on 18 December 2008 with a comment period until 17 January 2009.			
	2. Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.			
	Tel: +44 (0)1293 573726		Fax: +44 (0)1293 573976	
Email: Department.Certification@caa.co.uk				

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	United Kingdom Civil Aviation Authority	AIRWORTHINESS DIRECTIVE AD No: G-2009-0002 Issue Date: 24 April 2009
This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).		
In accordance with Article 10 of the Air Navigation Order 2005 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 Holder's Name: de Havilland Support Limited	Type/Model Designation(s): Thruxton Jackaroo (Modified DH82A)	
TCDS:	N/A	
Supersedeure:	None	
ATA 12-00	SERVICING - GENERAL	
Manufacturer(s):	Jackaroo Aircraft Limited.	
Applicability:	Thruxton Jackaroo (Modified DH82A) aircraft	
Reason:	To clarify mandatory modification and inspection requirements.	
Effective Date:	1 May 2009	
Compliance/Action:	Within 3 months from the effective date of this AD, Technical News Sheets common to the DH82A Tiger Moth and the Thruxton Jackaroo, and which the CAA has classified as Mandatory for application to the DH82A Tiger Moth, are also to be applied as Mandatory to the Thruxton Jackaroo.	
Reference Publications:	de Havilland Support Limited Technical News Sheet CT(MOTH) No 4 lists the TNS which are common to the DH82A Tiger Moth and the Thruxton Jackaroo. It may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB22 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com	
Remarks:	1. This AD was posted as PAD 1896 for consultation on 24 March 2009 with a comment period until 22 April 2009. 2. In the future, new ADs affecting the Jackaroo as well as Tiger Moth will be shown by appropriate reference in the applicability section. 3. Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.	
Tel: +44 (0)1293 573726		Fax: +44 (0)1293 573976
Email: department.certification@caa.co.uk		

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Engines

None at present.

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Propellers

None at present.

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Equipment

None at present.

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Part 3B Additional Airworthiness Directives and Mandatory Requirements Issued by the CAA for Non-EASA Products and Equipment Designed Outside the UK

- 1 The mandatory requirements issued by the CAA that are applicable to non-EASA products and equipment designed outside the UK are listed below and supplied in full on the following pages.
- 2 Details of the Airworthiness Directives cancelled or superseded from this Section can be found in Appendix 3 of CAP 747.
- 3 **Airworthiness Directives and Mandatory Requirements**
 - a) **Aircraft**

AESL, Glos Air Airtourer and Victa Airtourer Series and Airtourers modified to AESL-T3 Standard.

Jodel Series Aircraft

Luscombe Series Aircraft.

SNCAN Stampe et Renard and Aerospatiale Stampe SV4 Series Aircraft.
 - b) **Engines**

None at present.
 - c) **Propellers**

None at present.
 - d) **Equipment**

Installation of Helicopter Health and Usage Monitoring Systems.

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Aircraft

AESL, GLOS AIR AIRTOURER AND VICTA AIRTOURER SERIES AND AIRTOURERS MODIFIED TO AESL-T3 STANDARD

1 CAA Additional Airworthiness Directives

1.1 002-08-2001

Description

Inspection of tailplane support brackets for corrosion.

Applicability – Compliance – Requirement

Applicable to AESL Airtourer T3 aircraft, Victa Airtourer 100 and 115 aircraft and Glos-Airtourer 115, 150 and Super 150 aircraft.

Compliance is initially required not later than 10 flying hours or three months whichever is the sooner from the effective date of this Directive which is 24 August 2001. Clean and visually inspect the left and right tailplane support brackets for corrosion. Any corrosion detected must be removed and the area re-protected, in accordance with the AESL Airtourer 100, 115, 150, super 150 and T6 Maintenance and Repair Manual dated June 1970 chapter 50 'Repair Manual – General Repair Procedures', before further flight. If corrosion is blended out the depth must be recorded in the aircraft log book. Brackets with corrosion which exceeds the limits stated in chapter 50 paragraph 2 (c) of the Maintenance and Repair Manual, must be replaced with Part Nos. 20031/1 or 20031/2 or an alternative approved part. Repeat inspection of the tailplane support brackets must be carried out at intervals not exceeding 12 months.

1.2 020-03-81

Description

Inspection of upper and lower cut outs on control column torque tube assembly.

Applicability – Compliance – Requirement

Applicable to all Victa, Glos Air and AESL Airtourers.

Inspect in accordance with Glos Air Service Bulletin No. 15 within 25 flight hours from 30 April 1981. Repeat Inspection at intervals of 100 flight hours or 1 year whichever is the soonest.

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JODEL SERIES AIRCRAFT

1 CAA Additional Airworthiness Directives

1.1 010-06-79 Rev 2

Description

Stabilator Attachment – Inspection for corrosion.

Applicability – Compliance – Requirement

Applicable to all Jodel aircraft fitted with all-moving tailplane (stabilator) in particular Models DR150, DR1050M and DR1051MM.

Compliance is required not later than 10 flight hours from the effective date of this Directive which is 6 July 1979. Inspect the inboard and outboard stabilator bearing attachment plates for corrosion in accordance with the following procedure:

- a) Remove stabilator.
- b) Remove bearing attachment plates located each side of top longerons and inspect for corrosion, removing paint finish as necessary.
- c) If corrosion is evident replace all plates by anodised aluminium replacement plates supplied by Apex Aircraft or new steel plates to be obtained from Airworld UK Ltd.
- d) If plates are uncorroded, re-install plates and re-inspect at periods not exceeding 3 years elapsed time or at the next C of A renewal if more convenient.
- e) The periodic inspection required by paragraph d) is not required if the plates have been replaced by steel plates in accordance with paragraph c).

NOTE: This Directive has been amended to show in full the content of CAA Special Inspection JO/EN/1 Revision A.

Revision 1 became effective on 5 January 1998.

Revision 2 became effective on 28 September 2004.

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LUSCOMBE SERIES AIRCRAFT

1 Additional Airworthiness Directives

1.1 003-08-2001

Applicable to Luscombe 8, 8A, 8B, 8C, 8D, 8E, 8F and T-8F aircraft.

Compliance is required with FAA AD 96-24-17R1 as amended and expanded by this Directive, not later than 12 months from the effective date of this Directive, which is 10 September 2001. The inspection required by this Directive must be repeated at intervals not exceeding 12 months.

Inspect the wings, (and if necessary modify in accordance with the manufacturer's approved data), to ensure that the access provisions are in accordance with: Luscombe Drawings 082138 and SK082138 for fabric-covered wings; or Part (a) of FAA AD 96-24-17R1 for metal-covered wings.

Using these, and other available access points, inspect the wing spars and, if applicable, the metal wing skins for corrosion. Inspect the fittings mounted on the spars for any indication of corrosion between the mating surfaces or of the fasteners. The alternative inspection procedures defined by the Appendix to FAA AD 96-24-17R1 are NOT an acceptable means of compliance with this Directive as applied to UK-registered aircraft. Inspect the horizontal tailplane externally for signs of corrosion, including loose or damaged rivets, or deformation of the skin panels. Remove any readily detachable tailplane fairings and inspect the internal structure of the tailplane for corrosion to the extent permitted by the available access.

If any indications of corrosion are found, investigate further by dis-assembly as necessary, and replace or repair all affected parts. Such replacement or repair must be approved under the applicable UK airworthiness procedures.

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SNCAN STAMPE ET RENARD AND AEROSPATIALE STAMPE SV4 SERIES AIRCRAFT

1 CAA Additional Airworthiness Directives

1.1 011-03-88 Rev 1

Description

Replacement life of lower mainplane centre section tie-rods.

Applicability – Compliance – Requirement

Applicable to all Stampe SV4 Series aircraft.

Compliance is required before further flight for aircraft with tie-rods that have flown in excess of 100 hours. Aircraft may be flown for a positioning flight to a place where the inspection and, if necessary, replacement of the tie-rods required by this Directive is to be performed.

Inspect the aircraft to identify the type of tie-rods fitted. Replacement tie-rods must be fitted in accordance with a) to d) below:

- a) Tie-rods positively identified as being to the standard required by Aerospatiale Service Bulletin Stampe No 1: Part No. SV4A-S.1500.05 with rolled 10 mm x 1.5 mm threads and equipped with nuts Part No. SV4A-S.1500.06 and whose threads can be seen to be in good undamaged condition over the whole of their lengths, may remain in service for a total life of 500 flying hours. Tie-rods manufactured to Aerospatiale/Stampe drawings by Bruntons Aero Products come into this category.
- b) Tie-rods positively identified as being in compliance with:
 - i) Rollason Aircraft and Engines Ltd Modification WAR 210 issue 1 ($\frac{3}{8}$ " BSF rolled threads).
 - ii) Rollason Aircraft and Engines Ltd Modification WAR 210 issue 2 (10 mm x 1.5 mm cut threads) may, if the threads can be seen to be in good undamaged condition over the whole of their lengths, remain in service for a total life of 100 flying hours.
- c) Tie-rods that cannot be identified positively as a) or b) above, or whose lives cannot be determined, must be replaced before further flight.
- d) Tie-rods must be installed and tightened in accordance with the instructions in Aerospatiale Service Bulletin Stampe No 1. If washers are used under the nuts, spring washers must not be used.

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Engines

None at present.

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Propellers

None at present.

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Equipment

1 Additional Airworthiness Directives

1.1 001-05-99 Installation of Helicopter Health and Usage Monitoring Systems

Applicable to helicopters operated for the purposes of Public Transport, which have a maximum approved seating configuration of more than nine passengers. This Directive is not applicable to helicopters certificated to BCAR 29 (AS332 L2) and CS 29 (currently EH101 310/510).

Compliance with 2) is required not later than 12 months from the effective date of this Directive, which is 7 June 1999, for helicopters currently fitted with CAA approved health monitoring system installations. Compliance with 1) and 2) is required not later than 24 months from the effective date of this Directive for all other applicable helicopters.

Comply with the following requirements:

- 1) Install a health monitoring system approved for the type.
- 2) Implement procedures acceptable to the CAA covering all aspects of data collection, analysis and determination of serviceability. CAA Publication CAP 693 is an acceptable means for compliance with this Directive.

NOTE: Approval for the installation of the health monitoring systems referred to in 1) above has been granted under the following Airworthiness Approval Note (AAN) references:

Eurocopter AS332 Series	AAN 19335
	AAN 21700
	AAN 21919
	AAN 22775
Sikorsky S61 Series	AAN 21013
	AAN 21699
	AAN 21921
	AAN 25870
Eurocopter SA365 Series	AAN 22637
Sikorsky S76 Series	AAN 22372
	AAN 25221
	AAN 26209
Bell 212 Series	AAN 22371
Bell 214 Series	AAN 22370

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Section 4 **Aircraft engaged in Military, Police, Customs or similar services**

1 Classification of aircraft as “engaged in military, police, customs or similar services”

- 1.1 Article 1 of Regulation (EC) No. 216/2008 specifies that any individual aircraft engaged in military, police, customs or similar services remains subject to national regulation, even if other aircraft of the same type, that are not engaged in such activities, are subject to regulation by EASA.
- 1.2 The United Kingdom’s interpretation is that the UK aircraft excluded from EU legislation by Article 1(2) of Regulation (EC) No. 216/2008 are:
- a) Any aircraft engaged in the service of the UK Ministry of Defence;
 - b) Any aircraft engaged in the service of a Chief Officer of Police;
 - c) Any aircraft engaged in the service of HM Revenue and Customs; and
 - d) Any aircraft engaged in the service of the UK Government to safeguard national security.

Where there is doubt over the status of any particular aircraft with respect to Article 1 of Regulation (EC) No. 216/2008, clarification should be sought from the CAA.

2 Compliance with Mandatory Requirements for Airworthiness in accordance with the Air Navigation Order

- 2.1 The categories of requirements that must be complied with by aircraft registered in the UK and “engaged in military, police, customs or similar services”, are specified in Section 1, Part 1 of CAP 747, which references this Section 4.
- 2.2 This Section 4 contains the further requirements applied by the CAA under the Air Navigation Order to aircraft engaged in military, police, customs or similar services and any engine, propeller, part or appliance installed in that aircraft.
- 2.3 Details of the Airworthiness Directives cancelled or superseded from this Section can be found in Appendix 4 of CAP 747.

3 Requirements for aircraft “engaged in military, police, customs or similar services”


AD No.	Applicability
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a) Aircraft

	G-2008-0005 R1 MD Helicopters Inc. (MDHI): MD 900 (902 configuration)
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Aircraft

	United Kingdom Civil Aviation Authority		EMERGENCY AIRWORTHINESS DIRECTIVE	
			AD No: G-2008-0005R1 Issue Date: 24 October 2008	
<p>This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Registry) for the affected product(s).</p> <p>In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.</p> <p>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.</p>				
Type Approval Holder's Name: MD Helicopters Inc. (MDHI)			Type/Model Designation(s): MD900 (902 configuration)	
TCDS:		(FAA) H19NM		
Supersedure:		N/A		
ATA		PLACARDS		
Manufacturer(s):		MD Helicopters Inc.		
Applicability:		All MD900 (902 configuration) helicopters and in accordance with the operating rules		
Reason:		Variation of the terms of FAA AD 2008-22-53 and MDHI SB900-110 (by clarification of the intended operational limitation) to allow continued Night VMC operation for the UK MD900 Police fleet and to allow 'Special VFR' operation.		
Effective Date:		24 October 2008		
Compliance/Action:		The wording of the final sentence of the placard specified in paragraph (c) of FAA Emergency Airworthiness Directive 2008-22-53; "VFR FLIGHT ONLY, AUTOPILOT OFF" can be altered to "ONLY (DAY OR NIGHT) VMC FLIGHT IS PERMITTED, AUTOPILOT OFF".		
Reference Publications:		MDHI Service Bulletin SB900-110 may be obtained from mdhelicopters.com. FAA AD 2008-22-53 may be obtained from the FAA website.		
Remarks:		Enquiries regarding this Airworthiness Directive should be referred to Civil Aviation Authority, Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.		
		Tel: +44 (0)1293 573802		Fax: +44 (0)1293 573993
		Email: ad.unit@caa.co.uk		

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Section 5 Airworthiness Directives that are not Design-Related

Part 1 Introduction

- 1 The categories of requirements that must be complied with by aircraft that are registered in the UK and are eligible for Certificates of Airworthiness are specified in Section 1, Part 1 of CAP 747, which references this Section 5.
- 2 This Section 5 contains Airworthiness Directives issued by the CAA to address non-design aspects of airworthiness, such as shortfalls in production, maintenance, overhaul, etc.
- 3 The European Aviation Safety Agency (EASA) has determined that Regulation 216/2008 places responsibility on EASA for imposing mandatory requirements (by issuing Airworthiness Directives) for design-related problems only. The Agency has advised that the responsibility for imposing mandatory requirements (by issuing Airworthiness Directives) for other aspects remains with the National Aviation Authorities, including the CAA.

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Part 2 **Airworthiness Directives and Mandatory Requirements Issued by the CAA to Address Issues that are not Design-Related**

- 1 The mandatory information notified by the CAA after 28 September 2004 to address airworthiness issues that are not design-related is listed below and published in full in this Section 5, Part 2 of CAP 747. For products of UK design the mandatory information issued by the CAA prior to 28 September 2004 (as State of Design) is published in CAP 476 and remains in force.
- 2 Details of the Airworthiness Directives cancelled or superseded from this Section 5 can be found in Appendix 5 of CAP 747. Where a Mandatory Requirement published previously in CAP 476 is deleted, this will be notified by amendment of Appendix 6 of CAP 747.

3 **Airworthiness Directives and Mandatory Requirements**

a) **Aircraft**

None at present.

b) **Engines**

None at present.

c) **Propellers**

AD No.	Applicability
G-2008-0003	Dowty Propellers R408/6-123-F/17

d) **Equipment**

None at present.

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Aircraft

None at present.

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Engines

None at present.

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Propellers



United Kingdom Civil Aviation Authority

EMERGENCY AIRWORTHINESS DIRECTIVE

AD No: G-2008-0003

Issue Date: 15 January 2008

This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 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:	Type/Model Designation(s):
DOWTY PROPELLERS	R408/6-123-F/17

Type Certificate Data Sheet No: EASA TCDS P.002

Superseded/ Revised ADs: None

ATA 61– PROPELLER ELECTRONIC CONTROLLER - UNIT REMOVAL

Manufacturer(s): Dowty Propellers

Applicability: Propeller Electronic Controller Part No. 699018002

Serial Nos :- 1488,1489, 1490, 1494, 1495, 1496, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1527, 1528, 1529, 1530, 1531, 1532, 1537, 1538, 1541, 1542, 1543, 1544, 1549, 1550, 1567, 1569, 1570, 1571, 1572, 1573, 1574, 1581

Reason: The TC holder has identified that, due to a production problem, there is an increased potential for failure of input/output circuit boards fitted to Propeller Electronic Controllers with the above unit serial numbers. Failure could lead to uncommanded propeller speed changes or loss of the autofeather function.

Effective Date: 18 January 2008

Compliance/Action: Remove from service Propeller Electronic Controller units identified above as follows:-

- 1) If two affected units are installed on one aircraft, remove one unit from service within 7 days of the effective date of this AD. The other unit is to be removed in accordance with paragraph 2) below.
- 2) All units identified above must be removed from service within 1200 flight hours or 6 months of the effective date of this AD, whichever limit is reached first.
- 3) Replace with a serviceable unit Part no 699018002 in accordance with the relevant Aircraft Maintenance Manual.
- 4) Once removed, do not refit affected units until the input/output circuit board has been replaced by an organisation approved for the task, in accordance with Alert Service Bulletin D8400-61-A77.

Reference Publications:

Dowty Propellers Alert Service Bulletin D8400-61-A77 may be obtained from Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester, GL2 9QN. Phone: +44(0)1452 716000 Fax: +44(0)1452 716001.

Remarks:

Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44(0) 1293 573292 FAX: +44(0)1293 573976.

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Equipment

None at present.

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Appendix 1 Generic Requirements (GRs)

This Appendix 1 notifies Generic Requirements, including those which were published previously as Airworthiness Notices in CAP 455. These Generic Requirements are listed below with their applicability.

Table 1 Current Generic Requirements

GR No.	Title	Applicability		*Basis of Applicability
		EASA Aircraft	Non EASA Aircraft	
2	Minimum Space for Seated Passengers	Yes	Yes	3
3	Access to and Opening of Type III and Type IV Emergency Exits	Yes	Yes	3
4	Electrical Generation Systems – Aircraft Not Exceeding 5,700 kg Maximum Authorised Weight	Yes	Yes	1 and 2
6	Electrical Generation Systems – Bus-Bar Low Voltage Warning Single-Engined Aircraft With a UK Certificate of Airworthiness	Yes	Yes	1 and 2
8	Cotton, Linen and Synthetic Fabric-Covered Aircraft	Yes	Yes	3
9	Helicopter Emergency Escape Facilities	Yes	Yes	3
10	Painting of Aircraft	Yes	Yes	3
11	Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems	Yes	Yes	3
13	Flame Resistant Furnishing Materials	Yes	Yes	3
14	Improved Flammability Test Standards for Cabin Interior Materials	Yes	Yes	3
15	Light Aircraft Maintenance Programme (EASA Aircraft) and Light Aircraft Maintenance Schedule (Non-EASA Aircraft – Annex II)	Yes	Yes	3
16	Tyre Bursts In Flight – Inflation Media	Yes	Yes	3
17	Maintenance Requirements for Variable Pitch Propellers Installed on Aircraft Holding a UK Certificate of Airworthiness	Yes	Yes	3
18	Electrical Power Supplies for Aircraft Radio Systems	No	Yes	2
19	Emergency Power Supply for Electrically Operated Gyroscopic Bank and Pitch Indicators (Artificial Horizons)	No	Yes	2
20	Fire Precautions – Aircraft Toilets	No	Yes	2
21	Cargo Containment	Yes	Yes	3
22	Galley Equipment	No	Yes	2

Table 1 Current Generic Requirements (Continued)

GR No.	Title	Applicability		*Basis of Applicability
		EASA Aircraft	Non EASA Aircraft	
23	Maintenance Personnel Certification for Non-Destructive Testing of Aircraft, Engines, Components and Materials	Yes	Yes	3
24	Light Aircraft Piston Engine Overhaul Periods	Yes	Yes	3

- * 1 Notified under Article 14(1) for EASA aircraft.
 2 Applied under UK ANO for non-EASA aircraft.
 3 Maintenance/Operations related and applied under Part M or the UK ANO.

Table 2 Cancelled Generic Requirements

GR No.	Title	Date of Cancellation
1	Unprotected Starter Circuits In Aircraft Not Exceeding 5700 kg (12,500 lb)	September 2005
5	Airborne ILS (Localiser) VOR and VHF Communications Receivers - Improved FM Broadcast Interference Immunity Standards	October 2005
7	Continuing Structural Integrity of Aeroplanes Operated for the Purposes of Public Transport	June 2007
12	Fuel Tank Safety Review	August 2005

GR No. 2 Minimum Space for Seated Passengers

(Previously issued as Airworthiness Notice No. 64, Issue 2, 29 October 2001.)

1 Applicability

This Generic Requirement is applicable to all UK registered aeroplanes over 5,700 kg MTWA, operated for the purposes of Commercial Air Transport and configured to carry 20 or more passengers.

2 Introduction

- 2.1 The layout of cabin interiors must be approved under modification approval procedures. As part of that approval each seat type shall be approved as required by CS 25.785 or BCAR Section D, Chapter D4-4 paragraph 2.1.2. The approval procedure for such controlled items is defined in Part 21 Subparts E and K (or in BCAR Sections A or B, Chapter A4-8 or B4-8 where applicable).
- 2.2 At the initial evaluation of a seat an assessment of the limiting conditions of use is made and, when agreed with the seat manufacturer, these are specified on the General Arrangement drawing, on the Declaration of Design and Performance (DDP) or specifically highlighted in a letter of approval. Included in these limitations is a minimum seat pitch at which approval for installation on an aeroplane has been granted. This minimum pitch is defined taking into account head, trunk and leg strike areas of the seat in front, the ability to occupy the seat and, if necessary, quickly vacate the seat and enter the aisle in an emergency.
- 2.3 The CAA has been asked to re-assess the use of seats at a pitch less than has generally been requested in the past, particularly with respect to the more modern, high technology seat designs, and yet still to be satisfied that the various general criteria above are being achieved. Of particular concern is the effect that such lower seat pitches can have on the seat occupancy and the ease of egress from these seats.
- 2.4 To formalise the minimum acceptable seating standards the normal design extremes used for certification purposes for all occupied zones, (namely the anthropometric data for the 5th percentile female to the 95th percentile male), have been taken into account. In this regard the critical dimension for the seated occupant is the buttock-knee length. Additionally, affecting the ease with which the occupant can stand up and move from the seat to the main cabin aisle, is the minimum distance and the vertically projected distance between the seat and any seat or fixed structure immediately ahead of the occupant.
- 2.5 Use of these three dimensions as the criteria for the determination of the acceptability of any seating configuration is considered to provide a realistic minimum standard that can be uniformly adopted, whether the seating being considered is placed adjacent to seats of the same or different types, or other typical interior structures. These Requirements are not intended to supersede or replace existing occupant protection criteria prescribed in CS 25.785 or BCAR D4-4.

3 Compliance

- 3.1 With effect from 1 April 1989, all aeroplanes defined in paragraph 1 above and which are being subject to the provision of a new (not previously approved) or amended seating configuration, shall comply with this Generic Requirement.
- 3.2 With effect from 1 January 1992 all aeroplanes defined in paragraph 1 above shall comply with this Generic Requirement.

4 Requirements

- 4.1 The minimum distance between the back support cushion of a seat and the back of the seat or other fixed structure in front, shall be 26 inches. (Figure 1, Dimension A.)
- 4.2 The minimum distance between a seat and the seat or other fixed structure in front, shall be 7 inches. (Figure 1, Dimension B.)
- 4.3 The minimum vertically projected distance between seat rows or between a seat and any fixed structure forward of the seat, shall be 3 inches. (Figure 1, Dimension C.)

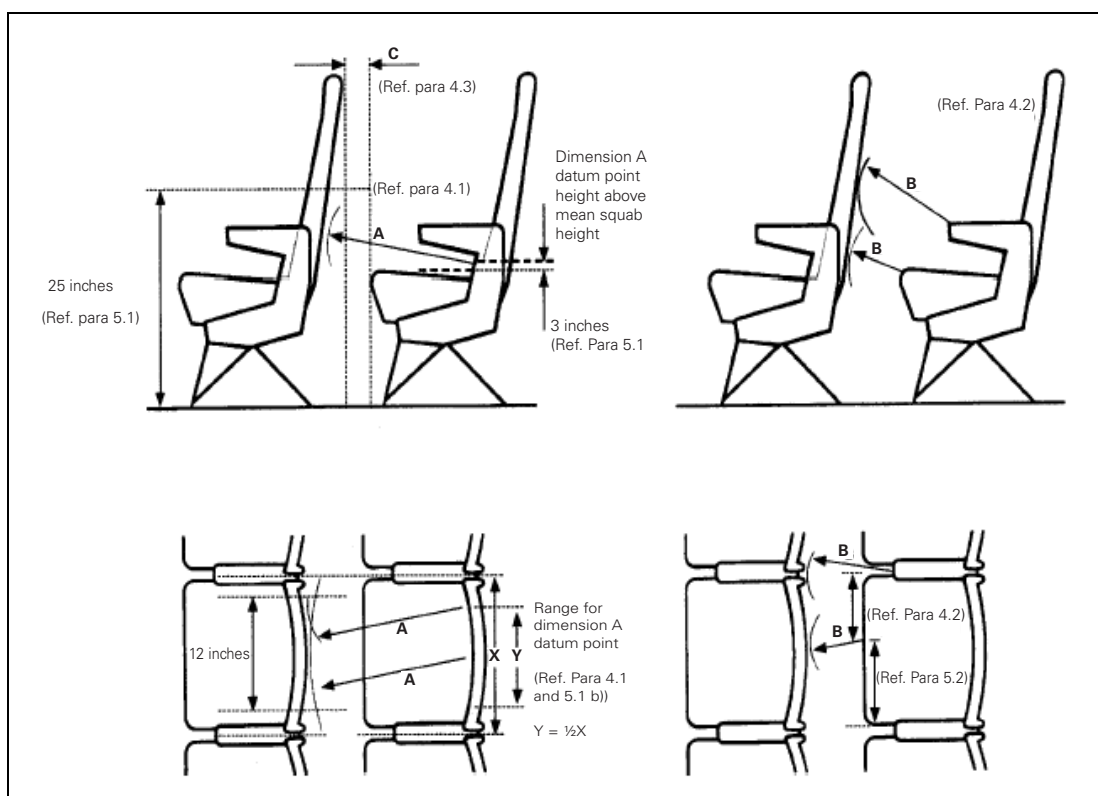


Figure 1 Minimum Dimensions required by paragraphs 4.1, 4.2 and 4.3

5 Additional Information

- 5.1 The measurements required for the demonstration of compliance with the requirement given in paragraph 4.1 above are as follows:
- from a datum point in the centre of the seat back at a height of 3 inches above the mean uncompressed seat squab height to the seat or other fixed structure in front made in both vertical and horizontal arcs up to a limiting height of 25 inches above the carpeted floor level, over the full seat place width 'X'. (See Figure 1.)

- b) from any point on the seat back within the centre one half 'Y' of the seat place width at a height of 3 inches above the mean uncompressed seat squab height to the seat or other fixed structure within the central 12 inch region in front made in vertical and horizontal arcs up to a limiting height of 25 inches above the carpeted floor level.
- 5.2 The full width of the forward edges of the seat squab cushion and the seat armrests shall be used as the datum points for the measurements of the minimum distance required by paragraph 4.2 above. From these points the measurement of the distance shall be made in both horizontal and vertical unlimited arcs.
- 5.3 The vertically projected distance required by paragraph 4.3 above shall be measured between the forward edge of the seat squab cushion or the most forward extremity of the armrests and the most aft part of the seat or fixed structure in front.
- 5.4 Where a magazine rack is provided for the normal stowage of the cabin safety leaflet, sick bag and in-flight reading material provided by the operator, such normally provided material shall be in place during the measurements. Similarly, any fold down or other type of meal table attached to either seat or fixed structure should be in its normal stowed (take-off and landing) position for all measurements.
- 5.5 All measurements shall be made with the seats in the upright (take-off and landing) position, and the armrests shall be down.
- 5.6 No alleviation to these requirements will be granted on the basis of deformable soft furnishings.
- 5.7 All modifications to seats, their installation or any modification to adjacent fixed structures, necessary to achieve compliance with this Generic Requirement shall be the subject of Part 21 Subpart E procedures, or, for non-EASA aircraft, the appropriate BCAR Section A or Section B major modification procedure, Chapters A2-5/B2-5.

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GR No. 3 Access to and Opening of Type III and Type IV Emergency Exits

(Previously issued as Airworthiness Notice No. 79, Issue 3, 16 March 1989.)

1 Applicability

- 1.1 This Generic Requirement is applicable to all UK registered aeroplanes over 5700 kg MTWA, operated for the purposes of Commercial Air Transport and configured to carry 20 or more passengers and equipped with Type III emergency exits and/or Type IV emergency exits or their equivalent. Exits considered to be equivalent to Type IV exits are referred to as Type IV exits in this Requirement.
- 1.2 For the purpose of this Requirement, exits that are smaller in size than Type III emergency exits (including elliptical exits) shall be deemed to be Type IV emergency exits, even though they are not formally classified as such.

2 Introduction

- 2.1 From a review of accidents, where rapid evacuation of the aeroplane was a critical factor governing passenger survival, Issue 1 of Airworthiness Notice No. 79 stated that it appeared that mid-cabin Type III emergency exits, although only rated for a relatively small number of passengers, could, in certain circumstances, become a major escape route.
- 2.2 Following further reviews it has been decided to extend the applicability of this Requirement to include Type IV exits (Issue 2) and to specify the requirements for face-to-face seating configurations.
- 2.3 Current Requirements governing the access to Type III and Type IV emergency exits do not quote specific dimensions for the minimum width of access to such exits between adjacent seat rows. Tests have demonstrated that, with typical economy class seats, seat pitches down to approximately 30 inches have little or no effect on the rate of exit egress. The major constraint on the location of seats relative to such exits is the need to ensure that the seats do not impede the removal and disposal of the exit hatches.
- 2.4 The CAA believes that Type III and Type IV emergency exits need to be made more effective and is seeking international adoption of radical improvements in access to and ease of opening of such exits. Such new regulations, if adopted, will of necessity be on a relatively long timescale. In the interim, the CAA has established that, whilst only small improvements can be made in exit egress rates, immediate action can be taken that will provide greater space adjacent to the exit and thereby facilitate the more rapid opening of such exits and reduce the time taken for the initiation of passenger egress. Accordingly, this Requirement has been issued to ensure effective opening, handling and disposal of the hatch and to define the additional minimum access requirements for Type III and Type IV emergency exits.
- 2.5 To realise the full potential of improved exit access, it is also essential that passengers seated adjacent to the exits are readily able to determine the correct method of opening and disposal of exits in an emergency. Whilst such information is provided in the Cabin Safety Leaflet, operating instructions, comparable to those contained in such Leaflets, are required by this Requirement to be repeated on the backs of all seats on the seat row immediately forward of the exits, except as referred to in paragraph 5.6.

- 2.6 To encourage a smooth passenger flow through the relatively small Type III and Type IV emergency exits, it is important that passengers are encouraged to approach the exit from the cabin aisle via an access route that is sensibly normal to the exit. Alternative routes such as can be created by climbing over seat backs which have been pushed forward should be discouraged. To achieve, where possible, an orderly approach to the exit from the aisle, the CAA has decided that the seat backs of those seat rows immediately forward and aft of the exit access route from the aisle shall be restricted in both recline and break forward not only to maintain the minimum access width but also to maintain the seat back in an essentially upright attitude.
- 2.7 Whilst the revised seating arrangements required by this Requirement should minimise the likelihood of passengers either kneeling or standing on seats to reach the exit, it is nevertheless considered necessary to ensure that the seat design is such that a person's foot, say, may not become trapped.

3 Compliance

- 3.1 With effect from 1 July 1986 all aeroplanes defined in paragraph 1 above with Type III emergency exits, having all forward facing or all aft facing seats adjacent to these exits, shall comply with this Generic Requirement.
- 3.2 With effect from 1 December 1987 all aeroplanes defined in paragraph 1 above with Type IV emergency exits, having all forward facing or all aft facing seats adjacent to these exits, shall comply with this Generic Requirement.
- 3.3 With effect from 1 April 1989, all aeroplanes defined in paragraph 1 above that are subject to the provision of a new or amended seating configuration, shall comply with this Generic Requirement. In addition, with effect from 1 May 1989 all aeroplanes defined in paragraph 1 above having face-to-face seats forming the access route to these exits shall comply with this Generic Requirement.

4 Requirements

- 4.1 To facilitate rapid opening and disposal, each Type III and Type IV emergency exit, in addition to meeting the current requirements of CS 25.813(c) (1) or BCAR Section D, Chapter D4-3, paragraph 4.2.5(d) as applicable, shall have access space meeting the requirements specified in either paragraph 4.1.1 or 4.1.2 for Type III exits or either paragraph 4.1.3 or 4.1.4 for Type IV exits where conventional seating arrangements are installed, and in addition paragraph 4.1.5 when face-to-face seating is installed.
- 4.1.1 Where all forward facing or all aft facing seats are arranged such that there is a single access route between seat rows from the aisle to a Type III exit, the access shall be of sufficient width and be located fore and aft so that no part of any seat which is beneath the exit extends beyond the exit centre line and the access width between seat rows vertically projected, shall not be less than half the exit hatch width including any trim, or 10 inches, whichever is the greater (see Figure 1).
- NOTE:** The outboard armrest must not protrude across the exit aperture nor impede the removal of the exit hatch.
- 4.1.2 Seats may only be located beyond the centre line of a Type III exit provided there is a space immediately adjacent to the exit which projects inboard from the exit a distance no less than the width of a passenger seat and the seats are so arranged as to provide two access routes between seat rows from the cabin aisle to the exit.

NOTE: Where more than one access route from the cabin aisle to a Type III exit is provided, the minimum access width referred to in paragraph 4.1.1 need not apply (see paragraph 5.4 of this Requirement).

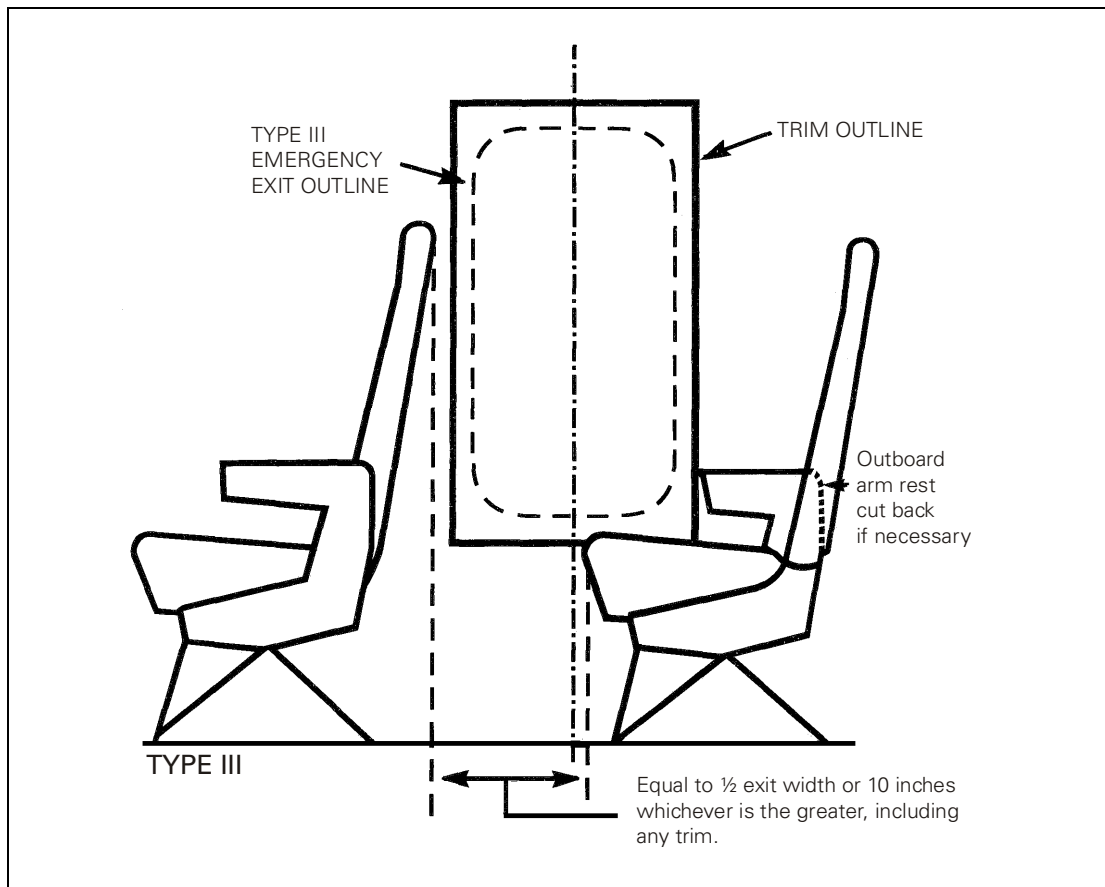


Figure 1 Minimum Access Space Required by Paragraph 4.1.1

- 4.1.3 Where all forward facing or all aft facing seats are arranged such that there is a single access route from the aisle to a Type IV emergency exit, then the projected exit aperture shall not be obstructed from the exit to the aisle (see Figure 2 and paragraph 5.4 of this Requirement).

NOTES 1 Some incursion into the projection area of the emergency exit hatch, including its trim, may be acceptable so long as it can be shown that the incursion does not impair the rapid removal of the exit hatch.

2 The outboard armrest must not protrude across the exit aperture nor impede the removal of the exit hatch.

- 4.1.4 Seats may only be located in line with a Type IV exit such that the seat back is within the projected exit aperture provided there is a space immediately adjacent to the exit. Such a space shall project inboard from the exit a distance no less than the width of a passenger seat and be so arranged as to provide two access routes between seat rows from the cabin aisle to the exit. (See paragraph 5.4 of this Requirement.)
- 4.1.5 Where face-to-face seating is provided adjacent to the emergency exit, the minimum permitted distance between any parts of the seat rows shall be 16 inches vertically projected and the minimum permitted distance between the plane of the seat backs on either side of the access route shall be 52 inches measured on the mid-lines of each seat place at a height of 3 inches above the seat cushions. (See Figure 3 and paragraph 5.6 of this Requirement.)

- 4.2 Instruction Placards, clearly indicating the method of opening and disposal of each Type III and Type IV emergency exit (additional to existing opening instructions at the exit), shall be located in a prominent position and clearly visible to the occupant of each seat which forms the access route from the cabin aisle to the exit (see paragraphs 5.6 and 5.9 of this Requirement).

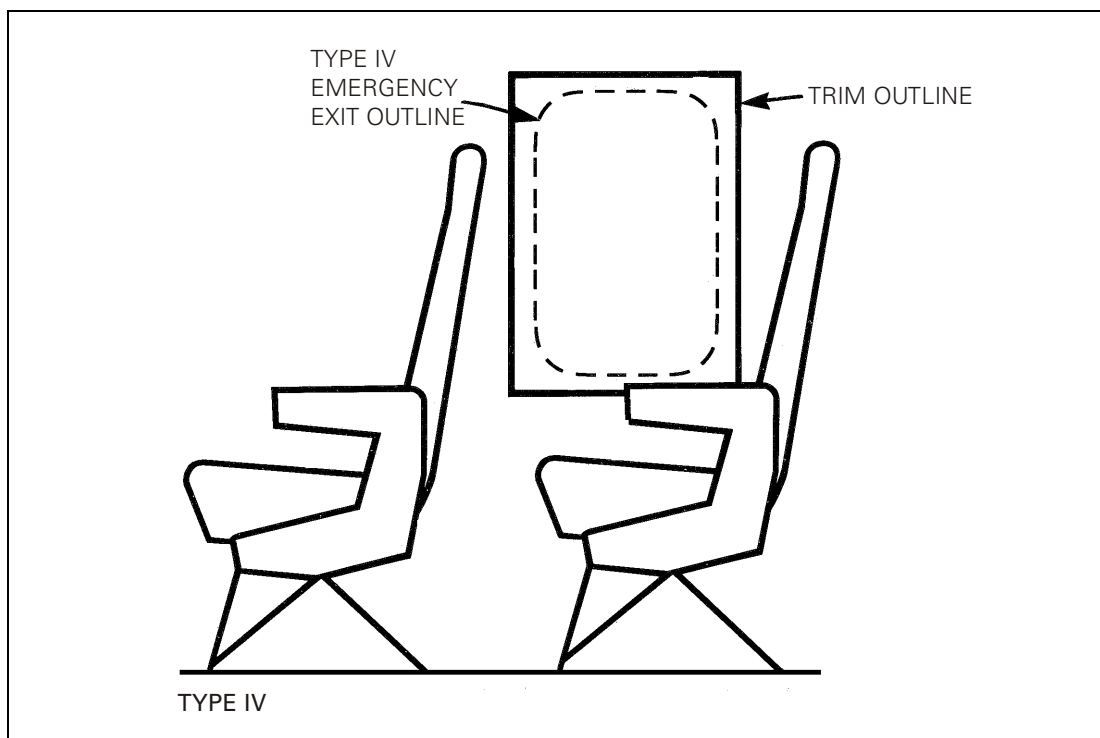


Figure 2 Minimum Access Required by Paragraph 4.1.3

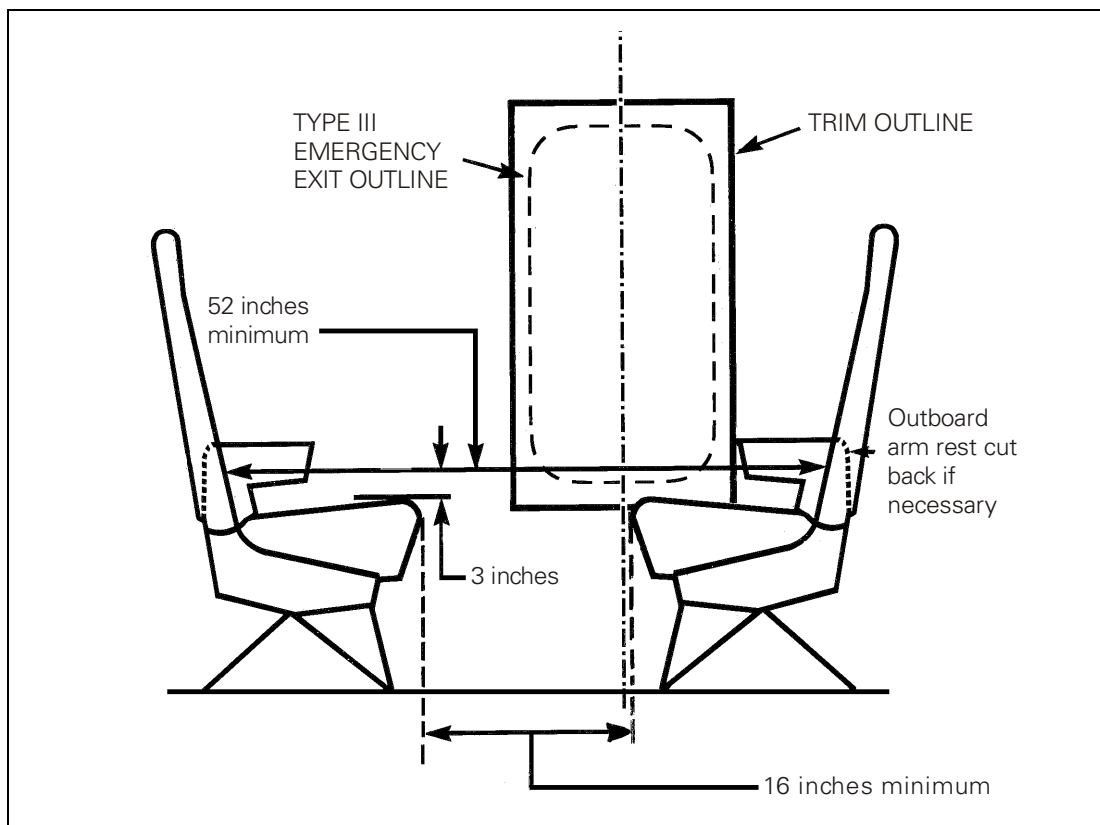


Figure 3 Minimum Access Required by Paragraph 4.1.5

- 4.3 The seat back of each seat which forms the boundary of the access route to each Type III and Type IV emergency exit shall be restricted in its movement (break forward and recline, where fitted) so as to maintain the minimum access to the exit required by paragraph 4.1, and ensure that the seat back is in an essentially upright position (i.e. fully forward or fully back, but not exceeding $\pm 35^\circ$ from the vertical), without overlapping the projected opening of the exit.
- 4.3.1 The seat back shall be capable of maintaining the essentially upright position under loads of up to 300 lbf which should be applied horizontally, in each direction of travel, at the top of the seat back structure at the most adverse position relative to its support structure. The seat back, when under load, should remain upright within $\pm 35^\circ$ of the vertical and any permanent deformation should not significantly impede access to the exit.
- 4.3.2 Permanent deformation should be kept to a minimum particularly where access dimensions are close to the minima specified in this Requirement. The seat manufacturer or organisation responsible for any necessary seat modifications should declare such deformation data to enable an assessment to be made of its significance in the specific seating layout. (See paragraphs 5.3 and 5.7.)
- NOTE:** The seat backs of aisle seats need not be maintained in the essentially upright position where this would facilitate improved access to the escape routes, provided that the minimum access to the exit required by paragraph 4.1 is maintained.
- 4.4 The interior surface of each exit hatch shall be free of any significant projection that might inhibit or otherwise delay the exit opening. The past practice of mounting stub armrests on the exit shall be discontinued.
- 4.5 The seat pan and lower back rest suspension of all seats bounding the access route(s) from the cabin aisle to the emergency exit shall be free from any gaps that might entrap a foot or other part of a person standing or kneeling on the seat. (See paragraph 5.8 of this Requirement.)

5 Additional Information

- 5.1 When measuring the minimum access width between seat rows leading to Type III emergency exits, seat pans (if able to tip up) are to be down and seat backs must be in the upright (take-off and landing) position.
- 5.2 No alleviation to these requirements will be granted on the basis of deformable soft furnishings, except that, for Type III emergency exits only, some projection of the seat cushion above the lower sill height may be permitted, provided that this projection does not impede the rapid opening of the exit. Such configurations will be the subject of individual evaluation.
- 5.3 Where a particular emergency exit is larger than the defined measurements of BCAR and EASA CS, it is permissible when establishing compliance with paragraph 4.3, to assume the required minimum exit size and the maximum step-up and step-down limitations of BCAR or EASA CS provided that this required minimum exit size, when superimposed on the actual emergency exit, falls within the boundary of the actual emergency exit aperture. If this results in a vertical overlap between seat squab and lower sill it shall be shown that the resulting interference will not restrict the removal and disposal of the exit hatch.
- 5.4 For seating configurations where there is a dual access route to a Type III exit, or a single or dual access route to a Type IV exit, from the cabin aisle, a vertically projected access width of at least 6 inches should be provided. Small reductions in this access may be considered where there is evidence to demonstrate that the features of the

specific configuration can achieve equivalent ease of access to, and egress rate through, the exit.

- 5.5 It is a requirement that fold-up meal tables are correctly stowed for take-off and landing. If, however, having increased the seat pitch, particular seat back meal tables are no longer used, they must either be removed from the seat, or their function inhibited to ensure that they cannot inadvertently obstruct the access to the exit. Where tables are retained for use at seats adjacent to the access route, the latches shall be sufficiently reliable and adequately protected against inadvertent release.
- 5.6 For the more conventional forward facing seating layout, the instruction placards, indicating the correct method of opening and disposal of the exit hatch, should be fixed at approximately eye level to the seated occupant on each seat immediately forward of the access route either on the upper seat back itself or on the outer face of the stowed meal table (where fitted). Where face-to-face seating makes such a location ineffective, placards, again at approximately eye level to the seated occupant, mounted on either side of the exit and visible to the occupants of the affected seat rows would be acceptable. Where such seating is not symmetrical about the exit centre line it may be necessary to locate an additional placard on the exit itself, to ensure good visibility to the seated passengers. Wherever possible, a pictorial instruction placard, comparable with that contained in the Cabin Safety Leaflet, should be used. (See paragraph 5.9 of this Requirement.)
- 5.7 Where break forward facilities are provided on seat backs in seat rows bounding access routes, it is recommended that, wherever practicable, this feature should be retained but limited in travel only to an extent necessary to ensure compliance with paragraph 4.3 of this Requirement.
- 5.8 The assessment of potential entrapment should be made both with and without the seat cushions in place. Ideally the seat upholstery and seat suspension should be free of any gaps into which it would be possible to place a foot, hand or arm in such a way as to delay or hamper free movement of passengers to the exit. Where gaps are unavoidable, their location and shape should be evaluated subjectively to assess the likely hazard. Any gap of greater than one inch into which a hand or foot may enter is considered to be unacceptable.
- 5.9 All modifications to seats, or to their installation, necessary to achieve compliance with this Generic Requirement shall be the subject of the appropriate major modification approval procedure. The Instruction Placards required by paragraph 4.2 together with the associated Cabin Safety Leaflet should be submitted to the CAA Operations Inspectorate for agreement prior to the modification being submitted to the CAA Safety Regulation Group.

GR No. 4 Electrical Generation Systems – Aircraft Not Exceeding 5,700 kg Maximum Authorised Weight

(Previously issued as Airworthiness Notice No. 82, Issue 2, 29 October 2001.)

1 Introduction

- 1.1 Investigations into accidents and incidents involving total loss of generated electrical power to aircraft, the maximum authorised weight of which does not exceed 5,700 kg, have shown certain inadequacies in the standard of failure warnings and indications provided. Experience has shown that the loss of generated electrical power can remain undetected for a significant period of time, resulting in the serious depletion of the available battery capacity and reduced duration of supplies to essential services under these conditions.
- 1.2 This Generic Requirement is for the retrospective modification of certain aircraft to ensure that a clear and unmistakable warning of loss of generated electrical power is given, and to preserve or provide sufficient electrical energy to operate essential services for an adequate period of time in the event of such a loss occurring.

2 Requirement

- 2.1 For all multi-engined aircraft, the maximum authorised weight of which does not exceed 5,700 kg, compliance with paragraphs 2.2, 2.3, 2.4 and 2.5 of this Requirement, or with a CAA or EASA approved alternative (as appropriate) providing an equivalent level of airworthiness, is required.
 - 2.1.1 Where it can be shown that an aircraft is fitted with such limited electrical and radio equipment, or is certificated to operate under such limited conditions (e.g. VMC day only) that the loss of generated electrical power would not significantly prejudice safe flight, the CAA will, on application, waive this Generic Requirement where it is satisfied that compliance would not be justified in the circumstances of a particular case.
- 2.2 Clear visual warning shall be provided, within the pilot's normal line of sight, to give indication of, either:
 - a) reduction of the generating system voltage to a level where the battery commences to support any part of the main electrical load of the aircraft, or
 - b) loss of the output of each engine driven generator at the main distribution point or busbars.
- 2.3 The battery capacity shall be such that, in the event of a complete loss of generated electrical power, adequate power will be available for a period of not less than 30 minutes following the failure, to support those services essential to the continued safe flight and landing of the aircraft, (see paragraph 3.1). This includes an assumed period of not less than 10 minutes from operation of the warning specified in paragraph 2.2, for completion of the appropriate drills. This delay period may be reduced to not less than five minutes if the warning system is provided with attention getting characteristics (e.g. a flashing light). For the purpose of calculations it shall be assumed that the electrical load conditions at the time of failure warning are those appropriate to normal cruising flight at night (see paragraph 3).

- 2.4 Where all gyroscopic attitude reference instruments, i.e. bank and pitch indicator(s) and turn and slip indicator(s), are dependent on electrical power for their operation, at least one of these instruments shall continue to operate without crew action for the prescribed 30 minute period.

- NOTES**
- 1 For certain aircraft types a turn and slip indicator may not be acceptable as the sole remaining attitude reference instrument.
 - 2 Certain aircraft are equipped with both electrically operated and air driven attitude reference instruments. In such cases the air driven instrument(s) will be accepted as providing the emergency attitude information provided that the requirements of paragraph 2.4.1 are met.

- 2.4.1 The instrument(s) with which the requirement of paragraph 2.4 will be met shall be clearly designated, and:
- a) shall be so located on the instrument panel that it will be visible to, and usable by, the pilot from his normal position;
 - b) shall be provided with means of indicating that the power supply to the instrument is operating correctly.
- 2.5 Precise drills covering crew action in the event of electrical generation system failures and malfunctions shall be included in the appropriate aircraft manual(s), together with a statement of the battery endurance under specified load conditions.

3 Additional Information

- 3.1 When ascertaining that the installed aircraft battery capacity is adequate for compliance with paragraph 2.3, the following loads should be taken into account:
- a) Attitude information (where applicable in accordance with paragraph 2.4).
 - b) Essential Radio Communication.

NOTE: For the purpose of calculations it will normally be accepted that intermittent use of a single VHF communication equipment satisfies this requirement. Utilisation on the basis of a total of 15 minutes reception plus 3 minutes transmission in the 30 minute period would be an acceptable interpretation.

- c) Essential cockpit lighting.
 - d) Pitot Head Heater (applicable only to those aircraft certificated for flight in icing conditions).
 - e) Any other services essential for the continued safe flight and landing of the particular aircraft.
 - f) Those services that cannot readily be shed when carrying out the drills required under paragraph 2.5.
- 3.1.1 In order to ensure that the essential services, taken into account in accordance with paragraph 3.1, will function adequately for the prescribed period, the calculation of the duration of battery supply should normally be based on the following assumptions:
- a) Only 75% of the 'name plate' rating of the battery is available (this is to take into consideration loss of capacity with age, and a realistic state of charge).
 - b) The voltage/time discharge characteristic of the battery, appropriate to the load of the listed services, is not extended beyond a battery terminal voltage of 21.5 volts on a 24 volt system, pro rata for 12 volt systems, (this is to ensure that the voltage

available throughout the prescribed period is adequate for the satisfactory operation of the services).

NOTE: Only where compliance with this Requirement cannot be shown within the criteria of paragraphs 3.1 and 3.1.1, will consideration have to be given to the fitment of additional, or larger capacity, batteries to particular aircraft.

- 3.2 Applications for the approval of modifications necessary to ensure compliance with this Generic Requirement should be made in the manner specified in BCAR Sections A and B, Chapters A2-5 and B2-5, or Part 21 as appropriate.

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GR No. 6 Electrical Generation Systems – Bus-Bar Low Voltage Warning Single-Engined Aircraft With a UK Certificate of Airworthiness

(Previously Issued as Airworthiness Notice No. 88, Issue 3, 29 October 2001.)

1 Introduction

- 1.1 When Generic Requirement No. 4 (as Airworthiness Notice No. 82) was introduced in June 1973, it was considered inappropriate to impose the whole or part of those requirements on single-engined aircraft. Since that time, systems which were once fitted only in the more complicated twin-engined general aviation aircraft, have now been developed and fitted to single-engined aircraft. Thus, greater reliance is being placed on the integrity of the electrical power supplies for such aircraft.
- 1.2 As a result of the above, this Requirement was published as Airworthiness Notice 88, Issue 1, in December 1986. This required certain single-engined aircraft to be equipped with low voltage warning devices to give indication to the pilot of when the aircraft's battery commences to support all or part of the electrical load of the aircraft. Compliance was required by 1 January 1988.
- 1.3 Since that time, a number of incidents and accidents have continued to occur on single-engined aircraft equipped with electrically operated systems. Investigations have shown that a general misunderstanding exists as to the categories of single engined aircraft (depending upon the level of equipment installed) that have to be equipped with low voltage warning devices.
- 1.4 The purpose of this Requirement is to extend and clarify the need for a clear and unmistakable warning of the loss of generated electrical power (to the main bus-bar) as detailed in paragraph 2.1.1. This will be by the introduction, where necessary, of retrospective modifications.

2 Requirements

- 2.1 For all single-engined aircraft with a UK Certificate of Airworthiness (not already modified to meet the requirements of Issue 1 of Airworthiness Notice No. 88) equipped with an engine driven electrical generating system, compliance with paragraphs 2.2 and 2.3, or with an approved alternative, providing an equivalent level of airworthiness, is required not later than 31 December 1992, or next annual check whichever is the latest.
 - 2.1.1 Where an aircraft is equipped to operate under day VMC conditions only and the loss of the generated electrical power could not prejudice safe flight and landing, the requirements of this GR are considered to be satisfied without the provision of a specific warning.
- 2.2 A clear and unmistakable red visual warning shall be provided, within the pilot's normal scan of vision, to give indication of the reduction of the voltage at the aircraft bus-bar to a level where the battery commences to support all or part of the electrical load of the aircraft.
- 2.3 Guidance shall be given in the appropriate aircraft manual(s) on any actions to be taken by the pilot should the warning operate. (See also paragraph 3.2.)

3 Additional Information

- 3.1 The recommended voltage levels for operating the warning required under paragraph 2.2 of this Requirement are 25 volts to 25.5 volts for a nominal 24 volt dc system and 12.5 volts to 13 volts for a nominal 12 volt dc system.
- 3.2 The battery duration should be sufficient to make a safe landing and should be not less than 30 minutes, subject to the prompt completion of any drills. This duration need only be a reasonable estimate and not necessarily calculated by a detailed electrical load analysis. However, when making this estimate, only 75% of the battery nameplate capacity should be considered as available because of loss of battery efficiency during service.
- 3.3 Owners and operators are recommended to contact the aircraft manufacturer or main agent for information regarding suitable means of compliance with this Requirement.
- 3.4 Owners and operators may, on application, submit proposals for their own means of compliance and should refer to the guidelines laid down in CAP 562, Civil Aircraft Airworthiness Information and Procedures (CAAIP) Leaflet 11-10.

GR No. 8 Cotton, Linen and Synthetic Fabric-Covered Aircraft

(Previously Issued as Airworthiness Notice No. 20, Issue 8, 20 March 2000.)

1 Introduction

This Generic Requirement applies to the issue or renewal of Airworthiness Certificates, or, where appropriate, their associated Airworthiness Review Certificate (ARC) applicable to aircraft, excluding Microlights, that have fabric covering. Fabric coverings may be manufactured from natural materials such as linen or cotton, or other Aviation Approved fabrics produced from polyester or glass fibre.

2 Structural Damage and Deterioration

- 2.1 Removal of the fabric covering of some older types of aircraft has revealed cases of unsuspected structural damage and deterioration. It is therefore important that during routine inspections, any sign of distortion, slackness, wrinkling or discoloration of the covering material is investigated and the cause established.
- 2.2 The use of good maintenance practices, incorporation of adequate and correctly placed drain holes, regular cleaning, and storage of the aircraft in a dry hangar will retard deterioration. Damage will be reduced by using proper ground handling techniques and equipment. Planned periodic inspections of aircraft coverings, structural elements and their attachments are essential in preventing damage and deterioration from going unnoticed.
- 2.3 Following incidents such as heavy landings, high “g” loadings, ground loops and collisions, the aircraft must be inspected to detect any hidden damage or distortion.
- 2.3.1 This may involve removal of the covering material or provision of access openings and may include inspections using NDT techniques. Experience has shown that structures can appear undamaged until manually loaded during a physical check. Wherever possible, the manufacturer’s inspection recommendations should be used. In the absence of specific guidance, refer to CAA CAP 562 – Civil Aircraft Airworthiness Information and Procedures (CAAIP) and/or consult a specialist organisation.
- 2.4 Details of the incident, inspections/repairs carried out should always be entered in the aircraft log book.

3 Fabric Coverings

- 3.1 Many factors can influence the life and condition of covering fabrics, such as: age, contamination, exposure to high humidity, ultra violet light, utilisation and type of operation for which the aircraft has been employed. The type of covering material used will also need to be ascertained as natural materials are much more susceptible to adverse climatic conditions than synthetic materials. However, the improved longevity of synthetic materials often means that internal structures are inspected much less frequently and deterioration can go undetected.
- 3.2 The airworthiness of covering fabrics should be assessed using a method acceptable to the CAA, these being detailed in the Manufacturer’s Airworthiness data or where appropriate CAAIP Leaflet 2-8.

NOTE: With suitable training and experience an engineer can usually assess the condition of fabric covering by its appearance, tension and reaction to thumb pressure. Failing this ability, a suitable type of fabric tester should be used. The tester and its method of operation are described in CAAIP Leaflet 2-8.

- 3.3 Cotton and linen fabrics may be replaced with synthetic materials providing they are of a type manufactured and approved for aeronautical use in their country of origin and acceptable (see 3.4 below) as an alternative covering material. Replacement materials must also be appropriate for the intended purpose having properties no less than the original fabric in terms of strength and durability. Application must be in accordance with the applicable procedures with control surfaces re-balanced to the original limits specified. Rib stringing and other materials must have a compatible life expectancy to the replacement covering.

NOTE: Care must be exercised when tautening synthetic fabric using the application of heat. Lightly built wooden structures covered with these materials can become distorted or crushed during the shrinking process. The application of non-tautening dope should be also considered in these cases.

- 3.4 The use of a replacement fabric must be covered by an approved modification, either from an appropriately approved design organisation or through the CAA or EASA as appropriate.
- 3.5 Fabric is classified as a material rather than as a part/component and, subject to the requirements of paragraph 3.4, may be used when the organisation is satisfied that the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.

4 Certification Requirements

4.1 Certificates of Airworthiness

- 4.1.1 Certificates of Airworthiness and/or associated ARC will only be issued and may only be recommended for renewal in respect of used aircraft if the requirements of paragraphs 4.1.2 and 4.1.3 have been complied with.
- 4.1.2 Certified evidence must be produced to show that an internal inspection sufficient to establish continued structural integrity has been carried out within the period specified in the applicable Maintenance Schedule. The depth of the inspection must be relative to the age of the aircraft, inspection history, known usage, storage conditions/hangarage and the elapsed time since the last full inspection. This should be determined by the certifying person using data from the organisation responsible for Type Design, a maintenance programme agreed by the CAA and the guidance material contained in CAAIP and Airworthiness Notices. Access holes may have to be cut to facilitate inspections and these reinforced in accordance with the manufacturers requirements (refer to covering schedule).
- 4.1.3 Certification of the inspections and work carried out must be made by an appropriately Licensed Aircraft Maintenance Engineer, persons specifically Authorised for the purpose or personnel operating under the approval granted to a Maintenance Organisation. Log book entries must be made in sufficient detail to provide an accurate record indicating the extent of the access, inspections carried out, repairs and overhauls performed, and any recovering required since the last structural inspection including reference to the applicable modification approval.

NOTE: Airworthiness Notice No. 3 describes the certification responsibilities of UK Licensed Aircraft Maintenance Engineers in relation to Articles 14 and 16 of the Air Navigation (2005) Order (as amended) and JAR 145.50.

4.2 Permits to Fly

- 4.2.1 Permits to Fly and/or associated ARC will only be issued and may only be recommended for renewal in respect of used aircraft if the requirements of paragraph 4.2.2 have been complied with.
- 4.2.2 At initial issue or the first annual inspection (as applicable) after the 1st October 1999, all fabric covered aircraft must be internally inspected to establish and suitably record their structural integrity. The depth of the inspection must be relative to the age of the aircraft, inspection history, known usage, storage conditions/hangarage and the elapsed time since the last full inspection. This must be certified by persons specifically authorised by the CAA or an organisation approved by the CAA to issue a Flight Release Certificate in order to qualify for issue or renewal of the Permit to Fly. Thereafter, inspections must be performed at a frequency not exceeding 3 years. Access holes may have to be cut to facilitate inspections and these reinforced in accordance with the design requirements (refer to covering schedule).
- 4.2.3 Log book entries must be made in sufficient detail to provide an accurate record indicating the extent of the access, inspections carried out, repairs and overhauls performed and any re-covering required since the last structural inspection including reference to the applicable modification approval.

5 Guidance

- 5.1 Guidance material relating to fabric covered aircraft may be found in a number of publications which include:

CAAIP Leaflet 2-8	Fabric Covering
CAAIP Leaflet 2-9	Doping
CAAIP Leaflet 6-1	Inspection of Wooden Structures
CAAIP Leaflet 6-2	Inspection of Metal Aircraft Structures
CAAIP Leaflet 6-5	Rigging checks on Aircraft
FAA AC 43.13	Acceptable Methods, Techniques and Practices

- 5.2 Attention is drawn to CAAIP Leaflet 6-11 which refers to deterioration in wooden structures and in glued joints in aircraft, and British Civil Airworthiness Requirements (BCAR) A3-7 Issue and Renewal of Permits to Fly.

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GR No. 9 Helicopter Emergency Escape Facilities

(Previously Issued as Airworthiness Notice No. 27, Issue 3, 29 October 2001.)

1 Applicability

1.1 This Generic Requirement is applicable to those UK registered helicopters required to carry the equipment specified in the Air Navigation Order 2005 (as amended) Schedule 4 paragraph 5(15) (b) (v) (cc) and being operated:

- a) for the carriage of passengers or cargo to or from vessels or installations used in connection with oil or gas exploration or exploitation; or
- b) for the transfer of personnel to or from vessels or lighthouses.

Additionally, this Generic Requirement also applies to helicopters being operated:

- c) over the sea or tidal estuaries in association with pollution monitoring; and
- d) in a dedicated offshore Search and Rescue role.

2 Introduction

2.1 In 1985, a programme of review and improvement of helicopter post-ditching escape facilities was carried out jointly by the CAA and the operators concerned with offshore helicopter operation. Following this review the CAA issued a Direction to Operators requiring action on certain aspects of survival systems, to retrospectively apply recently introduced airworthiness requirements.

2.2 Directions issued to specific operators are not a usual means of promulgating such requirements, but are used only on rare occasions where action needs to be taken as a matter of urgency on a number of different aircraft types. This Generic Requirement is necessary to ensure that the applicability of the relevant requirements is drawn to the attention of all concerned.

3 Compliance

Compliance is required prior to operating any helicopter defined in paragraph 1 above.

4 Requirements

NOTE: For all references to BCAR requirements, equivalent requirements agreed with the CAA may be acceptable.

4.1 All liferaft installations shall comply with the requirements of BCAR 29.1411(d) (3), which require liferaft installations to be suitable for use in all sea conditions in which helicopter ditching, flotation and trim are required to be evaluated.

4.2 All Emergency Exits, including crew Emergency Exits, shall be marked and illuminated to comply with BCAR 29.811(a), which requires exit marking to remain adequate if the helicopter capsizes after ditching and the cabin becomes submerged.

NOTE: Guidance on the interpretation of this requirement is in paragraph 1 of CAAIP Leaflet 11-18.

4.3 All non-jettisonable doors of Ditching Emergency Exits shall comply with BCAR 29.809(i), which requires such doors to have means of securing them in the open position so they do not interfere with occupants egress in all sea conditions up to the maximum required to be evaluated for ditching and flotation.

4.4 All openings in passenger compartments agreed by the CAA as suitable for the purpose of underwater escape shall be equipped so as to be openable in an emergency.

NOTE: This means that all openings such as windows of a suitable size shall be made openable from inside the helicopter. Further advice on interpretation of this requirement is contained in paragraph 2 of CAAIP Leaflet 11-18.

5 Additional Information

5.1 CAA Specification No. 2 requires helicopter liferafts to have a high level of damage tolerance. This can be provided in part by design of the liferaft, but action is also necessary to minimise the chances of liferaft damage while the liferaft is on the water adjacent to the helicopter, due to projections on the exterior of a helicopter.

5.1.1 Examples of projections which need to be considered are aerials, overboard vents, unprotected split pin tails, guttering and any projection sharper than a three dimensional right angled corner.

5.2 It is recommended that all projections likely to cause damage in a zone delineated by boundaries which are approximately 1.22 m (4 ft) above and 0.61 m (2 ft) below the established static water line, should be modified or suitably protected to minimise the likelihood of their causing damage to a deployed liferaft, and that all relevant approved maintenance schedules should be amended to ensure that such protection remains effective.

5.2.1 While the boundaries specified in paragraph 5.2 are intended as a guide, the total area which should be considered should also take into account the likely behaviour of the liferaft after deployment in all sea states up to the maximum in which the helicopter is capable of remaining upright.

5.3 Operators and maintenance organisations are reminded that wherever a modification or alteration is made to a helicopter within the boundaries specified, consideration should be given to affording such protection as may be required to prevent the modification or alteration causing damage to a deployed liferaft.

5.4 Particular care should also be taken during routine maintenance to ensure that additional hazards are not introduced by, for example, leaving inspection panels with sharp corners proud of the surrounding fuselage surface, or allowing door sills to deteriorate to a point where sharp edges become a hazard.

5.5 The same considerations apply in respect of emergency flotation equipment.

5.6 As part of the overall assessment of flotation equipment and its operation brought about by the issue of the Direction, the maintenance aspects of the various systems were examined. This resulted in a rationalisation of all the relevant approved maintenance schedules to ensure a common approach to the maintenance of flotation systems across different operators fleets. Operators should therefore, ensure that the established common approach to the maintenance of on board flotation equipment is continued.

GR No. 10 Painting of Aircraft

(Previously Issued as Airworthiness Notice No. 38, Issue 5, 28 September 2004.)

1 Applicability

This Generic Requirement is applicable to all UK registered aircraft issued with a Certificate of Airworthiness.

2 Introduction

Experience has shown that a greater degree of control has to be exercised over the painting of aircraft exteriors. The term painting in this context embraces the associated processes of stripping and such terms as refinishing and refurbishing.

3 Compliance

- 3.1 All aircraft defined in paragraph 1 which are to have their external finish substantially altered, shall comply with this Generic Requirement.
- 3.2 The Owner, Operator or the Approved Maintenance Organisation must assess the proposed task for its airworthiness implication, taking into account the aircraft manufacturer's published requirements and precautions in addition to the content of paragraph 6, and make a decision as to the need for a Certificate of Release to Service (CRS). Owners and Operators should consult their Approved Maintenance Organisation prior to making such a decision.
- 3.3 When a CRS is judged to be necessary, the signatory to the CRS will take responsibility for the whole process and should, therefore, assess the extent of the work to establish the need to:
 - a) Carry out on-site supervision including stage inspections.
 - b) Brief the work force to avoid any airworthiness hazard, particularly where significant problems could be concealed by subsequent work processes. The briefing should emphasise the awareness with respect to the correct use and application of sharp instruments, e.g. knives and scrapers etc., which can, if misused, cause damage to aircraft structures, particularly pressurised airframes.
 - c) Ensure that any task carried out is adequately defined by documented process specification containing sufficient information to control the procedure.
 - d) Ensure that all necessary guidance material, including the aircraft manufacturers' published data and the paint manufacturers' instructions are provided.
 - e) Anticipate potential problems resulting from partial restoration which could mean additional paint weight in significant areas and the need for balancing of control surfaces.
 - f) Make provision to rectify any corrosion detected following paint removal.
 - g) Ensure the restoration of corrosion inhibiting compounds where washing or use of solvents or other paint removal techniques may have removed them in areas adjacent to those being repainted.
 - h) Determine the basic weight and corresponding centre of gravity position.

NOTE: It may benefit the owner to anticipate any scheduled structural inspections including Non-Destructive Inspections, which could be better accomplished following the paint removal.

4 Requirement

When the need for a Certificate of Release to Service has been judged necessary under paragraph 3 of this Generic Requirement, for an aircraft which has been externally painted or had some significant change to its finish, such as paint removal and subsequent polishing, then a Certificate of Release to Service must be issued upon completion of the process (see paragraph 6).

5 Certification of Release to Service

- 5.1 The CAA will not grant specific Approval for painting of aircraft. Therefore, specialist painting organisations will not be entitled to issue any certification in respect of the airworthiness status of an aircraft following painting, unless the organisation holds an appropriate CAA Organisation Approval.
- 5.2 A licensed aircraft engineer holding the relevant Category 'A' LWTR for the class of aircraft, with any Type Rating in the appropriate sub-paragraph of Airworthiness Notice No. 10 Paragraphs 4, 5 or 7, has authority to issue a CRS for the satisfactory completion of the external finish.
- 5.3 Any other signatory would require direct CAA authorisation, or would need to be an authorised inspector within an organisation such as the British Gliding Association.

6 Additional Information

- 6.1 Examples of likely damage and hazards that must be avoided include:
 - a) Damage caused during preparation work which could adversely affect the structural integrity of the aircraft, such as:
 - reduction in fastener head size by uncontrolled use of power tools and abrasive media;
 - surface scratching by use of paint scrapers;
 - use of incorrect tools and equipment to remove paint and aerodynamic sealant from lap and butt joints;
 - degrading of composite or plastic surfaces by abuse of particle blasting techniques;
 - aluminium surface contamination by steel wool particles; and
 - use of incorrect chemical paint strippers.
 - b) Damage to transparencies, composites and sealants by solvent and paint removers, due to inadequate protection and/or the retention of these products in crevices.
 - c) Inadvertent deletion of placards and markings, failure to renew them, or failure to comply with the required specification for, e.g. Registration Marks, mandatory door markings and break in zone identification.

- d) Blockage of vents, drains and other openings by debris, masking tape and residues of paint remover, paint or particle blast material; the possible ingress of water into fuel tanks through vent apertures or past filler cap seals when using high pressure hoses for washing down.
- e) Loss of correct mass balance moments on flight control surfaces.
- f) Uncontrolled variations to aircraft basic weight.
- g) Variation to surface profile and aerodynamic smoothness at critical points such as surface leading edges, by the uncontrolled use of fillers or excessive paint thickness.
- h) Inadequate knowledge of the manufacturers' finishing schemes for antennas and radomes.
- i) Overly aggressive paint stripping which could damage the sealant around air data ports/orifices on RVSM compliant aircraft (air flow over these areas is critical for the height keeping capability of the aircraft).
- j) For fabric coverings, special procedures which ensure proper adhesion and protection from the effects of ultra-violet light. Aggressive removal of the old finish may cause fabric damage. The exposed fabric should be assessed for its serviceability prior to refinishing. The advice published by the manufacturer of synthetic fabric would have to be made available and complied with in full as well as that of the aircraft manufacturer.
- k) The effects of excessive paint thickness on the application of non-destructive testing techniques using eddy current and ultrasonic methods.
- l) Jamming of flight control and landing gear mechanisms by preparation treatments and paint.

6.2 Examples of finishing work that would require the issue of a CRS:

- a) Complete repainting from bare metal or fabric, or overcoating an existing finish.
- b) Reversion from paint finish to polished metal.
- c) Repainting or reversion to bare metal on flying control surfaces or supercritical lifting surfaces.
- d) Extensive polishing of bare metal finish using abrasive polishes where skin thickness or fastener head dimensions are critical, particularly where polishing is to be a repetitive requirement.
- e) Finishing of radomes, antennas and composite materials used in Primary and Secondary structure.
- f) Painting in areas involving critical orifices or mandatory markings.
- g) Any alteration to the finish of Helicopter main rotor and tail rotor blades or any other critical parts.

- Notes**
- 1) It is not intended that the requirement for the issue of a CRS should include minor repairs to surface finish where airworthiness implications are minimal.
 - 2) The above list of examples is not intended to be exhaustive.

6.3 It is recommended that aircraft issued with a Permit to Fly should be subject to the same principles of compliance with this Generic Requirement, although there is no legal requirement for the issue of a Certificate of Release to Service.

- 6.4 Operators and maintenance organisations are reminded that the use of self adhesive decals as an alternative to painting may totally preclude both visual and eddy current inspections. Operators and maintenance organisations need to address the impact on structural inspection tasks when using such decals and ensure that the aircraft maintenance programme requires their removal at the appropriate time.

GR No. 11 Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems

(Previously Issued as Airworthiness Notice No. 41, Issue 9, 29 October 2001.)

1 Introduction

- 1.1 The previous issues of Airworthiness Notice No. 41 referred to investigations of a fatal accident to a large transport aircraft which had revealed that the flight crew may have been suffering from carbon monoxide poisoning brought about by the gas escaping from combustion heaters or their associated exhaust systems.

NOTE: Carbon monoxide (CO), a poisonous gas, is a product of incomplete combustion and is found in varying degrees in all smoke and fumes from burning carbonaceous substances. It is colourless, odourless and tasteless.

- 1.2 Fitment of oversize nozzles to combustion heaters will increase the concentration of carbon monoxide in the exhaust gases and may cause operating difficulties with the heater. Therefore it is imperative that only nozzles of the type quoted by the manufacturer are fitted and that servicing, overhaul and inspection standards of combustion heaters and their associated exhaust systems are maintained at a high level.
- 1.3 This Generic Requirement accommodates revisions related to ICAO definitions.

2 Servicing and Overhaul

The requirements of this paragraph 2 are applicable to all aircraft whether maintained to an approved Maintenance Schedule or not.

- 2.1 Except where otherwise agreed by the CAA, servicing, overhaul and inspection of combustion heaters and their associated exhaust systems shall be in accordance with the instructions contained in the appropriate manuals produced by the aircraft manufacturer and the equipment manufacturer. If the instructions in the aircraft manufacturer's manual differ from those in the equipment manufacturer's manual, those of the aircraft manufacturer shall be assumed to be overriding.
- 2.2 In addition to compliance with the provisions of the approved Maintenance Schedule and appropriate instructions, compliance shall (unless already accomplished in the course of aircraft maintenance) also be shown with a) and b), at intervals not exceeding 500 heater operating hours or two years, whichever is the sooner (but see paragraph 2.3).
- a) Combustion heaters and their exhaust systems shall be completely dismantled and inspected, and restored to the extent necessary to ensure continued safe operation. Combustion chambers shall, in addition, be pressure tested.
 - b) The hot air outlet ducting adjacent to the heater shall be inspected for exhaust contamination and the appropriate action shall be taken where there is any evidence of contamination.
- 2.3 Unless equipment which records heater operating hours is installed, it must be assumed that heater hours are equal to aircraft flying hours; or some percentage of flying hours that has been agreed with the CAA. Applications for the agreement of a flying hour percentage should be made to the CAA, Safety Regulation Group, Gatwick.

3 Maintenance Schedule Amendment

- 3.1 Appropriate amendments must be submitted by all holders of CAA Approved Maintenance Schedules affected by these revised requirements.
- 3.2 Proprietary carbon monoxide detectors are available. Whilst the use of such detectors may be an aid to the detection of carbon monoxide contamination in aircraft, their use is not considered to be a satisfactory substitute for the procedure detailed in this Generic Requirement.

GR No. 13 Flame Resistant Furnishing Materials

(Previously Issued as Airworthiness Notice No. 58, Issue 7, 2 April 2004.)

1 Introduction

- 1.1 The detailed requirements for compartment design safety precautions for aircraft designed in the United Kingdom are prescribed in British Civil Airworthiness Requirements (BCAR) Chapters D4-3, K4-3, G4-3 and Joint Aviation Requirements (JAR) 23.853, 25.853, 27.853 and 29.853. Suitable methods of flame resistance testing of aircraft furnishing materials are described in Appendix F to JAR-25.
- 1.2 Some imported foreign constructed aircraft are accepted for UK certification through compliance with the airworthiness standards of the country of manufacture. These standards may not be identical to either BCAR or JAR but are considered to provide acceptable levels of safety in relation to the particular aircraft types.
- 1.3 Materials used when carrying out repairs or modifications to an aircraft cabin furnishings are also required to have flame resistant properties, which are either at least equal to those of the materials used in the original design as accepted for UK certification, or in compliance with the current or UK equivalent requirements.

2 Requirements for Initial Acceptance of Materials

Wherever possible only inherently flame resistant materials shall be used. However, materials which meet the requirements by the use of a flame retardant process, applied either during or after manufacture, may also be used provided that (since all materials may at some time be dry-cleaned or washed) the material is shown to be flame resistant when tested both before and after being subjected to three representative cleaning processes.

3 Requirements for Maintenance of Fire Resistance

- 3.1 Continuance of the flame resistance properties of furnishing materials may depend upon their use in service and the methods used in their cleaning. Experience has shown that:
 - a) The proprietary flame retardant processes often applied to furnishing materials during or after manufacture, in order to provide the necessary flame resistant properties, may be destroyed or seriously impaired where incorrect dry cleaning, laundering or proprietary finishing processes which enhance durability and minimise soiling, are used.
 - b) The application of one flame retardant process on top of another of a different type, may have the effect of inhibiting the properties of both processes.
 - c) During service, seat covers become contaminated with perspiration which leaves a deposit of body salts, etc., these deposits may accumulate, impairing the flame resistance properties of the materials.
 - d) Disinfectants, etc., are often sprayed from aerosol containers in aircraft cabins. The accumulation of these agents may also affect the long term flame resistant properties of the furnishing materials.

- 3.2 Operators and maintenance Organisations are reminded, therefore, that they must have adequate control over the cleaning of aircraft furnishing materials. For this, they need to have a knowledge of the material type, the recommended cleaning or proprietary finishing processing methods, the effects of time in service on the flame resistance properties, the flame retardant processes applied, if any, and the method of re-application of such a process, where this is necessary. It is not acceptable to place reliance on unsubstantiated claims concerning the continuance of flame resistant properties of a material after durability or additional flame retarded processes have been applied. Where such processes have been applied, there is a need to prove the continued acceptability of a particular material or process in service, and, therefore, further flame resistance tests must be conducted in accordance with requirements identified in paragraphs 1.1 and 1.2 of this Generic Requirement.

GR No. 14 Improved Flammability Test Standards for Cabin Interior Materials

(Previously Issued as Airworthiness Notice No. 61, Issue 4, 2 April 2004.)

1 Applicability

This Generic Requirement is applicable to all UK registered aeroplanes over 5700 kg MTWA, used for the purpose of Public Transport and certificated to carry 20 or more passengers, and of a type for which a Type Certificate was issued (whether in the UK or elsewhere) on or after 1 January 1958.

2 Introduction

- 2.1 Analysis of aircraft accidents in which cabin fire has been a major factor has indicated to both the FAA and the CAA that currently approved cabin interior materials should meet more severe flammability test standards to reduce the risk of an uncontrolled in-flight cabin fire and extend the survival time in a ground fire emergency.
- 2.2 Cabin interior material flammability, smoke and toxic emissions are some of the critical factors which affect cabin occupant survivability. Over the past twenty years there has been extensive research carried out, particularly in the USA, in an attempt to quantify the hazards and to define meaningful test methods and airworthiness standards.
- 2.3 Recent FAA research work, involving full scale fire tests, has established a significant correlation between flammability characteristics and both smoke and toxic emissions. As a result they have placed great emphasis on the introduction of fire-hardened materials into aircraft (i.e. materials with higher ignition temperatures, reduced heat release rates and lower content of thermally unstable components).
- 2.4 The FAA (Docket No. 24594) had amended FAR Part 25 and 121 (Amendments 25-61 and 121-189 respectively) to require a new flammability test standard for cabin sidewalls, ceilings, stowages, partitions, galleys, etc. As a result of an extended comment period, FAA Docket No. 24594 has been further revised and now amends FAR Parts 25 and 121 at Amendments 25-66 and 121-198 respectively. Similar amendments have now been incorporated in JAR-25 at Change 13. This new test standard sets a limit for the heat release rate and smoke emission from cabin materials when exposed to a source of radiant heat. Using the modified Ohio State University (OSU) rate of heat release apparatus for Heat Release Rate, testing has been adopted by the FAA because of its good correlation with full-scale fire tests. The modified NBS smoke chamber is used for smoke emission testing.
- 2.5 The CAA is in full agreement with the new FAA flammability and smoke emission test standards introduced by FAR Amendments 25-61 and 121-189 as amended by 25-66 and 121-198 and intends, by this Generic Requirement, to require the same standards for those aeroplanes defined in paragraph 1.
- 2.6 Under the provision of this Generic Requirement, aircraft already in service may continue without incorporating materials that comply with the new flammability and smoke emission test standards until such a time as the cabin interior is substantially renewed. In due course the CAA may consider it necessary to propose dates by which all aircraft shall be in compliance.

3 Compliance

- 3.1 With effect from 20 August 1988, but prior to 20 August 1990, all aeroplanes defined in paragraph 1 above, which are either newly manufactured or are the subject of a substantially complete cabin interior renewal, shall comply with the requirements of paragraph 4.1 of this Generic Requirement.
- 3.2 With effect from 20 August 1990, all aeroplanes defined in paragraph 1 above, which are either newly manufactured or are the subject of a substantially complete cabin interior renewal, shall comply with the requirements of paragraph 4.2 of this Generic Requirement.
- 3.2.1 The CAA may be prepared to grant a dispensation for specific components of the cabin interior which do not meet the applicable flammability and smoke emission requirements, provided that special circumstances exist which makes compliance impractical. Such dispensations will be limited to aircraft which are newly manufactured or the subject of a substantially complete cabin interior renewal before 20 August 1991.
- 3.2.2 A request for such a dispensation must include full details of the steps being taken to achieve compliance, acceptable reasons for such non-compliance and a thorough and accurate analysis of each component.

4 Requirements

- 4.1 In addition to meeting the existing flammability test standards contained in BCAR Chapter D4-3, paragraph 6.1 or JAR 25.853, cabin interior ceiling and wall panels (other than lighting lenses), partitions, and the outer surfaces of galleys, large cabinets and stowage compartments (other than underseat stowage compartments and compartments for stowing small items such as magazines and maps), shall satisfy the test standards of Part IV of Appendix F of JAR-25, except that the total heat release over the first two minutes of sample exposure shall not exceed 100 kilowatt-minutes per square metre, and the peak heat release rate shall not exceed 100 kilowatts per square metre.
- 4.2 In addition to meeting the existing flammability test standards contained in BCAR Chapter D4-3, paragraph 6.1 or JAR 25.853, cabin interior ceiling and wall panels (other than lighting lenses), partitions, and the outer surfaces of galleys, large cabinets and stowage compartments (other than underseat stowage compartments and compartments for stowing small items such as magazines and maps), shall satisfy the test standards of Part IV and V of Appendix F of JAR-25.

5 Additional Information

- 5.1 For the purpose of this Generic Requirement, the term 'substantially complete cabin interior renewal', has been used to cover the renewal of all sidewall panels, ceiling panels and/or overhead stowages, whether this is done at one refurbishment or progressively over a period of time as part of a planned cabin interior renewal programme.
- 5.2 The requirements of this Generic Requirement are not applicable to individual cabin interior components which are refurbished or have to be replaced due to unserviceability, e.g. individual sidewall or ceiling panels or overhead stowage doors. However, where these components are newly manufactured the CAA strongly recommends that they should meet the appropriate requirements of this Generic Requirement.

- 5.3 The requirements of this Generic Requirement are not normally applicable to the internal structures of galleys and overhead stowages, floor panels and floor coverings, transparent or translucent components such as lenses used in interior lights, illuminated signs and window anti-scratch panels, and other small cabin items such as door and window mouldings, curtains, window shades, seat trays, arm rests and parts of the passenger service units but see ACJ 25.853. However, these requirements would be applicable to large surface panels of passenger service units.
- 5.4 If there is any uncertainty as to the applicability of this Generic Requirement the CAA should be consulted for clarification.

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GR No. 15 Light Aircraft Maintenance Programme (EASA Aircraft) and Light Aircraft Maintenance Schedule (Non-EASA Aircraft – Annex II)

(Formerly issued as GR No. 15 Light Aircraft Maintenance Schedule, 30 May 2008 and previous to that as Airworthiness Notice No. 63, 23 October 2003)

1 Purpose

The purpose of this generic requirement is:

- a) to notify stakeholders of the implementation of the CAA approved Light Aircraft Maintenance Programme (LAMP) for EASA light aircraft and to recognise the continuing applicability of the Light Aircraft Maintenance Schedule (LAMS) to ICAO compliant, Annex II, non-EASA aircraft;
- b) to recognise the approved status of the LAMP at Issue 1 amendment 2;
- c) to recognise the continuing approved status of the LAMS at Issue 2.

2 EASA Aircraft

2.1 Introduction

- 2.1.1 The issue of the LAMP was required to address the effects of the end of derogations in the EU Commission Regulation (EC) No. 2042/2003, for aircraft not used for licensed commercial air transport, in the weight category not exceeding 2730 kg Maximum Take-Off Mass (MTOM). The end of derogations initiated the implementation of the Part M requirements to this aircraft category.
- 2.1.2 The LAMP addresses the scheduled maintenance requirements for piston engine aeroplanes and single piston engine helicopters not exceeding 2730 kg MTOM, regulated by EASA under Regulation (EC) No. 216/2008. Amendment 2/2008 of the LAMP was published in October 2008 to update EC regulation references.

2.2 Grant of Approval

- 2.2.1 The CAA hereby approves, pursuant to article 14(1)(a) of the Air Navigation Order (ANO) 2005, and Commission Regulation (EC) No. 2042/2003, the following LAMPs:
 - a) CAP 766: CAA/LAMP/A/2007 Issue 1 Amendment 2, dated 10 October 2008, in relation to EASA-compliant, piston engine aeroplanes not exceeding 2730 kg MTOM; and
 - b) CAP 767: CAA/LAMP/H/2007 Issue 1 Amendment 2, dated 10 October 2008, in relation to EASA-compliant, single piston engine helicopters not exceeding 2730 kg MTOM.

This approval took effect on 10 October 2008.

2.3 Revocation of Approval

- 2.3.1 The CAA, in exercise of its powers under Article 92(1) and (2) of the ANO 2005 (the Order), hereby revokes the approval granted pursuant to Article 14(1)(a) of the Order, in respect of CAA/LAMS/A/1999 Issue 2 and LAMS CAA/LAMS/H/1999 Issue 2 (the Approved Schedules) as applicable to EASA aircraft.

3 Non-EASA Aircraft – Annex II

3.1 Introduction

- 3.1.1 The introduction of the LAMP for EASA aircraft has thereby revised the applicability of LAMS, to Annex II aircraft only. The fifth edition of the Light Aircraft Maintenance Schedule was published in April 2005 to account for the implementation of the European Council Regulation (EC) No 1592/2002, now (EC) No 216/2008, and Commission Regulation (EC) No 2042/2003. It also included clarification of cross-references to the ANO, and to avoid ambiguity with previous editions, the fifth edition changed the approval references to CAA/LAMS/A/1999 Issue 2 and CAA/LAMS/H/1999 Issue 2.

3.2 Grant of Approval

- 3.2.1 The CAA hereby approves, pursuant to Article 14(1)(a) of the ANO 2005, the following light aircraft maintenance schedules:

- a) CAP 411: CAA/LAMS/A/1999 Issue 2 in relation to ICAO-compliant, Annex II, piston engined aeroplanes not exceeding 2730 kg MTOM; and
- b) CAP 412: CAA/LAMS/H/1999 Issue 2 in relation to ICAO-compliant, Annex II, piston engined helicopters not exceeding 2730 kg MTOM.

This approval came into force on 1 May 2005.

4 Additional Information

- 4.1 Copies of the LAMPs and LAMS may be purchased from TSO at www.tsoshop.co.uk or downloaded from the CAA website at www.caa.co.uk/publications.
- 4.2 Alternative maintenance schedules to the LAMS and LAMPs will continue to be approved in accordance with Part M.A.302 for EASA Aircraft, or British Civil Airworthiness Requirements Chapter A/B7-5 for non-EASA aircraft. Reference should be made to CAP 562 (CAAIP) Leaflet 14-9.
- 4.3 Application for CAA approval of an EASA maintenance programme should be made to the supervising CAA Regional Office on Form AD981M.

NOTE: All references to legislation are to legislation **as amended**.

GR No. 16 Tyre Bursts In Flight – Inflation Media

(Previously Issued as Airworthiness Notice No. 70, Issue 2, 16 September 1988.)

1 Applicability

This Generic Requirement is applicable to all UK registered aeroplanes with a Maximum Take-off Weight Authorised (MTWA) exceeding 5700 kg, with retractable landing gear.

NOTE: For American registered aeroplanes the FAA have published Airworthiness Directive 87-08-09, which requires that not more than 5% Oxygen by volume is contained in tyres inflated and mounted on braked wheels of particular aeroplane types.

2 Introduction

- 2.1 JAR 25.729(f), BCAR Chapter D4-5 paragraph 1.2 and TSS Standard 5-6 paragraph 9, require equipment to be protected from the effects of tyre burst. In addition the CAA requires the operational hazards due to tyre bursting in flight be minimised.
- 2.2 The majority of in-flight tyre bursts have been attributed to the tyre carcass being weakened by foreign object damage, scuffing, etc., such that a rapid release of pressure takes place. Such failures are usually experienced when the gear has been retracted for some time and the effects of brake heat transfer, internal tyre temperature and differential pressure are combined.
- 2.3 A fatal accident involving cabin decompression and fire has highlighted another mode of tyre failure in flight where a tyre may fail explosively without any significant prior degradation. A tyre inflated with air and subjected to excessive heating, possibly caused by a dragging brake, can experience a chemical reaction resulting in release of volatile gases. Such a chemical reaction in the presence of the oxygen in the contained air may result in a tyre explosion in a landing gear bay and/or an in-flight fire since it appears that the protection normally afforded by conventional pressure relief devices in the wheel would be incapable of responding adequately to the rapid increases in temperature and gas pressure associated with auto-ignition.
- 2.4 Laboratory material and tyre burst testing indicates that the risk of auto-ignition can be reduced by using an inert gas for tyre inflation and servicing.
- 2.5 Other potential benefits may accrue from the use of Nitrogen as it will tend to reduce wheel corrosion, tyre fatigue and the risk of fire when fusible plugs melt due to brake overheating.

3 Compliance

- 3.1 With effect from 1 April 1988, all braked wheels of retractable landing gear units on aeroplanes defined in paragraph 1 will be required to have tyres inflated with Nitrogen, or other suitable inert gas, and maintained such as to limit the Oxygen content of the compressed gases to not greater than 5% by volume.
- 3.2 To ensure compliance with this requirement suitable inflation and servicing procedures must be adopted in consultation with the airframe constructor. At airfields where suitable inert gases are not normally available it is acceptable to use air for inflation or servicing provided that a suitable entry is made in the Technical Log and that the tyre is re-inflated or serviced in accordance with the agreed procedure at the earliest opportunity or within 25 flight hours, whichever is the sooner.

4 Additional Information

In addition to compliance with the requirement of paragraph 3 above, tyre and wheel assemblies should be maintained such that greases, solvents, powders and rubber dust are excluded as far as practicable from within the inflation volume.

GR No. 17 Maintenance Requirements for Variable Pitch Propellers Installed on Aircraft Holding a UK Certificate of Airworthiness

(Previously Issued as Airworthiness Notice No. 75, Issue 11, 2 April 2004.)

1 Introduction

- 1.1 The information contained in this Generic Requirement is deemed by the Civil Aviation Authority (CAA) to comprise Instructions for Continued Airworthiness in accordance with European Commission (EC) Regulation 2042/2003 Annex 1 (Part M), M.A.302 Maintenance Programmes.
- 1.2 This Generic Requirement is also applicable to aircraft categorised as Annex 2 products in accordance with Regulation (EC) No. 216/2008 Article 4 (4). A list of these aircraft may be found on the CAA Web site: www.caa.co.uk.
- 1.3 For most propeller types the propeller manufacturer will publish their recommended overhaul periods and any necessary overhaul / inspection instructions. The operator should observe these recommendations at the periods specified by the manufacturer unless an alternative is agreed by CAA and stated in the Approved Maintenance Programme. However, there are a number of propeller types for which the manufacturer has not published overhaul lives in terms of hours or calendar period. The purpose of this Generic Requirement is to prescribe mandatory action to ensure that these propellers are maintained in a satisfactory condition, by requiring periodic inspection.
- 1.4 Previous issues of Airworthiness Notice No. 75 have allowed periodic hub and blade inspections to be carried out in place of a full overhaul for low utilisation propellers. This Generic Requirement, in its paragraph 3.3, phases out this alternative maintenance policy.

2 Applicability

The requirements of this Generic Requirement are applicable to variable pitch propellers, variable pitch propellers which have been locked and to ground adjustable propellers. For modular propellers the calendar periods referred to in this Generic Requirement shall apply to propeller hubs and blades individually.

3 Compliance

- 3.1 Any overriding mandatory requirements in respect of particular propellers issued either by the Airworthiness Authority of the country of design of a propeller, the European Aviation Safety Agency (EASA) or by the CAA, will take precedence over this Generic Requirement. For the purposes of compliance with an AD which specifies requirements as a function of overhaul, the bare blade inspection required by paragraph 4.2.2 shall be deemed as an overhaul.
- 3.2 **Propellers with no manufacturer recommended calendar overhaul limitation**
 - 3.2.1 For propellers where no calendar overhaul interval is recommended by the Manufacturer paragraphs 3.2.1 a) and 3.2.1 b) must be complied with;

- a) At 3 years since new or overhaul or the inspection defined in paragraph 4.2.2 of this Generic Requirement, complete the hub/blade inspection specified in paragraph 4.2.1.
 - b) At 6 years since new or overhaul or the inspection defined in paragraph 4.2.2 of this Generic Requirement, overhaul the propeller in accordance with the manufacturer's instructions.
- 3.2.2 On reaching the manufacturer's recommended flight hour TBO period the propeller must be overhauled.
- 3.2.3 For propellers with composite blades, in the absence of any manufacturer's overhaul periods in terms of calendar time, the composite blades should be subject to overhaul at a period not exceeding 6 years in accordance with the manufacturer's instructions. The 3 year inspection of paragraph 4.2.1 need not be carried out.
- 3.3 Propellers with a manufacturer recommended calendar overhaul limitation**
- 3.3.1 Propellers which are currently maintained in accordance with paragraphs 4.2.1 (3 year inspection) and 4.2.2 (6 year bare blade inspection) of this Generic Requirement, may remain in service until the next scheduled inspection, in accordance with this Generic Requirement, at which point the following will apply;
- a) At 3 years since inspection defined in paragraph 4.2.2 of this Generic Requirement, the propeller must either be overhauled in accordance with the manufacturer's instructions, or inspected in accordance with paragraph 4.2.1. of this Generic Requirement.
 - b) On reaching 6 years since inspection defined in paragraph 4.2.2 of this Generic Requirement, the propeller must be overhauled in accordance with the manufacturer's instructions. After this time the propeller shall continue to be overhauled in accordance with the manufacturer's instructions at the manufacturer's recommended period unless varied by the Approved Maintenance Programme.
- 3.4 The periods of operation or elapsed calendar time prescribed in the appendix to this Generic Requirement shall be calculated from the date of the initial installation of the propeller on an aircraft following manufacture or complete overhaul of the propeller and may be preceded by a period of storage of up to 2 years which has been carried out in accordance with the manufacturer's recommendations. Periods of storage in excess of 2 years or subsequent to the initial installation shall be counted as if the propeller were installed. Where the specific manufacturer has provided information on this topic within their instructions then this should be followed.
- 3.5 The applicability and compliance requirements of this Generic Requirement are summarised in Tables 1 and 2 of the Appendix to this Generic Requirement.

4 Propeller Inspections

- 4.1 The inspection of propellers required by Tables 1 or 2 shall be undertaken by an organisation approved by the CAA or the EASA for the purpose.
- 4.2 The inspections and re-work shall be carried out in accordance with the manufacturer's instructions and as a minimum shall include:
- 4.2.1 Hub/blade inspection.
- a) Dismantling of the propeller sufficiently to gain access to the blade root bearing assemblies.

- b) Thorough cleaning of the blade root assemblies in accordance with the manufacturer's instructions.
- c) Examination for pitting, fretting, corrosion, cracking and other damage of the hub, bearings, blade roots, and housing, together with replacement of any disturbed seals. All of the blade surfaces shall be examined for damage, delamination (where applicable), and the presence of corrosion, removing the paint finish as necessary. In cases where de-icer boots or overshoes are installed on the blades, a detailed examination for corrosion around their edges shall be carried out, and, if any evidence is found, the boots/overshoes shall be removed to permit a full inspection of the masked areas. Any corrosion shall be removed and the blades re-protected. In cases where de-icer boots/overshoes are removed, replacement parts shall be installed using the facilities prescribed and under conditions and procedures specified, in the relevant manufacturer's Overhaul Manual.
- d) Non Destructive Inspection of the hub and blade roots shall be carried out in accordance with the manufacturer's instructions except where it can be verified that Non Destructive Inspection of the hub and blade roots has been carried out in accordance with the manufacturer's instructions within the last 4 years.
- e) Checking the track of the propeller after refitting, then functioning throughout its operational range by means of an engine run to verify correct performance, and to establish that any vibration is within acceptance limits, in accordance with the manufacturer's instructions.

4.2.2 **Bare blade inspection.**

In addition to the hub/blade inspection ref. 4.2.1;

- a) Removal of all de-icing boots or overshoes and fairings.
- b) Removal of all paint and erosion protection.
- c) Removal of all blade root bushings and plugs.
- d) Inspection of the complete blade surface for the presence of corrosion. Any corrosion shall be removed and the blades re-protected and prepared for the re-installation of the blade fittings.
- e) All NDI required for overhaul of the propeller shall be carried out in accordance with the manufacturer's instructions.
- f) Full dimensional inspection of all blades.

5 Record of Accomplishment

A comprehensive record of the inspection and work done in accordance with paragraph 4 of this Generic Requirement shall be retained and an entry, making a reference to this record, shall be inserted in the Propeller Log Book.

Appendix 1 to GR No. 17

(Previously Issued as Airworthiness Notice No.75 Appendix 1, Issue 3, 2 April 2004.)

Propellers shall be maintained in accordance with (a) of the appropriate following Table, unless no calendar overhaul period is published by the propeller manufacturer. In this case they shall be maintained in accordance with (b):

Table 1: Propellers fitted to Aircraft with MTOM of 5700 kg or above

(a)	Overhaul period	Whichever occurs first of operating hours or calendar period as published by the propeller manufacturer unless varied by the Approved Maintenance Programme.
(b)	Overhaul period	Operating hours as published by the propeller manufacturer or on condition where no life has been published subject to (i) and (ii) below.
	(i) Hub/ blade inspection period	Inspect at 3 years since new or overhaul or period inspection (ii) below; repeat at 1 year intervals.
	(ii) Bare blade inspection period	Not to exceed 6 years since new, overhaul or last bare blade inspection.

Table 2: Propellers fitted to Aircraft with MTOM below 5700 kg

(a)	Overhaul period	Whichever occurs first of operating hours or calendar period as published by the propeller manufacturer unless varied by the Approved Maintenance Programme.
(b)	Overhaul period	Operating hours as published by the propeller manufacturer or on condition where no calendar life has been published subject to (i) and (ii) below.
	(i) Hub/ blade inspection period	Inspect at 3 years since new or overhaul or inspection (ii) below (but may be phased to next annual check or Certificate of Airworthiness Renewal provided period does not exceed 4 years).
	(ii) Bare blade inspection period	Not to exceed 6 years since new, overhaul or last bare blade inspection.

NOTE: Hub/blade inspections and bare blade inspections are to be in accordance with the procedures of paragraph 4 of this GR.

GR No. 18 Electrical Power Supplies for Aircraft Radio Systems

(Previously Issued as Airworthiness Notice No. 76, Issue 4, 29 October 2001.)

1 Introduction

- 1.1 Previous Issues of Airworthiness Notice No. 76 (now GR No. 18) drew attention to the dangers of operation of aircraft in which the entire radio installation was supplied via a single electrical feeder circuit, and stated that Certificates of Airworthiness would not be issued or renewed in respect of aircraft certificated in the Transport Category with such systems.
- 1.2 Issue 4 of Airworthiness Notice No. 76 took account of the withdrawal of the General Purpose Category Certificate of Airworthiness and, following consultation with industry, extended the applicability of the Requirements to include multi-engine aircraft in any Category. Interpretative material has been added to give guidance on the extent of the assessment to be made. At first issue, this Generic Requirement reproduces Airworthiness Notice No. 76 at Issue 4 with changes made necessary by the implementation of EU legislation.
- 1.3 It is not intended that aircraft, for which compliance with the requirements of paragraph 2 of previous Issues of Airworthiness Notice No. 76 has been established, should be re-examined.

2 Requirement

The electrical feeder arrangements shall be such that:

- a) Where more than one radio system is installed, no likely single failure (e.g. a fuse or a relay) will result in the loss of all radio systems.

NOTE: It is strongly recommended that such a failure should only result in the loss of one radio system.

- b) Where duplicate radio systems, or radio systems which can duplicate a function, are installed, no likely single failure (e.g. a fuse or a relay) will result in the loss of both systems.

3 Interpretation

In examining electrical feeder arrangements to establish compliance with paragraph 2, the examination for likely single failures should include:

- a) the mechanical and electrical aspects of the supply circuit, including the return path of the electrical supply;
- b) the location within the electrical circuit of fuses, circuit breakers and power switching relays, their physical location in the aircraft and the manner in which they are interconnected; and
- c) panels for integrated control of radio systems, audio integration systems, and dimmer control equipment for electronic displays.

4 Implementation

- 4.1 Aircraft used for the purposes of public transport of passengers or cargo must comply with the requirements of paragraph 2.
- 4.2 Multi-engined aircraft used for any purpose must comply with the requirements of paragraph 2.
- 4.3 The CAA will consider applications for a waiver to this Generic Requirement in respect of multi-engined aircraft that is not used for the purposes of public transport, when it can be satisfied that the aircraft is fitted with such limited radio equipment, or is restricted to operations under such limited conditions, that the loss of the electrical supply to all radio equipment would not significantly affect the safety of the aircraft during its permitted normal operation.

5 Recommendation

It is strongly recommended that all single-engined aircraft (in addition to those for which compliance is required) should comply with the requirements of this Generic Requirement.

GR No. 19 Emergency Power Supply for Electrically Operated Gyroscopic Bank and Pitch Indicators (Artificial Horizons)

(Previously Issued as Airworthiness Notice No. 81, Issue 2, 4 April 1997.)

1 Introduction

- 1.1 Studies of those aircraft accidents and incidents in recent years which have involved total loss, or interruption, of generated electrical supplies on public transport aircraft, indicate that a major factor in the ability of the crew to maintain safe flight is the continuation of presentation to the pilot of reliable aircraft attitude information. Two fatal accidents since 1968 have been attributed to failure of power supplies resulting in the loss of horizon information for flight in blind conditions. Incidents have also occurred which could have been catastrophic if the crew had been totally dependent on horizon instrument, rather than visual, information.
- 1.2 All public transport aircraft operated on the United Kingdom Register the safety of which depends on electrical services, are equipped with some form of standby or emergency electrical power supply. On many aircraft these emergency supplies are provided by batteries of sufficient capacity to maintain essential services for a flight time sufficient to reach an airfield and make a landing. However, on a number of aircraft types the adequacy and duration of these supplies is critically dependent on crew response time in recognising the emergency, and in completing particular drills to isolate the battery supply to prevent it being discharged into loads on the main electrical system. It is considered that the ability of the crew to cope with a major interruption of electrical supplies would be improved if they had knowledge that continuity of horizon information was not totally dependent on their prompt and correct execution of emergency drills.
- 1.3 The purpose of this Generic Requirement is to require the retrospective modification of certain classes of aircraft to ensure that continuity of horizon information is maintained.
- 1.4 Aircraft types fitted with air driven gyroscopic bank and pitch indicators are exempt from the requirements of this Generic Requirement.

2 Requirement

- 2.1 Compliance with paragraphs 2.2 and 2.3 of this Generic Requirement, or with an approved alternative providing an equivalent level of safety, is required as soon as practical but not later than 1st January 1974, for:
 - a) aircraft operated for the purposes of public transport and certificated for the carriage of more than 19 persons over the age of three years; and
 - b) aircraft the maximum authorised weight of which exceeds 15,900 kg.
- 2.1.1 Where it can be shown that an aircraft detailed in 2.1 a) or b) will be permanently removed from service prior to the 1st January 1975, the CAA may, on application, waive the requirements of this Generic Requirement where it is satisfied that compliance would not be justified in the circumstances of the particular case.
- 2.1.2 Compliance will also be required for newly constructed aircraft the maximum authorised weight of which exceeds 5700 kg, for which a UK Certificate of Airworthiness is first issued on or after 1st January 1974, where such an aircraft is operated for the purposes of public transport.

- 2.2 Where it cannot be shown that in the event of a total failure of the main electrical generating system, an adequate supply will be available automatically to a suitable bank and pitch indicator for a minimum period of 30 minutes, assuming that no special crew action is taken for 10 minutes, then a separate emergency supply, independent of the aircraft electrical generating system, which will automatically supply such an instrument, and its associated lighting, for a minimum period of 30 minutes, shall be provided.
- 2.2.1 Where the emergency supply is provided by a separate battery it is permissible for this battery to be (trickle) charged from the main electrical generating system, provided that the installation is such that the battery cannot discharge back into the main system.
- 2.3 The instrument supplied in accordance with paragraph 2.2 shall be
- a) the third instrument (standby horizon) where this is provided, or failing such provision,
 - b) the bank and pitch indicator fitted to the Captain's flight instrument panel.
- 2.3.1 Where the third instrument is fitted it shall:
- a) Operate independently of any other attitude indicating system.
 - b) Be so located on the instrument panel that it will be visible to, and usable by, both pilots from their normal positions.
 - c) Be compatible in presentation with the main attitude indicating system.
 - d) Be fitted with a failure warning device.
- Alternatively a means of indicating that the power supply to the instrument is operating correctly shall be provided.
- 2.3.2 Where the instrument on the Captain's flight instrument panel is utilised:
- a) The circuitry to the instrument shall be modified, as necessary, so that transfer to the emergency source of supply is automatically effected in the event of failure of the main supply.
 - b) The requirements of paragraph 2.3.1d) shall be met.

3 Additional Information

- 3.1 Representations have been made to CAA that under conditions of widespread adverse weather, or heavy traffic density at airports, a period of 30 minutes may be a less than desirable time for flight to a suitable airfield and landing, and clearly this period by itself is inadequate for long range aircraft.
- 3.1.1 The basis of UK certification of all long range, and of certain short/medium range, aircraft types is that after a period of interruption of electrical supplies it will be possible for the crew to re-establish sufficient normal, or emergency, generated power to support all necessary essential services, including the instrument covered by this Generic Requirement, for the remainder of the flight. The prescribed period of 30 minutes is considered to be adequate to allow for appropriate crew action for this class of aircraft.
- 3.1.2 For those shorter range aircraft that are totally dependent on battery power to support all essential services to the completion of the flight, a period of 30 minutes assuming a crew delay time of 10 minutes, is the mandatory minimum endurance of the emergency supply for the horizon instrument prescribed in this Generic Requirement.

It is, however, strongly recommended that in circumstances where the crew do take prompt and correct actions in response to warning indications of the interruption of all generated electrical power, the aircraft installation should include adequate battery capacity to provide a 60 minute supply for both the subject instrument and the other services essential to complete the flight and make a landing.

- 3.2 A number of aircraft types already comply with the requirements of this Generic Requirement, or incorporate other special features which have been considered and accepted by the CAA as providing an equivalent level of safety.
- 3.3 In the case of aircraft types, of UK construction, which do not comply, discussions have been held with the Aircraft Constructors. Owners and Operators of such aircraft are, therefore, recommended to contact the Constructor concerned for information regarding suitable modifications.

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GR No. 20 Fire Precautions – Aircraft Toilets

(Previously Issued as Airworthiness Notice No. 83, Issue 5, 22 March 2002.)

1 Applicability

This Generic Requirement is applicable to all aircraft over 5700 kg operating for the purposes of public transport.

2 Introduction

- 2.1 In view of the history of in-flight fires which have occurred in the toilet compartments of large transport category aeroplanes, a survey has been conducted to re-appraise the fire precautions on the various types of aircraft used by UK operators.
- 2.2 The results of this survey have shown that in some instances the design of receptacles (e.g. towel dispensers, waste containers), provided within toilet areas for the carriage of flammable materials and in particular flammable waste, does not comply with the current interpretation of published airworthiness requirements. In other instances the receptacles are not sufficiently robust to withstand the effects of wear and deterioration in service. The survey also showed that, regardless of notices prohibiting smoking in toilets, smoking does occur, and that, even when ashtrays are provided, they are often not used, and cigarette ends are deposited in other receptacles.
- 2.3 The purpose of this Generic Requirement is to publish requirements aimed at reducing the probability of persons smoking in toilet compartments and at minimising the potential fire hazard caused by persistent smokers.

3 Background

- 3.1 When Airworthiness Notice No. 83 was first issued on 22 August 1974, the CAA required that an inspection be completed on toilet receptacles within one calendar month from the date of issue with repeat inspections at 1000 hourly intervals, however, as a result of a further survey it was concluded that some aircraft toilets had been allowed to deteriorate and were therefore out of compliance.
- 3.2 In order to re-establish the effectiveness of the Notice, Letters to Operators (Nos. 554 and 554A) dated 11 July 1983 and 21 July 1983 respectively, were issued, which revised the inspection periods.

4 Requirements

4.1 Inspection

- 4.1.1 At intervals not exceeding 72 hours elapsed time, or at such other intervals as may be agreed with the CAA on the basis of available data, the following inspection shall be performed:
 - a) All receptacles shall be inspected to ascertain that all entry flaps or doors still operate, fit, seal and latch correctly, ashtrays are fitted, notices installed and receptacle stowage compartment is clean with all debris removed.
 - b) Any defects revealed by the inspection of a) are corrected.

- 4.1.2 This inspection shall be included in the Maintenance Schedules using the normal procedure.

4.2 **Prohibition of Smoking in Toilet Compartments**

- 4.2.1 Smoking shall not be permitted in toilet compartments.
- 4.2.2 No Smoking placards and ashtrays are required both inside and outside these compartments.
- 4.2.3 The No Smoking placards shall be displayed so as to be prominent to, and the ashtrays shall be obviously and conveniently placed for, those about to enter and those within these compartments.

4.3 **Re-Assessment**

- 4.3.1 Except where agreement has been obtained from the CAA that compliance would not be justified in the circumstances of a particular case, the design of all receptacles provided in the toilet compartments of aircraft over 5700 kg, operated for the purposes of public transport, shall be re-assessed against paragraph 5 of this Generic Requirement, and proposals shall be made, by the operators of such aircraft to the CAA for the incorporation of modifications necessary to show compliance, including a date (to be agreed by the CAA). The operator should consult the aircraft manufacturer regarding such modifications.
- 4.3.2 In the case of British manufactured aircraft, the CAA is discussing with the aircraft manufacturers suitable modifications to ensure compliance with paragraph 5 of this Generic Requirement.

5 Interpretation of Requirements

- 5.1 BCAR Section D, Chapter D4-3 paragraph 6.4.1 states that all receptacles for used towels, papers and waste shall be constructed of materials resistant to fire. The receptacles shall incorporate covers or other provisions for containing fires if started in the receptacle. Similar wording is provided in JAR 25.853(h) and CS 25.853(h).
- 5.2 For compliance to be shown, such receptacles (but see 5.4 for towel dispensers) shall be constructed of materials which are flame resistant¹, and which in addition, will retain sufficient mechanical properties as to contain such a fire as may develop by burning of materials such as paper towels, as may be within the receptacle. (It should be noted that although a thermoplastic material may be flame resistant it would not necessarily retain adequate mechanical properties in the case of a fire.) The receptacle shall be completely enclosed with the exception of a self-closing entry flap or door, which itself shall be rigid, and when closed, form as airtight a seal as is practicable. Entry flaps or doors shall be designed so that they remain self-closing even after exposure to a fire within the receptacle.
- 5.3 It is, however, permissible for receptacles to be open topped provided that they are mounted in a cabinet which itself complies with 5.2. In this instance, the door of the cabinet shall be of a robust construction and such as to ensure an adequate seal and to withstand misuse in service. Such cabinets shall not contain other flammable materials, potential fire sources (e.g. electrical apparatus) or apertures which would either allow air to feed a fire or permit a fire to spread beyond the cabinet (e.g. through apertures provided for services).

1. Suitable methods for flame resistance testing are contained in JAR-25 Appendix F.

- 5.4 It is accepted that some receptacles, e.g. paper towel dispensers, cannot readily be designed to meet the above requirements. In such instances they shall be so designed and positioned within the compartment to ensure that:
- a) the likelihood of the depositing of cigarette ends, etc., into them is minimised, and
 - b) a fire, which could be expected to start in another container, cannot readily spread to them; for example, a paper towel dispenser must not be positioned adjacent to, or immediately above, either the entry flap or door of a waste container or an ashtray provided in the compartment.

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GR No. 21 Cargo Containment

(Previously Issued as Airworthiness Notice No. 92, Issue 4, 25 October 2002.)

1 Applicability

This Generic Requirement is applicable to the approval of containers used in aircraft for the transportation of cargo, in which the securing of the cargo to the aircraft structure is dependent upon the strength of the container.

2 Introduction

- 2.1 In view of the increase in the carriage of livestock, CAA has reviewed the means of restraint being used for this and other cargo and the ways in which compliance has been established with BCAR Section D, Chapter D4-3, paragraph 2, JAR 23.787, JAR 25.787, JAR 27.787, JAR 29.787, Section K, Chapter K4-3, paragraph 2 or Section G, Chapter G-3, paragraph 3, as appropriate.
- 2.2 The appropriate JAR and BCAR require that cargo compartments and the means provided for the restraint of the cargo shall have sufficient strength to restrain the cargo under flight and ground conditions to prescribed acceleration factors. In addition, unless the compartment and cargo are so located that in the event of the cargo breaking loose in emergency alighting conditions it is unlikely to cause injury to the occupants of the aircraft, damage fuel tanks or lines, or to nullify any of the escape facilities, the compartment and the means provided for restraint of the cargo shall also comply with the emergency alighting conditions of JAR 23.561, JAR 25.561, JAR 27.561, JAR 29.561, BCAR Chapter D3-8, Chapter K3-8 or Chapter G3-8 as appropriate.
- 2.3 A survey of containers (such as pens and horseboxes) show that usually the restraint of the animals depends on the containers themselves and that these are not always of adequate design and construction to enable the requirements to be met.

3 Requirements

- 3.1 Containers, whether built into the aircraft or as self-contained units intended for transfer from one aircraft to another, shall comply with a) or b) as appropriate:
- a) With effect from 30th June, 1982, all newly manufactured containers and their means of installation into aircraft shall comply with the appropriate strength requirements of the appropriate JAR or BCAR for either:
- i) the flight, ground and emergency alighting loads;
 - or
 - ii) the flight and ground loads,
- depending on their intended location in the aircraft, and shall be approved by the CAA.

NOTE: Containers which comply with the requirements of the National Aerospace Standard NAS 3610, Revision 10 will be accepted as being in compliance with JAR/BCAR but only for installation in those locations where compliance with the emergency alighting conditions is not required.

b) With effect from 1st January, 1984, all containers and their means of installation shall be approved as in a) above by CAA.

- 3.2 Operators shall make adequate provision for care and maintenance of containers under their control and shall, where appropriate, formulate and adopt procedures for ensuring that containers to be used on their aircraft are of an approved type and in an acceptable condition. These procedures will be examined by the CAA as part of the assessment of operators maintenance procedures for the issue or variation of an Air Operator's Certificate.
- 3.3 Organisations responsible for the design of a container and its installation shall provide adequate instructions for its assembly, installation and maintenance. These instructions shall be included in the operator's loading manual or similar document.

4 Procedure

- 4.1 When a container is designed for use only in a particular type of aircraft, it and its installation will be considered to be a modification to the aircraft. The approval procedure shall be in accordance with the modification approval procedures of BCAR Sections A or B, Chapter A/B2-5, or JAR-21 Subpart E or Sub-subpart N-E, as appropriate.
- 4.2 A container designed for use on various types of aircraft will be considered as an accessory. The approval procedure shall be in accordance with the Accessory Approval procedure of BCAR Sections A or B, Chapter A/B4-8, as appropriate or JAR-21 Subpart K or Sub-subpart N-K, as appropriate.
- 4.2.1 The manner of installation into any particular aircraft will need to be certificated as being in compliance with the appropriate requirements and with the associated Declaration of Design and Performance, under the Modification Approval procedure of BCAR Sections A or B, Chapter A/B2-5, or JAR-21 Subpart E or Sub-subpart N-E, as appropriate.

NOTE: A container produced in compliance with JAR-TSO C90c or FAA TSO C90c (FAR 37.199) will be accepted on the basis of having been manufactured to procedures equivalent to those referenced in paragraph 4.2.

5 Additional Information

- 5.1 CAA approval will be limited to the airworthiness features of the container with regard to the aircraft, flight crew and other persons present on the flight. It will not cover the safeguarding of the cargo or, in the case of livestock, its welfare.
- 5.2 It is recommended that containers should be sufficiently robust and simple that assembly and/or installation into the aircraft would not constitute work necessitating the signing of a Certificate of Release to Service.
- 5.3 It is strongly recommended that, in view of the mishandling to which such equipment may be subjected, the instructions provided in accordance with paragraph 3.3 should also contain advice as regards tolerable damage and any resulting load limitations.
- 5.4 Operators are reminded that they are responsible for safeguarding the aircraft structure and equipment against the effects of corrosive liquids and any other materials which could cause damage or malfunction.
- 5.5 Where restraint of the cargo and container is provided by approved nets, bulkheads, etc. and no reliance is placed on the strength of the container, then such containers will not be subject to the above requirements.

GR No. 22 Galley Equipment

(Previously Issued as Airworthiness Notice No. 99, Issue 4, 29 October 2001.)

1 Applicability

This Generic Requirement is applicable to all galley equipment installed or carried for use on aircraft. For the purpose of this Requirement, 'galley equipment' includes service carts, catering trolleys and their means of physical restraint in the passenger area; galley inserts including ovens, water boilers, coffee makers, refrigerators, etc., and control panels dedicated to individual equipment.

2 Introduction

2.1 It has become increasingly apparent that some designers and installers of galley equipment installed or carried in aircraft have not recognised the need to satisfy relevant requirements of JAR-25 or of BCAR, as appropriate, and that as a result in certain instances safety has been prejudiced.

2.2 The Air Navigation Order 2005 (as amended), Article 19(8) requires that: "All equipment installed or carried in an aircraft, whether or not in compliance with this Article, shall be so installed or stowed and so maintained and adjusted as not to be a source of danger in itself or to impair the airworthiness of the aircraft or the proper functioning of any equipment or services necessary for the safety of the aircraft."

2.3 So far as type certification of aeroplanes is concerned, the applicable requirements stated in JAR 25.789 and 25X1499 or in BCAR Section D (D6-1, paragraph 2 and D6-13, paragraph 7.3) cover the design, installation and stowage aspects of any galley equipment which is included in the Type Design for which the Type Certificate is issued. Similar requirements are also applicable to galley equipment installed in aircraft certificated to other BCAR and JAR codes.

2.4 This Requirement is issued to rectify the situation in paragraph 2.1 and to emphasise that these requirements constitute the basis for certification of galley equipment, not only when they form part of the aircraft Type Design but also, in accordance with BCAR Chapter A2-5, paragraph 2.1.5, when they are fitted in an aircraft already issued with a Certificate of Airworthiness, or when such equipment fitted to an aircraft is modified. This Requirement also defines the procedures which apply to the certification of galley equipment.

3 Compliance

With effect from 1 January 1985 all equipment used in all galley installations is required to satisfy the requirements stated herein.

4 Procedure

4.1 Trolleys and items of galley equipment which require electrical power are, unless otherwise specifically agreed by the CAA, classified as 'Controlled Items' of equipment as defined in BCAR Chapter A4-8, paragraph 2.3(d) and approved under one of the procedures of BCAR Chapter A4-8, paragraph 5.

- 4.2 Catering boxes and equipment not requiring electrical power are classified as 'Uncontrolled Items' and are assessed under the procedures detailed in BCAR Chapter A4-8, paragraph 4. It is necessary, therefore, for an appropriately approved Organisation to accept responsibility as to the suitability and quality of such equipment.
- 4.3 Catering trolleys, designed for use in standard galleys on a variety of aircraft types, are considered to be common user items and as such are certificated under the accessory procedures of BCAR Chapter A4-8.

5 Interpretation of Applicable Requirements

- 5.1 The design of galley inserts shall comply with the intent of JAR 25X1499 and its associated ACJ or BCAR Chapter D6-13, paragraph 7.3 and the related Appendix No. 4. Additionally, general requirements for all electrical equipment in respect of electrical and magnetic interference, such as BCAR Chapter D6-13, paragraph 6.8, apply.
- 5.2 The design of all galley equipment shall minimise the risk of personal injury to the user, as required by JAR 25X1360 or BCAR Chapter D6-13, paragraph 6.7, as applicable. In particular, vessels containing heated liquids over 45°C shall have closely fitting integral lids. The use of open hotplates and open cooking utensils such as frying pans is not permitted.
- 5.3 Galley equipment and its installation shall have adequate strength to comply with the emergency alighting, flight and ground cases of BCAR Chapters D3-8, D3-2, D3-3, D3-5 or JAR 25.561, JAR 25.471 to 25X519, and JAR 25.331 to 25.351 inclusive, as applicable and shall comply with JAR 25.789.
- 5.4 The local attachment factor of 1.33 applies, in addition to the relevant prescribed acceleration forces, to door hinges, catches and restraint means which form part of the equipment structure, and to structure adjacent to the restraint means provided by the galley or similar stowage.
- 5.5 Doors, including their hinges and catches, of catering boxes, etc., must be of strength compatible with the placarded contents weight, unless use of the box is restricted to stowage in completely enclosed galley, or similar compartments. This also applies to the doors of catering trolleys, but in their case, the total structure of the trolley must also be shown to be in compliance with the strength requirements taking into account means of retention of the trolley in the aircraft.
- 5.6 The design of the trolley should be such that the loads imposed on the aircraft floor, do not exceed any floor loading limitations.
- 5.7 a) It is strongly recommended that duplicated catches are provided for means of retention for items which are habitually operated during flight, to allow for failure of one of the catches.

NOTE: In respect of galley equipment which is located in the vicinity of flight attendant seats, FAA Advisory Circular AC 25.785-1A (Flight Attendant Seat and Torso Restraint System Installations) paragraph 7b provides an acceptable means of compliance with FAR 25.785(j) (pre-amendment 25-72; the equivalent paragraph post amendment 25-72 is 25.785(h)(4)). This AC calls for additional restraint devices (dual latching or equivalent) for such equipment. In the case of aircraft certificated against JAR-25, there is currently no published advisory material but AC 25.785-1A is expected to be adopted by the JAA as an acceptable means of compliance with the identical JAR-25 requirements.

- b) Where retention of a unit into its stowage compartment is by turn catch, operating the catch should not release more than one unit.
- 5.8 Where catering trolleys have a facility for the collection of waste, they shall comply with the fire containment requirements of JAR 25.853(e) or BCAR Chapter D4-3, paragraph 6.4, as applicable.
- 5.9 Where the basis of type certification of the aircraft requires the provision of means of trolley restraint, in the passenger cabin, capable of withstanding the loads associated with the flight cases, the trolleys shall be provided with attachment means compatible with the anchorage points provided in the aircraft. Such methods of restraint should be engineered so that it can be used by one person and so that its use will be likely to occur by virtue of its simplicity of operation.
- 5.10 The trolleys must embody a brake system if they are to be removed from their stowage in flight. In the absence of evidence justifying an equivalent minimum braking force then the braking mechanism must be qualified by loading the trolley to its maximum loaded weight and ensuring that the braking mechanism holds the trolley on an incline plane of 7.5°.
- 5.11 Trolleys shall carry placarded instructions:
- a) that they must be stored and secured during take-off, turbulent weather and landing;
 - b) that the gross weight of the unit, or the combined gross weight of the unit and any other galley insert when stowed together, must not exceed the placarded maximum content weight of the compartment where stowed; and
 - c) that when removed from their stowage they must not be left unattended.
- 5.12 The installation of all galley equipment shall be such that the size, weight, and means of restraint are compatible with the stowage facility provided, and that under design loads the item will not deform in such a manner so as to free itself from the means of restraint.
- 5.13 Account must be taken of the individual and total electrical power demand of galley equipment and an electrical load analysis must be included in design documentation.

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GR No. 23 Personnel Certification for Non-Destructive Testing of Aircraft, Engines, Components and Materials

(Previously Issued as Airworthiness Notice No. 94, Issue 7, 18 March 1999.)

Please Note: Marginal Lines have not been used as this GR has been completely re-written.

1 General

- 1.1 This Generic Requirement advises the CAA's requirements for the qualification of Non-Destructive Testing (NDT) personnel, which shall be in accordance with the European Standard EN4179 (NOTE 1), and the Approved Maintenance Organisation's written practice/procedures for the authorisation of NDT personnel.
- 1.2 This revision of the Requirement reflects the transition to EASA requirements and details the changes that have resulted from the establishment of a UK National Aerospace NDT Board (UK NANDTB) to meet the requirements of Part-145 and Part-M Subpart F and is intended to recognise the competence of Level 3 qualified personnel. Within Regulation (EC) No. 2042/2003, AMC145.A.30 (f) (4) and AMC.M.A.606 (f) require all examinations to be conducted by personnel or organisations under the general control of a National Aerospace NDT Board.
- 1.3 The term NDT is used throughout this Requirement to include, but not be limited to, liquid penetrant, magnetic particle, eddy current, ultrasonic, radiographic and other recognised methods as identified in the above referenced standards and shall be applicable to all NDT methods used by Approved Organisations. Definitions of other key terms used throughout this Requirement are contained in paragraph 9.
- 1.4 Part-145 organisations who have personnel qualified in accordance with the BINDT (British Institute of Non-Destructive Testing) PCN/GEN Scheme (NOTE 3) and Airworthiness Notice No. 94, Issue 7 may continue to carry out certification as they have protected rights through Article 4 of Regulation (EC) No. 2042/2003 and through the policy set by the UK NANDT Board (See paragraph 8). Personnel may qualify in accordance with BINDT PCN/AERO scheme and may be issued an EN4179 authorisation by the organisation subject to any additional job-specific training and examination as determined by the nominated Level 3 person (See Appendix 1, paragraph 2.1).

NOTES: 1) EN4179 (Aerospace Series - Qualification and approval of personnel for non-destructive testing). prEN4179:2003 (P3) is the version that the CAA currently recognises and is expected to be followed, and is referred to hereafter as EN4179.

2) All references to Standards within this Requirement are to be taken as referring to the latest issue and are available from the British Standards Institute, 389 Chiswick High Road, London, W4 4AL.

3) The CAA will recognise the national scheme for Personnel Certification in Non-Destructive Testing (PCN/GEN Appendix A (EN473)) – Aerospace Sector.

2 Procedures for the Qualification of NDT Personnel

- 2.1 All approved Maintenance Organisations involved in any aspect of NDT shall develop and maintain procedures for the qualification and authorisation of their NDT personnel in accordance with EN4179. The organisation's procedures and/or written practice as defined by EN4179 shall be approved by the Nominated Level 3 (see paragraph 3). The procedures should normally be published as a separate document and cross-referenced in the appropriate exposition or manual.

- 2.2 With effect from the publication date (31 March 2006) of this issue of Generic Requirement No. 23 the training and examination of all NDT personnel working in UK-based maintenance organisations must be under the control of the UK NANDTB except for in-house schemes that have until 28 September 2007 to comply (see Appendix 1, paragraph 2.1).

3 Nominated Level 3

- 3.1 Maintenance organisations shall nominate in writing using an EASA Form 4, supported with evidence of independent qualification, an individual responsible to the Accountable Manager, for the technical supervision of NDT. This individual will hold NDT qualification at NDT Level 3 in the Aerospace Sector and will be referred to as the Nominated Level 3. This position shall be identified within the Organisation's exposition or manual, and any change in this position advised to the CAA.

- 3.2 The CAA recognises the following independent qualifications as appropriate for the position of Nominated Level 3:

- PCN/GEN Appendix A
- PCN/AERO
- ASNT Level III
- ACCP Level III (Aerospace)

Such an individual must also demonstrate evidence of specific knowledge and experience appropriate to the organisation's scope of work.

- 3.3 Where the Nominated Level 3 is not qualified in all NDT methods used by the Organisation, then additional personnel necessary to provide coverage shall be named in the exposition or manual and shall hold NDT Level 3 certification issued under those schemes detailed in paragraph 3.2 above.

- 3.4 The CAA may accept persons external to the Organisation as the Nominated Level 3, provided written agreement exists between the individual and the Organisation setting out the individual's responsibilities within the Organisation. The CAA will also need to be satisfied that an externally contracted Level 3 can commit to provide sufficient man-hours to cover the technical supervision of NDT.

4 Inspections and Certification of Inspections

- 4.1 NDT inspections shall be carried out by personnel approved in accordance with the Organisation's written practice or procedures. Where NDT procedures are specified by the organisation responsible for the design and/or manufacture of the aircraft, material, structure or component, then these must be used, except where change is permitted and authorised as defined in paragraph 5 of this Generic Requirement No. 23. Where non-mandatory inspections are to be undertaken, for which the responsible design/manufacturing organisation has not specified NDT procedures, then the NDT method, technique, procedure and instruction shall be prepared in accordance with paragraph 5 of this Requirement and approved by a Level 3 holder qualified in the applicable method.
- 4.2 Normally, certification of inspections will be made by authorised persons who hold NDT Level 2 or Level 3 qualification. However, where an inspection task is determined by the Nominated Level 3 to have clearly defined acceptability and rejection criteria requiring no interpretation, then certification may be carried out by an authorised NDT Level 1, as detailed within the written practice.

- 4.3 Where a Level 3 is required to carry out and certify an NDT inspection he must either hold current Level 2 NDT qualification in the relevant method(s), or be able to provide evidence that he has successfully completed an appropriate Level 2 practical examination and has maintained continuity in the application of practical testing as defined in the referenced standards and detailed in the written practice before the issuance of an authorisation.

5 NDT Techniques and Instructions and their Approval

- 5.1 NDT techniques, procedures and instructions, published and specified by the Type Certificate holder in NDT Manuals, Service Bulletins, Approved Repair Drawings etc., constitute airworthiness data.
- 5.2 Where the continued airworthiness data published by the Type Certificate holder permits changes (e.g. selection of equipment model, probe type etc.) then such changes must be authorised in writing by a Level 3 qualified in the appropriate method.
- 5.3 Any other change to the Type Certificate holder's airworthiness data requires the written agreement of the Type Certificate holder responsible for the design of the product/structure before such a change is implemented.
- 5.4 NDT instructions prepared by a Level 2 holder shall be approved by a Level 3 holder qualified in the applicable method.
- 5.5 The procedure for the control of all NDT techniques, procedures and instructions, including their preparation and authorisation, shall be detailed in the Organisation's exposition or manual.

6 Sub-contractors to Part-145 Maintenance Organisations

A Part-145 Maintenance Organisation which utilises non-Part-145 approved sub-contractors where NDT processes are employed, shall detail within their written practice or procedures how the Organisation ensures that the training and approval of NDT personnel is controlled. See Part 145.A.75 (b) and the associated AMC and guidance material.

7 Other Means of Compliance

- 7.1 Personnel holding a current UK-issued Aircraft Maintenance Engineer's Licence may continue to undertake inspections by colour contrast dye penetrant technique in accordance with Airworthiness Notice No. 3, paragraph 1.7(a).
- 7.2 For Organisations outside the EU of which the CAA conducts the oversight on behalf of EASA the CAA may consider local national qualifications alternative to EN4179, provided that they are demonstrated to be equivalent, they have the approval of the local airworthiness regulating authority, and the CAA is satisfied that no degradation of airworthiness standards is likely to occur as a result of the acceptance of such alternative arrangements. Details of the qualification standard shall be made available for review by the CAA.

8 National Aerospace NDT Board

- 8.1 The UK NANDTB was established in October 2004. Full details of the UK NANDTB Policy can be found on the following web site: <http://www.bindt.org/Mk1Site/NANDTBhome.html>. Some of the responsibilities of the board are as follows:
- a) control and support the implementation of applicable standards covering qualification, certification and authorisation of NDT personnel,
 - b) formulate necessary qualification policy framework,
 - c) maintain an overview of the implementation of its policy and approve the methods and levels of any charges in connection thereof,
 - d) have the authority to set up working groups and committees, establish their terms of reference, and set out the procedures whereby they report to the Board,
 - e) advise industry and regulatory authorities on emerging new methods not listed in paragraph 1.3.
- 8.2 The Board will also provide a mechanism for maintaining an overview of EN4179 and PCN/AERO scheme aerospace qualification examinations.

9 Definitions

Aerospace Sector: A particular section of industry or technology where specialised NDT practices are used requiring specific aerospace product related knowledge, skill, equipment or training.

Authorisation (of NDT personnel): The authority of persons to act as certifying staff based on a written statement issued by a Nominated Level 3 attesting to the individual's competence as specified within the certificate.

Authorisation (of NDT procedures): The act of signifying approval of NDT procedures by a Nominated Level 3.

Certificate: Document issued under the rules of either of the certification systems defined in this requirement (BINDT PCN scheme or EN4179) indicating that adequate confidence is provided and that the named person is qualified to perform specified non-destructive testing.

National Aerospace NDT Board (NANDTB): An independent organisation representing a nation's aerospace industry chartered by the participating prime organisations and recognised by the national regulatory authorities to provide or support NDT qualification services and examinations in accordance with EN4179.

NDT Instruction: A written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure.

NDT Method: Discipline applying a physical principle in Non-Destructive Testing (e.g. ultrasonic method).

NDT Procedure: A written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test, following an established standard, code or specification.

NDT Technique: A specific way of utilising an NDT method (e.g. ultrasonic immersion technique).

Nominated Level 3: An NDT qualified Level 3 certificate holder responsible to the Accountable Manager for the technical supervision of NDT work undertaken by that Organisation.

Qualification: The proven ability of NDT personnel to meet the requirements of a given specification in terms of physical requirements, training, knowledge and experience necessary to perform the applicable NDT method.

Qualification Examination: An examination administered by an independent certifying body (e.g. PCN), or by a body authorised within the employer's EN4179 compliant written practice, which demonstrates the general, specific and practical knowledge of the candidate.

Type Certificate: For the purposes of this Generic Requirement, Type Certificate includes Type Certificates, Supplementary Type Certificates, European Parts Approval (EPA) Authorisations or European Technical Standard Orders (ETSO) Authorisations.

Appendix 1 to GR No. 23

(Previously Issued as Airworthiness Notice No. 94, Appendix 1, Issue 2, 2 April 2004.)

1 The Role of the Nominated Level 3

The Nominated Level 3 is responsible to the Accountable Manager for the technical supervision of NDT within the Organisation. Whether the Nominated Level 3 is an employee or contracted from outside, the Organisation needs to:

- a) Propose the Nominated Level 3 to the CAA by means of an EASA Form 4 and identify the Nominated Level 3 in the exposition or manual. As a nominated individual, the Nominated Level 3 must be provided with the necessary co-operation (access to facilities, company procedures, training records, audits and inspection reports etc.) to allow that person to carry out their function under the Approval.
- b) Identify the Terms of Reference (either within the exposition or manual) for the Nominated Level 3 to discharge their responsibilities. As a minimum, the Nominated Level 3 will:
 - i) Identify any additional NDT qualified Level 3 personnel necessary for coverage when the Nominated Level 3 is not qualified in all NDT methods used by the Organisation.
 - ii) Identify any additional Level 3 personnel necessary to provide adequate day-to-day coverage depending on the size/facilities of the Organisation.
 - iii) Approve the Organisation's NDT procedures and written practice for the Training and Qualification of NDT personnel as meeting this Generic Requirement No. 23 and EN4179 as appropriate.
 - iv) Review the Organisation's written practice on a regular basis to ensure that any changes in the regulations, applicable standards and the Organisation itself are reflected.
 - v) Ensure that NDT procedures are reviewed on a regular¹ basis.
 - vi) Ensure that regular¹ independent technical audits (both system and product) are carried out or supported by appropriately qualified personnel in order to ensure compliance with the organisation's written practices/procedures and this requirement and to ensure that the acceptable standard of inspection is achieved.

NOTE: These audits may form part of the approved maintenance organisation's internal quality assurance system.

2 The Management of Training and Qualification Schemes

- 2.1 Where an Organisation uses its internal expertise and resources to operate and maintain an EN4179-based scheme, then this remains acceptable under this Generic Requirement. However, as required by AMC.145.30 (f) (4) examinations should be conducted by personnel or organisations under the control of a National Aerospace NDT Board. Organisations are given a transition period until 28 September 2007 to seek acceptable accreditation of their internal written practice or qualification procedure to the UK NANDTB.

1. It is recommended that these activities take place on at least an annual basis. Review should also take place after significant amendment to applicable standards/specifications.

- 2.2 An organisation may also issue an NDT certification authorisation to personnel qualified in accordance with paragraph 1.4 of Generic Requirement No. 23 (BINDT PCN scheme) subject to the nominated Level 3 person determining and detailing in the organisation's written practice or qualification procedure whether any additional job specific training and/or examination is required covering the products to be tested and the NDT process and equipment used by the organisation.
- 2.3 Where an Organisation decides to employ an external agency to provide EN4179 qualification or other support, then that agency must be subject to audit under the contracting Organisation's quality system to ensure compliance with this requirement is demonstrated. Where an external agency is accredited under the BINDT Outside Agency Scheme, then the contracting Organisation may take due regard of this when planning audit activity. In these circumstances the training and qualification scheme is also required to be under the control of the NANDTB.
- 2.4 Where an Organisation does not possess the internal resource or technical competence to carry out such an audit, then personnel training and examinations will need to be carried out by a BINDT accredited Outside Agency.
- NOTE:** The above is only required for training and qualification examinations, not for Continuation/awareness and development training
- 2.5 NDT Personnel Certification does not relieve an Organisation of its responsibility to authorise staff to perform and certify work. Such Authorisations are to be granted in accordance with the Organisation's Quality Procedures and be subject to audit.
- 2.6 In all cases the Organisation's procedures for the training, examination and certification of NDT personnel should be subject to independent QA audit as required by Part-145.

3 EN4179 Developments - prEN4179:2003 P3 (February 2003)

- 3.1 The recent work to harmonise EN4179/AIA-NAS410 did not address all of the CAA concerns regarding the standard. Organisations revising their written practices to comply with the revised standard need to ensure that they remain in compliance with this Generic Requirement. The prEN4179 P3 paragraph references given below are to assist Organisations in identifying areas of interest to the CAA.

"1.1 There is a distinction between Certification of Personnel as a result of training/examination and Certification of Inspections as used in Part-66 and Part-145. Once Personnel Certification is in place, an Organisation must authorise a person in accordance with its procedures before that person can perform and certify NDT inspections."

"4.1 In order to comply with this requirement, written practices developed by sub-contractors must be approved by the controlling Approved Organisation."

"4.5.2 A "responsible" Level 3 that is contracted in must be independently certified to be acceptable to CAA as a Nominated Level 3 under this requirement."

"5.1 Requirements for Qualification.

The EN4179 requirements for the levels of qualification of NDT personnel do not satisfy the requirements of Generic Requirement No. 23, specifically:

Level 1 - EN4179 permits trainees to obtain work experience under the "guidance" of a Level 1. CAA accepts a Level 1 observing in order to record work experience, but guidance should be provided by a Level 2 or 3.

Level 1 - CAA requirements do not allow a Level 1 to interpret results. Only where there are clear accept/reject criteria requiring no interpretation may a Level 1 certify components.

Level 2 - The requirement for “basic knowledge of product manufacturing and inspection technology” does not satisfactorily address maintenance as an activity specific aerospace experience and sector scheme qualification is expected.”

GR No. 24 Light Aircraft Piston Engine Overhaul Periods

(Previously Issued as Airworthiness Notice No. 35, Issue 19, 21 March 2005.)

- 1** Article 14 of the Air Navigation Order 2005 (as amended) and Part M, Subpart C, M.A.302 require that aircraft registered in the United Kingdom, for which a certificate of airworthiness is in force, be maintained in accordance with a CAA approved maintenance schedule for non EASA aircraft or a maintenance programme for EASA aircraft respectively. The instructions for continuing airworthiness requirements relating to overhaul of light aircraft piston engines are normally defined as the engine manufacturers' recommended overhaul periods, where these have been promulgated under a system approved by the airworthiness authority responsible for the engine. CAA policy in respect of extensions to the recommended overhaul periods (operating time and calendar time) for piston engines used in light aircraft is set out in this Generic Requirement.

- NOTE:**
- a) 'Light aircraft piston engine' in this context means either:
 - i) a piston engine installed in an aircraft, the Maximum Take Off Weight of which does not exceed 2730 kg, or
 - ii) a piston engine of 400 hp (298 kW) or less.
 - b) For the purpose of this Generic Requirement 'engine' is as defined in the European Aviation Safety Agency's publication "CS-Definitions" and includes the components and equipment necessary for satisfactory functioning and control. The propeller and its associated equipment are excluded except for those components that are part of the engine type design.
 - c) For the purpose of this Generic Requirement, the definitions of 'Public Transport', 'Aerial Work' and 'Private flight' shall be those of the Air Navigation Order 2005 (as amended).

- 2** It is emphasised that the CAA has taken the decision to allow extension of recommended overhaul periods as defined in 3.1.1 and 3.1.2 on the basis of the effect on airworthiness only. The economics of operation is not the responsibility of the CAA, although this may have been considered by the manufacturer in establishing the recommended overhaul periods. Aircraft Owners/Operators must make their own decisions on these other aspects. Unless satisfied that the engine remains in an airworthy condition, the Owner/Operator should have the engine overhauled.

- 3** Continuation in service shall be subject to compliance with paragraph 3.1, as qualified by paragraphs 3.1.1 to 3.1.2, as appropriate.

- 3.1** Unless otherwise stated, engines may be operated to the overhaul periods which have been recommended by the manufacturer and promulgated under a system approved by the airworthiness authority responsible for the engine. All such recommendations, whether stated in terms of operating time or calendar time, constitute a recommended overhaul period for the purposes of this Generic Requirement, including recommendations by the manufacturer for reduced overhaul periods with particular types of operation or particular service bulletin/modification configurations.

- 3.1.1** Under the provisions of this Generic Requirement, engines that have reached the operating time or calendar time limitation of a recommended overhaul period may

continue in service for a further period of operation not exceeding 20% of the recommended operating time or calendar time, whichever occurs first, subject to compliance with a), b), c), d) and e).

- a) Compliance being shown with the appropriate limitations specified in Appendix No. 1 paragraph 5, to this Generic Requirement.
- b) Compliance being shown with any applicable Airworthiness Directive which requires compliance at engine overhaul, unless otherwise agreed by CAA.
- c) The engine must have been installed and operated in a UK-registered aircraft, or in an aircraft whilst previously registered in another Member State for a period of 200 hours immediately prior to completion of the engine manufacturer's recommended overhaul period.
- d) For engines on aircraft transferring to the UK from operation on another Member State's register, where an engine manufacturer's recommended overhaul limit has already been exceeded, shall be subject to further assessment to determine GR 24 eligibility. Under such circumstances, engines will only qualify under this requirement where it can be demonstrated that the previous continued in service operation was in accordance with maintenance programme instructions issued by the Competent Authority of the exporting Member State.
- e) The engine being inspected in accordance with paragraph 4 in order to assess its condition immediately prior to the increase, and subsequently at 100 hour or yearly intervals, whichever occurs first.
- f) The data obtained during the inspections of paragraph 4 being entered in the engine log book.

3.1.2 Engines that have complied with paragraphs 3.1 and 3.1.1, and have completed 120% of the recommended operating time or calendar time, whichever occurs first, may continue in service indefinitely, subject to compliance with a), b), c) and d).

- a) The engine being installed in an aircraft which is not used for the purposes of Public Transport or Aerial Work.
- b) Compliance being shown with the appropriate limitations specified in Appendix No.1 paragraph 5, to this Generic Requirement.
- c) The engine being inspected in accordance with paragraph 4 in order to assess its condition before exceeding 120% of the recommended operating time or calendar time, whichever occurs first, and subsequently being inspected and re-assessed at 100 hour or yearly intervals, whichever occurs first.
- d) The data obtained during the inspections of paragraph 4 being entered in the engine log book. A log book entry should also be made to restrict engine usage during this extension period to flying for the purposes of Private Flight only.

3.2 In the event that the inspection referred to in paragraphs 3.1.1 and 3.1.2 results in rejection, a thorough engineering investigation must be carried out to establish the maintenance actions required to return the engine to an airworthy condition.

4 The inspections referred to in paragraphs 3.1.1 and 3.1.2 to assess the condition of engines shall be in accordance with Appendix No. 3 and shall be carried out by persons or Organisations as follows:

- a) Engines installed in aircraft that are used for the purposes of Public Transport or Aerial Work by an EU-OPS, JAR-OPS or CAP 360 Operator under an Air Operators Certificate, shall, in order to comply with paragraph 3.1.1, be inspected by a Part-145 Maintenance Organisation appropriately approved for the purpose.

b) All other engines, in order to comply with paragraph 3.1.1 and 3.1.2, shall be inspected by an appropriately licensed aircraft maintenance engineer or an Organisation specifically approved for the purpose.

5 In no case shall any mandatory restrictions be exceeded, and the compliance with mandatory bulletins/modifications/inspections shall be completed at the specified times.

6 In the case of engines not incorporating all the service bulletins/modifications or parts that would enable it to qualify for any manufacturer's recommended overhaul period as defined in paragraph 3.1 of this Generic Requirement, or in the case of engine types not included in the manufacturers' bulletins, a specific statement of acceptability in writing must be sought from the engine manufacturer, and if this is not obtainable, an application must be made to the CAA. The CAA need not be consulted in a case where the only question is that an engine manufacturer's documents restrict recommended overhaul periods to engines embodying only parts specified by the engine manufacturer. The CAA will not require such restrictions to be applied provided that all parts are acceptable under Leaflet 1-12 of CAAIP (CAP 562) for non-EASA aircraft or in accordance with Part M Subpart E for EASA aircraft, and there has been no adverse experience relating to the use of such parts.

7 For clarity, the requirements of paragraph 3 are presented in tabular form in Appendix No. 2.

Appendix 1 to GR No. 24

(Previously Issued as Airworthiness Notice No. 35, Appendix 1, Issue 9, 21 March 2005.)

- 1** The concept of allowing engines to run beyond the manufacturer's recommended overhaul period depends upon it being possible to assess the condition of the engine by prescribed inspections carried out at defined intervals. It is not intended to provide a freedom to run until the engine fails.
- 2** Although it is possible to identify engine degradation in many areas of the engine, there are some potential failure modes (e.g. crankshaft cracking, counterweight wear) for which predictive checks would not be effective without engine disassembly.
- 3** For the above reasons, the overhaul period extensions defined in 3.1.1 and 3.1.2 of this Generic Requirement may not be applied unless adequate in service reliability has been demonstrated, particularly in relation to failures which cannot be prevented by on-wing inspection. Those engine types that are not eligible to make use of the provisions of this Generic Requirement are detailed in paragraph 5.
- 4** The CAA has sought the advice of the manufacturers of the majority of the piston engines currently used in light aircraft to try to identify those engine components which service experience has shown to have running time limits beyond which it would not be reasonable to operate, (i.e. components the failure of which are not susceptible to prior detection but which would result in either an unacceptably high failure rate or a hazardous failure). Any limits identified are reflected in paragraph 5 below.

5 Limitations

The provisions of this Generic Requirement are applicable to all light aircraft piston engines except where listed below:

- 5.1** Rolls-Royce (de Havilland) Gipsy Major Engines - Prior to running beyond 120% of the manufacturer's recommended overhaul period, engines other than Major 10 and earlier marks incorporating Modification 2385 (splined propeller attachment) must have the taper portion of the crankshaft "Sulfinuz" treated by Modification 2690 or appropriate alternative. In accordance with Rolls-Royce Technical News Sheet G15, engines must not exceed an overhaul period of 1000 hours unless Modification 2495 is embodied.
- 5.2** Rolls-Royce (de Havilland) Gipsy Engines – With effect from 1 January 2011, crankshafts fitted to engines on aircraft used for the purposes of Public Transport or Aerial Work must be fully inspected in accordance with the relevant overhaul manual workshop instructions at intervals not exceeding 20 years, if operating hours limits requiring overhaul are not achieved within this period.
- 5.3** The following engine types have yet to accumulate sufficient service experience to demonstrate acceptable reliability when operating at the manufacturer's recommended overhaul period. The provisions of this Generic Requirement are not applicable to:
 - a) Societe de Motorisations Aeronautique – All types
 - b) Rotax – All types
 - c) Thielert Centurion Engines – All types
 - d) Mid-West Engines – All types

Appendix 2 to GR No. 24

(Previously Issued as Airworthiness Notice No. 35, Appendix 2, Issue 7, 21 March 2005.)

Light Aircraft Piston Engine Overhaul Periods

	Aircraft used for the purposes of Public Transport or Aerial Work	Aircraft not used for the purposes of Public Transport or Aerial Work (i.e. used for Private flight only)
Within Recommended Overhaul Period	Manufacturer's recommended overhaul period, defined in operating time and calendar time (if applicable), provided the engine conforms to appropriate service bulletin/modification configuration and types of operation. (Otherwise see paragraph 6 of this Generic Requirement)	
Extensions not exceeding 20% of Recommended Overhaul Period (operating time and calendar time)	<p>Acceptable subject to:</p> <p>Compliance with Appendix 1 paragraph 5 to this Generic Requirement.</p> <p>Compliance with all applicable Airworthiness Directives required to be incorporated at engine overhaul.</p> <p>Inspections in accordance with paragraph 4 of this Generic Requirement at completion of recommended overhaul period (operating time or calendar time) and then at 100 hour or yearly intervals, whichever occurs first.</p> <p>The engine must have been installed and operated in a UK or EU Member State registered aircraft for a period of 200 hours prior to completion of the engine manufacturer's recommended overhaul period. (In some circumstances, aircraft imported from outside the EU which have not exceeded the manufacturer's recommended overhaul period but which have less than 200 hours remaining could be considered for extension with suitable technical justification to the CAA).</p>	
Extensions in excess of 20% of Recommended Overhaul Period	No further extension (In exceptional circumstances, CAA may consider applications for extension for a limited period to address an urgent operational need).	Engines may continue in service indefinitely subject to: a) Compliance with Appendix 1 to this Generic Requirement. b) Further inspection in accordance with paragraph 4 of this Generic Requirement at 120% and then at 100 hour or yearly intervals, whichever occurs first.

NOTE: This Table is intended for easy reference only; for detail the main text of this Generic Requirement applies.

Appendix 3 to GR No. 24

(Previously Issued as Airworthiness Notice No. 35, Appendix 3, Issue 1, 21 March 2005.)

Light Aircraft Piston Engine Maintenance Requirements For Operation Beyond Manufacturers' Recommended Overhaul Periods

- 1 This appendix gives guidance on the procedures which are necessary for a light aircraft piston engine to be accepted as being in a condition that will allow operation beyond the recommended overhaul period under the terms of this Generic Requirement.
- 2 A piston engine that has reached the end of its normal overhaul period may be expected to have suffered some wear to cylinders, pistons, valves, bearings and other moving parts, but an engine that has been carefully operated and maintained may still be in a condition suitable for a further period of service.
 - 2.1 Many factors affect the wear that takes place in an engine, The most important of these include: the efficiency of the air intake filter, the techniques used in engine handling, particularly during starting, the quality of the fuel and oil used in the engine and the conditions under which the aircraft is housed when not in use. Conditions of operation are also relevant; the length of flights, the atmospheric conditions during flight and on the ground, and the type of flying undertaken. Many of these factors are outside the province of the maintenance engineer, but meticulous compliance with the approved Maintenance Schedule and any instructions provided in the form of service bulletins or constructor's recommendations will undoubtedly help to prolong the life of an engine.
 - 2.2 The inspections and tests that may be necessary to assess the condition of an engine in compliance with this Generic Requirement are detailed in the following paragraphs.

3 Inspection and Maintenance

A number of items included in the normal scheduled maintenance of an engine may be repeated to determine the condition of an engine at the end of its normal overhaul period, and additional inspections may also be specified.

- 3.1 **External Condition.** The engine should be examined externally for obvious defects such as a cracked crankcase, excessive play in the propeller shaft, overheating and corrosion, which would make it unacceptable for further use.
- 3.2 **Internal Condition.** Significant information concerning the internal condition of an engine may be obtained from an examination of the oil filters and magnetic plugs, for metal particle contamination. These checks may be sufficient to show that serious wear or breakdown has taken place and that the engine is unacceptable for further service.
- 3.3 **Oil Consumption.** Since the oil consumption of an engine may have increased towards the end of its normal overhaul period, an accurate check of the consumption over the last 10 flying hours would show whether it is likely to exceed the maximum recommended by the constructor, if the overhaul period were to be extended.
- 3.4 **Compression Check.** Piston ring or cylinder wear, or poor valve sealing could, in addition to increasing oil consumption, result in a significant loss of power. A cylinder compression check is a method of determining, without major disassembly, the standard of sealing provided by the valves and piston rings. This should be carried out in accordance with the manufacturer's recommendations. In the absence of any

published recommendations for a particular engine type, one of the methods of 3.4.1 to 3.4.3 should be used.

- 3.4.1 On engines with a small number of cylinders, a simple compression check may be carried out by rotating the engine by hand and noting the resistance to rotational as each cylinder passes through its compression stroke. The check should normally be made shortly after running the engine while a film of oil remains on the rubbing surfaces, to assist sealing and prevent scoring the working parts. If this is not possible, the constructor may recommend that oil is introduced into each cylinder and the engine turned through a number of revolutions before making the test.

This method may be used to determine serious loss of compression on a single cylinder or the difference between the compressions of individual cylinders, but may not accurately show a similar partial loss of compression on all the cylinders of an engine.

An alternative method, which will give a more accurate result, is to fit a pressure gauge (reading up to 1400 kPa (200 lbf/in²)) in place of one sparking plug in each cylinder in turn and note the reading as the piston passes through top dead centre (TDC) on the compression stroke.

- 3.4.2 Another method of carrying out a direct compression test is by the use of a proprietary type of compression tester equipped with a means of recording cylinder pressure on a graph card. One set of plugs should be removed immediately after an engine run, and the compression tester fitted to each cylinder in turn while rotating the engine by means of the starter motor. The effectiveness of combustion charge sealing can be judged by assessment of the graph records obtained.

- 3.4.3 A further method of checking engine compression is the differential pressure test. In this test a regulated air supply (normally 560kPa (80 lbf/in²)) is applied to each cylinder in turn and a pressure gauge used to record the actual air pressure in the cylinder. Since some leakage will normally occur, cylinder pressure will usually be less than supply pressure and the difference will be an indication of the condition of the piston rings and valves. By listening for escaping air at the carburettor intake, exhaust and crankcase breather, a defective component may be located. As with the previous tests, it is usually recommended that the differential pressure test is carried out as soon as possible after running the engine.

4 Power Output of Aeroplane Engines

The power developed by an aeroplane engine after initial installation is established in the form of a reference engine speed, which is recorded in the appropriate log book so that a comparison can be made during subsequent power checks. The reference engine speed is the observed engine speed obtained using specified power settings and conditions, corrected, by means of graphs supplied by the engine constructor (or those contained in Civil Aircraft Airworthiness Information and Procedures - CAP 562 Leaflet 7-5 Piston Engine Overhaul – Correcting Engine Test Results), to the figure which would be obtained at standard sea-level atmospheric temperature and pressure; changes in humidity do not produce large changes of power and are ignored for the purpose of establishing a reference engine speed or subsequently checking engine power. Power checks should be corrected in the same way.

- 4.1 **Power Checks.** The majority of light aeroplane piston engines are air-cooled and rely on an adequate flow of air for proper cooling of the cylinders. This condition can only be obtained during flight, and ground runs should, therefore, be as brief as possible. Cooling can be assisted by facing the aircraft into wind, but high wind conditions must be avoided when making power checks, as they will significantly affect the results obtained. Before running the engine at high power the normal operating

temperatures should be obtained (not the minimum temperatures specified for operation) and during the test careful watch should be kept on oil and cylinder temperatures to prevent the appropriate limitations being exceeded.

- 4.1.1 Normally-aspirated engines are tested at full throttle and, where a controllable-pitch propeller is fitted, with fully fine pitch selected. The changes in barometric pressure affecting engine power are considered to be balanced by changes in propeller load, so that only a temperature correction is necessary. This correction factor may be obtained from a graph supplied by the engine constructor or, if this is not available, from the graph shown in Civil Aircraft Airworthiness Information and Procedures (CAP 562) Leaflet 7-5 Piston Engine Overhaul – Correcting Engine Test Results (Figure 1). The observed full throttle speed multiplied by the correction factor will give the corrected speed.
- 4.1.2 Although normally-aspirated engines are often fitted with variable-pitch propellers, the engine speed obtained at full throttle is usually less than the governed speed and the propeller remains in fully fine pitch. With supercharged engines, however, the propeller is usually governed to a constant speed at high power settings and small changes in power will not affect engine speed. The power of a supercharged engine is, therefore, checked by establishing a reference speed at prescribed power settings.
- a) Since a supercharged engine is run at a specified manifold pressure regardless of the atmospheric pressure, corrections must be made for both temperature and pressure variations from the standard atmosphere.
 - b) The procedure is to run the engine until normal operating temperatures are obtained, open up to maximum take-off manifold pressure, decrease power until a fall in engine speed occurs (denoting that the propeller blades are on their fine pitch stops), then throttle back to the manifold pressure prescribed by the constructor and observe the engine speed obtained.
 - c) The correction factor to be applied to the observed engine speed of a supercharged engine may be obtained from graphs supplied by the engine constructor.
- 4.1.3 Although the engine speed obtained during a check of engine power is corrected as necessary for atmospheric temperature and pressure, no correction is made for humidity, ambient wind conditions or instrument errors and, consequently, the corrected engine speed is seldom exactly equal to the reference speed even if engine condition is unchanged. However engine power may usually be considered satisfactory if the corrected speed obtained during a power check is within 3% of the reference speed.
- 4.1.4 If it is not possible to assess power deterioration by means of a power check (e.g. due to fitting a different propeller), a rate-of-climb flight test should be carried out.

5 Power Output of Helicopter Engines

The power developed by the engine of a single-engined helicopter is considered to be adequately checked during normal operations; any loss of power should be readily apparent. It is thus not considered necessary to check the power output of a helicopter engine separately specifically for the purpose of complying with this Generic Requirement.

6 Power Loss

If the power check (paragraph 4) or normal engine operation reveal an unacceptable loss of power or rough running, it may be possible to rectify this by carrying out certain

normal servicing operations or by replacement of components or equipment. The replacement of sparking plugs, resetting of tappets or magneto contact breaker points, or other adjustments to the ignition or carburetion systems, are all operations that may result in smoother running and improve engine power.

7 Servicing

If the engine proves to be suitable for further service, a number of servicing operations will normally be due, in accordance with the approved Maintenance Schedule. Unless carried out previously (paragraph 6) these operations should be completed before the engine is returned to service.

8 Log Book Entries

A record of the checks made, and any rectification or servicing work, must be entered and certified in the engine log book before the engine is cleared to service for its recommended or extended life under the provision of this Generic Requirement. The log book entry made should also specify any restriction on further use (see paragraph 3.1.2 of this Generic Requirement).

9 Maintenance Schedule and Programme Amendments

The aircraft maintenance schedule/programme should reflect the maintenance requirements required and their periodicity, to operate the aircraft engine beyond its recommended overhaul period as detailed in this Generic Requirement.

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Appendix 2 Requirements Removed from Section 2

Airworthiness Directives removed from Section 2, Part 3A

The requirements removed from Section 2, Part 3A are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each AD was superseded or cancelled.

AIRCRAFT

AD Number	Type/Model	Superseded by / Cancelled and date
2005-0028	Apex Aircraft: HR100 and HR200 Series and R1000 and R2000 Series	See Note 1 February 2006
2005-0027	Apex Aircraft: All Robin DR Series	See Note 1 February 2006
G-2004-0007	BAe 146 and Avro 146-RJ	G-2004-0031 January 2005
2006-0061	BAe 146 and Avro 146-RJ	2006-0061 Cor. March 2006
G-2005-0015	BAe 146 and Avro 146-RJ	2007-0271 October 2007
G-2007-0270	BAe 146 and Avro 146-RJ	2007-0270 R1 November 2007
2006-0091	BAe 146 and Avro 146-RJ	2007-0304 January 2008
G-2005-0019	BAe 146 and Avro 146-RJ	2008-0092 May 2008
2008-0092	BAe 146 and Avro 146-RJ	2008-0092 R1 May 2008
2007-0271	BAe 146 and Avro 146-RJ	2008-0132 July 2008
2008-0132	BAe 146 and Avro 146-RJ	2009-0020 February 2009
G-2005-0002	BAe 146 and Avro 146-RJ	2009-0070 April 2009
2009-0043	BAe 146 and Avro 146-RJ	2009-0197 September 2009
G-2004-0020	BAe ATP	G-2005-0031 October 2005
G-2005-0031	BAe ATP	2007-0251 September 2007
2007-0251	BAe ATP	2008-0141 August 2008
2008-0141	BAe ATP	2009-0053 March 2009

AIRCRAFT (Continued)

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0090	BAe ATP	2009-0074 April 2009
G-2004-0029	BAe HP137 Jetstream Mark 1, Scottish Aviation Jetstream Series 200 and British Aerospace Regional Aircraft Jetstream Series 3100 and 3200	2009-0135 June 2009
G-2005-0011	BAe HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200	2006-0087 April 2006
G-2005-0010	BAe HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200	2006-0343 November 2006
2009-0121	BAe HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200	2009-0181 August 2009
G-2004-0024	BAe Jetstream Series 3200	2007-0024 March 2007
G-2004-0023	BAe Jetstream 4100	G-2005-0005 February 2005
G-2005-0005	BAe Jetstream 4100	2006-0088 April 2006
G-2004-0003	BAe Jetstream 4100	2006-0131 May 2006
2006-0088	BAe Jetstream 4100	2008-0094 May 2008
2007-0268	BAe Jetstream 4100	2009-0038 March 2009
2008-0094	BAe Jetstream 4100	2009-0052 March 2009
G-2004-0014	Britten-Norman BN2/2A/2B/2T/2T-4R/2T-4S Islander	G-2004-0014 R1 August 2005
G-2005-0034	Britten-Norman: BN2, BN2A, BN2B, BN2T, BN2T-4R, and BN2T-4S Islander Series; BN2A-MkIII Trislander Series	2006-0143 June 2006
2005-0033	Dassault Falcon 2000 & 2000EX	2006-0003 January 2006
2006-0003	Dassault Falcon 2000 & 2000EX	See Note 1 February 2006
G-2005-0025	De Havilland DH60, DH82, DH82A, DH83, DH85, DH87A, DH87B	Moved to Section 3, Part 2 October 2005
G-2003-0002	Enstrom 480/480B	Moved to Section 2, Part 4 October 2004
2005-0030	Jodel Series	See Note 1 February 2006
2006-0011	PZL M26 'Iskierka'	See Note 1 February 2006
2006-0190	Short Brothers SC7 Skyvan Series 3, 3A and 3M	2007-0013 January 2007

AIRCRAFT (Continued)

AD Number	Type/Model	Superseded by / Cancelled and date
G-2004-0021R1	Short Brothers SD3-30, SD3-60, SD3-Sherpa and SD3-60 Sherpa	2006-0198 July 2006
G-2004-0032	Short Brothers SD3-60	G-2005-0013 June 2005
G-2005-0021	Short Brothers SD3-60	G-2006-0001 January 2006
G-2004-0005	Short Brothers SD3-60	G-2004-0005 Cor. January 2007
G-2005-0013	Short Brothers SD3-60	2007-0107 April 2007
2007-0132	Slingsby T67 Series	2009-0013 February 2009

ENGINES

AD Number	Type/Model	Superseded by / Cancelled and date
2005-0023 R2	Lycoming Piston Engines: All Engines	2005-0023 R3 June 2006
G-2003-0006	Rolls-Royce RB211-22B	G-2003-0006 Cor. January 2005
2007-0310	Rolls-Royce RB211-22B and -524	2007-0310 R1 31 January 2008
G-2006-0002	Rolls Royce RB211-524	G-2006-0002 Cor. February 2006
2009-0089	Rolls Royce RB211-524	2009-0089 Cor. April 2009
G-2005-0028	Rolls-Royce RB211-524, -535E4, -535C	G-2005-0028 R1 October 2005
2009-0073	Rolls-Royce RB211-524, Trent 500, 700, 800	2009-0073 R1 April 2009
2008-0045	Rolls-Royce RB211-535E4	2008-0045 CN July 2009
G-2005-0007	Rolls-Royce RB211 Trent 500	G-2005-0007 R1 July 2005
G-2005-0007 R1	Rolls-Royce RB211 Trent 500	G-2005-0007 R1 Cor. January 2006
G-2005-0029	Rolls-Royce RB211 Trent 500	G-2005-0029 Cor. October 2005
2007-0046	Rolls-Royce RB211 Trent 500	2008-0042 March 2008
2008-0109	Rolls-Royce RB211 Trent 500	2008-0109 R1 June 2008
G-2005-0029	Rolls-Royce RB211 Trent 500	2009-0103 May 2009
2007-0196 Cor.	Rolls-Royce RB211 Trent 700	2007-0196 R1 October 2007
2007-0196 R1	Rolls-Royce RB211 Trent 700	Cancelled January 2009
2007-0136	Rolls-Royce RB211 Trent 700	2007-0136 R1 April 2009
2007-0267-E	Rolls-Royce RB211 Trent 700	Cancelled August 2009
G-2005-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2005-0016 R1 October 2005
G-2005-0016 R1	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2005-0024 October 2005
G-2004-0010	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2007-0206 August 2007
G-2004-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2006-0355 December 2006
2005-0024	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2007-0255 September 2007

ENGINES (Continued)

AD Number	Type/Model	Superseded by / Cancelled and date
2007-0255	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2009-0069 April 2009
2006-0073	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60, 772C-60	2006-0073 R1 November 2006
2006-0355	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60, 772C-60	2007-0201 August 2007
2006-0073 R1	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60, 772C-60	2007-0260 October 2007
2007-0260	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60, 772C-60	2007-0260 R1 April 2009
2006-0238 R1	Rolls-Royce RB211 Trent 800	2006-0238 R2 October 2006
2006-0238 R2	Rolls-Royce RB211 Trent 800	2007-0003 January 2007
2006-0239 R1	Rolls-Royce RB211 Trent 800	2006-0239 R2 October 2006
2006-0239 R2	Rolls-Royce RB211 Trent 800	2007-0004 January 2007
2008-0099	Rolls-Royce RB211 Trent 800	2008-0099 Cor. June 2008
2007-0003	Rolls-Royce RB211 Trent 800	2007-0003 R1 January 2009
2007-0003 R1	Rolls-Royce RB211 Trent 800	2007-0003 R1 Cor. February 2009
2009-0071	Rolls-Royce RB211 Trent 800	2009-0071 Cor. April 2009
G-2004-0015	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	G-2004-0030 January 2005
2006-0238	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	2006-0238 R1 September 2006
2006-0239	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	2006-0239 R1 September 2006
G-2004-0009	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	2009-0071 April 2009
2008-0202	Rolls-Royce RB211 Trent 900	2009-0051 March 2009
2008-0025	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 Turbo-shaft engines	2008-0025 R1 July 2009
2008-0115	Rolls-Royce Turbomeca Ltd: RTM 322-01/9 and RTM 322-01/9A Turbo-shaft engines	2008-0115 R1 December 2008
2005-0029	SMA SR305-230 engine	See Note 1 February 2006

Note 1: Removed from CAP 747 because it is not a UK product. The AD is not cancelled.

PROPELLERS

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0104	Hamilton Sundstrand: 14RF-9 Propeller	2006-0104 R1 FAA AD 2006-10-07 June 2006
G-2005-0027	Dowty R334/4-82-F/13	2009-0147 July 2009
2007-0223	Dowty R408 Series	2007-0223 R1 October 2007
2007-0223 R1	Dowty R408 Series	2007-0223 R2 November 2007
G-2008-0003	Dowty R408/6-123-F/17	Moved to Sect 5, Part 2 February 2008

EQUIPMENT

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0350	Aviointeriors S.p.A Passenger Seats 12M()-() () () () ()	2008-0135 July 2008
2006-0274	Carling Technologies Rocker-type Switches, Part Number (P/N) TA 201TBW	2006-0375 December 2006
2008-0158	Funkwerk Avionics GmbH: TRT600 and TRT800 Transponders	2008-0158 R1 October 2008
2008-0158 R1	Funkwerk Avionics GmbH: TRT600, TRT800A and TRT800H Transponders	2008-0158 R2 November 2008
2005-0021	Honeywell International Inc: RCZ-83 and RCZ-85() communication Units	2007-0156 June 2007
2006-0286 Cor.	Intertechnique, Zodiac Aircraft Systems: Oxygen Reserve Cylinders	2006-0286 R1 March 2007
G-2003-0010	Lindstrand Balloons Ltd: Fuel Hoses	G-2008-0001 January 2008
2006-0140	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R1 September 2008
2006-0140 R1	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R2 October 2008
2006-0140 R2	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R3 March 2009
2006-0140 R3	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R4 April 2009
2006-0279	Parachute Shop: Parachute Harnesses and Reserve Canopies	Cancelled November 2007
2008-0080	Sicma Aero Seat: Model 940() Series Passenger Seats	2008-0097 June 2008
2006-0334	Thales Communications: VHF Data Radio, Part Numbers (P/N) EVR716-11-0300A, EVR716-11- 0350A, EVR716-01-0100A, EVR716-01-0200A, EVR750-03-0100A	2006-0334 R1 March 2009

Airworthiness Directives removed from Section 2, Part 3B

The requirements removed from Section 2, Part 3B are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each AD was superseded or cancelled.

AIRCRAFT

AD Number	Type/Model	Superseded by / Cancelled and date
2005-0036	American General Aircraft Corp./Gulfstream (Tiger Aircraft LLC) AA-1 and AA-5	2005-0036 R1 June 2008
2005-0026	Boeing 747-400/-400D/-400F, 757-200/-200CB/-200PF, 767-200/-300/-300F	2005-0026 R1 December 2005
2005-0026 R1	Boeing 747-400/-400D/-400F, 757-200/-200CB/-200PF, 767-200/-300/-300F	2009-0101 May 2009
2005-0022	Boeing 757-200/-200PF/-200CB, 767-200/-300/-300F	2005-0026 November 2005
2007-0252	Bombardier Inc. DHC-8-400 Series	2007-0272 October 2007
2004-0002	Colonial C-2; Lake LA-4, LA-4A, LA-4P, LA-4-200	2005-0017 June 2005
2005-0017	Colonial C-2; Lake LA-4, LA-4A, LA-4P, LA-4-200	Cancelled July 2005
2005-0020	Dassault Falcon 10	Cancelled October 2005
2005-0014	LAK-17A	Cancelled October 2005
2005-0013	LAK-19	Cancelled October 2005
2005-0015	LAK-19	Cancelled October 2005
2005-0032	Piper PA-28 and PA-32	2005-0032 Cor. January 2006
2006-0171	Schweizer (Hughes) 269 Series	2006-0171 R1 September 2006
2005-0016 R1	Swift S-1	Cancelled October 2005
2004-0003	SZD-50-3 Puchacz	Cancelled October 2005

ENGINES

AD Number	Type/Model	Superseded by / Cancelled and date
2004-0007	General Electric GE CF6-50C Engines	FAA AD 2007-11-18 July 2007
2005-0012	IAE V2500-A1 and V2500-A5 Series Engines	2005-0012 R1 August 2005
2005-0023	Lycoming Piston Engines: All Engines	2005-0023 R1 January 2006
2005-0023 R1	Lycoming Piston Engines: All Engines	2005-0023 R2 March 2006
2004-0008	PWJT8D Engines	2004-0008 R1 February 2005
2004-0009	Rolls-Royce Model 250 Series Engines	2004-0009 R1 February 2005
2004-0009 R1	Rolls-Royce Model 250 Series Engines	2004-0009 R2 December 2005
2004-0006	Teledyne Continental Motors GTSIO-520 Piston Engines	2004-0006 R1 May 2005
2004-0006 R1	Teledyne Continental Motors GTSIO-520 Piston Engines	Cancelled November 2005

PROPELLERS

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0092	Hartzell Propeller Inc. () HC - () 2Y () - ()	2006-0092 Cor. September 2006
2006-0092 Cor.	Hartzell Propeller Inc. () HC - () 2Y () - ()	FAA AD 2006-18-15 January 2007

EQUIPMENT

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0350	Aviointeriors S.p.A Passenger Seats 12M() () () () () ()	2008-0135 July 2008
2006-0274	Carling Technologies Rocker-type Switches, Part Number (P/N) TA 201TBW	2006-0375 December 2006
2008-0158	Funkwerk Avionics GmbH: TRT600 and TRT800 Transponders	2008-0158 R1 October 2008
2008-0158 R1	Funkwerk Avionics GmbH: TRT600, TRT 800A and TRT800H Transponders	2008-0158 R2 November 2008
2005-0021	Honeywell International Inc: RCZ-83 and RCZ-85() communication Units	2007-0156 June 2007

EQUIPMENT (Continued)

AD Number	Type/Model	Superseded by / Cancelled and date
2006-0286 Cor.	Intertechnique, Zodiac Aircraft Systems: Oxygen Reserve Cylinders	2006-0286 R1 March 2007
2006-0140	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of the directive	2006-0140 R1 September 2008
2006-0140 R1	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R2 October 2008
2006-0140 R2	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R3 March 2009
2006-0140 R3	Lufthansa Technik AG; SR Technics; Jet Aviation Basel, AG; CTT Systems AB: CTT Systems AB Zonal Drying System, Part Numbers (P/N) as listed in the Applicability of this directive	2006-0140 R4 April 2009
2006-0279	Parachute Shop: Parachute Harnesses and Reserve Canopies	Cancelled November 2007
2008-0080	Sigma Aero Seat: Model 940() Series Passenger Seats	2008-0097 June 2008
2006-0334	Thales Communications: VHF Data Radio, Part Numbers (P/N) EVR716-11-0300A, EVR716-11-0350A, EVR716-01-0100A, EVR716-01-0200A, EVR750-03-0100A	2006-0334 R1 March 2009

Mandatory Requirements and Additional Airworthiness Directives removed from Section 2, Part 4

The requirements removed from Section 2, Part 4 are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each AAD was superseded or cancelled.

AIRCRAFT

AAD Number	Type/Model	Superseded/Cancelled by and date
27-04-83	Agusta A109	Cancelled October 2005
002-01-97 Rev 1	Agusta Bell 206	Cancelled October 2005
001-02-96 Rev 1	Agusta Bell 206	Cancelled October 2005
026-04-83	Agusta Bell 206	Cancelled October 2005
008-05-85	Agusta Bell 47	Cancelled October 2005
001-10-97 Rev 2	Apex Aircraft Robin R2000	Cancelled June 2007
001-10-97 Rev 1	Apex (Avions Pierre Robin)	001-10-97 Rev 2 May 2005
002-02-87 Rev 2	Apex (Avions Pierre Robin)	002-02-87 Rev 3 May 2005
002-02-87 Rev 3	Apex (Avions Pierre Robin)	2005-0028 December 2005
028-06-83 Rev 1	Apex (Avions Pierre Robin)	2005-0027 December 2005
001-01-85	Ayres S2R Series	Cancelled June 2007
006-11-79	Beech 60	Cancelled June 2007
007-11-79 Rev 3	Beech 200 Series	Cancelled June 2007
085-11-78 Rev 1	Beech Series	Cancelled June 2007
002-01-97 Rev 1	Bell 206	Cancelled October 2005
001-02-96 Rev 1	Bell 206	Cancelled October 2005
0937 PRE 78	Bell 206	Cancelled October 2005

AIRCRAFT (Continued)

002-08-2000	Bell 212	Cancelled October 2005
003-07-87	Bell 212	2006-0173 June 2006
023-04-83	Bell 222	Cancelled October 2005
017-06-80	Boeing 747 Series	Cancelled June 2007
011-12-82	Bolkow (Daimler Chrysler) 209	Cancelled October 2005
012-12-82	Bombardier (De Havilland Canada) DHC-6 Twin Otter	Cancelled June 2007
001-11-81	Bombardier (De Havilland Canada) DHC-7	Cancelled June 2007
0467 PRE 78	Brantly (Hynes) Series	2006-0170 June 2006
002-04-2002	Cessna	002-04-2002 R1 February 2005
042-09-89 Rev 1	Cessna 300/400 Series	Cancelled June 2007
012-08-78 Rev 3	Cessna 300/400 Series	Cancelled June 2007
003-11-79	Cessna 404	Cancelled June 2007
004-11-79 Rev 1	Cessna 414A	Cancelled June 2007
002-04-2002 R1	Cessna 421C	Cancelled June 2007
005-11-79 Rev 1	Cessna 421C	Cancelled June 2007
004-09-90	Cessna 425	Cancelled June 2007
002-02-2002	Cessna 425 and 441	Cancelled June 2007
002-06-93 Rev 1	Christen Industries (Pitts) S-1 and S-2 Series Aircraft	2005-0031 December 2005
011-01-83	Dassault Falcon	Cancelled October 2005
001-08-97 Rev1	Embraer Bandeirante EMB-110 Series	2007-0123 May 2007
008-11-79 Rev 5	Embraer Bandeirante EMB-110 Series	Cancelled June 2007
010-02-81 Rev 3	Embraer Bandeirante EMB-110 Series	Cancelled June 2007

AIRCRAFT (Continued)

002-03-85 Rev 1	Enstrom	Cancelled October 2005
002-11-86	Entsrom Series	Cancelled June 2007
007-12-83 Rev 1	Enstrom F28 and 280	2006-0292 October 2006
001-07-85	Enstrom F28A and 280	2006-0172 R1 July 2006
G-2003-0002	Enstrom 480, Enstrom 480B	2006-0290 October 2006
010-12-82	Eurocopter Deutschland BO 105	Cancelled October 2005
012-04-82	Eurocopter France AS 332	Cancelled October 2005
002-10-2001 Rev 2	Eurocopter France AS 350	Cancelled October 2005
012-11-82	Eurocopter France AS 350	Cancelled October 2005
011-04-82	Eurocopter France AS 355	Cancelled October 2005
009-11-82	Eurocopter France SA 315B	Cancelled October 2005
010-11-82	Eurocopter France SA 330 Puma	Cancelled October 2005
011-11-82	Eurocopter France SA 341	Cancelled October 2005
013-11-82	Eurocopter France SA 365	Cancelled October 2005
008-11-82	Eurocopter France SE 3130, SE 313B, SA 3180, SA 313 B/C	Cancelled October 2005
034-06-83	Eurocopter France SE 316 / SA 319 Alouette	Cancelled October 2005
005-12-90	FFA AS 202 Bravo Series	Cancelled June 2007
017-03-90 Rev 1	Gulfstream Aerospace 112 and 114	Cancelled December 2005
0527 PRE 78 Rev 2	Gulfstream American AA-1 Series and Gulfstream Aerospace AA-5 Series	2005-0036 January 2006
006-09-87	Gulfstream Aerospace G-159	Cancelled June 2007
002-02-2000 Rev 1	Hughes (Schweizer) 269 Series	2006-0171 June 2006
003-08-2001	Luscombe	Moved to Section 3, Part 3 November 2004

AIRCRAFT (Continued)

001-05-2000	Piper PA-28 and PA-32	2005-0034 January 2006
001-08-98	Piper PA-28 and PA-32	2005-0032 December 2005
002-06-99	Piper PA-28 and PA-32	2005-0035 January 2006
002-02-79	Piper PA 31P	Cancelled June 2007
001-02-79	Piper PA 31 and 31-325	Cancelled June 2007
091-11-78 Rev 1	Piper PA 31-350	Cancelled June 2007
012-03-81	Piper PA 36-375	Cancelled June 2007
014-08-90	Raytheon HS 125 and Hawker Series	2006-0063 March 2006
1609 PRE 80	Raytheon HS 125 and Hawker Series	2006-0062 March 2006
002-10-94	Robinson R22 Series	2006-0167 June 2006
003-10-94 Rev 1	Robinson R44 Series	2006-0166 June 2006
003-03-83	Socata TB Series	Cancelled June 2007

ENGINES

AAD Number	Type/Model	Superseded/Cancelled by and date
010-12-92 Rev 2	Allison Engines	2004-0009 January 2005
009-03-91 Rev 1	Allison Engines	2004-0005 January 2005
001-02-99	General Electric Engines	2004-0007 January 2005
002-01-98 Rev 1	Pratt & Whitney Engines	Cancelled October 2005
004-10-97	Pratt & Whitney Engines	2004-0008 January 2005
003-06-95	Pratt & Whitney Engines	Cancelled October 2005
004-06-2000 Rev 1	Teledyne Continental Motors Engines	2004-0006 January 2005

PROPELLERS

None at present.

EQUIPMENT

AAD Number	Type/Model	Superseded/Cancelled by and date
005-02-2000 Rev 2	Cory Connectors P/N CAMA 11W1P	Cancelled October 2005
001-01-2003	Honeywell MST 67A Mode 'S' transponders	2006-0269 September 2006
001-05-99	Installation of Helicopter Health and Usage Monitoring System	ANO 2005 Amdt 1/2007 April 2007
002-12-99 Rev 2	Mode 'C' or Mode 'S' transponder system(s) using Gilham code altitude input	2006-0265 September 2006
001-09-96	Switches, Carling Part No. TA201TBW, Piper aircraft no. 47664-07, Grumman Part No. TB201-TB-W, B206 and Cessna Part No. S1824-1 or S2160-1	2006-0274 September 2006

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Appendix 3 Requirements Removed from Section 3

CAA Airworthiness Directives and Mandatory Requirements removed from Section 3, Parts 3A and 3B

The requirements removed from Section 3, Part 3 are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each AAD was superseded or cancelled.

AIRCRAFT

AAD Number	Type/Model	Superseded/Cancelled by and date
G-2005-0030	De Havilland Support Ltd: Beagle B.121 (all variants)	Moved to Section 2, Part 3A March 2008
G-2005-0025	De Havilland Support Ltd: DH60 (all variants), DH83, DH85, DH87A and DH87B	Cancelled September 2007
G-2005-0033	De Havilland Support Ltd: DH84, DH89A (all series), DH90	Cancelled September 2007
001-08-97 Rev 1	Embraer Bandeirante EMB-110	Moved to Section 2, Part 4 September 2005
010-02-81 Rev 3	Embraer Bandeirante EMB-110	Moved to Section 2, Part 4 September 2005
008-11-79 Rev 5	Embraer Bandeirante EMB-110	Moved to Section 2, Part 4 September 2005
009-04-84	PZL-104 Wilga	Cancelled October 2005
002-08-2001	Victa Airtourer 100 and 115	Combined with AESL and Glos Air Airtourer page June 2005

ENGINES

AAD Number	Type/Model	Superseded/Cancelled by and date
001-02-99	General Electric Engines	2004-0007 February 2005
002-01-98 Rev 1	Pratt & Whitney Engines	Cancelled October 2005

ENGINES (Continued)

003-06-95	Pratt & Whitney Engines	Cancelled October 2005
004-10-97	Pratt & Whitney Engines	2008-0008 R1 February 2005
004-06-2000 Rev 1	Teledyne Continental Motors Engines	2004-0006 February 2005

PROPELLERS

None at present.

EQUIPMENT

AAD Number	Type/Model	Superseded/Cancelled by and date
005-02-2000 Rev 2	Cory Connectors P/N CAMA 11W1P	Cancelled October 2005
001-01-2003	Honeywell MST 67A Mode 'S' transponders	2006-0269 September 2006
002-12-99 Rev 2	Mode 'C' or Mode 'S' transponder system(s) using Gilham code altitude input	2006-0265 September 2006
001-09-96	Switches, Carling Part No. TA201TBW, Piper aircraft no. 47664-07, Grumman Part No. TB201-TB-W, B206 and Cessna Part No. S1824-1 or S2160-1	2006-0274 September 2006

Appendix 4 Requirements Removed from Section 4

CAA Airworthiness Directives and Mandatory Requirements removed from Section 4

The requirements removed from Section 4 are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each requirement was superseded or cancelled.

Aircraft

AD Number	Type/Model	Superseded by / Cancelled and date
G-2008-0005	MD Helicopters Inc. (MDHI): MD900 (902 configuration)	G-2008-0005 R1 December 2008

Engines

None at present.

Propellers

None at present.

Equipment

None at present.

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Appendix 5 Requirements Removed from Section 5

CAA Airworthiness Directives and Mandatory Requirements removed from Section 5

The requirements removed from Section 5 are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each requirement was superseded or cancelled.

Aircraft

None at present.

Engines

None at present.

Propellers

None at present.

Equipment

None at present.

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Appendix 6 Cancellation of ADs currently published in CAP 476

This Appendix lists the Mandatory Requirements notified in CAP 476 that have been withdrawn since the final amendment of CAP 476 issued in September 2004. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer. The date given in the last column of the table below is either the date of cancellation or the date the requirement was superseded by a new Airworthiness Directive.

AIRCRAFT

AD Number	Type/Model	Superseded by and Date Cancelled
047-09-1989	BAe ATP Series Aircraft	Cancelled 28 November 2008
021-04-1991	BAe ATP Series Aircraft	Cancelled 28 November 2008
002-09-1984	BAe 146	G-2005-0020 6 July 2005
009-12-1987	BAe 146	G-2005-0020 6 July 2005
007-06-2003	BAe 146-100, 200 and 300 Series Aircraft and Avro 146-RJ70, RJ85 and RJ100	G-2005-0002 12 January 2005
008-04-83 Revision 1	BAe 146 and Avro 146-RJ	G-2005-0015 13 July 2005
002-05-2001	BAe 146 and Avro 146-RJ	G-2005-0018 6 July 2005
002-09-96	BAe 146 and Avro 146-RJ	Cancelled March 2006
003-07-95	BAe 146 and Avro 146-RJ	2007-0058 01 March 2007
044-09-89	BAe 146 and Avro 146-RJ	2007-0270 October 2007
015-10-98	BAe 146 and Avro 146-RJ	2007-0305 20 December 2007
015-08-91	BAe 146 and Avro 146-RJ	2008-0168 02 September 2008
002-06-2000	BAe 146 and Avro 146-RJ	2009-0197 September 2009
003-11-2002	BAe HP137 Mk1, Series 200, 3100 and 3200	G-2004-0029 20 December 2004
006-11-2000	BAe HP137 Mk1, Series 200, 3100 and 3200	G-2005-0011 19 April 2005
003-06-2003	BAe HP137 Mk1, Series 200, 3100 and 3200	G-2005-0012 20 April 2005

AIRCRAFT

AD Number	Type/Model	Superseded by and Date Cancelled
006-02-2003	BAe HP137 Mk1, Series 200, 3100 and 3200	G-2006-0003 February 2006
002-05-97	BAe Jetstream 4100	G-2005-0022 17 August 2005
007-04-2002	BAe Jetstream 4100	G-2004-0023 22 September 2004
005-03-97	BAe Jetstream 4100	2007-0056 01 March 2007
2060 PRE 80	Beagle B.121 Pup Aircraft	G-2005-0030 12 October 2005
002-03-98	De Havilland DH 60, DH 80, DH 82, DH 83, DH 85, DH 87, DH 94 and Queen Bee	Cancelled February 2009
008-11-93	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
010-07-80	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
010-10-91	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
0634 PRE 80	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled July 2008
006-11-92	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
012-07-80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
013-07-80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
0665 PRE 80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
009-06-2003	Short Brothers plc: DC3-60	G-2005-0013 24 May 2005
0434 PRE 80	Short Brothers plc: SC7 Skyvan Series 3, 3A and 3M	2006-0190 31 July 2006
004-03-94	Slingsby T67 Series	2009-0013 February 2009
005-05-87	Slingsby T67 Series	2009-0013 February 2009
006-02-96	Slingsby T67 Series	2009-0013 February 2009
007-08-96	Slingsby T67 Series	2009-0013 February 2009
012-01-97	Slingsby T67 Series	2009-0013 February 2009

AIRCRAFT

AD Number	Type/Model	Superseded by and Date Cancelled
013-11-85	Slingsby T67 Series	2009-0013 February 2009
014-01-93	Slingsby T67 Series	2009-0013 February 2009
015-03-94	Slingsby T67 Series	2009-0013 February 2009
001-12-2002	Slingsby T67A, T67B, T67C, T67M, T67M-MKII, T67M2000, T67M260 and T67M260-T3A	G-2005-0004 18 January 2005

ENGINES

AD No.	Type/Model	Superseded by and Date Cancelled
0238 PRE 80	Rolls-Royce Avon - All Marks	Cancelled 1 December 2004
0239 PRE 80	Rolls-Royce Avon - Compliance required as called for in Alert Service Bulletin Av 72-381	Cancelled 1 December 2004
0244 PRE 80	Rolls-Royce Avon 524B, 524C, 525B and 525C (Comet installations) and Avon 527B, 531B, 532R-B and 533R (Caravelle installations)	Cancelled 1 December 2004
0245 PRE 80	Rolls-Royce Avon 524B, 524C, 525B and 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0241 PRE 80	Rolls-Royce Avon 524B, 524C, 525B, 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0242 PRE 80	Rolls-Royce Avon 524B, 524C, 525B, 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0240 PRE 80	Rolls-Royce Avon 524B, 525B, 527, 527B and 531B	Cancelled 1 December 2004
0237 PRE 80	Rolls-Royce Avon 524B, 525B, 527, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0243 PRE 80	Rolls-Royce Avon 531B, 532R-B and 533R	Cancelled 1 December 2004
003-12-99	Rolls-Royce RB211	G-2004-0027 19 November 2004
G-2003-0014	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2004-0010 8 April 2004
G-2003-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2004-0016 29 June 2004
001-02-2001 and G-2003-0015	Rolls-Royce RB211 Trent 875, 877, 884, 884B-17, 892, 892B, 895	G-2004-0008 29 April 2004

ENGINES (Continued)

AD No.	Type/Model	Superseded by and Date Cancelled
001-05-2003	Rolls-Royce RB211 Trent 875, 877, 884, 884B-17, 892, 892B, 895	Cancelled 30 June 2004
002-08-2002	Rolls-Royce RB211 Trent 875, 877, 884, 892, 892B and 895	2006-0239 9 August 2006
002-01-2003	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17	2007-0003 January 2007
004-01-2000	Rolls-Royce RB211-22B	G-2005-0003 24 January 2005
005-07-1995	Rolls-Royce RB211-524	G-2003-0011 1 October 2003
006-04-2002	Rolls-Royce RB211-524	G-2005-0008 8 March 2005
004-07-99	Rolls-Royce Tay 650	Cancelled 22 March 2005
001-01-2002	Rolls-Royce Tay 650-15	Cancelled 8 December 2004

PROPELLERS

AD Number	Type/Model	Superseded by and Date Cancelled
003-11-2001	Dowty Propellers: R334/4-82-F/13	G-2005-0027 8 September 2005
006-10-99	Dowty Propellers: R389/4-123-F/25, -F/26 and -F/27	2009-0005 30 January 2009
007-05-2000	Dowty Propellers: R408/6-123-F/17	2007-0208-CN 8 August 2007

EQUIPMENT

AD Number	Type/Model	Superseded by and Date Cancelled
009-07-80	AP Precision Hydraulics applicable to all Pilatus Britten-Norman BN-2 and BN-2A aircraft (SB.135)	Cancelled April 2008
005-12-85	Fairey Hydraulics applicable to all Pilatus Britten-Norman BN-2A, BN-2B and BN-2T Series aircraft (SB.170)	Cancelled April 2008
005-03-86	Fairey Hydraulics applicable to all Pilatus Britten-Norman BN-2A Mark III Series Trislander (SB.173)	Cancelled April 2008

Appendix 7 CAP 480 Cross-reference Matrix

Aircraft Type	Sub-heading	Previous numbering	Numbering now
Boeing 727 Series 100, 100C and 200	Comparator Warning Indicator	9 (2)	Sect 2, Part 4, Boeing 727, para 1.1
Boeing 737-200 and -200 ADV Series	Comparator Warning Indicator	4.1.1 9(3)	Sect 2, Part 4, Boeing 737-200, para 1.1
Boeing 737-300, 400 and 500 Series	Attitude Comparator (EFIS Equipped Aircraft)	4.1.1 6(7)	Sect 2, Part 4, Boeing 737-300, para 1.1
Boeing 747-400	Attitude Comparison	4.1.1 11 (1)	Sect 2, Part 4, Boeing 747, para 1.1
Boeing 757-200 Series	Attitude Display Systems	4.1.1 6 (1) 4.1.1 7 (1)	Sect 2, Part 4, Boeing 757, para 1.1
Boeing 767 Series	Attitude Display Systems	4.1.1 5 (1)	Sect 2, Part 4, Boeing 767, para 1.1
Cessna 425 Corsair	Inspection and Life Limitations	5 (2)	Sect 2, Part 4, Cessna, para 1.1.2
Cessna 525 Citation Jet	Passenger Door Lock Warning	8 (2)	Sect 2, Part 4, Cessna, para 1.3.1
DC8 Series 50	Flap Selector	11 (2)	Sect 2, Part 4, Boeing (Douglas) DC8 Series 50, para 1.2
DC8-63 and 63F	Flap Selector	10 (2)	Sect 2, Part 4, Boeing (Douglas) DC8-63, para 1.2
De Havilland Canada DHC-7	Comparator Warning Indicator	12 (3)	Sect 2, Part 4, Bombardier DHC-7, para 1.1
Gates Learjet 35A/36A	Comparator Warning Indicator	4.1.1 (1)	Sect 2, Part 4, Learjet, para 1.1
Gates Learjet 35A/36A	Flap Gates	4.1.1 13(3)	Sect 2, Part 4, Learjet, para 1.2
Lockheed L188 Electra	Smoke Detectors	10 (3)	Sect 2, Part 4, Lockheed L-188, para 1.1
Lockheed L188 Electra	Loss of Propeller	5	Sect 2, Part 4, Lockheed L-188, para 1.2
Lockheed L188 Electra	Standby Artificial Horizon	10 (1)	Sect 2, Part 4, Lockheed L-188, para 1.3
McDonnell Douglas DC9 Series 10 and 30	Comparator Warning Indicator	4.1.1 8 (3)	Sect 2, Part 4, Boeing (McDonnell Douglas) DC-9, para 1.1

Aircraft Type	Sub-heading	Previous numbering	Numbering now
McDonnell Douglas DC10 Series 10 and 30	Comparator Warning Indicator (Series 10 only)	4.1.1 5 (1)	Sect 2, Part 4, Boeing (McDonnell Douglas) DC-10, para 1.1
McDonnell Douglas MD600N	Flight Controls	4. AR4	Sect 2, Part 4, McDonnell Douglas MD600N, para 1.1
Sikorsky S-61N	Airframe	3.1 d.	Sect 2, Part 4, Sikorsky S61, para 1.1

Appendix 8 Generic Concessions (GCs)

This Appendix 8 notifies Generic Concessions which were previously published as Airworthiness Notices in CAP 455. These Generic Concessions are listed below.

Table 1 Current Generic Concessions

GC No.	Title
1	Airworthiness Concessions in Respect of Foreign Built Aircraft
2	Use of Motor Gasoline (MOGAS) in Certain Light Aircraft
3	Use of Filling Station Forecourt Motor Gasoline (MOGAS) in Certain Light Aircraft
4	Use of Filling Station Forecourt Unleaded Motor Gasoline in Microlight Aeroplanes
5	Use of Filling Station Forecourt Unleaded Motor Gasoline in Certain Light Aircraft
6	Flight in UK Airspace of Foreign Registered Home-Built Aircraft

Table 2 Cancelled Generic Concessions

None at present.

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GC No. 1 Airworthiness Concessions in Respect of Foreign Built Aircraft

(Previously issued as Airworthiness Notice No. 74, Issue 6, 21 March 2005.)

1 Introduction

From time to time UK operators find it necessary to apply to the CAA for concessions to cover the non-compliance of certain foreign built aircraft with the applicable requirements notified in Section 2, Part 4 of this CAP 747. The requirements notified in Section 2, Part 4 are the measures that the CAA has applied in the UK in addition to the standards applied by EASA. These measures have been notified to the European Commission in accordance with Article 14.1 of Regulation 216/2008. Following a review the Commission will decide whether to apply the notified measures throughout the European Union (EU), or to require that the measures are revoked. This Generic Concession No. 1 concerns concessions against these notified items only. It is not applicable to concessions against requirements applied by EASA. The reasons why applications for concessions are made include:

- a) Aircraft being purchased and placed on the UK Register at short notice.
- b) Aircraft being dry leased (see Note 1) on a relatively long term basis (e.g. 12 months or more), but required in service before all necessary modifications can be embodied.
- c) Aircraft being dry leased on a short term basis (e.g. 6 months), for which the lead time on parts procurement may render compliance difficult.

NOTES: 1) "Dry lease" refers to those aircraft under operational control of a UK operator (i.e. subject to a direction under Article 151 of the ANO). Such aircraft are required to meet all applicable requirements.

2) Aircraft on 'wet lease', i.e. under the control of the lessor operator, are considered the responsibility of the State in which they are registered and by whom they are operated.

This Concession summarises the criteria which will normally be applied by the CAA in determining whether or not, in a particular case, a concession should be granted.

2 Aeroplanes with a Proven and Satisfactory Record

2.1 Definition

Aeroplanes which, according to their class, satisfy the criteria in Appendix 1 are considered to have a proven and satisfactory record.

2.2 Policy on Concessions

The aeroplane must normally be of a kind Type Certificated in the European Union (EU) and in principle be in compliance with the requirements of this CAP 747. However, subject to the criteria set out in Appendix 2 of this Concession, the CAA will give consideration to granting concessions against compliance with individual requirements notified in Section 2, Part 4 of this CAP 747. Having regard to the record of the type, it will normally be possible to consider granting concessions against certain CAP 747 requirements for up to 6 months and, for large aeroplanes with more than 50 million hours of satisfactory service experience, this period may be increased.

3 Aeroplanes other than Well Proven Types and Helicopters

3.1 Definition

Aeroplanes other than those meeting the criteria of Appendix 1, and helicopters.

3.2 Policy on Concessions

The aircraft must normally be of a kind Type Certificated in the EU and in principle be in compliance with the Requirements of this CAP 747. Requests for concessions will be expected to be clearly justified in the light of the considerations in Appendix 2. Where concessions are granted in respect of CAP 747 requirements they will be of limited duration and will not, under normal circumstances, exceed 6 months in duration.

Appendix 1 to GC No. 1

(Previously issued as Airworthiness Notice No. 74, Appendix 1, Issue 3, 5 November 1993.)

Aeroplanes Considered to have a Proven and Satisfactory Record

MTWA kg	Minimum Service Experience – Hours	Average Fatal Accident Rate	Examples
Not Exceeding 5700	2 million	Appreciably less than 10 per million hours	Beech 90, 99 DHC-6 Embraer Bandeirante
Exceeding 5700	20 million	Not exceeding 1 per million hours	Boeing 727 Boeing 737 Boeing 747 Douglas DC-9/MD-80 Douglas DC10/MD 11

Appendix 2 to GC No. 1

(Previously issued as Airworthiness Notice No. 74, Appendix 2, Issue 3, 21 March 2005.)

Criteria Applied by CAA When Considering Concessions Against UK Certification Requirements

- 1 Concessions will be considered for up to six months on any one aircraft, and this period may be extended where service experience exceeds 50 million hours.
- 2 In considering whether a concession should be granted, account will be taken of the accident record with respect to the Additional Requirement or other requirement in question.
- 3 The operator's obligations to comply with operational requirements may constrain the scope of any Concession. Amongst other items:
 - a) Aircraft Performance Information
 - comply with UK standards in important respects.
 - b) Handling, flight deck layout, instrumentation, flight management systems and warnings
 - differences within a fleet to be acceptable may require dedicated crews and relevant training.

GC No. 2 Use of Motor Gasoline (MOGAS) in Certain Light Aircraft

(Previously issued as Airworthiness Notice No. 98, Issue 13, 29 March 2006.)

1 Introduction

Because of the growing difficulties experienced in obtaining Aviation Gasoline (Avgas), particularly in small quantities, and the ready availability of Motor Gasoline (MOGAS), CAA were asked to consider permitting the use of motor gasoline in general aviation aircraft. It has been agreed to permit the use of MOGAS in certain single-engined aircraft using low compression ratio unsupercharged engines. (See Appendix, Schedule 1). In such aircraft any adverse effects of using MOGAS are likely to be minimal and, if present, are likely to become apparent over a sufficiently long period to enable them to be controlled satisfactorily by normal maintenance procedures. Accordingly, the CAA has issued an Exemption, in the terms set out in the Appendix to this Concession, from compliance with the fuel specifications and associated limitations set out in the Official Manuals forming part of the Certificate of Airworthiness. CAA will give consideration to individual applications in respect of aircraft not listed in the Schedule. (See paragraph 2.3). Fuel obtained direct from a filling station forecourt may be acceptable in accordance with the provisions of Generic Concession No. 3.

CAUTION: BS 7800:2000 (unleaded) MOGAS or MOGAS of any standard other than BS 4040 is not permitted by either this Concession No. 2 or Generic Concession No. 3.

2 General

- 2.1 It should be noted that although CAA is satisfied that the listed aircraft/engines may be operated with adequate safety on MOGAS, provided the limitations* are observed, CAA takes no responsibility for infringement of manufacturer's warranty, accelerated deterioration of the engine or airframe components, or any other long term deleterious effects.

NOTE: * With regard to the limitation on fuel temperature, it may be assumed that the temperature of the fuel in the tank prior to the commencement of the flight is less than 20°C unless the ambient temperature has been in excess of this temperature for some hours, or the aircraft has been standing in continuous direct sunshine.

- 2.2 Because of likely differences between MOGAS and AVGAS, the following precautions are to be taken:

- a) Use only freshly obtained supplies; avoid long storage in the aircraft fuel tank.
- b) If the aircraft has been standing for 24 hours or longer, check fuel for water.
- c) As carburettor icing is more likely when using MOGAS, particular attention should be paid to the use of carburettor hot air. This should include:
 - making sure, during the pre-take-off checks, that a good RPM drop is obtained when hot air is selected,
 - intermittent selection of hot air in flight whether or not the symptoms of loss of power are experienced.
- d) In the course of the daily check and other routine inspections, pay particular attention to non-metallic fuel pipes and seals for signs of leaks or deterioration.

- e) After any prolonged period of heat soak at low fuel flow (e.g. hot day ground idling) establish the ability to maintain full power before commencing a take-off.

2.3 Applications (which must be with the owner's written consent) for use of MOGAS in aircraft not listed in the Appendix, Schedule 1, should be made to CAA, Safety Regulation Group, Aviation House, Gatwick. The CAA will need to be satisfied on the following aspects. The applicant should either provide authenticated information substantiating compliance or apply for a Major Modification for which the appropriate charges will be made.

- a) The engine should have been either type certificated for operation with minimum grade fuel of 80 MON or less, or test evidence should be provided establishing that the engine has an adequate margin from detonation under the most adverse operating conditions.
- b) There should either be positive pressure throughout the fuel system under all normal operating conditions, or testing of the system should be carried out to a schedule agreed by the CAA, to show freedom from vapour locks.
- c) Non-metallic pipes, seals, etc., in the fuel system should be unlikely to be seriously affected by MOGAS.

NOTE: Where composite materials, e.g. fibre glass, are used in the construction of fuel tanks, the CAA will require evidence that these materials are compatible with MOGAS.

- d) There should be no doubts regarding the efficacy of the protection against carburettor icing.
- e) Any specific prohibition of the use of MOGAS in the aeroplane or engine manuals should be brought to the attention of the CAA, together with a copy of the relevant page of the manual.

3 Recording Use of MOGAS

All operating times with fuel containing 25% or more of MOGAS must be recorded in the airframe log book, and block records must be transferred at appropriate intervals into the engine log book(s).

Appendix 1 to GC No. 2

(Previously issued as Airworthiness Notice No. 98, Appendix 1, Issue 2, 29 March 2006.)

Air Navigation Order 2005 Exemption

- 1 The Civil Aviation Authority, in exercise of its powers under Article 153 of the Air Navigation Order 2005 (as amended), hereby exempts the aircraft set out in Schedule 1 hereto, with engines as listed therein, from the provisions of Article 8(1) of the said Order to the extent necessary to enable it to fly using four star Motor Gasoline to BSI specification BS 4040 : 2001. Unless it is known, on a particular flight, that the proportion of Motor Gasoline in the aircraft's fuel is less than 25%, the aircraft shall be deemed for the purpose of this Exemption to be using Motor Gasoline.
- 2 This Exemption is subject to the following conditions:
 - a) No Motor Gasoline fuel shall be used for flight unless it has been proven to comply with BS 4040 : 2001 and Schedule 2 of this Concession No 2.
 - b) No flight shall be made pursuant to this Exemption unless either :
 - i) the temperature of the fuel in the tank prior to the commencement of the flight may reasonably be assumed to be less than 20°C and the aircraft is flown below a pressure altitude of 6000 ft, or
 - ii) the written permission of the CAA has been obtained to operate to different limitations and that the terms of the permission are complied with.
 - c) No flight shall be made pursuant to this Exemption unless the limitations pursuant to sub-paragraph b) above due to the use of Motor Gasoline are set out on a placard which is affixed in a conspicuous position in the flight crew compartment of the aircraft.
 - d) In respect of every flight pursuant to this Exemption, there shall be endorsed in the aircraft log book maintained in respect of the aircraft, a statement that the flight was undertaken pursuant to this Exemption. Block records must be transferred to the engine log book at appropriate intervals.
- 3 The Exemption dated 21 July 1995 is hereby revoked.
- 4 This Exemption shall have effect from the date hereof until revoked.

R. Elder
For the Civil Aviation Authority and the United Kingdom
Dated 29 March 2006

Schedule 1 to GC No. 2

(Previously issued as Airworthiness Notice No. 98, Schedule 1, Issue 3, 29 March 2006.)

The following aircraft may use four star Motor Gasoline to BSI specification BS 4040 : 2001 in accordance with Generic Concession No. 2.

AIRCRAFT

ENGINE -

Adam Loisir -----	Continental A65
Aeronca C3 -----	JAP 100 J99
Aeronca 100 -----	JAP 100 J99
Aeronca L16 -----	Continental C85
Aeronca 7BCM -----	Continental C85
Aeronca 7AC -----	Continental A65 or A75
Aeronca 11 AC -----	Continental A65
Aeronca 7FC -----	Continental A75
Aeronca 15AC -----	Continental C-145
Aeronca 11CC -----	Continental C85
Andreasson BA4B -----	Continental O-200-A
Arrow Sport A2 -----	Le Blond 90
Auster 3 -----	Gipsy Major 1
Auster 4 -----	Lycoming O-290
Auster 5 -----	Lycoming O-290-3, O-320
Auster 5D -----	Gipsy Major 1 or 1F
Auster 5J1 Autocrat -----	Cirrus Minor 2
Auster 5J1B Aiglet -----	Gipsy Major 1
Auster 5J2 Arrow -----	Continental C75
Auster 5J4 -----	Cirrus Minor 1
Auster 5J4/100 -----	Continental O-200-A
Auster 6A -----	Gipsy Major 10 (All variants of Mk. 1)
Auster D4/108 -----	Lycoming O-235-C
Auster D5/J2 -----	Continental A75, Cirrus Minor 1
Auster D5/JSA -----	Continental A75, Cirrus Minor 1
Auster J1N -----	Gipsy Major 1C or 1F
Auster J5B Autocrat -----	Gipsy Major 1
Auster J5F Aiglet Trainer -----	Gipsy Major 1 or 1F
Auster J5G -----	Blackburn Cirrus Major 3
Auster J5L -----	Gipsy Major 10 Mk. 2
Auster J5P -----	Gipsy Major 10 Mk. 2
Auster J5Q Alpine -----	Gipsy Major 1
Auster J5V -----	Lycoming O-320-B
Auster D6-180 -----	Lycoming O-320-A
Avions Mudry CAP 10B -----	Lycoming AEIO-360-B
Baby Lakes -----	Continental A65-8
Beagle A61 Series 2-----	DH Gipsy Major 10 Mk. 1-1
Beagle A109 Airedale -----	Lycoming O-360-A

AIRCRAFT (Continued)

Beagle Auster D5-180 -----
 Beagle Pup 100 -----
 Beagle Pup B121/ 2 -----
 Beagle Terrier A61 -----
 Bensen B8 -----
 Bolkow Junior -----
 BA Swallow -----
 Bell 47G-2 -----
 Bell 47G4-A -----
 Bell 47J-2A -----
 Bellanca Citabria -----
 Bellanca 7ACA -----
 Bellanca 8GCBC -----
 Benes Sokol -----
 Boeing Stearman A75N1 -----
 Brochet M B84 -----
 Brooklands Mosquito -----

Cadet Motor Glider -----
 Campbell Cricket -----
 Cassutt Racer 111 M -----
 CEA DR221 -----
 CEA DR250/160 -----
 Cessna 120 -----
 Cessna 140 -----
 Cessna 150 -----
 Cessna 150E -----
 Cessna 150M -----
 Cessna F150 -----
 Cessna F150H -----
 Cessna F150K -----
 Cessna F150L -----
 Cessna F150M -----
 Cessna FA150K -----
 Cessna FRA-150L -----
 Cessna 152 -----
 Cessna F152 -----
 Cessna 170B -----
 Cessna 172 -----
 Cessna 172A -----
 Cessna 172B -----
 Cessna 172E -----
 Cessna 172H -----
 Cessna 172M -----
 Cessna 172P -----

ENGINE (Continued)-

Lycoming O-360-A
 Continental O-200-A
 Lycoming O-320-A
 Gipsy Major 10 (All variants of Mk. 1 and Mk. 2)
 VW
 Continental O-200-A
 Pobjoy, Niagara, Cateract
 Lycoming VO-435-A1D
 Lycoming VO-540-B
 Lycoming VO-540-B
 Lycoming O-320-A
 Continental C-85
 Lycoming O-360-C
 Walter Minor
 Continental W670 6A
 Continental A65
 VW

 VW
 VW
 Continental C90
 Lycoming O-235-C
 Lycoming O-320-D
 Continental C90, Continental C85
 Continental C85
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-200-A
 Continental O-240-A
 Lycoming O-235-L
 Lycoming O-235-L
 Continental O-300-A
 Continental O-300-A
 Continental O-300-C or -D
 Continental O-300-C or -D
 Continental O-300-C or -D
 Continental O-300-D
 Lycoming O-320-E
 Lycoming O-320-D

AIRCRAFT (Continued)

Cessna F172E -----
 Cessna F172F -----
 Cessna F172H -----
 Cessna F172L -----
 Cessna F172M -----
 Cessna 175 -----
 Cessna 177 -----
 Cessna 180 -----
 Cessna 182G -----
 Cessna 195 -----
 Chilton DW1 -----
 Christen A1 Husky -----
 Coates Swalsong -----
 Comper Swift CL7 -----
 Colibri MB2 -----
 Cosmic Wind -----
 Currie Wot -----

DH 60M, 60G, Gipsy Moth -----
 DH 80A Puss Moth -----
 DH 82A (Aust) Tiger Moth -----
 DH 82A -----
 DH 82A Tiger Moth -----
 DH C1 Chipmunk 21 -----
 DH C1 Chipmunk 22 & 22A -----
 DH C1 Chipmunk 22 (Lycoming) -----
 DH 82A Seaplane -----
 DH 83 Fox Moth -----
 DH 85 Leopard Moth -----
 DH 87 Hornet Moth -----
 DH Moth Minor -----
 DHC-2 Beaver -----
 Druine Condor -----
 Druine Condor D62B -----
 Druine Condor D62C -----
 Druine D5 Turbi -----
 Druine Turbulent -----
 Druine Turbi -----

E. A. A. Biplane -----
 Eakins Airbuggy -----
 Evans VP-1 -----
 Evans VP-2 -----

ENGINE (Continued)-

Continental O-300-D
 Continental O-300-D
 Continental O-300-D
 Lycoming O-320-E
 Lycoming O-320-E
 Continental GO-300
 Lycoming O-320-E
 Continental O-470-J or -L
 Continental O-470-R
 Jacobs 755S
 Walter Mikron, Lycoming O-145-A2
 Lycoming O-360-C
 Continental C90
 Pobjoy R, Niagara, Cateract
 VW
 Continental C90
 Lycoming O-145A Walter Mikron, Pobjoy R

DH, Gipsy 1, Curtis Wright Gipsy 1
 Gipsy Major 1 or 1C
 Gipsy Major 1
 Gipsy Major 1 or 1C
 Gipsy Major 1F
 Gipsy Major 10 Mk 2
 Gipsy Major 10 Mk 2
 Lycoming O-360-A
 Gipsy Major 1
 Gipsy Major 1
 Gipsy Major 1 or 1C
 Gipsy Major 1, 1C or 1F
 Gipsy Minor
 Pratt & Whitney R985-AN1
 Continental C90, O-200-A
 Rolls-Royce O-240-A
 Rolls-Royce O-240-A
 Walter Mikron III
 VW
 Continental A65, Walter Mikron II

AIRCRAFT (Continued)**ENGINE (Continued)-**

Falconair F9 -----	VW
Falconair F11 -----	Continental O-200-A
Fokker E111 Replica -----	Continental A75
Fokker DV111 Replica -----	Warner Scarab
Fournier RF-3 -----	VW
Fournier RF-4 -----	VW
Fournier RF-5 -----	Limbach 1700E
Fournier RF6B-100 -----	Continental O-200-A
Fournier SFS 31 Milan -----	VW
Fred Series 2 -----	VW
Great Lakes -----	Warner Scarab
Gulfstream GA7 -----	Lycoming O-320-D
Hiller UH-12E -----	Lycoming VO-540-B
Hughes 269A Helicopter -----	Lycoming HIO-360-A
Issacs Fury -----	Lycoming O-290
Issacs Spitfire -----	Continental O-200-A
Jodel D9, 92 -----	VW
Jodel D11 -----	Continental C90
Jodel D112 -----	Continental A65
Jodel D117 117A -----	Continental C90
Jodel D119 -----	Continental C90
Jodel D120 -----	Continental C90
* Jodel D140A -----	Lycoming O-360-A
NOTE: * Front fuel tank must be used for take-off, initial climb and landing.	
Jodel 150 -----	Continental O-200-A
* Jodel DR1050 -----	Continental O-200-A
NOTE: * Front fuel tank must be used for take-off, initial climb and landing.	
Jodel DR1051 -----	Potez 4E20A
Jurca Tempete -----	Lycoming O-290-D, Continental C90
Jurca Sirocco -----	Lycoming O-290-D
Kittiwake 1 -----	Lycoming O-290-D, Continental O-200-A
Kittiwake 2 -----	Continental O-200-A
KZ 8 -----	Gipsy Major 1
Luscombe 8A-----	Continental A65
Luscombe 8E -----	Continental C85
Luscombe 8F -----	Continental C90
Luton Minor -----	JAP, J99, VW, Lycoming O-145-A
Luton Minor 111 -----	Continental O-200-A

AIRCRAFT (Continued)**ENGINE (Continued)-**

Luton Major LA5 -----	Walter Mikron, Continental C90, Continental O-200-A
Manning Flanders -----	Continental C75
Minicab GY20, GY201 -----	Continental A65
Minicab GY30 -----	Continental C90
Minicab JB-01 -----	Continental C90, Continental O-200-A
Midget Mustang -----	Continental C85, C90
Morane N Replica -----	Continental C90
Morane Saulnier MS 892A -----	Lycoming O-320-E
Morane Saulnier MS 893A -----	Lycoming O-360-A
Morane Saulnier MS 893E -----	Lycoming O-360-A
Morane Saulnier 100 ST -----	Continental O-200-A
Nord NC 854, 854S, 858S -----	Continental A65, Continental C90
Pazmany PL4A -----	Continental A65
* Piel Emeraude CP 301B -----	Continental C90
* Piel Emeraude CP 301A -----	Continental O-200-A or C90
* Piel Emeraude CP 301B -----	Continental O-200-A
* Piel Emeraude CP 301C -----	Continental C90
NOTE: * Front fuel tank must be used for take-off, initial climb and landing.	
Piper J2, J3C 65, L4A C85, C90 -----	Continental A65, C85, Continental C90
Piper J4A -----	Continental A65
Piper PA12 -----	Lycoming O-290
Piper PA15 -----	Lycoming O-145-A
Piper PA15 -----	Continental O-200-A
Piper PA16 -----	Lycoming O-235-C
Piper PA16 -----	Lycoming O-290-D
Piper PA17 -----	Continental A65
Piper PA17 -----	Continental C85
Piper PA18 -----	Lycoming O-360-A
Piper PA18 Cub -----	Lycoming O-290, O-320-A
Piper PA18-135 -----	Lycoming O-290-D, O-320-A
Piper PA18-150 -----	Lycoming O-360-A
Piper PA19 -----	Continental C90
Piper PA20 -----	Lycoming O-290
Piper PA22-108 -----	Lycoming O-235-C
Piper PA22-135 -----	Lycoming O-290
Piper PA22-150 -----	Lycoming O-320-A
Piper PA22-160 -----	Lycoming O-320-B
Piper PA28-140 -----	Lycoming O-320-E
Piper PA28-151 -----	Lycoming O-320-E
Piper PA28-160 -----	Lycoming O-320-B
Piper PA28-180 -----	Lycoming O-360-A
Piper PA28R-180 -----	Lycoming IO-360-B

AIRCRAFT (Continued)**ENGINE (Continued)-**

Piper PA28R-200 -----	Lycoming IO-360-C
Piper PA28-181 -----	Lycoming O-360-A
Piper PA38-112 -----	Lycoming O-235-L
Pitts S1C -----	Lycoming O-320-A
Pitts S1D -----	Lycoming O-360-A
Rallye MS880B -----	Continental O-200-A
Rallye MS883 -----	Lycoming O-235-C
Rallye 885 -----	Continental O-235-C
Rallye 885 -----	Continental O-300-A
Rallye R2100 -----	Lycoming O-235-H
Rallye 100ST -----	Continental O-200-A
Rallye 110ST -----	Lycoming O-235-L
Rallye 150ST -----	Lycoming O-320-E
Rallye 180T -----	Lycoming O-360-A
Rallye ST150 -----	Lycoming O-320-E
Rallye TB9 -----	Lycoming O-320-D
Rand KR2 -----	Volkswagen
Rearwin Cloudster -----	Royce 7G
Replica SE5A -----	Continental C90
Replica SE5A -----	Continental O-200-A
Replica WAR Sea Fury	Continental O-200-A
Robin HR200/100 -----	Lycoming O-235-H
Robin 1180TD Aiglon -----	Lycoming O-360-A
Robin 2100A -----	Lycoming O-235-H
Robin R2112 Alpha -----	Lycoming O-235-L
Robinson R22 Helicopter -----	Lycoming O-320-A
Rollason Beta -----	Continental C90
Rutan Varieze -----	Continental O-200-A
Scheibe SF3A/C -----	Continental C90
Scintex CP 301-C2 -----	Continental C90
Scintex CP1310 -----	Continental O-200
Shield Xyla -----	Continental A65
Sipa 91, 901, 902, 903 -----	Continental C90, C85
Socata TB9 -----	Lycoming O-320-D or O-320-E
Socata TB10 -----	Lycoming O-360-A
Sonera 1, 11 -----	VW
Sopwith Dove -----	Le Rhone
Sopwith Pup -----	Le Rhone
Sopwith Tabloid -----	Continental C90
Sparton Arrow -----	Cirrus Hermes 2
Stampe SV4A -----	Renault 4PO5
Stampe SV4 -----	Gipsy Major 10 Mk 1
Stampe SV4C -----	Renault 4PO3

AIRCRAFT (Continued)**ENGINE (Continued)-**

Stitts Playboy -----	Continental A75
Stolp Starlet -----	Continental C90
Stolp V Star SA900 -----	Continental O-200-A
Storey TSR3 -----	Continental C90
Taylorcraft Plus D -----	Continental C90, Cirrus Minor 1
Taylorcraft BC-12D -----	Continental A65
Taylorcraft F.19 -----	Continental O-200-A
Taylorcraft F.21 -----	Lycoming O-235-L
Taylor Monoplane -----	VW, JAP 100
Taylor Titch -----	Continental C85, C90, O-200-A
Thrupton Jackaroo -----	Gipsy Major 1
Tipsy Belfair -----	Walter Mikron
Tipsy Junior -----	Walter Mikron
Tipsy Nipper Mk1, Mk2, T66, RA45 Series 3 --	VW
Tipsy Trainer -----	Walter Mikron
Turner TSW -----	Lycoming O-320-A
Volmer Sportsman -----	Continental C90, Pobjoy Niagara
Wittman Tailwind -----	Continental C90, O-200-A
WAR FW 190 -----	Continental O-200-A
Zlin 526 -----	Walter Minor 6-III

NOTES: 1) In certain aircraft issued with a Permit to Fly the use of MOGAS is already permitted by the appropriate aircraft documents and these aircraft are not affected by this Concession.

2) The following aircraft/engine combinations have been deleted from the list:

Grumman American AA1B Trainer ---- Lycoming O-235-L2C
 Gulfstream American AA5A ----- Lycoming O-320-E
 Gulfstream American AA5B ----- Lycoming O-360-A
 Piper PA28 Warrior ----- Lycoming O-320-E3D

Schedule 2 to GC No. 2

(Previously issued as Airworthiness Notice No. 98, Schedule 2, Issue 2, 29 March 2006.)

1 Motor gasoline supplied to an aerodrome installation for use in general aviation aircraft must meet one of the following conditions:

1.1 It has been obtained from a company which has confirmed that it will give prior warning of any intention to change significantly the constituents of the fuel supplied.

1.1.1 Currently there are no companies giving such an undertaking.

1.2 A sample from each delivery (or from the bulk storage from which delivery was made) has been analysed by a competent analyst and the analysis supplied to a person authorised by CAA to accept such analyses. Fuel meeting BS 4040:2001 specification and with 40% or less aromatics, 10% or less olefines by volume, no alcohol or other substitute fuels and no additives other than those recognised for anti-oxidants and anti-knock purposes will normally be acceptable.

1.2.1 Those persons currently holding Authorisation/Approval by the CAA to accept analyses are as follows:

SGS United Kingdom Limited,
Rossmore Business Park,
Ellesmere Port,
South Wirrall,
Cheshire
CH65 3EN

AI/8947/84

ITS Testing Services (UK) Ltd.,
Caleb Brett,
Caleb Brett House,
734 London Road,
West Thurrock,
Essex,
RM20 3NL.

AI/9201/89

Mr S J Sullivan,
Chief Chemist,
E W Saybolt & Co., (UK) Ltd.,
Oliver Road,
Riverside Estate,
West Thurrock,
Grays,
Essex
RM16 1ED.

9/97/260A

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GC No. 3 Use of Filling Station Forecourt Motor Gasoline (MOGAS) in Certain Light Aircraft

(Previously issued as Airworthiness Notice No. 98A, Issue 3, 29 March 2006.)

1 Introduction

- 1.1 Generic Concession No. 2 introduced arrangements permitting the use of motor gasoline (MOGAS), but excluded the practice of using fuel obtained direct from a filling station forecourt. This restriction is lifted in respect of certain light aircraft classes and categories of Certification of Airworthiness, defined in this Generic Concession. Accordingly, the CAA has issued two Exemptions in the terms set out in Appendices 1 and 2 to this Concession No. 3. Aircraft which do not satisfy these conditions may be eligible for using MOGAS in accordance with Concession No. 2 or as a result of Modification action approved by the CAA.

CAUTION: BS EN228: 2004 and BS 7800:2000 (unleaded) MOGAS or MOGAS of any standard other than BS 4040 is not permitted by either this Concession No. 3 or Concession No. 2. (Refer to Generic Concession No. 4.)

- 1.2 To permit the use of BS 4040:2001 MOGAS from filling station forecourts, this Concession contains an Exemption from some of the requirements of Article 137 of the Air Navigation Order 2005 (as amended) subject to certain conditions. (See Appendix 2 to this Concession.)

2 General

- 2.1 It should be noted that although the CAA is satisfied that the qualifying aircraft/engines may be operated with adequate safety on alcohol free filling station forecourt fuel, provided the limitations* are observed, the CAA takes no responsibility for infringement of manufacturer's warranty, accelerated deterioration of the engine or airframe components, or any other long term deleterious effects.

NOTE: * With regard to the limitation on fuel temperature, it may be assumed that the temperature of the fuel in the tank prior to the commencement of the flight is less than 20°C unless the ambient temperature has been in excess of this temperature for some hours, or the aircraft has been standing in continuous direct sunshine.

- 2.2 Because of likely differences between filling station forecourt fuel and Avgas, the following precautions are to be taken:

a) Test the fuel to ensure it contains NO alcohol.

NOTE: A simple method for determining the presence of alcohol in fuel is to thoroughly shake a test cylinder containing 90 ml of the fuel to be tested and 10 ml of water. If, after settling, the water volume has increased, then alcohol is probably present in the fuel and the fuel is, therefore, unsuitable for aviation use.

b) Use only freshly obtained supplies; avoid long storage in the aircraft fuel tank.

c) If the aircraft has been standing for 24 hours or longer, check fuel for water.

d) As carburettor icing is more likely when using MOGAS, particular attention should be paid to the use of carburettor hot air/ heating. For pilot selectable systems this should include:

- making sure, during the pre-take-off checks, that a good RPM drop is obtained when hot air is selected,

- intermittent selection of hot air in flight whether or not the symptoms of loss of power are experienced.

For non selectable systems, ensure that the carburettor heating is serviceable.

- e) In the course of the daily check and other routine inspections, pay particular attention to non-metallic fuel pipes and seals for signs of leaks or deterioration.
- f) After any prolonged period of heat soak at low fuel flow (e.g. hot day ground idling) establish the ability to maintain full power before commencing a take-off.

3 Recording Use of Filling Station Forecourt Motor Gasoline (MOGAS)

All operating times with fuel containing 25% or more of MOGAS must be recorded in the airframe log book, and block records must be transferred at appropriate intervals into the engine log book(s).

Appendix 1 to GC No. 3

(Previously issued as Airworthiness Notice No. 98A, Appendix 1, Issue 4, 29 March 2006.)

Air Navigation Order 2005 Exemption

- 1 The Civil Aviation Authority, in exercise of its powers under Article 153 of the Air Navigation Order 2005 (as amended), hereby exempts the aircraft set out in Schedule 1 hereto, from the provisions of Article 8(1) of the said Order to the extent necessary to enable it to fly using four star Motor Gasoline to BSI specification BS 4040 : 2001. Unless it is known on a particular flight that the proportion of Motor Gasoline in the aircraft's fuel is less than 25%, the aircraft shall be deemed for the purpose of this Exemption to be using Motor Gasoline.
- 2 This Exemption is subject to the following conditions:
 - a) No Motor Gasoline fuel shall be used for flight unless it complies with BS 4040 : 2001 and contains no alcohols.
 - b) No flight shall be made pursuant to this Exemption unless either:
 - i) the temperature of the fuel in the tank prior to the commencement of the flight may reasonably be assumed to be less than 20°C and the aircraft is flown below a pressure altitude of 6000 ft, or
 - ii) the written permission of the CAA has been obtained to operate to different limitations and that the terms of the permission are complied with.
 - c) No flight shall be made pursuant to this Exemption unless the limitations pursuant to sub-paragraph b) above due to the use of Motor Gasoline are set out on a placard which is affixed in a conspicuous position in the flight crew compartment of the aircraft.
 - d) In respect of every flight pursuant to this Exemption, there shall be endorsed in the aircraft log book maintained in respect of the aircraft a statement that the flight was undertaken pursuant to this Exemption. Block records must be transferred to the engine log book at appropriate intervals.
- 3 The Exemption dated 28 September 2004 is hereby revoked.
- 4 This Exemption shall have effect from the date hereof until revoked.

R. Elder
for the Civil Aviation Authority and the United Kingdom
Dated 29 March 2006

Appendix 2 to GC No. 3

(Previously issued as Airworthiness Notice No. 98A, Appendix 2, Issue 3, 29 March 2006.)

Air Navigation Order 2005 Exemption

- 1 The Civil Aviation Authority, in exercise of its powers under Article 153 of the Air Navigation Order 2005 (as amended) ('the Order') hereby exempts any person from the requirements of Article 137(1)(a)(iii), 137(1)(b) and 137(3)(b) of the said Order subject to the following conditions.
- 2 This exemption shall only be relied upon when the following conditions are complied with:
 - a) The person relying on this exemption shall be causing or permitting leaded motor gasoline fuel to be delivered to an aircraft specified in Schedule 1 hereto which fuel complies with specification BS 4040:2001;
 - b) If the said fuel has not been obtained directly from a filling station forecourt pump carrying the appropriate fuel specification markings, the person shall comply with the requirements of Article 137(1)(a)(iii);
 - c) The person who has caused or permitted the fuel to be delivered to the aircraft, shall take all reasonable steps to ensure that for every flight made by that aircraft on which leaded fuel delivered pursuant to this exemption has been consumed, there is endorsed in the aircraft log book maintained in respect of the aircraft, a statement that the flight was undertaken in connection with this exemption. Block records must be transferred to the engine log book at appropriate intervals;
 - d) The person who has caused or permitted the fuel to be delivered to the aircraft, shall take all reasonable steps to ensure that any unsatisfactory engine operation or failure which may be attributed to the use of leaded motor gasoline shall be immediately reported to the CAA, Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick;
 - e) Records detailing the source and dates of fuel procurement and use must be maintained.
- 3 The exemption dated 28 September 2004 is hereby revoked.
- 4 This exemption shall have effect from the date hereof until revoked.

R. Elder
for the Civil Aviation Authority and the United Kingdom
Dated 29 March 2006

Schedule 1 to GC No. 3

(Previously issued as Airworthiness Notice No. 98A, Schedule 1, Issue 3, 29 March 2006.)

1 Motor Gasoline to BSI specification BS 4040 : 2001 but which contains NO alcohol may be obtained directly from a filling station forecourt for use in aircraft which meet the following three conditions; unless prohibited by paragraph 2.

1.1 The engine/aircraft combination is approved to use:

- MOGAS to Specification BS 4040: 2001

or

- AVGAS and the engine has a compression ratio not greater than 7.5:1 and is not supercharged; an engine with a compression ratio greater than 7.5:1 is acceptable provided the engine/aircraft combination is listed in Schedule 1 of Generic Concession No. 2.

1.2 The aircraft is not operating for the purposes of public transport or aerial work.

1.3 The aircraft is:

- a microlight aeroplane, or
- a gyroplane, or
- a powered sailplane, or
- a single engine light aircraft (below 2730 kg) and listed in Schedule 1 of Generic Concession No. 2.

NOTE: If an aircraft is not listed in Schedule 1 of Generic Concession No. 2, it may be because a request has not been received by the CAA for its inclusion.

2 Engine/Aircraft combinations falling outside the scope of this Concession include:

- a) Those combinations, unless listed in Schedule 1 of Generic Concession No. 2, for which the Aircraft Manuals specifically exclude the use of MOGAS.
- b) The following types for which experience with Generic Concession No. 2 has been unsatisfactory:

Grumman American AA1B Trainer – Lycoming O-235-L2C

Gulfstream American AA5A – Lycoming O-320-E

Gulfstream American AA5B – Lycoming O-360-A

Piper PA28 Warrior – Lycoming O-320-E3D

+ Jodel DR1050 -Continental O-200-A

+ Jodel D140A -Lycoming O-360-A

+ Piel Emeraude CP301B : Continental C90

+ Piel Emeraude CP301A : Continental O-200-A or C90

+ Piel Emeraude CP301B : Continental O-200-A

+ Piel Emeraude CP1301C : Continental C90

NOTE: + Unless the front fuel tank is used for take-off, initial climb and landing.

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GC No. 4 Use of Filling Station Forecourt Unleaded Motor Gasoline in Microlight Aeroplanes

(Previously issued as Airworthiness Notice No. 98B, Issue 4, 29 March 2006.)

1 Introduction

Generic Concession Nos. 2 and 3 permit the use of leaded Motor Gasoline (MOGAS) to Specification BS 4040. The supplies of this fuel became very limited after the year 2000. Consideration has been given to the possibility of using unleaded MOGAS to specification BS EN228:2004 and BS 7070 in aircraft powered by piston engines (including rotary piston engines). Although some engines are type approved to operate on this fuel, MOGAS supplies may not be obtainable in accordance with Article 137 of the Air Navigation Order 2005 (as amended). Accordingly, this Generic Concession No. 4 by means of the attached Exemption to Article 137 of the Air Navigation Order, permits the operation of microlight aeroplanes using unleaded motor gasoline, subject to the conditions stated in this Concession.

2 General

- 2.1 The flight and landing characteristics of microlight aeroplanes are designed to be such that an engine failure resulting in partial or total loss of power only, is not an unacceptable safety risk. However it is a condition of the use of unleaded MOGAS that the user fully accepts that there is an increased risk of engine failure when using fuels obtained from filling station forecourts rather than dedicated aviation fuel installations.
- 2.2 The provisions of this Concession are not applicable to aircraft other than microlight aeroplanes. Accordingly other aircraft may have to use alternative approved fuels, e.g. AVGAS when leaded MOGAS is no longer available, pending a supply of aviation grade unleaded fuel.
- 2.3 Aviation grade unleaded fuel is currently under development and should become commercially available during the next few years.

3 Conditions for using Unleaded Motor Gasoline obtained from a filling station forecourt

- a) The aircraft is a microlight aeroplane within the definition of ANO Article 155, having in force a valid Permit to Fly issued by the Authority or conducting flight trials under an appropriate permission (e.g. B Conditions) for the purpose of obtaining such a Permit.
- b) The engine/aircraft combination is CAA approved to use unleaded fuel complying with Specification BS EN228:2004 or BS 7070.
- c) Records of fuel supply must be maintained (date, location of purchase, quantity purchased, method of storage).

4 Precautions

- a) The fuel must not be rendered unfit by storage, contamination etc.
- b) Use only freshly obtained supplies; avoid long storage in the aeroplane fuel tank or in containers.
- c) The fuel must be checked for the presence of water if the aeroplane has been standing for 24 hours or longer.
- d) During the daily check and other routine inspections, pay particular attention to non-metallic fuel pipes and seals for signs of leaks or deterioration.
- e) The ability to maintain Take-Off power must be verified before the aircraft is committed to completing a take-off.

Appendix 1 to GC No. 4

(Previously issued as Airworthiness Notice No. 98B, Appendix 1, Issue 4, 29 March 2006.)

Air Navigation Order 2005 Exemption

- 1 The Civil Aviation Authority in exercise of its powers under the Article 153 of the Air Navigation Order 2005 (as amended) ('the Order') hereby exempts any person from the requirements of Article 137(1)(a)(iii), 137(1)(b) and 137(3)(b) of the said Order subject to the following conditions.
- 2 This exemption shall only be relied upon when the following conditions are complied with:
 - a) The person relying on this exemption shall be causing or permitting unleaded motor gasoline fuel to be delivered to an aircraft specified in Schedule 1 hereto which fuel complies with specification BS EN228:2004;
 - b) If the said fuel has not been obtained directly from a filling station forecourt pump carrying the appropriate fuel specification markings, the person shall comply with the requirements of Article 137(1)(a)(iii);
 - c) The person who has caused or permitted the fuel to be delivered to the aircraft, shall take all reasonable steps to ensure that for every flight made by that aircraft on which unleaded fuel delivered pursuant to this exemption has been consumed, there is endorsed in the aircraft log book maintained in respect of the aircraft, a statement that the flight was undertaken in connection with this exemption. Block records must be transferred to the engine log book at appropriate intervals.
 - d) The person who has caused or permitted the fuel to be delivered to the aircraft shall take all reasonable steps to ensure that any unsatisfactory engine operation or failure which may be attributed to the use of unleaded motor gasoline shall be immediately reported to the CAA, Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick;
 - e) No unleaded motor gasoline fuel shall be used for flight unless it complies with specification BS EN228:2004.
 - f) Records detailing the source and dates of fuel procurement and use must be maintained.
- 3 The exemption dated 28 September 2004 is hereby revoked.
- 4 This exemption shall have effect from the date hereof until revoked.

R. Elder
for the Civil Aviation Authority and the United Kingdom

Dated 29 March 2006

Schedule 1 to GC No. 4

(Previously issued as Airworthiness Notice No. 98B, Schedule 1, Issue 3, 29 March 2006.)

- 1 Motor gasoline to specification BS EN228:2004 may be obtained directly from a filling station forecourt for use in aircraft which meet the following conditions:
 - a) The aircraft is a microlight aeroplane within the definition of ANO 2005 (as amended) Article 155 having in force a valid Permit to Fly issued by the Authority, or is conducting flight trials under an appropriate permission for the purposes of obtaining a Permit to Fly as a microlight aeroplane.
 - b) The engine/aircraft combination is approved to use unleaded motor gasoline to specification BS EN228:2004.

GC No. 5 Use of Filling Station Forecourt Unleaded Motor Gasoline in Certain Light Aircraft

(Previously issued as Airworthiness Notice No. 98C, Issue 4, 28 March 2007.)

1 Introduction

Generic Concession Nos. 2 and 3 permit the use of leaded Motor Gasoline (MOGAS) to Specification BS 4040. The supplies of this fuel became very limited after the year 2000. Consideration has been given to the possibility of using unleaded MOGAS to specification BS EN228:2004 in aircraft powered by piston engines (including rotary piston engines). Although some engines are type approved to operate on this fuel, MOGAS supplies may not be obtainable in accordance with Article 137 of the Air Navigation Order 2005 (as amended). Accordingly, this Generic Concession No. 5, by means of the attached Exemption to Article 137 of the Air Navigation Order, permits the operation of certain light aircraft using unleaded motor gasoline obtained from a filling station forecourt, subject to the conditions stated in this Concession. (Generic Concession No. 4 provides a similar Exemption for certain Microlight aeroplanes.)

2 General

- 2.1 The provisions of this Generic Concession No. 5 are limited to unleaded MOGAS that does not contain alcohol. The BS EN228 specification allows the presence of some alcohols without further declaration. The implementation of a European Directive is likely to result in changes to the composition of unleaded MOGAS offered for sale in the EU to include the alcohols permitted by the BS EN228 specification ('Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of bio fuels or other renewable fuels for transport'). Therefore, anyone intending to use unleaded MOGAS in an aircraft should remain vigilant in verifying that the fuel does not contain alcohol.
- 2.2 It should be noted that although the CAA is satisfied that the qualifying aircraft/engines may be operated with adequate safety on filling station forecourt fuel, subject to the conditions stated in this Concession, the CAA takes no responsibility for infringement of manufacturer's warranty, accelerated deterioration of the engine or airframe components, or any other long term deleterious effects.

3 Conditions for using Unleaded Motor Gasoline obtained from a filling station forecourt

- a) The aircraft is a single engine aeroplane or rotorcraft (not exceeding 2730 kg MTOM), excluding aircraft contained in the Schedules to Generic Concession No. 4.
- b) The engine/aircraft combination is CAA approved to use unleaded fuel complying with Specification BS EN228:2004.
- c) Records of fuel supply must be maintained (date, location of purchase, quantity purchased, method of storage).

NOTE: Aircraft which can comply with 3 b), (as of 28 March 2007), are listed in Schedule 2 to this Concession together with the associated modifications required.

4 Precautions

- a) The fuel must not be rendered unfit by storage, contamination etc.
- b) Only freshly obtained fuels must be used; avoid long storage in the aircraft fuel tank or in containers.
- c) The fuel must be checked for the presence of water if the aircraft has been standing for 24 hours or longer.
- d) During the daily check and other routine inspections, pay particular attention to non metallic fuel pipes and seals for signs of leaks or deterioration.
- e) The ability to maintain Take-Off power must be verified before the aircraft is committed to completing a take-off.
- f) The fuel must be tested to ensure that it contains NO ALCOHOL.

NOTES: 1) The implementation of Directive 2003/30/EC will make the presence of alcohol more likely.

- 2)** A simple method for determining the presence of alcohol in fuel is to shake thoroughly a test cylinder containing 90 ml of the fuel to be tested and 10 ml of water. If, after settling, the water volume has increased, then alcohol is probably present in the fuel and the fuel is, therefore, unsuitable for aviation use.

Appendix 1 to GC No. 5

(Previously issued as Airworthiness Notice No. 98C, Appendix 1, Issue 3, 29 March 2006.)

Air Navigation Order 2005 Exemption

- 1 The Civil Aviation Authority in exercise of its powers under the Article 153 of the Air Navigation Order 2005 (as amended) ('the Order') hereby exempts any person from the requirements of Article 137(1)(a)(iii), 137(1)(b) and 137(3)(b) of the said Order subject to the following conditions.
- 2 This exemption shall only be relied upon when the following conditions are complied with:
 - a) The person relying on this exemption shall be causing or permitting unleaded motor gasoline fuel to be delivered to an aircraft specified in Schedule 1 hereto which fuel complies with specification BS EN228:2004;
 - b) If the said fuel has not been obtained directly from a filling station forecourt pump carrying the appropriate fuel specification markings, the person shall comply with the requirements of Article 137(1)(a)(iii);
 - c) The person who has caused or permitted the fuel to be delivered to the aircraft shall take all reasonable steps to ensure that for every flight made by that aircraft on which unleaded fuel delivered pursuant to this exemption has been consumed, there is endorsed in the aircraft log book maintained in respect of the aircraft, a statement that the flight was undertaken in connection with this exemption. Block records must be transferred to the engine log book at appropriate intervals;
 - d) The person who has caused or permitted the fuel to be delivered to the aircraft shall take all reasonable steps to ensure that any unsatisfactory engine operation or failure which may be attributed to the use of unleaded motor gasoline shall be immediately reported to the CAA, Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick;
 - e) No unleaded motor gasoline fuel shall be used for flight unless it complies with specification BS EN228:2004;
 - f) Records detailing the source and dates of fuel procurement and use must be maintained.
- 3 The exemption to Article 112(1)(a)(iii), 112(1)(b) and 112(3)(b) of the Air Navigation Order 2000 dated 16 March 2001 is hereby revoked.
- 4 This exemption shall have effect from the date hereof until revoked.

R. Elder
for the Civil Aviation Authority and the United Kingdom
Dated 29 March 2006

Schedule 1 to GC No. 5

(Previously issued as Airworthiness Notice No. 98C, Schedule 1, Issue 3, 29 March 2006.)

- 1 Motor gasoline to specification BS EN228:2004 may be obtained directly from a filling station forecourt for use in aircraft which meet the following three conditions:
 - a) The engine/aircraft combination is CAA approved to use unleaded motor gasoline to specification BS EN228:2004.
 - b) The aircraft is not operating for the purposes of public transport or aerial work.
 - c) The aircraft is a single engine aeroplane or rotorcraft (not exceeding 2730 kg MTWA), excluding aircraft contained in the Schedules to Generic Concession No. 4.

Schedule 2 to GC No. 5

(Previously issued as Airworthiness Notice No. 98C, Schedule 2, Issue 3, 29 March 2006.)

Aircraft and Engine combinations approved by the CAA to use unleaded motor gasoline to specification EN228.

This Schedule 2 lists the aircraft/engine combinations which, up to January 2001, have been approved by the CAA to use fuel conforming with EN228. The approved aircraft are divided into 3 groups:

- Group 1.** Aircraft for which the Type Certificate Holder has shown compliance with the applicable requirements, and for which approval to use EN228 is specified in the Flight Manual or other approved document.
- Group 2.** Aircraft embodying FAA STC-approved modifications to both the engine and the aircraft, where the combination of modifications has been validated by the CAA under Airworthiness Approval Notes 27743 and 27744.
- Group 3.** Aircraft embodying FAA STC-approved modifications to the engine, and for which compatibility between the fuel system and the fuel has been accepted by the CAA. The approval of these aircraft and their modified engines is given under Airworthiness Approval Notes 27742 and 27744.

NOTE: Aircraft issued with Permits to Fly on the basis of recommendations made by organisations holding appropriate approvals issued by the CAA, (e.g. PFA, BMAA, etc.), may be approved to use unleaded motor gasoline using the modification approval procedures of those organisations.

GROUP 1

Any aircraft which has a valid UK Certificate of Airworthiness and has unleaded motor gasoline (EN228) listed as a suitable fuel in the CAA-approved Flight Manual or other approved document, may be taken as satisfying paragraph 1(a) of Schedule 1.

GROUP 2

These aircraft are listed below. To satisfy paragraph 1(a) of Schedule 1 the aircraft and their engines must be modified in accordance with the referenced FAA STCs and comply with AANs 27743 and 27744.

The aircraft approved to use unleaded motor gasoline conforming with EN228 under AANs 27743 and 27744 are:

Aircraft Make	Aircraft Model	STC No.	STC Holder
Beech	D17S with P&W R-985 with STC SE1860CE	SA2009CE	Petersen Aviation
Beech	33 Series with TCM IO-470-K or -J engines with STC SE2016CE	SA2049CE	Petersen Aviation
Beech	35, A35, B35, C35, D35, E35, F35, G35, and 35R, with TCM E-185 Series, E-225 Series, TCM IO-470-K or -J engines with STC SE3033CE, SE2034CE, or SE2016CE as applicable.	SA2045CE	Petersen Aviation
Beech	35, A35, B35, C35, D35, E35, F35, G35, and 35R, with TCM E-185-1, -8, -11, or E-225-8 engines with STC SE693GL.	SA799GL	Experimental Aircraft Association

Aircraft Make	Aircraft Model	STC No.	STC Holder
Bellanca/ Champion/ Aeronca	7GCAA, 7GCBC, 7AC, S7AC, 7BCM, 7CCM, 7DC, S7DC, S7CCM, 7EC, S7EC, 7FC, 7GC, 7HC, 7JC, 7KC, 7ECA, 7GCB, 7GCBA and 7GCA with Lycoming or TCM engines with STCs SE1931CE, SE2035CE, SE2036CE, SE2029CE, SE2030CE or SE2031CE as applicable.	SA1970CE	Petersen Aviation
Boeing	75 Series with P&W R-985-, or TCM W670- engines with STCs SE1860CE, or SE2028CE as applicable.	SA1934CE	Petersen Aviation
Cessna	120, 140 Series with gravity feed to carburettor and TCM C-85 or C-90 Series engines with STC SE2030CE or SE2031CE as applicable	SA2100CE	Petersen Aviation
Cessna	120, 140 with TCM C-85-12 or -12F engine with STC SE634GL	SA691GL	Experimental Aircraft Association
Cessna	140A with TCM C-90-12F engine with STC SE634GL	SA692GL	Experimental Aircraft Association
Cessna	140A with gravity feed to carburettor and TCM C-90 or C-85 engine with STC SE2031CE or SE2030CE as applicable	SA2096CE	Petersen Aviation
Cessna	150, 150A through 150M, A150K, A150L, A150M, 152 and A152; - aircraft with TCM O-200-A engines with STC SE2031CE, or low-compression Lycoming O-320 engines with STC SE1931CE	SA2048CE	Petersen Aviation
Cessna	150, 150A through 150H, and 150J through 150M - aircraft with TCM O-200-A engines with STC SE634GL	SA633GL	Experimental Aircraft Association
Cessna	170, 170A, 170B with TCM C145-2, -2H with STC SE693GL	SA762GL	Experimental Aircraft Association
Cessna	170A, 170B with gravity feed to carburettor and TCM C145 or O-300 engine with STC SE2006CE	SA2019CE	Petersen Aviation
Cessna	172, 172A through 172H with TCM O-300- engines with STC SE2006CE, and 172I, K, L & M with Lycoming O-320-E2D engine with STC SE1931CE	SA1948CE	Petersen Aviation
Cessna	172, 172A, B, C, D, E, F, G, & H with TCM O-300-A, -B, -C, or -D with STC SE693GL	SA761GL	Experimental Aircraft Association
Cessna	172I, K, L, M with Lycoming O-320-E2D with STC SE800GL	SA801GL	Experimental Aircraft Association
Cessna	175, 175A, 175B, 175C, P172D with gravity feed to carburettor and TCM GO-300 engine with STC SE2105CE	SA2138CE	Petersen Aviation
Cessna	175, 175A, 175B, 175C, P172D with GO-300-A, -B, -C, -D, or -E engine with STC SE693GL	SA763GL	Experimental Aircraft Association
Cessna	177 with Lycoming O-320-E2D engine with STC SE1931CE	SA2010CE	Petersen Aviation

Aircraft Make	Aircraft Model	STC No.	STC Holder
Cessna	177 with Lycoming O-320-E2D engine with STC SE800GL	SA803GL	Experimental Aircraft Association
Cessna	180, 180A through 180H, 180J with TCM O-470-A, -J, -K, -L, -R, -S engines with STC SE1997CE	SA2001CE	Petersen Aviation
Cessna	180, 180A through 180H, 180J, 180K with TCM O-470-A, -J, -K, -L, -R engines with STC SE693GL	SA695GL	Experimental Aircraft Association
Cessna	182, 182A through 182H, 182J through 182N and 182P with TCM O-470-L, -R, -S engines with STC SE1997CE	SA2000CE	Petersen Aviation
Cessna	182, 182A through 182H, 182J through 182N and 182P with TCM O-470-L, -R, -S engines with STC SE693GL	SA694GL	Experimental Aircraft Association
Cessna	188, 188A, 188B with TCM O-470-R engine with STC SE1997CE	SA2013CE	Petersen Aviation
Cessna	190, 195, 195A, 195B with TCM engines with STC SE2028CE, or Jacobs engines with STCs SE2416CE, SE2417CE, or SE2418CE	SA2421CE	Petersen Aviation
Cessna	305B, 305E, T0-1D, 0-1D, 0-1F with TCM O-470- engines with STC SE2094CE	SA2098CE	Petersen Aviation
Cessna	305A, 305C, 305D, 305F, 0-1A, 0-1E, 0-1G with TCM O-470- engines with STC SE2094CE	SA2099CE	Petersen Aviation
Cessna	305A, 305C, 305D, 305F, 0-1A, 0-1E, 0-1G with TCM O-470-11 or -11B engine with STC SE693GL	SA759GL	Experimental Aircraft Association
Cessna	305B, 305E, T0-1A, 0-1D, 0-1F with TCM O-470-15 engine with STC SE693GL	SA760GL	Experimental Aircraft Association
DHC	DHC-2 with P&W R-985 with STC SE1860CE	SA1882CE	Petersen Aviation
Luscombe	8, 8A, 8C, 8D, 8E, 8F, T-8F with TCM A-50-1, A-65-1, A-75-8J, C-85-12, C-90-12F with STC SE634GL	SA730GL	Experimental Aircraft Association
Maule	M-4, M-4C, M-4S, M-4T with gravity feed to carburettor and TCM O-300 engine with STC SE2006CE	SA2097CE	Petersen Aviation
Maule	M-5-235, M-6-235, M-7-235, M-7-235A, M-7-235B, MX-7-235C, MX-7-235, M-7-235C; - with Lycoming O-540-B4B5 engines modified to STC SE1909CE	SA2963SO	Maule Flight
Piper	J3C-40, J3C-50, J3C-50S, J3C-65 L-4, L-4A, L-4B, L-4H, L-4J, J3C-65S, PA-11, PA-11S with TCM A-40-4, A-50-1, A-65-1, -8E engines with STC SE634GL	SA736GL	Experimental Aircraft Association
Piper	J-3 with TCM A-40 engine with STC SE634GL	SA775GL	Experimental Aircraft Association

Aircraft Make	Aircraft Model	STC No.	STC Holder
Piper	J3F-50, J3F-50S, J3F-60, J3F-60S, J3F-65, J3F-65S with TCM engines with STC SE634GL	SA832GL	Experimental Aircraft Association
Piper	J3L, J3L-S, J3L-65, J3L-65S with TCM engines with STC SE634GL	SA833GL	Experimental Aircraft Association
Piper	J-3C-65, J3C-65S, PA-11, PA-11S with gravity feed to carburettor and TCM A-65-(), C-75-(), C-85-(), and C-90-() engines with STCs SE2029CE, SE2030CE, or SE2031CE	SA2080CE	Petersen Aviation
Piper	J4, J4A, J4A-S with TCM A-50-1, A-65-1 engines with STC SE634GL	SA737GL	Experimental Aircraft Association
Piper	J4E, L-4E, with TCM A-75-9 engine with STC SE634GL	SA738GL	Experimental Aircraft Association
Piper	J4E, J4A-S with gravity feed to carburettor and TCM A-65-() engines with STC SE2029CE	SA2146CE	Petersen Aviation
Piper	J4E, L-4E with gravity feed to carburettor and TCM A-75-() engines with STC SE2030CE	SA2147CE	Petersen Aviation
Piper	PA-12, PA-12S with Lycoming O-235-(), O-290-(), O-320-() engines with STC SE1931CE, SE2035CE, or SE2036CE.	SA2075CE	Petersen Aviation
Piper	PA-14 with gravity feed to carburettor and Lycoming O-235-() engines with STC SE2035CE.	SA2083CE	Petersen Aviation
Piper	PA-16, PA-16S with gravity feed to carburettor and Lycoming O-235-() engines with STC SE2035CE.	SA2082CE	Petersen Aviation
Piper	PA-17 with TCM A-65-8 or -8F engines with STC SE634GL	SA766GL	Experimental Aircraft Association
Piper	PA-18, PA-18S, PA-18-105, PA-18S-105, PA-18A, PA-18-150, PA-18A-150, PA-18S-150, PA-18AS-150, PA-18S-135, PA-18AS-135, PA-18-125, PA-18S-125, PA-18-135, PA-18A-135, PA-19, PA-19S, with Lycoming O-235-(), O-290-(), or O-320-() engines with STC SE1931CE, SE2035CE, or SE2036CE, or with TCM C-90 engines with STC SE2031CE.	SA1961CE	Petersen Aviation
Piper	PA-20 with Lycoming O-320 engine with STC SE1931CE	SA2012CE	Petersen Aviation
Piper	PA-22, PA-22-108, PA-22-135, PA-22S-135, PA-22-150 and PA-22S-150 with Lycoming O-320-A2A, -A2B, O-235-(), O-290-() with STC SE1931CE, SE2035CE, or SE2036CE as applicable	SA1949CE	Petersen Aviation

Aircraft Make	Aircraft Model	STC No.	STC Holder
Piper	PA-25 and PA-25-235 with Lycoming O-540-B Series engine with STC SE1909CE	SA1932CE	Petersen Aviation
Piper	PA-28-140, -150, -151 with Lycoming O-320-E2A, -A2B, -E3D engines with STC SE800GL	SA802GL	Experimental Aircraft Association
Piper	PA-28-140, -150, -151 with Lycoming O-320-A2B, -E2A, -E2D, -E3D engines with STC SE1931CE	SA1963CE	Petersen Aviation
Piper	PA-28-235 with Lycoming O-540-B2B5, B1B5, B4B5 with STC SE1909CE	SA1964CE	Petersen Aviation
Reims Cessna	150G, H, J, K, L, M, FA150K, L; - aircraft with TCM O-200-A engines with STC SE2031CE, or low-compression Lycoming O-320 engines with STC SE1931CE	SA00216WI	Petersen Aviation
Reims Cessna	F172D, E, F, G, H, K, L, M with TCM O-300- engines with STC SE2006CE, and with Lycoming O-320-E2D engine with STC SE1931CE	SA00215WI	Petersen Aviation
Reims Cessna	F182P with TCM O-300- engines with STC SE2006CE, and with Lycoming O-320-E2D engine with STC SE1931CE	SA00214WI	Petersen Aviation
Robinson	R22 with Lycoming O-320-A2B or A2C with STC SE1931CE	SH2011CE	Howard Fuller
Stinson	108, 108-1, 108-2, 108-3 with gravity feed to carburettor and Franklin 6A4-(I) engines with STC SE2127CE.	SA2128CE	Petersen Aviation
Stinson	SR-5, -5A, -5B, -5C, -5E, L-12; - with gravity feed and Lycoming R-680-(I) radial engines with STCs SE2409CE, SE2413CE, or SE2414CE as applicable	SA00002WI	Petersen Aviation
Stinson	L-5B, -5C, -5D, -5E, -5E-1, -5G; - with gravity feed and Lycoming O-435-(I) engines with STC SE2278CE	SA2396CE	Petersen Aviation
Taylorcraft	BC, BCS, BC-65, BCS-65, BC12-65(L-2H), BCS12-65, BC12-D, BCS12-D, BC12-D1, BCS12-D1, BC12D-85, BCS12D-85, BC12D-4-85, BCS12D-4-85 with TCM A-50-1, A-65-1, -7, -8, C85-8F, -12F engines with STC SE634GL	SA768GL	Experimental Aircraft Association
Taylorcraft	19 and F19 with TCM C-85-12, -12F, or O-200-A engine with STC SE634GL	SA769GL	Experimental Aircraft Association
Taylorcraft	DC-65 (L-2, L-2C), DCO-65 (L-2A, L-2B, L-2M) with TCM A-65-8 engine with STC SE634GL	SA770GL	Experimental Aircraft Association

Aircraft Make	Aircraft Model	STC No.	STC Holder
Taylorcraft	BC-65, BCS-65, BC12-65(L-2H), BCS12-65, BC12-D, BCS12-D, BC12-D1, BCS12-D1, BC12D-85, BCS12D-85, BC12D-4-85, BCS12D-4-85 with TCM A-50-1, A-65-1, -7, -8, C85-8F, -12F engines with STC SE2029CE or SE2030CE	SA2085CE	Petersen Aviation
Taylorcraft	19 and F19 with TCM C-85-12, -12F, or O-200-A engine with STC SE2030CE or SE2031CE	SA2076CE	Petersen Aviation
Taylorcraft	DC-65 (L-2, L-2C), DCO-65 (L-2A, L-2B, L-2M) with TCM A-65-8 engine with STC SE2029CE	SA2086CE	Petersen Aviation
Univair/Erco/ Alon/Forney/ Mooney	415-D, E, G, F-1, F-1A, A-2, A-2A, M10 with TCM C75-12, -12F, C85-12, -12F, C- 90-12F, -16F engines with STC SE634GL	SA798GL	Experimental Aircraft Association
Univair/ Erco/ Alon/ Forney/ Mooney	415-C, 415CD with TCM A-65-8, C75-12, -12F, engines with STC SE634GL	SA821GL	Experimental Aircraft Association

GROUP 3

These aircraft are listed below. To satisfy paragraph 1(a) of Schedule 1 the aircraft must be modified in accordance with the referenced FAA STCs and comply with AANs 27742 and 27744.

The aircraft approved to use unleaded motor gasoline conforming with EN228 under AANs 27742 and 27744 are :

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Adam Loisir	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Aeronca L16	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Aeronca 7BCM	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Aeronca 7AC	Continental A65 or A75	SE2029CE - Petersen Aviation SE2030CE - Petersen Aviation SE634GL - E.A.Association
Aeronca 11 AC	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Aeronca 7FC	Continental A75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Aeronca 15AC	Continental C-145	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Aeronca 11CC	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Andreasson BA4B	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Auster 4	Lycoming O-290	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Auster 5	Lycoming O-290-3, O-320	SE2036CE - Petersen Aviation SE1931CE - Petersen Aviation SE800GL - E.A.Association
Auster 5J2 Arrow	Continental C75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Auster 5J4/100	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Auster D4/108	Lycoming O-235-C	SE2035CE - Petersen Aviation
Auster D5/J2	Continental A75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Auster D5/JSA	Continental A75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Auster D6 -180	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Baby Lakes	Continental A65-8	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Beagle Pup 100	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Beagle Pup B121/2	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Bolkow Junior	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Bellanca Citabria	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Bellanca 7ACA	Continental C-85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Boeing Stearman A75N1	Continental W670 6A	SE2028CE - Petersen Aviation
Brochet M B84	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Cassutt Racer 111 M	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
CEA DR221	Lycoming O-235-C	SE2035CE - Petersen Aviation
Cessna 120	Continental C90, Continental C85	SE2031CE - Petersen Aviation, SE2030CE - Petersen Aviation SE634GL - E.A.Association
Cessna 140	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Cessna 150	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna 150E	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Cessna 150M	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna F150	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna F150H	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna F150K	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna F150L	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna F150M	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna FA150K	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cessna 152	Lycoming O-235-L	SE790GL - E.A.Association
Cessna F152	Lycoming O-235-L	SE790GL - E.A.Association
Cessna 170B	Continental O-300-A	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172	Continental O-300-A	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172A	Continental O-300-C or -D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172B	Continental O-300-C or -D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172E	Continental O-300-C or -D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172H	Continental O-300-D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna 172M	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Cessna F172E	Continental O-300-D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna F172F	Continental O-300-D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna F172H	Continental O-300-D	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Cessna F172L	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Cessna F172M	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Cessna 175	Continental GO-300	SE2105CE - Petersen Aviation SE693GL - E.A.Association
Cessna 177	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Cessna 180	Continental O-470-J or L	SE1997CE - Petersen Aviation SE693GL - E.A.Association
Cessna 182G	Continental O-470-R	SE1997CE - Petersen Aviation SE693GL - E.A.Association
Chilton DW1	Lycoming O-145-A2	SE2466CE - Petersen Aviation
Coates Swalsong	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Cosmic Wind	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Currie Wot	Lycoming O-145-A	SE2466CE - Petersen Aviation
DHC -2 Beaver	Pratt &Whitney R985-AN1	SE1860CE - Petersen Aviation
Druine Condor	Continental C90, O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Druine Turbi	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
E.A.A.Biplane	Continental C75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Evans VP -2	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Falconair F11	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Fokker DVIII	Warner Scarab	SE2591CE - Petersen Aviation
Fokker E111 Replica	Continental A75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Fournier RF6B -100	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Great Lakes	Warner Scarab	SE2591CE - Petersen Aviation
Issacs Fury	Lycoming O-290	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Issacs Spitfire	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jodel D11	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jodel D112	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Jodel D117 117A	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jodel D119	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jodel D120	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jodel 150	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
*Jodel DR1050	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jurca Tempete	Lycoming O-290-D, Continental C90	SE2036CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association
Jurca Sirocco	Lycoming O-290-D	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Kittiwake 1	Lycoming O-290-D, Continental O-200-A	SE2036CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association SE800GL - E.A.Association
Kittiwake 2	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Luscombe 8A	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Luscombe 8E	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Luscombe 8F	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Luton Minor	Lycoming O-145-A	SE2466CE - Petersen Aviation
Luton Minor 111	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Luton Major LA5	Continental C90, Continental O-200-A	SE2031CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association
Manning Flanders	Continental C75	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Minicab GY20, GY201	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Minicab GY30, JB -01	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Midget Mustang	Continental C85, C90	SE2030CE - Petersen Aviation, SE2031CE - Petersen Aviation SE634GL - E.A.Association
Morane N Replica	Continental C90	SE2031CE - Petersen Aviation
Morane Saulnier MS 892A	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Morane Saulnier 100ST	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Nord NC 854,854S,858S	Continental A65, Continental C90	SE2029CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association
Pazmany PL4A	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
*Piel Emeraude CP 301B	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
*Piel Emeraude CP 301A	Continental O-200-A or C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
*Piel Emeraude CP 301B	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
*Piel Emeraude CP 301C	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Piper J2, J3C-65, L4A-C85, C90	Continental A65, C85, Continental C90	SE2029CE - Petersen Aviation SE2030CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association
Piper J4A	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Piper PA12	Lycoming O-290	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Piper PA15	Lycoming O-145-A	SE2466CE - Petersen Aviation
Piper PA15	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Piper PA16	Lycoming O-235-C	SE2035CE - Petersen Aviation
Piper PA16	Lycoming O-290-D	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Piper PA17	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Piper PA17	Continental C85	SE2030CE - Petersen Aviation SE634GL - E.A.Association
Piper PA18 Cub	Lycoming O-290, O-320-A	SE2036CE - Petersen Aviation SE1931CE - Petersen Aviation SE800GL - E.A.Association
Piper PA18-135	Lycoming O-290-D, O-320-A	SE2036CE - Petersen Aviation SE1931CE - Petersen Aviation SE800GL - E.A.Association
Piper PA19	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Piper PA20	Lycoming O-290	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Piper PA22 -108	Lycoming O-235-C	SE2035CE - Petersen Aviation
Piper PA22 -135	Lycoming O-290	SE2036CE - Petersen Aviation SE800GL - E.A.Association
Piper PA22 -150	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Piper PA28 -140	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Piper PA28 -151	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Piper PA38 -112	Lycoming O-235-L	SE790GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Pitts S1C	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Rallye MS880B	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Rallye MS883	Lycoming O-235-C	SE2035CE - Petersen Aviation
Rallye 885	Lycoming O-235-C	SE2035CE - Petersen Aviation
Rallye 885	Continental O-300-A	SE2006CE - Petersen Aviation SE693GL - E.A.Association
Rallye 100ST	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Rallye 150ST	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Rallye ST150	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Replica SE5A	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Replica SE5A	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Replica WAR Sea Fury	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Robin R2112 Alpha	Lycoming O-235-L	SE790GL - E.A.Association
Robinson R22 Helicopter	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Rollason Beta	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Rutan Varieze	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Scheibe SF3A/C	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Scintex CP 301 -C2	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Scintex CP1310	Continental O-200	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Shield Xyla	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Sipa 91, 901, 902, 903	Continental C90, C85	SE2031CE - Petersen Aviation SE2030CE - Petersen Aviation SE634GL - E.A.Association
Socata TB9	Lycoming O-320-E	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Sopwith Tabloid	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Stitts Playboy	Continental A75	SE2030CE - Petersen Aviation SE634GL - E.A.Association

Aircraft Type	Engine Type	Engine STC(s) (as applicable)
Stolp Starlet	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Stolp V Star SA900	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Storey TSR3	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Taylorcraft Plus D	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Taylorcraft BC-12D	Continental A65	SE2029CE - Petersen Aviation SE634GL - E.A.Association
Taylorcraft F.19	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Taylorcraft F.21	Lycoming O-235-L	SE790GL - E.A.Association
Taylor Titch	Continental C85, C90, O-200-A	SE2030CE - Petersen Aviation SE2031CE - Petersen Aviation SE634GL - E.A.Association
Turner TSW	Lycoming O-320-A	SE1931CE - Petersen Aviation SE800GL - E.A.Association
Volmer Sportsman	Continental C90	SE2031CE - Petersen Aviation SE634GL - E.A.Association
Wittman Tailwind	Continental C90, O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association
WAR FW 190	Continental O-200-A	SE2031CE - Petersen Aviation SE634GL - E.A.Association

* Front fuel tank must be used for take-off, initial climb and landing.

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GC No. 6 Flight in UK Air Space of Foreign Registered Home-Built Aircraft

(Previously issued as Airworthiness Notice No. 52, Issue 5, 31 October 2008.)

- 1 Article 8 of the United Kingdom Air Navigation Order 2005 prohibits the flight of foreign registered home-built aircraft in UK airspace. This is because a home-built aircraft cannot hold an ICAO Certificate of Airworthiness (issued to comply with the Convention on International Civil Aviation dated 7 December 1944), which Article 8 requires. The CAA may grant exemptions from Article 8 of the Order and so allow foreign registered home-built aircraft to fly in UK airspace. This Generic Concession (GC) provides such an exemption and explains what is required of the owners of aircraft who wish to make use of it.
- 2 In June 1980 the European Civil Aviation Conference (ECAC) recommended that Member States should allow home-built aircraft holding a (non-ICAO) Permit to Fly or equivalent document issued by another ECAC State to fly in their country without any restrictions other than those stated on the Permit to Fly or equivalent document. The CAA implemented this recommendation on behalf of the United Kingdom by issuing an Exemption within Issue 1 of CAP 455 Airworthiness Notice No. 52 from compliance with the appropriate provisions of the Air Navigation Order relating to Certificates of Airworthiness.
- 3 Since the exemption was issued European Union legislative changes have removed certain constraints on aircraft ownership. As a result of these changes the exemption issued by the CAA could be a mechanism for importing into the UK a foreign registered home-built aircraft that has not been shown to comply with UK safety requirements. The CAA considers that the intent of the ECAC agreement was to permit over flight and short-term visits only. The CAA also has concerns over the level of airworthiness regulation that the States of Registry would be able to exercise during prolonged periods of operation in other States. To address these issues a new exemption, with revised conditions, has been issued as Appendix 1 to this GC.
- 4 The conditions of the exemption require that, before flying a foreign home-built aircraft in UK airspace, the owner of the aircraft shall:
 - a) send to the CAA the information specified in Schedule 1 to the exemption;
 - b) obtain an acknowledgement from the CAA; and
 - c) ensure that the documents specified in Schedule 2 to the exemption are available for inspection on demand by the CAA when the aircraft is in the UK.
- 5 A Form for sending the required information to the CAA is given as Schedule 1 to this GC. The information should be submitted by e-mail to:

an52exemption@caa.co.uk

NOTE: This e-mail address should not be used for any other purpose

An acknowledgement will be sent by e-mail. A paper copy of the acknowledgement must be kept available for inspection when the aircraft is in the UK.

- 6 Contact details for enquiries:
Applications and Approvals Department
2E, Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
UNITED KINGDOM
Fax: + 44 1293 57 3860
E-Mail: aanda@caa.co.uk
- 7 Where there is a need for a foreign registered home-built aircraft to be in the UK for more than 28 days in one calendar year, a specific exemption must be applied for. Application must be made to the Applications and Approvals Department at the above address.
- 8 Any person flying a foreign registered home-built aircraft in the UK without complying with the terms of the exemption at Appendix 1 (or obtaining an alternative exemption from the CAA) may be flying in breach of Article 8 of the Air Navigation Order 2005 and be liable to prosecution.

Appendix 1 to GC No. 6

(Previously issued as Airworthiness Notice No. 52, Appendix 1, Issue 4, 29 March 2006.)

Air Navigation Order (2005) Exemption

1 Exemption for Foreign Registered Home-built Aircraft

In order to facilitate over flight and visits to the UK by foreign registered home-built aircraft, the Civil Aviation Authority, in exercise of its powers under Article 153 of the Air Navigation Order 2005, hereby exempts, subject to paragraph 2, any home-built aircraft registered in a Member State of the European Civil Aviation Conference from the provisions of Article 8 of the said Order to the extent necessary to enable the aircraft to fly in accordance with the Permit to Fly or equivalent document issued by the State of Registry of the aircraft.

2 Conditions of Exemption

This exemption is granted subject to the following conditions:

- a) The aircraft shall not be flown over any assembly of persons or over any congested area of a city, town or settlement.
- b) The aircraft shall not be flown for the purpose of public transport or aerial work.
- c) The aircraft shall be flown only in accordance with daytime Visual Flight Rules.
- d) The conditions, limitations and restrictions applicable under the Permit to Fly or equivalent document issued by the State of Registry shall be observed.
- e) The aircraft shall not remain in the United Kingdom pursuant to this exemption for more than 28 days in any one calendar year.
- f) Prior to each visit to the UK, the aircraft owner shall provide to the CAA the information specified in Schedule 1 to this exemption.
- g) The owner of the aircraft shall ensure that the documents specified in Schedule 2 to this exemption are available for inspection by the CAA on demand when the aircraft is in the UK.

3 The exemption to Article 8 of the Air Navigation Order 2000 dated 22 March 2002 is hereby revoked

4 This exemption shall have effect from the date hereof until revoked.

D W Blackall
for the Civil Aviation Authority and the United Kingdom
Dated 29 March 2006

Schedule 1 to GC No. 6

(Previously issued as Airworthiness Notice No. 52, Schedule 1, Issue 3, 31 October 2008.)

Prior to each visit by a foreign registered home-built aircraft to the UK under the terms of the exemption provided with this GC the owner of the aircraft shall forward to the CAA the information specified in this Schedule 1 as set out below:

Information required for foreign registered home-built aircraft exemption	
To: UK CIVIL AVIATION AUTHORITY Applications and Approvals Department 2E, Aviation House Gatwick Airport South West Sussex RH6 0YR UNITED KINGDOM	E-mail: an52exemption@caa.co.uk
Aircraft Registration	
Aircraft Type	
Intended date of entry to the UK	
Intended date of exit from the UK	
Name of Aircraft owner	
Address of Aircraft owner	
Date of issue of Permit to Fly or equivalent document (as issued by the State of Registry)	
The date on which the Permit to Fly or equivalent document becomes invalid. Important Note: The Permit or equivalent document must be valid for the full period of the visit.	

Schedule 2 to GC No. 6

(Previously issued as Airworthiness Notice No. 52, Schedule 2, Issue 1, 29 March 2006.)

Documents to be made available for inspection by the CAA

Whenever a foreign registered home-built aircraft is visiting the UK under the terms of the exemption provided with this GC the owner of the aircraft shall ensure that the documents specified in this Schedule 2, as set out below, are available for inspection by the CAA on demand:

- a valid Permit to Fly or equivalent document for the aircraft issued by the State of Registry;
- a copy of the CAA's acknowledgement of having received the data specified in Schedule 1 to this GC; and
- a valid insurance certificate or document as appropriate.

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