Safety and Airspace Regulation Group

Civil Aviation Authority

CAP 553

BCAR Section A

Airworthiness Procedures where the CAA has Primary Responsibility for Type Approval of the Product

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Sub-section A5 Continued Airworthiness – Responsibilities of the Type Design Organisation

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Sub-section A7 Procedures for the Approval of Documents and Manual for Operation and Maintenance of Aircraft

Sub-section A8 Approvals
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Revision History

Issue 6, Amendment 1 — 31 January 2003

The purpose of this Amendment 1 to Issue 6 is to publish BCAR Working Draft Papers 910, 913, 914, 915, 916, 917, 918, 920, 921, 922 and 923 as Requirements together with editorial changes convenient to be incorporated at this time.

Pages dated'31 January 2003 (Corr.)' indicate pages that have been corrected as a result of errors in the original 31 January 2003 issue. This indicates changing all occurrences of Constructor to Manufacturer in order to bring BCAR A into line with ICAO terminology. Marginal lines have been included to highlight where the corrections are.

Technical Changes

Chapter	Description
Foreword	A caveat has been added to the Foreword to clarify that BCAR A does not apply to those aircraft that have been the responsibility of the European Aviation Safety Authority since 28th September 2003.
A1-2	'NOTE' in 2.1.2 amended to reflect recent changes to the Air Navigation Order.
A1-3	Deletion of incorrect reference.
A1-4	Incorporation of Paper 910.
A2-5	Deletion of the word 'instruments' from paragraph 1.1.
A3-4	Incorporation of Paper 918. This Chapter has been amended to reflect current practices. It modifies the applicability of Group II as defined in the Chapter, includes changes to clarify that Procedure 1 applies to Group I and Procedure 2 to Group II, and introduces a reference to JAR-OPS in the section addressing the weighing of aircraft.
A3-5	Incorporation of Paper 913. Addition of new text to paragraph 1.3 a) ii) which focuses the concentration of airworthiness flight testing on older aircraft where more significant problems have been found to lie, as well as moving the previous NOTE to become a continuation of 1.3 a) ii) rather than a separate NOTE.
A3-11	Change of contact details in paragraph 1, removal of incorrect information in paragraph 2.1 and removal of old contact name in paragraph 5.
A5-3	Deletion of reference to cancelled material.
A5-6	Deletion of reference to cancelled material.
A5-7	In paragraph 9.4 reference to MMEL's being 'despatched' has been removed, MMEL's are now available on the CAA website. In paragraph 9.6 TR's are also now available via the CAA website, they are not necessarily accompanied by a 'list of effective Temporary Revisions' as the TRs themselves are incorporated in the MMEL download. TRs are no longer published on yellow paper.
A6-2, Appendix 1	Deletion of reference to cancelled material.
A6-5	In paragraphs 1.3 and 3 cross references updated.

A8-7	Deletion of reference to cancelled material.
A8-9 and its appendices	Incorporation of Paper 916. Changes made to increase clarity of existing text.
A8-15	Incorporation of Paper 917. This Chapter has been amended to reflect current practices. It now refers to the Groups I and II, and Procedures 1 and 2 of Chapters A3-4. A reference to CAP 520 'Light Aircraft Maintenance', has been added.
A8-16	Deletion of old reference.
A8-20	Incorporation of Paper 923.
A8-20, Appendix 1	Incorporation of Paper 922.
A8-20, Supplement 1	Incorporation of Paper 920.
A8-20, Supplement 2	Incorporation of Paper 921.
A8-20, Supplement 3	Incorporation of Paper 914.
A8-20, Supplement 4	Incorporation of Paper 915.

Issue 6, Amendment 2 — 25 February 2008

The purpose of this Amendment 2 to Issue 6 is to publish new BCAR Chapter A8-21 as a Requirement, together with editorial changes convenient to be incorporated at this time.

Technical Changes

The following Chapters have been amended as shown:

Chapter	**Description**
Explanatory Note	The 'Explanatory Note' has been replaced by a 'Revision History', to keep the format in line with Civil Aviation Publications.
Foreword	NOTE b) to paragraph 1 deleted as no longer applicable and subsequent sub-paragraphs renumbered. NOTE c) to paragraph 1 updated to include reference number to European Commission Regulation (EC) No. 2042/2003. Paragraph 3.1: reference to Air Navigation Order updated to 2005. Paragraph 6.2 deleted as no longer applicable. Paragraph 8 word 'England' changed to 'UK'.
A1-2	Amended to reflect changes in Categories of Certificates of Airworthiness and update cross-references to the Air Navigation Order.
Introductory Note to Sub-Section A8	Group categories for A1, A2 and E1/E2 amended to include a note regarding non-acceptance of new applications from 25 February 2008 following the introduction of new Chapter A8-21, and withdrawal of A1, A2 and E1/E2 approvals after a 2-year transition period. Group categories B2, B3, C1 and C2 deleted as approvals cancelled in September 2005 are no longer valid. New group categories A1, A2 and E1 added for Chapter A8-21.

A8-3 Supplement 2	Paragraphs 1.1 and 3.2.1 updated to include reference to Commission Regulation (EC) 2042/2003 Part M and Part 145. Paragraph 2.1 updated to reflect change of Department name and address. Paragraph 2.1 NOTE deleted as considered superfluous. Paragraph 3.1.1 a) amended to include reference to Part 66 B1, B2 and C Licences.
A8-4	Chapter deleted as no longer valid.
A8-5	Chapter deleted as no longer valid.
A8-7	Chapter deleted as no longer valid.
A8-16	Chapter deleted as no longer valid.
A8-21 A8-21 Supplement 1 A8-21 Supplement 2 A8-21 Supplement 3 A8-21 Appendix 1 A8-21 Appendix 2 A8-21 Appendix 3	New Chapter 'Approval of Organisations Responsible for Design or Production', introduced to reflect the coming into force of Implementing Rule 1702/2003 Part 21 and the resulting need for a complementary UK requirement applicable to those organisations designing and producing non-EASA aircraft (Annex II aircraft).

Issue 6, Amendment 3 — 8 August 2008

The purpose of this Amendment 3 to Issue 6 is to amend Chapter A8-20 to extend the applicability of Group E4 and Group M5 approvals; and to publish new BCAR Chapter A8-22 as a Requirement, together with editorial changes convenient to be incorporated at this time.

Technical Changes

Chapter	Description
Foreword	Paragraph 1: Reference to 'Regulation (EC) No. 1592/2002 of the European Parliament and of the Council of 15 July 2002' replaced by 'Regulation (EC) No. 216/2008 of the European Parliament and of the Council of 20 February 2008'. Paragraph 1 Note a): Reference to EC Regulation No. updated as above.
A3-7	Paragraph 11.3: Amended to correspond with the changes made to Chapter A8-20 as detailed below.
A8-20 A8-20 Appendix 1 A8-20 Supplements 1-4	Chapter amended to extend the applicability of Group E4 and Group M5 approvals to lighter aircraft, and also to address an AAIB Safety Recommendation which stipulates that English language translations of all foreign language continuing airworthiness information and maintenance data are required to be available. Appendix and Supplements amended to reflect the changes to Chapter A8-20 described above. Also corrections have been made to replace some permissive clauses with mandatory clauses; and update superseded references and names of CAA Departments.
A8-21	Paragraph 1 and Note 1: Reference to 'Regulation (EC) No. 1592/2002' replaced by 'Regulation (EC) No. 216/2008'.

A8-22 A8-22 Supplement 1 A8-22 Appendix 1	New Chapter 'Approval of Qualified Entities' introduced to set out the requirements for the approval of organisations that carry out airworthiness investigations on the CAA's behalf and submit reports and recommendations to the CAA. These requirements will apply to aircraft, which are not the responsibility of the European Aviation Safety Agency.

Issue 6, Amendment 4 — 6 November 2009

The purpose of this Amendment 4 to Issue 6 is to publish a new Chapter A2-7, and a complete revision to existing Chapter A3-7, including a new Appendix 4, together with editorial changes convenient to be incorporated at this time.

Technical Changes

Chapter	Description
Foreword	Paragraph 3.1 amended to revise the ICAO compliance statement to include ICAO 'recommended practices' as well as standards.
A2-7	New Chapter 'Type Approval' introduced following a decision to separate the Type Approval process from existing Chapter A3-7. There are no technical changes to the Type Approval process.
A3-4	Paragraph 4.3 and 5.1.5 Note amended to update references to material that has been superseded. Paragraph 4.7 amended to remove the word 'Regional'.
A3-7	Chapter completely revised, including: the removal of the Type Approval process paragraphs that have been transferred to new Chapter A2-7; and the following principle changes to the requirements: the CAA will refuse to issue a permit, if the aircraft is eligible for a Certificate of Airworthiness; the text is clarified, that A3-7 applies only to UK national Permits to Fly; the annual issue of a Certificate of Validity will be required in place of the renewal or re-validation of the Permit to Fly; a review of the aircraft's maintenance history, and in most cases an annual check flight, will be required prior to the re-issue of the Certificate of Validity; English language translations of all foreign language continuing airworthiness information and maintenance data are required to be available; civilian organisations will be able to utilise the procedures of BCAR Chapter A8-20.
A3-7 Appendix 4	New appendix 'Airworthiness Review' introduced to summarise the requirements of an airworthiness review of a National Permit to Fly aircraft.

Introductory Note to Sub-Section A8	Group category A1, A2, E1 and E2 Notes amended to reflect that the CAA will accept applications from manufacturers of microlight aircraft for A8-1, A8-2, and A8-8 approvals. Group category A1 (Design and Production Organisations) deleted as no longer valid. Group category 'A2' (Production Organisations) renamed 'POA' Group category A3 (Consortium Management Organisations) deleted as no longer valid. Group category 'E1' (Design Organisations) renamed 'DOA'. Group category E4 and M5 definitions amended to reflect A8-20 approvals. Group category F4 (Organisations) amended to reference 'Chapter A8-9'. Group category G1 (Flight Testing) deleted as no longer valid. Group Category QE 'Qualified Entity' added to reference A8-22 approvals.
A8-9	Relevant group categories added against the title for clarity and consistency with other Sub-Section A8 Chapters. Paragraphs pertaining to G1 approvals removed as no longer valid, and subsequent paragraphs renumbered and cross-references updated. Paragraph 3.1 and 3.2 amended to update references to material that has been superseded.
Appendices 1 and 2 to A8-9	Cross-references to paragraphs in Chapter A8-9 updated.
Appendix 3 to A8-9	Cross-references to paragraphs in Chapter A8-9 updated, references to superseded material updated and address to submit applications amended.
Appendix 4 to A8-9	Appendix deleted as no longer valid.
A8-19	Chapter deleted as no longer valid.
A8-20	Relevant group categories added against the title for clarity and consistency with other Sub-Section A8 Chapters.
A8-20 Supplement 4	Paragraph 1.6 d) amended to remove duplication of the word 'engines'.
A8-21	Relevant group categories added against the title for clarity and consistency with other Sub-Section A8 Chapters
A8-22	Relevant group category added against the title for clarity and consistency with other Sub-Section A8 Chapters. Paragraph 13.1 c) reworded for clarity.

NOTE: In addition to the above changes, the first page of some of the Sub-Section A8 Chapters has been reissued to include a minor format change for consistency with other Sub-Section A8 chapters; these pages do not contain any technical changes. The chapters affected are A8-1, A8-2, A8-3, A8-6, A8-8, and A8-18.

Issue 7 5 October 2011

The purpose of Issue 7 is to publish new Chapters: A3-1, A6-1, A8-23, A8-24 and A8-25, and a complete revision of Chapters: A3-3, A3-5 and A8-15. Some editorial changes and updates, convenient to be included at this time, have been incorporated.

Technical Changes

Chapter	Description
Abbreviations and Definitions	This new Section has been added for clarification.
A3-1	New Chapter has been compiled from existing BCAR Chapter A3-2 'Issue of Certificate of Airworthiness', Part 21 'Airworthiness Certificates', and Part M, 'Airworthiness Review' and 'Airworthiness Review Certificate'. It is intended to replace the existing Chapter A3-2 and introduce the concept of a non-expiring Certificate of Airworthiness and a National Airworthiness Review Certificate (National ARC). Changes have been made to accommodate the Air Navigation Order and BCAR Section L Engineer Licensing.
A3-2	Chapter has been deleted as it is replaced by A3-1.
A3-3	This existing BCAR A chapter has been amended to make it complementary to the new Chapters. The opportunity has been taken to revise the procedures contained in this Chapter to reflect current CAA policies and practice with respect to Airworthiness Check Flights.
A3-4	Chapter has been deleted as it is no longer valid.
A3-5	This existing BCAR A Chapter has been amended to make it complementary to the new Chapters. The opportunity has been taken to revise the procedures contained in this Chapter to reflect current CAA policies and practice with respect to Airworthiness Check Flights.
A6-1	This new Chapter has been compiled from Part M, Subparts A to D and H, the latter Subpart is to replace the Certificate of Release to Service (CRS), aspects of Chapter A6-2 'Maintenance of Aircraft' and Chapter A6-7 'Certification of Inspections, Overhauls, Modifications, Repairs and Replacement'. Chapters A6-2 and A6-7 will be replaced by this new Chapter A6-1.
A6-2	Chapter has been deleted as it has been replaced by new Chapter A6-1.
A6-7	Chapter has been deleted as it has been replaced by new Chapter A6-1.
A7-2	This Chapter has been updated to revise the procedures to reflect current CAA policies and practice with respect to Flight Manuals.
Introductory Note to Sub-Section A8	Approved Organisations listing, Group categories have been updated and Groups M1, M2 and CAMO added to the list. Group M4 has been deleted.
Supplement 2 to A8-3	Supplement 2 has been deleted as it has been replaced by A8-23 or A8-24, where applicable.

A8-15	This Chapter has been revised to enable existing M3 approval holders to make recommendations for the renewal of a National ARC for aeroplanes and rotorcraft having an MTWA not exceeding 2730 kg.
A8-18	This Chapter has been deleted as it has been replaced by A8-23 or A8-24, where applicable.
A8-23	This new Chapter introduces a new approval: M1 'Approval of Organisations Responsible for Maintenance of Aircraft', based upon Part 145 (the previous M1 designator was used for BCAR Chapter A8-13, which covered maintenance of large aircraft and the principles of which was subsumed into JAR-145, later Part 145), it also contains an 'Anybody's Exposition'. This approval will be available to all classes of aircraft, if the applicant prefers to meet this set of requirements instead of those of new chapter A8-24.
A8-24	This new Chapter introduces a new approval: M2 'Approval of Organisations Responsible for Maintenance of Aircraft below 5700 kg or Single Engined Helicopters, not used for Commercial Air Transport or State purposes', based upon Part M, 'Maintenance Organisation'. This Chapter also contains an 'Anybody's Exposition'.
A8-25	This new Chapter is based upon Part M, 'Continuing Airworthiness Management Organisation'. It should be noted that essentially those organisations handling EASA aircraft, will be able to continue in the same way for Annex II aircraft and those aircraft used for State purposes.

NOTE: Although this is a re-issue of CAP 553, BCAR Section A, those Chapters unaffected by the changes described above have not been revised at this time, with the result that some cross references to other publications will be out of date. It is planned to completely revise these chapters in future planned amendments, when these cross references will be updated.

Issue 7, Amendment 1 — 30 January 2013

The purpose of this Amendment 1 to Issue 7 is to amend Chapters A8-15 and A8-20 so as to allow approved organisations to issue Certificates of Validity to aircraft holding a Permit to Fly. Additionally, editorial changes and updates convenient to be included at this time, have been incorporated.

Technical Changes

The following Chapters have been amended as shown:

Chapter	Description
A8-15	This Chapter has been revised to enable M3 approval holders to issue Certificates of Validity to revalidate a Permit to Fly.
A8-20	This Chapter has been revised to enable M5 approval holders to issue Certificates of Validity to revalidate a Permit to Fly without the need to make a recommendation to the CAA.

Issue 8 29 November 2013

The purpose of Issue 8 is to revise and amend several chapters following the introduction of the new maintenance and airworthiness management approvals at Issue 7. These approvals have been amended to allow the organisations to maintain and manage aircraft eligible for a National Permit to Fly. New Chapter A8-26 organisation approval has been introduced for organisations supporting recreational aviation. As a result of the extensive change to BCAR Section A, including the introduction of the new Chapter A8-26 and the deletion of some other Chapters, BCAR Section A is completely re-issued as Issue 8.

Further editorial changes and updates, convenient to be included at this time, have been incorporated.

Technical Changes

Chapter	Description
A2-5	This Chapter has been thoroughly revised to take account of the changes previously made, such as the introduction of Chapter A8-21 'Approval of Organisations Responsible for Design or Production'.
A3-1	Some minor changes have been made to this Chapter to improve the Acceptable Means of Compliance material.
A3-3	Following the withdrawal of the Chapter A3-5, this Chapter has been revised.
A3-5	Chapter has been deleted as it is no longer valid. From 1 July 2013 the CAA announced that it is no longer a requirement to carry out a check flight to qualify for the renewal of a National Airworthiness Review Certificate or Certificate of Validity. The responsibility of deciding when a check flight is required, as part of the continuing airworthiness oversight of the aircraft, rests with the aircraft pilot-owner, maintainer, or Continuing Airworthiness Management Organisation (CAMO), as applicable.
A3-7	This Chapter has been amended to introduce an improved text dealing with the issue of Certificates of Validity to non-expiring Permits to Fly, and the addition of the privilege to issue Certificates of Validity, instead of making a recommendation to the CAA. This change has been made to reflect the requirements for the National Airworthiness Review Certificate in Chapter A3-1. Supplement 1 to this Chapter has been added. Appendices 1 and 2 to this Chapter have also been amended. Appendices 3 and 4 have been deleted, as their text has been incorporated into the Chapter. Following the Second consultation this Chapter has been further amended to become compatible with the new approval for recreational aircraft, contained within the new Chapter A8-26.
A5-3	This Chapter has been deleted as it is no longer valid.

Chapter	Description
A6-1	Additional guidance material has been added to this Chapter as a result of the change in policy regarding Check Flights. Chapters A7-5 and A7-8 have been deleted and their content has been moved to create new Supplements 4 and 5 to this Chapter. Associated amendments to the main body text have been made to facilitate the deletion of Chapter A7-8. The Acceptable Means of Compliance (AMC) for Check Flights have been incorporated into Appendix 1 of this Chapter. New Appendix 2 to this Chapter consists of Table of Applicability of individual EASA Annex 1, Part M AMC to BCAR A Continued Airworthiness Requirements in this Chapter.
A6-6	This Chapter has been thoroughly revised and updated.
A7-5	This Chapter has been deleted. Its content has been published as new Supplement 4 to Chapter A6-1.
A7-8	This Chapter has been deleted. Its content has been published as Supplement 5 to Chapter A6-1.
A8-9	This Chapter has one amendment to the note to paragraph 1.1, to make it clear that 'B' Conditions are not applicable to aircraft either on, or intended to be placed on, the military register.
A8-20	This Chapter and its associated Appendix and Supplements have been deleted. Chapters A8-23 and A8-24 are suitably amended to provide maintenance approvals in place of the A8-20 M5 approval. The A8-20 E4 approval is relocated to form a stand-alone Supplement 2 contained in Chapter A8-25.
A8-23 A8-24 A8-25	Following comments made during two consultations on these proposals, and subsequent meetings with industry representatives, significant changes have been made to incorporate within the body of the requirement specific alleviations for Permit to Fly aircraft. In addition to the above, Chapter A8-25 has been amended to extend its applicability to aircraft operating on a National Permit to Fly and to add a new Supplement 2 to cover what was the E4 approval, previously contained in Chapter A8-20.
A8-26	This new Chapter has been introduced to address the construction and approval needs of organisations supporting recreational aviation. The intent is that a recreational aviation approval will give the organisation the privileges to oversee and support those aircraft for which they have responsibility, but also, to provide a greater range of services. A8-26 is based on the current suite of BCAR approvals for design, continuing airworthiness and oversight, but each have been tailored for the type of aircraft that would be involved, and consolidated under one organisation approval. The scope of the organisation approval includes design, continuing airworthiness and potential oversight of their industry on behalf of the CAA.

Issue 8 incorporating amendment 1 15 December 2017

Technical changes

Chapter	Description
A3-7	This chapter has been revised to update the references to the Air Navigation Order. The text for the criteria for deciding when an approved maintenance programme is required, and the qualification criteria for staff to carry out airworthiness reviews has been moved from Appendix 2 into the requirements. The text has been expanded to provide clarity in a number of paragraphs. Appendix 1 (Evidence to Substantiate Applictions) now includes a maintenance programme requirement. Additional information has been added to Appendix 2 (Acceptable Means of Compliance) on notifying the CAA of Certificate of Validity issue, approved pilots for check flights, maintenance programmes and aircraft records.
A6-1	Appendix 1 paragraph 6 has been amended to reflect the current guidance on approved pilots for the purposes of check flights.
A8-15	The organisation privileges have been amended with respect to the extension of the National Airworthiness Review Certificate.
A8-21	Chapter A8-21 has been updated to align with recent changes to EASA Part 21 Subpart G (POA) and J (DOA) and to align with changes to CAP 562 Leaflet B-40 "CAA Oversight of Military Registered Aircraft - Policy and Principles" regarding the approval of modifications to military registered aircraft subject to CAA oversight.
A8-23 A8-24 A8-26	These chapters have been revised to update the references to EASA regulations, and to make corrections for spelling and cross referencing.
A8-25	This chapter has been revised to update the references to EASA regulations. The organisation privileges have been amended with respect to the issue of the Certificate of Validity. The text has been expanded to provide clarity in a number of paragraphs.

Foreword

1 Effects of EASA

The following procedural requirements are applicable to all those aircraft and products for which British Civil Airworthiness Requirements are NOT superseded by Regulation (EC) No. 216/2008 of the European Parliament and of the Council of 20 February 2008, or any Implementing Rules made under that Regulation.

For those aircraft and products for which an EASA Type Certificate has been issued, EASA Implementing Rule Part 21 provides the relevant procedural requirements.

NOTE: The CAA interprets that these British Civil Airworthiness Requirements apply only to those aircraft:

a) excluded from the EASA scope by Article 1 and Annex II of Regulation (EC) No. 216/2008; or

b) those to which any derogation to national regulations applies under European Commission Regulation (EC) No. 1702/2003 "the Certification Regulation"; or,

c) those to which any derogation to national regulations applies under European Commission Regulation (EC) No. 2042/2003 "the Continuing Airworthiness Regulation" established under Article 7 of the Regulation up until 28 September 2008.

2 Purpose

British Civil Airworthiness Requirements (hereinafter referred to as the "Requirements") of which Section A is a constituent part, are published by the Civil Aviation Authority (hereinafter referred to as the "CAA"). They comprise minimum requirements and constitute the basis for the issue of approvals and certificates required by the current Air Navigation Order (ANO).

3 General

3.1 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.

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.

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.

3.2 Compliance with the procedures in Section A is normally required. The CAA may accept proposals to vary the procedures in a particular case, provided such variations give, at least, an equivalent level of safety to that intended by the Requirements.

3.3 Section A contains Certification and Approval procedures for products, usually first certificated or approved by the CAA, for which the CAA has primary responsibility as the Authority of the State of Design. This responsibility is of particular significance in

relation to ensuring the continued airworthiness of the product in operation, whether in the UK or elsewhere.

NOTE: For products first certificated by an Authority other than the CAA, for which UK Certification or Approval is required, BCAR Section B contains Certification and Approval procedures. In this case, although the CAA has responsibilities under the ANO in relation to the operation of such products on the UK Register, certain primary responsibilities defined in ICAO Annex 8 are those of the Authority of the State of Design.

3.4 Major aviation products are increasingly those of collaboration between manufacturers of more than one country. Nevertheless it remains important, particularly in the context of continued airworthiness, that the primary responsibility be identified with one Authority. The Procedures of Sections A and B are intended to cover these circumstances.

3.5 Reflecting the collaborative nature of manufacture, the functions of the National Authorities are often also undertaken jointly or in collaboration. The provisions of Bilateral and Multilateral Agreements and Arrangements between nations on airworthiness matters have been developed more extensively and BCAR Sections A and B take account of the related procedures at least in principle; the details of these procedures have so far varied significantly according to the particular arrangements within which a project is undertaken.

3.6 **Supply of Material to the CAA.** Where, in compliance with the requirements, material (e.g. manuals, documents) is required to be sent to the CAA, the consignor shall ensure, before despatch, that he has paid, or has arranged to pay, all charges necessary to cover delivery of the material to the CAA Safety Regulation Group, at the address given at the end of this FOREWORD, without any charge to the CAA (Free Domicile).

4 Interpretation

4.1 The Requirements, with or without explanatory matter, should not be regarded as constituting a text book of current aeronautical knowledge. The interpretation of the Requirements against a background of such knowledge is essential.

4.2 Where necessary Appendices are supplied which provide acceptable interpretation of requirements, state recommended practices, or give additional information.

4.3 Some of the Chapters in Section A include Supplements which contain technical procedures applicable to the subjects in the associated Chapters.

4.4 Mandatory clauses are invariably denoted by the use of "shall" or "must"; "should" or "may" are used in the text to introduce permissive or recommended clauses.

4.5 Imperatives such as "ensure", "prevent" and "shall be designed", imply that the Applicant, before claiming compliance with the Requirement in question, will take all the steps that are deemed to be necessary in the light of the knowledge and techniques available at the time.

4.6 It is implicit in requirements expressed qualitatively (e.g. "readily visible", "adequately tested", etc.) that the CAA will adjudicate in cases where doubt exists.

4.7 Words purporting the masculine gender include the feminine.

5 Editorial Presentation

5.1 Section A is divided into eight Sub–Sections numbered consecutively. The Sub–Sections are further divided by subjects into Chapters, the numbering of each Chapter being associated with its Sub–Section (e.g. Sub–Section **A2** contains Chapters **A2–2**, **A2–3**, etc.).

5.2 A list of the subjects and the numbers of the Chapters is given in the CONTENTS.

5.3 A system of progressive paragraph numbering is used, the number of digits being kept to a maximum of three by associating the system with paragraph headings. A paragraph heading applies to all succeeding paragraphs until another titled paragraph with the same, or a smaller number of digits occurs.

6 Amendment and Issue

6.1 The printed version of the Section, which is identified by an Issue No. and date (e.g. Issue 1 dated 1st July, 1989) will be deemed to be amended by each BCAR Amendment appropriate to the Section which is issued subsequent to the date of Issue of the printed version.

6.2 Material differences from the previous issue of each page are indicated with a marginal line.

6.3 The issue or revision date is shown at the bottom of each page.

The significance of the wording is as follows:

a) **Date (in format dd Month yyyy)** – the first version to appear in the Section.

b) **Revised (date)** – Revisions, indicated by marginal lines, have been introduced at the revision date.

c) **Reissued (date)** – The text on the page has not changed from the previous issue or amendment, but the page has been reissued because of movement of text on the page.

NOTES: 1 In some instances although a Chapter has been revised and is annotated accordingly it may not have been necessary to make any amendment to its Appendix or Supplement, in such cases the Chapter and its Appendix or Supplement would bear different dates.

2 Pages that bear the issue date and the abbreviation 'corr.' indicate pages that have been corrected due to errors in the original issue.

7 Effective Date

New requirements and amendments promulgated in BCAR Amendments are effective from the date printed on them.

8 Applications and Enquiries

Applications for permission to reproduce any part of the Requirements and any enquiries regarding their technical content should be addressed to the CAA Safety and Airspace Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, UK. This address should be used when requesting forms or when making applications for Certificates of Airworthiness, etc., and any services normally rendered by the Safety and Airspace Regulation Group.

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Abbreviations and Definitions

Abbreviations

CAMO	Continuing Airworthiness Management Organisation
CAT	Commercial Air Transport

Definitions

Certificate for Commercial Operations

A Certificate for Commercial Operations, other than for Commercial Air Transport (as used in Chapter A6-1), is defined as any operation where a certificate or permission is required to perform a commercial flying operation.

Commercial Air Transport

'Commercial Air Transport Flight' means a flight which is required to be operated in accordance with EU-OPS or a flight which would, if undertaken by an EASA aeroplane registered in a Member State be so required: and an aircraft flies for the purpose of commercial air transport if it flies on a commercial air transport flight.

Commercial Operations

Any operations of an aircraft, in return for remuneration or other valuable consideration, which is available to the public or, when not made available to the public, which is performed under a contract between an operator and a customer, where the latter has no control over the operator. For the purposes of BCAR Section A, Commercial Operations includes Public Transport (see below), and Aerial Work.

Large Aircraft

For the purposes of BCAR Section A, a large aeroplane is defined as weighing more than 5700 kg (12,566 lb), and a large helicopter is defined as weighing more than 3175 kg (7000 lb).

Operator

'Operator' is any legal or natural person, operating or proposing to operate one or more aircraft.

Organisation

An 'Organisation' is a group of persons, formed for a specific purpose and possessing a legal identity.

Public Transport

'Public Transport' is defined in Article 260 of the Air Navigation Order 2009.

State Aircraft

For the purposes of BCAR Section A, 'State Aircraft' means an aircraft carrying out customs, police, search and rescue, fire-fighting, coastguard or similar activities or services and which is not a military aircraft.

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Sub-section A1
General

Chapter A1-2 Categories of Aircraft

1 Introduction

The Certificate of Airworthiness or Permit to Fly imposes conditions affecting the manner in which an aircraft may be maintained and operated, and the purposes for which it may be used. The conditions are imposed in the following manner:

a) By placing an aircraft in Categories which indicate the uses for which the aircraft is Approved;

b) By indicating either in the Certificate of Airworthiness or Permit to Fly or in their associated documents the detailed limitations which must be observed.

2 Categories and Purposes

2.1 The categories in which an aircraft may be placed are as follows:

2.1.1 **Certificates of Airworthiness**

a) Standard Category;

b) Special Category.

2.1.2 **Permit to Fly**

NOTE: A Permit to Fly may be issued or validated in respect of an aircraft, in accordance with Articles 11 or 13 of the Air Navigation Order. The CAA shall refuse the issue of a permit to fly if it appears to the CAA that the aircraft is eligible and ought to fly under and in accordance with a certificate of airworthiness.

2.2 The purposes for which the aircraft may fly are as follows:

a) **Standard Category:** Any purpose.

b) **Special Category:** Any purpose, other than public transport, specified in the Certificate of Airworthiness but not including the carriage of passengers unless expressly permitted.

c) **Permit to Fly:** Any purpose, other than public transport or unless expressly permitted aerial work, specified on the Permit to Fly.

NOTE: The Air Navigation Order Article 8(2)(e) restricts an aircraft in the respect of which a Permit to Fly has been issued to flights beginning and ending in the United Kingdom. The CAA may consider granting an exemption under Article 153 from this part of the Order.

Flights over or into another country by an aircraft in respect of which either a Special Category Certificate of Airworthiness or a Permit to Fly has been issued and, in the case of a Permit to Fly, an exemption has been granted, will normally require the permission of the Authority of that country.

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Chapter A1-3 Certification of Collaborative Projects

1 General

1.1 This Chapter is intended to establish the principles governing the procedures for the initial and continuing airworthiness of a project for which the CAA has a primary responsibility for initial type Approval (see Note) but where the design is being undertaken by more than one Organisation, within or outside the United Kingdom.

1.2 The corresponding Chapter of Section B deals with such a collaborative project for which the CAA has no responsibility for initial type Approval.

1.3 The CAA requires that primary responsibilities for airworthiness aspects of design and manufacture and for continued airworthiness be identified.

NOTE: Initial type Approval may be undertaken jointly by several Airworthiness Authorities, each of whom will have a primary responsibility. Procedures by which Authorities will deal jointly with certifications are not defined in this Chapter A1–3.

2 Design Responsibility

2.1 In a collaborative project, contributions to design may be made by a number of participating Organisations in the UK or elsewhere. However, one Organisation Approved by the CAA shall be responsible for the total design of the aircraft and for demonstrating to the CAA compliance with the airworthiness requirements specified by the CAA. This Organisation shall be known as the Type Design Organisation for the project and the airworthiness procedures to be followed by the Type Design Organisation are defined in this Chapter A1–3. The UK Type Certificate Holder, in order to carry out his responsibilities shall be, or shall have access to, the Type Design Organisation.

2.2 The Type Design Organisation shall submit to the CAA for Approval a detailed description of the total Design Organisation for the project including:

a) the management of the design of the project;

b) the responsibilities of the various contributing Organisations;

c) the means by which the Type Design Organisation will submit to the CAA reports substantiating compliance with the applicable airworthiness design requirements.

3 Manufacturing Responsibilities

3.1 In a collaborative project, contributions to manufacture e.g. components of the total aircraft, may be made by a number of Organisations in the UK or elsewhere and these Organisations may be different from those undertaking the design of the aircraft. However, one Organisation acceptable to the CAA shall be responsible for the assembly of the total aircraft such that it qualifies by virtue of its demonstrated conformity with the Approved design, for a UK Certificate of Airworthiness. This person or Organisation shall be known as the Aircraft Manufacturer and the relevant airworthiness procedures to be followed by the Aircraft Manufacturer are defined in this Section A.

3.2 The Aircraft Manufacturer shall submit to the CAA a detailed description of the total manufacturing Organisation for the project including:

a) the management of the manufacture of the project;

b) the responsibilities of the various contributing Organisations;

c) the means by which the Aircraft Manufacturer will demonstrate to the CAA compliance with the relevant requirements including those governing conformity to the Type Design and Quality Assurance.

4 Continued Airworthiness Responsibility

4.1 Chapter 4 of ICAO Annex 8 places responsibility for transmitting continued airworthiness information upon the State of Design. In a collaborative project, the State of Design is represented by the Airworthiness Authority of the country in which the Company having jurisdiction over the Aircraft Design Organisation is located.

4.2 Where the CAA is the authority of the State where the Type Design Organisation is located its requirements for the discharge of responsibilities are set out in this Section A.

4.3 Where the CAA is not the Authority of the State where the Type Design Organisation is located, regardless of the fact that a design contribution is being made from the United Kingdom, the CAA's requirements for the discharge of responsibilities for Continued Airworthiness are set out in Section B.

4.4 The Type Design Organisation and the Aircraft Manufacturer shall submit to the CAA a detailed description of the means by which they will meet the CAA's requirements for continued airworthiness for the project and will provide suitable undertakings to ensure that such requirements are met throughout the life of the product.

Chapter A1-4 Specifications - Materials

1 Materials used in parts affected by airworthiness requirements shall comply with one of the following specifications:

a) British Standards Aerospace series;

b) European Aerospace Standards prepared by AECMA under the auspices of CEN;

c) Aerospace standards prepared by a foreign national standards office that are recognised as such by the local airworthiness authority, and a BASA exists between the UK and the state in which the standard was issued;

d) Specifications approved by the CAA;

e) Specifications prepared for material by an appropriately approved Design Organisation where the material is to be used in a part designed within the terms of the design approval.

2 Application for approval of a type of specification detailed in paragraph 1 c) shall be addressed to the CAA Safety Regulation Group and two copies of the specification shall be sent.

3 A specification submitted for approval shall, according to the material concerned, include such of the following information as is appropriate:

a) An identity or reference number, issue number and date;

b) A title describing the material;

c) The quality and/or chemical composition of the material;

d) The mechanical and/or physical properties of the material;

e) The method of determining the mechanical and/or physical properties of the material;

f) Particulars of defects which render the material unsuitable;

g) Particulars of heat treatment and/or other manufacturing processes;

h) A table of manufacturing tolerances;

i) Particulars of such markings which will ensure identification of the material.

4 A specification will be approved if the CAA accept that the material complies with such a specification having the essential properties assumed by the design in the associated technical investigation.

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Sub-section A2
Approval of Type Design

Chapter A2-2 Type Certification

1 Introduction

1.1 A Type Certificate issued by the CAA constitutes a statement that the design of the aircraft type to which the Certificate refers and of the variants specified on the Data Sheet has been Approved by the CAA.

NOTE: When a Type Certificate has been issued all aircraft of a similar type would qualify for a Certificate of Airworthiness provided the condition of the aircraft concerned was acceptable to the CAA.

2 Scope of Application of the Type Certificate

2.1 The issue of a Type Certificate is a prerequisite to the issue of a Certificate of Airworthiness for a Prototype or a Variant.

NOTES: (1) This Requirement (which was first introduced 1st January, 1968) will not apply to aircraft for which Special Category Certificates of Airworthiness are issued.

(2) With the agreement of the CAA this Requirement may be waived for a single aircraft for which a Certificate of Airworthiness has been issued in categories other than the special Category (see Chapter A1–2) provided there is no intention to construct series aircraft or to export the particular aircraft.

3 Initial Procedure for Obtaining the Type Certificate

3.1 The application for the issue of a Certificate of Airworthiness on CA Form 3 (see Chapter A3–1) will also serve as an application for a Type Certificate. No separate application will be needed. Where the Applicant is not seeking the issue of a Certificate of Airworthiness, application shall be made by letter to the CAA for the issue of a Type Certificate, and such a letter shall include an undertaking that the Applicant will pay the CAA costs.

4 Description of the Type Certificate

4.1 With the co-operation of the Applicant, the CAA will prepare and issue the Type Certificate together with the associated Data Sheet.

4.2 The Type Certificate will contain the following information:

a) The designation of the type;

b) A statement that the type of aircraft concerned is acceptable for United Kingdom airworthiness certification;

c) A reference to the associated Type Certificate Data Sheet.

4.3 A new Type Certificate will be issued when major changes are incorporated which affect the basic design.

5 The Type Certificate Data Sheet

5.1 The Type Certificate Data Sheet associated with the Type Certificate will give the basis of certification and the designation of each aircraft variant investigated, and also define some general particulars of the design.

6 Distribution of Type Certificates and Data Sheets

6.1 The Type Certificate and Data Sheet will be issued to the Type Design Organisation.

6.2 Copies of Type Certificates and Data Sheets may be obtained from the CAA.

Chapter A2-3 Flight Testing for Type Certification

1 General

1.1 The flight testing of Prototype aircraft under investigation for the issue of a Certificate of Airworthiness (see paragraph 2) shall comply with the procedures set out in this Chapter A2–3, as follows:

NOTE: Owners are required to arrange adequate insurance to cover damage to the aircraft and to third parties (see CAP 562 Leaflet B-70).

1.2 In order that the CAA may accept reports on flight test matters, the qualifications and experience of personnel involved in flight testing under the provisions of this Chapter shall be acceptable to the CAA. Flight test personnel shall be provided with adequate facilities and equipment for the effective performance of their duties.

NOTE: Organisations approved in accordance with A8–9 to fly aircraft under 'B' Conditions of the Air Navigation Order comply with this requirement.

2 Prototype Aircraft

The requirements and procedures of this paragraph 2 are applicable where application is made for the issue of a United Kingdom Certificate of Airworthiness or Permit to Fly in respect of a type for which a United Kingdom Type Certificate, Certificate of Airworthiness, Type Approval or Permit to Fly, as appropriate (see A2–2 or A3–7 as appropriate), has not previously been issued.

2.1 General

All matters connected with the requirements of this paragraph 2 shall be under the supervision of an Organisation approved for the appropriate purpose by the CAA. In this paragraph 2 the term "the Applicant" shall be taken to indicate such an Organisation.

2.2 Preparation

2.2.1 At an early stage of design the Applicant shall provide a General Assembly drawing of the aircraft and an Engine Type Certificate Data Sheet or equivalent details if the Engine Type Certificate Data Sheet is not available, together with a description of any unusual design features. Certain features of the aircraft (e.g. pilot's view, accessibility of cockpit controls) shall be demonstrated to the CAA using a 'mock-up' or other acceptable representation of the aircraft.

2.2.2 The provision of special equipment which may be required for purposes of the flight trials, e.g. safety harnesses, parachute stowages, emergency exits, anti-spin parachutes, instrumentation, and the means for overriding or disconnecting automatic devices, shall be discussed with the CAA at such a stage as will enable the appropriate action to be taken during the design and construction stages of the aircraft.

2.3 Airworthiness Acceptance Trials

2.3.1 The Airworthiness Acceptance Trials will normally commence after the completion of the aircraft manufacturer's development and preliminary flight testing.

2.3.2 The aircraft shall, in all relevant respects, be in a condition fully representative of the Type when the Airworthiness Acceptance Trials are carried out. A statement identifying the design standard at the commencement of these trials shall be given to the CAA, together with details of any significant variations in the design from that originally

advised. The statement shall include sufficient detail to identify the design and modification state of the aircraft, and shall include all limitations, including temporary limitations, applicable to the trials.

a) Any design changes made to the aircraft during the Airworthiness Acceptance Trials (e.g. incorporation of modifications, adjustments to powerplant, control surfaces and general rigging) shall be notified to the CAA, and the statement shall be amended, as necessary, to reflect the development state of the aircraft. Both the original statement and each amendment thereto shall be dated and signed by the Applicant.

b) Where any design change renders a previous flight test invalid, the flight test concerned shall be repeated.

2.3.3 The Applicant shall submit for approval a flight test schedule, containing details of the proposed flight tests to be included in the Airworthiness Acceptance Trials. This schedule shall include the flight tests necessary:

a) to establish compliance with the appropriate airworthiness requirements;

b) to provide information for inclusion in the documents associated with the Certificate of Airworthiness, or permit to fly.

NOTE: The CAA may require alterations to the flight test schedule, and may also require additional tests not included in the schedule if it appears that such tests are necessary to establish the airworthiness of the aircraft type.

2.3.4 At a reasonable time before the commencement of the Airworthiness Acceptance Trials, the Applicant shall provide the following information and shall notify any subsequent alterations thereto.

a) A summary of the predicted aerodynamic characteristics and the results of preliminary flight tests which require to be checked during the Airworthiness Acceptance Trials (stalling speeds, control force characteristics, aircraft response etc.);

b) Such aircraft performance estimates or preliminary results as the CAA may require;

c) A statement indicating the airworthiness conditions and the type of operations with which it is proposed to establish compliance. As appropriate to the capability and intended use of the aircraft this statement shall include, but may not necessarily be confined to, information concerning:

i) category(ies), e.g. aerobatic;

ii) performance group(s);

iii) weight/c.g. envelope;

iv) flight in non-temperate conditions;

v) flight in icing conditions;

vi) instrument flight;

vii) flight by night;

viii) use of oxygen;

ix) use of cabin pressurisation;

x) speed limitations;

xi) carriage of external loads;

xii) search and rescue.

d) Details of the special instruments fitted to the aircraft for the purpose of the Airworthiness Acceptance Trials;

e) Details of the aerodromes, atmospheric conditions, aircraft weights and other relevant details relating to the proposed test conditions for the Airworthiness Acceptance Trials;

f) Details, by reference, or in full, as applicable, of the methods of correction of flight test results;

g) Such other information as the CAA may require, e.g. flight test techniques, methods of instrument calibration, methods of presentation of flight test results, and the methods of preparation of handling and performance information.

2.3.5 The Applicant shall provide the CAA with adequate opportunities:

a) to become familiar with the aircraft prior to the Airworthiness Acceptance Trials;

b) to participate in these trials;

c) to make flight test assessments during or after the Airworthiness Acceptance Trials; and

d) to gain information for use in preparing Airworthiness Check Flight Schedules (see A3–3).

2.3.6 The Applicant shall give reasonable notice to the CAA of the date on which it is proposed to commence the Airworthiness Acceptance Trials.

2.3.7 The Applicant's test pilots, flight and maintenance crews, and observers, who have been associated with the aircraft during the preliminary flight trials should, wherever possible, continue to be engaged in the same capacity until the Airworthiness Acceptance Trials are completed.

2.3.8 The aircraft shall be tested in accordance with the approved flight test schedule.

2.3.9 The speeds to be used in the performance tests shall be specified and shall be compatible with those obtained during the handling tests.

2.3.10 As the Airworthiness Acceptance Trials proceed the Applicant shall provide the CAA with flight test reports which, when all the trials are completed, will give full particulars and results of all tests specified in the flight test schedule. The flight test reports shall bear a reference number and shall include the following particulars in respect of each test:

a) The purpose of the particular test, indicating the relevant Requirement(s) with which compliance is to be established;

b) The relevant test conditions (e.g. loading and configuration of the aircraft, atmospheric and weather conditions);

c) A description of the technique used for the test;

d) The relevant behaviour of the aircraft when subjected to the test;

e) The readings taken during the test together with the corrected results;

f) The conclusions drawn from the test, including compliance claimed.

2.4 Total Flying Before Certification

2.4.1 The minimum number of flying hours to be completed before certification (which will normally include a period of flying representative of operational use) shall be agreed with the CAA. In reaching agreement, account will be taken of the design features of the aircraft, and credit may be given for flying completed in the course of development and during the Airworthiness Acceptance Trials.

2.4.2 The period of operational flying is required to demonstrate that the aircraft is suitable for operation over representative routes; this flying and the associated maintenance should, wherever possible, be carried out by an Operator's own flying and maintenance crews. The CAA shall be consulted before the commencement of this flying, so that a suitable programme may be agreed and arrangements may be made for the CAA to participate. A substantial proportion of this flying shall be completed by a single aircraft.

2.5 The aircraft shall be held at the disposal of the CAA for the repetition of any of the scheduled flight tests or for the completion of any additional tests which the CAA may consider to be necessary for the purposes of type certification.

Chapter A2-4 Type Certification of a Variant

1 Introduction

1.1 A variant is an aircraft which embodies certain design features, dissimilar to the prototype aircraft, which are required to be investigated for certification purposes.

1.2 The issue of a Certificate of Airworthiness to a variant will be subject to compliance with the procedures outlined in this Chapter A2–4.

1.3 In the case of a variant to be investigated for the issue of a Certificate of Airworthiness in the Special Category, the CAA may accept proposals which would vary the procedures in this Chapter A2–4.

1.4 Before the issue of a Certificate of Airworthiness in the Transport, Aerial Work, or Private Category (see A1–2 for 'Categories') all aircraft must qualify for a United Kingdom Type Certificate. The procedures for type certification are given in A2–2 and those for the issue of a C of A in A3-1.

NOTE: A Type Certificate is not normally required for an aircraft to be certificated in the Special Category.

2 Application

2.1 Form SRG 1710, copies of which may be obtained from the CAA website at www.caa.co.uk/srg1710, shall be completed at an early stage of the design of the aircraft, and returned to the same address, together with the appropriate deposit, as detailed in the form.

2.2 The charges are prescribed in the CAA Scheme of Charges. Subject to the payment of a minimum charge equivalent to that for a series aircraft, the Applicant shall pay a charge equal to the cost of the investigation. During the course of the investigation the CAA will normally render accounts at monthly intervals.

2.3 During the investigation, if it is necessary for a CAA Surveyor to travel outside the United Kingdom, or away from the residential area of an overseas office of the CAA Safety Regulation Group, the CAA will require the Applicant to meet the additional costs involved.

3 Design

3.1 The Applicant shall, through the medium of an Organisation approved by the CAA for the purpose (see Sub-section A8), ensure that:

a) the design of the aircraft is similar in every respect to that of an aircraft which has already been issued with a Certificate of Airworthiness, with the exception of the proposed modifications;

b) the proposed modifications are such that the design of the aircraft, when modified, satisfies the requirements which the CAA may notify to the Applicant in writing.

3.2 All relevant design information, drawings and test reports shall be held at the disposal of the CAA. No such design records shall be destroyed without authorisation from the CAA.

3.2.1 Each design drawing shall bear a descriptive title, drawing number, issue number, and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system such as will ensure amendment to design records.

3.2.2 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of an item in any way, a new part number shall be issued such as to avoid confusion with the original item.

3.3 The Applicant's approved Organisation shall forward to the CAA a Certificate of Design, signed by an approved signatory of the particular Organisation, and worded in the following form:

CERTIFICATE OF DESIGN (VARIANT)

Aircraft Designation .....

Registration Marks .....

Manufacturer's Serial Number of Aircraft
.....

Certificate of Airworthiness Categories .....

.....

Performance Group .....

Engine(s) Type .....

I Certify that, with the exception of the modifications enumerated below, the design of the above aircraft is similar in every respect to that of aircraft, Manufacturer's Serial Number

.....

Modifications .....

.....

.....

.....

I further certify that with the exceptions stated below, the aircraft, Manufacturer's Serial Number ..... is of a design which complies with British Civil Airworthiness Requirements current on (date)..... and with such additional requirements as have been notified by the CAA, as applying to this aircraft, which are referenced below.

Exceptions .....

.....

Additional requirements .....

Signed .....

Firm.....

CAA Approval Ref No. .....

3.4 The Applicant's approved Organisation shall prepare an Addendum to the Type Record. The Addendum shall contain particulars of design changes together with all consequent changes to the information under each heading of the relevant Type Record. A copy of the Addendum, when completed, shall be forwarded to the CAA.

4 Construction

4.1 The aircraft shall be constructed under the supervision of an Organisation approved by the CAA for the purpose (see Sub-section A8). Before any part of the aircraft is finally certified, the approved Organisation shall be satisfied that the work has been carried out, inspected, and tested where necessary, for conformity with the specifications, drawings and instructions relating to the approved design.

4.2 During the course of construction and of airworthiness acceptance testing, including flight testing (see A2–3), the aircraft shall be made available to enable the CAA to inspect it as necessary.

4.3 All relevant inspection records shall be made available to the CAA for examination, and these shall not be destroyed without authorisation from the CAA.

5 General

5.1 The aircraft shall be weighed, and copies of the Weight and Centre of Gravity Schedule and, where appropriate, the Weight and Balance Report shall be provided (see A5–4).

5.2 A Certificate of Clearance (see A8–9) shall be issued, and the aircraft shall be tested in flight to schedules approved by the CAA in accordance with A2–3.

6 Manuals

6.1 Particulars for inclusion in the Flight Manual shall be provided (see A7–2).

6.2 Copies of the Maintenance, Overhaul and Repair Manuals (see A5–3), and the Crew Manual (see A7–3), shall be provided.

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Chapter A2-5 Approval of Changes

1 Introduction

1.1 **Changes.** Changes are defined as any changes made to a particular aircraft, including its components, engines, propellers, radio apparatus, accessories, instruments, equipment, and their installations together with the Aircraft Flight Manual or other approved documents. Substitution of one type for another when applied to components, engines, propellers, radio installations, accessories, instruments and equipment, is also considered to be a Change. The approval of Changes will be subject to compliance with the procedures outlined in this Chapter A2–5, but reference should also be made to the particular modification procedures for engines in Chapter A4–2, propellers in Chapter A4–4, accessories and equipment in Chapter A4–8, and radio apparatus in Chapter A4–10, as well as the classification of Changes in Chapter A8-21.

2 Changes Not Previously Investigated and Approved by the CAA

2.1 General

2.1.1 All changes to UK registered non-EASA aircraft must be approved by the CAA. The classification of changes as major or minor determines the approval route to be followed for such approval and hence the extent of CAA involvement. For classification of changes reference should be made to Appendix 2 to Chapter A8-21.

NOTE: Examples on the classification of changes may be found by reference to Appendix 1 to GM21A.101 of the EASA Executive Decision ED 2003/01/RM which is to be found on the EASA website at http://easa.europa.eu

2.1.2 The privilege to classify changes as major or minor will be granted to an organisation when the CAA is satisfied that the organisation has demonstrated compliance with applicable requirements of Chapter A8-21.

2.1.3 Whenever there is doubt with respect to the classification the CAA should be consulted for clarification.

2.1.4 A Change will be classified as Minor or Major in accordance with the airworthiness significance of the Change where airworthiness is defined as a product being in conformity with type design and in condition for safe operation. Where the investigation indicates that the particulars given in the Type Certificate Data Sheet, Flight Manual or other approved documents, will need amendment (even though no physical change to the aircraft is involved) the CAA may require the Major Change procedure to be followed where the amendments are significant.

2.1.5 All changes shall be approved through the modification procedures of an appropriately approved Organisation, or in some circumstances, by the CAA directly.

NOTE: Approval of changes is carried out by the CAA where the applicant for the change does not hold a suitable approval under BCAR A8-21 that would allow this privilege.

2.1.6 The Applicant shall ensure, through the medium of an Organisation approved by the CAA for the purpose (see Sub-Section A8), that the proposed Change is such that the design of the aircraft, when modified, complies with:

a) the Requirements in force at the time the aircraft type was originally certificated;

b) such other requirements as the CAA may notify, in writing, in respect of the aircraft design.

The Applicant shall, when making these statements, further ensure that the Change is compatible with all defined aircraft build standards for which the Change is to be incorporated, or that any incompatibilities are identified.

2.1.7 All relevant design information, drawings and test reports shall be held at the disposal of the CAA. No such design records shall be destroyed without authorisation from the CAA.

2.1.8 Each design drawing shall bear a descriptive title, drawing number, issue number and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system such as will ensure amendment to design records.

2.1.9 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of any item in any way, a new part number shall be issued such as to avoid confusion with the original item.

2.1.10 Change documents shall bear a change reference number, issue number and date, a description of the change, together with a list of parts and assemblies affected by the modification and, where necessary, drawings giving particulars of the parts before and after modification.

2.1.11 Where changes affect unit interchangeability, or are of such an extent as to require amendment of approval documents or any documents associated with the Certificate of Airworthiness or Permit to Fly, a separate type or designation reference shall be allocated to the modified unit.

2.1.12 Where changes affect or impinge upon the content of the approved manuals such as the Aircraft Flight Manual, Aircraft Maintenance Manual, Instructions for Continuing Airworthiness or Master Minimum Equipment List (MMEL), Applicants will be required to ensure that notification of these effects is provided to the CAA so that the necessary action can be taken to amend the relevant manuals.

2.2 **Major Changes** The following procedures will apply in the case of a modification classified as a Major change.

2.2.1 CAA SRG 1726, the latest version of which can be downloaded from the CAA website at: www.caa.co.uk/forms, shall be completed and returned to the CAA Safety Regulation Group. The total fee will be based on the cost of the investigation and the CAA will, during the course or upon completion of the investigation, notify the Applicant in writing accordingly.

2.2.2 The CAA may require a Certificate of Design, which shall be signed by an approved signatory of an appropriately approved Organisation. The Certificate shall be worded as follows:

NOTE: Please see example over the page.

CERTIFICATE OF DESIGN (CHANGE)

Aircraft Designation .....

Registration Marks .....

Manufacturer's Serial Number of Aircraft .....

Certificate of Airworthiness Categories .....

.....

Performance Group .....

Engine(s) type .....

I hereby certify that the Change(s) listed below, define all of the changes associated with this certificate.

Change(s) .....

.....

.....

.....

I further certify, that, with the exceptions listed below, the design of the above Change complies with the requirements specified by the CAA as the certification basis for this type of aircraft and with any additional requirements notified by the CAA in respect of the particular change.

Exceptions .....

.....

.....

Signed.....

Organisation .....

CAA Approval Ref No.....

Date .....

The CAA may require an addendum to the Type Record to be prepared by an approved Organisation. The addendum shall contain particulars of design changes made and all consequent changes to the information given under each heading of the relevant Type Record.

2.2.3 The CAA will signify approval of a Major change by forwarding to the Applicant a copy of the Supplementary Type Certificate or Airworthiness Approval Note as appropriate.

2.2.4 The approved Organisation is responsible for the continuing airworthiness of the change and shall undertake the functions of Chapter A5–1 sub-paragraphs 1.1 c), d), e) and f) with respect to the change.

2.2.5 **Minor Changes.** When the design of a change, classified as Minor, is undertaken by other than an approved Organisation, the CAA will signify approval by forwarding a copy of the CAA Minor Change Certificate to the Applicant.

2.3 **Civil Change Record.** When the design of a change is undertaken by an approved Organisation, a record shall be kept of the following particulars:

a) Aircraft type;

b) Title and brief description of change;

c) Change reference number;

d) Change classification;

e) Supplementary Type Certificate or Airworthiness Approval Note number (in the case of a Major change);

f) Reference to the associated Flight Manual amendment number;

g) Reference to the associated Maintenance, Overhaul and Repair Manuals, Crew Manual and Maintenance Schedule amendment numbers;

h) Reference to the associated MMEL revision (if appropriate).

2.3.1 The Civil Modification Record shall be made available to the CAA for examination.

3 Changes Already Approved

3.1 The Supplementary Type Certificate or Airworthiness Approval Note will be placed on the CAA website and will therefore be publicly available. The supporting proprietary information such as design information, including drawings and test reports are held by the CAA as confidential documents.

4 CAA Airworthiness Directives (ADs) and Mandatory Permit Directives (MPDs)

4.1 Changes considered essential for airworthiness (Mandatory Changes), will be promulgated as CAA ADs or MPDs. Where appropriate, consultation with the Organisation and the aircraft operators with regard to compliance dates, limiting flying hours, cycles, or details relating to the action prescribed, will be undertaken. In making these decisions the degree of urgency and availability of modified parts will be taken into account.

NOTE: Changes classified as essential for airworthiness and promulgated by the CAA as AD or MPD will be contained in the CAA publications CAP 747 Mandatory Requirements for Airworthiness or CAP 661 Mandatory Permit Directives and published on the CAA website at www.caa.co.uk.

Chapter A2-7 Type Approval

1 Introduction

1.1 This Chapter A2-7 describes the application for Type Approval of a Series manufactured civil aircraft that is intended to qualify for the issue of a Permit to Fly under Chapter A3-7. It should be noted that, except in the case of a microlight aeroplane or a light gyroplane (a light gyroplane being within the eligibility criteria of BCAR Section T), the CAA will not normally accept an application for Type Approval.

1.2 An aircraft conforming to a type approved design may qualify for the issue of a Permit to Fly as a Series aircraft (being an aircraft which in the opinion of the CAA, conforms in all matters affecting airworthiness to a design in respect of which Type Approval has been granted) under paragraphs 3.1 b) and 4.1 of Chapter A3-7.

2 Application

2.1 For Type Approval, application shall be made in writing to the Civil Aviation Authority, Safety Regulation Group, Applications and Approvals Department. The application shall include a brief description of the aircraft and agreement to pay any CAA charges incurred.

2.2 Where application is to be made to the CAA for a Type Approval, Form SRG 1701 shall be completed at an early stage of the project, and returned with the appropriate deposit. Form SRG 1701 can be obtained from the Civil Aviation Authority, Safety Regulation Group, Applications and Approvals Department or alternatively, can be completed online via the CAA website at www.caa.co.uk/SRG1701.

2.3 The charges are prescribed in the CAA Scheme of Charges. The Applicant shall pay charges equal to the cost of the investigation, but not exceeding the amount prescribed in the CAA Scheme of Charges for Airworthiness, Noise Certification and Aircraft and Aircraft Engine Emissions, contained in Official Record Series 5 and available via the CAA website at www.caa.co.uk/ORS5. During the course of the investigation, the CAA will normally render accounts at monthly intervals.

2.4 During the investigation, if it is necessary for a CAA Surveyor to travel outside the United Kingdom, the CAA will require the Applicant to meet the additional costs involved.

3 Design Basis

3.1 The Applicant, through the medium of an organisation approved by the CAA (See Sub-section A8, Approvals), shall indicate the basis on which they propose the CAA should decide whether the design of the aircraft qualifies for the issue of a Type Approval. The basis would normally be that the aircraft is of a design that satisfies a code of airworthiness requirements agreed by the CAA as being suitable for the purpose.

4 Design Substantiation

4.1 Where the application is for a Type Approval (of a civil aircraft for Series manufacture), evidence of compliance with the basis of paragraph 3.1 of this Chapter A2-7 shall be provided. Where an organisation within the UK is responsible for the aircraft design,

evidence that the design satisfies the specified code of airworthiness requirements will normally be submitted by a person approved for the purpose by the CAA. Where an organisation outside the UK is responsible for the aircraft design, evidence that the design satisfies the specified code of airworthiness requirements will be submitted by a person considered suitable for the purpose by the CAA.

5 Standard of Construction

5.1 The applicant shall satisfy the CAA that the construction of the aircraft conforms with the specifications, drawings and instructions (including those for testing and inspection), which comprise the design accepted in accordance with the preceding sections of this Chapter A2-7.

5.2 During the course of construction and of airworthiness acceptance testing, including flight testing (see Chapter A3-7, paragraph 6), the aircraft shall be made available to enable the CAA to survey it as necessary.

5.3 All relevant inspection records shall be made available to the CAA for examination, and these shall not be destroyed without authorisation from the CAA.

6 General

6.1 The aircraft shall be weighed, and copies of the weight and centre-of-gravity report shall be provided.

6.2 Particulars for inclusion in the flight manual or pilot's operating handbook shall be provided.

Sub-section A3
Certificates of Airworthiness and Other Provisions for Legal Flight

Chapter A3-1 Certificates of Airworthiness

1 Introduction

1.1 The issue of a Certificate of Airworthiness (C of A) is dependent on the aircraft being registered in the United Kingdom and will be subject to compliance with the procedures outlined in this Chapter A3-1.

1.2 Before the issue of a C of A the aircraft should conform to a design standard approved or accepted by the CAA. The procedures for type certification are given in Chapter A2-2.

NOTE: BCAR Chapter A3-1 has been derived from European Commission Regulations (EU) No. 748/2012 Part 21 and (EC) No. 2042/2003, Part M and references the corresponding Part 21 or Part M paragraph, where applicable, after each subtitle, in italic text.

2 Scope

2.1 This requirement establishes the procedure for issuing Certificates of Airworthiness to those aircraft defined in Regulation (EC) No. 216/2008, Article 1 paragraph 2 ('State aircraft') and Annex II to that Regulation. These aircraft are known collectively as 'non-EASA' aircraft.

3 Eligibility

3.1 Any natural or legal person shall be eligible as an applicant for an Airworthiness Certificate for that aircraft under this requirement.

4 Application

4.1 An application for a C of A shall be made in a form and manner established by the CAA.

4.2 The Applicant shall pay charges equal to the cost of the investigation, but not exceeding the amount prescribed in the CAA Scheme of Charges. (See: Official Records Series 5, Airworthiness, Noise Certification and Aircraft and Aircraft Engine Emissions Scheme of Charges - available on the CAA website.)

4.3 During the investigation, if it is necessary for a CAA Surveyor to travel outside of the UK, the CAA will require the Applicant to meet the additional costs involved.

4.4 Each application for a C of A should include:

a) with regard to new aircraft:

i) a statement of conformity attesting to the design standard. For an imported aircraft, a statement signed by the exporting authority that the aircraft conforms to a design approved by the CAA;

ii) a weight and balance report with a loading schedule;

iii) the flight manual, when required by the applicable airworthiness requirements for the particular aircraft;

b) with regard to used aircraft:

i) a statement by the National Airworthiness Authority for the State of Registry where the aircraft is, or was, registered, reflecting the airworthiness status of the aircraft on its register at the time of transfer. This will normally be by issue of an Export Certificate of Airworthiness (issued within the 60 days preceding receipt of the application by the CAA) or alternatively a current Certificate of Airworthiness (C of A) issued or renewed less than twelve months prior to the date of receipt of the application by the CAA, or by a method deemed acceptable to the CAA;

ii) a weight and balance report with a loading schedule;

iii) the flight manual when such material is required by the applicable airworthiness requirements for the particular aircraft;

iv) historical records to establish the production, modification, and maintenance standard of the aircraft, including all limitations, should be available for inspection by the CAA, upon request;

v) a recommendation for the issuance of a Certificate of Airworthiness and a National Airworthiness Review Certificate (National ARC) following an airworthiness review in accordance with Chapter A8-25, paragraph 10 'Airworthiness Review'.

4.5 Any deviations from the approved design standard should be declared and agreed by the CAA prior to the application being accepted, and where appropriate agreed with the exporting authority.

5 Language

5.1 The relevant records, manuals, placards, listings, and instrument markings and other necessary information required by applicable certification specifications shall be presented in English.

6 Transferability

6.1 Where ownership of an aircraft has changed, the Certificate of Airworthiness shall be transferred together with the aircraft provided the aircraft remains registered in the UK.

7 Inspections

7.1 In accordance with Article 36(2) of the Air Navigation Order 2009 (as amended), any person authorised by the CAA, may inspect the aircraft or its equipment or any documents relating to the aircraft, at any reasonable time.

8 Duration and Continued Validity

8.1 A Certificate of Airworthiness (C of A) shall be issued for an unlimited duration. It shall remain valid subject to:

a) compliance with the applicable type-design and continuing airworthiness requirements; and

b) the aircraft remaining on the UK register; and

c) the type-certificate under which the airworthiness certificate was issued remaining valid;

d) the certificate not being surrendered or revoked.

9 Issue of Certificate of Airworthiness (C of A)

9.1 In order to satisfy the CAA in accordance with Article 18 of the Air Navigation Order 2009 (as amended) and enable the CAA to issue a C of A, the applicant should provide:

a) for new aircraft:

i) the documentation required by paragraph 4.4 a);

ii) evidence that the aircraft conforms to an approved design and is in a condition for safe operation. This may include inspections by the CAA.

b) for used aircraft:

i) the documentation required by paragraph 4.4 b) demonstrating that;

- the aircraft conforms to a type design approved under a type-certificate, any applicable supplemental type-certificates, changes or equivalent, or repairs have been approved in accordance with BCAR requirements, and any applicable airworthiness directives have been satisfied; and
- the aircraft has been inspected in accordance with the applicable provisions of BCAR requirements; and

ii) evidence that the aircraft conforms to an approved design and is in a condition for safe operation. This may include inspections by the CAA.

10 National Airworthiness Review Certificate (National ARC)

10.1 An aircraft with a National Certificate of Airworthiness must not fly unless it has a valid National Airworthiness Review Certificate.

10.1.1 A National Airworthiness Review Certificate is valid for one year but may be extended for up to two further years (making three in all).

10.2 Initial issue of National Airworthiness Review Certificate:

10.2.1 Where an aircraft has not previously held a National Airworthiness Review Certificate, a National Airworthiness Review Certificate must be issued by the CAA.

10.2.2 The CAA may do this after itself carrying out an airworthiness review. Alternatively it may rely on a recommendation. A Continuing Airworthiness Management Organisation (CAMO) which has been approved for this purpose[1] can make a recommendation for any aircraft within its scope after carrying out an airworthiness review.

10.2.3 In the case of an aeroplane or a helicopter with a maximum total weight authorised of 2730 kg or less, an aeroplane and rotorcraft maintenance organisation which has been approved for this purpose[2] can make a recommendation after carrying out an airworthiness review.

10.3 Issue of National Airworthiness Review Certificate where one has previously been issued:

1 A CAMO may be approved under article 14 of the Air Navigation Order 2009 (as amended) – see also BCAR A8-25

2 An aeroplane and rotorcraft maintenance organisation may be approved under article 15 of the Air Navigation Order 2009 (as amended) – see also BCAR A8-25

10.3.1 Where an aircraft has previously held a National Airworthiness Review Certificate, following an airworthiness review in accordance with Chapter A8-25, a National Airworthiness Review Certificate may be issued for an aircraft:

a) by the CAA in the same way as it issues the initial National Airworthiness Review Certificate, i.e. after carrying out an airworthiness review itself, or on the basis of a recommendation. An aeroplane and rotorcraft maintenance organisation which has been approved for this purpose can make a recommendation for aircraft not used in commercial air transport of 2730 kg MTOM or less, and not used for State purposes; or

b) by a CAMO approved for this purpose.

10.4 Extension of a National Airworthiness Review Certificate of an aircraft in a controlled environment:

10.4.1 The validity of a National Airworthiness Review Certificate of an aircraft in a controlled environment may be extended by the CAMO which is managing the airworthiness of the aircraft on a maximum of two occasions, for a period of 12 months on each occasion.

10.4.2 An aircraft is deemed to have been in a controlled environment if it is an aircraft which has been continuously managed during the previous 12 months by a CAMO approved for the purpose, and maintained by a maintenance organisation approved in accordance with BCAR requirements, or where permitted, pilot maintenance.

10.5 Extension of a National Airworthiness Review Certificate of an aircraft which is not in a controlled environment:

10.5.1 The validity of a National Airworthiness Review Certificate of an aircraft not used in commercial air transport with a maximum total weight authorised of 2730 kg or less, or which is not used for State purposes, and which is not in a controlled environment may be extended on a maximum of two occasions, for a period of 12 months on each occasion after carrying out an annual review by:

a) an appropriately licensed engineer;

b) a CAMO or an aeroplane and rotorcraft maintenance organisation approved for this purpose.

10.5.2 The validity of a National Airworthiness Review Certificate of an aircraft with a maximum total weight authorised of more than 2730 kg, or which is used for commercial air transport or for State purposes, which is not in a controlled environment may be extended on a maximum of two occasions, for a period of 12 months on each occasion after carrying out an annual review by a CAMO approved for this purpose.

10.6 A National Airworthiness Review Certificate must not be issued or a recommendation to issue made if there is evidence or reason to believe that the aircraft is not airworthy.

10.7 Conduct of annual review:

10.7.1 An annual review[3] is a check to establish that:

a) all maintenance specified in the approved maintenance programme has been carried out in accordance with the programme;

b) all modifications and inspections deemed mandatory by the CAA have been carried out as required by the CAA;

c) all defects entered in the aircraft records have been rectified or deferred in accordance with CAA approved procedures; and

d) all required certificates of release to service have been issued.

3 See A8-25

10.8 Assistance is to be provided by the owner or operator:

10.8.1 When the CAA carries out the airworthiness review and/or issues the National Airworthiness Review Certificate itself, the owner or operator must provide the CAA with:

a) the documentation required by the CAA;

b) suitable accommodation at the appropriate location for its personnel; and

c) when necessary, the support of personnel appropriately qualified in accordance with Part-66 or in accordance with BCAR Section L.

10.9 A National Airworthiness Review Certificate must not be issued or extended, or a recommendation to issue be made, if there is evidence or reason to believe that the aircraft is not airworthy.

10.10 Potential safety threat:

10.10.1 Whenever circumstances reveal the existence of a potential safety threat, the CAA shall carry out the airworthiness review and issue the National Airworthiness Review Certificate itself.

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Appendix 1 to A3-1

AMC to A3-1, 2.1

State Aircraft includes those that are engaged in military, customs, police, search and rescue, fire fighting, coastguard or similar activities or services.

AMC to A3-1, 4.4 b) i)

For State aircraft that are EASA types the CAA will accept a valid EASA Airworthiness Review Certificate issued in accordance with Commission Regulation (EC) No 2042/2003 Part M as a valid transfer document.

AMC to A3-1, 10.1

In order to ensure the validity of the national airworthiness certificate, 10.1 requires performing periodically an airworthiness review of the aircraft and its continuing airworthiness records, which results in the issuance of a National Airworthiness Review Certificate valid for one year.

AMC No. 1 to A3-1, 10.2.1

Where the EASA ARC has been presented as the transfer document for a State aircraft, a National Airworthiness Review Certificate (National Arc) will be issued retaining the existing validity date from the previous EASA ARC. At the time of transfer the aircraft and relevant records should be reviewed to ensure that the aircraft qualifies for a National ARC. In particular the transfer to a CAA approved maintenance programme, and the fitting of any role specific equipment must be completed before the National ARC can be issued.

AMC No. 2 to A3-1, 10.2

Airworthiness reviews for the initial issue of a National Airworthiness Review Certificate (National ARC) and for of aircraft imported into the UK.

In order to allow for possible participation of authority personnel, the applicant should inform the CAA at least 10 working days in advance of the time and location of the airworthiness review.

1 When performing an airworthiness review the aircraft and the relevant records should be reviewed to determine the work to be undertaken to establish the airworthiness of the aircraft.

2 In determining the work to be undertaken during the airworthiness review on the aircraft, the following (where applicable) should be taken into consideration:

a) the information from the other Competent Authority of the exporting State such as export certificates, primary authority information;

b) the information on aircraft maintenance history such as continuing airworthiness records, aircraft, engine, propeller, rotor and life limited part log books or cards as appropriate, tech log/flight log/cabin log, list of deferred defects, total flight times and cycles, times and cycles since last maintenance, accident history, former maintenance schedule, former AD compliance status;

c) the information on aircraft such as aircraft, engine and propeller type certificate data sheets, noise and emission certificate data sheets, flight manual and supplements;

d) the aircraft continuing airworthiness status such as the aircraft and component AD status, the SB status, the maintenance status, the status of all service life limited components, weight and centre of gravity schedule including equipment list;

e) the modification and repair status of the aircraft detailing elements such as owner/operator designed modifications and repairs, STCs, and parts needing approval;

f) the aircraft cabin configuration such as emergency equipment fitted, cockpit configuration, placards, instrument limitations, cabin layout;

g) the maintenance needed for import, such as embodiment of modifications needed to comply with the type approval, bridging check to comply with the new maintenance programme;

h) the avionics such as, but not limited to, radio and navigation equipment, instrument flight rules (IFR) equipment, flight data recorder (FDR)/cockpit voice recorder (CVR) test, emergency locator transmitter (ELT) 406 MHz code and identification;

i) the compass compensation;

j) special operations;

k) the aircraft survey including verification of conformity with the flight manual and the data sheet, presence of fire proof identification plates, conformity of markings including registration, presence and serviceability of emergency equipment, internal and external lighting systems, and

l) check flight including check of control system/cockpit ground check/engine run up.

NOTE: Not required for an aircraft with a current EASA Certificate of Airworthiness (C of A) and valid Airworthiness Review Certificate (ARC) transferring to a National Certificate of Airworthiness (C of A) and National Airworthiness Review Certificate (National ARC).

3 If there is no BCAR A8-25 organisation approved for the specific aircraft type available, the CAA may carry out the airworthiness review in accordance with this paragraph. In this case, the airworthiness review should be requested to the CAA with a 30-day notice.

For aircraft being imported into the UK, in addition to the recommendation sent to the CAA, the following items described below should be established and recorded.

a) All the information contained in the recommendation, plus

b) Aircraft information:

- state of manufacturer;
- previous registration;
- export certificate number/transfer document;
- TC and TC data sheet numbers;
- noise and emissions TC and TC data sheet numbers;
- comparison of prior maintenance programme with the proposed new maintenance programme.

c) Documents available:

- copy of the application;
- original export certificate;
- copy of the approvals of the flight manual and its supplements;
- list of ADs incorporated up to the latest published issue;
- proposed new maintenance programme;
- status of all service life limited components;
- the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft, and;

- approval references for all modifications and repairs.

d) Maintenance:

- a copy of the work packages requested by the A8-25 organisation including details of any bridging check to ensure all the necessary maintenance has been carried out.

e) Aircraft check flight:

- a copy of the check flight report.

AMC No. 3 to A3-1, 10.2

Recomendation to the CAA

The recommendation sent by a continuing airworthiness management organisation (CAMO) or by an aeroplane and rotorcraft maintenance organisation approved for this purpose or an appropriately licensed engineer to the CAA should contain at least the items described below.

a) General information:

- details of the person/organisation making recommendation;
- owner/lessee information;
- date and place the document review and the aircraft survey were carried out;
- period and place the aircraft can be seen if required by the competent authority.

b) Aircraft information:

- registration;
- type;
- manufacturer;
- serial number;
- flight manual reference;
- weight and centre of gravity data;
- maintenance programme reference.

c) Documents accompanying the recommendation:

- copy of the owners request for a new National Airworthiness Review Certificate.

d) Aircraft status:

- aircraft total time and cycles.

e) Aircraft survey:

- a precise list of the areas of the aircraft that were surveyed and their status.

f) Findings:

- a list of all the findings made during the airworthiness review with the corrective action carried out.

g) Statement:

A statement signed by the airworthiness review staff recommending the issue of a National Airworthiness Review Certificate. The statement should confirm that the aircraft in its current configuration complies with the following:

- airworthiness directives up to the latest published issue;
- type certificate data sheet or ANN;
- maintenance programme;
- component service life limitations;

- the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft;
- appropriate approval for all modifications and repairs;
- the current flight manual including supplements; and
- operational requirements.

The above items should clearly state the exact reference of the data used in establishing compliance; for instance the number and issue of the type certificate data sheet, AAN, applicable STC and approval reference for other modifications and repairs.

The statement should also confirm that all of the above is properly entered and certified in the aircraft continuing airworthiness record system and/or in the operator's technical log.

AMC No. 1 to A3-1, 10.4

1 If the continuing airworthiness of the aircraft is not managed according to an arrangement (in accordance with BCAR A8-25) between the owner and the CAMO, the aircraft should be considered to be outside a controlled environment. Nevertheless, such arrangement is not necessary when the operator and the CAMO are the same organisation.

2 Maintenance performed by the pilot-owner, authorised in accordance with BCAR A6-1, does not change the status of an aircraft in a controlled environment providing the CAMO under contract has been informed by the pilot-owner.

AMC No. 2 to A3-1, 10.4

When the aircraft has remained within a controlled environment, the extension of the validity of the National Airworthiness Review Certificate does not require an annual review.

It is acceptable to anticipate the extension of the National Airworthiness Review Certificate by a maximum of 30 days without a loss of continuity of the airworthiness review pattern, which means that the new expiration date is set up one year after the previous expiration date. This anticipation of up to 30 days also applies to the 12 month requirements shown in paragraph 10.4.2, meaning that the aircraft is still considered as being in a controlled environment if it has been continuously managed by a CAMO and maintained by appropriately approved organisations, from the date when the last National Airworthiness Review Certificate was issued until the date when the extension is performed (this can be up to 30 days less than 12 months). It is also acceptable to perform the extension of a National Airworthiness Review Certificate after its expiration date, as long as all the conditions for the extension are met. However, this means the following:

- The aircraft cannot fly during the interim, since the National Airworthiness Review Certificate is considered to be expired until it is extended, and
- The new expiration date (after extension) is set one year after the previous expiration date (not one year after the extension is performed).

AMC to A3-1, 10.8

Suitable accommodation should include:

a) an office with normal office equipment such as desks, telephones, photocopying machines etc. whereby the continuing airworthiness records can be reviewed;

b) a hangar when needed for the physical survey.

The support of personnel appropriately qualified in accordance with Part-66 or in accordance with BCAR Section L is necessary when the competent authority's airworthiness review staff is not appropriately qualified.

Appendix 2 to A3-1

Table of References

The following table is provided as an aid to the reader. It shows the EASA Part 21 paragraphs which correspond in terms of their technical content, to the paragraphs of BCAR Chapter A3-1.

Chapter A3-1 Paragraph Number	Subject	Part 21 Paragraph Number
2	Scope	21A.171
3	Eligibility	21A.172
4	Application	21A.174
5	Language	21A.175
6	Transferability	21A.179
7	Inspections	21A.180
8	Duration and Continued Validity	21A.181
9	Issue of Certificate of Airworthiness (C of A)	21A.183

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Chapter A3-3 Test and Check Flights for Issue of a National Certificate of Airworthiness or a National Permit to Fly

1 Scope

1.1 The requirements and procedures of this Chapter apply when application is made for the initial issue of a United Kingdom National Certificate of Airworthiness (Chapter A3-1) or a National Permit to Fly (Chapter A3-7).

1.2 In the following paragraphs, the term 'Test Flight' refers to a flight that is conducted to assess and demonstrate compliance with the applicable certification requirements. The term 'Check Flight' refers to a required aircraft evaluation flight that takes place post type approval/type acceptance to qualify for the issue of a Certificate of Airworthiness (C of A) or Permit to Fly.

2 General

2.1 In order that the CAA may accept reports on test and check flight matters, the qualifications and experience of personnel involved in flights under the provisions of this Chapter shall be acceptable to the CAA. Test and check flight personnel shall be provided with adequate facilities and equipment for the effective performance of their duties.

NOTE: Organisations approved in accordance with A8-9 to fly aircraft under 'B' Conditions of the Air Navigation Order (ANO) comply with this requirement.

2.2 All pilots conducting check flights on behalf of the CAA must have been briefed and accepted to do so and must maintain recency/currency as required by the CAA.

NOTE: Further information on the eligibility of pilots to carry out check flights can be found in CAP 1038, the CAA Check Flight Handbook which is available on the CAA website.

2.3 The briefed pilot shall have responsibility for assessing all the check flight results and, for example, ensuring that the climb data analysis is completed accurately and indicates satisfactory climb performance within the permitted tolerances. The check flight shall be completed satisfactorily and the results recorded in the Check Flight Schedule. The CAA will audit the results of check flights conducted by approved organisations.

2.4 All operators of aircraft to be flown by a CAA Test Pilot for any test or check flight purposes, are required to ensure that insurance policies covering damage to the aircraft and third parties are suitably endorsed to provide appropriate cover against any claims which may be made against the CAA or the Test Pilot, arising out of the flight.

NOTE: It is understood that in general, insurers and underwriters are willing to extend the cover of their aircraft policies for this purpose, on request and without further charge.

2.5 The CAA does not accept any responsibility for the use of CAA Check Flight Schedules on flights not directly under their control. Further information on the conduct of check flights can be found in CAP 1038, the CAA Check Flight Handbook, which is available on the CAA website.

3 State Aircraft

3.1 Aircraft that are used for State purposes will normally have certificates issued under national legislation. An aircraft with an EASA C of A, which is transferring to a National Certificate of Airworthiness (C of A) for UK National State purposes, will not normally require a check flight prior to the issue of a National C of A. There are exceptions to this as follows: Where a 'new' aircraft is disassembled for shipping to the UK, on arrival in the UK following reassembly, a check flight will be required. In addition, where the aircraft has been modified, e.g. to install special-role equipment, since original manufacture, a check flight may be required to approve the modification or assess it as being of no hazard to the aircraft. Further information can be found in CAP 562 "Civil Aircraft Airworthiness Information and Procedures", Leaflet B-60 "State Aircraft".

4 Check Flight Schedules

4.1 New Aircraft: The test flying and Production Check Flight Schedule (PCFS) shall be conducted under the supervision of the aircraft Type Design Organisation/Manufacturer, or an appropriately approved organisation. The CAA may elect to participate in some or all of this flying. The check flight shall be made to a CAA Check Flight Schedule or a Production Check Flight Schedule agreed by the CAA or an appropriately approved organisation.

4.2 All Other Aircraft (e.g. used/imported): Where the aircraft type and origin are well known to the CAA, the check flight may be devolved to the Applicant (or importing agents or operators), provided that the pilot has been associated previously with CAA check flights on aircraft of the same, or closely similar, type. However, the CAA may elect to participate in the check flight. The check flight shall be made to a Check Flight Schedule acceptable to the CAA or an appropriately approved organisation.

The schedule shall contain details of the aircraft type to which it refers, shall be marked with a reference number, issue number, and date, and shall include the following:

a) Tests to check the aircraft performance;

b) Tests to check such handling qualities of the aircraft as:

   i) a qualitative assessment of the take-off;

   ii) an assessment of the trim of the aircraft and the effectiveness of primary flight controls and trimmers in steady flight;

   iii) hover manoeuvres for helicopters;

   iv) flight at maximum speed;

   v) stalls in the take-off and landing configurations;

   vi) a qualitative assessment of the landing;

c) Tests to check functioning of the aircraft equipment in flight;

d) Such other tests as may be requested by the CAA.

NOTE: Controls, systems and equipment which are used regularly may be considered, for the purpose of this schedule, to have been checked on the basis of normal usage.

5 Check Flight Results

5.1 The check flight results shall include a certificate which shall be signed by the pilot who conducted the flight. The certificate, shall record any defects found and identify the process by which they will be investigated and rectified.

5.2 The approved organisation making the recommendation for initial issue of the National Airworthiness Review Certificate (ARC) or Certificate of Validity (C of V) shall ensure that the check flight has been satisfactorily completed, the results recorded in the Check Flight Schedule and any necessary action taken. The completed Check Flight Schedule and details of any rectification action taken shall be retained for record purposes.

5.3 In the case where the CAA itself carries out the Airworthiness Review, and issues the Certificate of Airworthiness (C of A) and National Airworthiness Review Certificate (ARC) or Permit to Fly and Certificate of Validity (C of V), the completed Check Flight Schedule shall be submitted to the CAA for acceptance.

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Chapter A3-6 Certificates of Airworthiness for Export

1 Introduction

1.1 The issue of a Certificate of Airworthiness for Export (hereinafter referred to as the 'C of A for Export') shall be subject to compliance with the procedure set out in this Chapter A3–6.

1.2 The C of A for Export is not a statutory document, either internationally under ICAO or nationally under the Air Navigation Order. When issued in the United Kingdom it signifies, as at the date of issue, that, except for those significant derogations from the requirements listed on the front (see 4);

a) in respect of a new aircraft, the aircraft is such that a United Kingdom Certificate of Airworthiness could be issued in accordance with the Requirements;

b) in respect of a used aircraft, the aircraft is such that a United Kingdom Certificate of Airworthiness could be issued or renewed, as appropriate, in accordance with the Requirements.

1.3 The C of A for Export does not, by itself, give authority for the aircraft to be flown; such authority may, normally, be obtained in accordance with a) or b).

a) The Authority responsible for airworthiness in the country in which the aircraft is to be registered (hereinafter referred to as the Responsible Authority) may issue a Certificate of Airworthiness;

b) The CAA may (in conjunction with the C of A for Export) issue a Certificate of Airworthiness such as would cover the delivery of the aircraft to its destination.

2 Application

2.1 Form CA 1241, copies of which may be obtained from the CAA Safety Regulation Group; shall be completed and returned to the same address. The application shall be accompanied by the appropriate charge which is prescribed in the CAA Scheme of Charges.

2.2 During the investigation, if it is necessary for a CAA Surveyor to travel outside the United Kingdom, or away from the residential area of an overseas office of the CAA Safety Regulation Group, the CAA will require the Applicant to meet the additional costs involved.

3 Compliance with Requirements

3.1 When the CAA is satisfied that compliance has been shown with this paragraph 3, the C of A for Export will be issued.

3.2 **Additional Requirements and Special Conditions.** Compliance shall be shown with any Additional Requirements or Special Conditions prescribed by the Responsible Authority and notified to the CAA in writing.

3.3 **CAA Requirements.** In addition to compliance with 3.2, compliance shall be shown with 3.3.1 or 3.3.2 or 3.3.3 as appropriate.

3.3.1 **New Aircraft.** Compliance shall be shown with A2–2, A2–4 and A3–1 as appropriate.

3.3.2 **Used Aircraft of a Type Previously Certificated in the United Kingdom.** Compliance shall be shown with the requirements of A3–1 as applicable but with the addition of Surveyor involvement.

NOTES: (1) To qualify for the renewal of a Certificate of Airworthiness and hence the issue of a Certificate of Airworthiness for Export, aircraft below 2730 kg should have undergone a maintenance check, equivalent to an annual inspection and a Certificate of Release to Service issued in accordance with the Air Navigation Order Article 12. The inspection should have been performed and properly documented within the 30 days immediately prior to the issue of the Certificate of Airworthiness for Export. For aircraft above 2730 kg, consideration may be given to the maintenance check performed on an aircraft maintained in accordance with an Approved maintenance inspection programme i.e. an equalised or progressive inspection programme.

(2) In deciding the extent of rectification and overhaul work, account will be taken of maintenance history and the condition of the aircraft.

(3) Where the extent of work to be done on the aircraft prior to export is the subject of a contract, the CAA may, where it is apparent that the full certification requirements are not intended to be met, require the Applicant to obtain from the Responsible Authority, a written confirmation that the contractual arrangements are acceptable. The Certificate of Airworthiness for Export will be qualified accordingly.

3.3.3 **Used Aircraft of a Type Not Previously Certificated in the United Kingdom**

The requirements shall be decided in consultation with the CAA.

NOTE: In deciding the requirements to be met, account will be taken, amongst other things, of the needs of the Responsible Authority, the original certification status of the aircraft, its condition and maintenance history and the number of aircraft likely to be involved.

4 Derogations from the Requirements

4.1 The following will be listed on the front of the C of A for Export:

a) Significant deviations from the Approved build standard;

b) Derogations from CAA requirements, Additional Requirements, and Special Conditions;

c) Mandatory modifications and inspections with which compliance has not been shown;

d) In respect of equipment prescribed in the Air Navigation Order:

i) Such equipment which is fitted, but has not been approved by the CAA;

ii) Equipment appropriate to the certification Category, where this is not fitted.

4.2 Any item listed in accordance with 4.1 shall be confirmed, in writing, to be acceptable to the Responsible Authority prior to the issue of the C of A for Export.

Chapter A3-7 Permit to Fly Aircraft – Initial and Continuing Airworthiness

1 Scope

1.1 This requirement establishes the measures to be taken to ensure that the aircraft remains airworthy and includes details of the maintenance to be carried out. It also specifies the conditions to be met by the persons or organisations involved in such continuing airworthiness management.

1.2 This requirement applies only to aircraft and associated parts that are not required to comply with European Regulation (EC) No. 216/2008, collectively described as 'Non-EASA Aircraft' (unless specifically referenced on the Permit to Fly), and that the aircraft is not eligible for, and should not fly under and in accordance with, a National Certificate of Airworthiness.

2 Introduction

2.1 The CAA may, in pursuance of Articles 33(2)(e) and 40(1) of the Air Navigation Order 2016 (as amended), issue a National Permit to Fly in respect of an aircraft which may then fly in accordance with the conditions of the Permit.

NOTE: For the purpose of this Chapter A3–7, a person approved or authorised by the CAA means an organisation, association, individual or other legal entity approved or authorised by the CAA to submit reports or recommendations for Permit issue, in respect of aircraft eligible for Permits to Fly.

2.2 As provided under Article 40(2) of the Air Navigation Order (ANO) the CAA shall refuse to issue a National Permit to Fly to a non-EASA aircraft if the aircraft is eligible for, and ought to fly under and in accordance with, a National Certificate of Airworthiness.

2.3 The issue of a National Permit to Fly under the provisions of Article 40(1) of the ANO will otherwise be subject to procedures appropriate to the case, as set out in this Chapter, i.e.

a) A Permit to Fly for an aircraft of a design that satisfies a code of airworthiness requirements agreed by the CAA as being suitable for the purpose; or

b) A Permit to Fly for a Series aircraft (being an aircraft which in the opinion of the CAA, conforms in all matters affecting airworthiness to a design in respect of which Type Approval has been granted under BCAR A, Chapter A2-7) - see sub-paragraph 4.1 b) and paragraph 5.1;

c) A Permit to Fly for an individual civil aircraft not eligible under a) above - see sub-paragraph 4.1 c) and paragraph 5.2 (e.g. a home-built aircraft);

d) A Permit to Fly for an individual aircraft of military design and service - see sub-paragraph 4.1 d) and paragraph 5.3;

e) A Permit to Fly for test purposes may be issued to enable flight evaluation of an aircraft or modified aircraft where in the opinion of the CAA, it is not appropriate for the flight evaluation to be conducted under ANO Schedule 3 "B" Conditions. A Permit to Fly for test purposes will not be issued unless the Applicant determines and the CAA agrees that there are no significant flight safety implications. A Permit

to Fly for test purposes shall not be valid for flights other than those on which tests under the flight test programme are being carried out;

f) A Permit to Fly for ferry purposes may be issued to enable an aircraft not holding a valid Permit or Certificate of Airworthiness to be ferried to a place where maintenance is to be carried out. A Permit to Fly for ferry purposes will not be issued unless the Applicant determines and the CAA agrees that there are no significant flight safety implications.

3 Application for Initial Permit to Fly

3.1 An application for a National Permit to Fly shall be made in a form and manner established by the CAA, and should be completed at an early stage of the project, and returned with the appropriate fee.

3.2 The charges are prescribed in the CAA Scheme of Charges contained in Official Record Series 5, available via the CAA website at www.caa.co.uk/ORS5. The Applicant shall pay charges equal to the cost of the investigation, but not exceeding the amount prescribed in the CAA Scheme of Charges. During the course of the investigation the CAA will normally render accounts at monthly intervals.

3.3 During the investigation, if it is necessary for a CAA Surveyor to travel outside the United Kingdom, the CAA will require the Applicant to meet the additional costs involved.

4 Design Basis

4.1 The Applicant shall indicate the basis on which they propose the CAA should decide whether the design of the aircraft qualifies for the issue of a national Permit to Fly. Such bases may be that the aircraft:

a) is of a design that satisfies a code of airworthiness requirements agreed by the CAA as being suitable for the purpose; or

b) conforms to a design in respect of which a Type Approval has been issued by the CAA (a Series aircraft); or

c) has satisfied a standard notified for the purpose by the CAA, or by a person suitably approved by the CAA (e.g. this would be the case for a home-built aircraft); or

d) is of military design and service and conforms with a design which has been accepted by the recognised national authorities of the State of Design to fly within defined limitations. It must be demonstrated that the aircraft type has accumulated sufficient experience of safe operation to indicate that such aircraft are safe to fly, subject to whatever conditions may be appropriate. The aircraft shall also have been shown not to possess unacceptably hazardous features.

NOTE: A military authority may be recognised by the CAA for the purpose of this qualification.

5 Design Substantiation

5.1 Where application for an individual national Permit to Fly is on the basis of sub-paragraph 4.1 b) (Series aircraft), the Applicant shall submit the required evidence of conformity. Where the Applicant can show that the aircraft conforms to a design in respect of which a Type Approval has been issued, it shall be eligible as a Series aircraft for a Permit to

Fly. In the case of a used aircraft, the CAA may require further acceptable evidence to demonstrate that its individual operational history has not invalidated its Series status.

5.2 Where application is for an individual Permit to Fly for a civil aircraft, (e.g. home-built aircraft), on the basis of sub-paragraph 4.1 c) evidence that the design satisfies the appropriate standard shall be submitted by a person considered suitable for the purpose by the CAA.

5.3 Where the application is in respect of an ex-military aircraft on the basis of sub-paragraph 4.1 d), the Applicant shall supply acceptable evidence of compliance. (See Appendix 1 to this Chapter A3-7 for details of evidence required under this paragraph).

5.4 Where the Applicant can show that the aircraft conforms to a design, a previous example of which has been issued with a National Permit to Fly, the CAA will grant a national Permit to Fly based on the requirements of paragraph 6 below.

6 Standard of Construction or Assembly

6.1 The Applicant shall satisfy the CAA that the construction of the aircraft conforms with the specifications, drawings and instructions (including those for testing and inspection), which comprise the design accepted in accordance with the preceding sections of this Chapter A3-7.

6.2 Except in the case of an aircraft constructed outside the UK, for the purposes of paragraph 6.1, the aircraft shall be constructed or assembled either:

a) by a person approved or accepted by the CAA for the purpose and subject to any independent inspection the CAA may specify; or

b) under the supervision of a person approved or accepted by the CAA for the purpose; or

c) shall be shown by a person approved or accepted by the CAA for the purpose, to have been previously constructed in accordance with paragraph 6.1 (e.g. factory-built ex-military aircraft).

6.3 In the case of an aircraft constructed under sub-paragraph 6.2 a), b) or c), the aircraft shall be made available to enable the CAA to survey it as appropriate during its construction.

6.4 For the purposes of sub-paragraph 6.2 a) or b), where construction and assembly are by separate organisations, each shall be approved by the CAA or shall be supervised by persons approved by the CAA for the purpose.

6.5 In the case of an aircraft constructed outside the UK, for the purposes of paragraph 6.1, the CAA may accept reports from persons considered suitable for the purpose by the CAA, and would normally require such reports to be approved or endorsed by the appropriate National Authority.

7 Records

7.1 All relevant design and construction records shall be made available to the CAA for examination and shall not be destroyed without authorisation by the CAA.

8 Evaluation Flights

8.1 Every aircraft shall be the subject of a satisfactory flight evaluation programme before the first issue of a National Permit to Fly granted under sub-paragraph 2.3 a), b), c) or d). The programme shall be agreed with the CAA, see BCAR Chapter A3-3.

8.2 Except in the case of organisations approved to conduct test flights under ANO Schedule 3 Part A 'B' Conditions, in order to allow test flights to take place the CAA may, as provided under sub-paragraph 2.3 e) when satisfied with the fitness for flight of the aircraft and with the arrangements for conducting the flying, issue a Permit to Fly for test purposes. The Conditions under which the aircraft may be flown, including any limitations, will be specified. The period of validity will be limited to that considered necessary for the tests.

8.3 Where application for issue is made directly to the CAA, the flight evaluation programme must be completed and a report submitted by a pilot acceptable to the CAA. Where application is made through an organisation approved to make recommendations to the CAA concerning the issue of a Permit to Fly, the evaluation flights must be conducted in accordance with the procedures of that organisation.

9 Permit Flight Release Certificate

9.1 A Permit Flight Release Certificate (PFRC) shall be issued when either; the Certificate of Validity has not yet been issued, or, the Certificate of Validity has been rendered invalid by changes to the aircraft that are not yet approved, and a check flight(s) is required.

9.2 A PFRC shall be issued following evaluation by a person referenced in paragraph 9.4 to certify that the aircraft is fit for flight. This evaluation should include establishing that the aircraft conforms to a design or standard accepted by the CAA or Approved Organisation for the issue of a Permit to Fly and that all applicable continuing airworthiness requirements have been satisfied. The certificate shall be rendered valid for a specific period to cover a defined ferry journey or a series of flights as part of an accepted flight test programme.

9.3 A new Permit Flight Release Certificate shall be issued if maintenance is carried out between flights, if flights are in a series.

9.4 A PFRC shall be issued only by the following:

a) the holder of an appropriate category aircraft maintenance engineer's licence granted or rendered valid in the United Kingdom, who has been specifically authorised by the CAA for the purpose;

b) persons specifically authorised by the CAA for the purpose;

c) persons specifically approved by the CAA when acting within the appropriate terms of approval;

d) persons authorised by the approved organisation when that organisation is specifically approved by the CAA to do so.

Permit Flight Release Certificate

AIRCRAFT TYPE …… REGISTRATION ……..

It is hereby certified that the aircraft identified above has been inspected and is considered fit for flight.

This Certificate is valid from …….. until ……

Signed……Airframe. Authorisation ref……. Date ……

Signed……Engine(s). Authorisation ref……Date ……

10 Issue of National Permit to Fly

10.1 The CAA may issue a Permit to Fly when it is satisfied, on the basis of its own investigations or upon receiving a recommendation from a person approved for the purpose, that in respect of its design and construction and all other relevant matters an aircraft meets the foregoing requirements.

10.2 The Permit to Fly will include any conditions and limitations under which the aircraft may be flown and any relevant airworthiness, operation or maintenance requirements that are to be met. The CAA may restrict the number of occupants that may be carried in aircraft operating in accordance with a Permit to Fly.

10.3 A Permit to Fly issued in accordance with this Chapter A3-7, other than for ferry or test purposes, will be rendered valid by the periodic issue of a Certificate of Validity.

11 Issue of Certificate of Validity

11.1 An aircraft with a Permit to Fly must not fly unless it has a valid Certificate of Validity.

11.1.1 A Certificate of Validity is valid for one year.

11.2 Initial issue of the Certificate of Validity:

a) Where an aircraft has not previously held a Permit to Fly and Certificate of Validity, the Certificate of Validity may be issued by the CAA or an A8-26 approved organisation.

b) The CAA may do this after carrying out an airworthiness review. Alternatively it may rely on a recommendation from:

An organisation approved for this purpose in accordance with A8-25 or A8-26 for any aircraft within its scope after carrying out an airworthiness review in accordance with paragraph 12.

c) An organisation approved in accordance with Chapter A8-21 with Production privileges may obtain a Permit to Fly and Certificate of Validity without further showing upon presentation of a recommendation and a UK CAA Aircraft Statement of Conformity issued within the last 60 days, unless otherwise agreed by the CAA.

11.3 Issue of a Certificate of Validity where one has previously been issued:

a) Where an aircraft has previously held a Certificate of Validity, following an airworthiness review in accordance with paragraph 12, a Certificate of Validity may be issued for an aircraft:

i) by the CAA in the same way as it issues the initial Certificate of Validity, i.e. after carrying out an airworthiness review itself; or

ii) by an organisation approved for this purpose in accordance with A8-25 or A8-26 for any aircraft within its scope; or

iii) by an organisation approved for this purpose in accordance with Chapter A8-15 for an aeroplane or a rotorcraft with a maximum total weight authorised of 2730 kg or less.

11.4 To be approved to carry out airworthiness reviews, an approved organisation shall have appropriate airworthiness review staff to issue Certificates of Validity, or to make recommendations.

a) The staff shall have acquired:

i) four years of relevant maintenance/continuing airworthiness experience; or

ii) two years if the applicant has satisfactorily completed an appropriate aeronautical maintenance training course.

b) For the issue of a restricted Authorisation, a period of time agreed by the CAA that will enable a level of competency equivalent to that required by a) to be obtained, provided that this is note less than two years.

11.5 A Certificate of Validity must not be issued or a recommendation to issue made if there is evidence or reason to believe that the aircraft is not airworthy.

11.6 Assistance is to be provided by the owner or operator:

When the CAA carries out the airworthiness review and issues the Certificate of Validity itself, the owner or operator must provide the CAA with:

i) the documentation required by the CAA;

ii) suitable accommodation at the appropriate location for its personnel; and

iii) When necessary, the support of a person qualified to issue a Permit Maintenance Release in accordance with paragraph 20.4.

11.7 Whenever circumstances reveal the existence of a potential safety threat, the CAA may carry out the airworthiness review and issue the Certificate of Validity itself.

11.8 A Certificate of Validity incorporated as part of a Permit to Fly for test or ferry purposes will be issued for a period determined to be adequate to perform the required flight or series of flights, but will not exceed a duration of 12 months.

11.9 The CAA shall be notified of the issue of a Certificate of Validity within ten days of its issue.

12 Aircraft Airworthiness Reviews

12.1 To satisfy the requirement for an airworthiness review of the aircraft as specified in paragraph 11.2 and 11.3 of this Chapter A3-7, a documented review of the aircraft records and a physical survey of the aircraft shall be carried out by the CAA or the approved organisation, in order to be satisfied that:

a) airframe, engine, and propeller flying hours and associated flight cycles have been properly recorded;

b) the pilots operating handbook, flight manual or permit flight conditions is applicable to the aircraft configuration and reflects the latest revision status;

c) all the maintenance due on the aircraft according to the maintenance programme has been carried out;

d) all known defects have been corrected, or carried forward in a controlled manner

e) all applicable Mandatory Permit Directives and if applicable, Airworthiness Directives to the aircraft, engine and propeller, including components or equipment as may be fitted to the aircraft, have been applied and properly recorded;

f) all modifications and repairs applied to the aircraft have been recorded and are approved according to the relevant Chapters of BCAR Section A;

g) all service life limited components installed on the aircraft are properly identified, recorded and have not exceeded their approved service life limit;

h) all maintenance has been released in accordance with the relevant Chapters of BCAR Section A;

i) the aircraft complies with the latest revision of its CAA type approval or Airworthiness Approval Note, including a physical inspection of the aircraft, its equipment and any required placards and markings, and that there is no evident defect and no inconsistencies between aircraft and records;

j) weight and balance is current and valid;

k) noise certificate is current and valid, if required;

l) any required evaluation flight has been completed as follows:

i) in the case of initial issue of the Permit to Fly, in accordance with Chapter A3-3, or

ii) when required by paragraph 14 of this Chapter A3-7, a check flight has been satisfactorily completed, the results recorded in the Check Flight Schedule, and any necessary action taken.

13 Responsibilities

13.1 The owner/operator is responsible for the continuing airworthiness of an aircraft and shall ensure that no flight takes place unless:

a) the aircraft is maintained in an airworthy condition; and

b) any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable; and

c) the Permit to Fly and Certificate of Validity remains valid; and

d) the maintenance of the aircraft is performed in accordance with the maintenance programme.

13.2 Any person or organisation performing maintenance shall be responsible for the tasks performed.

13.3 The pilot-in-command shall be responsible for the satisfactory accomplishment of the pre-flight inspection. This inspection must be carried out by the pilot or another qualified person, but need not be carried out by an approved maintenance organisation.

13.4 In accordance with article 262(2) of the ANO, any person authorised by the CAA, may inspect the aircraft or its equipment or any documents relating to the aircraft, at any reasonable time.

14 Continuing Airworthiness Tasks

14.1 The continuing airworthiness of an aircraft and the serviceability of both operational and emergency equipment shall be ensured by:

a) the accomplishment of pre-flight inspections;

b) the rectification to an officially recognised standard of any defect and damage affecting safe operation;

c) the accomplishment of all maintenance, in accordance with the aircraft maintenance programme described in paragraph 15;

d) the accomplishment of any applicable:

i) Mandatory Permit Directives (MPDs) and if applicable, Airworthiness Directives;

ii) continuing airworthiness requirement established by the CAA;

e) the accomplishment of modifications and repairs in accordance with paragraph 17;

f) check flights when necessary.

15 Aircraft Scheduled Maintenance Programme

15.1 Maintenance of each aircraft shall be organised in accordance with an aircraft maintenance programme.

NOTE: A maintenance programme in this instance is defined as a list of maintenance tasks that will maintain the aircraft to an airworthy standard. The maintenance programme shall take account of any available manufacturers information or data.

15.2 When specified on the Permit to Fly the aircraft maintenance programme and any subsequent amendments will be approved by the CAA.

An approved maintenance programme is required; for an aircraft with an engine (single) horsepower of greater than 450 hp; for aircraft with multiple piston engines or turbine (single or multiple) engine; for aircraft classified as complex (A8-25 Supplement 2) ; or is operated in accordance with an approval issued by the CAA.

When approval of the maintenance programme is not required the owner/operator is responsible for ensuring that the aircraft is maintained to an airworthy standard.

15.3 The aircraft maintenance programme should establish compliance with:

a) instructions issued by the CAA;

b) instructions for continuing airworthiness issued by the manufacturer of the aircraft/engine/propeller, and components, major repair design approval, technical standard order authorisation and any other relevant approval issued under BCAR Section A.

15.4 The aircraft maintenance programme shall contain details, including frequency, of all maintenance to be carried out, including any specific tasks linked to the type and nature of operations. Tasks that are flying hour related may also require appropriate calendar periods.

15.5 The aircraft maintenance programme should be reviewed and amended accordingly when necessary. These reviews shall ensure that the programme continues to be valid in light of the operating experience and instructions from the CAA.

15.6 For aircraft that are required to have an approved maintenance programme and when the continuing airworthiness of the aircraft is managed by an Organisation approved in accordance with Chapter A8-25 or A8-26, the aircraft maintenance programme and its amendments may be approved through an indirect approval procedure. The indirect approval procedure shall be established by the approved Organisation as part of the Exposition and shall be approved by the CAA.

15.7 For an aircraft that does not require an approved maintenance programme, an owner/operator may make arrangements for an organisation or licensed engineer to develop the programme. In such cases the owner/operator retains responsibility for its content.

16 Mandatory Permit Directives (MPDs)

16.1 In accordance with Article 41 of the Air Navigation Order 2016 (as amended), any applicable Mandatory Permit Directive (MPD) must be carried out within the requirements of that MPD, unless otherwise specified or agreed by the CAA.

17 Data for Modifications and Repairs

17.1 Damage should be assessed and modifications and repairs carried out using data approved by the CAA or by a suitably approved organisation, as appropriate.

18 Aircraft Continuing Airworthiness Record System

18.1 The aircraft continuing airworthiness records should consist of an aircraft logbook, engine logbook(s) or engine module log cards, and propeller logbook(s) as required by Article 226 of the Air Navigation Order.

18.2 The aircraft type and registration mark, the date, together with total flight time and/or flight cycles and/or landings, as appropriate, is required to be entered in the aircraft logbooks.

18.3 The aircraft continuing airworthiness records are required to contain the current:

a) status of Mandatory Permit Directives and measures mandated by the CAA in immediate reaction to a safety problem;

b) status of modifications and repairs;

c) status of compliance with the maintenance programme;

d) status of service life limited components;

e) weight and balance report;

f) list of deferred maintenance

18.4 When requested by the CAA, the following information relevant to any component installed is required to be recorded in the appropriate airframe, engine or propeller logbook, engine module or service life limited component log card:

a) identification of the component; and

b) where available, the type, serial number and registration of the aircraft to which the particular component has been fitted, along with the reference to the installation and removal of the component; and

c) the particular component accumulated total flight time and/or flight cycles and/or calendar time, as appropriate.

18.5 All entries made in the aircraft continuing airworthiness records should be clear and accurate. When it is necessary to correct an entry, the correction should be made in a manner that clearly shows the original entry.

18.6 The owner/operator is required to keep copies of the continuing airworthiness records supporting the items listed in paragraph 18.3 for the times specified in Article 226, Schedule 7 of the Air Navigation Order 2016.

19 Transfer of Aircraft Continuing Airworthiness Records

19.1 The owner/operator shall ensure that when an aircraft is transferred from one owner/operator to another the continuing airworthiness records described in paragraph 18, and any other relevant records are also transferred.

20 Permit Maintenance Release

20.1 When specified on the conditions of the National Permit to Fly, except for maintenance permitted to be carried out by the pilot (see paragraph 23), the aircraft shall be certified as fit for flight following maintenance by the issue of a Permit Maintenance Release (PMR). The PMR supports the continued validity of the Certificate of Validity.

20.2 The PMR shall be issued covering the particular maintenance activity carried out and is required for those maintenance tasks defined in paragraph 22.1.

20.3 The aircraft log books/worksheets shall contain particulars of the maintenance carried out and shall include the following certification statement:

'The work recorded above has been completed to my satisfaction and in that respect the aircraft is considered fit for flight.

Signed ..... Authorisation Ref. ..... Date .....'

20.4 A PMR shall be issued only by the following:

a) the holder of an appropriate category aircraft maintenance engineer's licence granted or rendered valid in the United Kingdom who has been specifically authorised by the CAA for the purpose;

b) persons specifically authorised by the CAA for the purpose;

c) persons specifically approved by the CAA when acting within the appropriate terms of approval;

d) persons authorised by the approved organisation when that organisation is specifically approved by the CAA to do so.

20.5 For individuals that are not authorised through an approved organisation application should be made to the CAA.

21 Component Certificate of Release to Service

21.1 For components that are intended only for installation on aircraft eligible for a Permit to Fly, a UK CAA Approved Certificate contained within Supplement 1 to this Chapter A3-7, can be issued on the completion of any work and constitutes the component certificate of release to service. When an organisation maintains a component for its own use, a UK CAA Approved Certificate may not be necessary depending upon the organisation's internal release procedures, defined in the exposition.

22 Maintenance

22.1 For the purposes of this Chapter, maintenance is understood to mean scheduled maintenance, overhaul, modification, repair, replacement, defect rectification or compliance with Mandatory Permit Directives issued in respect of any component or equipment as may be fitted to the aircraft.

22.2 During the period of validity of a Certificate of Validity the aircraft shall be maintained in an airworthy condition and, where stated on the Permit to Fly, maintenance arrangements must be agreed with the CAA.

22.3 English language translations of all foreign language publications containing continuing airworthiness information and maintenance data are required to be made available to maintenance personnel if they are unable to fully understand the language in which the documents were originally produced.

23 Pilot Maintenance

23.1 For aircraft below 2730 kg MTWA operated on a Permit to Fly, pilot maintenance may be carried out in accordance with either the prescribed repairs and replacement privileges in the ANO, Section 3 Part 4; Regulation 12; or for those aircraft with a Permit to Fly validated by a person approved by the CAA for that purpose, pilot maintenance may be performed to the extent permitted by the procedures of that organisation.

23.2 The details of any maintenance shall be entered in the appropriate logbooks and include; the maintenance data used, the date on which that maintenance was completed and the identity, the signature and pilot licence number of the pilot performing the maintenance. For pilot maintenance the issue of a Permit Maintenance Release (PMR) is not required.

24 Duplicate Inspections

(May be referred to as Independent or Second inspections)

24.1 A duplicate inspection shall be carried out after any flight safety sensitive maintenance task. Maintenance tasks that involve the assembly or any disturbance of a control system that, if errors occurred, could result in a failure, malfunction, or defect endangering the safe operation of the aircraft should be considered as flight safety sensitive maintenance tasks needing a duplicate inspection.

24.2 A control system is an aircraft system by which the flight path, attitude, or propulsive force of the aircraft is changed, including the flight, engine and propeller controls, the related system controls and the associated operating mechanisms.

24.3 Duplicate inspections should be carried out by at least two persons, to ensure correct assembly, locking and sense of operation. A technical record of the inspections should contain the signatures of both persons before the relevant Permit Maintenance Release (PMR) is issued.

24.4 A duplicate inspection is an inspection first made by an authorised person (this may be the pilot) signing the maintenance release who assumes full responsibility for the satisfactory completion of the work, before being subsequently inspected by a second independent competent person who attests to the satisfactory completion of the work recorded and that no deficiencies have been found. The second independent competent person is independent if they were not involved in doing the work being inspected.

24.5 The second independent competent person is not issuing a maintenance release therefore is not required to hold certification privileges. However they should be suitably qualified to carry out the inspection. Where the work and first inspection has been carried out by an authorised person, the pilot may carry out the second inspection.

Supplement 1 to A3-7

[1] United Kingdom Civil Aviation Authority	**UK CAA APPROVED CERTIFICATE**	[3] Form Tracking Number
[4] Approved Organisation Name and Address		[5] Work Order / Contract / Invoice

[6] Item	[7] Description	[8] Part No.	[9] Qty	[10] Serial No	[11] Status/ Work

[12] Remarks

ITEM CAN ONLY BE FITTED TO AN AIRCRAFT ELIGIBLE FOR A NATIONAL PERMIT TO FLY.

[13 a] Certifies that the items identified above were manufactured in conformity to: approved design data and are in a condition for safe operation non-approved design data specified in block 12		[14 a] Certifies that the work specified, except as otherwise specified in block 12, was carried out in accordance with the Air Navigation Order for the time being in force and in respect to that work the aircraft/aircraft component is considered ready for release to service	
[13 b] Authorised Signature	[13 c] Approval No.	[14 b] Authorised Signature	[14 c] Approval No.
[13 d] Name	[13 e] Date (dd/mmm/yyyy)	[14 d] Name	[14 e] Date (dd/ mmm/yyyy)

USER/INSTALLER RESPONSIBILITIES

NOTES: 1 This certificate does not automatically constitute authority to install the item(s).

2 Statements 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer, before the aircraft may be flown.

CERTIFICATE

Completion Instructions

These instructions relate only to the use of the UK CAA Approved Certificate for maintenance purposes for Permit Aircraft for aircraft eligible for a National Permit to Fly.

1 Purpose and Scope

A primary purpose of the Certificate is to declare the airworthiness of maintenance work undertaken on products, parts and appliances (hereafter referred to as 'item(s)') that are for aircraft with a National Permit to Fly.

The Certificate should be used on item(s) that have been removed from an aircraft with a National Permit to Fly, or where the item is only required to be fitted to an aircraft with a National Permit to Fly.

The Certificate can serve as an official certificate for the delivery of items to users. The Certificate is not, however, a delivery or shipping note.

It may only be issued by organisations certificated by the CAA, within the scope of such an approval. Aircraft are not to be released using the Certificate. The Certificate is NOT to be used for the certification of maintenance work on Products, Parts or Appliances for aircraft that are the responsibility of the European Aviation Safety Agency (EASA).

The Certificate does not constitute approval to install the item on a particular aircraft, engine, or propeller but helps the end user determine its airworthiness approval status.

2 General Format

The Certificate must comply with the format attached including block numbers and the location of each Block. The size of each Block may, however, be varied to suit the individual application, but not to the extent that would make the Certificate unrecognisable. The overall size of the Certificate may be significantly increased or decreased so long as the Certificate remains recognisable and legible. The Certificate must be in 'Portrait' rather than 'Landscape' to help differentiate it from the EASA Form 1. If in doubt consult the CAA.

Please note that the user responsibility statements can be placed on either the reverse or front of this Certificate.

All printing must be clear and legible to permit easy reading and be in English.

The Certificate may either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted.

The details to be entered on the Certificate may be either machine/computer printed or hand-written using block letters, permit easy reading and be in English. Abbreviations must be restricted to a minimum.

The space remaining on the reverse side of the Certificate may be used by the originator for any additional information but must not include any certification statement.

The original Certificate must accompany the items and correlation must be established between the Certificate and the item(s). A copy of the Certificate must be retained by the organisation that issuing the certificate. Where the Certificate format and the data is entirely computer generated, subject to acceptance by the CAA, it is permissible to retain the Certificate format and data on a secure database.

There is no restriction in the number of copies of the Certificate sent to the customer or retained by the originator.

The Certificate that accompanies the item may be attached to the item by being placed in an envelope for durability.

Correlation must be established between the Certificate and the item(s).

3 Completion of the Certificate by the Originator

Except as otherwise stated, there must be an entry in all Blocks to make the document a valid Certificate.

Block 1 Pre-printed 'United Kingdom Civil Aviation Authority'.

Block 2 Pre-printed 'UK CAA Approved Certificate for Permit Aircraft'.

Block 3 A unique number must be pre-printed in this Block for Certificate control and traceability purposes except that in the case of a computer generated document, the unique number need not be pre-printed where the computer is programmed to produce the number.

Block 4 Enter the full name and address of the approved organisation releasing the work covered by this Certificate. Logos, etc., are permitted if the logo can be contained within the block.

Block 5 To help facilitate customer traceability of the item(s), enter the work order number, contract number, invoice number, or similar reference. The use of the Block for such traceability is mandatory in the absence of item Serial Numbers or batch numbers in Block 10. When not used, state N/A.

Block 6 The Block is provided for the convenience of the organisation issuing the Certificate to permit easy cross-reference to the 'Remarks' Block 12 by the use of line item numbers. Block 6 must be completed where there is more than one line item.

Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

Block 7 Enter the name or description of the item. Preference should be given to the term used in the instructions for continued airworthiness or maintenance data

(e.g. Illustrated Parts Catalogue, Aircraft Maintenance Manual, Service Bulletin).

Block 8 Enter the part number as it appears on the item or tag/packaging. In case of an engine or propeller the type designation may be used.

Block 9 State the quantity of items being released.

Block 10 State the items Serial Number or Batch Number if applicable. If neither is applicable, state 'N/A'.

Block 11 The following table describes the permissible entries for block 11. Enter only one of these terms – where more than one may be applicable, use the one that most accurately describes the majority of the work performed and/or the status of the article.

Entry	Meaning
Overhauled	A process that ensures the item is in complete conformity with the applicable service tolerances specified in the type certificate (or equivalent) holder's, or equipment manufacturer's instructions for continued airworthiness, or in the data that is approved or accepted by the CAA. The item will be at least disassembled, cleaned, inspected, repaired as necessary, reassembled and tested in accordance with the above specified data.
Repaired	Rectification of defect(s) using an applicable standard.*
Inspected/Tested	Examination, measurement, etc. in accordance with an applicable standard* (e.g. visual inspection, functional testing, bench testing and operational checks). The results shall be described or referenced in block 11.
Modified	Alteration of an item to conform to an applicable standard.*

* Applicable standard means a manufacturing/design/maintenance/quality norm, method, technique or practice approved by or acceptable to the CAA. The Applicable Standard shall be described in block 12.

Block 12 State any information in this block, either directly or by reference to supporting documentation, necessary for the user or installer to determine the airworthiness of the item in relation to the work being certified. If necessary a separate sheet may be used and referenced from the main Certificate. Each statement must be clearly identified as to which item in block 6 it relates. If there is no statement, state 'None'.

Examples of statements in block 12 are:

- Maintenance documentation used, including the revision status.
- Compliance with airworthiness directives, mandatory permit directives or service bulletins.
- Repairs carried out.
- Modifications carried out.
- Replacement parts installed.

- Life limited parts status.
- Deviations from the customer work order.

Blocks 13a - 13e General Requirements for blocks 13a to 13e:

Blocks 13a to 13e are not used for maintenance release. Shade, darken, or otherwise mark to preclude inadvertent or unauthorised use.

Block 14a Pre-printed certification statement.

The certification statement 'except as otherwise specified in block 12' is intended to address the following situations:

a) The case where the maintenance could not be completed.

b) The case where the maintenance deviated from the standard required.

c) The case where the maintenance was carried out in accordance with a non organisation requirement.

Whichever case or combination of cases, this shall be specified in block 12.

Block 14b The hand-written normal signature of a person who has written authority from the approved maintenance organisation to make Certifications in respect of maintenance. Use of a stamp instead of a signature is not permitted, but the authorised person may add a stamp impression to his or her signature to aid recognition. Subject to the agreement of the CAA in any particular case, computer-generated signatures are permitted if it can be demonstrated that an equivalent level of control, traceability and accountability exists.

Block 14c State the full authorisation reference given by the CAA to the maintenance organisation releasing the items.

Block 14d The name of the person signing Block 14b, printed, typed, or written in a legible form.

Block 14e The date on which Block 14b is signed, in the format day/month/year. The month must be stated in letters (sufficient letters must be used so there can be no ambiguity as to the month intended).

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Appendix 1 to A3-7

Evidence to Substantiate Applications

1 Introduction

1.1 Evidence is required to substantiate applications under sub-paragraph 4.1(d) of Chapter A3–7 for the Issue and Renewal of Permits to Fly in respect of Aircraft, the design of which, has previously been accepted by the recognised National Authority of the State of Design.

2 The following requirements apply:

2.1 For aircraft in the Intermediate or Complex groups (as defined in BCAR Chapter A8-25 Supplement 2, paragraph 1.2.), the Applicant shall submit evidence to demonstrate that the aircraft type has a safety record in service acceptable to the CAA for its intended use.

2.2 The aircraft shall be shown by a competent person to conform to the type to which the established safety record is related.

2.3 Used aircraft should be in a condition acceptable to the CAA, have been regularly maintained or overhauled as necessary and relevant records should be complete including in particular those relating to lifed components and Mandatory Permit Directive (MPD) compliance.

2.4 The applicant shall demonstrate that they have taken account of the planned utilisation and type of operation of the aircraft in preparing the aircraft's maintenance programme. Tasks intervals originally specified in flight hours should be reviewed and where necessary converted to an appropriate calendar interval. These tasks should be reviewed on a regular basis to ensure that the task content and interval remain applicable and effective.

2.5 The Applicant shall demonstrate to the satisfaction of the CAA their competence to conduct or arrange for the necessary flight testing of the aircraft as required by the CAA.

2.6 The Applicant shall be able to demonstrate their competence and resources to maintain the aircraft in accordance with paragraph 2.3 above, or be suitably approved in accordance with BCAR Chapter A8–25. In addition, the Applicant shall be able to demonstrate their competence to ensure that any modifications necessary to maintain the established standard of airworthiness are determined and embodied.

2.7 The Applicant shall be competent to observe any limitations that the CAA may determine having regard to the safety of third parties and occupants during intended operations of the aircraft.

2.8 The aircraft shall be equipped to a standard acceptable to the CAA for the intended purpose.

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Appendix 2 to A3-7 Acceptable Means of Compliance

AMC to A3-7, 11.1

In order to ensure the validity of the Permit to Fly, 11.2 and 11.3 requires performing periodically an airworthiness review of the aircraft and its continuing airworthiness records, which results in the issuance of a Certificate of Validity.

AMC No 2 to A3-7, 11.2 and 11.3

When performing an airworthiness review there is a possibility that issues will be identified that cannot be immediately resolved which will require further investigation and possible corrective action before a Certificate of Validity can be issued, When this situation occurs, the airworthiness review should be considered to be incomplete, until such time as the identified corrective actions have been taken.

When an issue is identified but:

- a clear decision cannot be made regarding the acceptability of the issue, or
- the corrective action required cannot be defined;

then the airworthiness review must be considered to be inconclusive and should be reported to the CAA.

Where an airworthiness review is incomplete, inconclusive, or a condition that is considered to endanger flight safety has been identified, the aircraft should not be flown until such time as the issue has been resolved.

AMC No 1 to A3-7, 11.3

It is acceptable to anticipate the renewal of the Certificate of Validity by a maximum of 30 days without a loss of continuity of the airworthiness review pattern, which means that the new expiration date is set up one year after the previous expiration date.

AMC to A3-7, 11.5

Suitable accommodation should include:

a) an office with normal office equipment such as desks, telephones, photocopying machines etc. whereby the continuing airworthiness records can be reviewed;

b) a hangar when needed for the physical survey.

The support of personnel appropriately authorised to issue a Permit Maintenance Release is necessary when the CAA airworthiness review staff are not appropriately qualified.

AMC to A3-7, 11.9

The method and format by which the CAA will be notified that a Certificate of Validity has been issued to an aircraft shall be agreed and included in the organisation's exposition. Where there is no agreement with the CAA, a copy of the Certificate of Validity shall be submitted.

AMC to A3-7, 14

1 Responsibility to Determine if a Check Flight is Necessary

1.1 Pilots, Owners, Licensed Engineers, Approved Organisations

The responsibility of deciding when a check flight is required either because of a maintenance requirement or for an airworthiness issue is with the pilot-owner, operator,

engineer, maintenance or continuing airworthiness management organisations. Once the decision is made, the responsibility for ensuring that the check flight is carried out cannot be delegated. The responsible person will also need to ensure that it is satisfactorily completed and the results recorded in the appropriate Check Flight Schedule (CFS).

1.2 Airworthiness Review Signatory

It is the responsibility of the Airworthiness Review Signatory, when conducting an airworthiness review, to decide whether a check flight was required during the review period, and if so, that it was carried out satisfactorily. Should it be identified that either a required check flight has not been performed or satisfactorily completed, including the accomplishment of any rectification action, then the airworthiness review should be considered as incomplete until such time as the issues are resolved.

NOTE: The Airworthiness Review Signatory includes all people authorised to carry out an Airworthiness Review for an aircraft with a National Permit to Fly for the purposes of making a recommendation to the CAA for the issue or renewal of the Certificate of Validity, or, who are renewing the Certificate of Validity under their Organisation Approval. This also includes CAA personnel when they carry out the airworthiness review.

2 Types of Check Flight

Check Flights are required for fundamentally two different purposes.

A Check Flight will often be required as part of a maintenance procedure to diagnose a fault or to ensure a fault has been rectified. Such flights are known as Maintenance Check Flights (MCF). This airborne test may be "prescribed" by a maintenance procedure, or it could be "elective" where an organisation deems it good engineering practice.

Airworthiness Check Flights (ACF) are flights that may be conducted before or after a period of maintenance or at any convenient stage in an aircraft's Airworthiness Certificate revalidation cycle. These flights should be flown to an agreed Check Flight Schedule and, should be conducted by a CAA briefed pilot (see Section 6).

3 Airworthiness Check Flight Considerations

3.1 Aircraft Performance: The aircraft's performance must meet the scheduled performance contained within the Aircraft Flight Manual (AFM) or Operations Manual (OM). The performance should not have significantly degraded since the last check flight and any measured degradation should be accounted for. For example one-engine-inoperative climb performance should meet scheduled figures; stall speeds should match published figures; helicopter autorevs should be within limits etc.

3.2 Handling Qualities: The aircraft should handle/fly as intended. Stall characteristics should be benign or normal for the type. The aircraft should fly in balance and within designed trim conditions. In the case of rotorcraft the low speed handling should be benign in addition to that of forward flight, etc.

3.3 Systems: All aircraft systems should be serviceable and fit for purpose or, if permissible, clearly labelled as inoperative. Systems used in the resolution of emergencies should also be functioned, e.g. emergency lowering of undercarriage. Autopilots and Flight Control Systems, particularly on helicopters, should be comprehensively tested to ensure they perform as intended with degraded modes assessed where possible.

4 When Check Flights Should Be Performed

4.1 Prescribed Maintenance Check Flights: A prescribed maintenance check flight should be performed in accordance with recognised rectification/maintenance schedules.

4.2 Elective Maintenance Check Flight: In accordance with best engineering practice and considering:

- Engine(s) including control systems disturbance, overhaul or replacement;
- Propeller(s) including control systems disturbance, overhaul replacement;
- Main and tail Rotor systems disturbance, overhaul replacement;
- Any flying control surface change, repair or re-rig (including trim tabs);
- Accident-related structural repair;
- Undercarriage replacement, repair or re-rig;
- Any pitot-static, Air Data Computer or associated component replacement or repair;
- Alpha probe repair or replacement;
- Any significant Fuel, Electric, Hydraulic or Pneumatic repair or replacement;
- Any Flight Control System disturbance or repair;
- For pressurised aircraft, any pressurisation system component replacement or repair;
- Significant or multiple gyroscopic flight instrument repair or replacement;
- Periods in storage;
- Following dismantling and re-assembly of aircraft.

4.3 Airworthiness Check Flights (ACF):

An aircraft's airworthiness will degrade over time. A number of factors affect the rate of degradation, e.g. flying hours, operating cycles, operating environments, hangarage, operational use etc. It is the responsibility of the pilot-owner, operator, engineer, or approved organisation to determine when an airworthiness Check Flight is necessary. The responsible person should ensure that valid and consistent decisions regarding the need for a Check Flight are made and recorded.

Evidence of abuse or neglect should indicate the need for an airworthiness Check Flight. Equally, usage in a harsh environment may indicate the need to conduct Check Flights more frequently.

When considering the need for a Check Flight and, in particular the length of time between Check Flights, a one to three year cycle should be considered. The following circumstances are examples of where consideration may be given to extending the period between Check Flights:

- A low flying rate;

NOTE: Minimal or zero flying would be expected to warrant more frequent Check Flights.

- Lower than expected number of cycles;
- Fewer operating cycles per flying hour;
- Good hangarage (warm and dry);

NOTE: Aircraft left outside for long periods with minimal flying would be expected to warrant more frequent Check Flights.

- Gentle operational use with low payloads, reduced power requirements, routine low all-up weight operation etc.;
- Benign operating environment – not sea spray or salt laden air or extremes of hot/cold temperature, precipitation etc.;

- Regular power assurance checks;
- Operated in accordance with a benign spectrum of usage – e.g. long cruise flights rather than regular training sorties including circuits, repeated landings, autorotations, engine relights etc.

A record of all check flights and their results should be kept with the aircraft records, including details of any corrective actions to resolve any defects.

5 Check Flight Schedules (CFS)

Owners, operators, licensed engineers or approved organisations who establish a need to carry out periodic Check Flights as part of their own airworthiness assurance process, or are required for commercial reasons to do so, should ensure that their Check Flight Schedules and procedures are developed in accordance with current best practices. They may achieve this by consulting with the aircraft manufacturer or with CAA Airworthiness Team for advice on content and safety procedures. It is important that the content and conduct of Check Flights is standardised as far as possible. A number of generic CFS are available on the CAA website and there is useful guidance contained in the CAA Check Flight Handbook (CAP 1038) regarding their content. It is the responsibility of the pilot conducting the Check Flight to ensure that the CFS is appropriate and correct for the type of aircraft to be flown.

6 Approved Pilots

Although the CAA no longer briefs pilots for conducting check flights, nor maintains a list of briefed pilots, there are a number of pilots who have previously been briefed by the CAA. Pilots who qualified under the briefed pilot scheme may continue to perform check flights. The person/organisation who determined that a check flight is necessary should confirm that the pilot performing the flight is suitably trained and experienced.

Chapter 3 (Eligibility of Pilots to carry out check flights) of the CAA's Check Flight Handbook (CAP 1038) provides detailed guidance regarding the eligibility of pilots to carry out check flights, as well as advice on the check flight process.

AMC to A3-7, 15.4

The maintenance programme for the aircraft will need to take account of the planned utilisation and type of operation. Tasks intervals originally specified in flight hours should be reviewed and where necessary converted to an appropriate calendar interval. These tasks should be reviewed on a regular basis to ensure that the task content and interval remain applicable and affective.

AMC to A3-7, 19.1

Records include but are not limited to: logbook entries; component log cards; all work sheets/ cards relating to the listed continuing airworthiness records; all maintenance work cards/work sheets/work packs; release documents.

AMC to A3-7, 24

Items designed for routine disassembly and reassembly as part of a pre-or post flight rigging procedure described in the Pilots Operating Handbook/Aircraft Flight Manual may be inspected by the pilot and would not require a second inspection.

Chapter A3-8 'A' Conditions

1 Introduction

1.1 In accordance with Schedule 3 of the Air Navigation Order, an aircraft which does not have a Certificate of Airworthiness duly issued or rendered valid under the law of the United Kingdom shall fly under 'A' Condition only for the purpose of enabling it to:

a) qualify for the issue or renewal of a Certificate of Airworthiness or the validation thereof after an application has been made for such issue, renewal or validation as the case may be, or to carry out a functional check of a previously approved modification of the aircraft;

NOTE: For the purposes of this BCAR, 'a previously approved modification' shall mean a modification which has previously been approved by the CAA in respect of that aircraft or another aircraft of the same type.

b) proceed to or from a place at which any inspection, repair, modification, maintenance, approval, test or weighing of, or the installation of equipment in, the aircraft is to take place or has taken place for a purpose referred to in paragraph (a), after any relevant application has been made, or at which the installation of furnishings in, or the painting of, the aircraft is to be undertaken; or

c) proceed to or from a place at which the aircraft is to be or has been stored.

1.2 An aircraft for which the Certificate of Airworthiness or Certificate of Validation has ceased to be in force by virtue of any of the matters specified in Article 9(7) of the Air Navigation Order, shall fly under 'A' Conditions only for the purpose of enabling it to:

a) proceed to a place at which any inspection or maintenance required by virtue of Article 9(7)(b)(ii) of the Air Navigation Order is to take place; or

b) proceed to a place at which any inspection, maintenance or modification required by virtue of Article 9(7)(b)(i) or (c) of the Air Navigation Order is to take place and in respect of which flight the CAA has given permission in writing; or

c) carry out a functional check, test or in-flight adjustment in connection with the carrying out in a manner approved by the CAA of any overhaul, repair, previously approved modification, inspection or maintenance required by virtue of Article 9(7) of the Air Navigation Order.

1.3 Before an aircraft flies under 'A' Conditions the aircraft and its engines shall be certified as fit for flight. This Chapter details the type of certificate required.

NOTE: 'A' Conditions for flight are prescribed in the Air Navigation Order.

2 Certificate of Fitness for Flight

2.1 The Certificate shall be as follows:

AIRCRAFT ..... CON NO ..... ENGINE ..... S/No(s) .....

It is hereby certified that the aircraft defined hereon has been inspected and is fit for flight provided it is properly loaded.

This Certificate is valid until ..... or until the airworthiness condition of the aircraft is altered, whichever is earlier.

..... **'A' Licence No .....**

Signed

..... **'C' Licence No .....**

Signed ..... **CAA Approval No .....**

2.2 The period of validity shall be stated but shall not exceed 7 days.

2.3 The Certificate shall be issued in duplicate and one copy kept elsewhere than in the aircraft.

2.4 A Certificate of Fitness for Flight shall be issued only by the following:

a) The holder of an appropriate aircraft maintenance engineer's licence granted or rendered valid in the United Kingdom.

b) A firm approved by the CAA under BCAR Chapter A8–1, A8–3, A8-23 or A8-24 organisation where the Terms of Approval refer to particular types of aircraft.

2.5 If the original airworthiness condition of the aircraft is affected during the period of validity, the Certificate shall be re-issued.

Chapter A3-9 'B' Conditions

1 Introduction

Flight under 'B' Conditions as prescribed in Schedule 3 of the Air Navigation Order, may only be undertaken by Organisations Approved in accordance with BCAR A8–9.

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Chapter A3-11 Aircraft Radio Installations

1 Application for Radio Installation Licence

An application form, copies of which may be obtained from WT Radio Licensing Surveillance and Spectrum Management, Directorate of Airspace Policy, K6 Gate 6, CAA House, 45-59 Kingsway, London WC2B 6TE, Telephone: 0207 453 6555, Fax: 0207 453 6556, e-mail radio.licensing@caa.co.uk, shall be completed and returned to that address. The Directorate of Airspace Policy will forward a licence to the Applicant, which becomes valid only when Form AD 917 (see paragraph 3.5), 'Certificate of Approval of Aircraft Radio Installation', is issued by the CAA, except that the licence authorises the Applicant to carry out such ground and flight tests, before the CAA issue the Certificate of Approval, as are necessary to comply with paragraph 3.2.

2 Application for Certificate of Approval of Aircraft Radio Installations

2.1 For an aircraft not having a Certificate of Airworthiness, the application for a Certificate of Approval of Radio Installation is a routine matter after the Applicant has completed a formal application, on Form CA 3 (see Chapter A3–1), for a Certificate of Airworthiness.

2.2 Where the aircraft has already been issued with a Certificate of Airworthiness, and a Certificate of Approval of Aircraft Radio Installation is desired, the Applicant shall complete CAA Form AD 282 in accordance with the Major Modification procedures in Chapter A2–5.

2.3 Where a modification, previously approved by the CAA, has been incorporated in the aircraft introducing a radio installation and a Certificate of Approval of Aircraft Radio Installation is desired, the Applicant shall send to the CAA Safety Regulation Group such documents as are necessary to give details of the modification, and also to show that the work has been certified in accordance with the procedures in Chapter A6–1.

3 Approval of Aircraft Radio Installations

3.1 **Design.** The Applicant shall ensure that the design of the installation complies with:

a) the Requirements in force at the time the application for a Certificate of Approval of Aircraft Radio Installation is received by the CAA;

b) such other requirements as the CAA may notify in writing, for a particular installation.

3.1.1 All relevant design information, drawings and test reports shall be held at the disposal of the CAA. No such design records shall be destroyed without authorisation from the CAA.

3.1.2 Each design drawing shall bear a descriptive title, drawing number, issue number and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system which will ensure amendment to design records.

3.1.3 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of an item in any way, a new part number shall be issued such as to avoid confusion with the original item.

3.2 **Survey, Ground and Flight Tests.** The approval of an aircraft radio installation is based on a survey by the CAA, followed by such ground and flight tests as are required in respect of the particular installation, to prove the satisfactory functioning of the installation.

3.2.1 The Applicant shall arrange with the CAA in the appropriate area, a convenient time, date, and place, for making the survey.

3.2.2 The Applicant shall carry out the flight test, in accordance with the requirements prescribed in the Communications Section (COM) of the United Kingdom Aeronautical Information Publications, 'Air Pilot', together with such other ground and flight tests as may be required by the CAA, in respect of the particular radio installation.

3.3 **Radio Flight Test Report.** On the satisfactory completion of the survey and the ground and flight tests, a Radio Flight Test Report shall be forwarded to the CAA, Safety Regulation Group. The Radio Flight Test Report shall include information under the following headings, together with such additional information as is required by the CAA in a particular case:

a) Type and registration marks of aircraft;

b) Type of installation;

c) Modification reference number;

d) Date and time of test;

e) Position and height of the aircraft and details of the radio tests, including particulars of aerials and transmitter(s) used.

3.4 **Radio Flight Test Certificate.** A certificate in the following form shall be signed by the pilot, or radio operator, as appropriate, at the conclusion of the flight tests:

I hereby certify that, with the exceptions stated below, the radio installation in the above designated aircraft has been proved to perform satisfactorily in flight the functions for which it is approved.

Exceptions ..... **Signed .....**

.....

..... **Date .....**

3.5 **Notification of Approval.** The CAA will issue a 'Certificate of Approval of Aircraft Radio Installation' (Form AD 917) to signify approval of the radio installation.

4 Modifications to Aircraft Radio Installations

4.1 Application for approval of a modification to an aircraft radio installation shall be made in accordance with the Major Modification procedures in Chapter A2–5.

4.2 The Applicant shall ensure that the design of the modification complies with:

a) the Requirements in force at the time the application for the Major Modification is received by the CAA;

b) such other requirements as the CAA may notify, in writing, for a particular modification.

4.3 When a change is made to a component which has already been the subject of a Mandatory Modification and this produces a new or modified component which achieves all the objectives of the previous Mandatory Modification, then the latter modification becomes an acceptable alternative to the previous one, and shall be shown in the Company's modification system and associated documentation.

5 Change of Ownership

5.1 A change of aircraft ownership invalidates the Radio Installation Licence; the new owner shall apply for a new licence.

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Sub-section A4
Design and Manufacture of Products Other Than Aircraft

Chapter A4-2 Type Certification of Engines and Associated Equipment

1 General

The requirements of this paragraph 1 are, except where otherwise indicated, applicable to all engines and associated equipment first type certificated in the UK.

1.1 **Introduction.** Engines and associated equipment for use in civil aircraft for which a Certificate of Airworthiness is required must be of approved types. The approval of such engines and equipment will be subject to compliance with the procedures set out in this Chapter A4–2.

NOTE: In respect of engines and associated equipment for use in civil aircraft, for which a Certificate of Airworthiness is required in the Special Category, the CAA may accept proposals which would vary the procedures in this Chapter A4–2.

1.1.1 The procedures of this Chapter also apply, in principle, to the approval of Auxiliary Power Units, except that, where appropriate, references to CS–E should be read as being to CS–APU.

1.2 **Definition of Engine.** An engine used, or intended to be used, for aircraft propulsion. It consists of, at least, those components and equipment necessary for satisfactory functioning and control, but excludes the propeller and its associated equipment.

1.3 **Application.** The application for CAA approval of an engine shall be made in accordance with paragraph 2.

1.4 **Engine Type Identity** (see Chapter A4–2 Appendix 1). All engines of the same basic type shall have a common designation, and variants thereof shall be identified in a manner acceptable to the CAA, and all such details shall be listed on the Engine Type Certificate, or equivalent approval documents. The designation shall differ from that of any similar engine designed and built to requirements other than CS–E (see sub-paragraph 4.3.1 a)).

1.4.1 If the ratings of the engine are changed significantly after the engine has been approved, or a significant alteration to the physical standard is made, the identification shall be changed and the approval documents shall be amended accordingly.

1.5 **Modular Engines.** Details shall be provided in the relevant engine manuals of the division of the engine into modules (see CS–1 for definition) giving the nomenclature and clearly defining the boundaries for each module.

2 Application for Approval

2.1 Application for the approval of an engine shall be made in writing to the CAA Safety Regulation Group.

2.2 The application shall include an undertaking to meet the costs incurred by the CAA during its investigations resulting in the issue of a Type Certificate, the rejection of the application after investigation, or until the application is withdrawn.

2.3 The application shall also include an undertaking that the costs incurred by the CAA for work in maintaining the validity of the Type Certificate through modifications to the engine type, and/or amendments to the Type Approval, will be met by the Applicant.

3 Type Approval

3.1 Engine Type Certificate and Data Sheet (see Chapter A4–2 Appendix 1). The Applicant will be formally notified of the approval of an engine by the issue of an Engine Type Certificate and an associated Engine Type Certificate Data Sheet.

3.2 The Type Certificate will be worded and will contain the information set out in Chapter A4–2 Appendix 1.

3.3 The associated Type Certificate Data Sheet will contain at least the information set out in Appendix 1, and will be prepared by the CAA, on the basis of evidence supplied by the engine manufacturer.

3.4 Subsequent changes to the approval will be notified by appropriate amendments to the relevant documents.

NOTE: An Engine Type Certificate is related to a particular engine type. The Applicant for a Certificate of Airworthiness in respect of an aircraft is responsible for ensuring compliance with the powerplant installation requirements (including the engine installation flight test requirements).

4 Design and Manufacture

In addition to compliance with paragraph 1, engines designed and manufactured in the UK shall comply with this paragraph 4.

4.1 **Engine Build Standard** (see Chapter A4–2 Appendix 1). The physical details of the engine, together with its permitted aircraft service equipment, shall be defined by a list of all components and equipment, compiled in a form agreed by the CAA, which shall be kept up to date by the engine manufacturer. The list shall be divided into two parts:

a) **Group 1.** This shall list all the components and Group 1 a) and b) equipment, approved as an integral part of the engine in accordance with paragraph 4.2.1, with reference to the relevant drawings, which together constitute the engine type, as agreed by the CAA, and shall include as a minimum those items necessary for satisfactory functioning and control of the engine;

b) **Group 2.** This shall list aircraft service equipment accepted in accordance with paragraph 4.2.2 which may be mounted on, or driven by, the engine, and the reference documents quoting the interface design and test requirements which will be applicable to any alternative equipment subsequently used.

4.2 **Equipment** (see **Chapter A4–2 Appendix 1)**

4.2.1 **Group 1 Equipment.** For approval as an integral part of the engine, all Group 1 equipment shall comply with the design and test requirements of CS–E and with a) or b), as appropriate.

a) Items of Group 1 equipment for which the engine manufacturer takes full responsibility (Group 1a)), shall have been designed and manufactured in accordance with the airworthiness design and test requirements of the relevant specification (see CS–E80);

b) Items of Group 1 equipment for which the engine manufacturer does not accept the responsibility for full technical control (Group 1b)), shall have been approved initially in accordance with a procedure similar to the Accessory Procedure of Chapter A4–8, and shall be accepted by the engine manufacturer on the basis of the related Declaration of Design and Performance (DDP) or equivalent document.

4.2.2 **Group 2 Equipment.** Group 2 equipment will be accepted for use on an engine subject to:

a) the design meeting the interface requirements specified by the engine manufacturer, or otherwise acceptable to the CAA. Conformity with the interface requirements shall be certificated by an Organisation appropriately approved by the CAA;

b) evidence of satisfactory operation of the engine fitted with the equipment during tests acceptable to the CAA.

NOTE: The procedures for the approval of Group 2 equipment in its own right will be in accordance with Chapter A4–8.

4.3 **Applicable Requirements**

4.3.1 The Applicant shall, through the medium of an organisation approved by the CAA for the purpose (see Chapter A8–1), verify that the engine complies with:

a) the issue of CS–E current at the time of application;

NOTE: Any 'national variants' used will be quoted in the approved engine approval documents.

b) those amendments to CS–E which have been accepted by the CS–E Engine Study Group, and which have been notified as having a significant effect on the airworthiness of the engine type;

c) all special requirements considered by the CAA to be appropriate in view of unconventional features of the engine design;

d) all special requirements considered by the CAA to be necessary in the light of recent experience from similar engines in service which has revealed problems having a significant effect on airworthiness.

4.3.2 During the certification programme the addition of new requirements will be avoided where possible, but the CAA reserves the right to introduce further requirements where:

a) development or certification testing of a particular engine, or experience from other similar engines in service, has revealed new problems having a significant effect on airworthiness which are not covered by the requirements previously agreed in accordance with paragraph 4.3.1;

b) significant design changes have been introduced since the identification of the requirements applicable in accordance with paragraph 4.3.1.

4.3.3 Following the date of application, subsequent new draft requirements may be considered by the CAA, and applied, subject to agreement by the Applicant.

4.3.4 The list of requirements determined in accordance with paragraph 4.3.1 will remain valid for a period of three years from the date of application for approval. Where engine approval has not been accomplished, or where it is clear that engine approval will not be accomplished, within the three year period the Applicant may:

a) make a new application, which would be treated as if it were an original application; or

b) request an extension of the original application, and comply with the applicable requirements which were effective at a date to be selected by the Applicant, but not earlier than the date preceding the forecast date for the issue of engine approval by a period of three years.

NOTE: An exception to this will be if all the requirements except the 'Tests in Precipitation or Ice-Forming Conditions' (see CS–E780) have been met satisfactorily, the latter not having been completed for reasons beyond the control of the engine manufacturer, e.g. non-availability of a suitable air intake from the aircraft manufacturer. In such circumstances, the CAA would indicate in writing to the engine manufacturer that compliance with all the relevant requirements had been established except for this aspect, and the date of such a communication would be regarded as the terminal date in complying with the three year rule.

4.3.5 **Subsequent Engine Variants.** Variants of existing types will normally be approved on the basis of the requirements applicable to the original certification of that engine type. If, however, the variant has significant design or performance changes, or service experience of the previously approved models is unsatisfactory for airworthiness reasons, compliance with later requirements may be required.

4.4 **Statement of Compliance.** The appropriate Approved Organisation (see paragraph 4.3.1) shall forward to the CAA a Statement of Compliance signed by an authorised signatory of the particular organisation, and worded in the following form:

STATEMENT OF COMPLIANCE

Engine Type

Approval Classification

I certify that with the exceptions stated below, engines of the above mentioned type (as defined in .....) comply with the appropriate requirements contained in Joint Aviation Requirements, CS–E (including Amendment No:.....) dated .... , and with the additional requirements notified by the CAA in their letter(s) reference .....

dated .....

Exceptions .....

.....

Signed .....

Firm .....

CAA Approval No. .....

Date .....

4.5 **Variation or Cancellation of Approval.** At suitable times the CAA will review, with the respective design organisations concerned, the engines and associated equipment which have been approved to determine whether the approvals are still required or justified, or whether a variation is necessary, e.g. as a result of the engines or equipment having become obsolete or obsolescent. On the basis of this review the CAA will make such changes or cancellations as may be appropriate to the circumstances.

4.6 **Modifications and Amendments**

4.6.1 The approval of the CAA shall be obtained for all modifications. Where applicable, the necessary information shall be supplied to the CAA so that the Engine Type Certificate Data Sheet may be amended. Where modifications to approved Group 1b) equipment affect the associated DDP the equipment manufacturer shall complete and forward to the CAA a CAA Form AD 70.

NOTE: Modifications and amendments to design drawings not affecting airworthiness performance, interchangeability, fits and clearances, weight and installations, may be introduced by an appropriate Approved Organisation without prior approval by the CAA; but at suitable intervals CAA approval will have to be obtained.

4.6.2 The Applicant shall (normally through the medium of the original Organisation approved for the design) ensure that the proposed modification is such that the engine, or equipment, when modified, complies with a) and b):

a) The relevant design and test requirements in force at the time the engine or equipment was originally approved.

b) Such other design and test requirements as the CAA may have notified in writing to the Applicant, as being applicable to the engine, or item of equipment concerned.

4.6.3 Unless otherwise agreed by the CAA, modifications to Group 1 equipment shall be the subject of an engine modification. Changes to Group 2 equipment shall also be the subject of an engine modification if the change is such as to introduce a significant difference from the original submission made in accordance with paragraph 4.2.2.

4.6.4 In some cases an engine modification may have an effect on the engine installation (e.g. a change to the shape or area coverage of a heat shield), or it may require amendments to Flight Manual limitations, but not require a change of engine type identity. In these circumstances, before approving the engine modification, the CAA shall normally be provided with confirmation that the change is approved in respect of the aircraft. This shall be indicated through an aircraft 'cover' modification, or by written confirmation that the aircraft manufacturer accepts the change. Alternatively, if such prior approval cannot be obtained, the need for final approval by the aircraft manufacturer shall be made known in the published modification bulletin.

NOTE: The procedure for approval of modifications to aircraft is prescribed in Chapter A2-5.

4.6.5 Manufacturers shall maintain a system acceptable to the CAA to ensure that all changes to the processes of manufacture of major components, or changes in the source of supply of major components or their materials are controlled, and are acceptable to the manufacturer's design and quality control departments. Such changes may require tests to be made before the change can be approved and, depending on the magnitude and significance of the testing necessary, the CAA may require the change to be classified as a modification. Even when modification action is not considered necessary, the need to provide different identification of those parts manufactured after the change, shall be considered.

NOTE: The following are examples of major components of gas turbine engines: turbine discs, compressor drums and discs, main shafting, main line bearings, suspension mounting links and associated casings and major transmission gears on turbo-prop and turbo-shaft engines, including all components which are subject to detailed CAA agreement in respect of quality control (in accordance with CS–E515).

4.6.6 Repair schemes shall be classified as modifications, and shall normally be approved through the medium of the original Approved Organisation, or through an organisation specifically approved for the purpose by the CAA.

4.6.7 Where modifications to approved equipment, assemblies or modules affect unit interchangeability, or are of such a nature as to require amendment of approval documents, or any documents associated with the Certificate of Airworthiness, a separate type or designation reference shall be allocated to the modified equipment, assembly, or module.

4.6.8 Modification documents shall consist of a Title Sheet, which shall bear a modification reference number, issue number and date, a description of the modification, together with a list of parts, assemblies and modules affected by the modification and, where necessary, drawings giving particulars of the parts before and after modification.

4.6.9 Approval of an engine modification, or amendment, will be indicated by the signature of a CAA Surveyor, preferably on the Modification or Amendment Title Sheet.

4.6.10

a) Modifications and inspections considered essential for airworthiness, will be classified as mandatory by the CAA, in consultation, where appropriate, with the Approved Organisation and affected Operators; the compliance date, limiting flying hours, cycles, or other details when the prescribed action must be taken,will be decided, taking into account the degree of urgency, the availability of modified parts, and the amount of work required to complete the modification/inspection.

b) Where a further modification is made to a component which has already been the subject of a mandatory modification, and this produces a new or modified component which achieves all the objectives of the previous mandatory modification, then the later modification becomes an acceptable alternative to the previous one, and this shall be shown in the Company's modification system and associated documentation.

4.6.11 All work undertaken in the incorporation of a modification to an engine, module or equipment shall be supervised either by an Organisation approved by the CAA for the purpose or by an appropriately licensed aircraft maintenance engineer. Before the work is finally certified, the Approved Organisation, or the licensed aircraft maintenance engineer, shall be satisfied that the work has been carried out, inspected, and tested where necessary, for conformity with the specifications, drawings and instructions relating to the approved design.

4.6.12 Full particulars of the work done to incorporate the modification shall be entered in the relevant log book, quoting the reference number of the modification. A Certificate of Release to Service shall be attached thereto (see A6–1).

5 Construction

5.1 All engine components manufactured in the United Kingdom shall be made from approved materials and shall be produced under the supervision of an Organisation approved by the CAA for the purpose. The engine shall be assembled and tested by an Organisation approved by the CAA for the purpose.

5.2 All engines, modules and equipment shall be to, at least, a minimum modification standard associated with an approved period between overhauls (or equivalent maintenance programme) for the engine, module or equipment concerned.

5.3 All series engines, modules, equipment and components, shall be marked with such serial numbers as may be necessary to enable the corresponding inspection records to be adequately correlated.

6 Tests

6.1 The Applicant shall be responsible for arranging all tests required in connection with approval and shall ensure that all test facilities, including all measuring instruments and equipment, are to the satisfaction of the CAA.

6.2 Before commencing type tests, the Applicant shall obtain CAA agreement to the relevant test schedules. The Applicant shall notify the CAA of the date on which it is proposed to commence the type tests. Adequate notice of the strip examination of an engine or of equipment, which has completed a type test, shall be given to the CAA supervising Surveyor.

7 Records

7.1 All relevant design information, drawings and test reports shall be held at the disposal of the CAA, and shall be retained until two years have elapsed after each engine of the type has been permanently withdrawn from use. Where design changes have been introduced, the original data shall be retained until two years have elapsed after it is reasonably certain that all the existing parts affected have been brought into conformity with the revised standard, or have been permanently withdrawn from use.

7.2 Each design drawing shall bear a descriptive title, drawing number, issue number and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system such as will ensure amendment to design records.

7.3 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of an item in any way, a new part number shall be issued to avoid confusion with the original item.

7.4 The inspection records and log books, for each newly constructed engine shall contain an Engine Inspection and Test Certificate (see 7.8 e)) and a record of the modification standard of the engine[1].

7.5 The inspection records and log books, for each overhauled, repaired, or modified engine shall contain[1.]:

a) a Certificate of Release to Service (see A6–1);

b) where appropriate, a certified statement listing, by serial numbers, all parts in the engine which are subject to retirement or ultimate (scrap) life (see A5–3, 4 and A7-4, 4) and the hours and/or number of cycles already completed by each part;

c) a record of the modification standard of the engine and its equipment;

d) a list of mandatory instructions which have been complied with.

7.6 In respect of modular engines, a log card shall be provided for each series module and shall be deemed part of the engine log book so long as the module is fitted to the engine. The log book of each engine shall either make reference to, or contain, the log cards of all the particular modules fitted to that engine.

a) The log cards of modules shall be such as to enable an up-to-date record to be kept of:

i) the nomenclature of the module, its type designation and identity, and its serial number;

ii) the current modification standard of the module;

iii) details of the identified engines to which the module has been fitted and removed, the flying hours and flight cycles achieved by the module with each engine, and the name of the Operator concerned;

1 None of the documents to which reference is made in 7.4 and 7.5 takes the place of an Approved Certificate where such a Certificate is applicable (see SUB-SECTION A8). However, when such a Certificate is issued, the certificate of Release to Service referred to in 7.5 a) need not be included in the log book.

iv) the serial numbers of all parts of the module which are subject to retirement or ultimate (scrap) life (see Chapter A5–3, paragraph 4 and Chapter A7-4, paragraph 4) and the total hours and/or number of cycles already completed by each such part;

v) details of compliance with mandatory instructions, completed critical inspections, and completed overhauls, repairs, replacements and modifications.

7.7 All relevant inspection records shall be made available to the CAA for examination on request.

7.8 Inspection records shall be retained as follows:

a) Inspection records relevant to certification tests shall be retained for two years after the approval of the type of engine has been cancelled;

b) Inspection records relevant to the manufacture of designated critical parts shall be retained for two years after the parts have been permanently withdrawn from use;

c) Inspection records relevant to the construction of a new engine or sub-unit shall be retained for two years after the assembly has been completely overhauled;

d) Inspection records relevant to the repair, modification or overhaul of an engine or sub-unit shall be retained for two years after the assembly has been subjected to a further complete overhaul, except that records relevant to the safe lives of designated critical parts shall be retained for two years after the parts have been permanently withdrawn from use. Where rework to an approved specification has been accepted as an alternative to overhaul, compliance may be shown by preserving records of the two preceding applications of the rework specification provided that the history of components marked in accordance with CS–E is retained (see Chapter A6–1);

e) Engine Inspection and Test Certificate

A copy of each completed Engine Inspection and Test Certificate shall be kept by the manufacturer. The information given in the Engine Inspection and Test Certificate shall include the following:

i) The title 'Engine Inspection and Test Certificate';

ii) The name of the manufacturer issuing the Certificate;

iii) The engine type;

iv) The reference and date of CAA engine approval or the latest issue of the Engine Type Certificate Data Sheet;

v) The manufacturer's serial number of the engine;

vi) Category of release (e.g. Experimental Flight, Special Category, Transport Category (Passenger));

vii) Reference to the inspection and test records of the manufacturer or overhaul Organisation, as appropriate;

viii) Any special remarks or endorsements, if applicable;

ix) A certificate worded in the following form:

I hereby certify that the construction and test of the above mentioned engine have been carried out in accordance with British Civil Airworthiness Requirements.

Signed .....

Firm .....

CAA Approval No. .....

Date .....

NOTE: Where it is desired, for contractual purposes, to issue an Engine Inspection and Test Certificate for other than a new engine, this may be done by an organisation approved for the overhaul of the engine type. In such cases, the words 'construction and test' should be replaced by appropriate words describing the work carried out, e.g. 'overhaul and test', and reference to the appropriate records should be quoted under vii). Such a certificate does not replace the Certificate of Release to Service required by A6–1.

8 Manuals

8.1 Approved manuals shall be provided containing instructions for installing, operating, maintaining and overhauling the engine and its associated equipment (see A5–3, A7–3 and A7–4).

8.2 Engine performance data, compatible with the engine acceptance and operating limitations, shall be provided for aircraft certification performance, handling and stressing purposes. The data should be such that the power/thrust of a 'minimum' and a 'maximum' engine can be derived and shall include means of determining the effects on performance of variations of engine bleed and power off-take, forward speed, ambient pressure, temperature, humidity.

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Appendix 1 to A4-2

Engines and Associated Equipment

Issued, 1st July, 1989

1 This Appendix contains supplementary information for guidance in complying with the requirements of Chapter A4–2.

2 Engine Identity (see Chapter A4–2, paragraph 1.4)

An engine type is defined for certification purposes by a designation given by the manufacturer, and for each variant an identification. The physical details are defined in a Drawing Introduction Sheet (DIS) or equivalent which is a list of all components and equipment.

3 Engine drawing Introduction Sheet (see Chapter A4–2, paragraph 4.1).

3.1 The DIS is divided into the following list of items:

a) Group 1. This is a list of components and equipment which constitute the engine type as agreed in accordance with Chapter A4–2, paragraph 4.1. The equipment in Group 1 may be sub-divided as follows:

i) Group 1(a) Equipment. Equipment for which the full technical control is the responsibility of the engine manufacturer's Approved Organisation to the same extent as an engine component and therefore not separately identified in the approval documentation. The engine manufacturer is responsible to the CAA for all airworthiness aspects of the equipment including the provision of the manuals. The engine manufacturer satisfies the CAA that the technical competence and control procedures utilised are adequate for the purpose.

ii) Group 1(b) Equipment. Equipment partly controlled by the engine manufacturer's Approved Organisation and partly by the equipment manufacturer's Approved Organisation.

b) Group 2. This is a list of all aircraft service equipment which the CAA agrees may be driven by the engine, or fitted to it, without hazard to the engine. The engine manufacturer's responsibility for this equipment may be limited to a statement of interface requirements.

3.2 If the definition of Group 1 in Chapter A4–2, paragraph 4.1 were interpreted literally, many aircraft items would be included, e.g. to start an engine an electric battery is usually required, and to control the engine a throttle lever and linkage is necessary. It is, therefore, accepted that the engine designer's complete responsibility is limited and that the position of this limit will, to some extent, be arbitrary. To assist in this demarcation, the following guidance is given:

a) Parts, failure of which could cause direct damage to the engine (e.g. disintegration of a glow plug or an igniter plug), should be included in Group 1.

b) Any part, which has a mechanical drive connection with the engine and is necessary for the satisfactory functioning and control of the engine should be included in Group 1.

c) Group 1 need not include any items required to provide non-mechanical inputs to the engine if the nature of the input can be completely described. Thus, if the voltage, timing, current, etc., for a starter or igniter plug can be clearly specified, the items required to provide this electrical input need not be included. Similar considerations apply to inputs of fuel, air, etc.

d) Any transmitter associated with the safe functioning of the engine should be included, but the indicator need not be included although its accuracy should be specified.

4 Equipment Approval Procedure (see Chapter A4–2, paragraph 4.2)

4.1 At the time of application for approval of an engine the engine manufacturer should divide the equipment into Groups 1 and 2 as described in sub-paragraphs 4.2 a) and b) and present the lists to the CAA for agreement or appropriate revision. The following approval procedures then apply:

a) Group 1 a) Equipment. Compliance with the relevant requirements, agreed by the CAA, is the responsibility of the engine manufacturer. The requirements are specified in the engine manufacturer's equipment specification. Acceptance of the equipment is the responsibility of the engine manufacturer but items of significance to airworthiness will be evaluated by the CAA. Approval is awarded as an integral part of the investigation into the engine design, and in these cases a Declaration of Design and Performance (DDP) is not required.

b) Group 1 b) Equipment. A DDP is provided to identify the equipment manufacturer's share of the design responsibility. Compliance with the relevant requirements, agreed by the CAA, for equipment in this group, is the responsibility of the equipment manufacturer within the limits given in the equipment DDP. For other conditions relevant to airworthiness not covered by the DDP the engine manufacturer is responsible. Where agreed, the acceptance of the DDP will be the responsibility of the engine manufacturer; otherwise the equipment approval will be negotiated between the CAA and the equipment manufacturer.

c) Group 2 Equipment. The equipment in the Group is fitted to the engine, unless otherwise agreed by the CAA, for the relevant parts of the engine Type Tests. It is included on the engine approval documents when compliance has been established with the interface requirements defined by the engine manufacturer or otherwise acceptable to CAA. Certification of this equipment in its own right is separate from that of the basic engine. Acceptance by the CAA of a DIS does not imply that any units listed in Group 2 have been approved, but only that they may be fitted to the engine without an adverse effect on the engine.

5 Engine Type Certificate

The Engine Type Certificate will be worded in the following way:

This is to certify that the type of engine, together with any variants, named in this certificate is accepted as complying with the Airworthiness Standards specified in the Engine Type Certificate Data Sheet.

5.1 The Certificate will show the Name and Type Designation; including variants, of the engine to which it refers, and will bear a serial number. Reference will be made on the reverse to engine variants and to the associated Type Certificate Data Sheets.

6 Engine Type Certificate Data Sheet

The Engine Type Certificate Data Sheet will contain, at least, the following information:

a) A CAA serial number;

b) The designation of the approved engine type(s);

c) Identification of the relevant Type Certificate;

d) The name of the engine manufacturer;

e) The certification basis (i.e. the identification of the airworthiness requirements met);

f) A statement detailing the use for which the engine is approved (e.g. aeroplane, helicopter, category of operation);

g) Details of the engine, including a general description, weight and leading particulars;

h) Engine ratings and acceptance conditions;

i) Operating limitations, including:

   i) Fuels approved, showing the limits to which the use is approved;

   ii) Oils approved, showing the limits to which the use is approved;

   iii) Statement on use of compressor air bleeds (if applicable);

j) Types of propellers (if applicable);

k) Special features (e.g. thrust reverser, anti-icing details);

l) Reference to Manuals (i.e. Installation, Maintenance, Overhaul, Repair Manuals).

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Chapter A4-4 Type Certification of Propellers

1 General

The requirements of this paragraph 1 are, except where otherwise indicated, applicable to all propellers and associated equipment.

1.1 **Introduction.** Propellers and associated equipment for use in civil aircraft for which a Certificate of Airworthiness is required, must be of Approved types. The Approval of such propellers and equipment will be subject to compliance with the procedures set out in this Chapter A4–4.

NOTE: In respect of propellers and associated equipment for use in civil aircraft for which a Certificate of Airworthiness is required in the Special Category, particularly amateur-built and ultra-light aircraft, the CAA may accept proposals which would vary the procedures in this Chapter A4–4.

1.2 **Application.** Application for CAA Approval of a propeller shall be made in writing to the CAA Safety Regulation Group, and shall be accompanied by a declaration giving details of the propeller design together with details of the engine or engine/aircraft combination for which Approval is sought. The Applicant shall include an undertaking to meet the costs incurred by the CAA during its investigation resulting in propeller Approval, the rejection of the application after investigation, or until the application is withdrawn, and also subsequent work in maintaining the validity of the Approval through modifications to the propeller type and/or amendments to the Type Approval.

NOTE: Propellers are finally Approved in association with a defined engine/aircraft application. However, if requested by the Applicant the CAA will be prepared to indicate Preliminary Approval when compliance has been established with those requirements which can be met prior to the propeller being selected for, and fitted to, a particular aircraft, i.e. those requirements applicable to a propeller/engine combination only (see paragraph 2.3.5).

1.3 **Propeller Type Identity.** All propellers of the same basic type shall have a common designation, and variants thereof shall be identified in a manner acceptable to the CAA. In respect of a propeller designed and constructed in the United Kingdom, the designation shall differ from that of any similar propeller designed and built to requirements other than CS–P (see sub-paragraph 2.3.1 a)).

1.3.1 If the rating(s) of the engine and/or the flight envelope of the aircraft to which the propeller Approval relates are changed significantly after the propeller has received Preliminary or Final Approval, or a significant alteration to the physical standard of any feature of the installation is made, the Approval will be reviewed, and if necessary, the identification shall be changed.

2 Compliance

2.1 **Propeller Build Standard.** The physical details of the propellers shall be defined by a list of all components and equipment, compiled in a form agreed by the CAA, which shall be kept up to date by the propeller manufacturer.

2.2 **Equipment.** The equipment associated with the propeller will be Approved as an integral part of the propeller. To obtain such approval the equipment shall meet the following requirements:

a) The airworthiness design and test requirements of the relevant specification (see CS–P).

b) The relevant design and test requirements of CS–P, Section 4, Sub–section C5, as part of the propeller.

NOTE: The CAA will approve individual items of equipment in relation to a particular type of propeller on compliance with the relevant design requirements and completion of the appropriate tests prescribed in a) and b), but before approving equipment for use in a particular aircraft, further investigation and tests, as appropriate to the equipment/propeller/engine/airframe combination, may be required.

2.3 Applicable Requirements

2.3.1 The Applicant shall, through the medium of an Organisation approved by the CAA for the purpose (see A8–1), verify that the propeller design complies with:

a) the issue of CS–P current at the time of application;

NOTE: Where a national variant has been invoked in place of the JAR text, this will be identified in the appropriate propeller Approval.

b) those amendments to CS–P which have been accepted by the Engine Requirements Co-ordinating Committee, and which have been notified as having a significant effect on the airworthiness of the propeller type;

c) all special requirements considered by the CAA to be appropriate in view of unconventional features of the propeller design or intended use of the propeller;

d) all special requirements considered by the CAA to be necessary in the light of recent experience from similar propellers in service which has revealed problems having a significant effect on airworthiness.

2.3.2 During the ensuing certification programme the addition of new requirements will be avoided where possible, but the CAA reserves the right to introduce further requirements where:

a) development or certification testing of a particular propeller or experience from other similar propellers in service has revealed new problems having a significant effect on airworthiness which are not covered by the requirements previously agreed in accordance with 2.3.1;

b) significant design changes have been introduced since the identification of the requirements applicable in accordance with 2.3.1.

2.3.3 Following the date of application, subsequent new draft requirements may be considered by the CAA, and applied, subject to agreement by the Applicant.

2.3.4 The list of requirements determined in accordance with 2.3.1 will remain valid for a period of three years from the date of application for Approval. Where propeller Approval has not been accomplished, or where it is clear that propeller Approval will not be accomplished, within the three year period, the Applicant may:

a) make a new application, which would be treated as if it were an original application; or

b) request an extension of the original application, and comply with the applicable requirements which were effective at a date to be selected by the Applicant, but not earlier than the date preceding the forecast date for the issue of propeller Approval by a period of three years.

2.3.5 The following requirements of CS–P, Section 4 will not be required to be met for the granting of Preliminary Approval:

C5–2,1, in so far as it related to flight conditions. C5–2,4.1, C5–2,4.2, C5–2,6, C5–4,3.1.3, C5–4,3.1.5, C5–4,6, in so far as these paragraphs relate to flight conditions Schedule 1,6. Schedule 2,5.2. Schedule 2,6.2.

NOTE: For the purpose of Preliminary Approval, assumptions will have to be made in respect of the installed conditions which may eventually be encountered. Preliminary Approval will be considered against such assumptions, and will be qualified accordingly.

2.3.6 **Subsequent Propeller Variants.** Variants of existing types will normally be Approved on the basis of the requirements applicable to the original certification of that propeller type. If, however, the variant has significant design or performance changes, or service experience of the previously Approved models is unsatisfactory for airworthiness reasons, compliance with later requirements may be required.

2.4 **Statement of Compliance.** The appropriate Approved Organisation (see 2.3.1) shall forward to the CAA a 'Statement of Compliance' signed by an authorised signatory of that Organisation, and worded in the following form:

STATEMENT OF COMPLIANCE

Propeller Type

Approval Classification

I certify that with the exceptions stated below, propellers of the above mentioned type (as defined in .....) comply with the appropriate requirements contained in Joint Aviation Requirements, CS–P (including Amendment No.....) dated ....., and with the additional requirements notified by the CAA in their letter(s) reference . . . . . .

dated ..... Exceptions .....

..... Signed .....

Firm ..... CAA Approval No. .....

Date .....

2.5 **Approval.** Upon compliance with the relevant design requirements and completion of the appropriate tests, the CAA will notify the Applicant of the Approval of a propeller by the issue of a Propeller Type Certificate and an associated Propeller Type Certificate Data Sheet. Subsequent changes to the approval will be notified by amendments to the relevant documents.

2.6 **Modifications and Amendments**

2.6.1 The Approval of the CAA shall be obtained for all modifications. Where applicable, the necessary information shall be supplied to the CAA so that the relevant document may be amended.

NOTE: Modifications and amendments to design drawings not affecting airworthiness, performance, interchangeability, fits and clearances, weight, and installations, may be introduced by an appropriate Approved Organisation without prior approval by the CAA; but at suitable intervals CAA Approval will have to be obtained.

2.6.2 The Applicant shall (normally through the medium of the original Organisation Approved for the design) ensure that the proposed modification is such that the propeller or equipment, when modified, complies with a) and b):

a) The relevant design and test requirements in force at the time the propeller or equipment was originally Approved;

b) Such other design and test requirements as the CAA may have notified in writing to the Applicant, as being applicable to the propeller or item of equipment concerned.

2.6.3 Unless otherwise agreed by the CAA, a modification to propeller equipment shall also be promulgated as a modification to the associated propeller.

2.6.4 In some cases a propeller modification may have an effect on the installation or it may require amendments to Flight Manual limitations, but not require a change of propeller type identity. In these circumstances, before approving the propeller modification, the CAA shall normally be provided with confirmation that the change is Approved in respect of the aircraft. This shall be indicated through an aircraft 'cover' modification, or by written confirmation that the aircraft manufacturer accepts the change. Alternatively, if such prior approval cannot be obtained, the need for final Approval by the aircraft manufacturer shall be made known in the published modification bulletin.

NOTE: The procedure for Approval of modifications to aircraft is prescribed in Chapter A2–5.

2.6.5 Manufacturers shall maintain a system acceptable to the CAA to ensure that all changes to the processes of manufacture of major components, or changes in the source of supply of major components or their materials are controlled, and are acceptable to the manufacturer's design and quality control departments. Such changes may require tests to be made before the change can be Approved, and depending on the magnitude and significance of the testing necessary, the CAA may require the change to be classified as a modification. Even when modification action is not considered necessary, the need to provide different identification of those parts manufactured after the change shall be considered.

2.6.6 Salvage/Repair schemes shall be classified as modifications, and shall normally be Approved either through the medium of the original Approved Organisation, or through an Organisation specifically Approved for the purpose by the CAA.

2.6.7 Where modifications to Approved equipment or assemblies affect unit interchangeability, or are of such a nature as to require amendment of the Approval, or any documents associated with the Certificate of Airworthiness, a separate type or designation reference shall be allocated to the modified equipment or assembly.

2.6.8 Modification documents shall consist of a Title Sheet, which shall bear a modification reference number, issue number, and date, a description of the modification, together with a list of parts and assemblies affected by the modification and, where necessary, drawings giving particulars of the parts before and after modification.

2.6.9 Approval of a propeller modification, or amendment, will be indicated by the signature of a CAA Surveyor, preferably on the master tracing of the Modification or Amendment Title Sheet.

2.6.10 a) Modifications and inspections considered essential for airworthiness will be classified as mandatory by the CAA, in consultation, where appropriate, with the Approved Organisation; the compliance date, limiting flying hours, cycles, or other details when the prescribed action must be taken, will be decided, taking into account the degree of urgency, the availability of modified parts and the amount of work required to complete the modification/inspection;

b) Where a further modification is made to a component which has already been the subject of a mandatory modification, and this produces a new or modified component which achieves all the objectives of the previous mandatory modification, then the later modification becomes an acceptable alternative to the previous one, and this shall be shown in the Company's modification system and associated documentation.

2.6.11 All work undertaken in the incorporation of a modification to a propeller or equipment shall be supervised either by an Organisation Approved by the CAA for the purpose or by an appropriately licensed aircraft maintenance engineer. Before the work is finally certified, the Approved Organisation, or the licensed aircraft maintenance engineer, shall be satisfied that the work has been carried out, inspected, and tested where necessary, for conformity with the specifications, drawings and instructions relating to the Approved design.

2.6.12 Full particulars of the work done to incorporate the modification shall be entered in the relevant log book, quoting the reference number of the modification. A Certificate of Release to Service shall be attached thereto (see Chapter A6–1).

2.7 Construction

2.7.1 All propeller components shall be made from Approved materials and shall be produced under the supervision of an Organisation Approved by the CAA for the purpose. The propeller shall be assembled and tested by an Organisation Approved by the CAA for the purpose.

2.7.2 All propellers and equipment shall be to, at least, a minimum modification standard associated with an Approved period between overhauls (or equivalent maintenance programme) for the propeller or equipment concerned.

2.7.3 All series propellers, equipment and components shall be marked with such serial numbers as may be necessary to enable the corresponding inspection records to be adequately correlated.

2.8 Tests

2.8.1 The Applicant shall be responsible for arranging all tests required in connection with Approval, and shall ensure that all test facilities, including all measuring instruments and equipment, are to the satisfaction of the CAA.

2.8.2 Before commencing type tests, the Applicant shall obtain CAA agreement to the relevant test schedules. The Applicant shall notify the CAA of the date on which it is proposed to commence the type tests. Adequate notice of the strip examination of a propeller or of equipment, which has completed a type test, shall be given to the CAA.

2.8.3 Before commencing acceptance tests of series or overhauled propellers, a schedule of the proposed tests shall have been agreed by, and a copy shall have been given to, the CAA.

2.9 Records

2.9.1 All relevant design information, drawings and test reports shall be held at the disposal of the CAA, and shall be retained until two years have elapsed after each propeller of the type has been permanently withdrawn from use. Where design changes have been introduced, the original data shall be retained until two years have elapsed after it is reasonably certain that all the existing parts affected have been brought into conformity with the revised standard, or have been permanently withdrawn from use.

2.9.2 Each design drawing shall bear a descriptive title, drawing number, issue number and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system such as will ensure amendment to design records.

2.9.3 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of an item in any way, a new part number shall be issued to avoid confusion with the original item.

2.9.4 The modification standard of each new and overhauled propeller and equipment shall be recorded in the log book of the propeller concerned.

2.9.5 All relevant inspection records shall be made available to the CAA for examination on request.

2.9.6 Inspection records shall be retained as follows:

a) Inspection records relating to certification tests shall be retained for two years after the Approval of the type of propeller has been cancelled;

b) Inspection records relevant to the manufacture of designated critical parts shall be retained for two years after the parts have been permanently withdrawn from use;

c) Inspection records relevant to the construction of a new propeller, or sub-unit, shall be retained for two years after the assembly has been completely overhauled;

d) Inspection records relevant to the repair, modification or overhaul of a propeller, or sub-unit, shall be retained for two years after the assembly has been subjected to a further complete overhaul, except that records relevant to the safe lives of designated critical parts shall be retained for two years after the parts have been permanently withdrawn from use. Where rework to an Approved specification has been accepted as an alternative to overhaul, compliance may be shown by preserving records of the two preceding applications of the rework specification.

2.10 **Manuals.** Approved manuals shall be provided containing instructions for installing, operating, maintaining and overhauling the propeller and its associated equipment (see Chapters A5–3 and A7–4).

2.11 **Variation or Cancellation of Approval.** At suitable times the CAA will review, with the respective design Organisations concerned, the propeller and associated equipment which have been Approved, to determine whether the Approvals are still required or justified, or whether a variation is necessary, e.g. as a result of the propeller or equipment having become obsolete or obsolescent. On the basis of this review, the CAA will make such changes or cancellations as may be appropriate to the circumstances.

Chapter A4-8 Design and Approval of Aircraft Equipment and Accessories

1 General

1.1 **Introduction.** This Chapter A4–8 sets out procedures whereby aircraft equipment and accessories may be approved, accepted and certified as suitable for installation in aircraft for which a Certificate of Airworthiness is desired.

1.2 **Applicability.** The requirements and procedures set out in this Chapter are applicable to:

a) all aircraft equipment and accessories intended for installation in aircraft, excluding:

i) engines, Auxiliary Power Units, propellers and radio apparatus (see Chapters A4-2, A4–4 and A4–10 respectively);

ii) items wholly designed by a United Kingdom aircraft manufacturer, where such items are intended to be installed only in that aircraft manufacturer's own specific aircraft design, in which case they will be covered by the aircraft type record. (See Chapter A3–1).

NOTE: Such items could include standard parts or components (e.g. electronic components).

b) the approval of items, which are required to be approved, produced under the supervision of Organisations approved by the CAA in accordance with Sub-Section A8;

c) the acceptance and certification of items, which are not required to be approved;

d) the installation of items into aircraft registered in the United Kingdom.

1.3 **Applications.** Applications in respect of the procedures of this Chapter A4–8 will be accepted only from Organisations which are approved to accept responsibility for the design, manufacture and quality assurance, as appropriate, of the airframe part or equipment. (See sub-paragraph 1.2 b)).

2 Definitions

For the purposes of this Chapter A4–8 the following definitions shall apply.

2.1 **Items.** Aircraft equipment and accessories intended to be installed in aircraft (excluding engines, propellers and radio apparatus).

2.1.1 **Component.** An item for which the procedure followed is that prescribed in paragraph 5.3.

2.1.2 **Accessory.** An item for which the procedure followed is that prescribed in paragraph 5.4.

2.2 **Uncontrolled Items.** Those aircraft equipment and accessories, the installation or failure of which would not adversely affect the airworthiness and the safe operation of an aircraft and as such are not required to be approved, together with those items specifically exempted from approval by the Air Navigation Order (ANO).

2.3 **Controlled Items.** Those aircraft equipment and accessories:

a) prescribed in the Air Navigation Order and not specifically exempted from approval;

b) prescribed in the Requirements;

c) on which the airworthiness and safe operation of an aircraft depend;

d) the installation or failure of which could adversely affect the airworthiness and safe operation of an aircraft.

3 Standard Parts

3.1 The procedure prescribed in this Chapter A4–8 need not be followed for AGS and other standard parts complying with national or international specifications or standards recognised by the CAA.

NOTE: This is intended to cover minor items complying with AGS, SBAC, BSI or similar standards, where these are limited to manufacturing drawings from which the approved Organisation can assess the Items as suitable for the intended application.

3.2 The approved Organisation using such standard parts shall accept responsibility for the manner of their use.

4 Uncontrolled Items

Uncontrolled Items are not required to be approved, but when installed in an aircraft registered in the United Kingdom, compliance shall be shown with the requirements of this paragraph 4.

NOTE: An approved Organisation responsible for the installation of Uncontrolled Items in aircraft may require these Items to be manufactured under the supervision of an appropriately approved Organisation.

4.1 General

4.1.1 An Organisation approved for design, shall submit to the CAA for acceptance, a certificate that it has satisfied itself that no Uncontrolled Items installed in the aircraft will, in themselves, constitute a danger to the aircraft, together with a list of the Items (except for those which obviously could have no safety significance). When so requested, the Organisation shall supply to the CAA a summary of evidence on which the certification was based. (See paragraph 6 for cabin service equipment.)

4.1.2 An Organisation approved for design incorporating Uncontrolled Items in an aircraft, shall submit to the CAA for acceptance a certificate that it has satisfied itself that the installation of such Items does not adversely affect the airworthiness and safe operation of the aircraft concerned, and that they are so installed that in the event of their failure or malfunction the Items will not endanger the aircraft or its occupants.

NOTE: For new aircraft types the certifications in paragraphs 4.1.1 and 4.1.2 are covered by the usual Certificate of Design for the aircraft type. Where items are introduced as modifications, the CAA may require a further Certificate of Design. (See Chapter A6–6.)

5 Controlled Items - Designed and Manufactured under the Supervision of Organisations Approved by the CAA

5.1 **General.** In respect of Controlled Items for which approval by the CAA in accordance with this paragraph 5 is sought, it shall be a condition of approval that the Item be designed, tested and manufactured in accordance with the relevant airworthiness

requirements and applicable specifications, under the supervision of Organisations approved for the purpose by the CAA. (See paragaph 6 for cabin service equipment.)

5.2 **Approval Procedure.** The procedure to be followed for approval shall be the Component Procedure prescribed in paragraph 5.3 or the Accessory Procedure prescribed in paragraph 5.4, as determined by paragraphs 5.2.1 to 5.2.3.

5.2.1 Where the Item is designed for a particular use in a particular aircraft type, the Component Procedure shall normally apply (but see sub-paragraph 1.2 a)). Where it is proposed that the Accessory Procedure should be used for such an Item, the prior agreement of the CAA shall be sought.

5.2.2 Where the Item is classified as Mandatory Equipment as defined in the Air Navigation Order or in the appropriate Section of the Requirements, e.g. Section G, for rotorcraft, the Accessory Procedure shall apply, unless agreed otherwise by the CAA.

5.2.3 Where the Item is designed for general use other than as described in paragraphs 5.2.1 or 5.2.2, either the Accessory Procedure or the Component Procedure shall be applied at the discretion of the Applicant, subject to the agreement of the CAA.

5.3 **Component Procedure**

5.3.1 Where the Component Procedure is applied, the CAA will not normally be involved in the investigation of the component. The CAA does, however, reserve the right to carry out such investigations as it considers necessary in a particular case. In the event of the CAA becoming involved, the Organisation making use of the component will be advised. Any cost incurred by the CAA in the investigation will be charged to that Organisation, unless other specific arrangements have been agreed between the Organisation(s) concerned and the CAA.

5.3.2 The responsibility for the design and, as necessary, the type testing of the component, shall be accepted by Organisations approved for the purpose.

a) The Organisation accepting responsibility for design of the component shall supply to the Organisation accepting responsibility for the design of the installation embodying the component:

   i) for major components, e.g. landing gear, a Component Type Record and Certificate of Design; or

   ii) for other than i), a Declaration of Design and Performance (DDP) (see paragraph 7); or

   iii) drawings/specifications;

   together with such other information as may be required by the Organisation accepting responsibility for the design of the installation embodying the Component.

NOTE: A Component Type Record will only be required, when such a document is considered by the Organisation accepting responsibility for the design of the installation embodying the component, to be more suitable than a DDP.

b) Where a responsibility for the design of the component is wholly taken by the Organisation accepting responsibility for the design of the installation, that Organisation may either prepare the Component Type Record or DDP, as appropriate, or incorporate the data into the Certificate of Design and Type Record of the aircraft.

c) Where the component is certified for a particular use in a particular aircraft, this use shall be stated in the associated documentation.

5.3.3 The Organisation accepting responsibility for the design of the installation shall be satisfied from the Component Type Record or the DDP or drawings/specifications and any other information or testing it considers necessary, that the component is suitable for installation in the aircraft. Where the component will be obtainable from an Organisation not approved by the CAA, the Organisation accepting responsibility for the design of the installation shall establish to its own satisfaction and to the satisfaction of the CAA, the adequacy of the procedures for control of quality (see Chapter A8–1).

5.3.4 The Organisation incorporating a component into an aircraft shall establish to its own satisfaction and to the satisfaction of the CAA that the component was designed and manufactured to relevant airworthiness requirements, and applicable specifications. The Organisation shall certify that the aircraft installation is satisfactory.

NOTE: Supporting documentation issued by an Organisation appropriately approved by the CAA may be taken into account in showing compliance.

5.4 **Accessory Procedure**

5.4.1 **Application.** Where the Accessory Procedure is applied, the Applicant (normally, but not necessarily, the manufacturer) shall complete CAA Form AD 70, and shall forward it to the CAA Safety Regulation Group together with the correct fee, in accordance with the CAA Scheme of Charges. The total charge will be based on the cost of the investigation (regardless of the outcome) and the CAA will, during the course, or upon completion of the investigation, notify the Applicant in writing of any charges due.

5.4.2 **General.** The Item shall conform to a specification (frequently the manufacturer's own specification) acceptable to the CAA, and shall be certificated by a DDP (see paragraph 7) by an Organisation (normally, but not necessarily, the manufacturer) approved for the design of such Items. The CAA shall have the right to disclose the contents of a DDP relating to the Item to persons interested in the installation of such Items. The manufacturer of the Item is normally expected to make the DDP available to such persons.

5.4.3 **Documentation.** The Applicant shall provide the following:

a) A copy of the Specification(s) with which the Item complies;

b) Drawings and such descriptive information as will adequately define the Item to the CAA;

NOTE: It may be necessary for the CAA to require a physical examination of the Item.

c) A Declaration of Design and Performance (DDP) (see paragraph 7);

d) Type test or other evidence showing conformance with the Specification(s) with which the Item complies;

e) When requested by the CAA, one copy of the Maintenance, Overhaul and Repair Manuals and the Installation Manual, where appropriate.

5.4.4 **Approval**

a) **Full Approval.** The CAA, when satisfied, will approve the Item in relation to the DDP, and this approval will be signified by the issue of a CAA Approval Reference 'E' number.

b) **Provisional Approval.** Where sufficient evidence is not available to permit full approval, provisional approval may be granted for a limited period and shall be reviewed annually. In general, provisional approval will be limited to approval for use in a particular aircraft type, and will only be granted where there is reason to suppose

that the Item will, in due course, qualify for full approval. Provisional approval will not be granted unless the associated DDP includes details of any limitations which prevent the granting of full approval and is made available to both the CAA and the user.

NOTE: Because an Item is provisionally approved, it does not follow that full approval will be granted. In most cases it indicates that sufficient evidence for full approval has not been established.

c) An Organisation with appropriate terms of approval for design may then incorporate the Item into products or aircraft of its own design, provided that the DDP shows the Item to be suitable.

6 Cabin Service Equipment

6.1 **General.** In respect of cabin service equipment (e.g. galley inserts, passenger in-flight entertainment):

a) the CAA may consider that the safety aspect of certain items need further investigation prior to acceptance in accordance with paragraph 4.1.1, in which case the procedure of paragraph 6.2 shall, in consultation with the Organisation which submitted the certificate, be applied;

b) the CAA may, at the request of the Applicant and prior to the Certification required in paragraph 4.1.1, investigate the safety aspects of specific Items, and when satisfied apply the Safety Registration Procedure of sub-paragraphs 6.2 a) to d);

c) Where, as a result of the investigation, it is decided that the Item should be classified as a Controlled Item, the procedures of paragraph 5 shall apply.

6.2 **Procedures**

a) Where CAA investigation is to be carried out in accordance with sub-paragraph 6.1 a) or b), the Applicant shall complete CAA Form AD 70, and shall forward it to the CAA Safety Regulation Group together with the correct fee, in accordance with the CAA Scheme of Charges. The total charge will be based on the cost of the investigation (regardless of the outcome) and the CAA will, during the course or upon completion of the investigation, notify any further charges in writing.

b) The Equipment shall conform to a Specification (frequently the manufacturer's own Specification) acceptable to the CAA and shall be certificated by a DDP submitted by a suitably approved Organisation. The CAA shall have the right to disclose the contents of a DDP relating to the Equipment to persons interested in the installation of such Equipment. The manufacturer of the Item is normally expected to make the DDP available to such persons.

c) The CAA, when satisfied, will register the Item in relation only to the safety aspects of the Item, as recorded in the DDP. This Registration will be signified by the issue of a CAA SA (Safety Acceptance) Registration Number.

NOTE: Such registration does not in any way imply CAA acceptance of the performance of the Item.

d) An Organisation with appropriate terms of approval for design may then incorporate the registered Item provided that the DDP shows it to be suitable.

7 Declaration of Design and Performance

7.1 A standard form of DDP for international use is given in ISO Recommendation No. R224 and a British version is given in BS 3G100:[1] Part 1, entitled 'Declarations Identifications and Construction'. This will require to be adapted according to the nature of the Item. The Declaration shall contain at least the following information:

a) Particulars identifying the Item, its design standard, including reference to the Specification(s) to which it is designed, and a record of drawings.

b) The rated performance of the Item, either directly or by reference to other supplementary documents where necessary.

c) The degree of compliance with the Requirements stating the issue number of the Section concerned.

d) Reference to relevant test reports.

e) Any limiting conditions applying to the use of the Item. This shall include limitations implicit in the design (e.g. working and ultimate pressure or loads, rating, working and maximum voltage and current, accuracy of instruments) declarations required by the governing specifications (e.g. by British Standard 3G100)[1] and the ability of the Item to work under various environmental conditions (e.g. acceleration, vibration, altitude, temperature and humidity).

NOTE: For example, an item of electrical Equipment may require the following information:

i) Voltage range;

ii) Frequency range;

iii) Time rating and duty cycle;

iv) Altitude and temperature range appropriate to rating;

v) Climatic test classification and waterproofness grade as defined in BS 3G100[1];

vi) Vibration grading, acceleration class and grade, explosion-proofness category, fire resistance classification, compass safe distance and radio interference characteristics, all as defined in BS 3G100[1];

vii) Minimum life or overhaul period in hours or cycles of operations;

viii) Fluid resistance;

ix) Any departures from the governing specifications.

7.2 The Declaration shall bear the following statement made and signed by an authorised signatory:

I hereby certify that the information contained in this Declaration of Design and Performance is accurate and is made under the authority of the Civil Aviation Authority, Approval Ref..... (Company Name) cannot accept responsibility for the satisfactory operation of Items used outside the conditions given above without their agreement.

8 Manuals

8.1 In respect of Items to which the Accessory or Appliance Registration Procedure has been applied, the Applicant shall prepare the appropriate Maintenance, Overhaul and Repair Manuals as required by Chapter A5–3.

8.2 In respect of Items to which the Component or Cabin Service Equipment Safety Registration Procedure has been applied, the appropriate Organisation approved for

1 EUROCAE ED14A and RTCA DO 160 are other environmental test Standards which are specifically recognised.

design, in conjunction with the Organisation approved for manufacture, shall prepare the Maintenance, Overhaul and Repair Manuals, or such parts thereof as are appropriate, as required by Chapter A5–3.

9 Modifications

9.1 Modifications to Items to which the procedures of this Chapter A4–8 have been applied may affect the original approval or certification. The Applicant shall notify the CAA or the user, as appropriate, of the intention to change or modify the design, or where a new 'Mark' is to be introduced. Where required by the CAA, CAA Form AD 70 shall be completed and forwarded to the CAA, Safety Regulation Group.

NOTE: The procedures for approval of modifications to aircraft are prescribed in Chapter A2–5.

9.2 Where modifications of Items to which the procedures of this Chapter A4–8 have been applied affect physical or functional interchangeability, a separate type (or part) number shall be allocated to the modified Item. Less significant changes shall be identified in an acceptable manner.

9.3 Where the modification invalidates any of the information included in the Type Record for the Item or the Declaration of Design and Performance, the document(s) shall be re-issued with account taken of the modification.

9.4 The Applicant shall keep a master record of all modifications and this shall be made available to the CAA on request.

10 Mandatory Modifications and Inspections

Modifications and inspections considered essential for airworthiness will be classified as mandatory by the CAA in consultation with the approved Organisations concerned and the aircraft manufacturer, as appropriate, in accordance with the procedures of Chapter A5–6.

11 Equipment Register

11.1 The Applicant shall maintain a register of Items designed for use on aircraft. The register shall be in a form acceptable to the CAA, and shall be made available to the CAA on request.

11.2 Arrangements shall be made to keep the register up to date in respect of new or modified Items. An overall review of Items listed in the register shall be made at periods not exceeding three years, with a view to recommending to the CAA cancellations of approval, registration or restriction of use of obsolete or obsolescent Items.

NOTE: The terms of approval in accordance with Sub-Section A8 are such that essential records may not be destroyed without authorisation from the CAA.

12 FAA TSO Procedure

Where USA regulations require direct FAA TSO Approval, the FAA requires to validate the CAA certification and the CAA will act on behalf of the Applicant and will follow, so far as is possible, similar procedures. This is an activity on behalf of the USA Federal Aviation Administration and is not directly covered by this Chapter A4–8. Where such approval is required, application should be made to CAA Safety Regulation Group, Aviation House, Gatwick.

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Chapter A4-10 Radio Apparatus

1 Introduction

The requirements and procedures prescribed in this Chapter A4–10 are applicable to radio (and radar) apparatus, i.e, apparatus concerned with information transfer by the use of radiated electro-magnetic waves.

2 Definition

Radio Apparatus is defined as a discrete radio appliance which can readily be connected into, and removed from, an aircraft radio system.

NOTE: The term Radio Apparatus is intended to include such associated devices as aerials, transducers, service selection systems, radio navigational computers, display systems and power supply units concerned with the radio installation.

3 Prototype Apparatus

3.1 **Application for Approval.** Form AD 70, copies of which may be obtained from the CAA Safety Regulation Group, shall be completed and returned, together with all relevant available data concerning the apparatus and the correct fee, in accordance with the CAA Scheme of Charges. The total charge is based on the cost of the investigation, whether or not formal approval is granted. The CAA will, during the course, or upon completion of the investigation, notify the Applicant in writing of any further charges due.

3.2 **General.** The apparatus shall conform to a specification, frequently the maker's own specification, acceptable to the CAA, and shall be covered by a Declaration of Design and Performance (DDP) prepared and certified in accordance with BCAR Section R, Chapter R3–1. The CAA shall have the right to disclose the contents of a DDP relating to an approved item to those interested in such items.

NOTE: Radio apparatus may be installed in an aircraft provided the DDP shows it to be suitable. The responsibility for showing compliance with all requirements when the apparatus is installed rests with the particular Approved Organisation (see BCAR Section R, Chapter R1–1).

3.3 **Tests**

a) Tests shall be made to an acceptable specification in accordance with BCAR Section R, Chapters R3–2 or R3–3, as appropriate.

b) The Applicant shall ensure that all tests are carried out by an appropriately approved organisation, and that test reports are submitted to the CAA.

c) Test facilities, including measuring instruments and equipment, shall be acceptable to the CAA.

d) A schedule of tests shall be agreed with the CAA.

e) Adequate notice of intention to make tests shall be given, and suitable arrangements shall be made for the CAA representatives to witness the tests.

3.4 **Manuals.** Manuals covering installation, Maintenance and Overhaul, which comply with A5–3, shall be provided for each item of radio apparatus.

4 Series Apparatus

4.1 Series Radio Apparatus shall be certified by an appropriately approved organisation (see Sub–Section A8).

4.2 Each item of series Radio Apparatus shall be marked as follows:

a) Manufacturer's name;

b) Manufacturer's type designation;

c) Manufacturer's serial number;

d) Modification state;

e) Power supply characteristics;

f) The compass safe distance when this exceeds 30 cm (12 in);

g) To show any special requirements for installation, e.g. specific orientation.

5 Design Records

5.1 All relevant design information, drawings and test reports shall be held at the disposal of the CAA. No such design records shall be destroyed without authorisation from the CAA.

5.2 Each design drawing shall bear a descriptive title, drawing number, issue number, and date of issue. All alterations to drawings shall be made in accordance with a drawing amendment system such as will ensure amendment to design records.

5.3 Immediately an alteration is made to a drawing, whether the alteration is permanent or temporary, the drawing shall be identified with a new issue number and date. Where an alteration affects the interchangeability of any item in any way, a new part number shall be issued such as to avoid confusion with the original item.

5.4 The Production Test Specification shall constitute part of the design records.

6 Modifications

6.1 Where modifications affect the performance or other airworthiness characteristics of an item, a Form AD 70 shall be completed and returned as detailed in 3.1. Two copies of the details of the modification shall be forwarded to the CAA, preferably at an early stage in the design.

6.2 Where modifications are classified as mandatory by the CAA, a date shall be agreed with the CAA by which all affected apparatus is to be modified, that date to be quoted in the modification documents.

6.3 The DDP and the appropriate Manuals shall be amended where the modification affects the information in these documents.

NOTE: The general procedures for approval of modifications are prescribed in A2-5.

7 Inspection of Apparatus

Radio apparatus shall be made available to enable the CAA to inspect it, as necessary, for the purpose of approval.

Sub-section A5
Continued Airworthiness – Responsibilities of the Type Design Organisation

Chapter A5-1 General

1 Aircraft Type Design Organisations

1.1 The Aircraft Type Design Organisation (who will normally be the holder of the Type Certificate or equivalent) is responsible for ensuring:

a) that the Type Record associated with the Type Certification standard of the aircraft, including the Data Sheet and other associated documents, and all approved variants and modifications introduced with their agreement since the original Type Certification, is held, maintained and up-dated as necessary;

b) that the build standard records of all aircraft released by them for Airworthiness Certification under the Type Certificate are held;

c) that where possible, service experience is monitored to provide them with information on problems and defects affecting aircraft in service;

d) that all problems and defects affecting airworthiness, of which they become aware, are investigated and, where appropriate, corrective action made available. This may be by introducing modifications and/or by promulgating instructions/advice to users by Service Bulletins, Flight Manual amendments or by other suitable means;

e) that the investigation carried out under d) identifies those significant problems and defects affecting the intended airworthiness certification standard of the aircraft and that the CAA is notified accordingly;

f) that appropriate consultation takes place with the CAA and aircraft users when determining those actions essential for airworthiness reasons, based on the result of service or other experience. (Modifications, Inspections, or changes to approved documentation, subsequently promulgated as Airworthiness Directives);

g) that master copies of all Flight and Technical Manuals are maintained and up-dated as necessary to reflect changes for which they are responsible. Amendments to manuals shall be published as required by Chapter A5-3.

1.2 The Type Design Organisation shall retain these responsibilities until there are, to their knowledge, no aircraft of the type registered and eligible for airworthiness certification in the UK and elsewhere under the Type Certificate.

2 Type Design Organisation - Engines and Propellers

2.1 The Type Design Organisation for an engine or a propeller (who will normally be the holder of the Type Certificate or equivalent) is responsible for ensuring:

a) that the Type Record associated with the Type Certification standard of the engine or propeller, including the Data Sheet and other associated documents, and all approved variants and modifications introduced with their agreement since the original Type Certification, is held, maintained and up-dated as necessary;

b) that the build standard records of all engines or propellers released by them under the Type Certificate are held;

c) where possible, service experience is monitored to provide them with information on problems and defects affecting engines or propellers in service;

d) that all problems and defects affecting airworthiness, of which they become aware, are investigated and, where appropriate, corrective action made available. This may

be by introducing modifications and/or by promulgating instructions/advice to users by Service Bulletins or by other suitable means;

e) that the investigation carried out under d) identifies those significant problems and defects affecting the intended airworthiness certification standard of the engine or propeller and that the CAA is notified accordingly;

f) that appropriate consultation takes place with the CAA and any appropriate aircraft Type Design Organisation or users, to determine and publish those actions essential for airworthiness reasons, based on the result of service or other experience. (Modifications, Inspections, or changes to approved documentation, subsequently promulgated as Airworthiness Directives);

g) that master copies of all Technical Manuals are maintained and up-dated as necessary to reflect changes for which they are responsible. Amendments to manuals shall be published and distributed as required by Chapter A5-3.

2.2 The Type Design Organisation shall retain these responsibilities until there are no engines or propellers of the type eligible under the Type Certificate.

3 Variation or Cancellation of Type Approval

3.1 **Variation or Cancellation of Type Approval.** At suitable times the CAA will review, with the respective design organisations concerned, the Type Designs which have been certificated to determine whether the Type Certificates (or other CAA Type Approval) are still required or justified, or whether a variation is necessary, e.g. as a result of the aircraft type, engine or propeller having become obsolete or obsolescent. On the basis of this review the CAA will make such changes or cancellations as may be appropriate to the circumstances.

3.2 In the event that the Type Design Organisation holding a Type Certificate either ceases to function, or fails to discharge the responsibilities in 1.1 or 2.1, that organisation will be required to surrender the Type Certificate. Under these circumstances, where another organisation exists or can be formed to discharge the responsibilities of 1.1 or 2.1 transfer of the Type Certificate to that organisation will be considered. Where no such arrangements can be made, the Type Certificate will be cancelled.

4 Type Responsibility Agreement

4.1 There are a number of simple old/vintage aircraft types of UK and foreign design of which examples have held valid UK Certificates of Airworthiness, but the original Type Design Organisation or a suitable alternative (see 3.2 above) no longer exists or no longer provides continued airworthiness support for the type. In such cases the CAA may be satisfied that an alternative organisation is able to undertake the functions of sub-paragraphs d), e) and f) in 1.1 or 2.1 above. This level of support is considered to be the minimum to ensure that the CAA is able to satisfy the continued airworthiness requirements of ICAO Annex 8.

4.2 If a suitable organisation agrees to accept these responsibilities, then a Type Responsibility Agreement will be executed between the CAA and the organisation. See Appendix to this A5-1 for the capabilities required of such an organisation. An Agreement of this nature will then enable the CAA to maintain the Certificate of Airworthiness status of such aircraft types.

4.3 In such cases, where the engine and/or propeller are also no longer supported in accordance with 2 above, they may be considered to be part of the aircraft and their

continued airworthiness will also be monitored under the terms of the Type Responsibility Agreement. Alternatively the engine and/or propeller may be the subject of a separate Type Responsibility Agreement.

4.4 Only one such Type Responsibility Agreement will be entered into by the CAA for any particular aircraft, engine or propeller type.

4.5 Each Type Responsibility Agreement will be reviewed annually by the CAA to assess whether the organisation is performing satisfactorily and whether the Type Responsibility Agreement is still appropriate.

5 Responsibility Carried Directly by CAA

In cases where the Type Design Organisation ceases to function or fails to discharge their responsibilities, or where a Type Responsibility Agreement is withdrawn or cancelled, the CAA will generally assess the possibility of an alternative organisation being found to take over the responsibilities within a reasonable time-scale. If this is considered likely, the CAA may maintain the Certificate of Airworthiness status for the aircraft of the type for the interim period, by taking direct responsibility for the continued airworthiness of the type in accordance with ICAO Document 9760 Airworthiness Manual. The decision whether or not to undertake the responsibility and the length of time for which the CAA is prepared to undertake this will be dependent on the complexity of the type and the numbers in service.

6 Eligibility for Certificate of Airworthiness

Where no organisation is able to undertake the appropriate continued airworthiness responsibilities for a particular aircraft type, and the CAA does not directly adopt such responsibilities, aircraft of the type will no longer be eligible for the issue of a ICAO Certificate of Airworthiness, but may be eligible for the issue of a Permit to Fly in accordance with A3-7.

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Appendix 1 to A5-1 Type Responsibility Agreements - Required Capabilities for Organisations

1 In order that the CAA is able to meet its responsibilities for the type in accordance with ICAO Annex 8 Part 2 Chapter 4, the CAA must be satisfied that the organisation has the capability to accomplish the following:

a) Maintain a register of the individual UK registered aircraft of the designated type whose owners have requested that their aircraft be included in the Type Responsibility Agreement.

b) To notify all registered owners[1] of the designated type, that they should report all problems and defects affecting airworthiness to that organisation.

c) To review all such reported problems and defects and where appropriate recommend corrective action.

d) Where the nature of the problem or defect has significant safety of flight implications[2] notify the CAA and undertake in co-operation with the CAA to determine and promulgate any necessary actions.

2 In entering into the Agreement, the organisation must be prepared to accept and accomplish these responsibilities.

3 In order to be able to exercise the responsibilities in 1 above, whether for the simple old/vintage aircraft types (including their engines and propellers where appropriate) or engines or propellers, the organisation must have a good working knowledge of the item, but need not have an extensive understanding of the aircraft, engine or propeller design. As a minimum, the organisation should have direct access to:

- Maintenance and/or Overhaul Manuals etc.
- Flight Manual or equivalent (for aircraft types only)

Depending on the number of the type remaining in service, and the significance of particular design features, other assets may be required as follows:

- Access to manufacturers drawings.
- Access to a source of supply of spare parts.
- Information relating to the Type Record.

4 The above responsibilities do not necessitate that the organisation has to hold a CAA or EASA Design Organisation Approval but some form of CAA recognition of responsibility and capability such as a Maintenance Approval will generally be required.

5 If the organisation does not hold an acceptable Design Organisation Approval, a formal link to an organisation with an acceptable Design Organisation Approval will be required as part of the Type Responsibility Agreement.

6 Where any rectification action arising out of 1d) above necessitates a modification to be developed, the design and manufacture of the modification will have to be

1 The list of registered owners held by the Type Responsibility Agreement holder.
2 Guidance on the criteria for reportable safety of flight issues will be provided by the CAA.

undertaken or underwritten by suitably approved organisations in accordance with A2-5.

7 The organisation must provide procedures to show how it will discharge the responsibilities of BCAR Chapter A5-1 paragraphs 1.1(d), (e) and (f). The procedures may be compiled in conjunction with any linked organisation with an Design Organisation Approval.

Chapter A5-2 Maintenance Review Board

1 Introduction

1.1 This Chapter A5–2 gives guidance on the procedures for conducting a Maintenance Review Board (MRB) for a new aircraft type of UK construction, to establish an initial Maintenance Programme prior to certification. Industry involvement in MRB procedures and the production of the MRB Report are also described.

2 General Procedures

2.1 CAA Safety Regulation Group will decide in consultation with the Type Design Organisation whether an MRB is to be established for a new aircraft type. Prior consultation will take place with the Type Design Organisation and the following procedures will normally apply to aircraft, the MTWA of which exceeds 5700 kg, intended for Transport Category certification (see A3–1).

2.2 MRB procedures may also be applied to individual types of powerplant and major equipment where alternative fits are available for the new aircraft, or for retrofit action to previously certificated aircraft. Individual MRB Reports will, where applicable, be referred to in the MRB Report for the aircraft.

2.3 The MRB Report resulting from these procedures will contain the initial maintenance and inspection requirements which form the basis for each Operator to produce and develop his Maintenance Programme. (See A7–5 and CAP 418.[1]) The Type Design Organisation will produce the Report for submission to the CAA for Approval and subsequent revisions must also be Approved by the CAA.

2.4 The published MRB Report does not constitute a complete maintenance schedule/programme in a form that an intended Operator may submit to the CAA for Approval for his operation. The Type Design Organisation is required to produce its recommended maintenance programme, e.g. Recommended Maintenance Schedule, Maintenance Planning Guide, which will reflect the MRB Report requirements together with the additional activities needed to maintain the aircraft in service (see A7–5).

2.5 Operators, may, as an alternative to themselves producing a maintenance programme based on this MRB Report, submit the Type Design Organisation's Recommended Programme to the CAA for Approval to satisfy the requirements of A7–5.

3 MRB Membership and Policy Management

3.1 The MRB Chairman will be appointed by the CAA and will normally be the Surveyor-in-Charge, or a Senior Surveyor, for the area in which the Type Design Organisation (or powerplant/major equipment manufacturer as appropriate) is located.

3.2 The MRB will be composed of CAA staff of the particular disciplines and numbers to reflect the size and complexity of the aircraft/powerplant/equipment under review. Observers to the various industry Working Groups (see 4.2) will be nominated by the Chairman, where necessary, from the MRB members.

1 CAP 418 entitled "Condition Monitored Maintenance – an Explanatory Handbook" is available from the CAA's printers, whose details are given on the inside cover of this publication.

3.3 Representatives from foreign Airworthiness Authorities may be invited by the CAA to provide MRB members where the initial or early delivery of the aircraft is to an overseas Operator.

3.4 Maintenance Proposals (MP) produced by the industry Steering Committee (see 4.1) will be assessed by the MRB. When all outstanding items have been resolved, the Type Design Organisation will produce and submit the MRB Report to the Chairman for Approval.

3.5 The Chairman will be responsible for the establishment and control of MRB programme policy, attendance, time scales and standards to be applied by industry. He will co-ordinate CAA activities such that guidance and consultation are made available by attending Steering Committee meetings when necessary.

4 Maintenance Programme Development and Procedures

To produce the MRB Report, which contains the initial maintenance and inspection requirements, the procedures and processes defined in Airline/Manufacturer Maintenance Program Planning Document – MSG3, or an alternative procedure agreed by CAA, will be applied.

4.1 Industry Steering Committee

4.1.1 Management of the detailed activities of the programme is the responsibility of the Steering Committee. This Committee should consist of representatives/specialists from the following, as appropriate:

Type Design Organisation
Engine/APU Manufacturers
Major Equipment Manufacturers
Airlines/Operators
Airworthiness Authorities (part time)
Other members as decided by the Steering Committee or MRB Chairman.

4.1.2 The Steering Committee should establish the types of Working Groups and their participants, that are to be used to generate the technical and operational information for the programme. Details of the working Group subjects and membership should be supplied to the MRB Chairman, who will nominate the Airworthiness Authority observers.

4.1.3 In addition to directing the activities of the Working Groups and other supporting tasks, the Steering Committee is responsible for ensuring that all committee and group members are familiar with Maintenance Steering Group (MSG) procedures and logic analysis, and that training is made available where necessary, including technical subjects if applicable.

4.1.4 The Maintenance Proposals (MP) produced by the Working Groups should be assessed by the Steering Committee, revised where necessary, and the completed MP presented to the MRB Chairman, together with all necessary supporting information, for MRB consideration.

4.2 Working Groups

4.2.1 Each Working Group is responsible for proposing the initial maintenance and inspection tasks for their nominated subject areas. The Chairman and members are nominated by the Steering committee and should normally consists of representatives from:

Manufacturer/Type Design Organisation
Airlines/Operators
Observers.

4.2.2 Individual groups should apply the MSG (or equivalent) analyses, as decided by the MRB, to the following areas, as appropriate:

Airframe general (Zonal)
Structures
Propulsion
Systems and Components
Avionics.

4.2.3 Within each Working Group the manufacturer is responsible for the major input and effort regarding logic analysis, the supply of test data and the provisioning of technical information. The types of test programmes, the validity of safety assessment methods, structural tests and inspection criteria, etc., must be accepted by the MRB Chairman, through the Steering Committee, before Working Group activities proceed.

4.2.4 The Working Groups should progressively supply to the Steering Committee the maintenance proposals, supporting analysis data and other justification for each completed area of responsibility.

4.2.5 Occasionally, the Steering Committee may request a group to re-assess a particular proposal or vary the original concept of establishing a task. The group Chairman is responsible for co-ordinating and controlling such activities and should ensure that the Steering Committee is kept informed of any problems, delays, etc., in addition to supplying routine progress reports.

5 MRB Report Approval and Revision

5.1 When the MRB is satisfied that all outstanding points resulting from the MP have been resolved, the MRB Chairman will inform the Type Design Organisation that the Report may be produced for Approval and publication.

5.2 The Type Design Organisation should publish the MRB Report, endorsed with CAA/MRB Approval, and distribute it as part of the Continued Airworthiness material, e.g. Maintenance Manuals, Service Bulletins, required for Type Certification.

5.3 Periodic revisions to the MRB Report may be necessary to reflect service experience, the Type Design Organisation's continuing test programmes and, where applicable, changes to the philosophy or methods by which maintenance tasks are derived.

5.4 Prior to the Report being published, the MRB will normally decide whether the full, or part, re-convening of the MRB is necessary to implement the revision process. Where a regular revision programme is not deemed necessary, the CAA or Industry may request revisions to the Report based on individual or joint experience.

5.5 Regular revision action should be processed under normal MRB procedures. Non-regular revision requests should be co-ordinated by the Type Design Organisation and submitted with full supporting evidence to the CAA for assessment and Approval.

6 Maintenance Review Board Report

6.1 **General.** The purpose of the Report is to provide an acceptable basis from which individual Operators may produce their Maintenance Programmes as required by the CAA or by an overseas authority in the case of foreign registered aircraft.

6.2 **Production and Contents of the Report**

6.2.1 **Maintenance Proposals.** Maintenance Proposals (MP) shall be produced jointly by the Type Design Organisation, major equipment manufacturers and, if possible, intended Operators, using a logic analysis process agreed by the CAA. The Type Design Organisation shall submit the completed MP to the MRB for review, and shall provide any necessary supporting information. The MRB will notify the Type Design Organisation of any changes required to the MP which, in the finally accepted form, will constitute the MRB Report.

6.2.2 **Report Content.** The Report shall contain at least the following:

a) A reference number, issue number and date;

b) A title identifying the particular aircraft type and model(s);

c) An Index using ATA Specification 100, or a format acceptable to the CAA in accordance with A7–4 for subject presentation;

d) An introduction stating the standard against which the document has been produced (e.g. MSG-3, EMSG);

e) Where an aircraft type has significant optional or alternative systems, equipment or installations, these shall be identified in the Report;

f) A statement in flying time, cycles or calendar time, as applicable, for any limitation in the initial period of aircraft operation at the time of issue of the Report, e.g. the structural inspection programme may have been established for the first 12,000 cycles of operation only;

g) A definition of the operating duty cycle and approximate annual utilisation assumed in production of the maintenance requirements, together with a statement of action to be taken in respect of aircraft using significantly different operating criteria;

h) A description of any rules relating to sampling programmes where these form a part of the maintenance programme;

i) Aircraft Zone or Area designation, Access and Panel charts. These may be identified by reference to some other document controlled by the manufacturer;

j) Procedures by which the inherent safety and reliability of the aircraft, its systems and equipment will be assured on a continuing basis;

k) A listing in ATA Specification 100 order (or an alternative acceptable to the CAA) of all items, systems or structures where analysis has shown that a maintenance task is required. A description of the task is to be given in each case together with the periods, stated in flying hours and/or cycles or elapsed time, at which the task is to be applied;

l) A listing of all zones or areas to which a maintenance task has been found by analysis, to apply together with a description of the task in each case and periods, stated in flying hours and/or cycles or elapsed time at which the task is to be applied;

m) Identification of those tasks which analysis has shown to be required for safety and also task required for compliance with certification requirements;

n) A Glossary of Terms including, in particular, definitions of the maintenance tasks specified in the Report;

o) A statement requiring that the effectiveness of the application of Maintenance Programmes based upon the MRB Report is to be monitored, either by individual Operators, or by the Type Design Organisation. Such monitoring may be achieved by a Condition Monitored Maintenance Programme, or by any other method accepted by the CAA in a particular case, but shall include, as a minimum, all items identified by the Report as significant in respect of their failure effect on safety or reliability.

7 Report Approval

The Report will be approved by the MRB Chairman on behalf of the CAA.

8 Report Publication

The Type Design Organisation shall publish and distribute the Report. Copies shall be provided to the CAA as required.

9 Report Review and Revision

The Report shall be reviewed periodically by the CAA and Type Design Organisation in the light of experience gained during its application. Where changes to the Report are necessary these shall be notified by Service Bulletin action, or by other means acceptable to the CAA, pending revision of the Report. Major changes to the Report may necessitate the re-convening of the MRB and could result in the Report being revised or re-issued. All revisions or re-issue will be Approved by the CAA.

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Chapter A5-4 Weight and Balance of Aircraft

1 Introduction

This Chapter A5–4 prescribes the requirements for the weighing of aircraft, the determination of the corresponding centre-of-gravity position and the provision of information from which the loading for flight can be correctly determined.

NOTE: The Operator's responsibilities are prescribed in the Air Navigation Order and the Air Navigation (General) Regulations.

2 Definitions

2.1 **Basic Weight.** Basic Weight is the weight of the aircraft and all its basic equipment, plus that of the declared quantity of unusable fuel and unusable oil. In the case of turbine-engined aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, it may also include the weight of usable oil.

2.2 **Basic Equipment.** Basic Equipment is the unconsumable fluids, and the equipment which is common to all roles for which the Operator intends to use the aircraft.

2.3 **Variable Load.** Variable Load is the weight of the crew, of items such as the crew's baggage, removable units, and other equipment, the carriage of which depends upon the role for which the Operator intends to use the aircraft for the particular flight.

2.4 **Disposable Load.** Disposable Load is the weight of all persons and items of load, including fuel and other consumable fluids, carried in the aircraft, other than the Basic Equipment and Variable Load.

NOTE: To obtain the total loaded weight it is necessary to add to the Basic Weight the weights of those Variable and Disposable Load items which are to be carried for the particular role for which the aircraft is to be used.

3 General

3.1 Aircraft shall be weighed when all manufacturing processes have been completed, and in accordance with the procedures in this paragraph 3.

NOTE: The CAA will consider applications from aircraft manufacturers and Operators to weigh certain types of aircraft on a sampling basis (i.e. representative aircraft, as weighed, would be acceptable for others of the same standard).

3.1.1 Aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg, shall be reweighed within two years after the date of manufacture, and subsequent check weighing shall be made at intervals not exceeding five years, and at such times as the CAA may require.

3.1.2 Aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, shall be re-weighed at such times as the CAA may require.

3.2 When an aircraft is weighed, the condition of the aircraft (i.e. the equipment and other items of load such as fluids in tanks) shall be recorded. The equipment installed should not differ from that included in the declared list of Basic Equipment associated with the Weight and Centre-of-Gravity Schedule or the Loading and Distribution Schedule as appropriate.

3.3 The Basic Weight and the corresponding c.g. position shall be determined and entered in the Weight and Centre-of-Gravity Schedule or in the Loading and Distribution Schedule as appropriate.

3.4 The CAA may require that the actual weight of the items of Variable Load be ascertained.

3.5 A Weighing Record containing records of the weighing and the calculations involved shall be made available to the CAA, and such records shall be retained by the Operator. When the aircraft is again weighed the previous Weighing Record shall be retained with the aircraft records.

4 Weight and Balance Report - Aircraft Exceeding 5700 kg

4.1 A Weight and Balance Report shall be produced for each Prototype, Variant and Series aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg.

5 Weight and Centre-of-Gravity Schedule - Aircraft Exceeding 2730 kg (see A7–10 Appendix No.1)

A Weight and Centre-of-Gravity Schedule shall be provided for each aircraft the Maximum Total Weight Authorised of which exceeds 2730 kg, except that for an aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg, the information contained in Parts B and C of the Schedule may, for a new aircraft, be given as part of the Weight and Balance Report.

6 Weight and Centre-of-Gravity Schedule - Aircraft Not Exceeding 2730 kg (see A7–10 Appendix No.2)

For aircraft the Maximum Total Weight Authorised of which does not exceed 2730 kg, either a Weight and Centre-of-Gravity Schedule which complies with 5 and shall contain instructions for the determination of the loaded weight, the total load moments and resultant c.g. positions, or a Loading and Distribution Schedule which complies with Paragraph 3, Chapter A7–10 shall be provided.

Chapter A5-6 Identification and Classification Procedure for CAA Airworthiness Directives, Mandatory Modifications, Inspections and Changes to Approved Documentation

1 Introduction

1.1 This Chapter A5–6 contains procedural requirements for classification, notification and identification of CAA Airworthiness Directives, mandatory modifications, inspections, and changes to approved documentation. Mandatory inspections, for the purpose of this Chapter are those inspections classified as mandatory by the CAA, where the inspection itself is the work.

1.2 The provisions of Article 81(5) of the Air Navigation Order 2000 are such that the CAA may, on sufficient grounds being shown, vary a Flight Manual, Performance Schedule, or other document incorporated by reference in a Certificate of Airworthiness. Furthermore, under the provisions of Article 8 of the Air Navigation Order 2000, an aircraft shall not fly unless any conditions subject to which the Certificate of Airworthiness was issued or rendered valid are complied with.

1.3 The provisions of Article 9(7) of the Air Navigation Order 2000 as amended, are such that a Certificate of Airworthiness in respect of an aircraft registered in the United Kingdom will cease to be in force until any modification or inspection, being a modification or inspection required by the CAA, is completed.

2 Mandatory Actions

2.1 In accordance with the provision of Article 9(7) of the Air Navigation Order 2000, the following modifications, inspections and changes to approved documentation are classified as mandatory:

a) Those notified in a CAA Airworthiness Directive. Wherever possible, CAA Airworthiness Directives adopt advice promulgated by the Type Design Organisation (or in some cases, the holder of a Type Responsibility Agreement (see Chapter A5–1 paragraph 4)) through documents such as Service Bulletins and Flight Manual amendments;

b) Those notified in a CAA Emergency Airworthiness Directive;

c) Those necessary to comply with CAA Airworthiness Notices of a mandatory character. Airworthiness Notices are not affected by the procedures in this Chapter.

NOTES: 1 The term 'Mandatory' should not be used in the product manufacturers documents to require compliance. The term 'Mandatory' should only appear in documents promulgated by a Regulatory Authority.

2 Such documents which pre date this requirement will use the word 'Mandatory' and need not be amended.

2.2 Modifications, inspections, and changes to approved documentation considered essential for airworthiness will be classified as Mandatory by the CAA. An Airworthiness Directive will be promulgated mandating compliance with the particular service information. This will be undertaken in consultation with the Approved Organisation

concerned and appropriate Operators where necessary. The criterion for embodiment or compliance, e.g. a date, a number of hours or cycles, or operational procedures, will be decided at the same time.

2.3 In deciding a criterion for embodiment or compliance, the following is taken into account:

a) The degree of urgency;

b) The availability of modified parts and factors affecting their delivery, e.g. the number of products concerned and their geographical location;

c) The amount of work required to complete the modification/inspection;

d) The impact on flight operations.

2.4 Wherever possible, the criterion for embodiment or compliance is fixed to coincide with periodical inspections or overhauls so that the Operator has a reasonable amount of time for carrying out the work. In addition, consideration is given to the possibility of a special inspection procedure as, at least, a temporary alternative to the embodiment of a modification. Operators and their contracted maintenance organisations are expected, when necessary, to make priority arrangements to achieve compliance within the period specified.

NOTE: Airworthiness Directives together with a summary of associated Manufacturers Service Bulletins or equivalent documents are promulgated in the CAA publication, 'Mandatory Aircraft Modifications and Inspection Summary' (CAP 476).

2.5 Information relating to a modification, inspection or change to approved documentation which becomes the subject of an Airworthiness Directive will normally be distributed by the manufacturer as a Service Bulletin, Technical News Sheet or Flight Manual Amendment etc.

2.6 In addition to the notification by the manufacturer (see paragraph 2.5), the CAA will publish an associated Airworthiness Directive and at the same time advise the Responsible Authority of all ICAO Contracting States. The method of notification (e.g. telex, cable or airmail) will depend upon the urgency of the information. A further notification is made to those Responsible Authorities by the transmission of amendments to the publication 'Mandatory Modifications and Inspection Summary' which they receive in accordance with Airworthiness Notice No 22.

3 Airworthiness Directive Development Procedure for UK Products and Equipment

a) Where the CAA, in consultation with the Type Design Organisation or Type Responsibility Agreement holder, decides that a modification, inspection or change to approved documentation is essential for airworthiness, it will initiate mandatory status by raising a provisional Airworthiness Directive and an associated reference number that will be notified to the Type Design Organisation.

b) The CAA shall be satisfied that the Type Design Organisation, in the development of the modification/inspection, has consulted representative Operators of the aircraft type to which the provisional Airworthiness Directive applies.

c) Where material essential for airworthiness involves engine(s), propeller(s), or equipment, the CAA shall be satisfied that the Type Design Organisation or Approval Holder as appropriate, has involved the Type Design Organisation of the aircraft to which the equipment may be installed.

d) When satisfied that the development of the material essential for airworthiness is complete, the CAA will cancel the provisional Airworthiness Directive reference number and provide the Type Design Organisation with an Airworthiness Directive Number.

e) At the same time as the CAA allocates an Airworthiness Directive Number, the Type Design Organisation will be provided with a draft of the Airworthiness Directive to be promulgated by the CAA.

f) Where possible the CAA and the Type Design Organisation will endeavour respectively to promulgate the Airworthiness Directive, and the Service Bulletin, Flight Manual amendment or equivalent document on a mutually agreed date.

NOTE: The CAA has a duty to promulgate an Airworthiness Directive without the agreement of the Type Design Organisation if it believes this is essential for airworthiness.

4 Documentation

4.1 The wording of documents (e.g. Service Bulletins, Flight Manual amendments or equivalent documents) used to notify modifications, inspections, or changes to approved documentation destined to become the subject of an Airworthiness Directive, shall be agreed by the CAA, and the documents shall be certified, published, and distributed, by the appropriate approved Organisation. The documents shall comply with the format of ATA Spec. 100 where appropriate.

4.2 Service information which has become the subject of an Airworthiness Directive shall not be amended without the prior approval of the CAA.

NOTE: The Airworthiness Directive shall refer to the specific issue no. of the Service Bulletin or equivalent document.

4.3 Service information designating changes which are the subject of an Airworthiness Directive shall be distributed to:

a) all owners or Operators of the particular type(s) of aircraft concerned;

b) those Airworthiness Authorities to whom these owners or Operators are responsible;

c) where the modification, inspection, or change to approved documentation derives from other than the aircraft Type Design Organisation (e.g. an engine Type Design Organisation or equipment Approval holder); to any aircraft Type Design Organisation whose aircraft are fitted with the item concerned and to the responsible Airworthiness Authority.

NOTES: 1 Owners, Operators, and organisations undertaking overhaul/maintenance on aircraft should ensure that the Type Design Organisation of each type of aircraft is informed of their names and addresses to facilitate distribution of the documents notifying mandatory modifications, inspections or changes to approved documentation.

2 Information distributed in accordance with paragraph 4.3, is summarised in the CAA Publication entitled 'Mandatory Aircraft Modifications and Inspections Summary' which will be supplied to foreign Airworthiness Authorities on application to the Civil Aviation Authority (see CAA Airworthiness Notice No. 22).

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Chapter A5-7 Master Minimum Equipment Lists

1 Introduction

1.1 Article 16 of the UK Air Navigation Order 2000, as amended, requires the permission of the CAA to be obtained before an aircraft may be despatched with an unserviceability.

1.2 Information and instructions intended to enable the determination of the measure of unserviceable equipment and systems which may exist at the commencement of a flight while still allowing the safe operation of the affected aircraft shall be provided in the form of a Master Minimum Equipment List (MMEL) for the type, for approval by the CAA. Operators of aircraft of the appropriate type will use the information and instructions provided in the MMEL to produce their own Minimum Equipment List (MEL) or an equivalent document (see CAP 549).

1.3 For information regarding the format of MMELs – see Chapter A7–6.

2 Applicability and Scope

2.1 This requirement is applicable to any aircraft of United Kingdom design and construction for which a Certificate of Airworthiness (C of A) is in force or for which an application for issue of a C of A has been made, and which has an authorised MTWA exceeding 2730 kg, with the exception of those certificated in the Special Category, unless otherwise determined by the CAA.

2.2 **Scope of Master Minimum Equipment Lists**. The intent of an MMEL is that it should be relevant to the build standard of aircraft of that particular type and, with any necessary revisions, to any variants of that type.

NOTE: The MMEL is not intended to be used as an Operator's MEL.

3 Application for Approval of a Master Minimum Equipment List

3.1 Application may be made to the UK CAA for the approval of an MMEL. The Applicant shall normally be the actual or the responsible Type Design Organisation.

3.2 For types or variants for which application is made to the CAA for either the issue of a new UK Type Certificate or the extension of an existing Type Certificate, the provision of the approved MMEL may be considered to be an integral part of the Type Certification process. In such cases a separate application for approval of the MMEL will not be necessary.

3.3 An application for the approval of an MMEL which is submitted separately from an application for Type Certification (or the extension of an existing Type Certificate) will be considered to constitute a modification (see 4 b)).

4 Charges

CAA charges for the investigation and approval of an MMEL will be levied as follows:

a) For a type which is the subject of a Type Certification programme such charges will be included in the Type Certification charges;

b) For a type for which application is made separately from that for Type Certification such charges will be in accordance with the CAA Scheme of Charges appropriate to modifications current at the time of application.

5 CAA Investigation

The CAA reserves the right to investigate, in consultation as necessary with the Type Design Organisation, the contents of the proposed MMEL and to require the embodiment of any revision or amendment it considers necessary to satisfy the requirements. When a standard acceptable to the CAA has been achieved the Type Design Organisation will be so informed such that arrangements can be made for the issue of an MMEL document conforming to the approved standard. (See 7.1.)

6 CAA Approval of Initial Master Minimum Equipment List for a Type

6.1 When the CAA has informed the Type Design Organisation that the proposed initial MMEL for the type has been approved, the document shall carry a statement indicating that approval and shall be worded as follows:

Approved by the UK CIVIL AVIATION AUTHORITY

Signed: .....

For and on behalf of the CIVIL AVIATION AUTHORITY

Date: .....

Following signature on behalf of the CAA, this statement shall appear on the title page of each Master Minimum Equipment List (MMEL).

6.2 If an MMEL is published in part before completion, or before the appropriate aircraft type is certificated, it must be marked 'Draft' on the page and in the position normally occupied by the Approval statement.

7 Issue of Approved Master Minimum Equipment Lists

7.1 In the case of new aircraft types of UK manufacture, the Type Design Organisation shall be responsible for the preparation, publication and distribution of the MMEL conforming to the approved standard.

7.2 In the case of existing aircraft types for which no MMEL has previously been approved by the CAA, the CAA assumes the responsibility for the compilation and publication of the UK MMEL unless determined otherwise.

NOTE: In compiling the MMEL the CAA will take account of any existing MMEL, whether or not it has previously been approved by any other Airworthiness Authority.

8 Content and Format of Master Minimum Equipment Lists

8.1 The instructions and information given in the MMEL must be presented in a manner which will enable the Operator to prepare his MEL giving sufficient detail for a proper understanding of each subject such that a decision on the extent of permissible unserviceabilities of equipment and systems at the commencement of a flight or series

of flights can be reached by the Operator. See Master Minimum Equipment Lists (MMEL) and Minimum Equipment Lists (MEL) – Procedures (CAP 549).

NOTE: In any cases where the data contained in a MMEL conflicts with data contained in the approved Flight Manual for an aircraft of the type, the limitations and information given in the Flight Manual shall be overriding.

8.2 The MMEL should utilise an agreed referencing system such as ATA 100 and be presented in a format acceptable to the CAA. It shall contain a List of Effective Pages, a Preamble which explains the scope, purpose and validity of the document, and an explanation of any coding or terminology used (see BCAR Chapter A7–6).

9 Amendment of Master Minimum Equipment Lists

9.1 Proposed revisions or amendments (regardless of their originator) which are introduced after the date of approval of a MMEL by the CAA, shall be separately approved.

9.2 Applications for the approval of amendments to a Master Minimum Equipment List may be submitted by:

a) the Type Design Organisation approved for the design of the appropriate aircraft type;

b) an Operator of aircraft of the type (or his agent) supported by the Type Design Organisation where relevant; or

c) the CAA.

Each such application shall be accompanied by a statement giving technical justification for the proposed amendment and any new or amended procedures (whether Maintenance (M) or Operational (O)). Any such amendments will be evaluated by the CAA in consultation with the Type Design Organisation.

9.3 When approved by the UK CAA, a revision to an MMEL compiled by the UK Type Design Organisation shall be despatched to all registered holders of that MMEL together with instructions for the embodiment into the appropriate MMEL. The revision status and date of the affected page(s) shall be given in a revised List of Effective Pages.

9.4 In the case of aircraft of types for which the CAA has assumed the responsibility for compilation of the MMEL, amendments will be compiled by the CAA and shall be made available to all holders of that MMEL together with instructions for embodiment into the appropriate MMEL. The revision status and date of the affected page(s) shall be given in a revised List of Effective Pages.

9.5 When appropriate, Temporary Revisions (TRs) may be prepared and inserted into a MMEL in cases where urgent change in the information and/or instructions presented is required. Such TRs must have been discussed with, and approved by the UK CAA and must be recorded in a separate list of Effective Temporary Revisions which will identify the date of the TR, the permanent page affected, the means, if any, by which it is superseded and any relevant remarks. This list of TRs will be revised and updated when permanent revisions are approved and published.

9.6 TRs shall be made available to all registered holders of the appropriate MMEL, together with instructions for the embodiment and recording in the MMEL.

10 Modification of Aircraft

Applicants for approval of modifications to aircraft (Chapter A2–5) shall, at the time application is made, consider the effects of the proposed modification upon the information and instructions contained in the MMEL for the type and shall submit to the UK CAA of any revisions likely to be required as a consequence of the incorporation of the modification. Such revisions should either be processed as a revision to the MMEL (where the Type Design Organisation is the Applicant for the modification or supports the proposed modification), or by a separate UK CAA Approved Supplement to the MMEL.

11 Reference Documents

Details of the scope, extent, legislative background, procedures and responsibilities relating to MMELs and MELs are prescribed in CAP 549. It is recommended that this document be studied before a Master Minimum Equipment List is compiled. Reference to Air Operators' Certificates (CAP 360) Part One – Operation of Aircraft and Part Two – Arrangements for Engineering Support, and Specification for Operations Manuals (CAP 450) is also recommended.

Chapter A5-8 Mandatory Action on Aircraft Operating in Accordance with a Permit to Fly

1 Introduction

1.1 This Chapter A5–8 prescribes the requirements and procedure for reporting, promulgating and implementing action declared as mandatory by the CAA in respect of aircraft registered in the United Kingdom and operating in accordance with a Permit to Fly.

1.2 Where service experience reveals a design or manufacturing problem on an aircraft operating in accordance with a Permit to Fly and the CAA considers that corrective action is required to restore acceptable levels of safety, a Mandatory Permit Directive (MPD) will be issued by the CAA.

1.3 The Permit to Fly for an aircraft registered in the United Kingdom will cease to be in force if any required action, compliance end date or flying time limitations specified by the MPD have not been complied with.

2 Work and Certifications

2.1 Work undertaken in incorporating a Mandatory Permit Directive shall be supervised by an Organisation Approved by the CAA for the purpose (see Sub-section A8) or by a person appropriately authorised by the CAA.

2.2 Full particulars of the work undertaken to incorporate the modification, or details, results and work arising from the mandatory inspection, shall be entered in the appropriate log book, quoting the reference number of the appropriate document, e.g. Airworthiness Approval Note for a Major Modification, Service Bulletin for a mandatory inspection.

2.3 All relevant records of modifications and mandatory inspection shall be made available to the CAA for examination on request, and these shall not be destroyed without authorisation from the CAA.

NOTE: The Air Navigation Order requires that log books, and other documents which are identified and referred to in the log books (therefore forming part of the log books) shall be preserved until a date two years after the aircraft, the engine or the variable pitch propeller, as the case may be, has been destroyed, or permanently withdrawn from use.

2.4 Where an owner or Operator wishes to develop an alternative means of compliance, the written agreement of the CAA will be required. The aircraft technical records and where applicable the Organisation's modification system shall reflect the change from the MPD.

3 Promulgation

3.1 A collated volume of MPDs will be available from the CAA's printers whose details are provided on the inside cover of this publication. Individual MPDs of an emergency nature will be distributed to all registered owners of the type of aircraft concerned.

4 Reporting

4.1 The CAA should be notified of any unsafe condition that has occurred, whether or not this was identified from an incident or an occurrence. The following organisations, will need to notify the CAA of incidents of airworthiness significance:

a) A CAA Approved Design Organisation or manufacturer of an aircraft type (including microlights);

b) Any maintenance Organisation or nominated person(s) engaged in the maintenance of such aircraft (e.g. PFA, BMAA, etc. or A8–15(M3), A8–20(M5), Part 145 Approved Organisations);

c) In the case of ex-military aircraft, Organisations holding A8–20(E4) Approval for a type where, through their liaison with the responsible Design Organisation (where such an Organisation still provides design support) they have knowledge of newly promulgated mandatory action (e.g. Special Flying Instructions, Special Technical Instructions).

4.2 The purveyor or manufacturer of an aircraft kit should notify the CAA of any unsafe condition of which he has knowledge.

4.3 The owner, pilot or Operator of an aircraft operating on a Permit to Fly should notify the appropriate Organisation in 4.1 or 4.2 above of an unsafe condition but may also voluntarily notify the CAA directly via the CAA Occurrence Reporting Scheme or other appropriate means.

4.4 All incidents should be reported to the CAA as soon as possible, preferably within 96 hours to:

Civil Aviation Authority
Safety Regulation Group
CAA Occurrence Reporting Scheme
Safety Data Unit
2W Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Sub-section A6
Continued Airworthiness – Responsibilities of the Owner/Operator

Chapter A6-1 Maintenance and Continuing Airworthiness of Non-EASA Aircraft with a Certificate of Airworthiness

1 Scope

1.1 This requirement establishes the measures to be taken to ensure that the aircraft remains airworthy and includes details of the maintenance to be carried out. It also specifies the conditions to be met by the persons or organisations involved in such continuing airworthiness management.

1.2 This requirement applies only to aircraft and associated parts that are not required to comply with European Regulation (EC) No. 216/2008, collectively described as 'Non-EASA Aircraft'.

NOTES:

1 This requirement only applies to aircraft required to hold a Certificate of Airworthiness.

2 Definitions and lists of EASA and Non-EASA aircraft can be found in the CAA publication, CAP 747, 'Mandatory Requirements for Airworthiness'.

3 BCAR Chapter A6-1 has been derived from the text of European Commission Regulation (EC) No. 2042/2003, Annex I, Part M and references the corresponding Part M paragraph references are given in Appendix 2 of this chapter.

2 Responsibilities

2.1 The operator is responsible for the continuing airworthiness of an aircraft and shall ensure that no flight takes place unless:

a) the aircraft is maintained in an airworthy condition; and

b) any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable; and

c) the airworthiness certificate remains valid; and

d) the maintenance of the aircraft is performed in accordance with the approved maintenance programme as specified in paragraph 5.

2.2 Any person or organisation performing maintenance shall be responsible for the tasks performed.

2.3 The pilot-in-command or, in the case of commercial air transport, the operator shall be responsible for the satisfactory accomplishment of the pre-flight inspection. This inspection must be carried out by the pilot or another qualified person, but need not be carried out by an approved maintenance organisation.

2.4 In the case of commercial air transport, the operator is responsible for the continuing airworthiness of the aircraft it operates and shall:

a) be approved, as part of the air operator certificate issued by the CAA, in accordance with Chapter A8-25 for the aircraft it operates; and

b) be approved in accordance with Chapter A8-23 or contract such an organisation; and

c) ensure that paragraph 2.1 is satisfied.

2.5 When an operator is requested by the CAA to hold a certificate for commercial operations, other than for commercial air transport, it shall:

a) be appropriately approved, in accordance with Chapter A8-25, for the management of the continuing airworthiness of the aircraft it operates or contract such an organisation; and

b) be appropriately approved in accordance with Chapter A8-23 or A8-24, or contract such an organization; and

c) ensure that paragraph 2.1 is satisfied.

2.6 In accordance with Article 36(2) of the Air Navigation Order, any person authorised by the CAA, may inspect the aircraft or its equipment or any documents relating to the aircraft, at any reasonable time.

3 Occurrence Reporting

3.1 In accordance with Article 226 of the Air Navigation Order, any person or organisation responsible under paragraph 2 shall report to the CAA, any identified condition of an aircraft or component that endangers flight safety.

3.2 Reports shall be made in accordance with the procedures and conditions described in Civil Aviation Publication (CAP) 382 'Mandatory Occurrence Reporting Scheme: Information and Guidance'.

3.3 Where the person or organisation maintaining the aircraft is contracted by an operator to carry out maintenance, the person or the organisation maintaining the aircraft shall also report to the operator or the continuing airworthiness maintenance organisation any such condition affecting the operator's aircraft or component.

3.4 Reports shall be made as soon as practicable, but in any case within the timescales specified in CAP 382.

4 Continuing Airworthiness Tasks

4.1 The continuing airworthiness of an aircraft and the serviceability of both operational and emergency equipment should be ensured by:

a) the accomplishment of pre-flight inspections;

b) the rectification to an officially recognised standard of any defect and damage affecting safe operation taking into account, for all large aircraft, aircraft used for commercial air transport, or aircraft defined as State aircraft, the minimum equipment list and configuration deviation list if applicable to the aircraft type;

c) the accomplishment of all maintenance, in accordance with the approved aircraft maintenance programme described in paragraph 5;

d) for all large aircraft or aircraft used for commercial air transport the analysis of the effectiveness of the approved maintenance programme, described in paragraph 5;

e) the accomplishment of any applicable:

i) airworthiness directive;

ii) operational directive;

iii) continuing airworthiness requirement established by the CAA;

f) the accomplishment of modifications and repairs in accordance with paragraph 7;

g) for non-mandatory modifications and/or inspections, for all large aircraft or aircraft used for commercial air transport the establishment of an embodiment policy;

h) check flights when necessary.

5 Aircraft Maintenance Programme

5.1 Maintenance of each aircraft shall be organised in accordance with an aircraft maintenance programme.

5.2 The aircraft maintenance programme and any subsequent amendments shall be approved by the CAA.

5.3 When the continuing airworthiness of the aircraft is managed by a continuing airworthiness management organisation approved in accordance with Chapter A8-25, the aircraft maintenance programme and its amendments may be approved through an indirect approval procedure.

In that case, the indirect approval procedure shall be established by the continuing airworthiness management organisation as part of the Continuing Airworthiness Management Exposition and shall be approved by the CAA.

5.4 The aircraft maintenance programme should establish compliance with:

a) instructions issued by the CAA;

b) instructions for continuing airworthiness issued by the holders of the type certificate, restricted type-certificate, supplemental type-certificate, major repair design approval, technical standard order authorisation or any other relevant approval issued under BCAR Section A;

c) additional or alternative instructions proposed by the operator or the continuing airworthiness management organisation once approved in accordance with paragraph 5, except for intervals of safety related tasks referred to in paragraph 5.5, which may be escalated, subject to sufficient reviews carried out in accordance with paragraph 5.7 and only when subject to direct approval in accordance with paragraph 5.2.

5.5 The aircraft maintenance programme shall contain details, including frequency, of all maintenance to be carried out, including any specific tasks linked to the type and nature of operations.

5.6 For large aircraft, when the aircraft maintenance programme is based on maintenance steering group logic or on condition monitoring, the aircraft maintenance programme shall include a reliability programme.

5.7 The aircraft maintenance programme is required to be subject to periodic reviews and amended accordingly when necessary. These reviews shall ensure that the programme continues to be valid in light of the operating experience and instructions from the CAA whilst taking into account new and/or modified maintenance instructions promulgated by the type certificate and supplementary type certificate holders and any other

organisation that publishes such data in accordance with BCAR Chapter A8-1, A8-8, A8-21, B2-2 or European Commission Regulation (EC) No. 1702/2003, Annex Part 21.

6 Airworthiness Directives

In accordance with Article 19 of the Air Navigation Order, any applicable airworthiness directive must be carried out within the requirements of that airworthiness directive, unless otherwise specified or agreed by the CAA.

7 Data for Modifications and Repairs

Damage should be assessed and modifications and repairs carried out using data approved by the CAA or by an approved Chapter A8-8, A8-21, B2-2 or Regulation (EC) No. 1702/2003 Annex Part 21 design organisation, as appropriate.

8 Aircraft Continuing Airworthiness Record System

8.1 At the completion of any maintenance, the associated certificate of release to service is required to be entered in the aircraft continuing airworthiness records (see paragraph 11). Each entry should be made as soon as practicable but in no event more than 30 days after the day of maintenance action.

8.2 The aircraft continuing airworthiness records should consist of:

a) an aircraft logbook, engine logbook(s) or engine module log cards, propeller logbook(s) and log cards, for any service life limited component as appropriate; and

b) when required for Commercial Air Transport,Commercial Operations other than Commercial Air Transport and State aircraft, the operator's technical log (see paragraph 9).

8.3 The aircraft type and registration mark, the date, together with total flight time and/or flight cycles and/or landings, as appropriate, is required to be entered in the aircraft logbooks.

8.4 The aircraft continuing airworthiness records are required to contain the current:

a) status of airworthiness directives and measures mandated by the CAA in immediate reaction to a safety problem;

b) status of modifications and repairs;

c) status of compliance with the maintenance programme;

d) status of service life limited components;

e) mass and balance report;

f) list of deferred maintenance.

8.5 In addition to the authorised release document, UK CAA Approved Certificate or EASA Form 1 or equivalent, the following information relevant to any component installed is

required to be entered in the appropriate engine or propeller logbook, engine module or service life limited component log card:

a) identification of the component; and

b) the type, serial number and registration of the aircraft to which the particular component has been fitted, along with the reference to the installation and removal of the component; and

c) the particular component accumulated total flight time and/or flight cycles and/or calendar time, as appropriate; and

d) the current paragraph 8.4 information applicable to the component.

8.6 The person responsible for the management of continuing airworthiness tasks in accordance with paragraph 2, should control the records as detailed in this paragraph and present the records to the CAA upon request.

8.7 All entries made in the aircraft continuing airworthiness records should be clear and accurate. When it is necessary to correct an entry, the correction should be made in a manner that clearly shows the original entry.

8.8 The operator is required to ensure that a system has been established to keep the following records for the periods specified:

a) all detailed maintenance records in respect of the aircraft and any life limited component fitted thereto, at least 24 months after the aircraft or component was permanently withdrawn from service; and

b) the total time and flight cycles as appropriate, of the aircraft and all life limited components, at least 24 months after the aircraft or component has been permanently withdrawn from service; and

c) the time and flight cycles as appropriate, since last scheduled maintenance of the component subjected to a service life limit, at least until the component scheduled maintenance has been superseded by another scheduled maintenance of equivalent work scope and detail; and

d) the current status of compliance with maintenance programmes such that compliance with the approved aircraft maintenance programme can be established, at least until the aircraft or component scheduled maintenance has been superseded by other scheduled maintenance of equivalent work scope and detail; and

e) the current status of airworthiness directives applicable to the aircraft and components, at least 24 months after the aircraft or component has been permanently withdrawn from service; and

f) details of current modifications and repairs to the aircraft, engine(s), propeller(s), and any other component vital to flight safety, at least 24 months after they have been permanently withdrawn from service.

9 Operator's Technical Log System

9.1 In the case of Commercial Air Transport, Commercial Operations other that Commercial Air Transport and State aircraft, in addition to the requirements of paragraph 8, an operator is required to use an aircraft technical log system containing the following information for each aircraft:

a) information about each flight, necessary to ensure continuing flight safety, including the times when the aircraft took off and landed; and

b) the current aircraft certificate of release to service; and

c) the current maintenance statement giving the aircraft maintenance status of what scheduled and out of phase maintenance is next due except that the CAA may agree to the maintenance statement being kept elsewhere; and

d) all outstanding deferred defect rectifications that affect the operation of the aircraft; and

e) any necessary guidance instructions on maintenance support arrangements.

9.2 The aircraft technical log system and any subsequent amendment shall be approved by the CAA.

9.3 An operator shall ensure that the aircraft technical log is retained for 36 months after the date of the last entry. However, if the aircraft has been destroyed or has been permanently withdrawn from service, the aircraft technical log shall be retained for at least 24 months or such shorter period as the CAA may permit in a particular case.

10 Transfer of Aircraft Continuing Airworthiness Records

10.1 The operator shall ensure that when an aircraft is permanently transferred from one operator to another the continuing airworthiness records described in paragraph 8 and, if applicable, the technical log described in paragraph 9, are also transferred.

10.2 The operator shall ensure, when he contracts the continuing airworthiness management tasks to a continuing airworthiness management organisation, that the paragraph 8 continuing airworthiness records are transferred to the organisation.

10.3 The time periods prescribed for the retention of records shall continue to apply to the new operator or continuing airworthiness management organisation.

11 Aircraft Certificate of Release to Service

11.1 Except for aircraft released to service by a maintenance organisation approved in accordance with Chapter A8-23 or A8-24 as appropriate, the certificate of release to service should be issued according to this Chapter A6-1.

11.2 No aircraft can be released to service unless a certificate of release to service is issued at the completion of any maintenance, when satisfied that all maintenance required has been properly carried out, by:

a) certifying staff in compliance with the requirements laid down in BCAR Section L categories A, C, X and R[1], as appropriate or European Commission Regulation (EC) 2042/2003, Part 66, except for complex maintenance tasks listed in Supplement 3 to this Chapter; or

b) the signatories listed in Supplement 2; or

c) the holders of a BCAR Section L Aircraft Maintenance Engineer's Licence – Type Rated in categories 'B' and 'D' according to the licence privileges.[1]; or

d) the pilot-owner in compliance with paragraph 13.

1 Described in CAP 562 Civil Aircraft Airworthiness Information and Procedures (CAAIP), Leaflet H-20

11.3 (Reserved).

11.4 In the case of unforeseen situations, when an aircraft is grounded at a location where no maintenance organisation appropriately approved under Chapter A8-23 or A8-24 and no appropriate certifying staff are available, the operator may authorise any person, with not less than three years of appropriate maintenance experience and holding the proper qualifications, to maintain, according to the standards set out in Chapter A8-23 or A8-24, and release the aircraft. The operator shall in that case:

a) obtain and keep with the aircraft records, details of all the work carried out and of the qualifications held by that person issuing the certification; and

b) ensure that any such maintenance is rechecked and released by an appropriately authorised person referred to in paragraph 11.2 or an organisation approved in accordance with A8-23 or A8-24 at the earliest opportunity but within a period not exceeding seven days; and

c) notify the organisation responsible for the continuing airworthiness management of the aircraft when contracted in accordance with paragraph 2.5, or the CAA in the absence of such a contract, within seven days of the issuance of such certification authorisation.

11.5 In the case of a release to service in accordance with paragraph 11.2 b), the certifying staff may be assisted in the execution of the maintenance tasks by one or more persons subject to his/her direct and continuous control.

11.6 A certificate of release to service shall contain as a minimum:

a) basic details of the maintenance carried out; and

b) the date such maintenance was completed; and

c) the identity and licence number of the person issuing the certificate of release to service; and

d) the limitations to airworthiness or operations, if any; and

e) the certification shall be worded in the following manner:

'The work recorded above has been carried out in accordance with the requirements of the Air Navigation Order for the time being in force and in that respect the aircraft/equipment is considered fit for release to service.'

11.7 By derogation from paragraph 11.2 and notwithstanding the provisions of paragraph 11.8, when the maintenance prescribed cannot be completed, a certificate of release to service may be issued within the approved aircraft limitations. A statement of this fact together with any applicable limitations to the airworthiness or the operation of the aircraft, shall be entered in the certificate of release to service before its issue as part of the information required in paragraph 11.6 d).

11.8 A certificate of release to service shall not be issued in the case of any known non-compliance which endangers flight safety.

11.9 Where the work is to be carried out on a UK registered aircraft by a foreign organisation not approved by the CAA, suitable arrangements shall be agreed with the CAA. Any certificate of release to service required, shall be raised by the organisation for whom the work has been carried out, using foreign certificate(s) as evidence that the work is satisfactory.

11.10 If a repair or replacement of a part of an aircraft is carried out when the aircraft is at such a place that it is not reasonably practicable:

a) to carry out the work in a manner that a certificate of release to service may be issued; or

b) for the certificate to be issued at that particular place. The commander may fly the aircraft, if, in his opinion, it is safe to do so, to the nearest place at which a certificate may be issued.

NOTE: The ANO prescribes that in such cases, written particulars of the flight and the reasons for making it are to be given to the CAA within ten days thereafter.

12 Component Certificate of Release to Service

12.1 A certificate of release to service shall be issued at the completion of any maintenance carried out on an aircraft component in accordance with Chapter A8-23, A8-24 or where permitted by a BCAR Section L, D licensed aircraft engineer.

12.2 The authorised release certificate, CAA Approved Certificate or EASA Form 1 constitutes the component certificate of release to service, except when such maintenance on aircraft components has been performed in accordance with Chapter A8-23 or A8-24, as appropriate, in which case the maintenance is subject to aircraft release procedures in accordance with Chapter A6-1, paragraph 11.

13 Pilot-Owner Authorisation

13.1 To qualify as a Pilot-owner, the person must:

a) hold a valid pilot licence (or equivalent) issued or validated by the CAA for the aircraft type or class rating; and

b) own the aircraft, either as sole or joint owner; that owner must be:

i) one of the natural persons on the registration form; or

ii) a member of a non-profit recreational legal entity, where the legal entity is specified on the registration document as owner or operator, and that member is directly involved in the decision making process of the legal entity and designated by that legal entity to carry out Pilot-owner maintenance.

13.2 For any privately operated non-complex motor-powered aircraft of 2730 kg MTWA and below, powered sailplane or balloon, the Pilot-owner may perform limited maintenance as specified in the Air Navigation Order, Section 3, Part 4, paragraph 12.

13.3 The scope of the limited Pilot-owner maintenance shall be specified in the aircraft maintenance programme referred to in paragraph 5.

13.4 The details of any maintenance shall be entered in the logbooks and include; the maintenance data used, the date on which that maintenance was completed and the identity, the signature and pilot licence number of the Pilot-owner performing the maintenance.

14 Duplicate Inspections

14.1 All maintenance shall be performed by qualified personnel, following the methods, techniques, standards and instructions specified in the maintenance data. Furthermore, a duplicate (independent) inspection shall be carried out after any flight safety sensitive maintenance task unless otherwise agreed by the competent authority.

14.2 A duplicate inspection is an inspection first made by an authorised person (this may be the pilot) signing the maintenance release who assumes full responsibility for the satisfactory completion of the work, before being subsequently inspected by a second independent competent person who attests to the satisfactory completion of the work recorded and that no deficiencies have been found. The second independent competent person is independent if they were not involved in doing the work being inspected.

14.3 The second independent competent person is not issuing a maintenance release therefore is not required to hold certification privileges. However they should be suitably qualified to carry out the inspection. Where the work and first inspection has been carried out by an authorised person, the pilot may carry out the second inspection.

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Supplement 1 to A6-1 Continuing Airworthiness Arrangement

1 When an owner/operator contracts an A8-25 approved continuing airworthiness organisation in accordance with paragraph 2 to carry out continuing airworthiness management tasks, a copy of the arrangement shall be sent by the owner/operator to the CAA upon request, once it has been signed by both parties.

2 The arrangement shall be developed taking into account the Requirements, and shall define the obligations of the signatories in relation to continuing airworthiness of the aircraft.

3 The arrangement shall contain as a minimum the:

a) aircraft registration;

b) aircraft type;

c) aircraft serial number;

d) aircraft owner/operator or registered lessee's name or company details, including the address;

e) A8-25 approved continuing airworthiness organisation details, including the address.

4 The arrangement shall state the following:

The owner/operator entrusts to the approved organisation the management of the continuing airworthiness of the aircraft, the development of a maintenance programme that shall be approved by the CAA, and the organisation of the maintenance of the aircraft according to said maintenance programme in an approved organisation.

According to the present arrangement, both signatories undertake to follow the respective obligations of this arrangement.

The owner/operator certifies, to the best of their belief that all the information given to the approved organisation concerning the continuing airworthiness of the aircraft is and will be accurate and that the aircraft will not be altered without prior approval of the approved organisation.

In case of any non-conformity with this arrangement, by either of the signatories, it will become null. In such a case, the owner/operator will retain full responsibility for every task linked to the continuing airworthiness of the aircraft and the owner/operator will undertake to inform the CAA within two full weeks.

5 When an owner/operator contracts an A8-25 approved continuing airworthiness organisation in accordance with paragraph 2 the obligations of each party shall be shared as listed in paragraphs 5.1 and 5.2 of this Supplement 1 to A6-1.

5.1 Obligations of the approved organisation:

a) have the aircraft type in the scope of its approval;

b) respect the conditions to maintain the continuing airworthiness of the aircraft listed below:

i) develop a maintenance programme for the aircraft, including any reliability programme developed, if applicable;

ii) declare the maintenance tasks (in the maintenance programme) that may be carried out by the pilot-owner/operator in accordance with paragraph 13.3;

iii) organise the approval of the aircraft's maintenance programme;

iv) once it has been approved, give a copy of the aircraft's maintenance programme to the owner/operator;

v) organise a bridging inspection with the aircraft's prior maintenance programme;

vi) organise for all maintenance to be carried out by an approved maintenance organisation;

vii) organise for all applicable airworthiness directives to be applied;

viii) organise for all defects discovered during scheduled maintenance, airworthiness reviews or reported by the owner/operator to be corrected by an approved maintenance organisation;

ix) coordinate scheduled maintenance, the application of Airworthiness Directives, the replacement of life limited parts, and component inspection requirements;

x) inform the owner/operator each time the aircraft shall be brought to an approved maintenance organisation;

xi) manage all continuing airworthiness records;

xii) archive all continuing airworthiness records;

c) organise the approval of any modification to the aircraft in accordance with BCAR Requirements or Regulation (EC) 1702/2003 Annex Part 21, before it is embodied;

d) organise the approval of any repair to the aircraft in accordance with BCAR Requirements or Regulation (EC) 1702/2003 Annex Part 21, before it is carried out;

e) inform the CAA whenever the aircraft is not presented to the approved maintenance organisation by the owner/operator as requested by the approved organisation;

f) inform the CAA whenever the present arrangement has not been respected;

g) carry out the airworthiness review of the aircraft when necessary and issue the National Airworthiness Review Certificate or the recommendation to the CAA;

h) send within 10 days, a copy of any National Airworthiness Review Certificate issued or extended to the CAA;

i) carry out all occurrence reporting mandated by applicable regulations;

j) inform the CAA whenever the present arrangement is terminated by either party.

5.2 Obligations of the owner/operator:

a) have a general understanding of the approved maintenance programme;

b) have a general understanding of the Requirements;

c) present the aircraft to the approved maintenance organisation agreed with the approved organisation at the time requested by the approved organisation;

d) not modify the aircraft without first consulting the approved organisation;

e) inform the approved organisation of all maintenance exceptionally carried out without the knowledge and control of the approved organisation;

f) report to the approved organisation through the logbook all defects found during operations;

g) inform the CAA whenever the present arrangement is terminated by either party;

h) inform the CAA and the approved organisation whenever the aircraft is sold;

i) carry out all occurrence reporting mandated by applicable regulations;

j) inform the approved organisation on a regular basis, of the aircraft flying hours and any other utilisation data, as agreed with the approved organisation. The frequency should be sufficient that the approved organisation can manage the continuing airworthiness of the aircraft;

k) enter the details of any maintenance performed in the logbooks, as described in Chapter A6-1, paragraph 13.4, when performing pilot-owner/operator maintenance without exceeding the limits of the maintenance tasks list as declared in the approved maintenance programme as laid down in point Chapter A6-1, paragraph 13.3;

l) inform the approved Continuing Airworthiness Management Organisation responsible for the management of the continuing airworthiness of the aircraft not later than 30 days after completion of any pilot-owner/operator maintenance task in accordance with Chapter A6-1, paragraph 8.1.

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Supplement 2 to A6-1 Certificate of Release to Service Signatories

1 A Certificate of Release to Service may be issued by one of the following:

a) The holder of an aircraft maintenance engineer's licence granted under the Air Navigation Order, being a licence which entitles the holder to issue that certificate.

b) The holder of an aircraft maintenance engineer's licence granted under the law of a country other than the United Kingdom and rendered valid under the Air Navigation Order in accordance with the privileges endorsed on the licence.

c) The holder of an aircraft maintenance engineer's licence or authorisation granted or issued by, or under, the law of any ICAO Contracting State other then the United Kingdom in which the overhaul, repair, replacement, modification or inspection has been carried out, but only in respect of aircraft of which the Maximum Total Weight Authorised does not exceed 2730 kg and in accordance with the privileges endorsed on the licence.

d) A person approved by the CAA as being competent to issue such Certificates, and in accordance with that Approval.

e) A person whom the CAA has authorised to issue the Certificate in a particular case, and in accordance with that authority.

f) In relation only to the adjustment and compensation of direct reading magnetic compasses, the holder of an Airline Transport Pilot's Licence (Aeroplanes), or a Flight Navigator's Licence granted or rendered valid under the Air Navigation Order may also issue a Certificate of Release to Service.

NOTE: The CRS shall be signed by a person, as specified above, except that the CAA may direct which of these persons shall sign in a particular case.

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Supplement 3 to A6-1 Complex Maintenance Tasks

1 The following constitutes the complex maintenance tasks referred to in A6-1, paragraph 11.2 a).

1.1 The modification, repair or replacement by riveting, bonding, laminating or welding of any of the following airframe parts:

a) a box beam;

b) a wing stringer or chord member;

c) a spar;

d) a spar flange;

e) a member of a truss-type beam;

f) the web of a beam;

g) a keel or chine member of a flying boat hull or a float;

h) a corrugated sheet compression member in a wing or tail surface;

i) a wing main rib;

j) a wing or tail surface brace strut;

k) an engine mount;

l) a fuselage longeron or frame;

m) a member of a side truss, horizontal truss or bulkhead;

n) a seat support brace or bracket;

o) a seat rail replacement;

p) a landing gear strut or brace strut;

q) an axle;

r) a wheel; and

s) a ski or ski pedestal, excluding the replacement of a low-friction coating.

1.2 The modification or repair of any of the following parts:

a) aircraft skin, or the skin of an aircraft float, if the work requires the use of a support, jig or fixture;

b) aircraft skin that is subject to pressurisation loads, if the damage to the skin measures more than 15 cm (6 inches) in any direction;

c) a load bearing part of a control system, including a control column, pedal, shaft, quadrant, bell crank, torque tube, control horn and forged or cast bracket, but excluding:

i) the swaging of a repair splice or cable fitting; and

ii) the replacement of a push-pull tube end fitting that is attached by riveting; and

d) any other structure, not listed in 1), that a manufacturer has identified as primary structure in its maintenance manual, structural repair manual or instructions for continuing airworthiness.

1.3 The performance of the following maintenance on a piston engine:

a) dismantling and subsequent reassembling of a piston engine, other than:

i) to obtain access to the piston/cylinder assemblies; or

ii) to remove the rear accessory cover to inspect and/or replace oil pump assemblies, where such work does not involve the removal and re-fitment of internal gears;

b) dismantling and subsequent reassembling of reduction gears;

c) welding and brazing of joints, other than minor weld repairs to exhaust units carried out by a suitably approved or authorised welder but excluding component replacement;

d) the disturbing of individual parts of units which are supplied as bench tested units, except for the replacement or adjustment of items normally replaceable or adjustable in service.

1.4 The balancing of a propeller, except:

a) for the certification of static balancing where required by the maintenance manual;

b) dynamic balancing on installed propellers using electronic balancing equipment where permitted by the maintenance manual or other approved airworthiness data;

1.5 Any additional task that requires:

a) specialised tooling, equipment or facilities; or

b) significant co-ordination procedures because of the extensive duration of the tasks and the involvement of several persons.

Supplement 4 to A6-1 Guidance material for the approval of the Maintenance Programme and Amendments

1 The Organisation shall demonstrate to the satisfaction of the CAA that it has competence, and has in place procedures and record keeping provisions which will enable the Organisation to analyse aircraft reliability, TC Holder's instructions, and other related operating and maintenance criteria, to generate sound and logical proposals for changes to Maintenance Programmes. To this end, the Organisation shall:

a) Nominate a person or persons acceptable to the CAA, whose responsibility includes ensuring that the Programme(s) controlled by the Organisation remains in compliance with the applicable requirements;

b) Ensure that personnel are competent, capable of fulfilling their respective role, and adequately trained to carry out the particular function for which they are responsible. The personnel should demonstrate a sufficient familiarity with:

i) Reliability Centred Maintenance processes;

ii) MSG Analysis and MRB procedures (where applicable to the type);

iii) Type Certification requirements;

iv) Aircraft or system or component type;

v) Organisation procedures relating to Programme amendment control;

vi) Requirements applicable to the control of Programmes;

c) Maintain records such that the Organisation is able to demonstrate that the development of the Programme is justified by Approved data and in accordance with the Approved procedures.

2 Maintenance Programme Amendment Procedures

Maintenance Programme amendment procedures are required.

2.1 The procedures should contain reliability centred Maintenance Procedures and additionally have procedures relating to the Programme control which contain the following provisions:

a) Task escalation or adjustment;

b) Maintenance Programme review;

c) Independent Quality Audit;

d) Service Bulletin or Service Information assessment;

e) Component, equipment and structures in-service performance review;

f) Maintenance Programme revision;

g) Maintenance procedure effectiveness review and amendment;

h) Manufacturer Maintenance Planning Document review and assessment;

i) Mandatory Airworthiness Directive review and assessment;

j) Operations/Maintenance liaison;

k) Sub-contract and supplier evaluation;

l) Training.

2.2 The Approved procedures shall make provision for a group to meet on a regular basis to consider all of the operating and maintenance implications and be able to collectively approve any associated Programme amendments arising. Records shall be kept of the meeting.

2.3 The Organisation shall make provision for the attendance of a representative of the CAA at any meetings held in accordance with the above. If, in the opinion of the CAA, the decisions reached regarding the amendment to the Programme are not fully justified by the criteria presented, then the CAA may require that further substantiation is provided before the amendment may be incorporated.

Supplement 5 to A6-1 Technical Logs

1 Introduction

1.1 In the case of Commercial Air Transport (CAT), aircraft used for commercial operations and aircraft defined as State aircraft, , an owner/operator is required to use an aircraft technical log system containing the information set out in this Supplement.

NOTE: In the case of an aircraft not exceeding 2730 kg Maximum Total Weight Authorised which is not operated by a person who is the holder of an Air Operator's Certificate or required to hold such a Certificate, an alternate form of record may be approved by the CAA.

2 Basic Technical Log Requirements

2.1 The Technical Log shall contain the following:

a) A Title Page with the registered name and address of the Operator, the aircraft type and the full international registration marks of the aircraft;

b) The current aircraft Certificate of Release to Service;

NOTE: Until such time as all current expiring Certificates of Airworthiness are replaced by non-expiring Certificates of Airworthiness, a valid Certificate of Maintenance Review is required for those aircraft with an expiring certificate.

c) the current maintenance statement giving the aircraft maintenance status of what scheduled and out of phase maintenance is next due and any out of phase inspection or component change due before that time, except that the CAA may agree to the maintenance statement being kept elsewhere;

d) any necessary guidance instructions on maintenance support arrangement;

e) A readily identifiable section containing sector record pages. Each page shall be pre-printed with the Operator's name and page serial number and shall make provision for recording the following:

i) The aircraft type and registration mark;

ii) The date and place of take-off and landing;

iii) The times at which the aircraft took off and landed;

iv) Particulars of any defect in any part of the aircraft affecting the airworthiness or safe operation of the aircraft which is known to the Commander or, if no such defect is known to him, an entry to that effect;

v) The date and signature of the Commander following completion of item e) iv);

vi) A Certificate of Release to Service as required by A6–1 in respect of any work carried out for the rectification of defects. This certificate shall be entered in such a position and manner as to be readily identifiable with the entry of the defect to which it relates;

vii) The arrival fuel state;

viii) The quantities of fuel and oil uplifted, and the quantity available in each tank, or combination of tanks, at the beginning of each flight;

ix) The running total of flying hours, such that the hours to the next inspection can be readily determined;

x) Provision for pre-flight and daily inspection signatures;

xi) The times when ground de-icing was started and completed.

NOTE: Where sector record pages are of the multi-sector 'part-removable portion' type then such 'part-removable portions' shall contain any of the above information necessary plus all relevant data from 3, if applicable, to ensure the safe operation of the aircraft.

f) A readily identifiable section containing acceptable deferred defect record pages. Each page shall be pre-printed with the Operator's name and page serial number and shall make provision for recording the following:

i) A cross reference for each deferred defect such that the original defect can be clearly identified in the sector record page section;

ii) The original date of occurrence of the defect deferred;

iii) Brief details of the defect;

iv) A cross reference for each deferred defect such that the action in respect of such deferred defect can be readily identified on the sector record page.

2.2 The aircraft technical log system and any subsequent amendment (see 3) shall be approved by the CAA.

3 Supplementary Technical Log Requirements

3.1 It will be necessary to record additional information for a specified aircraft. The following items are typical of what is required, where appropriate, but the list is not intended to be exhaustive:

a) Maximum or Intermediate Contingency Power. It is necessary to record the duration of maximum and intermediate contingency power usage, and subsequently to transfer the information to the engine log book or maintenance record. For rotorcraft the record of each use of these powers must also subsequently be transferred to the log cards or other appropriate documents applicable to those components of the transmission which always transmit the power from a single engine only, i.e. components upstream of any combining gearbox.

b) Landings. The number of landings carried out will be necessary for undercarriage component life consideration.

c) Flight Pressure Cycles. The number of pressure cycles will be necessary for fuselage life considerations.

4 Retention of Records

4.1 All entries in the Technical Log shall be made in duplicate, with provision for one copy of each entry to be removed and retained on the ground before the next flight, except that, in the case of an aeroplane of which the maximum total weight authorised does not exceed 2730 kg, or a helicopter, if it is not reasonably practicable for the copy of the technical log to be kept on the ground, it may be carried in the aeroplane or helicopter,

as the case may be, in a box approved by the CAA for that purpose. Adequate arrangements shall be made to extract information recorded in the Technical Log for use by the Maintenance Organisation and Component Overhaul Organisation.

4.2 An owner/operator shall ensure that the aircraft technical log is retained for 36 months after the date of the last entry. However, if the aircraft has been destroyed or has been permanently withdrawn from service, the aircraft technical log shall be retained for at least 24 months or such shorter period as the CAA may permit in a particular case.

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Appendix 1 to A6-1 Acceptable Means of Compliance to A6-1 Applicability of EASA AMC to BCAR A Maintenance Requirements

1 General

1.1 In general, the EASA AMC should be taken to be applicable as guidance material for those BCAR A Maintenance Requirements contained within Chapter A6-1, which state a Part M requirements paragraph number in the table in Appendix 2.

1.2 Where the EASA AMC text mentions Agency or Competent Authority, this should be read as the CAA.

1.3 Where EASA AMC paragraphs refer to 'Member State', those paragraphs may not be applicable to BCAR approvals. If there is any doubt, the CAA should be consulted.

1.4 Where the EASA AMC text refers to Part M, reference should be made to the appropriate chapter of BCAR A. See table 1.

AMC to A6-1, 4

1 Responsibility to Determine if a Check Flight is Necessary

1.1 Pilots, Owners, Licensed Engineers, Approved Organisations

The responsibility of deciding when a check flight is required either because of a maintenance requirement or for an airworthiness issue is with the pilot-owner, operator, engineer, maintenance or continuing airworthiness management organisations. Once the decision is made, the responsibility for ensuring that the check flight is carried out cannot be delegated. The responsible person will also need to ensure that it is satisfactorily completed and the results recorded in the appropriate Check Flight Schedule (CFS).

1.2 Airworthiness Review Signatory

It is the responsibility of the Airworthiness Review Signatory, when conducting an airworthiness review, to decide whether a check flight was required during the review period, and if so, that it was carried out satisfactorily. Should it be identified that either a required check flight has not been performed or satisfactorily completed, including the accomplishment of any rectification action, then the airworthiness review should be considered as incomplete until such time as the issues are resolved.

NOTE: The Airworthiness Review Signatory includes all people authorised to carry out an Airworthiness Review for an aircraft with a National Certificate of Airworthiness for the purposes of making a recommendation to the CAA for the issue or renewal of the National Airworthiness Review Certificate, or, who are renewing the National Airworthiness Review Certificate under their Organisation Approval. This also includes CAA personnel when they carry out the airworthiness review.

2 Types of Check Flight

Check Flights are required for fundamentally two different purposes.

A Check Flight will often be required as part of a maintenance procedure to diagnose a fault or to ensure a fault has been rectified. Such flights are known as Maintenance Check Flights (MCF). This airborne test may be "prescribed" by a maintenance procedure, or it could be "elective" where an organisation deems it good engineering practice.

Airworthiness Check Flights (ACF) are flights that may be conducted before or after a period of maintenance or at any convenient stage in an aircraft's Airworthiness Certificate revalidation cycle. These flights should be flown to an agreed Check Flight Schedule and, should be conducted by a CAA briefed pilot (see section 6).

3 Airworthiness Check Flight Considerations

3.1 Aircraft Performance: The aircraft's performance must meet the scheduled performance contained within the Aircraft Flight Manual (AFM) or Operations Manual (OM). The performance should not have significantly degraded since the last check flight and any measured degradation should be accounted for. For example one-engine-inoperative climb performance should meet scheduled figures; stall speeds should match published figures; helicopter autorevs should be within limits etc.

3.2 Handling Qualities: The aircraft should handle/fly as intended. Stall characteristics should be benign or normal for the type. The aircraft should fly in balance and within designed trim conditions. In the case of rotorcraft the low speed handling should be benign in addition to that of forward flight, etc.

3.3 Systems: All aircraft systems should be serviceable and fit for purpose or, if permissible, clearly labelled as inoperative. Systems used in the resolution of emergencies should also be functioned, e.g. emergency lowering of undercarriage. Autopilots and Flight Control Systems, particularly on helicopters, should be comprehensively tested to ensure they perform as intended with degraded modes assessed where possible.

4 When Check Flights Should Be Performed

4.1 Prescribed Maintenance Check Flights: A prescribed maintenance check flight should be performed in accordance with recognised rectification/maintenance schedules.

4.2 Elective Maintenance Check Flight: In accordance with best engineering practice and considering:

- Engine(s) including control systems disturbance, overhaul or replacement;
- Propeller(s) including control systems disturbance, overhaul replacement;
- Main and tail Rotor systems disturbance, overhaul replacement;
- Any flying control surface change, repair or re-rig (including trim tabs);
- Accident-related structural repair;
- Undercarriage replacement, repair or re-rig;
- Any pitot-static, Air Data Computer or associated component replacement or repair;
- Alpha probe repair or replacement;

- Any significant Fuel, Electric, Hydraulic or Pneumatic repair or replacement;
- Any Flight Control System disturbance or repair;
- For pressurised aircraft, any pressurisation system component replacement or repair;
- Significant or multiple gyroscopic flight instrument repair or replacement;
- Periods in storage;
- Following dismantling and re-assembly of aircraft.

4.3 Airworthiness Check Flights (ACF):

An aircraft's airworthiness will degrade over time. A number of factors affect the rate of degradation, e.g. flying hours, operating cycles, operating environments, hangarage, operational use etc. It is the responsibility of the pilot-owner, operator, engineer, or approved organisation to determine when an airworthiness check flight is necessary. The responsible person should ensure that valid and consistent decisions regarding the need for a check flight are made and recorded.

Evidence of abuse or neglect should indicate the need for an airworthiness check flight. Equally, usage in a harsh environment may indicate the need to conduct check flights more frequently.

When considering the need for a check flight and, in particular the length of time between check flights, a 1 to 3 year cycle should be considered. The following circumstances are examples of where consideration may be given to extending the period between check flights:

- A low flying rate;

NOTE: Minimal or zero flying would be expected to warrant more frequent check flights.

- Lower than expected number of cycles;
- Fewer operating cycles per flying hour;
- Good hangarage (warm and dry);

NOTE: Aircraft left outside for long periods with minimal flying would be expected to warrant more frequent check flights.

- Gentle operational use with low payloads, reduced power requirements, routine low all-up weight operation etc.;
- Benign operating environment – not sea spray or salt laden air or extremes of hot/cold temperature, precipitation etc.;
- Regular power assurance checks;
- Operated in accordance with a benign spectrum of usage – e.g. long cruise flights rather than regular training sorties including circuits, repeated landings, autorotations, engine relights etc.

A record of all check flights and their results should be kept with the aircraft records, including details of any corrective actions to resolve any defects.

5 Check Flight Schedules (CFS)

Owners, operators, licensed engineers or approved organisations who establish a need to carry out periodic check flights as part of their own airworthiness assurance process, or are required for commercial reasons to do so, should ensure that their

Check Flight Schedules and procedures are developed in accordance with current best practices. They may achieve this by consulting with the aircraft manufacturer or with CAA Airworthiness Team for advice on content and safety procedures. It is important that the content and conduct of check flights is standardised as far as possible. A number of generic CFS are available on the CAA website and there is useful guidance contained in the CAA Check Flight Handbook regarding their content. It is the responsibility of the pilot conducting the check flight to ensure that the CFS is appropriate and correct for the type of aircraft to be flown.

6 Approved Pilots

Although the CAA no longer briefs pilots for conducting check flights, nor maintains a list of briefed pilots, there are a number of pilots who have previously been briefed by the CAA. Pilots who qualified under the briefed pilot scheme may continue to perform check flights. The person/organisation who determined that a check flight is necessary should confirm that the pilot performing the flight is suitably trained and experienced.

Chapter 3 (Eligibility of Pilots to carry out check flights) of the CAA's Check Flight Handbook (CAP 1038) provides detailed guidance regarding the eligibility of pilots to carry out check flights, as well as advice on the check flight process.

Table 1 Applicability of individual Part M, AMC to BCAR A Continued Airworthiness Requirements Chapter A6-1

Where no applicability is stated, it should be assumed that the relevant Part M, AMC applies to those BCAR A paragraphs which state a Part M requirements paragraph number (see Appendix 2 to A6-1).

Part M reference number	BCAR Section A reference number	Subject	Applicable/Not applicable to BCAR A
AMC M.A.201(e)	M.A.201(e) not used in BCAR A6-1	Responsibilities	Not Applicable to BCAR A.
AMC M.A.201(h)	A6-1, paragraph 2.4	Responsibilities	CDCCL concept restricted to a limited number of aircraft.
AMC M.A.201(h)(2)	A6-1, paragraph 2.5a)	Responsibilities	M.A.201/A6-1 2.5a) applies to State aircraft, e.g. Police AOC operations.
AMC M.A.202(a)	A6-1, paragraph 3	Occurrence Reporting	Part M AMC not applicable to BCAR A, see CAP 382 instead.
AMC M.A.304	A6-1 paragraph 7	Data for modifications and repairs	Deviation – approved by the Agency or the CAA. No AMC required.
AMC M.A.305(d)	A6-1, paragraph 8	Aircraft continuing airworthiness records system	Record keeping periods – same as ANO. BCAR A paragraph 8.8.
AMC M.A. 801(f)	A6-1, paragraph 11	Aircraft certificate of release to service	AMC to subparagraph 1(b) is not applicable to BCAR A6-1.
AMC M.A. 802	A6-1, paragraph 12	Component certificate of release to service	UK CAA Approved Certificate or EASA Form 1 may be used.
AMC M.A. 803	A6-1, paragraph 13	Pilot owner authorisation	Not applicable to BCAR A6-1.

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Appendix 2 to A6-1

Table of References

The following table is provided as an aid to the reader. It shows the EASA Annex 1, Part M paragraphs which correspond in terms of their technical content, to the paragraphs of BCAR Chapter A6-1.

Chapter A6-1 Paragraph Number	Subject	Part M Paragraph Number
1	Scope	M.A.101
2	Responsibilities	M.A.201
3	Occurrence Reporting	M.A.202
4	Continuing Airworthiness Tasks	M.A.301
5	Aircraft Maintenance Programme	M.A.302
6	Airworthiness Directives	M.A.303
7	Data for Modifications and Repairs	M.A.304
8	Aircraft Continuing Airworthiness Record System	M.A.305
9	Owner/Operator's technical Log System	M.A.306
10	Transfer of Aircraft Continuing Airworthiness Records	M.A.307
11	Aircraft Certificate of Release to Service	M.A.801
12	Component Certificate of Release to Service	M.A.802
13	Pilot-Owner/Operator Authorisation	M.A.803
14	Duplicate Inspections	M.A.402

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Chapter A6-4 Weight and Balance of Aircraft

1 Introduction

This Chapter A6–4 prescribes the requirements for the weighing of aircraft, the determination of the corresponding centre-of-gravity position and the provision of information from which the loading for flight can be correctly determined.

NOTE: The Operator's responsibilities are prescribed in the Air Navigation Order and the Air Navigation (General) Regulations.

2 Definitions

2.1 **Basic Weight.** Basic Weight is the weight of the aircraft and all its basic equipment, plus that of the declared quantity of unusable fuel and unusable oil. In the case of turbine-engined aircraft and aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, it may also include the weight of usable oil.

2.2 **Basic Equipment.** Basic Equipment is the unconsumable fluids, and the equipment which is common to all roles for which the Operator intends to use the aircraft.

2.3 **Variable Load.** Variable Load is the weight of the crew, of items such as the crew's baggage, removable units, and other equipment the carriage of which depends upon the role for which the Operator intends to use the aircraft for the particular flight.

2.4 **Disposable Load.** Disposable load is the weight of all persons and items of load, including fuel and other consumable fluids, carried in the aircraft, other than the Basic Equipment and variable Load.

NOTE: To obtain the total loaded weight it is necessary to add to the Basic Weight the weights of those Variable and Disposable Load items which are to be carried for the particular role for which the aircraft is to be used.

3 General

3.1 Aircraft shall be weighed when all manufacturing processes have been completed, and in accordance with the procedures in this paragraph 3.

NOTE: The CAA will consider applications from aircraft manufacturers and Operators to weigh certain types of aircraft on a sampling basis (i.e. representative aircraft, as weighed, would be acceptable for others of the same standard).

3.1.1 Aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg shall be re-weighed within two years after the date of manufacture, and subsequent check weighing shall be made at intervals not exceeding five years, and at such times as the CAA may require.

3.1.2 Aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, shall be re-weighed at such times as the CAA may require.

3.2 When an aircraft is weighed, the condition of the aircraft (i.e. the equipment and other items of load such as fluids in tanks) shall be recorded. The equipment installed should not differ from that included in the declared list of Basic Equipment associated with the Weight and Centre-of-Gravity Schedule or the Loading and Distribution Schedule as appropriate.

3.3 The Basic Weight and the corresponding c.g. position shall be determined and entered in the Weight and Centre-of-Gravity Schedule or in the Loading and Distribution Schedule as appropriate.

3.4 The CAA may require that the actual weight of the items of Variable Load be ascertained.

3.5 A Weighing Record containing records of the weighing and the calculations involved shall be made available to the CAA, and such records shall be retained by the Operator. When the aircraft is again weighed the previous Weighing Record shall be retained with the aircraft records.

3.6 Operators shall maintain records of all known weight and c.g. changes which occur after the aircraft has been weighed, and such records shall be retained by the Operator.

4 Weight and Balance Report - Aircraft Exceeding 5700 kg

4.1 A Weight and Balance Report shall be produced for each Prototype, Variant and Series aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg.

5 Weight and Centre-of-Gravity Schedule - Aircraft Exceeding 2730 kg (see A7–10 Appendix No. 1)

A Weight and Centre-of-Gravity Schedule shall be provided for each aircraft the Maximum Total Weight Authorised of which exceeds 2730 kg, except that for an aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg the information contained in Parts B and C of the Schedule may, for a new aircraft, be given as part of the Weight and Balance Report.

6 Weight and Centre-of-Gravity Schedule - Aircraft Not Exceeding 2730 kg (see A7–10 Appendix No. 2)

For aircraft the Maximum Total Weight Authorised of which does not exceed 2730 kg, either a Weight and Centre-of-Gravity Schedule which complies with 5 and shall contain instructions for the determination of the loaded weight, the total moments and resultant c.g positions, or a Loading and Distribution Schedule which complies with Paragraph 3, Chapter A7–10 shall be provided.

Appendix 1 to A6-4 Weight and Balance of Aircraft - Fleet Mean Weight and Fleet Mean Centre-of-Gravity

1 Introduction (see A6–4, 3)

An alternative arrangement to the periodical check weighing of individual aircraft is to establish a Fleet Mean Weight and Fleet Mean Centre-of-Gravity Position, and this method is acceptable to the CAA where an Operator uses three or more aircraft of the same type. Application for acceptance of this arrangement should be made in writing to the CAA Safety Regulation Group, giving a table of aircraft weights which it is intended will form the basis of the Fleet Mean Weight. Where such an arrangement is adopted, the provisions of this Appendix No. 1 will apply.

2 General

The Initial Fleet Mean Weight should be based on the mean of the weights of all the aircraft of the same type in the fleet, and this should be reviewed annually by sample weighing (see 3).

2.1 The Fleet Mean Weight is the greatest of the following weights:

a) The mean Basic Weight of all aircraft of the same type in the fleet.

b) The mean Basic Weight of aircraft of the same type in the most recent sample weighings.

c) The Basic Weight of the heaviest aircraft in the fleet, less 0.5% of the Maximum Landing Weight.

2.2 If a Fleet Mean Weight is used, a weight control system should be established to account for modifications and repairs. Where there is a weight increase greater than 0.2%, the CAA should be informed in order to consider the validity of the established Fleet Mean Weight.

2.3 Where the weight of an aircraft differs significantly from the remainder of the fleet it is acceptable to exclude this from the fleet. Separate fleets may be established each with differing Fleet Mean Weights.

2.4 To establish a Fleet Mean Weight for an existing fleet of aircraft to which will be added other aircraft of the same type, the new Fleet Mean Weight should be based on an up-to-date sample in accordance with the sampling procedures (see 3) drawn in proportion to the relative sizes of the original fleet and the additional aircraft.

3 Periodical Sampling Procedures

3.1 The number of aircraft to be weighed each year is:

Number in Fleet	Number to be Weighed
3	3
4 and 5	4
6 and 7	5
8 to 13	6
14 to 23	7
24 and over	6 plus 10% of the number of aircraft over 9

3.2 The number of samples may be reduced, by prior agreement with the CAA, where it can be shown that the variation in fleet weights is not significant from year to year.

3.3 Periodical sample weighings should be made in accordance with 3.1 from those aircraft in the fleet which show the greatest elapsed time between weighings.

4 Fleet Mean Centre-of-Gravity Position

This should be established by using the same appropriate procedures as for the Fleet Mean Weight, except that an aircraft with a c.g. position greater than 0.5% SMC from the Fleet Mean C.G. Position should not be included in the fleet.

Chapter A6-5 Minimum Equipment Lists

1 Introduction

1.1 Article 16 of the United Kingdom (UK) Air Navigation Order 2000 as amended requires the permission of the Civil Aviation Authority (CAA) to be obtained before an aircraft may be despatched with an unserviceability.

1.2 Information and instructions intended to enable the determination of the measure of unserviceable equipment and systems which may exist at the commencement of a flight while still allowing the safe operation of the affected aircraft shall be provided in the form of a Minimum Equipment List (MEL). (See CAP 360 Part One.) The MEL shall be prepared by the Operator and shall be no less restrictive than the approved MMEL for the same aircraft type (see CAP 549).

1.3 Unless otherwise determined by the CAA the format in which the MEL is to be presented should conform to that prescribed in paragraph 4 of BCAR Chapter A7–6 and Chapter 4, paragraph 7 of CAP 360 Part One.

2 Applicability

See BCAR Chapter A5–7 paragraph 2.

3 Submission of MEL

See CAP 360 Part One Chapter 4, paragraph 7.

4 Charges

CAA charges for the investigation of the MEL will form an integral part of the charges levied for the issue or renewal of the Air Operator's Certificate (AOC).

5 Acceptance of the MEL

Following investigation by the CAA, acceptance of the MEL will be signified to the Operator by means of the issue of the Permission referred to in Article 16 of the UK ANO.

6 Amendment of Minimum Equipment List

6.1 Amendment of the MEL will be required in all cases where the MMEL has been amended such that it becomes more restrictive. In such cases where the Operators MELs are in line with the MMEL they must be amended and re-submitted for acceptance by the CAA within 30 days of the publication of the corresponding amendment to the MMEL.

6.2 The amendment of the MEL to reflect an already approved change to the MMEL which is less restrictive will be at the discretion of the Operator.

7 Reference Documents

Reference to BCAR Chapters A5–7 and **A7–6**, CAP 360 Part One and Part Two, CAP 450 and CAP 549 is recommended.

Chapter A6-6 CAA Airworthiness Directive Implementation Procedure Applicable to Products and Equipment

1 Introduction

1.1 Modifications, inspections and changes to approved documentation considered essential for airworthiness will be classified as mandatory by the CAA in consultation, where appropriate, with the responsible Approved Organisation, and the compliance date, limiting flying hours, cycles, and details relating to the action prescribed, will be decided. In making this decision the degree of urgency and availability of modified parts will be taken into account. In accordance with the Air Navigation Order (ANO) the following are mandatory:

a) Those notified in a CAA Airworthiness Directive http://www.caa.co.uk/ads;

b) Those notified in a CAA Emergency Airworthiness Directive;

c) Those necessary to comply with Generic Requirements.

NOTE: The term 'Mandatory' should only appear in documents promulgated by a Regulatory Authority.

1.2 The CAA will promulgate Airworthiness Directives (ADs) after due consultation with responsible Approved Organisations and as a result of assessment of modifications, inspections and variations indicated below.

1.3 The provisions of the Air Navigation Order (ANO) are such that a Certificate of Airworthiness (CofA) in respect of an aircraft registered in the United Kingdom will cease to be in force until any modification or inspection, being a modification or inspection required by the CAA, is completed. Furthermore, under the provisions of the ANO an aircraft shall not fly unless any conditions subject to which the CofA was issued or rendered valid are complied with. (See BCAR **A5–6** Paragraph 1.)

1.4 A modification, inspection or change to approved documentation required by the CAA, is one which has been classified as mandatory by the CAA. It is, therefore, incumbent on the Operator to ensure that he is aware of the published AD information and the associated Service Bulletins, or equivalent documents, concerning the action to be taken in respect of his aircraft including its engines, propellers, radio, accessories, instruments, equipment and approved documents, and to act accordingly.

1.5 In certain instances, requirements for mandatory modifications, inspections and variations are issued in respect of foreign manufactured engines and equipment fitted to UK constructed aircraft. Likewise requirements for mandatory modifications, inspections and variations are issued in respect of UK manufactured engines and equipment fitted to foreign constructed aircraft on the UK register. Operators are, therefore, reminded that the total requirements for a complete aircraft including its equipment may, in this case, only be ascertained by making reference to the relevant parts of paragraphs 2 and 3 of this Chapter A6–6.

1.6 If, in the course of work connected with matters dealt with in this Chapter, the Operator becomes aware of any potential airworthiness problems they should, without delay, advise the local CAA Regional Office.

2 Products and Equipment where the UK is the State of Design

2.1 The following modifications inspections and variations are classified as mandatory:

a) Those notified in a CAA Airworthiness Directive (AD). Wherever possible, CAA ADs adopt advice promulgated by the product Type Design Organisation, Type Responsibility Agreement holder or equipment Approval holder, through documents such as Service Bulletins and Flight Manual amendments;

b) Those notified in a CAA Emergency Airworthiness Directive (EAD);

c) Those necessary to comply with CAP 747 Generic Requirements of a mandatory character.

2.2 Wherever possible, the criterion for embodiment or compliance is fixed to coincide with periodical inspections or overhauls so that the Operator has a reasonable amount of time for carrying out the work. In addition, consideration is given to the possibility of a special inspection procedure as, at least, a temporary alternative to the embodiment of a modification. Operators and their contracted maintenance organisations are expected, when necessary, to make priority arrangements to achieve compliance within the period specified.

2.3 The CAA will publish any associated ADs and advise the Responsible Authority of all ICAO Contracting States. The method of notification will be via website amendments and upon subscription, by email, via the CAA Publication Notification Service.

NOTE: All ICAO Contracting States have been advised of the changes to the notification process.

2.4 In addition to the notification by the CAA, all modifications, inspections or variations, which become the subject of an AD, will be made available by the product Type Design Organisation or equipment Approval holder, as a Service Bulletin or Flight Manual amendment etc., to all known Operators of the aircraft and to all Airworthiness Authorities to whom those Operators are responsible.

NOTES: 1 In view of the notification procedure described in paragraphs 2.3 and 2.4, Operators and organisations undertaking maintenance or overhaul of aircraft have a duty to ensure that their names and addresses are known to the product Type Design Organisation or equipment Approval holder of the aircraft for which they are responsible.

2 The Airworthiness Directive shall refer to the specific issue number of the Service Bulletin or equivalent document.

2.5 Information on mandatory modifications, inspections and variations applicable to UK products is summarised in the publication.

3 CAA Airworthiness Directives (AD) where the UK is not the State of Design.

3.1 The CAA may vary the content or application of a foreign AD, in which case details will be promulgated in a CAA AD or if necessary, by a CAA Emergency Airworthiness Directive (EAD).

3.2 In addition to the purpose described in paragraph 3.1, CAA ADs are also used to notify mandatory modifications, inspections and variations additional to those notified by the Responsible Authority of the Country of Origin.

3.3 The investigation to establish the need for a CAA Additional AD is carried out by the CAA in close cooperation with the Operators of the type. Except where urgency is involved which merits the immediate issue of a CAA EAD, Operators, the Type Design Organisation and the Responsible Authority of the State of Design will be formally notified of the intention to issue a CAA AD, and a period of up to 31 days will be allowed for them to comment.

NOTES: 1 It is important that Operators of foreign products on the UK register arrange to monitor the EASA AD website and non-EU State of Design websites so that any requirements additional to the previous issue can be complied with.

2 Foreign Airworthiness Directives usually refer to bulletins, etc. generated by the responsible Type Design Organisation, therefore owners, Operators and organisations undertaking maintenance or overhaul of aircraft should ensure that their names and addresses are known to the Type Design Organisation of the aircraft for which they are responsible.

3.4 The CAA will publish any associated AD in CAP 747 and on the CAA website. Notification shall also be by email, upon subscription, via the CAA Publications Notification Service.

4 Airworthiness Directive (AD) Compliance

4.1 AD compliance shall be accomplished under the control of an appropriately approved organisation or an appropriately licensed aircraft maintenance engineer.

4.2 Where an AD introduces a Variation to an aircraft Flight Manual or Performance Schedule, the introduction of the Variation into the appropriate document shall be undertaken by the Operator responsible for the aircraft. A copy of the AD shall be attached to the Flight Manual or Performance Schedule to denote compliance in addition to any revisions produced by the Type Design Organisation which are complementary to the AD.

4.3 In addition to introducing a copy of the Directive into the appropriate document, an entry shall be made in the Aircraft records, where appropriate, or the Aircraft Airframe Log Book, identifying the AD, and these shall be certified by the Operator or a pilot authorised by the Operator, in the manner prescribed in the AD.

4.4 Full particulars of the work done to comply with the AD shall be entered in the appropriate log book. A Certificate of Release to Service shall be completed, where appropriate.

NOTE: The Air Navigation Order (ANO) requires that log books, and other documents which are identified and referred to in the log books (therefore forming part of the log books) shall be preserved until a date two years after the aircraft, the engine or the variable pitch propeller, as the case may be, has been destroyed, or permanently withdrawn from use.

4.5 If requested and appropriately substantiated, the CAA can approve Alternative Methods of Compliance with the AD.

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Chapter A6-8 Flight Testing after Modification or Repair

1 General

1.1 The flight testing of aircraft shall comply with the procedures set out in this Chapter A6–8, as follows:

a) Modifications to aircraft and variants of United Kingdom construction under investigation for the issue of a Certificate of Airworthiness or a Permit to Fly.

b) Aircraft which have undergone structural repairs which could affect their flight characteristics.

NOTE: Owners are required to arrange adequate insurance to cover damage to the aircraft and to third parties (see CAP 562 Leaflet B-70).

1.2 In order that the CAA may accept reports on flight test matters, the qualifications and experience of personnel involved in flight testing under the provisions of this Chapter shall be acceptable to the CAA. Flight test personnel shall be provided with adequate facilities and equipment for the effective performance of their duties.

NOTE: Organisations approved in accordance with A8–9 to fly aircraft under 'B' Conditions of the Air Navigation Order comply with this requirement.

2 Modifications and Repairs to Aircraft and Variants

2.1 The requirements and procedures of this paragraph 2 are applicable:

a) in respect of modifications to aircraft;

b) in respect of repairs to aircraft.

2.2 If in the opinion of the CAA, the design of an aircraft is so modified as to affect the flight characteristics or the functioning in flight of the aircraft, the CAA may decide that a flight test evaluation is required; in which case the procedures of A2-3 shall be followed, except where any part is clearly inapplicable. The schedule of flight testing shall include:

a) the flight tests necessary to re-establish compliance with the appropriate airworthiness requirements;

b) the flight tests necessary to provide new or revised information for inclusion in the documents associated with the Certificate of Airworthiness (or Permit to Fly);

c) flight tests as contained in the approved Airworthiness Check Flight Schedule for an aircraft of the basic type concerned (A3–3) except where these tests are covered by the tests referred to in a) and b).

2.3 Where no specific flight test evaluation is required, the aircraft shall be flight tested as a Series aircraft in accordance with A3–3.

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Sub-section A7
Procedures for the Approval of Documents and Manual for Operation and Maintenance of Aircraft

Chapter A7-2 Flight Manuals

1 Introduction

1.1 A Flight Manual is a document prescribed by the International Civil Aviation Organisation and is intended primarily for use by the flight crew. The Manual contains limitations, recommended procedures and information of a nature such that adherence to it will enable the level of safety which is intended by the Airworthiness Requirements and the Air Navigation legislation to be regularly achieved. The Flight Manual, by definition in the Air Navigation Order, forms part of the Certificate of Airworthiness.

NOTES: (1) The requirements of this Chapter do not apply to aircraft of which the prototype was certified before 5th April, 1949.

(2) In this Chapter A7–2, the term 'Flight Manual' includes any documents accepted in place of a Flight Manual.

1.2 Flight Manuals and amendments thereto shall be approved, amended, and published in accordance with the procedures set out in this Chapter A7–2.

2 Aircraft Designed and Constructed in the United Kingdom

2.1 **Applicability.** The requirements and procedures of this paragraph 2 are applicable to each Prototype, Variant or Series aircraft designed and constructed in the United Kingdom by an Organisation approved by the CAA, for which an application is made for a Certificate of Airworthiness (but see 2.1.1).

2.1.1 Unless specifically notified by the CAA, the requirements are not applicable to amateur-built aeroplanes and helicopters and non-commercial gliders.

2.2 **General.** The requirements of this paragraph 2.2 are applicable to all Flight Manuals.

2.2.1 All Flight Manuals shall be identified by a unique document reference number.

2.2.2 Flight Manuals and all amendments thereto shall be subject to approval by the CAA.

2.2.3 Submissions for the initial issue or amendment of a Flight Manual shall be provided only through the medium of an Organisation approved by the CAA, although the CAA may also amend Flight Manuals when necessary.

NOTE: Where the amendment involves the copying, by agreement, of a previously approved amendment or alterations to reflect changes of relatively small significance, material may be accepted from suitable Organisations not formally approved by the CAA.

2.2.4 The Applicant for the Type Certificate or Certificate of Airworthiness, as appropriate, for the Prototype or Variant, shall prepare and submit for approval such material as is necessary to keep the Flight Manual up to date until all aircraft of the type have been permanently withdrawn from service.

a) Amendments affecting the Flight Manuals of all aircraft of the type shall be prepared and submitted only by the responsible Type Design Organisation or by the CAA. Such amendments shall, when published, take the form of replacement or additional pages.

b) Amendments affecting the Flight Manuals of specific aircraft may be prepared either by the responsible Type Design Organisation, by another Approved Organisation, or by the CAA. Where prepared other than by the Type Design Organisation, such amendments shall, when published, take the form of Change Sheets or Supplements.

NOTES: (1) Amendments may arise for various reasons, e.g. from a modification to the aircraft, from the need to prevent a deterioration of the level of airworthiness, from a proposal made by the Applicant.

(2) Unless otherwise agreed, any proposed amendment to a Flight Manual will be processed in accordance with the requirements of A2–5.

2.2.5 Where the aircraft is to be exported to a State which, as a condition of Type Certification, requires the Flight Manual to conform to requirements which differ from the appropriate United Kingdom requirements, the CAA shall be informed at least eight weeks before the intended date of certification. The Flight Manual material which is submitted for approval shall then comply with the requirements specified by the Responsible Authority of the State to which the aircraft is to be exported.

2.2.6 With effect from 1st December, 1980, the appropriate Type Design Organisation shall be required to make his own arrangements to publish the Flight Manual and subsequent amendments thereto, and the requirements of 2.4 shall apply. Where the Flight Manual was originally published by the CAA and there is no longer a Type Design Organisation (see A5–1, paragraphs 4 & 5) for the aircraft type, the CAA may be prepared to produce and publish amendments thereto; in which case the requirements of 2.3 shall apply.

2.3 **Flight Manuals Published by the CAA.** Where the Flight Manual was originally published by the CAA, in addition to compliance with 2.2 compliance shall also be shown with this paragraph 2.3.

2.3.1 **Approval and Publication of Amendments.** The procedure for amendment of Flight Manuals which have been published by the CAA shall be in accordance with the following:

a) For mandatory amendments required for safety reasons the information will be promulgated as an Airworthiness Directive.

b) For other amendments, submissions shall be provided only through the medium of an organistion approved by the CAA and in accordance with paragraph 2.4.3.

c) The Operator shall in accordance with the instructions provided, embody the amendments. The Operator shall make available to the CAA, when so required, the relevant records and each pertinent Flight Manual.

2.3.2 **Series Aircraft.** At least three weeks before the date on which certification of a Series aircraft is desired, the Applicant shall send a statement to the CAA indicating any differences between the relevant aircraft and others of the same type previously certificated. On the basis of this information the CAA will prepare an approved Flight Manual which will be issued to the Applicant with the Certificate of Airworthiness. When any new amendment is required to cover indicated differences, the procedure in 2.3.1 b) will be applied.

2.4 **Flight Manuals Published by the Applicant.** Where the Applicant has made his own arrangements to publish the Flight Manual, in addition to compliance with 2.2 compliance shall also be shown with this paragraph 2.4.

2.4.1 **General.** The CAA will, after taking account of the size and complexity of the aircraft, advise the Applicant of the CAA timetable for approving the Flight Manual.

2.4.2 **Approval and Publication of Initial Manual**

a) The material for the Flight Manual shall be produced in accordance with the appropriate requirements. For aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, the requirements may be met by including the material in a manual of another kind; in which case the Flight Manual material shall be clearly identified and segregated.

b) A minimum of three paper copies or an electronic submission of the draft Flight Manual shall be sent to the CAA for examination and approval. The CAA may, after taking account of the complexity of the aircraft and in order to meet the agreed timetable, request additional draft paper copies.

c) The Applicant shall incorporate any alterations which the CAA may require.

d) When the material for the Flight Manual has been approved by the CAA, one copy, in the final form shall be sent to the CAA unless arrangements have been made with CAA for online access to the Flight Manual.

2.4.3 **Approval and Publication of Amendments.** The procedure for amendment of Flight Manuals which have been published in accordance with 2.4.2 shall be in accordance with this paragraph 2.4.3.

a) The Applicant shall produce such amendment material as is necessary to maintain compliance with 2.2.4, in accordance with 2.2.4 a) or b), as appropriate, and shall indicate to which aircraft the proposed amendments are applicable.

b) A minimum of three paper copies or an electronic submission of the proposed amendments shall be sent to the CAA for approval at least three weeks in advance of the desired date for publication. The CAA may, after taking account of the complexity of the amendment and in order to meet the agreed timetable, request additional draft paper copies.

c) The Applicant shall make any alterations which the CAA may consider necessary at this stage.

d) When any alterations to the proposed amendments have been approved by the CAA, one copy of the amendments to be made to the Flight Manual of each particular aircraft, together with embodiment instructions, shall be sent to the owner or Operator of each aircraft affected, and the CAA shall be informed when this has been done.

e) One copy of the approved amendment shall be supplied to the CAA for retention. This may be in electronic format.

f) The Operator shall, in accordance with the instructions provided, incorporate the amendments.

NOTE: Where an amendment is required to be embodied for safety reasons, or for other reasons of extreme urgency, the CAA may classify any Advanced Amendment Bulletin or equivalent document as a Variation to the Flight Manual and promulgate it as an Airworthiness Directive. For the purposes of this Note, see BCAR A5–6 and A6–6.

2.4.4 **Series Aircraft**. If the Flight Manual contains any material or amendment which has not previously been approved by the CAA, the procedures of 2.4.3 shall be followed. When the Flight Manual has been found satisfactory, it will be validated by the CAA.

3 Certificate of Airworthiness Renewal

3.1 In respect of an aircraft which, before renewal of the Certificate of Airworthiness, has been registered in a foreign State and is to be registered in the United Kingdom, it may be necessary to obtain a new Flight Manual, to a standard acceptable for the type, in accordance with 2.4.

Chapter A7-3 Crew Manuals

1 Introduction

Information and instructions necessary to enable the crew to acquire an understanding of the aircraft essential for its safe operation, shall be provided by the Type Design Organisation of a public transport aircraft to be granted a United Kingdom Certificate of Airworthiness. The information and instructions may form part of the Operations Manual, or may be produced as a separate document, which shall be entitled 'Crew Manual'.

NOTE: In this Chapter the word 'Manual' is used to indicate 'Crew Manual', or the information and instructions to the crew which may be part of the Operations Manual.

1.1 The Manual must be available for issue to a standard of completion acceptable to the CAA at the time of issue of the Certificate of Airworthiness, unless otherwise agreed by the CAA.

2 General

2.1 Except as otherwise agreed by the CAA the Manual shall be certified and published under the authority of the Organisation approved for design of the aircraft. The CAA reserves the right to investigate the contents of the certified Manual and to require the embodiment of any revision or amendment which it considers necessary to satisfy the requirements.

2.2 The Manual, when published by an approved Organisation, must bear a statement that it complies with this Chapter. Two copies of the certified manual must be given to the CAA.

2.3 The certification, and the NOTE associated with the certification, must appear on the title page of each Manual. The certification and the NOTE shall be worded as follows:

STATEMENT OF INITIAL CERTIFICATION

This Manual complies with British Civil Airworthiness Requirements, Section A, Chapter A7–3

Signed .....

Date .....

CAA Approval No. .....

NOTE: The above certification does not apply to revisions or amendments made after the date of initial certification, by other approved Organisations. Revisions or amendments made by other approved Organisations must each be separately certified and recorded on separate record sheets.

2.4 The aircraft Type Design Organisation shall obtain from the manufacturers of engines, auxiliary power units, propellers, radio and radar apparatus, and from the manufacturers of products which are approved under either the Accessory Procedure or the Component Procedure prescribed in Chapter A4–8, such certified information relating to their products necessary for the completion of the manual. Should the aircraft Type Design Organisation wish to depart from the information supplied, the agreement of the

original manufacturer shall be sought. The CAA shall be informed of disagreement and will adjudicate where necessary.

2.5 The Manual shall be adequately illustrated and include such instructions and information considered necessary to meet the requirements of this Chapter. Manuals complying with the applicable recommendations in paragraph 3 would fulfil the requirements.

2.6 The manual shall contain those parts specified under paragraph 3.15, headed 'Flight Planning Data', which are not part of the Flight Manual.

2.7 Any other instructions and information may be omitted from the manual only if the Flight Manual contains all (not parts) of the information specified under any item of a subject. In the event of any such omissions appropriate cross-references must be made to the Flight Manual.

2.8 The instructions and information in the Manual must be presented in a manner suitable for use by the crew, giving sufficient detail for a proper understanding of each subject, and shall be consistent with the Flight Manual, with particular emphasis on the instruments and controls in the flight crew compartment. The Manual should not contain superfluous matter regarding engineering and construction. The advice of the CAA should be sought in cases of doubt.

2.9 A Manual must be marked 'Provisional' on the page and in the position normally occupied by the 'Statement of Initial Certification' if it is published in parts before completion, or before the aircraft is certified and the Flight Manual is issued.

3 Format

Some, possibly all, of the contents of the Crew Manual will be repeated in an Operations Manual. There are obvious advantages, therefore, in producing the Crew Manual in a format that will permit the contents to be incorporated in an Operations Manual without being changed or rewritten. The CAA has published a document, CAP 450, 'Specifications for Operations Manuals' giving guidelines on the preparation of these Manuals. It is recommended that this document be studied before the Crew Manual is prepared and that it is produced in conformity with those guidelines.

The following information is for guidance in compiling a manual to comply with the requirements of this Chapter A7–3.

3.1 **Title page.** The 'Statement of Initial Certification' in accordance with paragraph 2.2.

3.2 **Notes to Readers.** The conventions used in the Manual (e.g. where words are in capital letters this indicates a placarded marking in the aircraft, similarly statements that all speeds given are 'indicated airspeeds') scope and purpose of the manual and list of contents.

3.3 **Index of Amendments (Permanant) Issued by Type Design Organisation**

3.4 **Index of Amendments (Temporary) Issued by Type Design Organisation**

3.5 **Index of Amendments (Permanant) Issued by Operator**

3.6 **Index of Amendments (Temporary) Issued by Operator**

3.7 **List of Associated Publications**

3.8 **Introduction.** A brief introduction to the aircraft, its structure, systems, equipment and roles, including a three-view general arrangement drawing giving dimensions and such illustrations as may be necessary to cover panel coding, bulkhead numbering and nomenclature.

3.9 **Flight Crew Compartment.** Lay-out, crew stations, controls, equipment, instruments and lights with appropriate illustrations.

3.10 **Systems and Equipment.** As appropriate: air conditioning; auto-pilot; flight systems; communications; electrical power distribution; fire protection systems including warning and extinguishing devices; flight control; fuel; hydraulic power; ice and rain protection; landing gear; navigation equipment including radio aids; instruments and radar; oxygen system including portable sets; pitot static system; fatigue meters; ice-detection, etc.; powerplant; auxiliary power units; starter pods; oil systems; emergency and survival equipment with locations and working instructions; cabin accommodation; galleys; warning lights; all of which should be covered in the following way:

a) Description, consisting of location of main components in diagram or table form; technical description of the system or installation; system and component functioning; controls, indicators and instruments, and power (electric, hydraulic and/or pneumatic) supplies in diagrams or table form (structural information should be given only where necessary for clarity).

b) Management, consisting of normal conditions before flight, in flight and after flight, and abnormal conditions (i.e. malfunctioning and abnormal external conditions which do not constitute an emergency (see paragraph 3.13)).

c) Ground Servicing, consisting of items of system ground servicing that the crew may be required to supervise or carry out in the event of a stop where full servicing facilities are not available; location of system ground servicing points in diagram form, and system replenishing and off-loading.

3.11 **Limitations.** As prescribed in the Flight Manual.

3.12 **Handling Procedures.** General handling techniques applicable to all procedures; departure, starting, taxying and take-off; flight handling, normal climb and cruise and flight in adverse weather, arrival, descent, field approach and landing; abnormal conditions, feathering, unfeathering, re-lighting, assymetric flight, auto-rotation, etc., crew training, procedures outside normal operation but necessary for crew training; and ground handling, ground running and testing, ground manoeuvring, parking and mooring.

NOTE: Standard procedures, such as holding patterns and VOR procedures, which are considered to be part of basic piloting knowledge, may be omitted, except for those items of equipment which introduce new concepts.

3.13 **Emergencies.** Essential operating procedures for emergency conditions (but excluding abnormal conditions (see paragraph 3.12)). An emergency in this context is defined as a foreseeable but unusual situation in which immediate and precise action will substantially reduce the risk of a catastrophe; those steps in which immediate action is essential to safety shall be distinguished from the steps which are taken subsequently.

3.14 **Check Lists.** Crew check lists with transit checks where applicable.

3.15 **Flight Planning Data.** Example calculations and flight plans, performance, fuel and oil consumption, etc.

3.16 **Loading and CG Data.** Definitions, data, example calculations and typical loading examples and instructions for using the Weight and Centre-of-Gravity Schedule (Chapter **A7–10**) for all reasonable combinations of loading. In the case of aircraft in which provision is made for the carriage of freight, floor loading limitations and adequate information to enable the Operator to position and secure freight.

4 Review and Amendment of Manuals

4.1 The aircraft Type Design Organisation shall review certified Manuals at periods not exceeding six months and where changes have been made by them, permanent revisions or amendments shall be published.

4.1.1 The certification of permanent revisions or amendments shall be as follows:

This permanent revision/amendment complies with British Civil Airworthiness Requirements, Section A, Chapter A7–3

Signed .....

Date .....

CAA Approval No. .....

Two copies of each revision or amendment shall be forwarded to the CAA.

4.2 Essential information, which has to be issued in the shortest possible time, may be published by a serialised system of temporary revisions or amendments which shall be certified and printed on pages readily distinguishable from ordinary pages, and subsequently embodied in the permanent revision or amendment procedure.

4.2.1 The certification of temporary revisions or amendments shall be as follows:

This temporary revision/amendment complies with British Civil Airworthiness Requirements, Section A, Chapter A7–3

Signed .....

Date .....

CAA Approval No. .....

4.3 The details of the system and the manner in which amendments are to be incorporated and recorded shall be adequately explained.

4.4 Permanent revisions or amendments or temporary revisions or amendments shall be distributed by the Type Design Organisation to holders of the Manual, together with the necessary instructions for embodiment and recording in the Manual. Each Manual shall contain a statement which will indicate that the changing of data by uncertified revisions or amendments or temporary revisions invalidates the initial certification of the manual relative to the part revised. The statement shall appear on the revision or amendment sheet in the following form:

The introduction of data by revision or amendments or temporary revisions or amendments not certified in accordance with British Civil Airworthiness Requirements, Section A, Chapter A7–3 will invalidate the initial certification on the title page of the manual relative to the part revised. Revisions or amendments, or temporary revisions or amendments embodied in this manual which have been certified by an appropriately Approved Organisation, other than that applicable to the initial certification, must be recorded on separate record sheets.

4.5 Operators with appropriate approval may amend Manuals without reference to the Type Design Organisation, provided that the technical substance of the change is within the terms of their approval. In this case the Operator shall proceed as follows:

a) Prepare a temporary or permanent revision or amendment in compliance with this Chapter;

b) Provide the CAA with a copy;

c) Incorporate the revision or amendment in the manuals and record the embodiment in a revision or amendment record, which is separate from that provided by the Type Design Organisation.

NOTE: Where Operators wish to amend manuals, co-operation with the Type Design Organisation is recommended. This also applies where amendments to manuals are necessary due to the incorporation of Minor Modifications under the Form AD 261 procedure (see Chapter A2–5).

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Chapter A7-4 Maintenance, Overhaul and Repair Manuals

Introduction

Manuals containing information and recommendations necessary for the maintenance, overhaul and repair of aircraft, including engines and auxiliary power units, propellers, components, accessories, equipment, instruments, electrical and radio apparatus and their associated systems, and radio station fixed fittings, shall be provided by the manufacturer as required by Chapter A5–3. This Chapter A7–4 is to provide guidance in the compilation of such Manuals.

1 Aircraft Maintenance Manual

This should include the information described in paragraphs 1.1 to 1.11.

1.1 **Introduction.** A brief survey of the aircraft features and data of general interest.

1.2 **Description.** The construction of the aircraft including its control surfaces, landing gear, flying control systems and all other systems, e.g. hydraulic, pneumatic, vacuum and de-icing; all installations, e.g. engine, auxiliary power unit, propeller, instrument, electrical, and radio station fixed fittings and all equipment installations, e.g. lifebelts, dinghies, fire detection and prevention. Where necessary, the purpose of individual parts should be described.

1.3 **Operation.** The method whereby the components, systems and installations achieve their designed purpose.

1.4 **Control.** The method of operating the components, systems and installations together with any special procedures and limitations.

1.5 **Servicing.** Details regarding servicing points, capacities of tanks, reservoirs, etc., types of fluid to be used, with details of any anti-corrosive measures to be taken, pressures applicable to the various systems, position of access or inspection panels, walkways and drain locations, lubrication points and the lubricants to be used. Details of servicing equipment, ground handling details such as taxying, towing, parking, mooring, jacking and levelling, and loading data including loading limitations. Details of ground de-icing fluids and other fluids where contamination could cause a dangerous deterioration in airworthiness.

NOTE: Suitable de-icing and cleaning fluids which are approved for use by the aircraft manufacturer may be listed, together with information concerning the means to counteract any detrimental action which might result from their use.

1.5.1 Procedures for the ground de-icing and anti-icing of aircraft should be included in the Maintenance Manual or in a separate document referred to in the Maintenance Manual.

1.6 **Maintenance**

1.6.1 **Schedule.** The recommended periods at which each part of the aircraft, engine, auxiliary power units, propellers, the accessories, instruments and equipment, should be cleaned, inspected, adjusted, tested and lubricated, and the degree of inspection recommended at the periods quoted. The recommended periods at which components and accessories should be overhauled, the Mandatory Life Limitations identified in Chapter A5–3, paragraph 4.1, and a cross-reference to the section of the Overhaul Manual which lists the Mandatory Life Limitations of engine or propeller parts. A procedure for converting flying hours or landings, as applicable, into life units (e.g.

cycles) together with the assumptions made with regard to the 'typical cycle' on which the lives are based.

1.6.2 **Procedures.** The methods to be used for implementing the recommended schedule, e.g. methods of access to specified parts, methods of inspection, including those of carrying out duplicate inspections of vital points control systems (see Chapter A5–3).

1.6.3 **Faults and Rectification.** The faults which may arise during service or those which may be found as a result of inspection, together with suggested causes and recommended methods of rectification.

1.6.4 **Adjustments and Testing.** The methods of completing the adjustments or tests which may be required during service or to correct faults, e.g. control movements with permissible tolerances.

1.7 **Removal and Assembly.** The order and method of removing and refitting components and accessories, together with details of any special precautions to be observed.

1.8 **Line Repairs.** Repairs of a temporary or minor nature which, in the opinion of the manufacturer, could be applied to the aircraft whilst remote from suitable facilities.

1.9 **General Procedures.** The method of applying general procedures such as system testing during ground running, checks after a heavy landing, change of role, symmetry checks, weighing and determination of centre-of-gravity and salvage considerations, such as lifting and shoring.

1.10 Details of crating and unpacking of components, as considered necessary; conditions of storage, with recommended limiting periods, and component dimensions and weights.

1.11 **Compliance.** The manner of complying with the above should be such that it is primarily directed to those persons who will be responsible for maintaining a complete aircraft in a state of airworthiness.

NOTE: The aircraft Maintenance Manual should not contain data relating to the complete overhaul of a component.

2 Aircraft Overhaul Manual

This should include the information described in paragraphs 2.1 to 2.5.

2.1 **Aircraft Structures and Control Surfaces.** The extent of overhaul data for structures including control surfaces should be such as to ensure that owners and Operators are made aware at an early stage of the recommended standard of overhaul required initially to ensure the continued airworthiness of the structures including control surfaces over a stated period of hours flying and/or elapsed calendar time, or at the termination of a specified number of flights and/or landings. Subsequent amendments should be made as necessary to acquaint owners and Operators of the latest findings or experience so that the manual reflects current knowledge of the aircraft thereby enabling increases or decreases, as appropriate, to be made in the recommended periods.

2.2 **Integrity of Structures.** Information, as detailed below, should be provided initially for the main aircraft structures.

2.2.1 Illustrations which show clearly the construction of the structures, with descriptive text to clarify the illustrations and draw attention to those parts which require detailed attention during overhaul.

2.2.2 Diagrams showing those parts of the structure to which access cannot be gained through the normal inspection doors and panels, the diagrams being supplemented by a table defining the limits of inaccessibility.

2.2.3 Diagrams showing structures classified as primary and secondary.

2.2.4 Table showing the recommended limiting periods at which designated parts of the structure should be overhauled in compliance with the standards given in the following paragraphs.

2.2.5 Information giving the methods and the extent of dismantling necessary to gain access to normally inaccessible structure, e.g. whether by removal of skin, by provision of additional panels, removal of fuel tanks, etc., and detailing any special opportunities of gaining access to normally inaccessible structure, e.g. during any component change programme.

2.2.6 A tabulated schedule of overhaul, relating to paragraphs 2.2.2 and 2.2.4, which defines the overhaul work and inspections and tests necessary after the normally inaccessible structure has been reached, and the method of implementing the schedule.

2.2.7 Details on the application of special inspection techniques, e.g. radiographic and ultrasonic testing, with a proven technique of examination where such processes are required. The limitations of such processes and limits of their applicability should be clearly defined. Any special techniques necessary for proving the serviceability of castings, forgings, tubular members, etc., should be given.

2.2.8 Details of the protective treatment to be used to restore the original standard of protection, the final inspection of the structure or control surfaces, and the methods of closing structure which has been opened.

2.2.9 Details regarding the correlation of the bolt/joint overhaul programme (see paragraph 2.3.1) with the prescribed sampling programme, and the necessity to overhaul accessories and equipment in normally inaccessible structure at the structure overhaul periods.

2.3 Integrity of Attachments and Joint Assemblies

2.3.1 Diagrams showing the positions of bolt and stud holes in spar booms and other primary structure, and in such secondary structure where, if failure occurs the associated primary structure may be affected. The diagrams should be annotated or marked to show the bolt or stud holes which are accessible and those normally inaccessible; the size of the holes and whether bushed; the materials forming the mating surfaces; fits and clearances and dimensional limits and a reference to identify the holes.

2.3.2 Using the reference identifying the holes, tables giving the total number of holes, recommended number of bolts or studs to be withdrawn from each group for Operators having fleets of 2, 5, 10 and 20 aircraft, recommended number of bushes to be withdrawn, and recommended number of hours flying, flights, landings and/or the elapsed time at which bolts, studs or bushes should be withdrawn, having regard to the possibility of fatigue, fretting and corrosion.

NOTE: Where an arrangement has been made between Operators by the manufacturers for a shared programme of bolt and hole sampling, it is recommended that details of the programme be provided in Service Bulletins, etc.

2.3.3 Details of the methods and extent of dismantling necessary to gain access to the nominated bolts or studs where this differs from paragraph 2.2.5.

2.3.4 Details of the precautions necessary during the removal of bolts or studs, special tools or equipment necessary, the recommended inspection and crack detection procedure, e.g. penetrant or fluorescent dyes, special optical instruments, etc., salvage methods

and limitations, schedule of oversize bolts, studs, and bushes available, protective treatment, methods of re-assembly and locking, including torque loading data, and details of recording schemes to identify the bolts, studs or holes examined.

2.4 **Mandatory Life Limitations.** A Schedule detailing those parts of the aircraft and the aircraft structure which are to be replaced by new parts and the mandatory periods of renewal.

2.5 **Aircraft Systems.** Details of recommended overhaul practices of aircraft systems such as flying controls, hydraulic and electrical installations.

3 Aircraft Repair Manual

3.1 This Manual should be confined to a description of the repairs applicable to the aircraft structure and components, and to those parts of the systems and installations which are the design responsibility of the aircraft manufacturer, and should include the information described in paragraphs 3.2 to 3.11.

3.2 **Introduction.** General notes on the contents and usage of the manual.

3.3 **General Information.** Details of recommended repair procedures and practices which have a general application, with diagrams showing:

a) Structures classified as primary and secondary with areas or parts where repairs are not permissible clearly defined;

b) The construction of main structures and components with station positions which define the extent of skin panels, and the construction of primary longitudinals, frames, stringers and ribs, with details of the dimensions and materials used;

c) Tables of standard and special extruded sections with, where applicable, approved alternatives;

d) Tables of fasteners for each part of the structure, with information on the areas where oversize fasteners may be used.

3.3.1 Details of process specifications, heat treatment procedures, protective treatment requirements, precautions necessary during repairs, e.g. damage by drilling into hidden structures and building in assembly stresses, details of special processes such as metal-to-metal bonding, welding, sealing of pressurised structures, etc.

3.4 **Preparation for Repair.** Details of, for example, the inspection necessary before repair, damage assessment standards, methods of supporting the structure, alignment and geometry checks, material allowance for dressing of damage, and limits of wear.

3.5 **Tools and Equipment.** A list of tools and equipment necessary for applying repairs, with details of their purpose and method of use.

3.6 **Temporary Repairs.** Details of repairs of a temporary nature which would permit the aircraft to return to base for a permanent repair.

3.7 **Standard Repairs.** Details of repairs which can, within defined limits, be applied as applicable, to various structures, systems and installations.

3.8 **Minor Repairs.** Details of permanent repairs which apply only to specified parts of the structure or particular components. Each part of the aircraft structure, its systems and installations should be considered, the sub-divisions of this section following the same sequence as that used in the Maintenance Manual. Only minor repairs, which do not require extensive dismantling or the use of special jigs or equipment, should be included.

3.9 **Major Repairs.** Details of permanent repairs which would normally only be completed at the main base, e.g. those which would require the use of special jigs and equipment.

3.10 **Checking and Testing after Repair.** Details of those checks or tests necessary after repair, e.g. structure alignment checks, adjustment of control surface balance and fuselage pressure testing.

3.11 **General.** The repair schemes specified in paragraphs 3.6 to 3.9 should, as far as possible, be diagrammatically presented with the text adjacent, giving details of negligible damage, the limits of repairable damage, the applicability of the particular repair and the procedure involved in its embodiment.

4 Engine and Auxiliary Power Unit Manuals

Engine and Auxiliary Power Unit Manuals should contain the following descriptive, servicing, maintenance and overhaul data relating to the engine, and similar data relating to those components and accessories either on the engine or in the power unit, in respect of which an application for design approval has been made by the engine manufacturer. Such data should conform to the recommendations of paragraph 6.

4.1 Engine and Auxiliary Power Unit Maintenance Manuals

4.1.1 **Introduction.** A brief description of the engine and engine systems.

4.1.2 **Description.** A detailed description of the construction of the engine, including the systems and, where necessary, the purpose of the individual parts. For modular engines, details of the division of the engine into modules (see CS–E Section C, Chapter **C1–2** for definition) giving the nomenclature and clearly defining the boundaries for each module.

4.1.3 **Operation.** The method whereby the components, systems and installations achieve their design purpose.

4.1.4 **Installation.** Methods of uncrating, acceptance checking, de-inhibiting, lifting, and installing an engine into a power unit, the method of attaching accessories to an engine or power unit, and the checks necessary after such installation.

4.1.5 **Control.** Methods of starting, running, testing and stopping the engine and its components, systems and installations, with any special procedures and limitations.

4.1.6 **Servicing.** Details regarding servicing procedures, capacities of tanks, reservoirs, etc., types of fluid to be used, and the draining of collector tanks.

4.1.7 **Maintenance**

a) **Schedule and Procedures.** Compliance with the recommendations in paragraphs 1.6.1 and 1.6.2.

b) **Faults and Rectification.** Compliance with the recommendations in paragraph 1.6.3, together with inspections necessary after abnormal circumstances, such as shock loading, sudden stoppage, excessive out of balance, fire, over-speed, over-temperature, or any other excursions outside approved limitations.

c) **Adjustments, Component Removals and Testing.** The method of completing those adjustments, tests or removal of components, e.g. cylinders or combustion chambers, which may be required during service or to correct faults.

d) **Modular Engines.** In respect of modular engines, in addition to a), b) and c):

i) In carrying out a module change, the means of checking the serviceability of the other modules fitted to the engine (e.g. establishing that they have not been adversely affected by blade damage, oil contamination, internal air system contamination);

ii) The compatible modification standards for the interchange of modules;

iii) Details of the methods, tests and equipment by means of which adequate engine performance, functioning and mechanical integrity (e.g. freedom from leaks, oil consumption, oil pressure, run down time) may be established following a module change on an installed engine.

4.1.8 **Removal.** The order and method of removing the engine from a power unit, and the removal of accessories from either the engine or the power unit, with the methods of engine lifting, inhibiting and crating for return to manufacturer or base.

4.1.9 **Tools and Equipment.** Tools and equipment necessary for maintenance with details of their purpose and method of use.

4.1.10 **Mandatory Life Limitations.** A procedure for converting flying hours, or landings, as applicable, into life units (e.g. cycles) together with the assumptions made with regard to the 'typical cycle' on which the lives are based.

4.2 **Engine and Auxiliary Power Unit Overhaul Manuals**

4.2.1 **Tools and Equipment.** Tools and equipment necessary for overhaul and testing, with details of their purpose and method of use.

4.2.2 **Dismantling.** The order and method of dismantling for overhaul.

4.2.3 **Cleaning and Inspection.** The materials, equipment and methods to be used for cleaning. The materials and equipment to be used, and the standards and methods of inspection to be applied, during overhaul, and also after abnormal circumstances such as shock loading, sudden stoppage, excessive out of balance, fire, overspeed, over-temperature or any other excursions outside approved limitations.

4.2.4 **Fits and Clearances.** Details of all relevant fits and clearances.

4.2.5 **Repair and Salvage Schemes.** Details of all applicable repair and salvage schemes.

4.2.6 **Re-assembly.** Description of the order and method of assembly at overhaul.

4.2.7 **Testing.** Details of the standards to be observed, the method of completing tests, and a list of faults which may occur during testing, together with possible causes and methods of rectification.

4.2.8 **Storage Conditions and Limiting Period.** Details of the conditions of storage and the recommended limiting storage periods.

4.2.9 **Mandatory Life Limitations.** A list of the relevant parts, with details of the Mandatory Life Limitations, with a cross reference to the Maintenance Manual for the procedure for converting flying hours or landings, as applicable, into life units (e.g. cycles) together with the assumptions made with regard to the 'typical cycle' on which the lives are based.

5 Propeller Manuals

Propeller Manuals should contain descriptive, servicing maintenance and overhaul data relating to the propeller and similar data relating to those accessories concerned with the functioning and control of the propeller in respect of which an application for design

approval has been made, as outlined in 5.1 and 5.2; such accessory data should conform to the recommendations of 6.

5.1 **Propeller Maintenance Manual**

5.1.1 **Introduction.** A brief description of the propeller and propeller systems.

5.1.2 **Description.** A detailed description of the construction of the propeller.

5.1.3 **Operation.** The method whereby the propeller and the propeller systems achieve their designed purpose.

5.1.4 **Installation.** The method of uncrating, acceptance checking, lifting and installing the propeller.

5.1.5 **Control.** The method of checking the operation of the propeller during engine running, with details of any special procedures and limitations.

5.1.6 **Maintenance**

a) **Schedule and Procedures.** Compliance with the recommendations in 1.6.1 and 1.6.2.

b) **Faults and Rectification.** Compliance with the recommendations in 1.6.3.

c) **Adjustments.** The methods of completing those adjustments which are necessary during service or to correct faults.

5.1.7 **Removal.** The order and method of removing the propeller from the engine.

5.1.8 **Mandatory Life Limitations.** A procedure for converting flying hours or landings, as applicable, into life units (e.g. cycles) together with the assumptions made with regard to the 'typical cycle' on which the lives are based.

5.2 **Propeller Overhaul Manual.** Compliance to the standards recommended in 4.2.

6 Accessory, Instrument and Electrical Equipment Manuals

Separate manuals should normally be provided by the accessory, instrument or equipment manufacturer for a) Maintenance and b) Overhaul, the manuals containing data which conforms to the standard indicated by the subjects detailed below, where applicable.

6.1 **Maintenance Manuals**

6.1.1 **Description, Operation and Data**

Description
Operation
Data

6.1.2 **Unpacking**

6.1.3 **Acceptance Checks**

6.1.4 **Storage Instructions**

Conditions
Limiting Periods (recommended)

6.1.5 **Checks/Tests Before Installation**

6.1.6 **Installation**

6.1.7 **Checks/Tests After Installation**

6.1.8 **Operation Instructions**

6.1.9 **Maintenance Schedule.** To include recommendations in respect of overhaul periods and/or Mandatory Life Limitations, as appropriate.

NOTE: In certain circumstances life limitations may become mandatory; in such cases these must be indicated.

6.1.10 **Trouble Shooting Procedures**

6.1.11 **Removal**

6.1.12 **Bench Checks**

6.1.13 **Return to Manufacturer or Base**

6.2 **Overhaul Manuals**

6.2.1 **Description, Operation and Data**

Description
Operation
Data

6.2.2 **Disassembly.** To include any checks or tests considered necessary before disassembly, and a list of items which are to be discarded and replaced by new parts at overhaul.

6.2.3 **Cleaning**

6.2.4 **Inspection/Check**

6.2.5 **Repair**

6.2.6 **Assembly**

6.2.7 **Fits and Clearances**

6.2.8 **Testing**

6.2.9 **Trouble Shooting Procedures**

6.2.10 **Storage Instructions**

Conditions
Limiting Periods (recommended)

6.2.11 **Special Tools, Fixtures and Equipment**

7 Replacement Parts

7.1 Unless Manuals include detailed part identification of all replacement parts appropriate to the work described in the Manual, a statement should be included in each appropriate Manual specifying the documents which identify these parts.

7.1.1 Each Manual should also contain a statement that all replacement parts must be either those parts detailed in the manufacturers' publications or documents, or approved alternative parts.

Appendix 1 to A7-4 Automatic Test Equipment Software

1 Introduction

1.1 The requirements of this Appendix are applicable to any Automatic Test Equipment (ATE) Software, which is essential to the use of ATE in testing a specific airborne equipment, where the ATE Software is provided as an alternative to, or in place of, conventional test procedures in Maintenance, Overhaul or Repair Manuals. The requirements do not apply to either ATE Software used by a manufacturer as part of the process leading to certification of a new product or test equipment which is an integral part of airborne equipment (built-in test equipment – BITE).

2 Definitions

2.1 **ATE Software Design Control Authority.** The ATE Software Design Control Authority is the original producer of ATE software or, if the software has been revised, the organisation certifying the revisions.

2.2 **Data Processing Terms.** The terms used in this Appendix are in accordance with British Standard BS 3527, Glossary of Terms used in Data Processing.

3 General

3.1 Except as otherwise agreed by the CAA, software produced in accordance with this Appendix shall be certified and published under the authority of an appropriately approved Organisation and shall relate accurately to the design and production standard of both the specific airborne equipment to be tested and the ATE itself. In particular, programs shall be allocated a coding or part number which can be directly related to the build standards of both the ATE and the unit under test (UUT). Failing adequate protection being provided within the ATE, object program content shall include protection against unauthorised editing.

3.2 The CAA reserves the right to require the reassessment of the content of any certified software and to require the embodiment of any revision or amendment which is considered necessary to satisfy the requirements of 3, 4, 5, and 6.

3.3 Software, produced by an Approved Organisation, must be associated with a statement that it complies with the requirements of this Appendix.

3.4 Software, when used with the automatic test equipment to which it relates, shall be such as to ensure that all specified tests of the specific airborne equipment are either completed satisfactorily or result in an unambiguous indication to the contrary.

3.5 The certification shall be worded as follows and must appear on the relevant record sheet:

STATEMENT OF INITIAL CERTIFICATION

The software identified ..... complies with BCAR Section A Chapter A7–4, Appendix No: 1.

Signed .....

Date .....

CAA Approval No: .....

NOTE: The above certification does not apply to revisions or amendments made by other approved Organisations after the date of initial certification. Revisions or amendments made by other approved Organisations must each be separately certified. Suitable records shall be maintained of all revisions or amendments (whether temporary or permanent) to ATE software**.**

4 Software Related to the Testing of Specific Airborne Equipment

The following information is for guidance in preparing Automatic Test Equipment (ATE) software to comply with the requirements of this Appendix. It is biased towards systems which are computer controlled but the principle can also be applied to sequential tape controlled equipment.

4.1 The software should normally consist of three main parts, together with associated record and control documentation, as follows:

a) A test specification in plain English or the Abbreviated Test Language for Avionic Systems (ATLAS) which will normally be that contained in the Overhaul Manual for the airborne equipment under test.

b) A test sequence in a test program format suitable for the particular automatic test equipment (SOURCE PROGRAM).

c) A test sequence in the media (e.g. magnetic disc, tape) used to control the particular automatic test equipment (OBJECT PROGRAM).

4.2 Each of the above parts should separately be subject to issue control and modification procedure.

4.3 Programs should be specified in a manner which satisfies the requirements of 4.1 a), having due regard to the characteristics of the equipment under test and taking account of the inherent limitations of the automatic test equipment. Particular attention should be paid to ensure that programs do not lead to circumstances which induce incipient damage into the equipment under test.

4.4 All programs should be fully debugged and validated prior to certification.

5 Software Related to Specific Automatic Test Equipment

5.1 All software, e.g. assemblers, compilers, self test programs, should be fully documented, debugged and validated prior to certification.

6 Review and Amendment of Software

6.1 Certified software shall be reviewed by the ATE software design control authority at periods not exceeding six months and where changes have been made affecting the validity of the software, permanent revisions or amendments shall be published.

6.1.1 The certification of permanent revisions or amendments shall be as follows:

STATEMENT OF REVISION/AMENDMENT

Software Identification .....

This permanent revision/amendment complies with British Civil Airworthiness Requirements, Section A, Chapter A7–4.

Signed .....

Date .....

CAA Approval No: .....

6.2 Operators with appropriate approval may amend ATE software without reference to the originating ATE software design control authority, provided that the amendment of ATE software is within the terms of their CAA Approval. However, co-operation with the appropriate airborne equipment manufacturer should normally be undertaken in order to ensure that ATE software adequately meets the test requirement of the UUT. Any Operator undertaking amendment of ATE software shall proceed as follows:

a) Prepare a revision or amendment in compliance with this Chapter A7–4;

b) Incorporate the revision or amendment in the program and retain an appropriate record of the details of the amendment. The record can be in any convenient form, e.g. log book, record sheets or retention of pre-revision tapes for comparison.

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Chapter A7-6 Master Minimum Equipment Lists and Minimum Equipment Lists

1 The information in this Chapter is for guidance in compiling Master Minimum Equipment Lists and Minimum Equipment Lists to comply with the requirements of Chapter A5–7 and Chapter A6–5 respectively.

2 Purpose

2.1 The purpose of the approved Master Minimum Equipment List (MMEL) required by Chapter A5–7 is to provide a Master List of permitted unserviceable equipment and systems for any aircraft of that given type at the time of despatch, which is certificated in the categories referred to in paragraph 2 of Chapter A5–7 and is within the weight limits referred to in that paragraph. Such MMELs will constitute the maximum permissible level of unserviceabilities for affected aircraft of the given type.

2.2 Operators of aircraft to which paragraph 2 of Chapter A5–7 applies can produce their own Minimum Equipment List (MEL) to enable the Permission required by Article 16 of the UK ANO to be granted. (See CAP 360 and CAP 549.) The MEL shall be no less restrictive than the MMEL.

3 Format – MMEL

3.1 Unless otherwise agreed by the CAA the format for all MMELs should be similar, regardless of the originator and should utilise an agreed referencing system such as ATA 100. In exceptional cases variations will be permitted. The standard format for all MMELs should be as follows:

a) A title page which identifies the MMEL and its originator and the aircraft type to which it applies, and which carries the CAA Approval Statement referred to in paragraph 6.1 of Chapter A5–7;

b) A Revision Record;

c) A List of Effective Pages which should list all the effective pages, the Revision status of the whole document, the Revision status of each page and their issue dates;

d) A Preamble which explains the purpose and other essential features;

e) An explanation of the Coding and Terminology used;

f) An individual page (or pages) for each System for which equipment or sub-systems on which despatch unserviceabilities are permitted; or where no despatch with unserviceabilities are permitted. These pages should be numbered for example 21/1, 21/2, 22/1 etc. Each such page should carry a Revision No. and date which corresponds with that given in the List of Effective Pages. The preferred standard format for these pages would be as follows:

CIVIL AVIATION AUTHORITY

(or the name of the Type Certificate holder/originator)

MASTER MINIMUM EQUIPMENT LIST

AIRCRAFT	REVISION NO: DATE:	PAGE:

(1) System & Sequence Numbers Item	(2) Rectification Interval	(3) Number Installed	(4) Number required for despatch	(5) Remarks or Exceptions

3.2 The pages referred to in items 3.1 a) to e) above should be numbered consecutively in Roman Numerals and any which are not used should carry the legend 'INTENTIONALLY LEFT BLANK'. A Contents page which lists every page and the subjects covered by reference to the Systems concerned may also be included. This Contents page may be separate from the List of Effective Pages.

3.3 If Temporary Revisions (TRs) are to be issued, the parent MMEL should also contain a List of Effective TRs which should be generally in accordance with paragraphs 9.5 and 9.6 of Chapter A5–7.

3.4 CAA prepared MMELs will be printed on A4 paper and this is the preferred page size for other CAA Approved MMELs.

3.5 In cases of equipment and system unserviceability where Maintenance (M) or Operational (O) procedures are to be employed, the need for such procedures is to be indicated in the appropriate (Remarks) column against the item concerned. The actual procedures are to be defined and identified and are to be either provided with the MMEL, with suitable indexing, or may be provided in separate Manuals or publications. The proposed procedures are to be made available to the CAA for assessment at the time the draft MMEL is submitted.

4 Format – MEL

Unless otherwise determined by the CAA the format of the MEL prepared by an Operator shall comply in general with that of the approved MMEL for the particular aircraft type. Variations in the layout used to take account of varying equipment and systems installations, differences due to aircraft variants within a given type and Operators circumstances, experience, capabilities, route structures and practices etc., will be permitted within the overall constraint that an MEL shall be no less restrictive than the corresponding MMEL. See CAP 360 Part One and CAP 549.

Chapter A7-9 Modification Record Book

1 Introduction

1.1 The Modification Record Book is a statement of the modification history of the aircraft to which it relates.

1.2 The format of the Book complies with the Recommendations of the European Civil Aviation Conference (5th Plenary Session).

NOTE: Modification Record Books, for United Kingdom registered aircraft, were introduced on 1st January 1969.

1.3 A Modification Record Book must be kept for each aircraft of more than 2730 kg maximum authorised weight, registered in the United Kingdom.

NOTE: The word 'aircraft' used in the context of this Chapter A7–9, does not apply to engines and propellers where suitable Modification Records are maintained in appropriate log books. The Modification Record Book is considered an addition to the aircraft log book.

1.4 Modification Record Books may be purchased from the CAA's printers whose details are available on the inside cover of this publication.

2 Contents of the Modification Record Book

The following shall be recorded in the Modification Record Book:

a) Modifications made to those parts of the aircraft on which airworthiness depends;

b) Modifications made to the aircraft which affect modifications already listed in the Record Book;

c) Major repairs, which have significantly altered the design affecting the airworthiness of the aircraft.

3 Commencing and Maintaining the Modification Record Book

3.1 **New Aircraft Initially Registered in the United Kingdom.** The manufacturer shall make available the information necessary to comply with the requirements of this Chapter **A7–9** relevant to commencement for these aircraft, by stating the modifications embodied, additional to the basic design, at the time of certification.

3.2 **Used Aircraft.** The applicant for issue of a United Kingdom Certificate of Airworthiness (see Chapter A3–1) for a used aircraft shall be responsible for starting a Modification Record Book at the time of United Kingdom registration, and shall, at that time, record such of the modification history of the aircraft as is considered necessary by the CAA.

3.3 A Modification Record Book which is valid in the exporting country, and supplied with an aircraft to be imported and registered in the United Kingdom, may be acceptable in place of the Modification Record Book required by this Chapter. Such a book shall be certified as accurate and up to date by the competent airworthiness authorities of the exporting country, and shall be acceptable to the CAA in all other particulars.

3.4 The Modification Record Book must be up to date at the issue of the Certificate of Airworthiness for a new aircraft, at the renewal of the Certificate and at the time of sale or lease of the aircraft.

3.5 The Modification Record Book shall be kept by the owner or Operator of the aircraft, and shall be made available for examination, when required by the CAA.

Chapter A7-10 Weight and Balance Report

Introduction

This Chapter A7–10 contains guidance for compiling weight and balance reports and weight and centre-of-gravity schedules as required by Chapter **A5–4**.

1 Weight and Balance Report - Aircraft Exceeding 5700 kg

1.1 A Weight and Balance Report shall be produced for each Prototype, Variant and Series aircraft the Maximum Weight Authorised of which exceeds 5700 kg.

1.2 The Weight and Balance Report shall record such loading data as is essential to enable the particular aircraft to be correctly loaded, and shall include sufficient information for an Operator to produce written loading instructions in compliance with the requirements of the Air Navigation Order.

1.3 The Weight and Balance Report shall apply to the aircraft in the condition in which it is to be delivered to the user.

1.4 One copy of the Weight and Balance Report shall be sent to the CAA Safety Regulation Group.

1.5 The Weight and Balance Report shall include the following items:

a) Reference number and date;

b) Designation, nationality, and registration marks of the aircraft, or if these are not known, the manufacturer's serial number;

c) A copy of the Weighing Record, produced in accordance with Chapter A5–4 paragraph 3.5;

d) A copy of the Weight and Centre-of-Gravity Schedule including the list of Basic Equipment, if this is separate from Part A of the Schedule (see paragraph 2.7.2);

e) A diagram and a description of the datum points which are used for weighing and loading and an explanation of the relationship of these points to the fuselage frame numbering system or other identifiable points, and, where applicable, to the standard mean chord (SMC);

f) Information on the lever arms appropriate to items of Disposable Load. (This should include the lever arms of fuel, oil and other consumable fluids or substances in the various tanks (including agricultural material in hoppers), which, if necessary, should be shown diagrammatically or graphically; lever arms of passengers in seats appropriate to the various seating layouts; mean lever arms of the various baggage holds or compartments);

g) Details of any significant effect on the aircraft c.g. of any change in configuration, such as retraction of the landing gear.

2 Weight and Centre-of-Gravity Schedule - Aircraft Exceeding 2730 kg (See Chapter A7–10 Appendix No.1)

A Weight and Centre-of-Gravity Schedule shall be provided for each aircraft the Maximum Total Weight Authorised of which exceeds 2730 kg, except that for an aircraft the Maximum Total Weight Authorised of which exceeds 5700 kg, the information

contained in Parts B and C of the Schedule may, for a new aircraft, be given as part of the Weight and Balance Report.

NOTES: 1 The Weight and Centre-of-Gravity Schedule may be in the form set down in Chapter A7–10 Appendix No. 1, but variations are permitted within the Requirements.

2 Where reference is made in Chapter A7–10 Appendix No. 1, to the Flight Manual, but such a document has not been issued, it will be necessary to refer to the Certificate of Airworthiness.

2.1 Each Schedule shall be identified by the aircraft designation, nationality and registration marks, or if these are not known, by the manufacturer's serial number. The date of issue of the Schedule shall be given and the Schedule shall be signed by a representative of an Approved Organisation or a person acceptable to the CAA. A statement shall be included indicating that the Schedule supersedes all previous issues.

2.2 The date and reference number of the Weight and Balance Report, or, as appropriate to the weight, other acceptable information upon which the Schedule is based, shall be given.

NOTE: For aircraft for which a Weight and Balance Report is not mandatory, the Weighing Record would normally be used. (see Chapter A5–4, paragraph 3.5)

2.3 A copy of each issue of the Schedule shall be retained by the Operator, and where the Schedule is re-issued the previous issue shall be retained with the aircraft records. A copy of the current Schedule and any related list of Basic Equipment (see paragraph 2.7), shall be sent to the CAA Safety Regulation Group.

2.3.1 For aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg, a copy of the Schedule shall be included in the Flight Manual, if a Flight Manual is applicable, or if this is not the case, displayed or retained in the aircraft in a suitably identified stowage.

2.4 Operators shall issue a revised Weight and Centre-of-Gravity Schedule when the weight and c.g. is known to have changed to an extent greater than that which has been agreed by the CAA as applicable to a particular aircraft type.

2.5 If the aircraft has not been re-weighed, the revised Weight and Centre-of-Gravity Schedule shall contain a statement that calculations have been based on the last Weight and Balance Report, or other information (see paragraph 2.2), and the known weight and c.g. changes.

2.6 The datum to which the c.g. limits relate is defined in Part A (see paragraph 2.7) and this may be different from the datum defined in the Certificate of Airworthiness or Flight Manual. When a different datum is used it shall be adequately defined, its precise relationship to the datum in the Certificate of Airworthiness or Flight Manual shall be given, and any lever arms and moments which appear in any part of the Schedule shall be consistent with the datum so declared.

NOTE: In the case of helicopters, it may be necessary to present lever arms and moments about more than one axis, depending on the c.g. limits specified in the Flight Manual.

2.7 **Part A Basic Weight.** The Basic Weight and the associated position of the c.g. of the aircraft as derived from the most recent Weight and Balance Report or other information together with any subsequent weight and c.g. changes, shall be stated. The position (retracted or extended) of the landing gear associated with this information shall be stated.

2.7.1 Where the Maximum Total Weight Authorised does not exceed 5700 kg, Part A shall also include the list of Basic Equipment showing the weight and lever arm of each item, or this information may form separate pages attached to the Weight and Centre-of-Gravity Schedule, with a suitable reference in Part A of the Schedule to this procedure.

2.7.2 Where the Maximum Total Weight Authorised exceeds 5700 kg, Part A shall include the list of Basic Equipment showing the weight, lever arm and moment of each item, or shall make reference to the document in which such a list is included.

2.8 **Part B Variable Load.** The variable Load may be detailed for as many roles as the Operator wishes, but for every role the weights and moments shall be given. Weights of crew members may be assumed to be not less than the weights shown in the Air Navigation (General) Regulations, provided that the Maximum Total Weight Authorised exceeds 5700 kg, or the aircraft has a total seating capacity for 12 or more persons. Otherwise the weight of each person must be determined by weighing.

2.9 **Part C Loading Information.** This shall include all relevant information so that, knowing the Disposable Load which is intended to be carried, the weight and the position of the centre-of-gravity of the aircraft can be calculated. At least the following shall be given:

a) The lever arm of the c.g. of a passenger in each seat;

b) The mean lever arm of each compartment or area in the aircraft where Disposable Load, such as luggage or freight, may be placed;

c) Any significant change in the c.g. of the aircraft (change in moment) which will result from a change in configuration, such as the retraction and extension of the landing gear;

d) The lever arm of the c.g. of fuel, oil and other consumable fluids or substances in each tank, including any significant variation of the lever arm with the quantity loaded;

e) The maximum total usable capacities of the tanks for fuel, oil and other consumable fluids or substances and the weight of fluids or substances when the tanks are filled to their capacities assuming typical densities.

2.10 A statement shall be made in the Schedule to the effect that it is a requirement of the Air Navigation Order that the Commander satisfies himself before take-off that the load is of such weight, and is so distributed and secured, that it may safely be carried on the intended flight.

2.11 The weights, distances, moments and quantities may be given in any units, provided that these are used consistently and do not conflict with the markings and placards on the aircraft.

3 Weight and Centre-of-Gravity Schedule - Aircraft Not Exceeding 2730 kg

(See A7–10 Appendix No. 2)

For aircraft the Maximum Total Weight Authorised of which does not exceed 2730 kg, either a Weight and Centre-of-Gravity Schedule which complies with 2 and 3.2, or a Loading and Distribution Schedule which complies with 3.1 shall be provided.

3.1 Loading and Distribution Schedule

3.1.1 The Loading and Distribution Schedule (hereinafter in this paragraph 3.1 referred to as 'the Schedule') shall contain at least the information in A7–10 Appendix No.2.

3.1.2 Each Schedule shall be identified by the aircraft designation, nationality and registration marks, or if these are not known, by the manufacturer's serial number.

3.1.3 A copy of each issue of the Schedule shall be retained by the Operator, and when the Schedule is re-issued the previous issue shall be retained with the aircraft records. A copy of the current Schedule and any related list of Basic Equipment shall be sent to the CAA Safety Regulation Group.

a) A copy of the Schedule shall be included in the Flight Manual, if a Flight Manual is applicable, or, if this is not the case, the Schedule shall be displayed or retained in the aircraft in a suitably identified stowage.

3.1.4 Operators shall issue a revised Schedule when:

a) the Basic Weight of the aircraft is known to have undergone changes in excess of 0.5% of the Maximum Total Weight Authorised; or

b) the total moment applicable to the Basic Weight is known to have changed to an extent greater than that which has been agreed by the CAA as applicable to a particular aircraft type.

3.1.5 If the aircraft has not been re-weighed, the revised Schedule shall contain a statement that calculations have been based on the last Weighing Record and the known weight and moment changes.

3.1.6 Instructions for the use of the Schedule, together with the Loading Graphs, shall be included.

3.1.7 A statement shall be given in the Schedule to the effect that it is a requirement of the Air Navigation Order that the Commander satisfies himself before the aircraft takes off that the load is of such a weight, and is so distributed and secured that it may safely be carried on the intended flight.

3.1.8 The weight, distances, moments and quantities may be given in any units provided that these are used consistently and do not conflict with the markings and placards on the aircraft.

3.1.9 **Part A Basic Data.** Part A shall contain the following:

a) The Basic Weight and the associated moment, and c.g. position of the aircraft, as derived from the most recent Weighing Record, together with any subsequent changes;

b) The Maximum Total Weight Authorised appropriate to each permitted use (e.g. aerobatics);

c) The definition of the c.g. datum;

d) The date and reference number of the Weighing Record and list of Basic Equipment upon which the Schedule is based;

e) The date and reference of the Loading Graphs of the Loading and Distribution Schedule shall be given;

f) A statement of the date of preparation and validity of the Schedule, signed by a representative of an Approved Organisation, or a person acceptable to the CAA. A statement shall also be included indicating that the Schedule supersedes all previous issues.

3.1.10 **Part B Loading.** Columns shall be provided which list all standard items of Variable Load and make provision for the associated weight and c.g. moments to be recorded and totalled for a particular flight. Columns shall also be provided for recording an example of a typical aircraft loading calculation. This example shall employ the same

weight and c.g. moment figures as recorded in the Loading Graphs (see paragraph 3.1.11).

3.1.11 **Part C Loading Graphs.** Graphs, sufficient to ascertain moments, and to enable the Operator to determine that the aircraft loaded weight and c.g. moment are within the prescribed limits shall be provided. The graphs shall be identified by aircraft designation, date of compilation and source. Suitable sources are the aircraft manufacturer or other competent person. An example application shall be included using the same figures as employed in the Loading and Distribution Schedule example.

3.2 **Weight and Centre-of-Gravity Schedule** (see Chapter **A7–10** Appendix No. 2, paragraph 3). In addition to compliance with paragraph 2, the Weight and Centre-of-Gravity Schedule for aircraft the Maximum Total Weight Authorised of which does not exceed 2730 kg, shall contain instructions for the determination of the loaded weight, the total load moments and resultant c.g. positions.

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Appendix 1 to A7-10 Weight and Centre-of-Gravity Schedules for Aircraft Exceeding 2730 kg

1 Introduction (see Chapter A5–4, paragraph 5)

This A7–10 Appendix No.1 presents a specimen Weight and c.g. Schedule which constitutes an acceptable means of compliance with the appropriate requirements of Chapter A5–4, paragraph 5, and where elected with Chapter A5–4, paragraph 6.

NOTE: Imperial Units are shown on the specimen. Where it is necessary to use S.I. Units these should be used throughout.

SPECIMEN SCHEDULE

Reference	NAL/286
Produced by	Loose Aviation Ltd.
Aircraft Designation	Flynow 2E
Nationality and Registration Marks	G–BZZZ
Manufacture	F.L.Y. Co. Ltd.
Manufacturer's Serial Number	44
Maximum Total Weight Authorised	7300 lb
Centre-of-Gravity Limits	Refer to Flight Manual reference number 90/946

Part A Basic Weight

The Basic Weight of the aircraft as calculated from Weight and Balance Report/Weighing Record[1]

NAL/W/95 dated 31 August 1988 is	:	5516 lb
The c.g. of the aircraft in the same condition at this weight and with the landing gear extended is	:	127 in aft of datum
The total moment about the datum in this condition in lb in/100 is	:	7015

NOTE: The datum is at fuselage station 0 situated 114 inches forward of the wing leading edge. This is the datum defined in the Flight Manual. All lever arms are distances in inches aft of datum.

The Basic Weight includes the weight of 5 gal unusable fuel and 1 gal unusable oil and the weight of the following items which comprise the list of Basic Equipment:

1 Delete as appropriate.

	WEIGHT	LEVER ARM
	(lb)	(in)
Two Marzell propeller type BL–H3Z30	127 each	76
Two engine driven 100 ampere alternators type GE–361	27 each	117
One 13 Ah Ni-Cd battery CB–7	31	153
etc.	etc.	etc.

Part B Variable Load

The weight, lever arms and moments of items of Variable Load are shown below. The Variable Load depends upon the equipment carried for the particular role.

	WEIGHT (lb)	LEVER ARM (in)	MOMENT (100 lb in)
Pilot (one)		108	
De-icing fluid 1.5 gal	12	140	17
Life-jackets (7)	14	135	19
Row 1 passenger seats (two)	60	173	104
Row 2 passenger seats (two)	60	215	129
Row 3 passenger seats (two)	60	248	149
Table	8	256	20
One stretcher and attachments (in place of seat rows 2 and 3)	45	223	100
Medical stores	15	250	37

Part C Loading Information (Disposable Load)

The total moment change when the landing gear is retracted in lb in/100 is: –18.

The appropriate lever arms are:

	WEIGHT (lb)	LEVER ARM (in)	CAPACITY (Imp.gal)
Fuel in tanks 1 and 2	1368[1.]	145	190
Engine Oil	50[1.]	70	5.5
Forward baggage		21	
Rear baggage		261	
Passengers in Row 1 seats		171	
Passengers in Row 2 seats		213	
Passengers in Row 3 seats		246	
Patient in stretcher		223	

NOTE: To obtain the total loaded weight of aircraft, add to the Basic Weight the weights of the items of Variable and Disposable Load to be carried for the particular role.

1. Densities – Petrol 7.2 lb Imp. gal; Kerosone 8.1 lb Imp. gal; Oil 9.0 lb Imp. gal.

This Schedule was prepared (date) ..... and supersedes all previous issues.

Signed .....Inspector/Engineer

on behalf of .....

Approval Reference .....

NOTE: (Not part of the specimen Schedule) In Part B, Variable Load, of this Schedule the actual weight of the pilot is required in accordance with the Air Navigation (General) Regulations for aircraft the Maximum Total Weight Authorised of which does not exceed 5700 kg or with less than 12 persons seating capacity. Hence the pilot's weight and calculated moment are omitted in the example.

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Appendix 2 to A7-10 Weight and Centre-of-Gravity and Loading and Distribution Schedules - Aircraft Not Exceeding 2730 kg

1 Introduction (See A5–4, 6)

This Appendix No. 2 contains acceptable means of compliance in respect of Weight and Centre-of-Gravity and Loading and Distribution Schedules provided in accordance with A5–4, 6.

2 Loading and Distribution Schedule (see A5–4, 6 and A7–10, 3).

The Schedule (including the graphs) and the List of Basic Equipment should, as far as is practical, take the form of Figures 1, 2 and 3.

AIRCRAFT LOADING AND DISTRIBUTION SCHEDULE FOR AIRCRAFT NOT EXCEEDING 2730 kg.

Aircraft Type: | Aircraft Registration or Manufacturer's Serial No: | Aircraft Nationality:

PART A BASIC DATA

ITEM		WEIGHT	MOMENT	C.G. POSITION
Basic Aircraft				
MTWA	Normal use		The C.G. datum is defined as	
	Aerobatic use		.....	

Note: Basic Aircraft Weight and C.G. Position were determined from the following documents contained in the aircraft record.

a) Weighing Record Ref: ..... Date: .....

b) Basic Equipment List Ref: ..... Date: .....

c) Loading and Distribution Charts Figs 1 and 2 Ref: ..... Date: .....

This Schedule was prepared and the Loading and Distribution Charts Figs. 1 and 2 were current on..... and supersede all previous issues.
Signed.....
Authority .....

PART B LOADING

1. To obtain moments of items refer to Fig. 1, and read off moment from corresponding weight. Repeat this for all items of load, and record both weight and moment in the appropriate columns below.
2. Total the weight column.TOTAL THE MOMENT COLUMNS, ASCERTAIN THE RESULTANT MOMENT, and apply the results to Fig. 2 in order to ascertain that the resulting intersection point falls within the permissible loading envelope, appropriate to the certification Category. The envelope(s) take account of fuel usage in flight . Examples of the use of the Figures are shown by arrowed lines.

ITEM	EXAMPLE AIRCRAFT			YOUR AIRCRAFT		
	WEIGHT	MOMENT		WEIGHT	MOMENT	
		(+)	(-)		(+)	(-)
Basic Weight (See Part A)						
Fuel - Standard (@7.2lb/Imp gallon) (@ 6.0 lb/US gallon)						
Fuel - Long Range (@7.2lb/Imp gallon) (@ 6.0 lb/US gallon)						
Pilot and Passenger (Row 1)						
Passenger (Row 2)						
Passenger (Row 3)						
Baggage						
TOTALS OF MOMENTS						
TOTAL WEIGHT & RESULTANT MOMENT						

In accordance with the ANO, it is a requirement that the pilot satisfies himself before take-off that the load is of such a weight, and is so distributed and secured, that it may safely be carried on the intended flight.
Full conformity with the instructions contained in this document will ensure compliance with the Flight Manual in respect of aircraft loading.

Figure 1 (Chapter A7–10 Appendix No.2) FRONT OF SCHEDULE

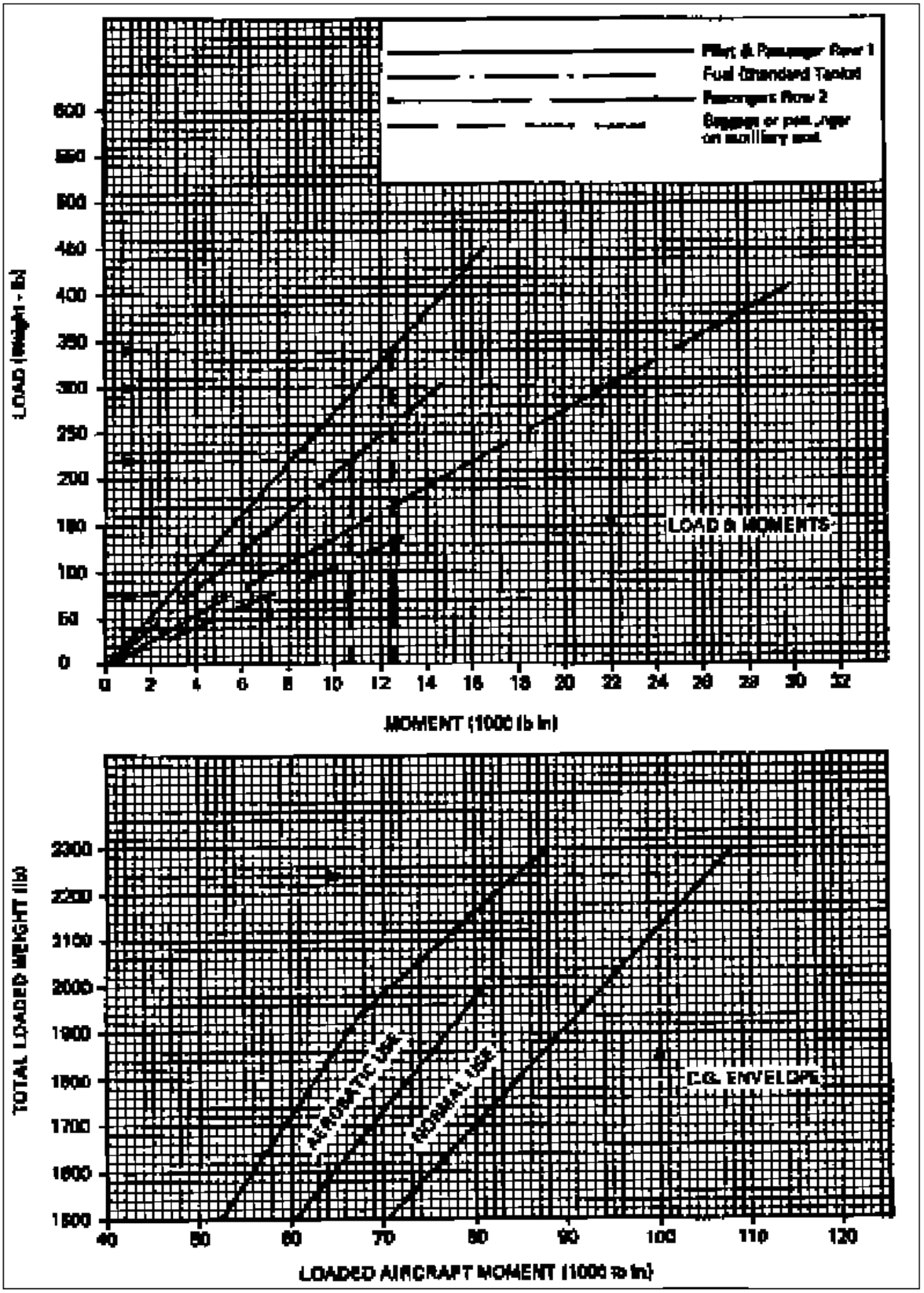

Figure 2 (A7–10 Appendix No.2) REVERSE OF SCHEDULE

LIST OF BASIC EQUIPMENT Ref: Date:

Aircraft Type | Aircraft registration or Manufacturer's Serial No. | Aircraft Nationality

PART A BASIC DATA

1. The aircraft is as defined in Type Certificate Data Sheet (or equivalent . . . . .
2. The Weighing Record from which the Basic Aircraft Weight is calculated is Ref: . . . . . Date: . . . . . .
3. The Basic Aircraft Weight is . . . . . made up as follows:
   (a) Basic aircraft, including standard equipment (e.g. seat lap straps)
   (b) Items of non-standard equipment, as listed in Part B
4. The moment of the aircraft as at 3 is . . . . . .

PART B NON-STANDARD EQUIPMENTINCLUDED IN WEIGHT STATED IN PART A

ITEM	WEIGHT	MOMENT		DATE OF CHANGE OR EMBODIMENT	REMARKS
		(+)	(-)		

PART C NON STANDARD EQUIPMENT NOT INCLUDED IN WEIGHT STATED IN PART A

NOTE: When re-calculation of Basic Aircraft Weight is made (see BCAR Section A, Chapter A5–4), items in Part C should be included in the re-calculation and moved to Part B.

Figure 3 (A7–10 Appendix No. 2) List of Basic Equipment

3 Weight and Centre of Gravity Schedule (see A7–10, 3.2)

An acceptable means of compliance with A7–10, 3.2 would be to include in the Schedule instructions on the following lines:

SPECIMEN INSTRUCTIONS

1 By reference to Weight and Centre-of-Gravity Schedule, ascertain the lever arm of each item (Basic Weight, Variable Load, Disposable Load).

2 To obtain moment of an item, multiply the weight of the item by the corresponding lever arm, and record the moment for each item of load, giving the moment a positive sign if the item is aft of the datum, and a negative sign if it is forward of the datum. Enter the weight of the item in the weight column.

3 Total the weight column.

4 Total the moment columns. If (+) and (-) moments are recorded, total each column and obtain the total resultant moment, by subtracting the lesser from the greater.

5 Divide the total (or total resultant) moment by the total weight to obtain c.g. position, positive or negative, relative to the datum, and check that this is within the prescribed c.g. limits.

6 To check that the fuel consumed during a flight does not cause the c.g. position to be outside the prescribed limits, re-total the weights in 3 and the moments in 4, but omitting the total fuel weight and the corresponding moment(s), respectively. Add the weight and moment of the fuel expected to remain in the tanks at the end of the flight. Divide the final total resultant moment by the final total weight to obtain the c.g. position, and check that it is still within the prescribed c.g. limits.

NOTE: Where there are any other significant quantities of consumable fluids or substances (e.g. crop spraying), similar account should be taken of them.

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Sub-section A8
Approvals

Introductory Note to Sub-Section A8 CAA Approved Organisations

1 CAA Approved Organisations are divided into the following groups:

Rating	Definition	Chapter
A1 Primary Companies	Organisations approved for the design and manufacture of complete aircraft, engines, or controlled items of equipment, and the overhaul of the Organisations' own product.	A8–1

NOTE: After 25 February 2008, the CAA will no longer accept new applications for A8-1 approvals except for manufacturers of microlight aircraft. Applicants should instead, apply for the appropriate A8-21 approval.

A2 Suppliers	Organisations approved for the manufacture of components, assemblies and items of equipment to acceptable standards/specifications. Ultimate design responsibility is vested in the Primary Company which specifies the product.	A8–2

NOTE: After 25 February 2008, the CAA will no longer accept new applications for A8-2 approvals except for manufacturers of microlight aircraft. Applicants should instead, apply for the appropriate A8-21 approval.

B1 Overhaulers	Organisations approved for inspections, overhauls, repairs, replacements, and embodiment of modifications to aircraft, engines, components or items of equipment.	A8–3
B4 Test Houses	Organisations approved for testing and specialised examination to established standards.	A8–6
E6 Design Organisations	Organisations approved for the design of aircraft, engines, propellers or parts thereof, including design changes and repairs.	A8–21
E1 Design Organisations	Organisations approved for the design of complete aircraft, systems, or equipment.	A8–8

NOTE: After 25 February 2008, the CAA will no longer accept new applications for A8-8 E1 approvals except for manufacturers of microlight aircraft. Applicants should instead, apply for the appropriate A8-21 approval.

E2 Design Organisations	Organisations approved for the design of modifications to aircraft, systems, or equipment.	A8–8

NOTE: After 25 February 2008, the CAA will no longer accept new applications for A8-8 E2 approvals except for manufacturers of microlight aircraft. Applicants should instead, apply for the appropriate A8-21 approval.

E3 Design Organisations	Organisations approved for investigation and certification (to the CAA) of the design standard of an aircraft.	A8–8
F1 Flight Test Organisations	Organisation approved for the full management and control of flights under 'B' Conditions.	A8–9
F3 Organisations	Organisation for the management and control of flights under 'B' Conditions for the purposes of a specified test or development programme of defined scope and specified duration.	A8–9
F4 Organisations	Organisation approved for the management and control of flights under 'B' Conditions for the purpose of a specified test or development programme of defined scope and specified duration, where the Applicant determines and the CAA agrees that there are no significant flight safety implications.	A8–9
M1 Organisations	Approval of organisations responsible for maintenance of any non-EASA aircraft and/or component for which it is approved, at the locations identified in the approval certificate and Exposition associated with its approval.	A8–23
M2 Organisations	Approval of organisations responsible for maintenance of non-EASA aircraft below 5700 kg, or single engined helicopters, not used for Commercial Air Transport or State purposes.	A8–24
C5 Organisations	Approval of organisations to qualify for the issue or continuation of an approval for the management of the continuing airworthiness of non-EASA aircraft.	A8–25
M3 Aeroplane & Rotorcraft Maintenance Organisations	Organisations approved, in respect of aeroplanes and rotorcraft the maximum total weight authorised of which does not exceed 2730 kg, to make recommendations in respect of C of A renewal and to perform maintenance checks and Star Inspections.	A8–15

A6 Production Organisations	Organisations approved for the production of aircraft, engines, propellers or parts thereof.	A8–21
E5 Qualified Entity	Organisations approved to carry out airworthiness investigations on behalf of the CAA.	A8–22
S1 Sporting Organisations	Organisations approved to provide oversight, design, continuing airworthiness management and maintenance of aircraft.	A8–26

2 The CAA may grant approval in more than one Group.

3 Separate approvals may be required where sections or divisions of an Organisation are autonomous, or where premises are at significantly different geographical locations.

4 On grant of approval an Organisation will receive 'Terms of Approval', and a CAA Organisation Approval reference number which should be quoted on all relevant documents.

5 Fees are established in the Civil Aviation Authority Official Record, Series 5, CAA Scheme of Charges, for investigations connected with the grant, variation and maintenance of each approval.

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Chapter A8-1 Primary Companies – Group A1

1 Introduction

An Organisation may be Approved to provide reports and certify that an aircraft, engine or controlled item of equipment (see A4–2 (B4–2), A4–4 (B4–4) or **A4-10 (B4–10)**) has been designed, manufactured, inspected and tested in conformity with acceptable standards/specifications and in compliance with British Civil Airworthiness Requirements, and in particular cases, with such other requirements as the CAA may consider appropriate, subject to compliance with the procedures set out in this Chapter. The Approval, when granted, will apply to the whole Organisation headed by the Chief Executive and will normally include authority to overhaul, repair, modify and test the company's own products.

2 Application

Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed.

3 Requirements for the Grant of Approval

3.1 The Applicant for Approval shall nominate the following persons:

a) A senior person, or group of persons, whose functions will include co-ordination of all appropriate departments to ensure compliance with the relevant airworthiness requirements and the technical content of customers' orders insofar as airworthiness may be affected. Such person(s) shall be directly responsible to the Chief Executive;

b) Departmental heads and other senior members of the staff as appropriate to the class of work for which Approval is sought;

c) Signatories to relevant Certificates and Declarations as defined in this Section A;

d) A senior person directly responsible to the person or persons nominated under a) above, for the functions of an airworthiness office which must:

i) be established and staffed on a permanent basis;

ii) act as the focal point for co-ordinating airworthiness matters and have adequate access to senior management and adequate authority to ensure the necessary control over relevant airworthiness activities for which the Applicant is responsible;

iii) have adequate staff and resources to handle the airworthiness aspects of the projects for which the Applicant is responsible including continuing airworthiness.

3.2 The Applicant shall provide an Exposition (see A8–1 Appendix No. 1) of the Organisation including the following information:

a) The terms of reference of senior technical personnel as applicable to activities under CAA Approval. Authority to negotiate directly with the CAA on specific subjects shall be defined;

b) The associated chains of responsibility;

c) The scope of the design, development, manufacturing and test facilities together with information on essential inspection and test equipment;

d) The procedures adopted for controlling matters directly affecting airworthiness, and other technical standards which may affect airworthiness at all stages of the design, development and manufacturing processes, including the Quality Control and Assurance systems operated in respect of internal and external work (see 3.12);

e) Any further matters which the CAA decides are necessary arising from initial assessment or subsequent supervisory visits.

3.2.1 Unless otherwise notified, two copies of the Exposition and of all subsequent amendments shall be supplied to the CAA Safety Regulation Group, together with a copy of the distribution list.

3.3 The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness, full and efficient co-ordination exists within departments and between related departments.

3.4 The Applicant shall satisfy the CAA that the persons nominated in accordance with 3.1 are capable and responsible persons and written evidence of their qualifications and experience shall be supplied. The Applicant shall also satisfy the CAA that such persons are conversant with CAA requirements and procedures insofar as they affect the particular matters for which they are responsible. The CAA shall be satisfied that the management of the Organisation will be conducted with due regard to the needs of airworthiness and the character of airworthiness requirements.

3.5 The staff in all appropriate technical departments shall be of sufficient number and experience as may reasonably be expected to undertake the volume of work in the class for which Approval is sought. The design office shall include specialists in all relevant branches of aeronautics whose experience and qualifications are such as to ensure that good judgement is exercised with full appreciation of current aeronautical practice, whether or not specifically covered by the Requirements. Where appropriate, the firm shall be able to call upon the services of flight test personnel whose experience and qualifications are acceptable to the CAA (see A8–9).

3.6 The staff shall be provided with adequate accommodation, facilities and equipment for the effective performance of their duties. Office, laboratory and workshop environmental conditions shall be controlled as necessary in relation to the work. Bonded and quarantine stores shall be provided.

3.7 The Organisation shall have facilities for producing drawings, specifications, test schedules and related information. The appropriate departments shall be so organised that, unless otherwise agreed by the CAA, all assumptions, calculations, drawings and reports on which airworthiness depends are subject to verification. Such verification shall involve checking by a person other than the one who did the original work and may take the form of suitable tests ensuring the basic accuracy of the calculations and drawings.

3.8 Design records shall be such as to provide substantiation of, and proper correlation between, all the data comprising the design. The method used shall be such as to make possible the provision of the necessary design information of any product on which the airworthiness of an aircraft may depend as long as the product may be in service, and until such time after that as may be agreed by the CAA.

3.9 Organisations shall have facilities, or access to suitable facilities, for producing and publishing the necessary technical information required for the safe operation, maintenance, overhaul and repair of the aircraft. The arrangements shall include notification, by document such as Service Bulletins, of mandatory modifications and

inspections. Engine and equipment manufacturing firms shall provide the manufacturer of the aircraft with such information.

3.10 The Organisation shall hold and make available to staff, CAA publications, Approved manuals, specifications, data sheets, and related literature appropriate to the class of work for which Approval is sought. Suitable arrangements shall be made to ensure that these documents are amended up to date.

3.11 The Organisation shall have facilities, or access to suitable Approved facilities, for making such tests as are necessary to establish compliance with acceptable standards/ specifications and the Requirements (e.g. facilities for structural and metallurgical testing, flight testing, weighing and determining the position of the centre-of-gravity of an aircraft).

3.12 A Quality Control and Assurance system shall be operated to the satisfaction of the CAA in respect of all products handled under the terms of CAA Approval. In addition, Quality Control Surveillance shall be exercised in respect of any work carried out for the Approved Organisation by an unapproved Organisation to ensure that the required standards of airworthiness are achieved. Approved Organisations shall, as a condition of placing the order, arrange for the right of entry by the CAA to such an unapproved Organisation should the occasion arise. Placing of orders on an Organisation not Approved by the CAA is permissible only where the Approved Organisation possesses the full technical capability to verify conformance with acceptable Quality standards.

NOTE: CAA Approved Organisations when undertaking work outside their terms of Approval are deemed to be unapproved.

3.12.1 An Organisation Approved as a Primary Company placing orders on suppliers and unapproved organisations shall satisfy itself that the origin of each item supplied is identified and satisfy itself that the item is acceptable and suitable for the intended purpose.

3.12.2 **Definitions.** The following definitions apply.

a) **Quality.** The quality of a product is the degree to which it meets the requirements of the customer. With manufactured products quality is a combination of quality of design and quality of manufacture;

b) **Quality Control.** A management system for programming and co-ordinating the Quality maintenance and improvement efforts of the various groups in a design and/ or manufacturing Organisation, so as to permit production in compliance with CAA requirements, and any specific customer requirements affecting airworthiness;

c) **Quality Assurance.** Overall supervision by the manufacturer of the Quality control tasks to ensure that the Quality required is obtained;

d) **Quality Control Surveillance.** Supervision by the Approved Organisation placing the order of the unapproved Organisation's Quality Control organisation and methods.

3.13 The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment.

3.14 Inspection stamps, of a type and design Approved by the CAA, shall be issued to inspectors for their individual use.

3.15 A Certificate of Release to Service (see **Chapter A6–1** or **B6–1**) shall be issued in respect of each overhaul, repair, replacement, modification or inspection. Where work is carried out on part of an aircraft or its equipment by an Organisation not handling the complete aircraft, a JAA Form One shall be issued to the consignee.

3.16 An Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One), the form of which shall be Approved by the CAA, shall be issued to the consignee for all aircraft parts released under authority of the CAA (see Appendix No. 3). For additional clarity to the recipient, when a JAA Form One is issued under the authority of an Approval granted by the CAA under BCAR requirements, (that is, not in accordance with the JAA requirements), it is recommended that the following statement should be made in Block 13:

'This Certificate has been issued under national rule provisions'

NOTE: The Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One) constitutes the Certificate of Release to Service prescribed in paragraph 3.15 above.

3.17 Technical records shall be maintained and shall be such that proper correlation of all work carried out is established with relevant documents including the following, as appropriate:

a) Customer's order;

b) Aircraft, engine or part;

c) Relevant standards/specifications;

d) Stores records;

e) Test and Inspection records including a record of each identified (i.e. by serial number) component and item of equipment;

f) Certificates of Release to Service;

g) Outgoing Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One).

3.17.1 Essential records shall not be destroyed without authorisation from the CAA.

4 Requirements for the Maintenance of Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is Approved and the CAA shall, at all reasonable times, have access to the Organisation for the purpose of assessing the standard in use.

4.2 A proposed change of the Chief Executive shall be notified to the CAA in writing. The CAA may require the Organisation to supply further information in order to satisfy itself of the suitability of the official concerned insofar as it may affect the CAA Approval of the Organisation.

4.3 Changes in the persons nominated in accordance with paragraph 3.1 shall be notified to the CAA in writing for acceptance.

4.4 The Exposition required by paragraph 3.2 shall be reviewed periodically by the Organisation and any necessary amendments promulgated.

4.5 The Organisation shall consult the CAA if in any difficulty about the interpretation of the Requirements, associated procedures, or on any airworthiness matter which in their opinion involves new problems or techniques.

4.6 At all reasonable times CAA representatives shall have access to all drawings, calculations, reports and records relating directly or indirectly to the airworthiness of an aircraft, engine or any part thereof. The CAA shall also have the right to witness tests or inspections in any way associated with establishing airworthiness of an aircraft, engine, or any part thereof. The Organisation shall keep the CAA representatives fully informed of all defects, incidents and problems which arise during design and development and which could have a significant bearing on airworthiness.

4.7 In order to provide information on problems and defects affecting an aircraft, engine or part in service, the Organisation shall maintain a suitable monitoring system. If, subsequent to Approval of an aircraft, engine or part, the Organisation becomes aware of defects which affect the continuing airworthiness of the product, the CAA shall be advised in order that the appropriate joint action may be taken. Such advice shall be given to the CAA irrespective of the country of registration of the aircraft or whether the defect occurs in the United Kingdom or overseas.

4.8 The CAA may revoke, suspend or vary the terms of Approval if the conditions required for Approval are not maintained.

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Appendix 1 to A8-1 Primary Companies Group A1

1 Introduction

This Appendix is intended as a general guide to the compilation of expositions as required by Chapters A8–1 to **A8–6** of Sub-section **A8**.

1.1 Minimum acceptable requirements for compiling an exposition are not prescribed in this Appendix, but an exposition based on the content of this Appendix, would be acceptable to the CAA.

1.2 The Exposition should be produced in a concise form, and its scope, insofar as it applies to the approval sought, should include a) a description of the Organisation's premises and facilities, b) details of the senior staff responsibilities, and c) the procedures in use to ensure compliance with CAA Requirements and the Organisation's quality standards. The Exposition should be presented in loose leaf form, so that it may be readily amended.

1.3 Where an Organisation desires to use an exposition to satisfy requirements other than those of the CAA, the CAA has no objection to the inclusion of this additional information, provided that the CAA Requirements are fully satisfied.

1.4 An exposition cannot be completed until the relevant approval requirements of Sub-section A8 have been satisfied, and it must be in its final draft before agreement by the CAA, and before terms of approval can be granted. CAA Staff will discuss the Organisation's preliminary drafts during their visit(s) in order to agree the final content.

1.5 The Exposition will form the basis of CAA approval of the Organisation.

1.6 This Appendix has been written under the following headings:

a) Identification of the Exposition (see 2.1);

b) Introduction (see 2.2);

c) Premises and undertakings of the Organisation related to CAA approval (see 2.3);

d) Terms of Approval (see 2.4);

e) Personnel (see 2.5);

f) Facilities (see 2.6);

g) Procedures (see 2.7).

2 Basic Requirements for an Exposition

2.1 Identification. The Exposition should be identified as follows:

a) Company name, document title and reference number;

b) Amendment standard by issue number/date/amendment record;

c) Approval by Chief Executive;

d) Holders of the Exposition, i.e. distribution list;

e) Official title of person responsible for administration of the Exposition;

f) Contents List or Index.

2.2 Introduction. The Introduction should explain the purpose of the document for the guidance of the Organisation's own personnel, and should give general information concerning the Organisation's history and development, in order to provide background information to the CAA. Where appropriate, relationships with other Organisations, forming part of the same group, should be mentioned.

2.3 Organisation's Premises and Undertakings. Brief details of premises should be included quoting addresses, approximate floor space, and types of buildings. The scope of the Organisation's aerospace undertakings, at the addresses of the various premises, should be defined.

2.4 Terms of Approval. The Exposition will form the basis of CAA Approval. A concise definition of the work authorised will be prescribed in the CAA terms of approval. It is recommended that the CAA Certificate and schedule of approval are reproduced and included in the Exposition. The Schedule of Approval may, in some cases, be supplemented by Capability Lists. A Capability List must bear an issue number and date and may not be amended without the agreement of the CAA. A note to this effect should be included at the bottom of the page.

2.5 Personnel. This Section of the Exposition should nominate the persons required under paragraph 3.1 of the relevant Chapter of Sub-section **A8**, giving their terms of reference within the Organisation, and, in particular, outlining responsibilities for liaison with CAA. Duplicate copies of the CAA Form AD 458 should be completed by the persons nominated under paragraphs 3.1 i) and ii) of the relevant Chapter of Sub-section **A8**, and by such other persons as may be required by the CAA.

2.5.1 A diagram, or diagrams, showing chains of responsibility of nominated departmental heads, and senior technical personnel up to the Chief Executive, should be included. These diagrams should also indicate, by suitable means, and/or written description, how technical co-ordination throughout the Organisation is effected.

2.5.2 The 'Personnel' Section should also contain a list of Approved Signatories to the relevant Certificates and Declarations, which are required by BCAR Section 'A' or Section 'B', giving their names, positions in the company, and sample signatures. Details of certification responsibilities should be included.

2.5.3 In some cases, the Organisation may wish to include more information, concerning personnel and their responsibilities, than is required by the CAA, but amendments to the Exposition which affect nominated staff, as required by BCAR, must not be made without CAA concurrence.

2.6 Facilities. This Section should provide information concerning the Organisation's technical facilities and associated essential equipment, which will vary according to the type(s) of activity involved and the specific terms of approval sought.

2.6.1 Under the Section devoted to facilities, information under the headings given below, should be included, where applicable. If there is a good deal of detailed information the use of Appendices is recommended.

a) Research;

b) Design/Drawing Office;

c) Development;

d) Type Testing;

e) Planning;

f) Manufacture and/or Process;

g) Overhaul and Repair;

h) Routine Testing;

i) Storage;

j) Quality assurance and/or Inspection;

k) Metrology and Standards;

l) Specialised Facilities e.g. NDT, Spectrography;

m) Publications and Library;

n) Technical Records;

o) Product Support;

p) Training.

2.6.2 The headings should be varied to suit the size of the Organisation and its activities.

2.7 Procedures. A concise description is required of the Organisation's technical procedures covering all aspects of work conducted within the CAA Terms of Approval; this should show how matters affecting airworthiness are controlled, by references, where appropriate, to existing internal instructions. In order to meet the Requirements, Organisations may elect to establish a Quality Control system (for approval as a Group A Company this is mandatory). The system adopted will, obviously, depend on the size and complexity of the Organisation and the nature of the work undertaken.

2.7.1 The headings below are examples of the procedures which may need to be covered in the Exposition:

a) Quality programme, policy and administration, including the Quality Audit system;

b) Product design and development control;

c) Modification procedures;

d) Concession procedure;

e) Product evaluation, including product approval, field responsibility and defect investigation;

f) Reliability programmes;

g) Control of bought-out items, including Quality Control Surveillance of sub-contractors;

h) Manufacture and process control;

j) Control of stock, including procedures for handling non-conforming parts;

k) Tool, metrology and test equipment control;

l) Process Control;

m) Technical records;

n) Technical publications control, including Service Bulletin procedures;

o) Equipment overhaul, modification and repair procedures, including certification;

p) Test flight procedures;

q) Training;

r) Appendices, giving examples of i) standard forms, cross referenced to the written procedures section; ii) tags indicating the purpose and use of each; iii) inspection stamps, and other identification symbols used to indicate status of parts; iv) Approved Certificate and/or Test Certificate.

Appendix 2 to A8-1 Surveillance of Sub-Contractors

1 Introduction

This Appendix is intended as a general guide to Approved Organisations wishing to place orders on unapproved Organisations.

2 Exposition

The prime contractor should detail in the Exposition:

a) the reasons for sub-contract control, its purpose and any other supporting data;

b) the name of the person responsible for the quality of sub-contract work; and

c) the procedures for controlling sub-contract work.

3 Procedures

In making arrangements for adequate control of sub-contract work the prime contractor should take into account the procedures and responsibilities outlined in 3.1 and 3.2.

3.1 Responsibilities of the Prime Contractor

a) Provision of adequate staff and facilities to enable the person responsible to implement the surveillance system. Periodic review of arrangements to ensure that procedures are adequate for the current work submitted to sub-contractors.

b) Conducting an initial survey to ensure that the sub-contractor's inspection system and supporting facilities are adequate for the anticipated sub-contract work.

c) Assessing all inspection fixtures and test equipment manufactured or bought out by the subcontractor, particularly where these represent the sole acceptance standard.

d) Maintaining a register of sub-contractors who, from the initial surveys, reach the required standard for the type of work to be carried out. This agreed list will be used when placing sub-contract orders and should only be changed with the agreement of the person responsible.

e) Arranging periodic visits as necessary to ensure that the agreed standards are maintained by the sub-contractors.

f) Ensuring that the sub-contractor establishes the cause of defects and deficiencies and takes prompt corrective action.

g) Ensuring that all purchase orders/contracts specify adequate and precise requirements.

h) Supplying the sub-contractor with all the necessary technical information (i.e. drawings, process sheets, company procedures) and ensuring that this information is kept up to date with subsequent amendments.

j) Evaluating the quality of sub-contracted work. This will usually be by receipt inspection, and/or vendor rating arrangements, to ensure that the requirements of the purchase order/contract have been met, and the performance of the sub-contractor controlled.

k) Providing a system to control items not conforming to the purchase order/contract and establishing an adequate concession procedure.

l) Maintaining records in connection with the supervision of sub-contractors and monitoring of sub-contract work.

3.2 **Responsibilities of the Sub-contractor.** The prime contractor should ensure before placing an order with a sub-contractor that the sub-contractor accepts the responsibilities detailed in paragraphs 3.2.1 to 3.2.8

3.2.1 **Nomination of Person Responsible.** Nominate a Chief Inspector/Quality Manager, to be responsible for all technical aspects of the purchase order/contract. He must be technically and administratively competent and acceptable to the prime contractor. The Chief Inspector/Quality Manager must not be given discretionary powers to depart from the requirements of the purchase order/contract.

a) The Chief Inspector/Quality Manager should be responsible directly to a nominated Senior Executive who is not normally responsible for production.

b) The prime contractor should be notified of any change in the position of the Chief Inspector/Quality Manager, and of any other significant change of company ownership, structure, Directors, etc.

c) The Chief Inspector/Quality Manager should have access to all necessary technical and administrative documents.

3.2.2 **Inspection/Quality Control Department.** Provide an inspection organisation with adequate facilities and accommodation. Ensure the competency and efficiency of all inspectors engaged on sub-contract work.

3.2.3 **General**

a) Ensure that the production and inspection departments are provided with appropriate issues of drawings and associated data/instructions considered necessary by the prime contractor.

b) Ensure compliance with BCAR Chapter A8–10, Approval of Welders, where appropriate.

c) Make application under concession procedures to the prime contractor as necessary for the acceptance of manufactured items which do not conform to the relevant drawing(s), specification(s) or purchase order/contract.

d) Establish the cause of defects and deficiencies and take prompt corrective action.

e) Amend any technical information held on behalf of the prime contractor on receipt of such amendments from the prime contractor.

f) Notify the prime contractor of any errors found in their drawings, specifications, purchase order, tools, parts and materials supplied.

g) Ensure that no further sub-contracting takes place without prior permission of the prime contractor.

h) Permit right of access into sub-contractor's premises by the prime contractor and any CAA representative.

3.2.4 **Measuring or Other Quality Control Equipment.** Provide measuring, test equipment and apparatus as necessary to control process and product verification, unless supplied by the prime contractor. All equipment used for the inspection, process control and testing shall be calibrated and maintained periodically as agreed with the prime contractor. This applies to the sub-contractor's own equipment as well as that supplied by the prime contractor.

3.2.5 **Stores**

a) Provide a Quarantine Store as necessary.

b) Provide a Bonded Store as necessary, and ensure that only supplies from this source are used for fulfilment of purchase order/contract.

c) Ensure that only material and parts which conform to specification requirements are used. Where appropriate, material shall be accompanied by an Approved Certificate. Aeronautical parts shall be accompanied by an Approved Certificate or acceptable release documentation as defined in Airworthiness Notice No. 11 to the satisfaction of the prime contractor's Chief Inspector/Quality Manager.

3.2.6 **Records.** Retain essential records in accordance with the requirements of the prime contractor. Such records should include the following information:

a) 'On receipt' inspection acceptance of all supplies;

b) Material identity and batch number from receipt to despatch;

c) Evidence of interstage and final inspection having been completed including the identity of the responsible inspection personnel;

d) Where applicable, statements of any authorised modifications incorporated during manufacture.

3.2.7 **Inspection Stamps**

a) Inspection stamps provided by the sub-contractor should identify an individual inspector.

b) Inspection stamp designs to be agreed by the prime contractor before use.

c) Internal register of the inspection stamps issued to be maintained.

d) Inspection stamp quarantine periods to be defined.

3.2.8 **Release Certifications.** Issue release certifications, each of which should conform with the following arrangements:

a) All items supplied to the prime contractor to be certified as being in accordance with purchase order/contract;

b) Concessions granted by the prime contractor to be detailed;

c) The release certification document to contain information to enable co-relation with items supplied;

d) The following wording for the certification is normally acceptable:

Certified that the goods listed hereon have been inspected and tested and unless otherwise stated, conform to the full requirements of the purchase order/contract.

e) The release certification documents to be signed by the Chief Inspector/Quality Manager of the sub-contractor or his delegated representative acceptable to the prime contractor.

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Appendix 3 to A8-1 Instructions for the Completion of the Authorised Release Certificate/ Airworthiness Approval Tag (JAA Form One) by Manufacturing Organisations

1 Introduction

This Appendix No. 3 is provided as a general guide to the Authorised Release Certificate/ Airworthiness Approval Tag (JAA Form One) Issue 3 required by this Chapter A8–1 and Chapter **A8–2**.

2 Purpose and Scope

2.1 This Appendix relates only to the use of the Certificate for release of 'New' parts, i.e. parts which have not previously been used in operational service.

2.2 Appendix 3 to Section 2 of Part 145 details use of the Certificate for 'Used' parts, i.e. parts which have been used in operational service.

2.3 The purpose of the Certificate is to identify the conformity or airworthiness, and eligibility status of products/appliances/parts/components/assemblies, (hereafter referred to as 'part(s)') after manufacture, in accordance with BCAR A8–1 and **A8–2** only.

2.4 The Certificate referenced JAA Form One (Issue 3 or later) is called the 'Authorised Release Certificate'.

2.5 The Certificate is to be used for export/import purposes, as well as for domestic purposes, and serves as an official certificate for the delivery of parts from the manufacturer to users. The Certificate is not a delivery or shipping note.

2.6 The Certificate may only be issued by manufacturing/production organisations/persons Approved by the CAA, within the scope of such an Approval, or by the CAA itself.

2.7 Aircraft are not to be released using the Certificate.

2.8 A mixture of 'New' and 'Used' parts is not permitted on the same Certificate.

2.9 A mixture of 'Conformity' and 'Airworthiness' items is not permitted on the same Certificate.

2.10 Under no circumstances may a Certificate be issued for any part when it is known that the part is unserviceable or is not in a condition for safe operation.

3 General

3.1 The Certificate should comply with the format of Figure 1 attached, including Block numbers, in that each Block must be located in accordance with the layout. The size of each Block may however be varied to suit the individual application, but not to the extent that would make the Certificate unrecognisable. The overall size of the certificate may be significantly increased or decreased so long as the certificate remains recognisable and legible. If in doubt consult the CAA.

NOTE: The User responsibility statements are normally placed on the reverse of this Certificate, but they may be added to the front of the Certificate by reducing the depth of the form.

3.2 All printing should be clear and legible to permit easy reading.

3.3 The Certificate may either be pre-printed or computer generated, but in either case, the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with Figure 1, but no other certification statements are permitted.

3.4 Completion of the Certificate should be in English.

3.5 The details to be entered on the Certificate can be either machine/computer printed, or hand-written using block letters, and should permit easy reading. Abbreviations should be restricted to a minimum.

3.6 The space remaining on the reverse side of the Certificate may be used by the originator for any additional information, but should not include any certification statement.

3.7 The top copy Certificate should accompany the parts, and correlation should be established between the Certificate and the part(s). A copy of the Certificate should be retained by the Organisation that manufactured the part. Where the Certificate format and the data is entirely computer generated, subject to acceptance by the CAA, it is permissible to retain the Certificate format and data on a secure database.

3.8 There is no restriction on the number of copies of the Certificate sent to the customer or retained by the originator.

3.9 The Certificate that accompanies the part may be attached to the part by being placed in an envelope for durability.

4 Effectivity

4.1 Except as stated in paragraph 4.2, the JAA Form One published as Appendix No. 3 to Chapter A8–1 dated 15 June 1990 should be used for the release of all parts from that date or from the date that Approval was granted under Chapter A8–1 and Chapter A8- 2.

4.2 Issue 3 of JAA Form One should be used for the release of all parts from 1 January 1997 but may be used prior to this date if available to the Approved Organisation.

4.3 Parts released under previous approved formats of JAA Form One issue one (as shown in Appendix No 3 to Chapter A8-1 dated 15 June 1990) prior to 1 January 1997 will remain valid.

5 Completion of Release Certificate by the Originator

Except as otherwise stated, there should be an entry in all Blocks to make the document a valid certificate.

Block 1 The country of origin of the Civil Aviation Authority is the United Kingdom. It may be pre-printed.

Block 2 The first line in this Block should be the Civil Aviation Authority followed by the statement 'A member of the JAA'.

Block 3 A unique number must be pre-printed in this Block for Certificate control and traceability purposes, except that in the case of a computer generated Certificate, the unique number need not be pre-printed, where the computer is programmed to produce the number.

Block 4 The full name and address of the Organisation releasing the part(s) covered by this Certificate. This Block may be pre-printed. Logos, etc., are permitted if the logo can be contained within the Block.

Block 5 Completion of the Block is optional. Its purpose is to reference work order/contract/invoice or any other internal organisational process, such that a fast traceability system can be established. Completion of this Block is strongly recommended, in the absence of part Serial Numbers.

Block 6 This Block is provided for the convenience of the Organisation issuing the Certificate to permit easy cross-reference to the "Remarks" Block 13, by the use of item numbers. Completion is not mandatory.
Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

Block 7 The name or description of the part should be given. Preference should be given to use of the Illustrated Parts Catalogue (IPC) designation. The description is to include reference to any applicable CAA Equipment Approval, JTSO or JPA Authorisations etc.

Block 8 State the Part Number. Preference should be given to use of the IPC number designation.

Block 9 Used to indicate the Type-Approved applications for which the released parts are eligible for installation. The following entries are permitted;

(a) The specific or series aircraft, propeller, or engine model, or a reference to a readily available catalogue or manual which contains such information, for example: 'A300'.

(b) '**Various**', if known to be eligible for installation on more than one model of Type-Approved product, unless the originator wishes to restrict usage to a particular model installation when it should so state. This includes items which have independent Approval status, and which may be eligible for use in a number of different applications, e.g. appliances for which CAA Equipment Approval, or JTSO Authorisation has been issued in accordance with Part 21.

(c) '**Unknown**', if eligibility is unknown.

(d) '**None**', to be used only when it is known that the parts do not yet have a Type-Approved application, for example: pending type certificate, for test only, pending Approved data. If this category is used, then appropriate explanatory information must be provided in Box 13 and new parts may only be given 'Conformity' release.

NOTE: Any information in Block 9 does not constitute authority to fit the part to a particular aircraft, engine or propeller. The User/Installer should confirm via documents such as the Parts Catalogue, Service Bulletins, etc. that the part is eligible for the particular installation.

Block 10 State the quantity of parts being released.

Block 11 State the part Serial Number or Batch Number if applicable, if neither applicable, state 'N/A'.

Block 12 Enter one or a combination of appropriate standard words from the following table. The table lists, in quotes, the standard words permitted for use when releasing new parts prior to entry into service, i.e. the parts have not been previously used in operational service. It also details the circumstances and conditions under which they may be used. In all cases the certification rules relating to Block 14 apply, the appropriate 'Conformity' or 'Airworthiness' box is to be marked, and Block 15 is to be signed.

TABLE OF STANDARD WORDS FOR NEW PARTS

1 'MANUFACTURED'

(a) The production of a new part in conformity with the applicable design data, or

(b) Re-certification by the original manufacturer after rectification work on a part, previously released under 1(a) above, which has been found to be unserviceable prior to entry into service, e.g. defective, in need of inspection or test, or shelf life expired. Details of the original release and the rectification work are to be entered in Block 13, or

(c) Re-certification of new parts from 'Conformity' to 'Airworthiness' at the time of Approval of the applicable design data, provided that the parts conform to the approved design data. An explanation of the basis of release, and details of the original release, are to be entered in Block 13.

2 'INSPECTED'/'TESTED'

The examination of a previously released new part;

(a) to establish conformity with the applicable design data; or

(b) in accordance with a customer-specified standard or specification, details of which are to be entered in Block 13; or

(c) to establish serviceability, and condition for safe operation, prior to re-release as a spare, where the part has been obtained with a JAA Form One. An explanation of the basis of release, and details of the original release, are to be entered in Block 13.

3 'MODIFIED'

The alteration, by the original manufacturer, of a previously released part prior to entry into service. Details of the alteration and the original release are to be entered in Block 13.

NOTE: The above statements should be supported by reference to the approved data/manual/specification. Such information shall be identified in Block 13.

Block 13 It is mandatory to state any information in this Block either direct or by reference to supporting documentation, that identifies particular data or limitations relating to the parts being released that are necessary for the User/Installer to make the final airworthiness determination of the part. The information shall be clear, complete and provided in a form and manner which is adequate for the purpose of making such a determination.

Each statement must be clearly identified as to which item it relates.

If there is no statement, state 'None'.

Examples of conditions which would necessitate statements in Block 13 are;

- Usage restriction for repaired items.
- Modification standard.
- Alternative Approved parts supplied.
- Concessions applicable.
- Details of repair work carried out or reference to a document where this is stated.
- Compliance or non-compliance with AD's, or Service Bulletins.
- Information on life limited parts.
- Condition of parts or reference to a document detailing this information.
- Manufacturing date or cure date.
- Shelf life data.
- Shortages.
- Time Since New (TSN), etc.
- Exceptions to the notified special requirements of the importing country.
- Specially configured to meet the notified special requirements of the importing country
- Re-certification of previously released 'new' items.

For additional clarity to the recipient, when a JAA Form One is issued under the authority of an Approval granted by the CAA under BCAR requirements, (that is, not in accordance with the JAA requirements), it is recommended that the following statement should be made in block 13:

'This Certificate has been issued under national rule provisions'.

This statement may be pre-printed on the certificate.

Block 14 This block should only be used to indicate the status of new parts.
If the part fully conforms to an Approved Design standard then the 'Airworthiness' box should be marked. If the part conforms to applicable design data, which is not Approved, for a reason that must be stated in Block 13, (e.g. pending type certificate, for test only, pending approved data) then the 'Conformity' box should be marked. Only one box should be marked. Mixtures of 'Airworthiness' and 'Conformity' parts are not permitted on the same JAA Form One. Also refer to the notes for completion of Block 9.

Block 15 The hand-written normal signature of a person who has written authority from an Approved Organisation to make Certifications in respect of new parts. Use of a stamp instead of a signature is not permitted, but the authorised person may add a stamp impression to his signature to aid recognition. Subject to the agreement of the CAA in any particular case, computer-generated signatures may be acceptable, if it can be demonstrated that an equivalent level of control, traceability, and accountability exists.

Block 16 State the full authorisation reference given by the CAA to the Organisation/ person releasing the new parts or, in the case of release by a CAA staff member, the identity of the CAA staff member.

Block 17 The name of the person signing Block 15, printed, typed, or written in a legible form.

Block 18 The date on which Block 15 is signed, in the format day/month/year.

Block 19 Not used for release of new parts.

Block 20 Not used for release of new parts.

Block 21 Not used for release of new parts.

Block 22 Not used for release of new parts.

Block 23 Not used for release of new parts.

1 UNITED KINGDOM	2 CIVIL AVIATION AUTHORITY A member of the JAA	**JAA FORM ONE** AUTHORISED RELEASE CERTIFICATE	3 Certificate Ref. No.
4 Organisaion approved by Block 2 Authority to issue this Form			5 Work Order/Contract/Invoice

6 Item	7 Description	8 Part No.	9 Eligibility[1]	10 Qty	11 Serial/Batch No	12 Status/Work

13 Remarks

Limited life parts will normally be accompanied by maintenance history including life used.

14 Airworthiness Conformity only	19 Part 145.50 Release to Service Other regulation specified in Block 13
Certifies that the part(s) identified above except as otherwise specified in Block 13 was (were) manufactured/inspected in accordance with the applicable design data and with the airworthiness regulations of the stated country. (See over)	Certifies that the work specified above except as otherwise specified in Block 13 was carried out in accordance with Part 145 and in respect to that work, the part(s) is (are) considered ready for release to service. (See over)

15 Signature	16 Approval Reference Number	20 Signature	21 Approval Reference Number
17 Name	18 Date (d/m/y)	22 Name	Date (d/m/y)

JAA Form One - Issue 3 1 Installer must cross-check eligibility with applicable technical data

AUTHORISED RELEASE CERTIFICATE – JAA FORM ONE USER/INSTALLER RESPONSIBILITIES

NOTE: 1 It is important to understand that the existence of the document alone does not automatically constitute authority to install the part/component/assembly.

2 Where the user/installer works in accordance with the national regulations of an Airworthiness Authority different from the Airworthiness Authority specified in block 2 it is essential that the user/installer ensures that his/her Airworthiness Authority accepts parts/components/assemblies from the Airworthiness Authority specified in block 2.

3 Statements 14 to 19 do not constitute installation certification. In all cases the aircraft maintenance record must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

Chapter A8-2 Suppliers – Group A2

1 Introduction

An Organisation may be Approved to certify that aeronautical components, assemblies and items of equipment have been manufactured, inspected and tested in conformity with acceptable specifications/standards and to CAA requirements, subject to compliance with the procedures set out in this Chapter. The Approval, when granted, will apply to the whole Organisation headed by the Chief Executive and will normally include authority to overhaul, repair, modify, test and inspect the company's own products. The Approval will necessitate control of standards/specifications and amendments thereto to the satisfaction of the CAA. The ultimate responsibility for the product and its fitness for purpose is vested in the Primary Company or Design Organisation which specifies the product. Approval under this Chapter A8–2 will not be granted to Organisations performing subcontract work where inspection on receipt can verify compliance with the specification/order.

2 Application

Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed.

3 Requirements for the Grant of Approval

3.1 The Applicant for Approval shall nominate the following persons:

a) A senior person, or group of persons, whose functions will include co-ordination of all appropriate departments to ensure compliance with the relevant airworthiness requirements and the technical content of customers' orders insofar as airworthiness may be affected. Such person(s) shall be directly responsible to the Chief Executive;

b) Departmental heads and other senior members of staff as appropriate to the class of work for which Approval is sought;

c) Signatories to Approved Certificates.

3.2 The Applicant shall provide an Exposition (see A8–1 Appendix No.1) of the Organisation, including the following information:

a) The terms of reference of senior technical personnel as applicable to activities under CAA Approval. Authority to negotiate directly with the CAA on specific subjects shall be defined;

b) The associated chains of responsibility;

c) The scope of the manufacturing and test facilities together with information on essential inspection and test equipment;

d) The procedures adopted for controlling matters directly affecting airworthiness, and other technical standards which may affect airworthiness at all stages of the design, development and manufacturing processes, including the Quality Control and Assurance systems operated in respect of internal and external work (see 3.11);

e) Any further matters which the CAA decides are necessary arising from initial assessment or subsequent supervisory visits.

3.2.1 Unless otherwise notified, two copies of the Exposition and of all subsequent amendments shall be supplied to the CAA Safety Regulation Group, together with a copy of the distribution list.

3.3 The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness, full and efficient co-ordination exists within departments and between related departments.

3.4 The Applicant shall satisfy the CAA that the persons nominated in accordance with 3.1 are capable and responsible persons and written evidence of their qualifications and experience shall be supplied. The Applicant shall also satisfy the CAA that such persons are conversant with CAA requirements and procedures insofar as they affect the particular matters for which they are responsible. The CAA shall be satisfied that the management of the Organisation will be conducted with due regard to the needs of airworthiness and the character of airworthiness requirements.

3.5 The staff in all appropriate technical departments shall be of sufficient number and experience as may reasonably be expected to undertake the volume of work in the class for which Approval is sought.

3.6 The staff shall be provided with adequate accommodation, facilities and equipment for the effective performance of their duties. Office, laboratory and workshop environmental conditions shall be controlled as necessary in relation to the work. Bonded and quarantine stores shall be provided.

3.7 The Organisation shall have facilities, or access to suitable approved facilities, for making such tests as are necessary to establish compliance with acceptable standards/specifications and the Requirements. The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment.

3.8 The Organisation shall have facilities, or access to suitable facilities, for producing manufacturing drawings, specifications, test schedules and technical information required for the safe operation, maintenance, overhaul and repair of the items for which the firm is Approved and shall provide the Primary Company, which specifies the product, with such information.

3.9 Design records shall be such as to ensure proper correlation of drawings and amendments with all the data which comprises the design and the Organisation shall not authorise variation of build standard or test schedules without the concurrence of the appropriate Primary Company.

3.10 The Organisation shall hold and make available to staff, CAA publications, Approved manuals, specifications, data sheets and related literature appropriate to the class of work for which Approval is sought. Suitable arrangements shall be made to ensure that these documents are amended and kept up to date.

3.11 A Quality Control and Assurance system shall be operated to the satisfaction of the CAA in respect of all products handled under the terms of CAA Approval. In addition, Quality Control Surveillance shall be exercised in respect of any work carried out for the Approved Organisation by an unapproved Organisation to ensure that the required standards of airworthiness are achieved.

Approved Organisations shall, as a condition of placing the order, arrange for the right of entry by the CAA to such an unapproved Organisation should the occasion arise. Placing of orders on an Organisation not Approved by the CAA is permissible only where the Approved Organisation possesses the full technical capability to verify conformance with acceptable Quality Standards.

NOTE: CAA Approved Organisations when undertaking work outside their terms of Approval are deemed to be unapproved.

3.11.1 An Organisation Approved as a supplier placing orders on an unapproved organisation shall satisfy itself that the origin of each item supplied is identified and satisfy itself that the item is acceptable and suitable for the intended purpose.

3.11.2 **Definitions.** The following definitions apply:

a) **Quality.** The quality of a product is the degree to which it meets the requirements of the customer. With manufactured products quality is a combination of quality of design and quality of manufacture.

b) **Quality Control.** A management system for programming and co-ordinating the Quality maintenance and improvement efforts of the various groups in a design and/or manufacturing Organisation, so as to permit production in compliance with CAA requirements, and any specific customer requirements affecting airworthiness.

c) **Quality Assurance.** Overall supervision by the manufacturer of the Quality Control tasks to ensure that the Quality required is obtained.

d) **Quality Control Surveillance.** Supervision by the Approved Organisation placing the order of the unapproved Organisation's Quality Control organisation and methods.

3.12 Inspection stamps of a type and design Approved by the CAA shall be issued to inspectors for their individual use.

3.13 A Certificate of Release to Service (see A6–1 or B6–1) shall be issued in respect of each overhaul, repair replacement, modification or inspection and retained by the Organisation.

3.14 An Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One), the form of which shall be Approved by the CAA, shall be issued to the consignee for all aircraft parts released under authority of the CAA (see A8–1, Appendix No. 3). For additional clarity to the recipient, when a JAA Form One is issued under the authority of an Approval granted by the CAA under BCAR requirements, (that is, not in accordance with the JAA requirements), it is recommended that the following statement should be made in block 13:

'This Certificate has been issued under national rule provisions'.

NOTE: The Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One) constitutes the Certificate of Release to Service prescribed in 3.13 above.

3.15 Technical records shall be maintained and shall be such that proper correlation of all work carried out is established with relevant documents including the following, as appropriate:

a) Customer's order;

b) Part(s);

c) Relevant standards/specifications;

d) Stores records;

e) Test and Inspection records including a record of each identified (i.e. by serial number) component and item of equipment;

f) Certificates of Release to Service;

g) Outgoing Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One).

3.15.1 Essential records shall not be destroyed without authorisation from the CAA.

4 Requirements for the Maintenance of Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is Approved and the CAA shall, at all reasonable times, have access to the Organisation for the purpose of assessing the standard in use.

4.2 A proposed change of the Chief Executive shall be notified to the CAA in writing. The CAA may require the Organisation to supply further information in order to satisfy itself of the suitability of the official concerned insofar as it may affect the CAA Approval of the Organisation.

4.3 Changes in the persons nominated in accordance with 3.1 shall be notified to the CAA in writing for acceptance.

4.4 The Exposition required by 3.2 shall be reviewed periodically by the Organisation and any necessary amendments promulgated.

4.5 The Organisation shall consult the CAA if in any difficulty about the interpretation of the Requirements, associated procedures, or on any airworthiness matter which in their opinion involves new problems or techniques.

4.6 The CAA shall have the right to witness tests or inspections in any way associated with establishing airworthiness of an aircraft/engine part.

4.7 The CAA may revoke, suspend or vary the terms of Approval if the conditions required for Approval are not maintained.

Chapter A8-3 Overhaulers – Group B1

1 Introduction

An Organisation may be Approved to certify that overhauls, repairs, modifications, replacements, inspections and tests to aircraft, engines, items of equipment or components thereof have been carried out in conformity with acceptable standards/ specifications and CAA requirements, subject to compliance with the procedures set out in this Chapter A8–3. The Approval, when granted, will apply to the whole Organisation headed by the Chief Executive.

2 Application

Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed.

3 Requirements for the Grant of Approval

3.1 The Applicant for Approval shall nominate the following persons:

a) A senior person, or group of persons, whose functions will include co-ordination of all appropriate departments to ensure compliance with the relevant airworthiness requirements and the technical content of customers' orders insofar as airworthiness may be affected. Such person(s) shall be directly responsible to the Chief Executive;

b) Departmental heads and other senior members of staff as appropriate to the class of work for which Approval is sought;

c) Signatories to Approved Certificates, and Engine Inspection and Test Certificates (where appropriate).

3.2 The Applicant shall provide an Exposition (see Chapter A8–1 Appendix No.1) of the Organisation, including the following information:

a) The terms of reference of senior technical personnel as applicable to activities under CAA Approval. Authority to negotiate directly with the CAA on specific subjects shall be defined;

b) The associated chains of responsibility;

c) The scope of the overhaul/repair facility together with information on essential inspection and test equipment;

d) The procedures adopted for controlling matters directly affecting airworthiness, and other technical standards which may affect airworthiness including the Quality Control Surveillance system operated in respect of sub-contracted work where applicable (see paragraph 3.10);

e) Where approval for the amendment of manuals has been granted (see Chapter A8–3 Supplement No. 1), the procedures for controlling such amendments and certifications;

f) Where the Supplementary Rating 'Airline Spares Transfer' has been granted, the procedures adopted to ensure compliance with paragraph 3.12;

g) Any further matters which the CAA decides are necessary arising from initial assessment or subsequent supervisory visits.

3.2.1 Unless otherwise notified, two copies of the Exposition and of all subsequent amendments shall be supplied to the CAA Safety Regulation Group, together with a copy of the distribution list.

3.3 The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness, full and efficient co-ordination exists within departments and between related departments.

3.4 The Applicant shall satisfy the CAA that the persons nominated in accordance with 3.1 are capable and responsible persons and written evidence of their qualifications and experience shall be supplied. The Applicant shall also satisfy the CAA that such persons are conversant with CAA requirements and procedures insofar as they affect the particular matters for which they are responsible. The CAA shall be satisfied that the management of the Organisation will be conducted with due regard to the needs of airworthiness and the character of airworthiness requirements.

3.5 The staff in all appropriate technical departments shall be of sufficient number and experience as may reasonably be expected to undertake the volume of work in the class for which Approval is sought.

3.6 The staff shall be provided with adequate accommodation, facilities and equipment for the effective performance of their duties. Office, laboratory and workshop environmental conditions shall be controlled as necessary in relation to the work. Bonded and quarantine stores shall be provided.

3.7 The Organisation shall have facilities, or access to suitable Approved facilities, for making such tests as are necessary to establish compliance with acceptable standards/specifications and the Requirements. The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment.

3.8 Inspection stamps, of a type and design Approved by the CAA, shall be issued to inspectors for their individual use.

3.9 The Organisation shall hold and make available to staff, CAA publications, Approved manuals, specifications, data sheets and related literature appropriate to the class of work for which Approval is sought. Suitable arrangements shall be made to ensure that these documents are amended up to date.

3.10 A Quality Control and Assurance system shall be operated to the satisfaction of the CAA in respect of all products handled under the terms of CAA Approval. In addition, Quality Control Surveillance shall be exercised in respect of any work carried out for the Approved Organisation by an unapproved Organisation to ensure that the required standards of airworthiness are achieved (see A8–1, Appendix No. 2). Approved Organisations shall, as a condition of placing the order, arrange for the right of entry by the CAA to such an unapproved Organisation should the occasion arise. Placing of orders on an Organisation not Approved by the CAA is permissible only where the Approved Organisation possesses the full technical capability to verify conformance with acceptable Quality Standards.

NOTE: CAA Approved Organisations when undertaking work outside their terms of Approval are deemed to be unapproved.

3.10.1 An Organisation Approved as a supplier placing orders on an unapproved organisation shall satisfy itself that the origin of each item supplied is identified and satisfy itself that the item is acceptable and suitable for the intended purpose.

3.10.2 **Definitions.** The following definitions apply:

a) **Quality.** The quality of a product is the degree to which it meets the requirements of the customer. With manufactured products quality is a combination of quality of design and quality of manufacture.

b) **Quality Control Surveillance.** Supervision by the Approved Organisation placing the order of the unapproved Organisation's Quality Control organisation and methods.

3.11 A Certificate of Release to Service (see A6–1 or B6–1) shall be issued in respect of each overhaul, repair, replacement, modification or inspection. Where work is carried out on part of an aircraft or its equipment by an Organisation not handling the complete aircraft, a JAA Form One shall be issued to the consignee.

3.12 An Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One), the form of which shall be Approved by the CAA, shall be issued to the consignee for all aircraft parts released under authority of the CAA (see A8–1, Appendix No. 3).

NOTE: The Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One) constitutes the Certificate of Release to Service prescribed in 3.11 above.

3.13 Technical records shall be maintained and shall be such that proper correlation of all work carried out is established with relevant documents including the following, as appropriate:

a) Customer's order;

b) Aircraft, engine or part;

c) Relevant standards/specifications;

d) Stores records;

e) Test and Inspection records including a record of each identified (i.e. by serial number) component and item of equipment;

f) Certificates of Release to Service;

g) Outgoing Authorised Release Certificate/Airworthiness Approval Tag (JAA Form One).

3.13.1 Essential records shall not be destroyed without authorisation from the CAA.

4 Requirements for the Maintenance of Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is Approved and the CAA shall, at all reasonable times, have access to the Organisation for the purpose of assessing the standard in use.

4.2 A proposed change of the Chief Executive shall be notified to the CAA in writing. The CAA may require the Organisation to supply further information in order to satisfy itself of the suitability of the official concerned insofar as it may affect the CAA Approval of the Organisation.

4.3 Changes in the persons nominated in accordance with 3.1 shall be notified to the CAA in writing for acceptance.

4.4 The Exposition required by 3.2 shall be reviewed periodically by the Organisation and any necessary amendments promulgated.

4.5 The Organisation shall consult the CAA if in any difficulty about the interpretation of the Requirements, associated procedures, or on any airworthiness matter which in their opinion involves new problems or techniques.

4.6 The CAA shall have the right to witness tests or inspections in any way associated with establishing airworthiness of an aircraft, engine or any part thereof.

4.7 The CAA may revoke, suspend or vary the terms of Approval if the conditions required for Approval are not maintained.

Supplement 1 to A8-3 Amendment of Maintenance, Overhaul and Repair Manuals and Wiring Diagrams

1 Introduction

An Organisation approved as an Overhauler Group B1 in accordance with this Chapter A8–3, having the capability to carry out such work, may apply to have its terms of approval extended to include the initiation of amendment to Maintenance, Overhaul and Repair Manuals and Wiring Diagrams associated with the aircraft, engines, components and equipment specified in the Terms of Approval.

2 Facilities

An Organisation holding Group B1 Approval applying for an extension to its Terms of Approval to include the amendment to Manuals shall have adequate facilities and procedures for the preparation and substantiation of proposed amendments and a system for filing and recording the associated data and, where applicable, a system for promulgating the information.

3 Classification

3.1 Amendments to manuals and wiring diagrams are considered to be modifications and as such any proposed change must be submitted to the CAA Area Office for classification. The relevant procedures of Chapter A2–5 (B2–5) shall be observed.

3.2 The CAA, in deciding upon the classification, will consider the airworthiness implication, the degree of CAA involvement, and the effect on the basis of original certification or similar acceptance of the aircraft, component or system.

3.3 Due consideration will also be given to the technical expertise available within the Organisation to substantiate the amendment and whether or not reference should be made to the original manufacturer or similar source of specialised knowledge for guidance.

3.4 Amendments will be classified as Major or Minor. Notification of a Minor classification signifies CAA approval whereas notification of a Major classification will require Form AD 282 procedures to be followed (see A2–5 (B2–5), 2.2.1).

4 Types of Amendments

4.1 Amendments may only reflect the following:

a) Changes introduced by Service Bulletins, Service Letters, or similar documentation of UK or foreign origin, for which no Manual amendment have been issued by the manufacturer.

b) Modifications introduced by Design Organisations acceptable to the CAA, other than the original manufacturer.

c) Changes in methods and procedures of maintenance or overhaul tasks initiated by the Organisation.

d) Minor modifications proposed by the Organisation and approved by the CAA.

e) Changes or modifications associated with aircraft, engines, components and equipment specified in the Schedule of Approval.

NOTES: 1 Where the original manufacturer is extant, he should be required to agree the change or, at least, issue a statement of "no objections".

2 In cases where the original manufacturer no longer exists, or can be shown to be unable or unwilling to respond, the CAA should be consulted and the judgement made that where the proposed change could have a marked effect on Airworthiness, there is sufficient evidence to determine that the effect will not be detrimental.

5 Procedure

Group B1 Overhaulers approved to amend associated manuals will be required to adopt the following procedures:

a) All proposed amendments shall be submitted to the CAA supervising Area Office for classification;

b) All pages forming part of the amendment shall be headed with the Organisation's name, title or other identification to avoid confusion with the original manual pages;

c) An initial amendment to a particular manual or drawing shall have a separate, suitably titled amendment record sheet;

d) Marginal lines shall be used to identify text material which differs from the original manual;

e) All amendments shall be certified by the Organisation's Quality Manager or Chief Inspector (see Chapter A5–3, paragraph 5 (Chapter B5–3, paragraph 4));

f) All amendments subsequently issued by the original publisher of the manual shall be checked for their effect on the Organisation's amended pages.

Chapter A8-6 Test Houses – Group B4

1 Introduction

An Organisation may be Approved to provide reports and certify that test/examinations on an aircraft, engine, or related part, system, or material have been made in compliance with requirements or specifications published or accepted by the CAA, subject to the procedures set out in this Chapter A8–6. The Approval, when granted, will apply to the whole Organisation headed by the Chief Executive.

2 Application

Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed.

3 Requirements for the Grant of Approval

3.1 The Applicant for approval shall nominate the following persons:

a) The person in direct charge of the test house and, where applicable, a deputy;

b) The technical director or senior executive to whom the person directly in charge of the test house is responsible;

c) Other senior members of the test house staff and of related departments;

d) Signatories to Approved Test Certificates.

3.2 The Applicant shall provide an Exposition (see A8–1 Appendix No.1) of the Organisation, including the following information:

a) The terms of reference of senior technical personnel, as applicable to activities under CAA Approval;

b) The associated chains of responsibility;

c) The scope of the test house facility, together with information on essential inspection and test equipment;

d) The procedures adopted for conducting tests/examinations, and reporting thereon;

e) Any further matters which the CAA decides are necessary arising from initial assessment or subsequent supervisory visits.

3.2.1 Two copies of the exposition and of all subsequent amendments shall be supplied to the CAA Safety Regulation Group, together with a copy of the distribution list. The Applicant will be notified when the CAA requires more than two copies of the Exposition.

3.3 The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness, full and efficient co-ordination exists within the test house, and between the test house and other departments of the company.

3.4 The Applicant shall satisfy the CAA that the person in charge of the test house and his accredited deputy are capable and responsible persons, and written evidence of their qualifications and experience shall be supplied. The CAA shall be satisfied that the management of the Organisation will be conducted with due regard to the needs of airworthiness and the character of airworthiness requirements, and that the persons nominated in accordance with paragraph 3.1 are conversant with CAA requirements

and procedures insofar as they affect the particular matters for which they are responsible.

3.5 The test house staff shall be of sufficient number and experience as may reasonably be expected to undertake the volume of work in the class for which approval is sought.

3.6 The test house staff shall be provided with adequate accommodation, facilities and equipment for the effective performance of their duties. The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment, and the laboratory or test house environmental conditions shall be controlled as necessary in relation to the work. Bonded and quarantine stores shall be provided, where appropriate.

3.7 An Approved Certificate, the form of which shall be approved by the CAA, shall be issued to the consignee for each item tested or examined and released under the CAA approval. Approved Certificates shall be numbered serially at the time of bulk printing, except as otherwise agreed by the CAA. The wording of the certification shall be as follows:

Certified that the above mentioned specimens/parts/materials/systems* have been tested/examined in accordance with the terms of the contract/order applicable thereto and the requirements of the Civil Aviation Authority relating to the testing of such specimens/parts/materials/systems*. This Certificate does not relate to the standard or quality of manufacture of the item/material except as may be specified in the test contract/order.

Signed .....

for and on behalf of .....

Date .....

***Delete where inapplicable.**

3.8 Test house records shall be maintained and shall be such that proper correlation of all work carried out is established with relevant documents including the following, as appropriate:

a) Customer's order;

b) Item under Test/Examination;

c) Relevant standards/specifications;

d) Test Report including a record of each identified (i.e. by serial number) component and item of equipment;

e) Outgoing Approved Test Certificate.

3.8.1 Suitable arrangements shall be made for checking and supervising test results and recordings. Essential records shall not be destroyed without authorisation from the CAA.

4 Requirements for the Maintenance of Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is approved and the CAA shall, at all reasonable times, have access to the Organisation for the purpose of assessing the standard in use.

4.2 A proposed change of the Chief Executive shall be notified to the CAA in writing. The CAA may require the Organisation to supply further information in order to satisfy itself of the suitability of the official concerned insofar as it may affect the CAA Approval of the Organisation.

4.3 Changes in the persons nominated in accordance with 3.1 shall be notified to the CAA in writing for acceptance.

4.4 The Exposition required by 3.2 shall be reviewed periodically by the Organisation and any necessary amendments promulgated.

4.5 The Organisation shall consult the CAA if in any difficulty about the interpretation of the Requirements or associated procedures.

4.6 The CAA shall have the right to witness tests in any way associated with establishing airworthiness.

4.7 The CAA may revoke, suspend or vary the Terms of Approval if, in the opinion of the CAA, the conditions required for approval are not maintained.

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Chapter A8-8 Design Organisations – Group E1, E2 and E3

1 Introduction

1.1 An Organisation may be approved to provide reports and certify that the design of an aircraft, equipment or any part thereof or modification or repair scheme complies with CAA requirements, and in particular cases with such other requirements as the CAA may consider appropriate, subject to compliance with the procedures set out in this Chapter A8–8. The approval, when granted, will apply to the whole organisation headed by the Chief Executive.

1.2 Approvals under the provisions of this Chapter may fall into one or more of the following groups:

a) **E1** Organisations approved to provide reports and certify that the original design of an aircraft, or equipment or any part thereof, and any subsequent modifications and repairs are such as to comply with CAA Design requirements. The approval includes authority to certify design-originated documentation associated with operation, maintenance, overhaul, or repair of the product.

b) **E2** Organisations approved to provide reports and certify that the design of modifications or repairs to an existing aircraft or equipment (i.e. originated by another organisation), or any part thereof, is such as to comply with CAA Design requirements. The approval may include authority to certify any necessary changes to design originated documentation associated with maintenance, overhaul, or repair of the modified product.

c) **E3** Organisations approved to provide reports and to certify that a particular aircraft conforms to a standard approved by the CAA, for the issue of a Certificate of Airworthiness, for that aircraft type, or, differs in a defined manner from that approved standard.

NOTES: (1) The reports regarding the condition of an aircraft shall reflect the information detailed in the Appendix No 1 to this Chapter and include a declaration that, apart from any exceptions stated, compliance with the approved standard has been established.

(2) The CAA recognises that categories E1 to E3 cover a wide range of activities that may require significant organisational resources. Thus, while it is believed that the principles of this chapter are applicable, flexibility will be used in interpreting these requirements in relation to the class of activity for which approval is sought. In particular, for Approvals under Sub-Group E3 only, it is recognised that an organisation does not need the capability for original design work.

(3) The terms of the approval granted will define the scope and capability of the organisation and specify the reports that may be made.

(4) Each approval group is discrete such that, for example, an E1 approval does not include E2 or E3 privileges.

2 Application

Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed.

3 Requirements for the Grant of Approval

3.1 The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness, full and efficient co-ordination exists within the design office and related technical and administrative departments, and between the design office and any recognised sub-contractors.

3.2 The qualifications and experience of the design office staff shall, in the opinion of the CAA, be adequate to conduct the work involved in establishing compliance with the Requirements, and shall be such as to ensure that good judgment is exercised with a full appreciation of current aeronautical practice in design matters, whether or not specifically covered by requirements. The CAA shall be satisfied that the management of the Organisation will be conducted with due regard to the needs of airworthiness and the character of airworthiness requirements, as appropriate to the class of work to be undertaken under the Terms of Approval.

3.3 The design organisation staff shall be of sufficient number as may reasonably be expected to undertake the airworthiness investigation of the volume of work in the class for which approval is sought. The staff shall include (as applicable) specialists qualified in all branches of aeronautics, and authors, technical writers/editors for the preparation of manuals, it shall be demonstrated that satisfactory formal arrangements exist by which adequate access to such necessary specialist expertise is available for the purpose of conducting work under the authority of the Organisation's design office.

NOTE: For an E3 Organisation the staff shall include specialists in relevant branches of maintenance and airworthiness, including technical services staff. There shall be suitable arrangements for an inspection of the aircraft to establish compliance with the documented airworthiness standard.

3.4 The Applicant for approval shall nominate the following persons:

a) The person in direct charge of the design organisation;

b) The technical director or senior executive to whom the person directly in charge of the design organisation is responsible;

c) Other senior members of the design organisation and of related departments;

d) Signatories to Design Certificates and Declarations and Reports.

3.5 The Applicant shall provide an Exposition (see A8–1 Appendix No.1) of the Organisation, including the following information:

a) The terms of reference of senior personnel, as applicable to activities under CAA Approval;

b) The associated chains of responsibility;

c) The scope of the design office facility, together with information on essential procedures, test equipment and records;

d) The procedures adopted for conducting inspections, tests, examinations. For an Organisation holding Group E3 Approval, procedures should define any sub-contract arrangements that may be in place with organisations performing aircraft inspections;

e) Any further matters which the CAA decides are necessary arising from initial assessment or subsequent supervisory visits;

f) The arrangements by which work may be undertaken on behalf of the organisation;

g) For approvals in Group E1 and E2, procedures for the recording of the required particulars in the Civil Modification Record required by BCAR Section A Chapter A2–5;

h) For approvals in Group E3, procedures for recording particulars to satisfy paragraph 3.10 for reports or certificates issued under the approval.

3.5.1 Two copies of the Exposition and of all subsequent amendments shall be supplied to the CAA Safety Regulation Group, together with a copy of the distribution list. The Applicant will be notified when the CAA requires more than two copies of the Exposition. The following paragraphs 3.6 to 3.9 inclusive are not applicable to organisations for Approval under Sub-Group E3.

3.6 The design office shall be so organised that, unless otherwise agreed by the CAA, all assumptions, calculations, drawings and reports on which airworthiness depends are subject to verification. Such verification shall involve checking by a person other than the one who did the original work and may take the form of suitable tests ensuring the basic accuracy of the calculations and drawings.

3.7 The Organisation shall have facilities, or access to suitable approved facilities, for making such tests as are necessary to establish compliance with the Requirements. The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment.

3.8 The Applicant shall have facilities, or access to suitable approved facilities, for producing and publishing the appropriate technical information required for the safe operation, maintenance, overhaul and repair of the items for which the Organisation is approved and, where applicable, the arrangements shall include notification, by documents such as Service Bulletins, of mandatory modifications and inspections. The manufacturer or owner of the aircraft shall be provided with such information.

3.9 Design records shall be such as to provide substantiation of, and proper correlation between, all the data comprising the design. The method used shall be such as to make possible the provision of the necessary design information of any product on which the airworthiness of an aircraft may depend as long as the product may be in service, and until such time after as may be agreed by the CAA.

3.10 For Organisations approved under Group E3, the records of technical investigations performed under the approval shall be such as to provide proper correlation with the aircraft Technical Records and an adequate record of the basis and substantiation of the reports and/or Certificates of Design Conformity issued. (An example of the format of such a report is given in Appendix 1 to this Chapter.)

4 Requirements for the Maintenance of Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is approved and the CAA shall, at all reasonable times, have access to the organisation for the purpose of assessing the standard in use.

4.2 A proposed change of the Chief Executive shall be notified to the CAA in writing. The CAA may require the Organisation to supply further information in order to satisfy itself of the suitability of the official concerned insofar as it may affect the CAA approval of the Organisation.

4.3 Changes in the persons nominated in accordance with paragraph 3.4 shall be notified to the CAA in writing. Such changes require CAA approval.

4.4 The Exposition required by paragraph 3.5 shall be reviewed periodically by the Organisation and any necessary amendments promulgated.

4.5 The Organisation shall consult the CAA if in any difficulty about the interpretation of the Requirements, associated procedures or on any airworthiness matter which in their opinion involves new problems or techniques.

4.6 At all reasonable times CAA representatives shall have access to all drawings, calculations, reports and records relating directly to the airworthiness of an aircraft, engine, or any part thereof. The CAA shall have the right to witness tests or inspections in any way associated with establishing airworthiness of an aircraft, engine, or any part thereof. The Organisation shall keep the CAA representatives fully informed of all defects, incidents and problems which arise during inspection, design and development and which could have a significant bearing on airworthiness.

4.7 For Organisations approved under groups E1 and E2, if, subsequent to approval of an aircraft, engine or part, the organisation becomes aware of defects which affect the continuing airworthiness of the product, the CAA shall be advised in order that the appropriate joint action may be taken. Such advice shall be given to the CAA irrespective of the country of registration of the aircraft or whether the defect occurs in the United Kingdom or overseas.

4.8 The CAA may withdraw, suspend or vary the terms of approval if, in the opinion of the CAA, the conditions required for approval are not maintained. The terms of approval may also be varied as a result of changes in the company's undertakings or facilities.

5 Certification

5.1 Groups E1 or E2 Approved Organisations may issue a Certificate of Design, signed by an approved signatory of the particular Organisation, and worded in the form set out in BCAR Chapter A2–5/A2–4 for UK manufactured aircraft and Section B Chapter B2–5/B2–5 for foreign manufactured aircraft.

5.2 Group E3 Approved Organisations may issue a Certificate of Design Conformity signed by an approved signatory of the particular Organisations and worded as detailed in Appendix 1 to this Chapter.

CERTIFICATE OF DESIGN CONFORMITY

Aircraft Designation .....

Registration Marks .....

Manufacturer's Serial Number of Aircraft .....

Certificate of Airworthiness Categories .....

.....

.....

Performance Group .....

Engine(s) Type .....

I hereby certify that, except for the differences detailed below, the design standard of the above aircraft conforms to the CAA certificated type design standard.

Modification(s) .....

.....

.....

Exceptions .....

.....

.....

Signed .....

Organisation .....

CAA Approval Ref. No. .....

Date .....

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Appendix 1 to A8-8 Guidance Material for E3 Organisations on the Production of the Aircraft Report, for Imported Used Aircraft

This Appendix provides guidance in complying with the requirements of BCAR A8-8 paragraph 3.10.

1 Introduction

1.1 Purpose of the Aircraft Report

A series aircraft is an aircraft, including engines and equipment, the design of which is similar in every essential respect to the design of an aircraft for which a United Kingdom Certificate of Airworthiness has previously been issued. Such an aircraft is eligible for a Certificate of Airworthiness. A series modified aircraft, is an aircraft that incorporates modifications or repairs classified as Major, relative to the UK certified aircraft build standard, that require CAA approval for the issue of a Certificate of Airworthiness.

The Aircraft Report will assist the E3 organisation in recording the CAA approval status of the aircraft build standard, and hence in substantiating to CAA a series or series modified classification for the aircraft according to the above definitions. It will also assist the organisation in recording details on the Continued Airworthiness of the aircraft and the Inspection of the aircraft, and hence in providing to CAA a Certificate of Design Conformity for series aircraft.

The report will propose and substantiate the series/series modified classification, and will assist the CAA when conducting an appropriate survey of the aircraft and its records, for the purposes of issuing a Certificate of Airworthiness.

NOTES:

1 Reference to 'aircraft' herein, includes its engines, APU, transmission, propellers, systems and equipment, etc., (as applicable), and its documentation, including its records, logs, maintenance documents, and operational documents, etc.

2 The 'series/series modified' classification must also be declared on the CA3 Application Form.

1.2 Form and Content of the Aircraft Report

The information that follows this introduction provides guidance for the layout and content of the Aircraft Report.

NOTE: This should not be considered as a definitive check list of the issues to be addressed during the E3 organisation investigations.

1.3 Development of the Aircraft Report

In order for the E3 organisation to propose whether the aircraft is series or series modified, it must determine the CAA approval status of the aircraft build standard. This can be achieved by identifying whether any modifications or repairs have been embodied relative to the CAA certified aircraft build standard. Details on the CAA certified aircraft build standard can be found in the associated Airworthiness Approval Notes (AANs) which are recorded in the CAA AAN Data Base. The repairs should be considered against Airworthiness Information Leaflet (AIL) 0180 which provides guidance for identifying any repairs that require CAA approval.

When this process is complete, the E3 organisation may then propose a series/series modified classification and provide the report to CAA for agreement.

Details on the Continued Airworthiness of the aircraft and the inspection of the aircraft should be incorporated in section B of the report, which can be provided to CAA at a later stage if necessary.

The Certificate of Design Conformity should be provided to CAA for series aircraft in the final report, when the E3 organisation has completed its investigations.

NOTES:

1 The report should address the powerplant, APU, transmission, and propellers, in addition to the airframe, systems, and equipment.

2 Modifications may include Additional Requirement for Import or Additional National Design Requirements (ARI/ANDRs) embodied during build.

3 The aircraft inspection should confirm that the aircraft build standard conforms with its documented build standard.

4 The report will be considered to be part of the inspection records, and as such must not be destroyed unless authorised by the CAA.

1.4 Promulgation of the Aircraft Report to CAA

The report should be provided to the Aircraft Certification Section in the Aircraft Projects Department, to enable the series/series modified classification to be agreed. The report should also be provided to the applicable Regional Office responsible for the issue of the Certificate of Airworthiness.

2 Aircraft Report

This section provides guidance on the expected format and content of the aircraft report, as follows:

Aircraft Report

Organisation:.....Approval Reference:.....
Aircraft Report Reference:.....Issue:.....
Airworthiness Approval Note Number:.....Aircraft Registration:.....
Applicant :.....(Application Form CA3 dated:.....)

Section B of the Aircraft Report is included/will follow. (Delete as applicable.)

Report Title:.....

Report Summary:.....

Author:..... **Approved:.....**

Date:..... **Date:.....**

Aircraft Report - Contents

Introduction

This section should include:

- A brief statement outlining the objectives of the report.
- The current Type Certificate Holders.
- The aircraft manufacturer.
- The countries in which the aircraft has previously been registered along with the Certificate of Airworthiness category under which it operated.
- Basic aircraft details as follows:

Aircraft Type: .....Manufacturer's Serial Number: .....

Engine Type: .....Manufacturer's Serial Number: .....

APU Type: .....Manufacturer's Serial Number: .....

Propeller Type: .....Manufacturer's Serial Number: .....

Certificate of Airworthiness Categories: .....……

Performance Group: ……..

Section A: CAA Approval Status of the Aircraft Build Standard

1 Build Standard

1.1 General

This section should include:

a) A reference to the UK Type Certificate Data Sheet numbers (Airframe, Engine and Propeller as applicable).

b) The Airworthiness Approval Note (AAN) number under which the Aircraft Type was certified.

c) The AAN number for the issue of a Certificate of Airworthiness, to which the imported aircraft is being compared.

1.2 CAA Additional Requirements for Validated Aircraft

CAA ARIs are specified in CAP 480 for compliance with the requirements for Type Certification, Certificate of Airworthiness, and Operational Approval. This paragraph should incorporate a statement against the applicable ARIs for Type Certification and the Certificate of Airworthiness. The statements should identify how compliance with each of the ARIs has been achieved. When a previously CAA approved modification is embodied as the means of compliance with an ARI, the modification title, number, and CAA approval reference should be included in the statement. If a modification which is not CAA approved is embodied as the means of compliance with the ARI, the modification should be referenced in the statement and addressed in paragraph 2 below.

1.3 JAA Additional Requirements for Validated Aircraft

Compliance with the JAA Type Certification build standard will need to be established for JAA validated aircraft types. If the aircraft was not built to the JAA type certification build standard, then compliance with the JAA Additional Requirements for Type Certification will need to be shown. JAA Additional Requirements for Type Certification are not currently published, so this information should be obtained from the CAA Design Liaison Surveyor for the type.

Additional National Requirements (ANRs) are published in the JAA Administration and Guidance Material (Section 3, Part 4, Registers). The JAA Type Certification build standard will comply with ANRs for Type Certification. However, a statement against each applicable ANR for the issuance of a UK Certificate of Airworthiness will need to be made. When a previously CAA approved modification is embodied as the means of compliance with an associated ANR, the modification title, number, and CAA approval reference should be included in the statement. If a modification which is not CAA approved is embodied as the means of compliance with the ANR, the modification should be referenced in the statement and addressed in paragraph 2.

NOTE: Confirmation of compliance with the UK Airworthiness Notices, as specified in the ARIs/ANRs, can be provided in section B paragraph 5 of the report.

2 Modifications relative to the CAA Certified Build Standard

This section should provide details on each modification, including minor modifications, which should include the following, as applicable. The modification information should include the CAA approval reference, and identify those modifications that require CAA

approval. Details of CAA approved modifications may be provided in an appendix to the report if necessary:

- The modification title.
- The modification design organisation.
- The modification installation organisation *.
- The modification reference number or Service Bulletin number.
- A brief description of the modification *.
- The CAA approval reference, e.g. CAA AAN number or Service Bulletin number, under which the modification was approved.
- The Foreign National Airworthiness Authority that approved the modification, and their approval reference, e.g. FAA Supplemental Type Certificate number, or Field Approval eg FAA DER Form 8110-3, etc *.
- The modification classification minor/major (as agreed with the CAA).
- The Flight Manual Supplement reference.
- Any additional limitations introduced which compensate for a partial none compliance with a requirement.
- Any additional maintenance actions required for the modification.

* Only for modifications which require CAA approval.

NOTE: Modifications can only be classified as being either Major or Minor by an appropriately approved E1 or E2 design organisation.

3 Repairs relative to the CAA Certified Build Standard

This should include details on each major repair to the aircraft, which should include the following, as applicable. Repairs requiring CAA approval should be clearly identified. Details of approved repairs may be provided in an appendix to the report if necessary:

- The repair title.
- The repair design organisation.
- The repair installation organisation *.
- The repair reference.
- The CAA basis of approval (Refer to AIL 180).
- Affect on any life limitations.
- Affect on inspections or their frequencies.

* Only for repairs which require CAA approval.

NOTE: Repairs can only be classified as being either Major or Minor by an appropriately approved E1 or E2 design organisation.

4 Equipment Fit

This section should include a list of any equipment that is not CAA approved along with their associated foreign approval references, e.g. TSO. Refer also to section B paragraph 3 b). If the installation of the equipment has not been approved by the CAA, this should be addressed in section A paragraph number 2.

5 Flight Manual

This section should specify the reference and revision status of the Aircraft Flight Manual (AFM). The Temporary Revisions, applicable Supplement(s) and Change Sheet(s) (Design Organisation and CAA), must also be referenced.

NOTE: The AFM must reflect the build standard of the aircraft

6 Summary List of Deviations and Variations

This section should contain a summary list of deviations from the design certification requirements, if any. The list should specify the method of acceptance, for example, acceptance based upon equivalent safety findings approved by CAA. Where a temporary variation has been granted against a certification requirement, the period for which the variation remains valid should be stated.

Section B: Continued Airworthiness

This section should incorporate details on how the following subjects have been addressed:

1 Maintenance Schedule

As an aircraft in respect of which a C of A is in force, shall not fly unless the aircraft is maintained in accordance with an approved Maintenance Schedule, the Applicant may elect to provide the following information in the report:

a) A Maintenance Schedule alignment check undertaken as agreed with CAA.

b) All components with life limitations must be identified and cross referenced to the source document. The overhaul/service life remaining for each component or Out of Phase Inspection, including Certified Maintenance Requirements (CMR one star * or two star ** items) must also be established.

2 Airworthiness Limitations

Compliance must be established with the airworthiness limitations that are specified or referenced by the Aircraft, Engine, or Propeller Type Certificate Data Sheets. Airworthiness Limitations may include specific inspections and maximum retirement lives.

3 Air Navigation Order

All the certification requirements applicable to the issue of the Certificate of Airworthiness must be complied with, and in particular the following;

a) The aircraft must be weighed and a weight schedule raised.

b) A list of applicable equipment must be provided including radio equipment as required, along with the respective CAA/JAA type approval reference.

c) Separate log books, acceptable to the CAA, must be provided for the aircraft, engines and VP propellers.

d) Placards and Markings required by the ANO must be affixed and displayed in appropriate locations.

4 Airworthiness Directives

This section should incorporate a list of all applicable Airworthiness Directives promulgated by the State of Design and CAA Additional Airworthiness Directives, with respect to the Aircraft, Engines and Equipment, as required under AN 36. Conformation and method of compliance shall be stated in each case. If an Airworthiness Directive has not been complied with, a justification for acceptance should be provided (e.g. short term compensating factors). Where an Airworthiness Directive has been complied with by using an alternative means of compliance, the approval of such methods must be referenced. Where appropriate, the periodicity for initial and repetitive inspections, with respect to the applicable Calendar/Flt Hours/Cycle limits should also be stated.

5 UK Airworthiness Notices

This section should incorporate a statement against each applicable Airworthiness Notice describing how compliance with the notice has been achieved. If a previously CAA approved modification is embodied as the means of compliance with an Airworthiness Notice, the modification title and number and CAA approval reference should be included in the statement. If compliance is achieved by embodying a modification that is not CAA approved, the modification should be referenced in the statement and addressed in Section A paragraph number 2.

6 Aircraft Inspection

This section should include a reference to the inspection report(s) conducted in accordance with Chapter A8-8 paragraph 1.2.

7 Series Flight Test

This section should incorporate the Series Flight Test Schedule and Report references.

8 Continued Airworthiness

This section should incorporate details of the design organisations that are responsible for the continued airworthiness of any major modifications installed in the aircraft that are not the responsibility of the TC holder.

Section C: Conclusions

This section should provide the conclusions of the assessment. If only section A of the report is provided in the first instance, this section can provide the conclusions of the assessments performed for section A.

Aircraft Report: Attachment 1

E3 Proposed Series/Series Modified Classification:

I have assessed the above aircraft and have established that it is Series /Series Modified (Delete as applicable) to the following aircraft, as detailed in Section A of the report:

Registration:..... Serial No: .....AAN No:.....

Name:..... Signature: ..... Date:.....

CAA Response to E3 Proposed Classification

The CAA agrees/disagrees to the proposed series/series modified classification (Delete as applicable):

Name:..... Signature :..... Date:.....

Return to: E3 Organisation
Copy to: The appropriate CAA Regional Office
The CAA Applications and Certification Department

Aircraft Report: Attachment 2

E3 Certificate of Design Conformity to the CAA Approved Airworthiness Standards:

I hereby Certify that, apart from the exceptions detailed below, the airworthiness standard of the above aircraft conforms to the applicable CAA airworthiness standards, as detailed in this report:

Name:..... Signature :.....…….... Date:.....…….....

Exceptions:

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Chapter A8-9 Approval of Organisations for Flight under 'B' Conditions – Group F1, F3 and F4

1 Introduction

1.1 An Organisation approved to this Chapter may operate aircraft under 'B' Conditions, as prescribed in Schedule 2 of the Air Navigation Order, subject to any conditions specified by the CAA in such approval. The aircraft may fly without a Certificate of Airworthiness or Permit to Fly being in force; the aircraft may fly without being registered.

NOTE: In accordance with Article 252 of the ANO, flight under "B" conditions is not applicable to aircraft on, or destined to be on, the military register.

1.2 Approvals under the provision of this Chapter are granted in one or more of the following groups:

a) **F1.** An approval granted to an Organisation approved for the full management and control of flights under 'B' Conditions;

b) Reserved;

c) **F3.** An approval granted to an Organisation for the management and control of flights under 'B' Conditions for the purposes of a specified test or development programme of defined scope and specified duration;

d) **F4.** An approval granted to an Organisation for the management and control of flights under 'B' Conditions for the purposes of a specified test or development programme of defined scope and specified duration, where the Applicant determines and the CAA agrees that there are no significant flight safety implications.

1.3 Each approval group is discrete such that, for example, an F1 approval does not include F3 or F4 privileges. It is possible however, for an Organisation to be approved in more than one group.

1.4 The Schedule of Approval may restrict the Organisation to a limited scope, aircraft category, or specific aircraft dependent upon the flight test expertise retained and the relative complexity of the projects undertaken.

2 Application

With the exception of Group F4, application for approval under this Chapter must be made on Form SRG 1741, which may be obtained on the CAA website www.caa.co.uk/SRG1741 shall be completed and returned as instructed. Application for F4 approval must be made using Form ADF400.

3 Requirements for Grant of Approval

3.1 **Group F1** approval may only be granted to an Organisation, which meets the requirements of this Chapter and holds an approval in either group A1 in accordance with the requirements of Chapter A8–1, or groups E1 and A2, or groups E2 and A2 in accordance with the requirements of Chapters A8–8 and A8–2 respectively. Approvals granted under Part 21 may be accepted in lieu of a BCAR approval. The Organisation

shall provide an Exposition containing the particulars identified in Appendix 1 to this Chapter A8–9. The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness and flight testing, full and efficient co–ordination exists within departments and between related departments.

3.2 **Group F3** approval may only be granted to an Organisation which meets the Requirements of this Chapter A8–9 and holds an approval in either group A1 in accordance with the requirements of A8–1, or groups E1 or E2 in accordance with the requirements of A8–8. Approvals granted under Part 21 may be accepted in lieu of a BCAR approval. The Organisation shall provide an Exposition containing the particulars identified in Appendix 2 to this Chapter A8–9, as necessary to the proposed task, and detailing how the interfaces between the flight test, design and quality management functions are managed by the Organisation who will be the F3 approval holder. The duration of the approval will not normally exceed 12 months and will be cancelled on completion of the programme. The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness and flight testing, full and efficient co-ordination exists within departments and between related departments.

3.3 **Group F4** approval may only be granted to an Organisation, which meets the requirements of this Chapter A8–9. There shall be a substantiation of, and proper correlation between, all the data comprising the design; this shall be at least sufficient to allow a determination to be made that there are no significant flight safety implications. The Organisation shall provide a compliance and control statement containing the particulars identified in Appendix 3 to this Chapter A8–9. The duration of the approval will not normally exceed 3 months and will be cancelled on completion of the programme. The Organisation shall satisfy the CAA that full and efficient co–ordination exists between the persons identified under paragraph 3.5.2 of this Chapter A8–9, and that they understand their roles and responsibilities.

3.4 **General Requirements**

3.4.1 **Elements of Approval**

Any approval to conduct flights under 'B' Conditions requires the availability of suitable and appropriately approved personnel, facilities and procedures for the control of the principal aspects of flight under 'B' Conditions. These shall include the following elements:

a) **Flight** – to conduct safe flight operations;

b) **Design** – to determine the areas where flight testing has to be undertaken and provide information on the appropriate conditions and limitations and also to control the aircraft build standard or modification state. The conditions shall include specification of any additional maintenance of the aircraft arising from development or modification;

c) **Airworthiness and Inspection** – to ensure compliance with the requisite build standard or modification state (embracing manufacture, inspection and installation) and adequate maintenance of the aircraft whilst operating under 'B' Conditions;

d) **Quality Management** – an independent quality system that will by means of auditing ensure that the Organisation (embracing Flight, Design, Airworthiness/ Inspection) operates in accordance with established procedures and remains in compliance with this Chapter.

The relative strengths of these four elements may vary according to the nature of the work undertaken. (See Appendices to this Chapter). The Applicant may form an association with other approved Organisations to meet the requirements of the approval.

3.4.2 **Essential Procedures**

Procedures must be documented and agreed with the CAA to address the following:

a) Airworthiness. The holder of an approval granted under this Chapter shall not allow an aircraft to fly unless he is satisfied that the aircraft is in every way fit for flight;

b) Conduct of Flights. Flights shall only be undertaken in accordance with the Air Navigation Order supplemented by such procedures as the approval holder considers necessary and which are accepted by the CAA. Applicants shall ensure that aerodromes used for flying under 'B' conditions are suitable for the testing proposed.

c) Safety Provisions for Test Flying. For all test flying under 'B' Conditions, the approval holder must consider the need for special equipment for the purposes of the safety of the trials, e.g. harnesses, parachute stowages, emergency exits, anti–spin parachutes, instrumentation and the means for disconnecting automatic devices;

d) Certificate of Clearance. An aircraft shall not fly on any test flight unless an appropriate Certificate of Clearance is completed by the approval holder.

3.4.3 **Optional Procedures**

Where it is intended that the activities, in this paragraph, are to be undertaken the Exposition must contain procedures to address them.

Air Displays

F1 or F3 Approval – Before an aircraft may participate in an air display in accordance with Schedule 3 of the Air Navigation Order, the approval holder shall ensure that the aircraft build standard, operating limitations and display profile have been agreed to by the CAA.

F4 Approval – Display flying is not permitted under an F4 approval.

3.4.4 **Foreign Registered Aircraft**

Arrangements for flight testing by a Chapter A8-9 approval holder, of aircraft registered in a country other than the UK shall be agreed in writing with the Authority of the country of registry. The aircraft is to be maintained, operated and (if necessary) modified in a manner acceptable to the Authority of the country of registry as well as being conducted in accordance with the Organisation's Exposition.

3.5 **Nomination of Persons for Acceptance by the CAA**

Except where otherwise stated for each person nominated under this paragraph, a Form AD458 shall be submitted to the CAA.

For the head of the flight test function and all flight test aircrew, the following additional particulars are required:

a) Licences held;

b) Particulars of flight training;

c) Aircraft types on which in current flying practice (Reference JAR–FCL 1.245 (JAR–FCL 1 Subpart F) and JAR–FCL 2.245 (JAR–FCL 2 Subpart F));

d) Total hours on each type;

e) Test flying qualifications and experience.

3.5.1 **F1 or F3 Approval**

The Applicant for approval shall nominate for acceptance by the CAA:

a) The individual accountable for ensuring compliance with the requirements of this Chapter whose function will include co–ordination between all Organisations involved;

b) Signatories to certificates and schedules required by this Chapter.

3.5.2 **F4 Approval**

The applicant for approval shall be satisfied that the following persons hold the appropriate licenses or approvals and are otherwise suitably qualified.

a) The individual accountable for ensuring compliance with the requirements of this Chapter whose function will include co-ordination between all organisations involved.

b) Signatories to certificates and schedules required by this Chapter.

Where the applicant is in doubt as to the suitability of a person a Form AD458 shall be submitted to the CAA.

3.6 **Flight Crew**

The number and qualifications (including licences where applicable) of the minimum flight crew shall be subject to agreement between the Organisation and the CAA for each type or category of aircraft (as appropriate) concerned.

NOTE: This arrangement will not prejudice the minimum flight crew finally specified in the Flight Manual.

3.7 **Certificate of Clearance**

3.7.1 **F1 or F3 Approval** (see Chapter A8–9 Appendix 1 or 2 as applicable)

a) All flights under 'B' Conditions shall be covered by a Certificate of Clearance, the form of which shall be agreed to by the CAA. There shall be procedures in place to ensure that the Certificate of Clearance is amended, or replaced by a new certificate, whenever a change is made to the aircraft design standard or to any document or action referenced by the Certificate of Clearance.

b) Before flight of an aircraft under 'B' Conditions, the Certificate of Clearance shall be signed by approved persons from each of the following functions, as defined in paragraph 3.4.1:

i) Design;

ii) Airworthiness and Inspection (as applicable for build standard and maintenance);

iii) Flight (aircraft commander) and test pilot, if appropriate;

iv) Quality Management. Where the organisation responsible for the control and management of the 'B' Conditions project has employed another suitably approved organisation to carry out one or more of the elements required, then the signatory to the Certificates of Clearance shall sign under the approval of their own organisation and state the applicable approval reference. It is expected that at least the signatory for the Quality Management and Design elements will be under the approval authority of the applicant.

c) The persons signing the Certificate of Clearance shall ensure that the information provided is adequate to enable the crew to carry out the proposed flights. Before the crew undertakes the flight, they shall be satisfied with the adequacy of the information provided, and the aircraft commander shall sign the Certificate of Clearance.

3.7.1 **F4 Approval** (See Chapter A8–9, Appendix 3)

a) All flights under 'B' Conditions shall be covered by a Certificate of Clearance as defined in Appendix 3 of this Chapter.

b) Prior to the completion of a Certificate of Clearance the applicant shall have supplied to the CAA for review any data, reports, or other substantiation of airworthiness that the CAA may require, together with a flight test schedule.

c) The Certificate of Clearance shall:

i) be signed by an approved person from the appropriate design function to certify the design standard and the flight test schedule for flight, or

ii) reference a document signifying CAA acceptance of the design standard and the flight test schedule for flight.

d) The Certificate of Clearance shall be signed by a person acceptable to the CAA to certify that all necessary actions embracing maintenance, installation and inspection have been completed prior to flight and that the aircraft is in conformance with the defined design standard. (See Appendix 3 sub-paragraph 3.1.2 c)).

e) The Certificate of Clearance shall be signed by a person acceptable to the CAA performing the quality management function to certify that all relevant procedures have been carried out satisfactorily, prior to flight.

f) The pilot in command of the aircraft for the particular flight, and the test pilot if appropriate shall sign the Certificate of Clearance, prior to flight, to certify that he has received and understood all of the information necessary to conduct the flight to the specified schedule.

3.8 Flight Data Recording

3.8.1 Each aircraft to be flown under 'B' Conditions shall be fitted with data and/or voice recording equipment as specified in the Air Navigation Order Schedule 4 as appropriate for the description of the aircraft. Flight testing for the issue of a Certificate of Airworthiness for series production aircraft does not require fitment of flight data recorder or voice recorder equipment.

3.8.2 Reserved.

3.8.3 The equipment, when required by the Air Navigation Order Schedule 4, shall be operational throughout each flight conducted under 'B' Conditions. The data and/or voice recording systems may be unserviceable for any positioning flights associated with flights under 'B' Conditions.

3.8.4 In respect of each aircraft flown under 'B' Conditions and which is required to carry recording equipment, a specimen of acceptable records obtained from the equipment specified in the foregoing paragraphs 3.8.1 to 3.8.3 (inclusive) shall be preserved together with a means of identifying the flight to which the record relates. An F4 approval holder need only provide a specimen of the records obtained if there is any evidence that the conduct of the flight test was not satisfactory.

3.8.5 The records required by paragraph 3.8.4 above shall not be destroyed without written authorisation from the CAA.

3.9 Aircraft Markings

3.9.1 Aircraft not registered in the United Kingdom nor under the law of any country referred to in Article 3 of the Air Navigation Order, shall be marked so as to comply with the following paragraphs 3.9.2 and 3.9.3.

3.9.2 The aircraft shall be marked with the letter G followed by a numeral which shall be allocated by the CAA ('B' Conditions Number) and further followed by any other numeral allocated by the approved Organisation. The three marks shall be separated by hyphens such that the combined marks are not those displayed currently by any other aircraft.

The marks shall conform to the principles of the Air Navigation Order as to registration marks of aircraft in respect of position, size, width, spacing and colour.

NOTE: These markings are only permissible within UK airspace. Where 'B' Conditions controls are agreed by the CAA for use outside UK airspace, the aircraft must be registered and display the appropriate registration marks.

3.9.3 The holder of the Approval granted under this Chapter shall maintain a register of the markings, which shall cross refer to the corresponding aircraft serial number allocated by the Manufacturer.

3.10 **Maintenance of Aircraft**

Any aircraft flying under 'B' Conditions shall continue to be maintained in accordance with the maintenance schedule or programme approved for the said aircraft. Any aircraft flying under 'B' Conditions for which there is no approved maintenance schedule or programme shall be maintained in an airworthy condition in accordance with a programme of maintenance prepared in accordance with appropriate procedures of the 'B' Conditions approval holder. These procedures should include provisions for any additional maintenance, which may arise from development or modifications to the aircraft while operating under 'B' Conditions.

4 Requirements for Maintaining Approval

4.1 The Organisation shall be maintained at the standard necessary to undertake the work for which it is approved and the CAA shall, at all reasonable times, have access to the Organisation for the purpose of assessing the standard in use.

4.2 Any changes to the information provided to the CAA for the grant of the approval shall first be notified to the CAA in writing. Such changes require CAA approval.

4.3 Where an Exposition is required, this and any associated Supplements shall be maintained up to date. All amendments must be approved by the CAA.

4.4 Changes of the persons nominated in accordance with paragraph 3.5 of this Chapter shall be notified to the CAA in writing for acceptance.

4.5 At all reasonable times, the CAA shall have access to all data, reports, and records relating directly or indirectly to the flight testing or airworthiness of an aircraft, engine, or any part thereof. The CAA shall also have the right to witness tests or inspections in any way associated with establishing the airworthiness or fitness for flight of an aircraft, engine, propeller, or any part thereof.

4.6 The CAA may revoke, suspend, or vary the Schedule of Approval if the conditions required for approval are not maintained or if the Organisation cannot continue to demonstrate compliance.

4.7 Any 'reportable occurrence', meaning an incident or accident subject to the provisions of Article 117 of the Air Navigation Order, shall be reported to the CAA in accordance with the information and guidance provided in CAP 382 'The Mandatory Occurrence Reporting Scheme'.

Appendix 1 to A8-9

Approval of Organisations for Flight under 'B' Conditions Group F1

This Appendix contains information for guidance in complying with the requirements of Chapter A8–9 applicable to an F1 approval.

1 Reserved

2 Management

The following information is required to be included in the Organisation Exposition:

a) Name and address of company;

b) A company Organisation chart showing the lines of responsibility to the Chief Executive of:

   i) the chief test pilot and/or the head of the flight test function (see paragraph 3 below);

   ii) the design function (see paragraph 4 below);

   iii) the quality management function (see paragraph 5 below);

   iv) the airworthiness and inspection, which includes the manufacturing, installation and maintenance functions (see paragraph 6 below).

c) Procedures detailing how the flight test function will interface with the approved design and quality management functions, for the issue of a Certificate of Clearance, including the procedures for the generation and approval of flight test schedules;

d) The nominated signatories for the Certificate of Clearance;

e) A copy of a Certificate of Clearance;

f) Procedures detailing the interface arrangements of any associated Organisations supporting the 'B' Conditions approval.

NOTE: The flight test schedule in c) above must specify the test points to be examined during a specific test flight.

3 The Flight Test Function

The following should be included in the Exposition:

a) Particulars of facilities for the Flight Test function;

b) An Organisation chart showing the lines of responsibility of the flight test personnel to the Head of the Flight Test function;

c) The names of the Certificate of Clearance flight test signatories (see also paragraph 7 n) of this Appendix);

d) The flight Test Operations Manual, detailing the procedures for the control of flight tests.

4 The Design Function

The following information relating to the design function should be included in the Exposition:

a) Details of the design function supporting the 'B' Conditions approval;

b) The names of the Certificate of Clearance design signatories (see also paragraph 7 k) of this Appendix);

c) The procedures for the control of the modification standard, configurations and conditions to be flight tested.

5 The Quality Management Function

The following information relating to the quality management function should be included in the Exposition:

a) Details of the quality management function supporting the 'B' Conditions approval.

b) The names of the Certificate of Clearance design signatories (see also paragraph 7 k) of this Appendix).

6 The Airworthiness and Inspection Function

The following information relating to the airworthiness and inspection function, which includes manufacture, installation and maintenance, should be included in the Exposition:

a) The names of the Certificate of Clearance Airworthiness and Inspection signatories (see also paragraph 7 l) and m) of this Appendix;

b) The procedures for the control of the build standard of the aircraft;

c) The procedure for notifying the pilot of any changes embodied on the aircraft;

d) The arrangements for maintaining the aircraft (see Chapter A8–9, sub-paragraph 3.10).

7 Certificate of Clearance

The form of the Certificate of Clearance, to be agreed with the CAA, should normally contain at least the following information:

a) Organisation name and approval number;

b) Certificate number;

c) The date of issue;

d) Type, serial number and registration of the aircraft;

e) A reference to documents defining the design standard of the aircraft;

f) A reference to the approved flight test schedule(s);

g) The maximum weight and centre-of-gravity limits;

h) All pertinent operating limitations;

i) The minimum crew;

j) Any other restrictions considered necessary;

k) A statement that the design standard and conditions stated on the certificate are adequate to conduct the necessary flight tests;

l) A statement that the build standard of the aircraft conforms to the design standard and that the aircraft is fit for flight;

m) A statement of compliance with maintenance requirements specified by the manufacturer and if appropriate, as modified by the design function in relation to the work being undertaken, including hours available to the next maintenance check;

n) A statement that the flight crew (and ground observers) understand and accept the test plan and limitations for the flight and that a pre-flight briefing has been carried out;

o) A statement by the quality management function that all relevant procedures have been carried out satisfactorily.

8 Functional Flight Tests

An aircraft conforming to a build standard, including all modifications, which has previously been approved by the CAA will normally require no further action on behalf of the Applicant. However, the instructions for actions to be completed prior to release to service for the aircraft, or for embodiment of an approved modification may require a functional flight test to be undertaken. If the flight test involves a functionality test only, then it can be carried out under 'A' Conditions and does not require any 'B' Conditions approval. Test flying of an aircraft of a build standard, including all modifications, not previously approved by the CAA will normally be undertaken using a 'B' Conditions approval.

9 Categories of Aircraft

As indicated in Chapter A8–9 paragraph 1.5, setting out the requirements for grant of approval may restrict the Organisation to a limited scope or category of aircraft. An Organisation may be approved for more than one category. The following categorisation will be used in the Schedule of Approval in relation to the categories of aircraft:

Category 1; Aeroplanes greater than 5,700 kg.

Category 2; Aeroplanes up to and including 5,700 kg.

Category 3; Rotorcraft greater than 5,700 kg.

Category 4; Rotorcraft, excluding Light Gyroplanes, up to and including 5,700 kg.

Category 5; Very Light Aeroplanes up to 750 kg.

Category 6; Microlight Aeroplanes and Small Light Aeroplanes up to 450 kg.

Category 7; Sailplanes and Powered Sailplanes.

Category 8; Gas Airships.

Category 9; Manned Free Balloons and Hot Air Airships.

Category 10; Light Gyroplanes.

NOTE: These are broad categories which may cover a wide variety of types of aircraft. Further restrictions may be imposed within these categories.

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Appendix 2 to A8-9

Organisations - Approval for Flight under 'B' Conditions Group F3

This Appendix contains information for guidance in complying with the requirements of Chapter A8–9 applicable to an F3 approval.

1 Application for Group F3 Approval (see Chapter A8–9, paragraphs 1.2 c), 3.2, 3.5 and 4.2)

The F3 Approval is one of specified duration and specified scope. It is recognised that some Organisations will have the need to apply for additional approval(s) within the F3 group either after termination of the task against which the original approval was granted, or concurrently with the original task. It is not the intention of the requirements of Chapter A8–9 in this case to place undue burden upon Organisations in the subsequent application process.

a) When making the initial application for the grant of a group F3, or in the event of making a new application following a revocation or suspension of a previous F3 Approval, the Organisation must satisfy all relevant parts of Chapter A8–9 including the provision of an appropriate Exposition (or supplement to an existing Exposition where an approval in another group is held).

b) Where an Organisation wishes to make a subsequent application for the grant of a group F3 Approval and has previously held an F3 Approval which has expired having reached its specified duration, or holds a current F1 or F3 approval with a different scope specification, then the CAA may agree that a full Exposition, satisfying all relevant parts of Chapter A8–9, is not necessary and it will be sufficient for that Organisation to include with the application a supplement to the original Exposition submitted and approved in connection with the original application.

c) The Exposition supplement, identified in sub-paragraph 1 b) of this Appendix, need only identify the items, required by Chapter A8–9, which have changed from that identified in the original document and should contain a statement that all other items in the original document remain unchanged. The basic procedures, which control the flight test activity, would not be expected to change. Examples of the items that may change are the modification reference, flight test schedule, aircraft registration and serial number, flight test crew, manufacture, installation or maintenance organisations etc.

d) Where an application is made for the grant of an additional group F3 Approval, as defined in sub-paragraph 1 b) of this Appendix, then the CAA process required to investigate the application will normally consider only the changes and will be kept to a minimum. In the event that no changes have occurred, or where the changes are simple, an expeditious process resulting in the granting of the F3 Approval can be anticipated.

e) Notwithstanding any other statement contained within this Appendix, where an Organisation has, or has applied for, the grant of more than one F3 Approval, the CAA may wish to reassess the standards in use from time to time.

f) In connection with an application made for the grant of an additional group F3 Approval, as defined in sub-paragraphs 1 b) and 1 d) of this Appendix, any charges due will be commensurate with the CAA work involved and may be less than that required for an initial application. In certain circumstances, particularly where no changes have occurred, it may be possible to include the charges for the additional F3 Approval within the overall charges for an associated modification.

2 Management

The following information is required to be included in the Organisation Exposition:

a) Name and address of company;

b) A company Organisation chart showing the lines of responsibility to the Chief Executive of:-

i) the Chief Test Pilot and/or the head of the flight test function (see paragraph 3 below);

ii) the design function (see paragraph 4 below);

iii) the quality management function (see paragraph 5 below);

iv) the airworthiness and inspection function which includes the manufacturing, installation and maintenance functions (see paragraph 6 below).

c) Procedures detailing how the flight test function will interface with the approved design and quality management functions, for the issue of a Certificate of Clearance, including the procedures for the generation and approval of flight test schedules;

d) The nominated signatories for the Certificate of Clearance;

e) A copy of a Certificate of Clearance;

f) Procedures detailing the interface arrangements of any associated Organisations supporting the 'B' Conditions approval.

NOTE: The flight test schedule in c) above must specify the test points to be examined during a specific test flight.

3 The Flight Test Function (see Chapter A8–9, sub-paragraphs 3.4.1 a) and 3.4.2)

The following should be included in the Exposition or Exposition Supplement as appropriate:

a) Particulars of facilities for the Flight Test function;

b) An Organisation chart showing the lines of responsibility of the flight test personnel to the Head of the Flight Test function;

c) The names of the Certificate of Clearance flight test signatories (see also paragraph 7 k) of this Appendix).

d) The flight Test Operations Manual, detailing the procedures for the control of flight tests, must be referred to in the Exposition.

4 The Design Function

The following information relating to the design function should be included in the Exposition or Exposition Supplement as appropriate:

a) Details of the design function supporting the 'B' Conditions approval;

b) The names of the Certificate of Clearance design signatories (see also sub-paragraph 7 k) of this Appendix;

c) The procedures for the control of the modification standard, configurations and conditions to be flight tested.

5 The Quality Management Function

The following information relating to the quality management function should be included in the Exposition:

a) Details of the quality management function supporting the 'B' Conditions approval;

b) The names of the Certificate of Clearance design signatories (see also sub-paragraph 7 o) of this Appendix).

6 The Airworthiness and Inspection Function

The following information relating to the airworthiness and inspection function, which includes manufacture, installation and maintenance, should be included in the Exposition:

a) The names of the Certificate of Clearance Airworthiness and Inspection signatories (see also sub-paragraphs 7 i) and 7 m) of this Appendix);

b) The procedures for the control of the build standard of the aircraft;

c) The procedure for notifying the pilot of any changes embodied on the aircraft;

d) The arrangements for maintaining the aircraft.

7 Certificate of Clearance

The form of the Certificate of Clearance to be agreed with the CAA should normally contain at least the following information:

a) Organisation name and approval number;

b) Certificate number;

c) The date of issue;

d) Type, serial number and registration of the aircraft;

e) A reference to documents defining the design standard of the aircraft;

f) A reference to the approved flight test schedule(s);

g) The maximum weight and centre-of-gravity limits;

h) All pertinent operating limitations;

i) The minimum crew;

j) Any other restrictions considered necessary;

k) A statement that the design standard and conditions stated on the certificate are adequate to conduct the necessary flight tests;

l) A statement that the build standard of the aircraft conforms to the design standard and that the aircraft is fit for flight;

m) A statement of compliance with maintenance requirements specified by the manufacturer and if appropriate, as modified by the design function in relation to the work being undertaken, including hours available to the next maintenance check;

n) A statement that the flight crew (and ground observers) understand and accept the test plan and limitations for the flight and that a pre-flight briefing has been carried out;

o) A statement by the quality management function that all relevant procedures have been carried out satisfactorily.

8 Functional Flight Tests

An aircraft conforming to a build standard, including all modifications, which has previously been approved by the CAA will normally require no further action on behalf of the Applicant. However, the instructions for actions to be completed prior to release to service for the aircraft, or for embodiment of an approved modification may require a functional flight test to be undertaken. If the flight test involves a functionality test only, then it can be carried out under 'A' Conditions and does not require any 'B' Conditions approval. Test flying of an aircraft of a build standard, including all modifications, not previously approved by the CAA will normally be undertaken using a 'B' Conditions approval.

9 Categories of Aircraft

As indicated in Chapter A8–9 paragraph 3, setting out the Requirements for grant of approval may restrict the Organisation to a limited scope or category of aircraft. An Organisation may be approved for more than one category. The following categorisation will be used in the Schedule of Approval in relation to the categories of aircraft:

Category 1; Aeroplanes greater than 5,700 kg.

Category 2; Aeroplanes up to and including 5,700 kg.

Category 3; Rotorcraft greater than 5,700 kg.

Category 4; Rotorcraft, excluding Light Gyroplanes, up to and including 5,700 kg.

Category 5; Very Light Aeroplanes up to 750 kg.

Category 6; Microlight Aeroplanes and Small Light Aeroplanes up to 450 kg.

Category 7; Sailplanes and Powered Sailplanes.

Category 8; Gas Airships.

Category 9; Manned Free Balloons and Hot Air Airships.

Category 10; Light Gyroplanes.

NOTE: These are broad categories which may cover a wide variety of types of aircraft. Further restrictions may be imposed within these categories.

Appendix 3 to A8-9

Approval of Organisations for Flight under 'B' Conditions Group F4

This Appendix contains information for guidance in complying with the requirements of Chapter A8–9 for Group F4.

1 Application for Group F4 Approval

The F4 approval is one of specified duration and specified scope. Due to the strictly limited nature of this approval, credit will not normally be given in respect of any subsequent application for any approval under Chapter A8–9.

2 Reserved.

3 Information Required for BCAR A8-9 F4 Approval Application

The information listed in this section must be provided to support an application for F4 approval.

3.1 Compliance and Control Statement (Form AD F400)

The information itemised in this paragraph 3.1 should be provided in a single document in the order listed. (Form AD F400 may be obtained from the Civil Aviation Authority, Applications and Approvals Department, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.)

3.1.1 General

a) Applicant (Name, Address, Contact No, E-mail etc);

b) Justification for the application for approval (the need for the proposed flying activity, identification of modification etc.);

c) Substantiation that there are no significant flight safety implications associated with the proposed activity;

d) Aircraft to be tested (Aircraft Type, Serial Number, and registration;

e) Intended start and end dates for the flight trials.

3.1.2 Personnel

a) Name of the person who will be accountable and has corporate authority for ensuring compliance with the terms of the F4 approval and the safe conduct of the flight trials. This person will confirm that all relevant CAA requirements are complied with by signing the declaration at Section 8 of the Form AD F400;

b) Name(s) of the flight crew. Note that the carriage of passengers is not permitted.

c) Name of the person who will certify that the aircraft is fit for the intended flight. (This person may be a licensed aircraft maintenance engineer, a person approved by an Approved Organisation or a person nominated under paragraph 3.5.2 and accepted by the CAA as a signatory under this Chapter A8–9);

d) Name of any other signatories of certificates and/or schedules;

e) Name of the person responsible for the Quality Management ensuring that all procedures have been carried out satisfactorily.

3.1.3 **Facilities**

a) Maintenance facilities;

b) Facilities for the planning of flights, and pre and post flight briefings;

c) Administration facilities suitable for the production and storage of documents associated with 'B' Conditions activities. This should include release documentation for manufactured parts.

3.1.4 **Design Clearance**

a) Definition of aircraft standard, as defined by Type Certificate Data Sheet or other documents, plus all subsequent modifications;

b) Design approval of the aircraft prior to flight:

i) Reference to the documents and/or drawings defining the modification or operation to be evaluated during the flight trials;

ii) Where applicable, the identity of any associated Organisation that holds an appropriate design approval granted by the CAA together with their statements of compliance against the applicable airworthiness standards;

iii) Where applicable, reference to the Airworthiness Approval Note or other documented CAA acceptance of the suitability of the design for the proposed flight trials.

c) A statement of any aircraft limitations to be complied with during the flight trials, in addition to those contained in any Flight Manual or existing permit to fly.

3.1.5 **Aircraft Maintenance**

Identification of the aircraft maintenance schedule in use, (e.g. LAMS), including any special procedures or inspections to be applied to the modification being evaluated.

3.1.6 **Parts Manufacture**

Identification of the origin of parts comprising any modifications not yet approved (e.g. EASA Form One(s) for parts comprising the modification to be assessed during the trials).

3.1.7 **Quality Management**

The person responsible for quality management, identified on Form AD F400 must ensure that all of the required documentation is in place and completed correctly prior to signing Form AD F401.

3.2 **Flight Test Schedule**

A flight test schedule for the trials shall be provided for approval by the CAA. The flight test schedule must specify the test objectives and, for each test point, the test conditions and manoeuvres to be flown and the measurements and observations that will be required.

3.3 **Certificate of Clearance (Form AD F401)**

A Certificate of Clearance must be completed prior to each flight. (Form AD F401 may be obtained from the Civil Aviation Authority, Applications and Approvals Department, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.)

4 Significant Flight Safety Implications

Significant flight safety implications exist:

a) with modifications for which it may reasonably be expected that there will be an effect on aircraft handling, stability or a reduction in climb performance. Applicants must provide a written justification that there will be no significant flight safety implications for the intended flight tests. Some modifications that affect performance, such as those for banner towing, do not present significant flight safety risk and so test flights to quantify the performance change may be conducted under an F4 approval

b) when a modification could be expected to affect flight control systems such as primary flying control, FADEC, autopilot etc.

c) for EGPWS, GPWS or TCAS modifications for which no previous STC approval has been granted or no previous CAA approval of the modification has been given on another aircraft type and where unusual manoeuvres must be flown to obtain approval of a modification.

5 Functional Flight Tests

A modification which has previously been approved by the CAA will normally require no further action on behalf of the Applicant. However, the modification may, in its instructions, require a functional flight test to be undertaken prior to formal acceptance of the modification. If the flight test involves a functionality check only, then it can be carried out under 'A' Conditions and does not require any 'B' Conditions approval. Test flying of modifications not previously approved by the CAA, will normally be undertaken using a B Conditions approval.

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Chapter A8-10 Approval of Welders

1 Introduction

This Chapter is applicable to persons who weld metallic parts which are essential to the airworthiness of an aircraft where the making of a sound joint by oxy-acetylene or arc-fusion welding techniques depends largely on the competency of the Operator. Welders will be approved in accordance with the requirements of this Chapter and its Supplement.

NOTE: For the purposes of this Chapter A8–10, the term arc-fusion welding includes:

a) Manual metal-arc (MMA) welding,

b) Metal inert gas (MIG) welding, and

c) Tungsten inert gas (TIG) welding.

2 Grant of Approval

The procedures for the issue and control of welding approval are dependent upon the circumstances of employment of the welder. For welders not employed by a CAA approved Organisation the provisions of paragraph 2.1 c) shall apply. Where a welder is in the employ of an Organisation approved by the CAA (BCAR Sub-Section A8) the CAA will not undertake direct approval of the welder. The Organisation is required to establish its own effective system for their control. The system shall, as a minimum, include records of all sample tests (and results) and a ready means of establishing the current qualification status of all welders employed. All records shall be available to the CAA upon request, including details relating to welders who have since left the employ of the Organisation. No essential records, e.g. Approval Cards and Test Reports shall be destroyed without the permission of the CAA. A description of the control system shall be included in the Company Exposition required by the relevant BCAR Chapter and CAA approval of the system will be indicated by inclusion of the control of welders in the Schedule of Approval.

2.1 The procedures for obtaining welder's approval are as follows:

a) Where the welder is employed by a CAA approved Organisation, that Organisation shall make arrangements for the welder to prepare and weld an appropriate test sample(s). The Organisation shall submit the test sample(s) to a CAA approved Test House for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief), and identification marks on the test sample(s). Upon receipt of an Approved Test Certificate from the test house, indicating successful test results for the sample(s), the Organisation may grant approval to the welder. Only then may the welder be employed on work of significance to airworthiness.

b) In the event of a welder leaving the employ of an Organisation approved by the CAA, the welder may request the CAA to grant a Welder's Approval Certificate for the welding approvals held while in the employ of that Organisation. It should be noted that grant of such an approval, is conditional upon the availability of evidence of prior qualification status, the CAA can not accept responsibility for a previous employer's failure or inability to provide the evidence.

c) Welders not employed by a CAA approved Organisation shall, under the supervision of a responsible person acceptable to the CAA (see Notes 1 and 2), prepare and weld appropriate test sample(s) in accordance with these requirements and also complete

CAA Form AD 408. The test sample(s) shall be submitted to a CAA approved Test House for examination together with full particulars of the welder concerned, materials used, details of any post-welding treatment (e.g. heat treatment for stress relief) and identification marks on the test sample(s). Upon receiving from the Test House an Approved Test Certificate indicating successful test results on the sample(s) the welder shall forward the original copy of the Approved Test Certificate and the completed CAA Form AD 408 to the CAA. Grant of approval will be notified by issue of a CAA Welder's Approval Certificate and Check Test Record Card to the welder. Both documents must be maintained in a legible condition by the welder and produced or surrendered to the CAA upon request. Test House charges and any other costs associated with the process of meeting these requirements are the responsibility of the welder.

NOTES: (1) An approved welder is not permitted to certify welded parts unless separately qualified as a person competent to issue a Certificate of Release to Service, e.g. holder of an appropriate Maintenance Engineer's Licence or equivalent approval.

(2) A responsible person in the context of paragraph 2.1c) is either:

(a) a person who holds an Aircraft Maintenance Engineer's Licence with a Type Rating;

or

(b) a person who is currently authorised as a Signatory within a CAA Approved Organisation. (The consent of the Approved Organisation responsible for granting such authorisation should be obtained by the Signatory before agreeing to supervise the preparation of weld test sample.);

or

(c) such other person specifically authorised in writing by the CAA.

(3) Welders' Approval Certificates issued prior to the May 1988 Revision of Chapter A8–10 may make reference to Sketches 3 and/or 4. All such references shall be interpreted as being equivalent to Figure 3 of the Supplement to this issue of Chapter A8–10.

(4) Paragraphs 2.1 a) and 2.1 c) refer to identification marks on test samples. These shall be made permanent i.e. stamp, vibro-etch, or indelible marking medium and they shall identify the welder and material specification. When preparing and welding the sample, care should be taken not to obliterate any markings thereon.

3 Maintenance of Approval

3.1 The validity of a welder's approval may be maintained by the procedures detailed in paragraphs 3.1.1 or 3.1.2 as appropriate. Should approval be sought in a different combination (see Supplement) than that shown on the Welder's Approval Certificate or documents, the procedure for the grant of approval as prescribed in paragraph 2.1 must be followed.

3.1.1 Where the welder is employed by an Organisation approved by the CAA, the approved Organisation shall arrange for periodic check examinations of the welder's competency. At each periodic check examination an appropriate standard test sample (see Supplement) or such other test samples to be decided by the approved Organisation

shall be completed by the welder using techniques and materials detailed in the Supplement, or by using techniques and material used in standard work practices appropriate to the maintenance of approval. For welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube or tube to tube) it will normally only be necessary to provide a single test sample provided that the CAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval. Test samples shall be sent to a CAA approved Test House under arrangements made by the approved Organisation. If the test results of this examination are satisfactory the Welder's Approval document shall be endorsed by the approved Organisation. Complete records of the periodical check examinations shall be kept at the Organisation. The check test records for each welder must indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be held available to the CAA.

a) The maximum period between check examinations shall be 12 months. Organisations shall arrange for the relevant test within the period of validity of the previous test period to ensure continuity of approval.

b) If the test results are unsatisfactory the approved Organisation shall arrange for the check examinations to be repeated immediately and the samples sent to an approved Test House for examination. During the period between any check test which proved unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the test results are again unsatisfactory the welder's approval shall be suspended until further training and/or experience has been gained to the satisfaction of the approved Organisation, and a further test has been satisfactorily completed.

3.1.2 Welders who are not employed in accordance with the conditions of paragraph 3.1.1 shall arrange for a check examination to be carried out at periods not exceeding 12 months. The same procedure as for the issue of the Welder's Approval Certificate in paragraph 2.1 c) shall apply except that, for welders holding approval for more than one configuration (i.e. sheet to sheet, sheet to tube, tube to tube) it will normally only be necessary to provide a single test sample, provided that the CAA is satisfied it is representative of the welder's main day-to-day work. However, a separate initial test sample will be required for each technique and material group specified in the welder's approval.

a) If the test results are unsatisfactory the Applicant shall prepare new test samples and arrange for the check examination to be repeated immediately at a CAA approved Test House. During the period between any check test which proves unsatisfactory and the result of the next check test, the welder shall not weld parts which are essential to the airworthiness of an aircraft. If the result of the re-test is again unsatisfactory, the welder shall notify the CAA. The approval will be suspended from the date of the first unsatisfactory examination and remain so until further training and/or experience has been gained and a further test has been satisfactorily completed.

b) A check test record must be kept to indicate the date for the next check test in advance so that the test can be completed and the results known within the period of approval of the welder. All records shall be made available to the CAA.

3.2 The CAA may select samples of an approved welder's work at any time for additional check examination purposes.

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Supplement 1 to A8-10 Approval of Welders

1 Introduction

Welders shall be approved in accordance with the technical requirements of this Supplement to Chapter A8–10.

2 Material Groups

Approval may be granted in any of the following groups:

Group 1	–	Aluminium Alloys.
Group 2	–	Magnesium Alloys.
Group 3	–	Carbon Steels.
Group 4	–	Corrosion and Heat-Resisting Steels
Group 5	–	Nickel Alloys.
Group 6	–	Copper Base Alloys.
Group 7	–	Titanium Alloys.

2.1 For the purpose of this Supplement to Chapter A8–10 the following Definitions shall apply:

Combination	–	Material group, configuration and technique.
Configuration	–	A sample produced to Figures 1, 2 or 3.
Technique	–	The welding method e.g. oxy-acteylene or arc-fusion.
Test Sample (Standard)	–	As detailed in Figures 1, 2 and 3.
Test Sample (Special)	–	As dictated by the nature of work being undertaken (e.g. repair or rebuild fan blades etc.).

2.2 Approval, when granted to the welder, shall be restricted to the combinations for which satisfactory examination reports from an approved Test House are available to the CAA or the Approved Organisation, in accordance with the procedure under which the welder is to be approved, BCAR Chapter A8–10 paragraph 2 refers.

Alternatively, special test samples, agreed by the CAA or the Approved Organisation, should be prepared if required for a specific application, and the approval, when granted, will be restricted accordingly.

3 Test Samples and Specimens

Standard test samples for oxy-acetylene and arc-fusion welding shall be prepared by the welder using the techniques and materials appropriate to the approval sought. The specifications of the material used for test samples must meet the requirements of the material groups defined in paragraph 2 and be representative of materials likely to be encountered by the welder in the course of his normal work. CAA approved certificates are not necessary and material of good commercial quality may be appropriate. However, if the material used is not to a British Standard or other generally recognised aerospace specification a typical aircraft application must be quoted to the CAA approved Test House as part of the material specification. The CAA or the Approved

Organisation may decide that special test samples are required appropriate to the work to be undertaken by the welder. The preparation of test samples shall be supervised as defined in Chapter A8–10 paragraph 3.1.

3.1 **Standard Test Samples.** The standard test samples for oxy-acetylene and arc-fusion welding shall be prepared to Figures 1, 2 and 3 as appropriate.

3.1.1 The welds of test samples shall not be hammered or dressed unless specifically required.

3.1.2 The test samples shall be submitted complete and suitably identified (see Chapter A8–10 paragraph 2.1 Note (4)) to a CAA approved Test House.

3.1.3 Where appropriate, e.g. for light aircraft structural applications, tube wall thickness may be reduced. In certain cases, where the nature of a welder's activities regularly involve welding thin wall tube, the controlling Organisation or Authority may require test specimens to be prepared from material of reduced wall thickness.

3.2 **Cutting Test Specimens.** Test specimens shall be cut by the approved Test House.

3.2.1 Test specimens from standard test samples shall be cut in accordance with the tensile, bend and micro specimens shown in Figures 1, 2 and 3.

3.2.2 Test specimens in magnesium must be sawn from samples and filed to final shape to prevent the possibility of cracking.

4 Mechanical Testing

4.1 **Tensile Test Specimens.** Tensile test specimens shall be tested to destruction in direct tension. The minimum acceptable tensile strength of the weld test specimen shall be determined by reference to public-domain DEF STAN 00–932 or by reference to a CAA recognised Design Authority who can judge the acceptable levels of weld strength required for typical applications of the weld technique in question.

4.1.1 **Sheet to Sheet Butt Weld (Figure 1).** If a tensile specimen prepared in accordance with Figure 1 should break through the weld, it is considered satisfactory only if the ultimate stress is found to be equal to, or greater than, the minimum value given in the appropriate specification.

4.1.2 **Tube to Tube Weld.** Tensile specimens prepared in accordance with Figure 3 shall be broken in a tensile test machine fitted with suitable shackles and pins, the pins being passed through the top and bottom cross tubes of the specimen so that the end load may be applied without bending.

4.2 **Bend Test Specimens (Figure 1).** Bend specimens shall be tested in bending so that the weld lies along the centre line of the bend and the base of the weld 'V' is on the inner side of the specimen after bending. The specimen must bend without cracking, through 180° (unless otherwise stated) over the radius of bend appropriate to the test.

4.2.1 To ensure close contact of the specimen to the bar about which it is bent, the side of the specimen remote from the weld face must be dressed by filing or grinding until the weld is level with the parent metal. It may also be necessary to dress the other face to facilitate bending. The edges of the specimen in the vicinity of the weld must be given reasonable radii.

4.2.2 Bend test specimens of austenitic steel must be given the 'weld decay' pickling test prescribed either in the relevant specification or in accordance with British Standard 5903, and must be bent through 90° over a radius equal to three times the nominal thickness of the parent metal.

4.2.3 Magnesium alloy specimens must be bent through 180° over a radius equal to ten times the nominal thickness of the parent metal.

4.2.4 Aluminium alloy specimens must be bent through 180° over a radius equal to five times the nominal thickness of the parent metal.

4.2.5 Boron-containing steels must be bent through 180° over a radius equal to three times the nominal thickness of the parent metal.

4.2.6 Titanium alloy specimens must be bent through 180° over a radius equal to five times the nominal thickness of the parent metal.

4.2.7 Specimens of all other materials must be bent through 180° over a radius equal to twice the nominal thickness of the parent metal.

4.2.8 The bend tests may be considered satisfactory if the test specimen withstands the bending without showing cracks which are apparent to normal vision.

NOTE: If interpretation of the bend test results is in doubt, comparison may be made with the bend test performance of a separate sample of the parent material from which the test specimens were fabricated.

5 Specimen Examination

5.1 Final assessment of the weld shall be based on consideration of the sample weld as a whole, including the results obtained by visual, microscopical, and where applicable, mechanical testing. If any doubt exists regarding the quality of the weld, or any defect revealed is thought to be of a local character, further sections may, if available, be examined and final assessment shall be based on all the specimens examined.

5.2 The micro specimen shall be examined at suitable magnifications in the unetched and the etched condition.

5.3 The presence of intergranular oxide films is considered to be detrimental to the weld due to their embrittling effect, but the extent of these films is very difficult to determine in etched specimens. If the area of inter-granular oxide is only very slight and satisfactory results are obtained by mechanical testing, further sections of the weld shall be examined before a decision is reached.

5.4 Where fillet welds are concerned, unless complete fusion is required by the drawing, a certain degree of lack of fusion is permissible at the roots:

a) For fillet welds of 45° or more, the maximum lack of fusion which can normally be accepted is that revealed by a line of oxide extending from the root of the weld for a distance not greater than one-third of that between the root and the toes of the weld. Provided the amount of weld material used has been adequate, this method of assessment should ensure that the effective throat thickness of the weld is not less than the thickness of the sheets or tubes used for the specimens.

b) For fillet welds at acute angles, full root fusion in tubular sections can be difficult to achieve and there is a danger of collapse of the tube walls if excessive penetration is attempted. The presence of a fairly large cavity, or corresponding lack of fusion, is permissible at the root of such welds but there should be a bridge of weld metal of a reasonable throat depth, showing satisfactory fusion to the basic metal.

5.5 **Sheet to Sheet Butt Welds.** The section must be free from excess oxidation, burning, cracks, cavitation, porosity, scale and slag. The specimen must show adequate penetration and with specimens welded from one side only, there should be evidence of adequate penetration when the underside of the weld is examined. If excessive penetration has occurred along the majority of the weld the specimen must be rejected, but isolated excrescences on the underside are permissible, provided the weld itself is free from cavities, oxide films, and other defects.

5.6 **Tube to Sheet and Tube to Tube Welds.** The specimens must show adequate penetration and freedom from excess oxidation cracks, cavitation, porosity, scale and slag.

5.7 **Records.** The results of all examinations must be recorded.

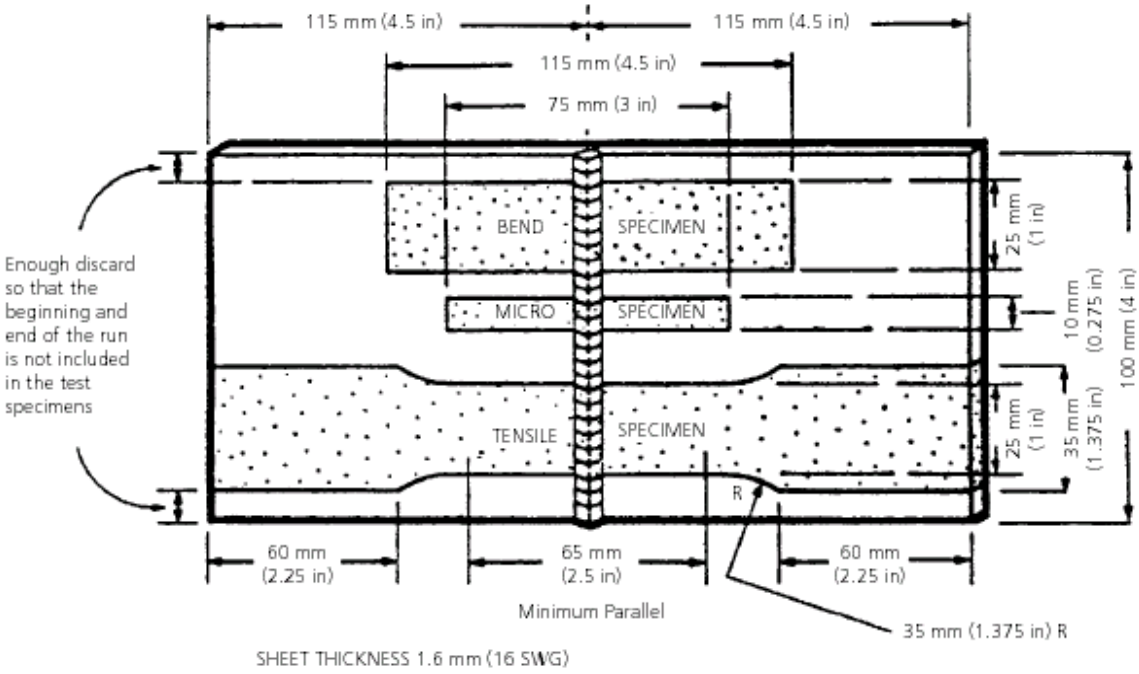
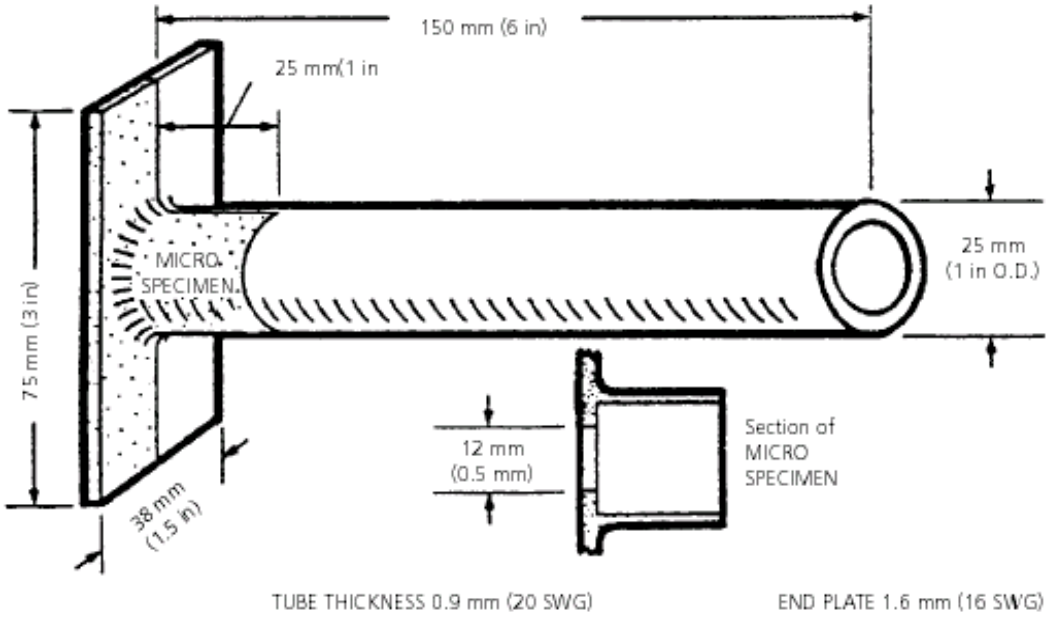
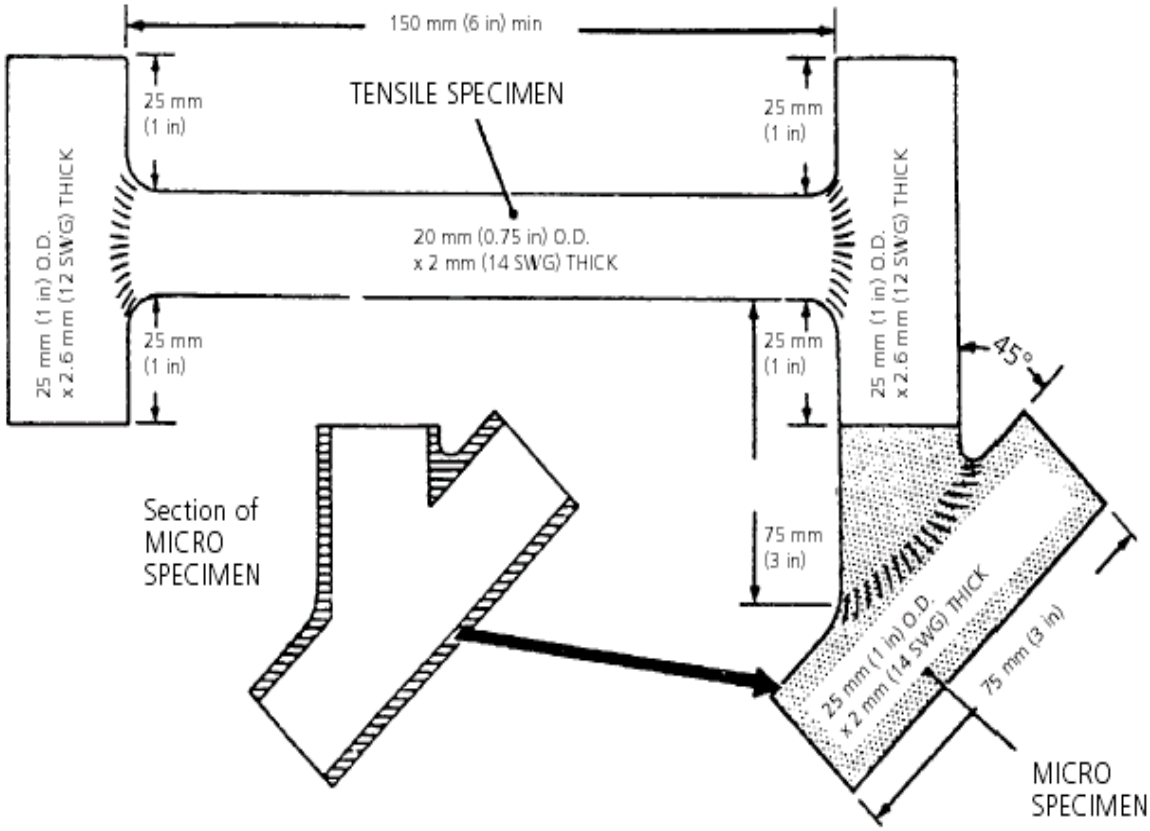


Figure 1 SHEET TO SHEET BUTT WELD
NOTE: Dimensions may be regarded as approximate.



NOTE: If desired, an end plate may be welded to each end of the test specimen to provide additional material for use in assessing borderline cases (see 5.1)

Figure 2 SHEET TO TUBE WELD



NOTE: If desired, small air vent holes may be drilled in the 2.6 mm (12 swg) tubes in the tensile specimen and the 2 mm (14 swg) tube in the micro specimen.

Figure 3 TUBE TO TUBE WELD

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Chapter A8-11 Procedures for Approval of Organisations Concerned with Radiographic Inspection of Aircraft during Maintenance and Overhaul

1 Introduction

Organisations engaged in radiographic inspection of aircraft during overhauls, repairs, replacements, modifications and inspections may be approved to provide reports and certify compliance in respect of this work on aircraft structures, structural components, and welded structural components, subject to compliance with the procedures set down in this Chapter A8–11 and the Supplement.

NOTE: Safety and protection procedures are not included in this Chapter and Supplement. It is incumbent on the Operator to comply with the Radioactive Substances Act and any other relevant Regulations.

2 Application

Organisations seeking approval, or the extension of an existing approval, for the radiographic work described in paragraph 1, shall make written application to the CAA Safety Regulation Group.

3 Requirements for Grant of Approval

3.1 The radiographic department shall be organised under the direction of a radiographer who has satisfied the appropriate requirements of the Supplement to this Chapter.

3.2 All radiographic inspections shall be directly supervised and the final certification made by a radiographer who has satisfied the appropriate requirements of the Supplement. Certification shall be in a form agreed by the CAA.

3.3 Radiographic inspections concerned with the inspections required in approved Manuals, approved Maintenance Schedules, the CAA Mandatory Aircraft Modifications and Inspections Summary and the Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer, or an appropriately approved Organisation unless an alternative technique has been accepted by the CAA.

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Supplement 1 to A8-11 Procedures for Approval of Organisations Concerned with Radiographic Inspection of Aircraft during Maintenance and Overhaul

1 Requirements for the Radiographer

1.1 The following shall be satisfied by the person(s) required under paragraphs 3.1 and 3.2 of Chapter A8–11:

1.1.1 For aircraft structures and structural components (other than welds):

a) be able to read, write and converse in the English language;

b) have experience, acceptable to the CAA, of a minimum of one year dealing with practical inspection of aircraft structures, or alternative training or experience acceptable to the CAA;

c) have satisfactorily completed a course of instruction in radiography acceptable to the CAA;

d) produce evidence, satisfactory to the CAA, of at least six months' recent work in radiographic inspection of aircraft structures and structural components, including processing and interpretation of radiographs;

e) have achieved a satisfactory standard, acceptable to the CAA, in the appropriate parts of the examination in accordance with paragraph 2 of this Supplement.

1.1.2 For light alloy and dense metal welded structural components:

a) be able to read, write and converse in the English language;

b) have satisfactorily completed a course of instruction in radiography acceptable to the CAA;

c) produce evidence, satisfactory to the CAA, of at least three months' recent work in the radiographic inspection of both (or either if required separately) light alloy and dense metal welded aircraft structural components;

d) have achieved a satisfactory standard, acceptable to the CAA, in the examination detailed in paragraph 2 of this Supplement.

2 Examination Syllabus

2.1 Written Examination. The written examination will include questions on the following:

a) The elementary principles of radiographic theory and how these principles are related to the practical techniques of radiography;

b) The photographic aspects of radiography;

c) Safety and protection against radiation hazards.

2.2 Practical Test. The practical test will consist of the following:

a) The development and recording of techniques for the inspection of typical aircraft structures including structural components;

b) The development and recording of techniques for the inspection of welded structural components;

c) The practical application of the techniques;

d) Processing the radiographs.

2.3 Interpretation Test. The interpretation test will consist of the following:

a) The co-relation of the radiographs with the report;

b) Identification of the various features in the radiographs.

2.4 Appropriate Parts of the Examination. The following parts are appropriate to the approval sought:

a) The written examination (paragraph 2.1) shall be undertaken by all radiographers.

b) Practical Test. Paragraphs 2.2 a), c) and d) are applicable where approval is sought for inspection of aircraft structures and structural components. Paragraphs 2.2 b), c) and d) are applicable where approval is sought for inspection of welded structural components.

c) An interpretation test (paragraph 2.3) shall be undertaken by all radiographers.

3 Re-Examination

The CAA may require re-examination of a radiographer at times which will be notified in writing to the approved Organisation.

Chapter A8-12 Procedures for Approval of Organisations Concerned with Ultrasonic Inspection of Aircraft during Maintenance and Overhaul

1 Introduction

Organisations engaged in ultrasonic inspection of aircraft during overhauls, repairs, replacements, modifications and inspections may be approved to provide reports and certify compliance in respect of this work, subject to compliance with the procedures set down in this Chapter A8–12 and the Supplement.

2 Application

Organisations seeking approval, or the extension of an existing approval, for the ultrasonic work described in paragraph 1, shall make written application to the CAA Safety Regulation Group.

3 Requirements for Grant of Approval

3.1 The Ultrasonic Inspection Department shall be organised under the direction of a person who has satisfied the requirements of the Supplement to this Chapter.

3.2 All ultrasonic inspections shall be directly supervised, and the final certification made by a person who has satisfied the requirements of the Supplement to this Chapter. Certification shall be in a form agreed by the CAA.

3.3 Ultrasonic inspections concerned with the inspections required in approved Manuals, approved Maintenance Schedules, the CAA Mandatory Aircraft Modifications and Inspections Summary, and the Foreign Airworthiness Directives volumes, shall be made in accordance with techniques approved by the manufacturer, or an appropriately approved Organisation unless an alternative technique has been accepted by the CAA.

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Supplement 1 to A8-12 Procedures for Approval of Organisations Concerned with Ultrasonic Inspection of Aircraft During Maintenance and Overhaul

1 Requirements for the Ultrasonic Technician

1.1 The following shall be satisfied by the person(s) required under paragraphs 3.1 and 3.2 of Chapter A8–12:

a) be able to read, write and converse in the English language;

b) have experience, acceptable to the CAA, of a minimum of one year dealing with practical inspection of aircraft, or alternative training or experience acceptable to the CAA;

c) have satisfactorily completed a course of instruction in ultrasonic flaw detection acceptable to the CAA;

d) produce evidence, satisfactory to the CAA, of at least six months' recent work in ultrasonic inspection of aircraft;

e) have achieved a satisfactory standard, acceptable to the CAA, in the examination detailed in paragraph 2 of this Supplement.

2 Examination Syllabus

2.1 **Written Examination.** The written examination will include questions on the following:

a) Modes of ultrasonic propagation in solids and liquids;

b) Reflection, refraction, absorption and scattering of ultrasonic waves;

c) Piezo-electric crystals: basic essentials of the construction and mode of operation of ultrasonic probes;

d) Methods of coupling ultrasonic probes to the workpiece;

e) Functions of the externally accessible controls normally fitted to ultrasonic flaw detection equipment;

f) Scope and limitations of ultrasonic flaw detection;

g) Application of the reflection and transmission method of testing aluminium alloy and steel workpieces, including welds;

h) The use of standard reference Blocks for checking sensitivity of equipment and estimation of defect size and depth;

i) The recognition of defect indications and the interpretation of these;

j) Definition of the term "decibel" as applied to a unit of voltage (or amplitude) difference: the use of attenuators;

k) Recognition of false indications.

NOTE: The approach to the above subjects should be practical rather than mathematical.

2.2 **Practical Test.** Ultrasonic flaw detection shall be carried out on a given number of specimens using contact scan techniques. The test on one specimen will include the estimation of defect size by means of standard reference Blocks (flat bottom hole type) and suitable attenuators.

2.3 **Technical Preparations.** Ultrasonic flaw detection contact scan techniques, shall be prepared in respect of a number of specimens as follows:

a) Comprehensive inspection of one specimen;

b) Inspection for a particular defect in the remaining specimens including the design of suitable test pieces.

3 Re-Examination

The CAA may require re-examination of an ultrasonic technician at times which will be notified in writing to the approved Organisation.

Chapter A8-15 Aeroplanes and Rotorcraft not exceeding 2730 kg – Maintenance Organisations – Group M3

1 Introduction (see also Chapter A8–15 Appendix 1)

1.1 The Requirements of this Chapter A8–15 are applicable to the approval of organisations to make recommendations for the issue of a National Airworthiness Review Certificate and, where agreed by the CAA, for the issue of a Certificate of Validity for the revalidation of a Permit to Fly, in respect of aeroplanes and rotorcraft having a Maximum Total Weight Authorised (MTWA) not exceeding 2730 kg.

1.2 An organisation may, subject to compliance with the requirements of this Chapter, be approved in respect of aeroplanes and/or rotorcraft defined in Commission Regulation (EC) 216/2008 Article 2 (State aircraft) and Annex II, both categories normally referred to collectively as 'non-EASA aircraft':

a) to oversee, in respect of the maintenance of aircraft (see Chapters A6–1 and A3–7, as appropriate), such maintenance checks (see Chapter A8–15 Appendix 1) as are prescribed in the Maintenance Programme and which are required to be completed by an organisation approved by the CAA for the purpose;

b) to oversee the Airworthiness Review as specified in Chapter A3–1 for aeroplanes and rotorcraft, as appropriate;

c) to undertake assessments and make recommendations to the CAA in respect of the issue of National Airworthiness Review Certificates for non-commercial air transport aircraft and to extend the validity period of the Certificates in accordance with Chapter A3–1; and

d) to undertake assessments and to issue Certificates of Validity for the revalidation of Permits to Fly in accordance with Chapter A3–7.

NOTES: 1) With respect to paragraph 1.2, any non-EASA aircraft used for Commercial Air Transport or State purposes must be maintained and released to service by an Organisation appropriately approved in accordance with BCAR A8–23.

2) Where the CAA makes reference to Maintenance Schedules in associated documentation, this means Maintenance Programme in the context of this requirement.

2 Application

Application for approval shall be made on Forms SRG 1741 and AD 461, copies of which may be obtained from the CAA website > Publications > Forms > Organisation Approval Forms, which when completed in duplicate should be returned.

3 Conditions for Approval

3.1 Personnel (see Chapter A8–15 Appendix 1, paragraph 2)

3.1.1 The applicant shall nominate, for CAA acceptance, appropriately qualified personnel who will be employed specifically for the purposes of 1.2 a), b), c) and d) as follows:

a) The holder of a United Kingdom BCAR Section L Aircraft Maintenance Engineers' Licence, with Type Ratings in at least both Categories A and C, who will be responsible for recommendations to be made in accordance with 1.2 c).

NOTE: More than one such person may be nominated.

b) Any additional holders of United Kingdom BCAR Section L Aircraft Maintenance Engineers' Licences with Type Ratings appropriate to certifications to be made in accordance with 1.2 a) and b), and who will be responsible for making such certifications.

c) The holder of an authorisation issued in accordance with BCAR Chapter A3–7 for the appropriate aircraft type, who will be responsible for recommendations to be made in accordance with 1.2 d).

3.1.2 Where, in some instances certifications under paragraphs 1.2 a) and b), including BCAR Section L Categories X and R, may need to be made by personnel not permanently employed by the organisation, the applicant shall satisfy the CAA that acceptable arrangements exist between the particular person and the Organisation.

The applicant shall satisfy the CAA that licensed and unlicensed staff are of sufficient numbers and are suitably experienced to undertake the volume and type of work appropriate to the certifications to be made. (See A8–15, Appendix 1, paragraph 2.3).

3.1.3 For the purposes of paragraph 1.2 a) the applicant shall satisfy the CAA that there are sufficient numbers of suitably experienced staff who are authorised to issue a Permit Maintenance Release as defined in Chapter A3–7.

3.2 **Organisation and Procedures** (see A8–15, Appendix 1, paragraph 2)

3.2.1 The applicant shall satisfy the CAA that it has technical and administrative procedures, compatible with the likely volume of work, in respect of:

a) matters affecting continued airworthiness, as detailed in Chapter A6–1;

b) the carrying out of airworthiness reviews and extensions, and making recommendations to the CAA;

c) the evaluation of technical information issued by manufacturers and Airworthiness Authorities;

d) the carrying out of airworthiness reviews and issuing Certificates of Validity for Permit to Fly aircraft.

3.2.2 Where an organisation is already approved in accordance with BCAR Sub-Section A8 or EASA requirements, procedures relating to paragraph 3.2.1 a), b), c) and d) may be added to the existing Exposition or associated procedures manual of the organisation.

3.2.3 Where applicable the terms of reference of persons nominated in accordance with paragraph 3.1.1, as applicable to the activities covered by the approval under paragraphs 1.2 b), c) and d), shall be the subject of acceptance by the CAA.

3.2.4 An organisation, approved in accordance with this Chapter, placing orders on suppliers and unapproved organisations shall satisfy itself that the origin of each item supplied is identified and that the item is acceptable and suitable for the intended purpose.

NOTE: CAA Approved Organisations when undertaking work outside their terms of approval are deemed to be unapproved.

3.3 **Accommodation**

3.3.1 Hangar accommodation, with adequate lighting and power supplies and of sufficient size to house the size and number of aircraft anticipated to be in work at any one time, shall be provided. Approval of the main premises may, for a particular case and with the prior agreement of the CAA, be extended to cover other premises.

3.3.2 The accommodation shall include suitable areas where data, publications and drawings may be studied and where aircraft maintenance documents may be prepared and stored.

3.3.3 Adequate storage arrangements, together with the necessary records and systems for controlling aircraft components, parts and materials shall be provided.

3.4 **Equipment**

3.4.1 Adequate equipment, including general maintenance equipment and specialised tools shall be provided.

3.4.2 The calibration of test equipment shall be checked as frequently as is necessary to maintain confidence in the accuracy of the equipment.

3.5 **Publications and Information**

3.5.1 The organisation shall make available to the staff concerned the necessary continuing airworthiness data, e.g. CAA publications, approved manuals, specifications, data sheets and related literature appropriate to the class of work for which approval is sought.

a) The continuing airworthiness data shall consist of that issued from the manufacturers or Type Certificate Holder by way of maintenance manuals, service bulletins, service information and other forms of instructions for continued airworthiness.

b) Arrangements shall be made by the organisation with the appropriate manufacturers, or other recognised suppliers, for the supply of amendments and changes to the publications held. A suitable system for amending the documents shall be provided.

c) Where continuing airworthiness data is supplied by the aircraft owner or held on loan it shall be the responsibility of the user to ensure that the documents concerned are amended, up to date and available when needed.

4 Continuation of Approval

4.1 The organisation shall be maintained to the standard necessary to undertake the work for which it is approved. The CAA shall have access to the organisation at reasonable dates and times for the purpose of assessing compliance with this requirement.

4.2 Changes of personnel nominated in accordance with paragraph 3.1.1 shall be notified to the CAA in writing for acceptance.

4.3 The CAA shall be consulted where there is any difficulty about the interpretation of the requirements, the associated procedures, or on any airworthiness matter which involves new problems or techniques.

4.4 The CAA may revoke, suspend, or vary the Terms of Approval if the conditions prescribed for approval are not maintained.

5 Findings

5.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) a level one finding is any non-compliance with the applicable requirements, which lowers the safety standard and hazards flight safety;

b) a level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

5.2 After receipt of notification of findings:

a) the holder of the approval shall define the corrective action plan and demonstrate corrective action to the satisfaction of the CAA, and within a period agreed with the CAA;

b) for level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) for level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than 3 months. In certain circumstances, the CAA may extend the 3 month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan;

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

5.3 In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

Appendix 1 to A8-15

Assessment of Suitability for Approval

1 Introduction

1.1 The purpose of approval in accordance with Chapter A8–15 is to ensure that, as a condition of renewal of the National Airworthiness Review Certificate (National ARC) at the end of a three-year period, or upon the subsequent application for renewal, the following must be carried out at an organisation appropriately approved by the CAA for the purpose:

a) for piston-engined aeroplanes and rotorcraft below 2730 kg MTWA:

i) the annual check, which is coincident with the annual review, prescribed in the Approved Aircraft Maintenance Programme; and

ii) the aircraft airworthiness review (See BCAR Chapter A3–1);

b) for turbine-engined aeroplanes and rotorcraft below 2730 kg MTWA:

i) the required aircraft survey, annual check and airworthiness review of the aircraft records, as required by Chapter A3–1.

2 Organisation and Procedures

2.1 The applicant will have to satisfy the CAA that the management of the organisation will be conducted with due regard to the needs of continuing airworthiness.

2.2 The organisation will have to be such, in the opinion of the CAA, as to ensure that in all matters affecting airworthiness full and efficient co-ordination exists between individual certifying aircraft maintenance engineers and other members of the staff.

2.3 When assessing an organisation for continuation of the approval the CAA will examine the methods used to control maintenance and this will include:

a) an assessment of the information contained in Form AD 461;

b) the structure of the organisation;

c) the number of licensed aircraft maintenance engineers employed and the scope of the licences, or where applicable certifying authorisations, held by these engineers, appropriate to the approval;

d) the adequacy of the facilities, accommodation and equipment necessary to cover those types of aircraft appropriate to the approval;

e) the holding of technical publications and data for those types of aircraft appropriate to the approval;

f) the methods of assessing information promulgated by manufacturers and Airworthiness Authorities to ensure continued airworthiness;

g) procedures for the preservation and correlation of continuing airworthiness records and airworthiness review recommendation reports.

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Chapter A8-21 Approval of Organisations Responsible for Design or Production – Group DOA and POA

1 Scope *(Part 21A.131 and .231)*

This requirement applies only to aircraft and associated parts, that are not required to comply with European Regulation (EC) No. 216/2008, i.e. Non-EASA Aircraft. It establishes the procedure for the approval of Non-EASA Aircraft production and/or design organisations and rules governing the rights and obligations of applicants for, and holders of, such approvals. Any organisation involved with the design or production of EASA Aircraft and/or associated parts, should refer to the appropriate European regulations, see Note 1 below.

NOTE: The European Aviation Safety Agency (EASA) as established in European Regulation (EC) No. 216/2008 commenced operation on 28 September 2003 and at the same time European Commission Regulation (EC) No. 1702/2003, laying down implementing rules for the airworthiness and certification of aircraft, entered into force. For ease of reference, aircraft that are required to comply with Regulation (EC) No. 216/2008 are commonly described as "EASA Aircraft".

NOTE: BCAR A8-21 was derived from Part 21 and references the corresponding Part 21 paragraph after each subtitle. Part 21 is an annex to European Commission Regulation (EC) No. 748/2012 which has replaced Regulation (EC) No. 1702/2003.

NOTE: A list of Non-EASA aircraft can be found in the CAA publication, CAP 747, 'Mandatory Requirements for Airworthiness'.

2 Eligibility *(Part 21A.133 and .233)*

2.1 Any natural or legal person ('organisation') shall be eligible as an applicant for an approval under this Requirement.

2.2 For design organisation approval the applicant shall hold or have applied for:

a) a type certificate or equivalent, or approval of a major change to the type design or type certificate; or

b) a supplemental type certificate or equivalent; or

c) a major repair design approval; or

d) privileges to approve design changes or repairs; or

e) privileges to submit reports to the CAA.

2.3 For production organisation approval the applicant shall:

a) justify that, for a defined scope of work, an approval under this Requirement is appropriate for the purpose of showing conformity with a specific design (see Chapter A8–21 Appendix 1); and

b) hold or have applied for an approval of that specific design; or

c) have ensured, through an appropriate arrangement with the applicant for, or holder of, an approval of that specific design, satisfactory coordination between production and design.

3 Application *(Part 21A.134 and .234)*

Each application for a design or production organisation approval shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

4 Issue of approval *(Part 21A.135 and .235)*

An organisation shall be entitled to have a design or production organisation approval issued by the CAA when it has demonstrated compliance with the applicable requirements under this Requirement.

5 Design assurance system *(Part 21A.239)*

5.1 The design organisation shall demonstrate that it has established and is able to maintain a design assurance system for the control and supervision of the design, and of design changes, of products, parts and appliances covered by the application. This design assurance system shall be such as to enable the organisation:

a) to ensure that the design of the products, parts and appliances or the design change thereof, comply with the applicable type certification basis and environmental protection requirements; and

b) to ensure that its responsibilities are properly discharged in accordance with:

i) the appropriate provisions of this Requirement; and

ii) the terms of approval issued under this Requirement.

c) to independently monitor the compliance with, and adequacy of, the documented procedures of the system. This monitoring shall include a feed-back system to a person or a group of persons having the responsibility to ensure corrective actions.

5.2 The design assurance system shall include an independent checking function of the showings of compliance.

5.3 The design organisation shall specify the manner in which the design assurance system accounts for the acceptability of the parts or appliances designed or the tasks performed by partners or subcontractor according to methods which are the subject of written procedures.

6 Production Quality System *(Part 21A.139)*

6.1 The production organisation shall demonstrate that it has established and is able to maintain a documented quality system. This quality system shall be such as to enable the organisation to ensure that each product, part or appliance produced by the organisation or by its partners, or supplied from or subcontracted to outside parties, conforms to the applicable design data and is in condition for safe operation, and thus exercise the privileges granted under this Requirement.

6.2 The quality system shall contain:

a) as applicable within the scope of approval, control procedures for:

i) document issue, approval, or change;

ii) vendor and subcontractor assessment audit and control;

iii) verification that incoming products, parts, materials, and equipment, including items supplied new or used by buyers of products, are as specified in the applicable design data;

iv) identification and traceability;

v) manufacturing processes;

vi) inspection and testing, including production flight tests;

vii) calibration of tools, jigs, and test equipment;

viii) non conforming item control;

ix) airworthiness co-ordination with the applicant for, or holder of, the design approval;

x) records completion and retention;

xi) personnel competence and qualification;

xii) issue of airworthiness release documents;

xiii) handling, storage and packing;

xiv) internal quality audits and resulting corrective actions;

xv) work within the terms of approval performed at any location other than the approved facilities;

xvi) work carried out after completion of production but prior to delivery, to maintain the aircraft in a condition for safe operation.

The control procedures need to include specific provisions for any critical parts.

b) an independent quality assurance function to monitor compliance with, and adequacy of, the documented procedures of the quality system. This monitoring shall include a feedback system to the person or group of persons referred to in sub-paragraph 8.1 c) ii) and ultimately to the manager referred to in sub-paragraph 8.1 c) i) to ensure, as necessary, corrective action.

7 Exposition *(Part 21A.143 and .243)*

7.1 The organisation shall submit to the CAA an exposition (see Chapter A8–21 Appendix 3) providing the following information:

a) A statement signed by the accountable manager confirming that the exposition and any associated manuals which define the approved organisation's compliance with this Requirement will be complied with at all times;

b) The title(s) and names of nominated managers accepted by the CAA;

c) The duties and responsibilities of the manager(s) including matters on which they may deal directly with the CAA on behalf of the organisation;

d) An organisational chart showing associated chains of responsibility of the managers;

e) A list of certifying staff;

f) A general description of man-power resources;

g) A general description of the facilities located at each address specified in the organisation's certificate of approval;

h) A general description of the scope of work relevant to the terms of approval;

i) The procedure for the notification of organisational changes to the CAA;

j) The amendment procedure for the exposition;

k) A description of the quality system and/or design assurance system and associated procedures;

l) A list of partners and significant subcontractors.

7.2 The exposition shall be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments shall be supplied to the CAA.

8 Approval requirements *(Part 21A.145 and .245)*

8.1 The organisation shall demonstrate, on the basis of the information submitted in the exposition that:

a) with regard to general approval requirements, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, general organisation and coordination are adequate to discharge the organisations obligations under this Requirement;

b) with regard to all necessary airworthiness, noise, fuel venting and exhaust emissions data:

i) the production organisation is in receipt of such data from the CAA, and from the holder of, or applicant for, the type approval or design approval, to determine conformity with the applicable design data;

ii) the production organisation has established a procedure to ensure that airworthiness, noise, fuel venting and exhaust emissions data are correctly incorporated in its production data;

iii) such data are kept up to date and made available to all personnel who need access to such data to perform their duties.

c) with regard to management and staff:

i) a manager has been nominated by the organisation, and is accountable to the CAA. His or her responsibility within the organisation shall consist of ensuring that all design and production is performed to the required standards and that the organisation is continuously in compliance with the data and procedures identified in the exposition;

ii) a person or group of persons have been nominated to ensure that the organisation is in compliance with these Requirements, and are identified, together with the extent of their authority. Such person(s) shall act under the direct authority of the accountable manager referred to in subparagraph i). The persons nominated shall be able to show the appropriate knowledge, background and experience to discharge their responsibilities;

iii) staff at all levels have been given appropriate authority to be able to discharge their allocated responsibilities and that there is full and effective coordination within the organisation in respect of airworthiness, noise, fuel venting and exhaust emission data matters.

d) with regard to certifying staff, authorised by the organisation to sign the documents issued under the privileges of this approval:

i) the knowledge, background (including other functions in the organisation), and experience of the certifying staff are appropriate to discharge their allocated responsibilities;

ii) the organisation maintains a record of all certifying staff which shall include details of the scope of their authorisation;

iii) certifying staff are provided with evidence of the scope of their authorisation.

9 Changes to the approved organisation *(Part 21A.147, .148 and .247)*

9.1 After the issue of the organisation approval, each change to the organisation, particularly changes to the design assurance or quality system, that is significant to the showing of compliance, conformity or to the airworthiness and environmental protection of the product, part or appliance, shall be approved by the CAA.

9.2 An application for approval shall be submitted to the CAA and before implementation of the change the organisation shall demonstrate that it will continue to comply with these Requirements after implementation.

9.3 A change of the location of the facilities of the approved organisation is deemed a change of significance and therefore necessitates application to the CAA.

10 Transferability *(Part 21A.149 and .249)*

An organisation approval in accordance with these Requirements is not transferable. A change of ownership is considered a significant change and necessitates application to the CAA.

11 Terms of approval *(Part 21A.151 and .251)*

11.1 The terms of approval shall identify the scope of work, the categories of products, parts and appliances, for which the holder is entitled to exercise the privileges of this approval.

11.2 Those terms shall be issued as part of an organisation approval.

12 Changes to the terms of approval *(Part 21A.153 and .253)*

Each change to the terms of approval shall be approved by the CAA. An application for a change to the terms of approval shall be made in a form and manner established by the CAA. The organisation shall comply with the applicable requirements of A8-21.

13 Investigations *(Part 21A.157 and .257)*

13.1 The organisation shall make arrangements that allow the CAA to make any investigations, including investigations of partners and subcontractors, necessary to determine compliance and continued compliance with the applicable requirements of this Chapter.

13.2 The design organisation shall allow the CAA to review any report and make any inspection and perform or witness any flight and ground test necessary to check the validity of the compliance statements submitted.

14 Findings *(Part 21A.158 and .258)*

14.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) A level one finding is any non-compliance with these Requirements which could lead to uncontrolled non-compliances with applicable requirements and which could affect the safety of the aircraft.

b) A level two finding is any non-compliance with these Requirements which is not classified as level one.

c) A level three finding is any item where it has been identified, by objective evidence, to contain potential problems that could lead to a non-compliance of the holder of an organisation approval with the applicable requirements.

14.2 After receipt of notification of findings:

a) In case of a level one finding, the holder of the organisation approval shall demonstrate corrective action to the satisfaction of the CAA within a period of no more than 21 working days after written confirmation of the finding;

b) In case of level two findings, the corrective action period granted by the CAA shall be appropriate to the nature of the finding but in any case initially shall not be more than six months. In certain circumstances and subject to the nature of the finding the CAA may extend the six month period subject to a satisfactory corrective action plan;

c) A level three finding shall not require immediate action by the holder of the organisation approval.

14.3 In case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

15 Duration and continued validity *(Part 21A.159 and .259)*

15.1 An organisation approval shall be issued for an unlimited duration. It shall remain valid unless:

a) the organisation fails to demonstrate compliance with the applicable requirements; or

b) the CAA is prevented by the approved organisation, or any of its partners or subcontractors, from performing it's investigations; or

c) there is evidence that the organisation cannot maintain satisfactory control of the design or manufacture of products, parts or appliances under the approval; or

d) the organisation no longer meets the eligibility requirements for this approval; or

e) the certificate has been surrendered or revoked.

15.2 Upon surrender or revocation, the certificate shall be returned to the CAA.

16 Design Privileges *(Part 21A.263)*

16.1 The holder of a design organisation approval shall be entitled to perform design activities within its scope of approval.

16.2 Compliance documents submitted by the holder of a design organisation approval for the purpose of obtaining:

a) a type certificate, type approval or approval of a major change; or

b) a supplemental type certificate; or

c) an APU equipment approval authorisation; or

d) a major repair design approval;

may be accepted by the CAA without further verification.

16.3 The holder of a design organisation approval shall be entitled, within its terms of approval and under the relevant procedures of the design assurance system:

a) to classify changes to the type design or type certificate and repairs as 'major' or 'minor' (see Chapter A8–21 Appendix 2);

b) to approve minor changes to the type design or type certificate and minor repairs;

c) to approve minor revisions to the aircraft flight manual and supplements, and issue such revisions containing the following statement: 'Revision No [YY] to AFM (or supplement) ref. [ZZ] is approved under the authority of the UK CAA design organisation approval reference: [x/y/z]';

d) to approve the design of major repairs to products or Auxiliary Power Units for which it holds the type-certificate or the supplemental type-certificate or ETSO authorisation;

e) to issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of the UK CAA design organisation approval reference: [x/y/z].';

f) to submit reports to the CAA.

NOTE: Paragraph (b) may also be interpreted to include declaration of compliance with the applicable type certification basis for minor changes to the type design, or type certificate, and minor repairs for aircraft operating under the policy framework set out for CAA Oversight of Military Registered Aircraft.

17 Production Privileges *(Part 21A.163)*

Pursuant to the terms of approval issued under these requirements the holder of a production organisation approval may:

a) perform production activities under these requirements;

b) in the case of complete aircraft and upon presentation of a UK CAA Aircraft Statement of Conformity, obtain an aircraft certificate of airworthiness or permit to fly and, if appropriate, a noise certificate without further showing (see Chapter A8–21 Supplement 2);

c) in the case of other products, parts or appliances issue UK CAA Approved Certificates without further showing (see Chapter A8–21 Supplement 1);

d) maintain a new aircraft that it has produced and issue a Certificate of Release to Service in respect of that maintenance (see Chapter A8–21 Supplement 3).

18 Obligations of the holder *(Part 21A.165 and .265)*

The holder of an organisation approval shall, as applicable:

a) ensure that the exposition and the documents to which it refers, are used as basic working documents within the organisation;

b) maintain the organisation in conformity with the data and procedures approved for the organisation approval;

c) determine that the design of products, or changes or repairs thereof, as applicable, comply with applicable requirements and have no unsafe feature;

d) except for minor changes or repairs approved under the privileges of the design organisation approval, provide to the CAA statements and associated documentation confirming compliance with paragraph c);

e) additionally, in the case of engines, determine that the completed engine is in compliance with the applicable emissions requirements on the date of manufacture of the engine;

f) ensure that required manuals or instructions for continued airworthiness, or changes thereof, are reviewed and approved either by the organisation or the CAA as appropriate and are provided to each known owner of aircraft affected;

g) provide to the CAA information or instructions related to Airworthiness Directives and Mandatory Permit Directives;

h) i) determine that each completed aircraft conforms to the type design and is in condition for safe operation prior to submitting a UK CAA Aircraft Statement of Conformity; or

ii) determine that other products, parts or appliances are complete and conform to the approved design data and are in condition for safe operation before issuing a UK CAA Approved Certificate to certify airworthiness, and additionally in case of engines, determine according to data provided by the engine type approval holder that each completed engine is in compliance with the applicable emissions requirements, current at the date of manufacture of the engine, to certify emissions compliance; or

iii) determine that other products, parts or appliances conform to the applicable data before issuing UK CAA Approved Certificate as a conformity certificate;

i) record all details of work carried out;

j) establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of occurrence reports in order to identify adverse trends or to address deficiencies, and to extract reportable occurrences. This system shall include evaluation of relevant information relating to occurrences and the promulgation of related information;

k) i) report to the holder of the type approval or design approval, all cases where products, parts or appliances have been released by the production organisation and subsequently identified to have possible deviations from the applicable design data, and investigate with the holder of the type approval or design approval in order to identify those deviations which could lead to an unsafe condition;

ii) report to the CAA the deviations which could lead to an unsafe condition identified according to subparagraph i). Such reports shall be made in a form and manner established by the CAA;

iii) where the holder of the production organisation approval is acting as a supplier to another production organisation, report also to that other organisation all cases where it has released products, parts or appliances to that organisation and

subsequently identified them to have possible deviations from the applicable design data;

l) provide assistance to the holder of the type approval or design approval in dealing with any continuing airworthiness actions that are related to the products parts or appliances that have been produced;

m) establish an archiving system incorporating requirements imposed on its partners, suppliers and subcontractors ensuring conservation of the data used to justify conformity of the products, parts or appliances. Such data shall be held at the disposal of the CAA and be retained in order to provide the information necessary to ensure the continuing airworthiness of the products, parts or appliances;

n) where, under its terms of approval, the holder issues a Certificate of Release to Service, determine that each completed aircraft has been subjected to necessary maintenance and is in condition for safe operation, prior to issuing the certificate.

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Supplement 1 to A8-21

<table>
<tr><td colspan="2">1
United Kingdom
Civil Aviation Authority</td><td colspan="3">UK CAA
APPROVED CERTIFICATE</td><td>3 Form Tracking No.</td></tr>
<tr><td colspan="5">4 Approved Organisation Name and Address</td><td>5 Work Order / Contract / Invoice</td></tr>
<tr><td>6 Item</td><td>7 Description</td><td>8 Part No.</td><td>9 Qty</td><td colspan="2">10 Serial No.</td><td>11 Status/Work</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td colspan="7">12 Remarks</td></tr>
<tr><td colspan="3">13a
Certifies that the items identified above were manufactured in conformity to:
☐ approved design data and are in a condition for safe operation
☐ non-approved design data specified in block 12</td><td colspan="4">14a
Certifies that the work specified, except as otherwise specified in block 12, was carried out in accordance with the Air Navigation Order for the time being in force and in respect to that work the aircraft/aircraft component is considered ready for release to service</td></tr>
<tr><td colspan="2">13b
Authorised Signature</td><td>13c
Approval No.</td><td colspan="2">14b
Authorised Signature</td><td>14c
Approval No.</td></tr>
<tr><td colspan="2">13d
Name</td><td>13e
Date (dd/mmm/yyyy)</td><td colspan="2">14d
Name</td><td>14e
Date (dd/mmm/yyyy)</td></tr>
</table>

Issue2

USER/INSTALLER RESPONSIBILITIES

NOTES:

1 This certificate does not automatically constitute authority to install the item(s).

2 Where the user/installer performs work in accordance with the regulations of another airworthiness authority, it is essential that the user/installer ensure that his/her airworthiness authority accepts items from the UK CAA.

3 Statements 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer, before the aircraft may be flown.

APPROVED CERTIFICATE

COMPLETION INSTRUCTIONS

These instructions relate only to the use of the UK CAA Approved Certificate for manufacturing purposes.

1 PURPOSE AND SCOPE

The primary purpose of the certificate is to release products, parts and appliances (hereafter referred to as 'item(s)') as identified in Blocks 7 through 11 as applicable after manufacture, or to release maintenance work carried out on items under the approval of the CAA.

The Certificate serves as an official certificate for the delivery of items from the manufacturer to users. The Certificate is not, however, a delivery or shipping note.

It may only be issued by organisations certificated by the CAA, within the scope of such an approval. Aircraft are not to be released using the Certificate. Products, Parts or Appliances for aircraft that are the responsibility of the European Aviation Safety Agency (EASA) are NOT to be released using the Certificate.

A mixture of 'New' and 'Used' items is not permitted on the same Certificate.

A mixture of items certified in conformity with 'approved data' and to 'non-approved data' is not permitted on the same Certificate, and consequently only one box in Block 14 can be ticked.

2 GENERAL

The Certificate must comply with the format attached including block numbers and the location of each Block. The size of each Block may however be varied to suit the individual application, but not to the extent that would make the Certificate unrecognisable. The overall size of the Certificate may be significantly increased or decreased so long as the Certificate remains recognisable and legible. The Certificate must be in 'Portrait' rather than 'Landscape' to help differentiate it from the EASA Form 1. If in doubt consult the CAA.

Please note that the user responsibility statements can be placed on either the reverse or front of this Certificate.

All printing must be clear and legible to permit easy reading and be in English.

The Certificate may either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted.

The details to be entered on the Certificate may be either machine/computer printed or hand-written using block letters, permit easy reading and be in English. Abbreviations must be restricted to a minimum.

The space remaining on the reverse side of the Certificate may be used by the originator for any additional information but must not include any certification statement.

The original Certificate must accompany the items and correlation must be established between the Certificate and the item(s). A copy of the Certificate must be retained by the organisation that manufactured the item. Where the Certificate format and the data

is entirely computer generated, subject to acceptance by the CAA, it is permissible to retain the Certificate format and data on a secure database.

There is no restriction in the number of copies of the Certificate sent to the customer or retained by the originator.

The Certificate that accompanies the item may be attached to the item by being placed in an envelope for durability.

3 COMPLETION OF THE APPROVED CERTIFICATE BY THE ORIGINATOR

Except as otherwise stated, there must be an entry in all Blocks to make the document a valid certificate.

Block 1 Pre-printed 'United Kingdom Civil Aviation Authority'.

Block 2 Pre-printed 'UK CAA Approved Certificate'.

Block 3 A unique number must be pre-printed in this Block for Certificate control and traceability purposes except that in the case of a computer generated document, the unique number need not be pre-printed where the computer is programmed to produce the number.

Block 4 The information in this Block needs to satisfy two objectives:

1. to relate the Certificate to an organisation approval, for the purposes of verifying authenticity and authority of the Certificate;
2. to provide a ready means of rapidly identifying the place of manufacture and release, to facilitate traceability and communication in the event of problems or queries.

Therefore, the name entered in the box is that of the organisation approval holder who is responsible for making the final determination of conformity or airworthiness, and whose Approval Reference Number is quoted in Block 16. The name must be entered in exactly the same form as appears in the Approval Certificate held by the organisation.

The address(es) entered in Block 4 will assist in the identification of the approval holder and in identifying the place of release.

If the place of manufacture and release is one of the organisation addresses listed on the Approval Certificate, then that is the only address needed in this Block.

If the place of manufacture and release is a location which is NOT listed in the Approval Certificate then two addresses are required. The first address will be the address of the approval holder (as listed in the Approval Certificate) and a second address entered to identify the place of manufacture and release.

This Block may be pre-printed. Logo of the production approval holder, etc., is permitted if it can be contained within the Block.

Block 5 The purpose is to reference work order/contract/invoice or any other internal organisational process such that a fast traceability system can be established. The use of the Block for such traceability is mandatory in the absence of item Serial Numbers or batch numbers in Block 11. When not used, state N/A.

Block 6 The Block is provided for the convenience of the organisation issuing the Certificate to permit easy cross-reference to the 'Remarks' Block 13 by the use of line item numbers. Block 6 must be completed where there is more than one line item.

Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

Block 7 The name or description of the item must be given. Preference must be given to use of the Illustrated Parts Catalogue (IPC) designation.

Block 8 State the Part Number. Preference must be given to use of the IPC number designation.

Block 9 Used to indicate the type approved applications for which the released items are eligible for installation, based on information provided by the design approval holder. The following entries are permitted:

a) At least one specific or series aircraft, propeller, or engine model as identified by the design approval holder. In case of engine or propeller release, state the aircraft approved applications, or, if application is not specific, state 'type certificated engine/propeller'.

b) 'None', to be used only when it is known that the items do not yet have a type approved application, for example: pending type certificate, for test only, pending approved data. If this category is used, then appropriate explanatory information must be provided in Block 13 and new items may only be released for Conformity purposes.

c) 'Various' if known to be eligible for installation on multiple products, according to a procedure approved by the CAA.

In the case of multiple applications it is acceptable for this Block to contain cross reference to an attached document which lists such applications.

Any information in Block 9 does not constitute authority to fit the item to a particular aircraft, engine or propeller. The User/Installer must confirm via documents such as the Parts Catalogue, Service Bulletins, etc., that the item is eligible for the particular installation.

Any information in Block 9 does not necessarily mean that the product, parts or appliances are only eligible for installation on the listed model(s). Nor does it guarantee that the product, parts or appliances are eligible for installation on all entries in Block 9. Eligibility may be affected by modification or configuration changes.

Where a part is identified by the design holder in accordance with officially recognised Standards, then the part is considered a Standard Part and release with an Approved Certificate is not necessary. However where a production approval holder releases a standard part with an Approved Certificate then it must be able to demonstrate that it is in control of the manufacture of that part.

Block 10 State the quantity of items being released.

Block 11 State the items Serial Number or Batch Number if applicable. If neither is applicable, state 'N/A'.

Block 12 Enter one or a combination of appropriate standard words from the following table. The table lists, in quotes, the standard words permitted for use when

releasing new items prior to entry into service, i.e. the items have not been previously used in operational service. It also details the circumstances and conditions under which they may be used. In all cases the certification rules relating to Block 14 apply, the appropriate box is to be marked, and Block 15 is to be signed.

TABLE OF STANDARD WORDS FOR NEW PARTS

1	'MANUFACTURED' a) The production of a new item in conformity with the applicable design data, or b) Re-certification by the original manufacturer after rectification work on an item, previously released under paragraph 1 a), which has been found to be unserviceable prior to entry into service, e.g., defective, in need of inspection or test, or shelf life expired. Details of the original release and the rectification work are to be entered in Block 13, or re-certification of new items from conformity purpose to airworthiness purpose at the time of approval of the applicable design data, provided that the items conform to the approved design data. An explanation of the basis of release and details of the original release are to be entered in Block 13.
2	'INSPECTED/TESTED' The examination of a previously released new item: a) to establish conformity with the applicable design data, or b) in accordance with a customer-specified standard or specification, details of which are to be entered in Block 13, or c) to establish serviceability and condition for safe operation prior to re-release as a spare, where the item has been obtained with an EASA Form 1 or Approved Certificate. An explanation of the basis of release and details of the original release are to be entered in Block 13.
3	'MODIFIED' The alteration, by the original manufacturer, of a previously released item prior to entry into service. Details of the alteration and the original release are to be entered in Block 13

The above statements must be supported by reference to the approved data/manual/specification. Such information shall be identified in either Block 12 or 13.

Block 13 It is necessary to state any information in this Block, either directly or by reference to supporting documentation, that identifies particular data or limitations relating to the item being released that are necessary for the User/Installer to make the final airworthiness determination of the item. The information must be clear, complete, and provided in a form and manner which is adequate for the purpose of making such a determination.

Each statement must be clearly identified as to which item it relates.

If there is no statement, state 'None'.

Examples of conditions which would necessitate statements in Block 13 are:

- when the certificate is used for conformity purposes the following statement must be entered at the beginning of Block 13:

  'ONLY FOR CONFORMITY, NOT ELIGIBLE FOR INSTALLATION ON IN-SERVICE TYPE CERTIFICATED AIRCRAFT / ENGINE / PROPELLER';

- when the design data is not approved by the CAA, then the competent authority of the third country responsible for the approval of the design data must be identified and the following statement must be entered together with a reference identifying the approval:

  'Design data approved by <identify the responsible competent authority of a third country and the approval reference>';

- re-certification of new items from conformity purpose to airworthiness purpose at the time of approval of the applicable design data, provided that the items conform to the approved design data.

Provided that no change in design has occurred during the design data approval process, the manufacturer may state that the design data has been approved and that provided the specific component is still in the condition it was when it was shipped to the user/installer, the component is now eligible to be installed. The manufacturer must make this statement on a second Approved Certificate where in addition to any other necessary remarks, appropriate explanatory information must be provided. The following wording must be used: 'RE-CERTIFICATION OF NEW PARTS FROM CONFORMITY TO AIRWORTHINESS: THIS DOCUMENT ONLY CERTIFIES THE APPROVAL OF THE DESIGN DATA TO WHICH THIS ITEM WAS (THESE ITEMS WERE) MANUFACTURED, BUT DOES NOT COVER CONFORMITY/CONDITION AFTER RELEASE OF THE INITIAL APPROVED CERTIFICATE REF……..'.

Approved Certificate (both for 'Conformity purposes' and for 'Airworthiness purposes') must be generated by the same organisation, i.e. the original manufacturer or prime manufacturer, whichever raised the original Approved Certificate for Conformity purposes.

- For complete engines and propellers the applicable type certificate, or equivalent, must be referenced.

- For complete engines, a statement of compliance with the applicable emissions requirements current at the date of manufacture of the engine.

- Usage restriction for repaired items.

- Modification standard.

- Alternative approved items supplied.

- Concessions applicable.

- Non-compliance with certification specifications.

- Details of repair work carried out or reference to a document where this is stated.

- Compliance with, or non-compliance with airworthiness directives or Service Bulletins.
- Information on life limited items.
- Condition of items or reference to a document detailing this information.
- Manufacturing date or cure date.
- Shelf life data.
- Shortages.
- Time Since New (TSN), Time Since Overhaul (TSO), etc.
- Re-certification of previously released 'new' items.

Block 14 This Block may only be used to indicate the status of new items.

The main purpose of the Certificate is to release items for airworthiness purposes, which means conformity with approved design data and in condition for safe operation.

This airworthiness certification is valid in the UK.

The certificate may also be used as a Conformity Certificate when items conform to applicable design data which are not approved for a reason which is stated in Block 13 (e.g, pending type certificate, for test only, pending approved data).

In this case the following additional statement must be entered at the beginning of Block 13 itself and not in a separate document. 'ONLY FOR CONFORMITY, NOT ELIGIBLE FOR INSTALLATION ON IN-SERVICE TYPE CERTIFICATED AIRCRAFT/ENGINE/PROPELLER'.

Mixtures of items released for Airworthiness and for Conformity purposes are not permitted in the same certificate. Also refer to the notes for completion of Block 9.

Block 15 The hand-written normal signature of a person who has written authority from an approved production organisation to make Certifications in respect of new items. Use of a stamp instead of a signature is not permitted, but the authorised person may add a stamp impression to his or her signature to aid recognition. Subject to the agreement of the CAA in any particular case, computer-generated signatures are permitted if it can be demonstrated that an equivalent level of control, traceability and accountability exists.

Block 16 State the full authorisation reference given by the CAA to the organisation releasing the new items.

Block 17 The name of the person signing Block 15, printed, typed, or written in a legible form.

Block 18 The date on which Block 15 is signed, in the format day/month/year. The month must be stated in letters (sufficient letters must be used so there can be no ambiguity as to the month intended).

Block 19 Not used and strike out for release of new items.

Block 20 Not used and strike out for release of new items.

Block 21 Not used and strike out for release of new items.

Block 22 Not used and strike out for release of new items.

Block 23 Not used and strike out for release of new items.

Supplement 2 to A8-21

UK CAA AIRCRAFT STATEMENT OF CONFORMITY		
1. State of manufacture **United Kingdom**	2. National Aviation Authority **Civil Aviation Authority**	3. Statement Reference Number
4. Organisation		
5. Aircraft Type	6. Type Approval Reference	
7. Aircraft Registration	8. Manufacturers Identification Number	
9. Engine/Propeller Details		
10. Modifications and/or Service Bulletins		
11. Airworthiness Directives		
12. Concessions		
13. Exemptions, Waivers or Derogations		
14. Remarks This statement of conformity has been issued under national rule provisions		
15. Certificate of Airworthiness/Permit to Fly		
16. Additional Requirements		
17. Statement of Conformity It is hereby certified that this aircraft conforms to the type approved design and to the items identified above in boxes 9, 10, 11, 12 and 13. The aircraft is in a condition for safe operation. The aircraft has been satisfactorily tested in flight.		
18. Signed	19. Name	20. Date (dd/mmm/yyyy)
21. UK Production Organisation Approval Reference		

UK CAA AIRCRAFT STATEMENT OF CONFORMITY

COMPLETION INSTRUCTIONS

1. PURPOSE AND SCOPE

The UK CAA Statement of Conformity is to be used for the release of a new aircraft by a manufacturer under UK national rules. This document is not to be used for the release of EASA aircraft.

2. GENERAL

The Statement of Conformity must comply with the format attached including block numbers and the location of each Block. The size of each Block may however be varied to suit the individual application, but not to the extent that would make the Statement of Conformity unrecognisable. If in doubt consult the CAA.

The Statement of Conformity must either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted.

Completion in English may be either machine/computer printed or hand-written using block letters to permit easy reading.

A copy of the Statement of Conformity and all referenced attachments are to be retained by the approved production organisation.

3. COMPLETION OF THE STATEMENT OF CONFORMITY BY THE ORIGINATOR

There should be an entry in all Blocks to make the document a valid statement.

A Statement of Conformity may not be issued unless the design of the aircraft and its installed products are approved by the CAA.

The information required in Blocks 9, 10, 11, 12, 13 and 14 may be by reference to separate identified documents held on file by the production organisation, unless the CAA agrees otherwise.

This Statement of Conformity is not intended to include those items of equipment that may be required to be fitted in order to satisfy applicable operational rules. However, some of these individual items may be included in Block 10 or in the approved type design. Operators are therefore reminded of their responsibility to ensure compliance with the applicable operational rules for their own particular operation.

Block 1 Pre-printed 'United Kingdom'.

Block 2 Pre-printed 'Civil Aviation Authority'.

Block 3 A unique serial number should be pre-printed in this Block for Statement control and traceability purposes. Except that in the case of a computer generated document the number need not be pre-printed where the computer is programmed to produce and print a unique number.

Block 4 The full name and location address of the organisation issuing the statement. This Block may be pre-printed. Logos etc. are permitted if the logo can be contained within the Block.

Block 5 The aircraft type in full as defined in the type approval and its associated data sheet.

Block 6 The type approval (e.g. type certificate or type acceptance) reference numbers and issue for the subject aircraft.

Block 7 If the aircraft is registered then this mark will be the registration mark. If the aircraft is not registered then this will be such a mark that is accepted by the CAA and, if applicable, by the competent authority of a third country.

Block 8 The identification number assigned by the manufacturer for control and traceability and product support. This is sometimes referred to as a Manufacturers Serial No. or Constructors No.

Block 9 The engine and propeller type(s) in full as defined in the relevant type approval and its associated data sheet. Their manufacturer identification No. and associated location should also be shown.

Block 10 Approved design changes to the aircraft type design.

Block 11 A listing of all applicable airworthiness directives (or equivalent) and a declaration of compliance, together with a description of the method of compliance on the subject individual aircraft including products and installed parts, appliances and equipment. Any future compliance requirement time should be shown.

Block 12 Approved unintentional deviation to the approved type design sometimes referred to as concessions, divergences, or non-conformances.

Block 13 Only agreed exemptions, waivers or derogations may be included here.

Block 14 Remarks. Any statement, information, particular data or limitation which may affect the airworthiness of the aircraft. If there is no such information or data, state: 'NONE'.

Block 15 Enter 'Certificate of Airworthiness' or 'Restricted Certificate of Airworthiness', or 'Permit to Fly' as appropriate.

Block 16 Additional requirements such as those notified by an importing country should be noted in this Block.

Block 17 Validity of the Statement of Conformity is dependent on full completion of all Blocks on the form. A copy of the flight test report together with any recorded defects and rectification details should be kept on file by the production approval holder. The flight test report should be signed as satisfactory by the appropriate certifying staff and a flight crew member, e.g., test pilot or flight test engineer. The flight tests performed are those defined under the control of the production approval holder to ensure that the aircraft conforms with the applicable design data and is in condition for safe operation.

The listing of items provided (or made available) to satisfy the safe operation aspects of this statement should be kept on file by the production approval holder.

Block 18 The Statement of Conformity may be signed by the person authorised to do so by the production approval holder. A rubber stamp signature should not be used.

Block 19 The name of the person signing the certificate should be typed or printed in a legible form.

Block 20 The date on which the Statement of Conformity is signed, in the format day/month/year. The month must be stated in letters (sufficient letters must be used so there can be no ambiguity as to the month intended).

Block 21 The CAA approval reference of the production approval holder should be quoted.

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Supplement 3 to A8-21

Supplement 3 to A8-21

CERTIFICATE OF RELEASE TO SERVICE

(APPROVED ORGANISATION NAME)

Organisation Approval Reference:

Certificate of Release to Service in accordance with the Air Navigation Order, for the time being in force.

Aircraft: ..... Type: .....

Constructor No/ Registration .....

has been maintained as specified in Work Order .....

Brief description of work performed:

Certifies that the work specified was carried out in accordance with BCAR A8-21, 17 d) and in respect to that work, the aircraft is considered ready for release to service and therefore is in a condition for safe operation

Certifying Staff (name): .....

Signature: .....

Location: .....

Date: .....

Certificate of Release to Service

Completion Notes

"Brief description of work performed" should include reference to the approved data used to perform the work.

The "Location" to be entered on the Certificate is that where the maintenance work has been performed and not the location of the approved organisation.

Appendix 1 to A8-21 Eligibility Guidance for Production Organisation Approval

1 To be eligible for an A8-21 approval with production privileges, the applicant must produce, or intend to produce, aeronautical products, parts or appliances intended for airborne use.

2 The applicant will be required to show a need for an approval, normally based on one or more of the following criteria:

a) Production of aircraft, engines or propellers (except if the CAA considers it inappropriate);

b) The need to issue an Approved Certificate, for example, direct delivery of new parts to owners' or operators' maintenance organisations;

c) Participation in an international co-operation program where the CAA considers working under an approval necessary;

d) Criticality and technology involved in the part, appliance, or material being manufactured. Approval in this case may be found by the CAA as the best tool to exercise its duty in relation to airworthiness control;

e) Where an approval is otherwise determined by the CAA as being required.

3 It is not the intent of the CAA to issue approvals to manufacturing organisations that perform only sub-contract work for main manufacturers of products and are consequently placed under their direct surveillance.

4 Where standard parts, materials, processes or services are included in the applicable design data their standards should be controlled by the POA holder in a manner which is satisfactory for the final use of the item on the product, part or appliance. Accordingly, the manufacturer or provider of the following will not at present be considered for production organisation approval:

- consumable materials;
- standard parts;
- parts identified in the product support documentation as 'industry supply' or 'no hazard';
- non-destructive testing or inspection;
- processes (heat treatment, surface finishing, shot peening, etc.).

5 **Standard Parts**

In the context of the British Civil Airworthiness Requirements a part is considered as a "standard part" where;

- it is designated as such by the design approval holder responsible for the product, part or appliance, in which the part is intended to be used; and
- all marking requirements and the design, manufacturing and inspection data necessary to demonstrate conformity of that part are in the public domain and published or established as part of officially recognised Standards. In this context "officially recognised Standards" means those standards established or published by an official body whether having legal personality or not, which are widely recognised by the air transport sector as constituting good practice.

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Appendix 2 to A8-21 Classification of Changes to Type Design

1 Scope

This appendix establishes the procedures and criteria for the classification of changes to type design made under A8-21 approvals.

2 Introduction

2.1 The type design is defined as:

- The drawings and specifications, and a listing of those drawings and specifications, necessary to define configuration and the design features of the product shown to comply with the type certification basis and environmental protection requirements.
- Information on materials and processes and on methods of manufacture and assembly of the product necessary to ensure conformity.
- An approved airworthiness limitations section of the instructions for continued airworthiness.
- Any other data necessary to allow by comparison, the determination of the airworthiness, the characteristics of noise, fuel venting and exhaust emissions of later products of the same type.

2.2 BCAR Section A/B Chapter 2-5 defines a change to type design as any change to an aircraft including its components, engines, propellers, radio apparatus, accessories, instruments, equipment, and their installations together with the Aircraft Flight Manual or other approved documents.

2.3 All changes to UK registered non-EASA aircraft must be approved by the CAA. The classification of changes as major or minor determines the approval route to be followed for such approval and hence the extent of CAA involvement.

2.4 The privilege to classify changes as major or minor will be granted to an organisation when the CAA is satisfied that the organisation has demonstrated compliance with applicable requirements of BCAR A8-21.

3 Classification Criteria

3.1 The criteria for classification of changes contained in paragraph 4.1 are similar to those of Part 21A.91 and are based on the effect on airworthiness where airworthiness is defined as a product being in conformity with type design and in condition for safe operation

3.2 Whenever there is doubt with respect to the classification the CAA should be consulted for clarification.

3.3 An aircraft is considered airworthy if it complies with all applicable airworthiness and environmental protection requirements. A change to the Type Design will be judged to have an "appreciable effect on airworthiness" and therefore will be classified Major, in particular but not only, when one or more of the following criteria are met:

3.3.1 Where the change requires an amendment to the type certification basis (such as special condition, equivalent safety finding, elect to comply, exemption, reversion, later requirements).

3.3.2 Where there is a new interpretation of the requirements used for the type certification basis that has not been published as advisory material or otherwise agreed with the CAA.

3.3.3 Where the demonstration of compliance employs methods that have not been previously accepted as appropriate for the nature of the change to the product or for similar changes to other products designed by the applicant.

3.3.4 Where the extent of new substantiation data necessary to comply with the applicable airworthiness and environmental protection requirements, and the degree to which the original substantiation data has to be re-assessed and re-evaluated is considerable.

3.3.5 The change may alter the technical contents of manuals directly approved by the CAA, or the Type Certificate / Approval Data Sheet, or limitations shown on the Certificate of Airworthiness or Permit to Fly. Affected documents may include: the Aircraft Flight Manual, the Operating Limitations, the Airworthiness Limitations in the Maintenance Manual, and the MMEL.

3.3.6 Where the change introduces or affects functions where the failure effect is classified catastrophic or hazardous.

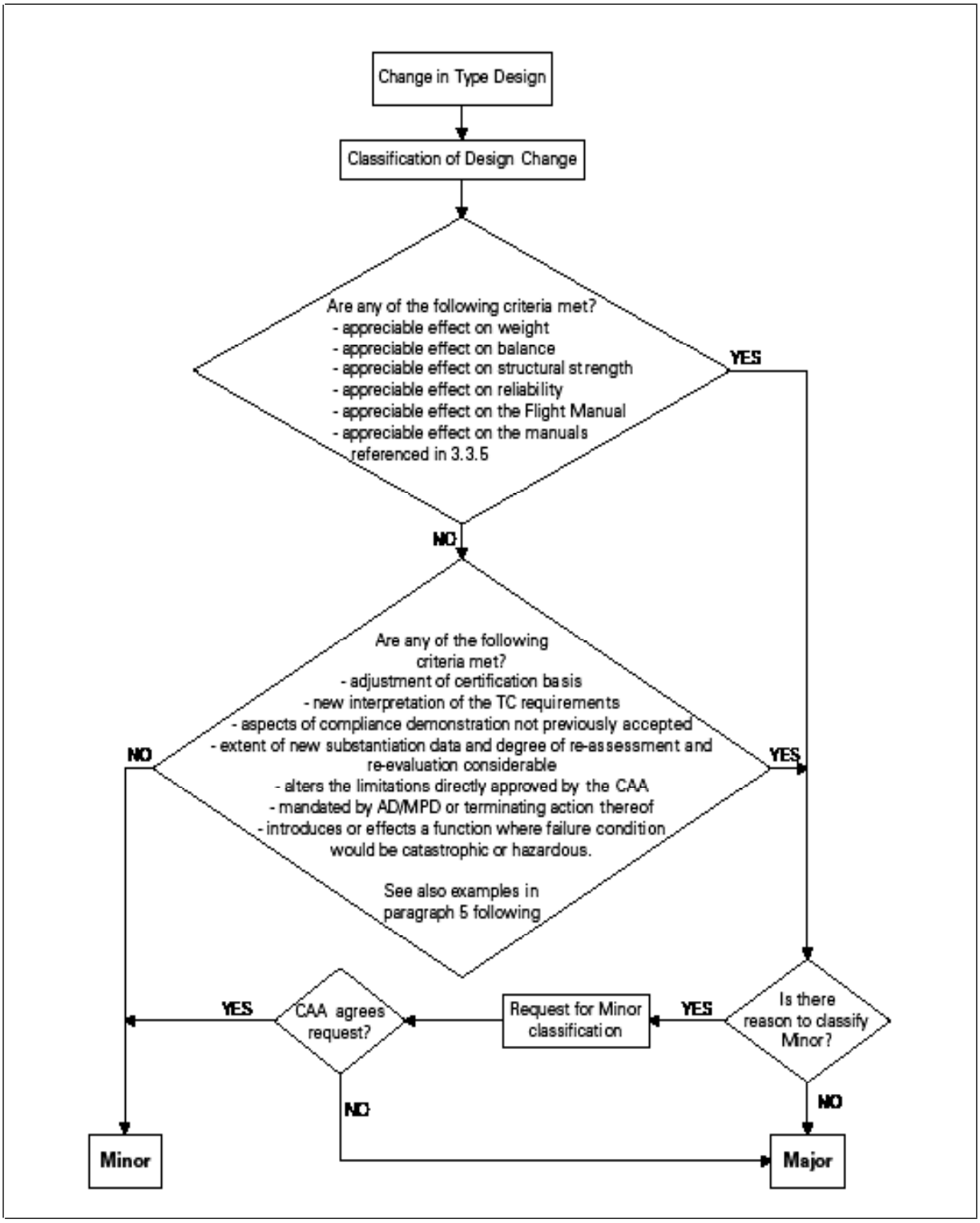
3.3.7 The change is made mandatory by an airworthiness directive/mandatory permit directive or the change is the terminating action of such a directive.

3.3.8 Where strict application of the criteria detailed in 3.3 results in a major classification, the applicant may request re-classification. The CAA may agree to re-classification to minor status on the basis of the following or similar discretionary factors:

- The skills and experience accumulated by the applicant with similar changes, together with an assessment of the extent and the complexity of the compliance demonstration to be developed for the change currently under consideration.
- A simple design change planned to be mandated by an Airworthiness Directive / Mandatory Permit Directive may be re-classified minor dependent on the involvement of the CAA.

Reason for the re-classification decision should be recorded.

4 Classification Process



NOTE: Whenever there is a doubt as to the classification of a change, the CAA should be consulted for clarification.

4.1 When recommending a classification consideration should be given to interaction between disciplines and the consequences this may have on the effects of the change. For example in the case of an avionics installation the interaction between systems and structure should be considered.

5 Guidance

The major change examples listed below provide some guidance and are not intended to present a comprehensive list of all major changes.

5.1 Structure

Changes to materials used for the manufacture of primary structural elements where fatigue, damage tolerance, creep and fracture toughness are significant in the design substantiation and other changes that affect the fatigue and damage tolerance substantiation.

5.2 Cabin Safety

Changes to cabin layouts that would require a re-assessment of emergency evacuation or have an effect on weight and balance.

5.3 Flight

Changes that would affect the performance or handling.

5.4 Systems

For systems assessed under paragraph xx.1309 or equivalent safety assessment, where the failure effect is "catastrophic" or "hazardous". Where the failure effect is "major" the change should be classified as major if:

- the compliance demonstration uses means that have not been previously accepted;
- the change affects the pilot/system interface;
- the change introduces new types of functions/systems such as GPS primary, TCAS, HUD etc.

5.5 Propellers

A change of propeller type, diameter, aerofoil or blade retention system etc.

5.6 Engines

A change of engine type, operating speeds, temperatures or other limitations.

Changes that affect or introduce engine critical parts.

5.7 Environment

Changes that introduce an increase in noise or emissions.

5.8 Powerplant

Control system changes that affect engine/propeller/airframe interface or change of engine/propeller type.

NOTE: Further examples are listed in Appendix A to GM 21A.91.

Appendix 3 to A8-21 Example A8-21 Organisation Exposition

The enclosed wording and layout are an example of the information and contents of a typical exposition covering both design and production. This must be viewed in light of the actual circumstances of the applicant organisation and completed accordingly. Whether the organisation is applying for a production approval only, design approval only or a combined design and production approval obviously affects which sections need to be included.

Part 1 Management; this section should be fully completed.

Part 2 Procedures; the organisation's procedures can be included in this section, or a summary should be provided of the relevant procedures together with a cross reference to the actual procedures or work instructions.

Part 3 Appendices; The sample of documents should, as a minimum, have an actual facsimile of the organisation's release documentation, i.e. CAA Approved Certificate, and a copy of the Approval Certificates provided by the CAA when granting the approval. A list of parts or products may be included as a capability list but this is optional, unless specifically requested by the CAA.

INTENTIONALLY LEFT BLANK

ANYBODY'S A8-21
EXPOSITION

Organisation address

Telephone number

Fax number

Email address

Approval Number…(once notified by CAA)

Document Reference:

Issue Number:

CONTENTS

INTRODUCTION

This document, the Organisation Exposition, satisfies the requirements of the UK Civil Aviation Authority (CAA), British Civil Airworthiness Requirements (BCAR), A8–21 paragraph 7.

Notes: (Not for inclusion in the exposition)

1. *Include a brief company history and description of A8–21 related activity.*
2. *If the organisation is part of a larger group of companies explain the relationship here.*

Distribution List

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Amendment Control Page

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Initial	06/11/03	CD / 07-11-03	15		
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1 MANAGEMENT

1.1 Corporate Commitment of Accountable Manager

Reference A8-21 paragraph 7.1 a) and 8.1 c) i)

This Exposition defines the organisation and procedures upon which the UK Civil Aviation Authority, British Civil Airworthiness Requirements, A8-21 approval is based.

These procedures are approved by the undersigned and must be complied with, as applicable, when work/orders are being progressed under the terms of the A8-21 approval.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the UK Civil Aviation Authority from time to time, where these new or amended regulations are in conflict with these procedures.

It is understood that the UK Civil Aviation Authority will approve this organisation whilst the UK Civil Aviation Authority is satisfied that the procedures are being followed and work standards maintained. It is further understood that the UK Civil Aviation Authority reserves the right to suspend or cancel the A8-21 approval of the organisation if the UK Civil Aviation Authority has evidence that procedures are not being followed, standards not upheld or the organisation is no longer in compliance with BCAR A8-21.

Signed .....

Accountable Manager and..……..... *(quote position, e.g. Chief Executive)*

For and on behalf of .....……..……..*(quote organisation's name)*

1.2 **Management Personnel**

Reference A8-21 paragraph 8.1 c) ii) and 7.1 b)

NAME..... TITLE .....

AB..... Accountable Manager

XY..... Quality Manager

Etc…

A CAA biographical details form will be submitted to the CAA for the above management positions, excluding the Accountable Manager.

Any changes to the personnel named above will be notified to the CAA.

NOTES: (not for inclusion in the Exposition)

1 This list comprises the Senior Personnel for which the CAA would require a form to be completed. However the Accountable Manager does not require a form unless they also perform the function of another nominated post, for example 'Production Manager'.

2 Other posts may be added if desired but it should be clearly shown whether or not they are considered as "nominated management" for form submission purposes. This, in effect, is the "group of persons" referred to in A8-21 paragraph 8.1 c) ii) whose responsibilities include ensuring that the A8-21 approved organisation is in compliance with A8-21 requirements. These persons are ultimately directly responsible to the Accountable Manager for this function.

3 The actual job titles of the nominated managers may be used rather than 'Quality Manager' etc. but they should correspond to the titles used in section 1.3, 'Duties and Responsibilities of Management Personnel'. It should also be clearly indicated who is the Accountable Manager.

4 It is recommended that this list is included in the Exposition on a separate page so that it can be easily amended when changes occur.

1.3 **Duties and Responsibilities of Management Personnel**

Reference A8-21 paragraph 8.1 c) ii) and 7.1 b)

NOTES: (not for inclusion in the Exposition)

The examples on the following pages are the usual core responsibilities of the managers nominated. Many other tasks need to be considered, as listed below, but which manager is responsible for each of these is dependent on the organisation. This list is not exhaustive and is intended as a guide only.

Examples of nominated managers' responsibilities:

- *Ensuring that the certifying staff approval/authorisation system is satisfactorily maintained at all times;*
- *Ensuring that all staff are provided with sufficient technical training;*
- *Ensuring the provision and monitoring of initial and continuation training for all staff that carry out and/or certify airworthiness related tasks;*
- *Ensuring that legible and durable records are kept for all work undertaken, for the designated period;*
- *Ensuring that any tools and equipment used are calibrated to national standards and appropriately maintained;*
- *Ensuring that all technical data required for reference by staff is controlled and available;*
- *Ensuring that the movement and storage of all parts comply with good practice and customer requirements;*
- *Ensuring a contract review is undertaken for all orders to establish whether the work is within the scope of the A8-21 approval and whether the design-production arrangements are adequate;*
- *Providing a process to ensure correct analysis of Airworthiness Directives, other safety information and manufacturers' service bulletins;*
- *Providing technical support to production areas and customers and assisting customers in investigation of component incidents.*

The organisation should decide who will be responsible for liaising with the CAA and show this in his/her terms of reference. If more than one person is nominated it must be clearly shown what each person is responsible for with, as a general rule, no overlapping of responsibility.

The CAA requires the nominated managers to be identified and their credentials submitted to the CAA (see section 1.9) in order that they may be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the production activities as performed by the A8–21 organisation.

1.3.1 **Accountable Manager**

The Accountable Manager is responsible for:

- ensuring that work carried out by the approved organisation meets the standards required by the CAA;
- ensuring that the necessary finance, manpower resources and facilities are available to the company;
- ensuring that any charges are paid, as prescribed by CAA in respect of the BCAR A8-21 approval;
- establishing and promoting the quality system specified in BCAR A8-21 paragraph 6;
- ensuring the competence of all personnel including management personnel has been assessed.

Notes: (not for inclusion in the Exposition)

Accountable manager means the manager who is responsible, and has corporate authority for ensuring that all work is carried out to the required standard. This function may be carried out by the Chief Executive or by another person in the organisation, nominated by the Chief Executive to fulfil the function provided his or her position and authority in the organisation permits to discharge the associated responsibilities.

The manager is responsible for ensuring that all necessary resources are available and properly used in order to carry out work under the approval in accordance with A8–21.

The manager needs to have sufficient knowledge and authority to enable him or her to respond to the CAA regarding major issues of the approval and implement necessary improvements.

The manager needs to be able to demonstrate that he or she is fully aware of and supports the quality policy and maintains adequate links with the quality manager, or equivalent.

Any additional duties and responsibilities within the organisation may be added provided they do not conflict with those above, which constitute the Accountable Manager's core responsibilities under A8–21.

1.3.2 **Quality Manager**

The Quality Manager is responsible, under the direct authority of the Accountable Manager for:

- establishing the quality system in compliance with A8-21 requirements;
- controlling suppliers and subcontractors in accordance with a documented system;
- establishing an independent quality audit system to monitor compliance with A8-21 requirements;
- implementing a quality audit programme in which compliance with the requirements is reviewed at regular intervals. Any observed non-compliances or poor standards are brought to the attention of the person concerned via his/her manager.

The Quality Manager has direct access to the Accountable Manager the event of any reported discrepancy not being adequately attended to by the relevant person, or in respect of any disagreement over the nature of a discrepancy.

1.3.3 **Head of Design**

The Head of Design is responsible, under the direct authority of the Accountable Manager, for:

- establishing a documented design assurance system
- ensuring that all design work is undertaken in accordance with the design assurance system, A8-21 and other relevant regulations.
- ensuring that for all design work compliance is demonstrated and verified with the appropriate type certification basis or equivalent.
- signing a Declaration of Compliance after satisfactory verification of compliance with the applicable airworthiness requirements
- confirming that all design procedures as specified in the exposition have been followed by signing a Declaration of Compliance for each type certification, design change or repair design

Notes: (not for inclusion in the Exposition)

The Head of the design organisation has the direct or functional responsibility for all departments of the organisation which are responsible for the design of the product.

1.3.4 **Production Manager**

The Production Manager is responsible, under the direct authority of the Accountable Manager, for ensuring that products are manufactured within the scope of the A8–21 approval, are in conformity with the applicable data and are in a condition for safe operation. The Production Manager should notify the Accountable Manager if unable to achieve any responsibilities.

The Production Manager is responsible for ensuring that the organisation has:

- facilities appropriate to the planned production;
- office accommodation appropriate to the management of the planned work;
- a working environment appropriate to the tasks being undertaken;
- sufficient competent personnel to plan, perform, supervise, inspect and certify the work being performed;
- appropriate tools, equipment and materials to perform the planned tasks;
- storage facilities for parts, tools, equipment and materials;
- all necessary data as required by A8–21.

1.3.5 **Head of Airworthiness**

Reports to the Head of Design but is responsible under the authority of the Accountable Manager for:

- Liaison between the design organisation and the CAA with respect to all aspects of Type Investigation and certification.
- Ensuring that an exposition is prepared and updated with regard to the design organisation as required in A8-21 paragraph 7.
- Co-operation with the CAA in developing procedures to be used for the type certification process.
- Design procedure compilation, including documenting compliance.
- Co-operation in issuing guidelines for the preparation of the manuals e.g. component maintenance manual.
- Ensuring procurement and distribution of applicable Certification Specifications and environmental protection requirements and other specifications.
- Co-operating with the CAA in proposing the type certification basis
- Interpretation of Airworthiness and environmental protection requirements and requesting decisions of the CAA in case of doubt.
- Advising all departments of the design organisation in all questions regarding airworthiness, environmental protection approvals and certification.
- Preparation of the Type Investigation programme and co-ordination of all tasks related to Type Investigation in concurrence with the CAA.
- Regular reporting to the CAA about Type Investigation progress and announcement of scheduled tests in due time.
- Ensuring co-operation in preparing test programmes needed for demonstration of compliance.
- Establishing the compliance checklist and updating for changes.
- Checking that all compliance documents are prepared as necessary to show compliance with all Airworthiness and environmental protection requirements, as well as for completeness, and signing for release of the documents.
- Checking the required type design definition documents and ensuring that they are provided to the CAA for approval when required.
- Preparation, if necessary, of a draft for a type certificate data sheet and/or type certificate data sheet modification.
- Providing verification to the head of the design organisation that all activities required for Type Investigation have been properly completed.
- Approving the classification of changes and granting the approval for minor changes.
- Monitoring of significant events on other aeronautical products as far as relevant to determine their effect on airworthiness of products being designed by the design organisation.
- Ensuring co-operation in preparing Service Bulletins and the Structural Repair Manual, and subsequent revisions, with special attention being given to the manner in which the contents affect airworthiness and environmental protection and granting the approval on behalf of the CAA.

- Ensuring the initiation of activities as a response to failure (accident/incident/in-service experience) evaluation and complaints from the operation and providing of information to the CAA in case of airworthiness impairment (continuing airworthiness).
- Advising the CAA with regard to the issue of Airworthiness Directives and Mandatory Permit Directives in general based on Service Bulletins.
- Ensuring that the manuals approved by the CAA, including any subsequent revisions (the Aircraft Flight Manual, MMEL, the Airworthiness Limitations section of the Instructions for Continued Airworthiness and the Certification Maintenance Requirements (CMR) document, where applicable) are checked to determine that they meet the respective requirements, and that they are provided to the CAA for approval.

Notes: (not for inclusion in the Exposition)

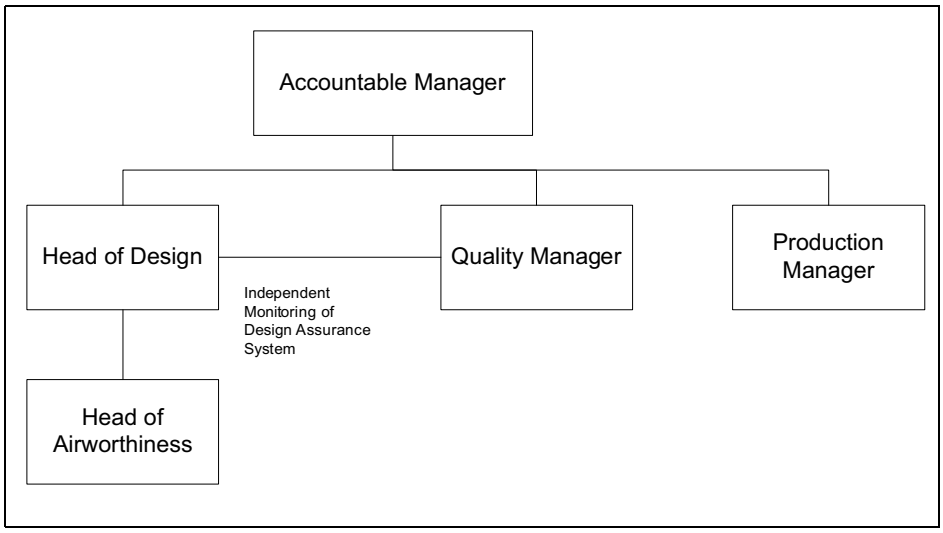
A Head of Airworthiness, or equivalent function, has been established to act as the focal point for co-ordinating airworthiness and environmental protection matters they report directly to the Head of the design organisation. This function may be integrated into an independent quality assurance organisation reporting to the Head of the design organisation.

It is understood that, particularly in smaller organisations, there may not be a single person or department responsible for all of the activities listed above.

For all organisations undertaking design work, a Head of Airworthiness needs to be nominated, and the personnel with responsibility for each of the activities listed clearly identified.

1.4 **Management Organisation Chart**

Reference A8-21 paragraph 8.1 a) and 7.1 d)



Notes: (not for inclusion in the Exposition)

The chart above is only an example and each organisation should represent their own structure in this section.

Organisations undertaking design work should note that the audit function (usually under the Quality Manager) must have a report to the Head of Design for design assurance system audits, with direct access to the Accountable Manager for all other functions.

1.5 **List of Certifying Staff**

Reference A8-21 paragraph 8.1 d) and 7.1 e)

The list of certifying staff is as stated below. In addition, hard copy records of all production staff and staff with airworthiness related duties and responsibilities are retained within the Quality Department.

Approved Certificate Signatories

Staff No	Name	Signature	CRS Number	Stamp
722123	Mark Swan		1328	
737866	Elvis Ellis		2286	
750116	Bryan Cartier		3363	

Compliance Verification Engineers

Staff No	Name	Signature	CVE Number	Stamp
723200	Ray Parker		24	
711386	Brian Whyte		16	

Notes: (not for inclusion in the Exposition)

The example above shows several different reference methods, not all of these are necessary but as a minimum the member of certifying staff should be identified by name; signature and authorisation number. Stamps are not mandatory but can help identification.

The staff listed here are the only ones allowed to sign an Approved Certificate; Aircraft Statement of Conformity; Certificate of Release to Service etc, as indicated. No delegation of signatory status is possible so it is important to ensure sufficient personnel are authorised to cover for leave and sickness.

The following is the minimum information to be recorded in respect of each certifying person:

Name

a) Date of Birth

b) Basic Training and standard attained

c) Specific Training and standard attained

d) If appropriate – Continuation Training

e) Experience

f) Scope of the authorisation

g) Date of first issue of the authorisation

h) If appropriate – expiry date of the authorisation

i) Identification Number of the authorisation

The record may be kept in any format and must be controlled by an internal procedure, which forms part of the quality system.

Persons authorised to access the system should be restricted to a minimum to ensure that records cannot be altered in an unauthorised manner and that confidential records are not accessed by unauthorised persons.

The certifying person must be given reasonable access, on request, to his or her own records.

The CAA has a right of access to the data held in such a system.

The organisation must keep the record for at least two years after the certifying person has ceased employment with the organisation or withdrawal of the authorisation; whichever is the sooner.

1.6 **Manpower Resources**

Reference A8-21 paragraph 7.1 f)

Notes: (not for inclusion in the Exposition)

- *State here the approximate staff numbers by discipline, e.g. production, quality, design etc. Also detail any arrangements for temporary contracting of staff.*
- *The resources described must justify the grant of approval and in sufficient detail to explain the support at each site and for each function.*
- *Numbers of personnel should be given in general terms so that a clear picture is given without the need for amendment as a result of routine staff fluctuations, but able to highlight any significant re-deployment or loss of staff.*
- *Where the approval is sub-divided into sites or different major functions the resources should be related to each site and function.*

1.7 **Facilities**

Reference A8-21 paragraph 7.1 g)

Notes: (not for inclusion in the Exposition)

This section should describe each of the facilities, in some detail, at which the organisation intends to carry out work under the A8-21 approval, thereby building up a picture of what the CAA is being asked to approve. A plan of the facility should be included together with approximate floor area. If more than one site is to be approved the details of each individual site should be clear.

1.8 **Scope of Work**

Reference A8-21 paragraph 7.1 h) and 11

SCOPE OF WORK		**PRODUCT/CATEGORIES**
Design	Parts	Electrical Systems & Equipment Cabin Interiors
Production	Products	Aircraft XYZ
	Parts	Components associated with the above aircraft type. Electrical Cables and Looms Cabin Interior equipment Metallic structure
Limitations		Non-pressurised aircraft only

A8-21 Privileges:

Design Privileges

- To perform design activities within its scope of approval.
- Compliance documents submitted for the purpose of obtaining a type certificate or approval of a major change to a type design; or a supplemental type certificate; or an APU equipment approval authorisation; or a major repair design approval; may be accepted by the CAA without further verification; or
- Classify changes to type design and repairs as 'major' or 'minor'.
- Approve minor changes to type design and minor repairs.
- Issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of the UK CAA design organisation approval reference: [x/y/z].'
- To submit reports to the UK CAA.

Production Privileges

- Perform production activities.
- In the case of complete aircraft and upon presentation of a UK CAA Aircraft Statement of Conformity obtain an aircraft certificate of airworthiness or permit to fly and, if appropriate, a noise certificate without further showing.
- In the case of other products, parts or appliances issue UK CAA Approved Certificates without further showing.
- Maintain a new aircraft that it has produced and issue a Certificate of Release to Service in respect of that maintenance.

Notes: (not for inclusion in the Exposition)

The above example reflects the wording of an Approval Certificate which would normally be reproduced as an appendix to the exposition. All applicable privileges from A8-21 paragraphs 16 and 17 that are relevant to your organisation may be included. The description of the scope of work in this section can be more specific and detailed than the Approval Certificate itself, but should remain within the scope defined in that certificate.

A Capability List may be included as an appendix to the exposition with a full listing of part numbers produced by the organisation. In some circumstances the CAA may insist on a capability list as a way of controlling the scope of approval of an organisation.

1.9 **Notification Procedure to CAA of Changes to the Organisation**

Reference A8-21 paragraphs 7.1 i), 7.2 and 9

In accordance with the requirements of A8-21 paragraphs 7.2 and 9, the organisation will seek written approval from the CAA before any proposed change to:

- The Accountable Manager according to A8-21 paragraph 8.1 c) i) prior to appointment. The CAA will be notified of any anticipated changes to allow for interview of the proposed Accountable Manager if required.
- The organisational structure or any of the managers nominated in section 1.2 of this exposition. The CAA will be notified of any anticipated changes and the proposed candidate(s) will complete a biographical details form, which will be submitted to the CAA for acceptance.
- Any changes to the facility, equipment or tooling that could affect the organisation approval will be notified to the CAA in writing with a copy of the revised exposition.
- Proposed changes to the design assurance system or quality system will be notified to the CAA in writing with a copy of the revised exposition and may be considered a significant change by the CAA.
- Any significant change shall be applied for using the appropriate CAA application form and will incur a fee. A significant change is a change of site, organisation name or change that requires the amendment of the Terms of Approval. The CAA will be consulted if in doubt of the significance of a change to the organisation.

The organisation understands and accepts that the CAA may, at its discretion, prescribe conditions during the period that a change is being introduced.

1.10 **Amendment Procedure for the Exposition**

Reference A8-21 paragraph 7.2

The exposition shall be maintained as an up-to-date description of the organisation and in compliance with A8-21. It shall not be amended without the written acceptance of the proposed amendment by the CAA. Procedures referenced from the exposition may be amended without the prior acceptance of the CAA but may be reviewed during subsequent audit and may need further amendment if found to be non-compliant with A8-21.

1.10.1 **Persons Responsible for Amending Exposition**

The Quality Manager is responsible for the monitoring and amendment of the exposition, including associated procedures manuals, and the submission of proposed amendments to the CAA.

1.10.2 **Procedure for Amending Documents Referenced in the Exposition**

Notes: (not for inclusion in the Exposition)

The source of proposed amendments within the organisation and how they are incorporated internally prior to submission to the CAA should be described in 1.10.

Section 1.10.2 above should describe the procedure for generating and incorporating amendments to internal procedures in a controlled manner, including "ownership" of the procedure and authority to approve amendments. These amendments do not need to be submitted to the CAA unless the exposition also needs revision as a result of the change, in which case the exposition amendment must be submitted.

2 PROCEDURES

Note: The specific procedure references used by the organisation to address each of the listed activities will need to be identified in the text.

2.1 Design Assurance System

The design assurance system is the organisational structure, responsibilities, procedures and resources to ensure the proper functioning of the design organisation.

The design assurance means all those planned and systematic actions necessary to provide adequate confidence that the organisation has the capability:

- to design products or parts in accordance with the applicable requirements;
- to show and verify the compliance with these requirements; and
- to demonstrate to the CAA this compliance.

The "Type Investigation" means the tasks of the organisation in support of the type certificate, supplemental type certificate or other design approval processes necessary to show and verify and to maintain compliance with the applicable requirements.

Effective Design Assurance demands a continuing evaluation of factors that affect the adequacy of the design for intended applications, in particular that the product, or part, complies with applicable requirements and will continue to comply after any change. To achieve this documentation is generated and maintained in accordance with procedure ref. 'xxx' covering:

- The type design, including relevant design information, drawings and test reports, including inspection records of test specimens.
- The means of compliance.
- The compliance documentation (compliance check list, reports...).

In the case of an application for a supplemental type certificate, or equivalent, where the organisation has entered into an arrangement with the type approval holder because we do not have sufficient capability ourselves; we will obtain the agreement of the type approval holder for the proposed supplemental type certificate. The agreement will document that the type approval holder has no technical objection; and has agreed to collaborate with the supplemental type certificate holder to ensure discharge of all obligations for continued airworthiness of the changed product.

The compliance document is the end result of the certification process, where the showing of compliance is recorded. For each specific certification process, the CAA should be involved in the process itself at an early stage, especially through the establishment of the certification programme. The inspections or tests under A8-21 paragraph 13) may be performed at various stages of the whole certification process, not necessarily when the compliance document is presented. Therefore, according to the scheduled level of involvement, the CAA should agree which documents are to be accepted without further CAA verification under the DOA privilege of A8-21 paragraph 16.2.

It will be ensured that full and complete liaison between the design organisation and production organisations manufacturing to the type certificate is maintained, including the items described in the design arrangement, appendix 3.1.3.

Once in service, items are monitored in accordance with procedure ref. 'xxx' to ensure continued airworthiness.

Maintenance and operating instructions (including Services Bulletins) needed for continuing airworthiness will be prepared and maintained. These documents are provided to all affected operators and all involved authorities.

2.1.1 **Compliance Verification**

Compliance Verification is the independent check that compliance with the requirements as defined in the Type Investigation programme (Certification Specifications such as CS-23 or BCAR Section T etc.) has been demonstrated.

This independent check will consist of the verification by a person not creating the compliance data (Compliance Verification Engineer - CVE). Such person may work in conjunction with the individuals who prepare compliance data.

All compliance documents, including test programmes and data, necessary for the verification of compliance with the applicable requirements, will be approved by signature to indicate completion of this verification activity.

Compliance Verification Engineers (CVE) will be nominated for each technical discipline to undertake this verification and approval activity. See paragraphs 1.5. and 2.2.5. Only nominated CVE may approve a document as above.

2.1.2 **Design Change Classification (Major or Minor)**

Changes to type design are classified as minor and major. A 'minor change' is one that has no appreciable effect on the mass, balance, structural strength, reliability, operational characteristics, noise, fuel venting, exhaust emission, or other characteristics affecting the airworthiness of the product. All other changes are 'major changes'.

Notes: (not for inclusion in the Exposition)

The procedure must address the following points:

- *the identification of changes to type design or repairs;*
- *classification;*
- *justification of the classification;*
- *authorised signatories;*
- *supervision of changes to type design or repairs initiated by subcontractors.*

For changes to type design, criteria used for classification must be in compliance with A8-21 Appendix 2.

For repairs, criteria used for classification must be in compliance with A8-21 Appendix 2.

Identification of changes to type design or repairs

The procedure must indicate how the following are identified:

- *major changes to type design or major repairs;*
- *those minor changes to type design or minor repairs where additional work is necessary to show compliance with the CS and environmental protection requirements;*
- *other minor changes to type design or minor repairs requiring no further showing of compliance.*

Classification

The procedure must show how the effects on airworthiness and environmental protection are analysed, from the very beginning, by reference to the applicable requirements.

If no specific airworthiness or environmental protection requirements are applicable to the change or repairs, the above review must be carried out at the level of the part or system where the change or repair is integrated and where specific airworthiness or environmental protection requirements are applicable.

Justification of the classification

All decisions of classification of changes to type design or repairs as "major" or "minor" must be recorded and, for those which are not straightforward, also documented. These records must be easily accessible to the CAA for sample check.

Authorised signatories

All classifications of changes to type design or repairs must be accepted by an appropriate authorised signatory. The procedure must indicate the authorised signatories for the various products listed in the terms of approval.

For those changes or repairs that are handled by subcontractors it must be described how the DOA holder manages its classification responsibility.

Supervision of changes to type design or repairs initiated by subcontractors.

The procedure must indicate, directly or by cross-reference to written procedures, how changes to type design or repairs may be initiated and classified by subcontractors and are controlled and supervised by the DOA holder.

2.1.3 **Approval of Design Changes**

Notes: (not for inclusion in the Exposition)

The procedure must address the following points:

- *compliance documentation;*
- *approval under the DOA privilege;*
- *authorised signatories;*
- *supervision of minor changes to type design or minor repairs handled by subcontractors.*

Compliance documentation

For those minor changes to type design or minor repairs where additional work to show compliance with the applicable airworthiness or environmental protection requirements is necessary, compliance documentation must be established and independently checked as required by 5.2. The procedure must describe how the compliance documentation is produced and checked.

Approval under the DOA privilege

The procedure must define a document to formalise the approval under the DOA privilege.

This document must include at least:

- *identification and brief description of the change or repair and reasons for change or repair;*
- *applicable airworthiness or environmental protection requirements and methods of compliance;*
- *reference to the compliance documents;*
- *effects, if any, on limitations and on the approved documentation;*

- *evidence of the independent checking function of the showing of compliance;*
- *evidence of the approval under the privilege of 16.3(b) by an authorised signatory;*
- *date of the approval.*

Design changes and repairs should be identified by means of a unique number allocated by the design organisation. This number should include the organisation's approval reference to permit ready identification of the source of the design data.

For further information on repairs, see below.

Authorised signatories

The persons authorised to sign for the approval under the privilege of 16.3 b) must be identified (name, signature and scope of authority) in the exposition.

Supervision of minor changes to type design or minor repairs handled by subcontractors

For minor changes/repairs handled by subcontractors the procedure must indicate, directly or by cross-reference to written procedures, how these minor changes/repairs are approved at the subcontractor level and the arrangements made for supervision by the DOA holder.

2.1.4 **Repair Design**

2.1.4.1 **Repair design and record keeping**

Relevant substantiation data associated with a new major repair design will include:

a) damage identification and reporting source;

b) major repair design approval sheet identifying applicable requirements and references of justifications;

c) repair drawing and/or instructions and scheme identifier;

d) correspondence with the TC, STC or design approval holder, if its advice on the design has been sought;

e) structural justification (static strength, fatigue, damage tolerance, flutter etc.) or references to this data;

f) effect on the aircraft, engines and/or systems, (performance, flight handling, etc. as appropriate);

g) effect on maintenance programme;

h) effect on Airworthiness limitations, the Flight Manual and the Operating Manual;

i) weight and moment change;

j) special test requirements.

Relevant minor repair documentation includes paragraphs a) and c). Other points above may be included where necessary. If the repair is outside the approved data, justification for classification is required.

Special consideration should be given to repairs that impose subsequent limitations on the part, product or appliance, (e.g. engine turbine segments that may only be repaired a finite number of times, number of repaired turbine blades per set, oversizing of fastener holes, etc.).

Special consideration should also be given to Life Limited parts and Critical Parts, notably with the involvement of the type certificate or STC holder.

Repairs to engine critical parts would normally only be accepted with the involvement of the TC holder.

2.1.4.2 **Classification of repairs**

a) **Clarification of the terms Major/Minor**

In line with the definitions given in paragraph 2.1.2 a new repair is classified as 'major' if the result on the approved type design has an appreciable effect on structural performance, weight, balance, systems, operational characteristics or other characteristics affecting the airworthiness of the product, part or appliance. In particular, a repair is classified as major if it needs extensive static, fatigue and damage tolerance strength justification and/or testing in its own right, or if it needs methods, techniques or practices that are unusual (i.e. unusual material selection, heat treatment, material processes, jigging diagrams, etc.)

Repairs that require a re-assessment and re-evaluation of the original certification substantiation data to ensure that the aircraft still complies with all the relevant requirements are to be considered as major repairs.

Repairs whose effects are considered minor and require minimal or no assessment of the original certification substantiation data to ensure that the aircraft still complies with all the relevant requirements, are to be considered "minor".

It is understood that not all the certification substantiation data will be available to those persons/organisations classifying repairs. A qualitative judgement of the effects of the repair will therefore be acceptable for the initial classification. The subsequent review of the design of the repair may lead to it being re-classified, owing to early judgements being no longer valid.

b) **Airworthiness concerns for Major/Minor classification**

The following should be considered for the significance of their effect when classifying repairs.

Should the effect be considered to be significant then the repair should be classified 'Major'. The repair may be classified as 'Minor' where the effect is known to be without appreciable consequence.

i) Structural performance

Structural performance of the product includes static strength, fatigue, damage tolerance, flutter and stiffness characteristics. Repairs to any element of the structure should be assessed for their effect upon the structural performance.

ii) Weight and balance

The weight of the repair may have a greater effect upon smaller aircraft as opposed to larger aircraft. The effects to be considered are related to overall aircraft centre of gravity and aircraft load distribution. Control surfaces are particularly sensitive to the changes due to the effect upon the stiffness; mass distribution and surface profile which may have an affect upon flutter characteristics and controllability.

iii) Systems

Repairs to any elements of a system should be assessed for the effect intended on the operation of the complete system and for the effect on system redundancy. The consequence of a structural repair on an adjacent or remote system should also be considered as above, (for example: airframe repair in area of a static port).

iv) Operational characteristics

Changes may include:

- stall characteristics
- handling
- performance and drag
- vibration

v) Other characteristics

- changes to load path and load sharing
- change to noise and emissions
- fire protection / resistance

Note: Considerations for classifying repairs 'Major/Minor' should not be limited to those listed above.

c) **Examples of 'Major' repairs**

i) A repair that requires a permanent additional inspection to the approved maintenance programme, necessary to ensure the continued airworthiness of the product. Temporary repairs for which specific inspections are required prior to installation of a permanent repair do not necessarily need to be classified as 'Major'. Also, inspections and changes to inspection frequencies not required as part of the approval to ensure continued airworthiness do not cause classification as 'Major' of the associated repair.

ii) A repair to life limited or critical parts.

iii) A repair that introduces a change to the Aircraft Flight Manual.

2.1.4.3 **Issue of repair design approval**

a) Approval by DOA holder

Approval of minor repairs through the use of procedures agreed with the CAA, means an approval issued by the DOA holder without requiring CAA involvement. The CAA will monitor application of this procedure within the surveillance plan for the relevant organisation. When the organisation exercises this privilege, the repair release documentation will clearly show that the approval is under their DOA privilege.

b) Previously approved data for other applications

When it is intended to use previously approved data for other applications applicability and effectiveness will be checked with an appropriately approved design organisation. After damage identification, if a repair solution exists in the available approved data, and if the application of this solution to the identified damage remains justified by the previous approved repair design, (structural justifications still valid, possible airworthiness limitations unchanged), the solution can be considered approved and can be used again.

c) Temporary repairs

These are repairs that are life limited, to be removed and replaced by a permanent repair after a limited service period. These repairs will be classified as above and the service period defined at the approval of the repair.

d) Fatigue and damage tolerance

When the repaired product is released into service before the fatigue and damage tolerance evaluation has been completed, the release will be for a limited service period, defined at the issue of the repair.

2.1.4.4 **Unrepaired damage**

When a damaged product, part or appliance, is left unrepaired, and is not covered by previously approved data, an evaluation of the damage for its airworthiness consequences must be made. This is not intended to supersede the normal maintenance practices defined by the type certificate holder, (e.g., blending out corrosion and re-protection, stop drilling cracks, etc.), but addresses specific cases not covered in the manufacturer's documentation.

Notes: (not for inclusion in the Exposition)

Manuals and other instructions for continued airworthiness (such as the Manufacturers Structural Repair Manual, Maintenance Manuals and Engine Manuals provided by the holder of the type certificate, supplemental type certificate, design approval authorisation as applicable) for operators, contain useful information for the development and approval of repairs.

When these data are explicitly identified as approved, they may be used by operators without further approval to cope with anticipated in-service problems arising from normal usage provided that they are used strictly for the purpose for which they have been developed.

2.1.5 **Issue of information or instructions (Design Organisation Privilege)**

Notes: (not for inclusion in the Exposition)

The information or instructions referred to in A8-21 16.3 c) are issued by a DOA holder to provide owners, operators or maintenance organisations the necessary data to implement a change, repair or inspection. This information or instructions may be issued in a format of a Service Bulletin as defined in ATA 100 system, or in Structural Repair Manuals, Maintenance Manuals, Engine and Propeller Manuals etc.

The preparation of this data involves design, production and inspection. As the overall responsibility, through the privilege, is allocated to the DOA holder, the three aspects should be properly coordinated by the DOA to obtain the privilege "to issue information or instructions containing a statement that the technical content is approved", and a procedure should exist.

Procedure

The DOA holder should establish a procedure addressing the following points:

- *preparation;*
- *verification of technical consistency with corresponding approved change(s), repair(s) or approved data, including effectivity, description, effects on airworthiness and environmental protection, especially when limitations are changed;*
- *verification of the feasibility in practical applications;*
- *authorised signatories.*

The procedure should include the information or instructions prepared by subcontractors or vendors and declared applicable to its products by the DOA holder.

Statement

The statement provided in the information or instructions should also cover the information or instructions prepared by subcontractors or vendors and declared applicable to its products by the DOA holder.

The technical content is related to the design data and accomplishment instructions, and its approval means that:

- *the design data has been appropriately approved; and*
- *the instructions provide for practical and well defined installation/inspection methods and when accomplished the product is in conformity with the approved design data.*

2.1.6 **Design Assurance System Monitoring**

The design assurance system will be audited in accordance with 2.2 below as indicated on the internal audit plan. The auditor will have sufficient knowledge of the design organisation, as well as audit experience/training, to undertake this activity without reliance on the area being audited.

2.2 **Quality System**

Reference A8-21 paragraphs 6 and 7.1 k)

Notes: (not for inclusion in the Exposition)

*A general description of the quality system should be entered here, also referring to any ISO 9000 approval or similar held e.g. "*The company incorporates AS9100 as its basic quality system but understands that it should not compromise in anyway the rules and regulations required by A8-21*". It should be noted that A8-21 does not require any other quality approval to be held and no credit is given for such approvals during the CAA assessment process.*

The quality system should be documented in such a way that the documentation can easily be made available to personnel who need to use it for performing their normal duties, in particular:

- *Procedures, instructions, data etc. are available in a written form;*
- *Distribution of relevant procedures to offices/persons is made in a controlled manner;*
- *Procedures which identify persons responsible for the prescribed actions are established;*
- *The updating process is clearly described.*

2.2.1 **Quality Audit of Organisational Procedures**

Suggested subject headings:

Company Audit Policy

Definition of the Quality System; independence; access to Accountable Manager

Annual Review of Procedures

Audit programme; Adequate and satisfactory facilities; Compliance with approved procedures; Dates and timescales; Audit of suppliers and Subcontractors; Audit against BCAR A8-21.

2.2.2 **Quality Audit of Product**

Notes: (not for inclusion in the Exposition)

As well as audits of the quality system, an audit of the actual output of an Organisation should be regularly undertaken; generally referred to as a vertical or product audit. The frequency depends on the throughput of work but a minimum of one product audit a year should be achieved. Where an organisation undertakes both design and production activity, then output from both activities should be sampled.

Design

The starting point of the audit is a finished (or semi-finished) certification project, design change or repair, from which the associated design records should be reviewed to ensure that the identification of the certification basis, development of the certification plan (if appropriate), classification of the change and subsequent approval either by the Organisation or by application to the CAA has been carried out in accordance with the Organisation's procedures. This review should ensure that all design calculations and verification checks, together with any analyses or test reports associated with qualification testing have been approved by appropriately authorised personnel. The availability and control of referenced design data should be reviewed, together with records for any design activity carried out by subcontractors. When thoroughly completed, such a product audit will have touched upon most design assurance procedures.

Production

The starting point of the audit is a finished (or semi-finished) part or product, from here associated production records and design data should be reviewed, ensuring correct arrangements are in place between design and production. Physical inspection and test of the item is also appropriate with critical dimensions being checked and possibly re-testing on a test rig and comparing results with those documented. Following through to incoming raw material release and subcontractor records is also expected. When thoroughly completed, such a product audit will have touched upon most production quality procedures.

2.2.3 **Quality Audit Remedial Action Procedure**

Suggested subject headings:

Quality audit report feedback system

Accountable Manager / senior management review meeting

Corrective action and timescale - remedial action - disciplinary action

Management responsibilities for corrective action and follow-up

Quality audit and feedback records.

2.2.4 **Quality Audit Personnel**

Suggested subject headings:

Nominated personnel

Allocated man-hours (if not full-time)

Independence of quality audit personnel

Experience, training and competence of quality audit personnel

2.2.5 **Certifying Staff, Qualification, Training and Procedures**

Suggested subject headings:

Qualifications, experience, training and competence requirements

Examination, test and assessment procedures

Continuation training

Qualifying subcontractor's personnel (if applicable)

Authorisations issue and renewal procedures

Notes: (not for inclusion in the Exposition)

Certifying Staff are nominated by the organisation (section 1.5) in relation to production to ensure that products, parts and appliances qualify for release on Statements of Conformity or Approved Certificates.

Certifying Staff nominated by the organisation (section 1.5) in relation to design are those making decisions affecting airworthiness and environmental protection. i.e. Compliance Verification Engineers.

The qualification of Certifying Staff is based on their knowledge, background and experience and specific training (or testing) established by the organisation to ensure that it is appropriate to the product, part, or appliance.

Training must be given to develop a satisfactory level of knowledge of organisation procedures and aviation regulations relevant to the particular role. For that purpose the organisation must

define its own standards for training, including pre-qualification standards, for personnel to be identified as certifying staff.

Training policy is part of the Design Assurance/Quality System and its appropriateness forms part of the investigation by the CAA within the organisation approval process and subsequent surveillance of persons proposed by managers.

The training must be updated in response to experience gained and changes in technology.

A feedback system to ascertain that the required standards are being maintained must be put in place to ensure the continuing compliance of personnel to authorisation requirements.

2.2.6 **Concessions Procedure**

Notes: (not for inclusion in the Exposition)

Any non-compliance with design data (e.g. oversize hole) precludes the release of the item on an Approved Certificate as the certificate states "Certifies that the items identified above were manufactured in conformity with approved design data". In order to be able to release the item it must conform with the design data, this can be achieved by either:

- *Reworking the item*
- *Amending the design data*

Only the responsible design organisation can amend the design data and this usually takes the form of a concession (i.e. an additional piece of design data specific to an individual item, not actually amending a drawing). A concession is only valid if approved under the responsible design organisations procedures. If neither of the two options is appropriate the item is scrapped.

The procedure described here should consider these points and make it clear that the approval of the design organisation is necessary for the implementation of a concession.

2.2.7 **Audit for Compliance with BCAR A8-21**

Independent audits are conducted in order to monitor compliance with A8-21 and are the responsibility of the Quality Manager.

An audit schedule that ensures all applicable elements of A8-21 are audited annually is maintained by the Quality Manager.

2.3 Sub-contract Control

Reference A8-21 paragraph 6.1

2.3.1 Supplier/Sub-Contractor Evaluation Procedure

Notes: (not for inclusion in the Exposition)

The approval holder is responsible for determining and applying acceptance standards for physical condition, configuration status and conformity of supplied products, parts, appliances or raw materials, whether to be used in production or delivered to customers as spare parts. This responsibility also includes buyer furnished equipment, or customer supplied items.

To discharge this responsibility the quality system needs an organisational structure and procedures to adequately control external suppliers.

Control can be based upon use of the following techniques (as appropriate to the system or product orientation necessary to ensure conformity):

- *qualification and auditing of supplier's quality system;*
- *evaluation of supplier capability in performing all manufacturing activities, inspections and tests necessary to establish conformity of parts or appliances to type design;*
- *first article inspection, including destruction if necessary, to verify that the article conforms to the applicable data for new production line or new supplier;*
- *incoming inspections and tests of supplied parts or appliances that can be satisfactorily inspected on receipt;*
- *identification of incoming documentation and data relevant to the showing of conformity to be included in the certification documents;*
- *a vendor rating system which gives confidence in the performance and reliability of this supplier;*
- *any additional work, tests or inspection which may be needed for parts or appliances which are to be delivered as spare parts and which are not subjected to the checks normally provided by subsequent production or inspection stages.*

The approval holder may rely on inspection/tests performed by supplier if it can establish that:

- *personnel responsible for these tasks satisfy the competency standards of the approval holder's quality system*
- *quality measurements are clearly identified*
- *the records or reports showing evidence of conformity are available for review and audit.*

The control of suppliers holding a POA or DOA for the parts, appliances or design services to be supplied can be reduced, to a level at which a satisfactory interface between the two quality systems can be demonstrated. Thus, an approval holder can rely upon documentation for parts or appliances released under a suppliers CAA Approval.

A supplier who does not hold a POA or DOA is considered as a sub-contractor under the direct control of the approval holders quality system. The approval holder retains direct responsibility for inspections/tests carried out either at its own facilities or at supplier's facilities.

2.3.2 Supplier/Sub-Contractor List

Notes: (not for inclusion in the Exposition)

A list can be incorporated in the exposition but this can result in frequent amendments due to the nature of this kind of information. A description of the procedure governing the list covering who is responsible for it etc. should be either included or precede and cross referred to.

2.4 **Production Control**

Reference A8-21 paragraph 6.2

Note. The wording below is for illustrative purposes, wording appropriate to your organisation should be used in your actual exposition.

2.4.1 **Acceptance/Inspection of Incoming Materials**

The receipt, inspection and processing of materials into the Company shall be carried out in accordance with Procedure ref. 'xxx', 'Receipt of Components, Parts and Materials' and is the responsibility of the Production Manager.

All incoming items will be inspected for compliance with the purchase order requirements.

Records will be kept, to ensure that all parts and materials are traceable back from the point of use to source via its release documentation.

Notes: (not for inclusion in the Exposition)

All parts and materials coming from external parties should be identified and inspected to ascertain that they have not been damaged during transport or unpacking, that the incoming parts and materials have the appropriate and correct accompanying documentation and that the configuration and condition of the parts or materials is as laid down in that documentation.

Only on completion of these checks and of any incoming further verifications laid down in the procurement specification, may the part or material be accepted for warehousing and used in production. This acceptance should be certified by an inspection statement.

A suitable recording system should allow reconstruction at any time of the history of every material or part.

The areas where the incoming checks are carried out and the materials or parts are stored pending completion of the checks should be physically segregated from other departments.

2.4.2 **Stores Procedures**

The control of storage, identification and release of materials shall be in accordance with Procedure ref. 'xxx', 'Storage & Handling in Approved Stores' and is the responsibility of the Production Manager.

Materials shall be stored in designated locations, clearly identified and segregated from other components.

Records will be kept for materials having a shelf life. The environmental conditions within storage areas shall be monitored and maintained to a satisfactory standard, in accordance with the appropriate specification.

The control of materials and parts throughout the Company, from receipt, through storage and issue, to use and dispatch, will be controlled by the use of appropriate systems. These systems will demonstrate how only materials/components appropriate to the work being undertaken are used in accordance with the approved design data.

Notes: (not for inclusion in the Exposition)

Storage areas should be protected from dust, dirt, or debris, and adequate blanking and packaging of stored items should be practised.

All parts should be protected from extremes of temperatures and humidity and, where needed, temperature-controlled or fully air-conditioned facilities should be provided.

Racking and handling equipment should be provided such as to allow storage, handling and movement of parts without damage.

Lighting should be such as to allow safe and effective access and handling, but should also cater for items which are sensitive to light e.g., rubber items.

Care should be taken to segregate and shield items which can emit fumes (e.g., wet batteries), substances or radiation (e.g., magnetic items) which are potentially damaging to other stored items.

Procedures should be in place to maintain and record stored parts identities and batch information.

Access to storage areas should be restricted to authorised personnel who are fully trained to understand and maintain the storage control arrangements and procedures.

Provisions should be made for segregated storage of non-conforming items pending their disposition. All materials and parts which have been identified at any stage in the manufacturing process as not conforming to the specific working and inspection instructions must be suitably identified by clearly marking or labelling, to indicate their non-conforming status.

2.4.3 **Acceptance of Tools and Equipment**

Acceptance of tools and equipment will be as described by Procedure ref. 'xxx', 'Acceptance of Tools and Test Equipment' and is the responsibility of the Production Manager.

Tools and equipment to be used for production purposes will be those specified by the Approved Data except where an appropriately approved equivalent is available and/or acceptable.

2.4.4 **Calibration Control Procedure**

Calibration of tools, jigs and equipment is detailed in Procedure ref. 'xxx', 'Tools and Test Equipment Control' and is the responsibility of the Quality Manager.

Tools subject to calibration (traceable to the appropriate national standards i.e. UKAS) will be uniquely identified with details of calibration expiry recorded both on the controlling computer system and on the item involved. The initial inspection and calibration period will initially be set in accordance with manufacturers or design authority's recommendations. Historical data will be maintained to allow for variation to the recommended periods.

A list of tools and test equipment due calibration will be generated monthly and provided to each workshop.

2.4.5 **Use of Tools and Equipment by Staff**

The use of tools and equipment by staff is detailed in Procedure ref. 'xxx', 'Tools and Test Equipment Control' and is the responsibility of the Production Manager.

All tools and equipment used in the workshop will be stored and held on site, under the control and protection of the production staff. When not in use, tools and equipment shall be held in an environment suited to the prevention of deterioration and damage.

Staff required to use complex or specialist items of tooling or equipment will be given appropriate training.

2.4.6 **Production Procedure**

Procedure ref. 'xxx', 'Manufacturing Under A8-21' is the responsibility of the Production Manager. It defines the process for controlling the manufacture of parts, from receipt of the design data through contract review; production engineering; purchasing; material provisioning; manufacture in accordance with the approved data; inspection and release.

2.4.7 **Production Documentation and its Control**

Procedure ref. 'xxx' 'Manufacturing Under A8-21' covers the issue, use and completion of manufacturing documentation, and is the responsibility of the Production Manager.

Manufacturing Stage Sheets shall be produced and controlled by the Technical Services Department. Where approved data is transcribed onto the Manufacturing Stage Sheet from approved sources, the accuracy of the transcription shall be verified and reference to the source shall be made.

The issue status of any work document will be checked immediately prior to its use. Details recorded shall include:

a) A description of the work carried out.

b) Part, Serial and Approved Stores Serial Number of any parts or materials used.

c) Actual test figures obtained, where specified as a requirement, including; NDT results, test results, dimensions, clearances, etc.

2.4.8 **Technical Records Control**

Procedure ref. 'xxx' 'Technical Records Control' covers the supply and updating of approved technical data and is the responsibility of the Quality Manager. This ensures that the technical documentation required by production is available at the appropriate issue/configuration status.

Manufacturing will be carried out in accordance with Approved Technical Data.

The Engineering Manager shall be responsible for the collation, distribution and control of work stage sheets, drawings and specifications.

Record retention will be in accordance with procedure ref. 'xxx' 'Technical Records Control'. This procedure outlines the type of records to be retained and the time period that they will be held.

The type of document and time of retention period defined, will ensure that the information required by the design authority to support airworthiness will be available should it be required for investigation purposes.

Notes: (not for inclusion in the Exposition)

Records within a production environment satisfy two purposes. Firstly, they are required, during the production process to ensure that products, parts, or appliances are in conformity with the controlling data throughout the manufacturing cycle. Secondly, certain records of milestone events are needed to subsequently provide objective evidence that all prescribed stages of the production process have been satisfactorily completed and that compliance with the applicable design data has been achieved.

Therefore, the approved production organisation should implement a system for the compilation and retention of records during all stages of manufacture, covering short-term and long-term records appropriate to the nature of the product and its production processes.

The management of such information should be subject to appropriate procedures in the Quality System required by 6.

All forms of recording media are acceptable (paper, film, magnetic, ...) provided they can meet the required duration for archiving under the conditions provided.

The related organisation procedures should:

- *Identify records to be kept.*
- *Describe the organisation of and responsibility for the archiving system (location, compilation, format) and conditions for access to the information (e.g., by product, subject).*
- *Control access and provide effective protection from deterioration or accidental damage.*
- *Ensure continued readability of the records.*
- *Demonstrate to the CAA proper functioning of the records system.*
- *Clearly identify the persons involved in conformity determination.*
- *Define an archiving period for each type of data, taking into account importance in relation to conformity determination, subject to the following:*

  a) Data which supports conformity of a product, part, or appliance should be kept for not less than three years from the issue date of the related UK Statement of Conformity or Approved Certificate.

  b) Data considered essential for continuing airworthiness should be kept throughout the operational life of the product, part or appliance.

- *Ensure that the recording and record-keeping system used by the partners, suppliers and sub-contractors meet the objective of conformity of the product, part or appliance with the same level of confidence as for their own manufacture. They should define in each case who is to retain the record data (organisation or partner, supplier or sub-contractor). They should also define method for surveillance of the recording/record keeping system of the partners, suppliers or sub-contractors.*

2.4.9 **Release to Service Procedure**

Procedure ref. 'xxx' 'Approved Certificate' covers the process of release to service on a CAA Approved Certificate after the completion of all work and mandatory requirements and is the responsibility of the Quality Manager.

Certifying Staff will ensure that the manufactured item has been completed in accordance with the approved design data; the procedures specified in this exposition and that the accompanying records are complete, before signing the Approved Certificate

Certifying Staff shall sign the Approved Certificate and stamp it with their personal Authorisation stamp. They may only sign and stamp the release documents of products for which they are authorised.

The Approved Certificate shall be annotated with the Works Order Number, which will provide traceability back to the Manufacturing Stage Sheets.

Notes: (not for inclusion in the Exposition)

CAA Approved Certificate (parts and appliances)

The detailed completion instructions of the CAA Approved Certificate are in Supplement 1 to A8-21 and should be either referenced by this procedure and provided to Certifying Staff, or copied into the procedure.

The Approved Certificate, when used as a release certificate as addressed in 18 g) ii) and iii) may be issued in two ways:

1) As an airworthiness release, only when by virtue of the arrangement described in 2.3 b) and c), it can be determined that the part conforms to the approved design data and is in condition for safe operation.

2) As a Conformity Certificate, only when by virtue of the arrangement described in 2.3 b) and c), it can be determined that the part conforms to applicable design data which is not (yet) approved, for a reason that is indicated in Block 13. Parts released with an Approved Certificate as a Conformity Certificate are not eligible for installation in a type certificated aircraft.

The Approved Certificate should only be used for Conformity release purposes when it is possible to indicate the reason that prevents its issue for airworthiness release purposes.

CAA Statement of Conformity (aircraft)

Before issue of the UK Statement of Conformity, the holder of a production organisation approval should make an investigation so as to be satisfied in respect of each of the items listed below. The documented results of this investigation should be kept on file by the POA holder. Certain of these items may be required to be provided (or made available) to the operator or owner of the aircraft, the CAA or the Aviation Authority of the state of registry.

1 *Equipment or modifications approved by the importing country but not by the UK CAA.*

2 *Identification of products, parts or appliances that are not new or are furnished by the buyer or future operator (Buyer Furnished Equipment or BFE).*

3 *Technical records which identify the location and serial numbers of significant components.*

4 *Log book and a modification record book for the aircraft as required by the CAA.*

5 *Log books for products installed as part of the type design as required by the CAA.*

6 *A weight and balance report for the completed aircraft.*

7 *A record of missing items or defects that do not affect airworthiness, for example furnishing or BFE (Items may be recorded in a technical log or other suitable arrangement such that the operator and CAA are formally aware).*

8 *Product support information required by other regulations, such as a Maintenance Manual, a Parts Catalogue, or MMEL all of which are to reflect the actual build standard of the particular aircraft. Also an electrical load analysis and a wiring diagram.*

9 *Records that demonstrate completion of maintenance tasks appropriate to the test flight flying hours recorded by the aircraft. These records should show the relationship of the maintenance status of the particular aircraft to the manufacturers recommended maintenance task list and the Maintenance Review Board (MRB) document/report.*

10 *Details of the serviceability state of the aircraft in respect of the fuel & oil contents and provision of operationally required emergency equipment such as life rafts, etc.*

11 *Details of the approved interior configuration if different from that approved as part of the type design.*

12 *An approved Flight Manual that conforms to the build standard and modification state of the particular aircraft shall be available.*

13 *Show that inspections for foreign objects at all appropriate stages of manufacture has been satisfactorily performed.*

14 *The registration has been marked on the exterior of the aircraft as required by national legislation. Where required by national legislation fit a fireproof owners nameplate.*

15 Where applicable there should be a certificate for noise and for the aircraft radio station.

16 The installed compass and or compass systems have been adjusted and compensated and a deviation card displayed in the aircraft.

17 Software criticality list.

18 A record of rigging and control surface movement measurements.

19 Details of installations that will be removed before starting commercial air transport operations (e.g., ferry kits for fuel, radio or navigation).

20 Where maintenance work has been performed under the privilege of 17(d) issue a release to service that includes a statement that the aircraft is in a condition for safe operation.

21 List of all applicable Service Bulletins and airworthiness directives that have been implemented.

2.4.10 **Control of Computer Records**

Computer based records will be backed up at a minimum frequency of once every 24 hours by the service provider. Back-up tapes will be held in a secure, fireproof cabinet and regularly checked to ensure that data will actually recover should the "working records" be lost.

2.4.11 **Specific Production Procedures**

All information pertaining to the manufacture of products under the scope of the A8-21 Approval can be found in Procedure ref. 'xxx', 'Manufacturing Under A8-21'.

2.4.12 **Airworthiness Co-ordination with Design Authority**

All customer orders will be subject to Procedure ref. 'xxx' 'Contract Review Procedure' and will be assessed to ensure the work is within the scope of approval and that an appropriate arrangement with the responsible design organisation is in place. This procedure and process is the responsibility of the Quality Manager.

An acceptable design arrangement is included in section 3 of this exposition and this information, as a minimum, in either this format or any other dictated by the design organisation, should preferably be obtained prior to acceptance of the order, but must be obtained prior to release on an Approved Certificate. Failure to obtain such an arrangement will prevent the parts being delivered on an Approved Certificate.

Notes: (not for inclusion in the Exposition)

When the design and production organisations are two separate legal entities a Direct Delivery Authorisation must be available for direct delivery to end users in order to guarantee continued airworthiness control of the released parts and appliances.

Where there is no general agreement for Direct Delivery Authorisation, specific permissions may be granted by the Design Organisation.

2.4.13 **Off-Site Working Control Procedures**

All production within the scope of the Organisation Approval shall be undertaken in our facilities. No 'Off-Site' procedure is therefore necessary.

Note. Procedures to control working parties operating away from the approved premises are not normally needed. However if this is an expected activity the procedures should be detailed here.

2.4.14 **Pre-delivery Aircraft Maintenance Procedures**

Not Applicable

Notes: (not for inclusion in the Exposition)

Unless the organisation manufactures complete aircraft this section is not necessary.

The applicant may apply for terms of approval, which cover maintenance of a new aircraft that it has manufactured, as necessary to keep it in an airworthy condition, but not beyond the point at which the applicable operational rules require maintenance to be performed by an approved maintenance organisation. If the production organisation intends to maintain the aircraft beyond that point, it would have to apply for and obtain an appropriate maintenance approval.

When the CAA is satisfied that the procedures required by paragraph 6.2 of A8-21 are satisfactory to control maintenance activities so as to ensure that the aircraft is airworthy, this capability will be stated in the terms of approval.

Examples of such maintenance activities are:

- *Preservation, periodic inspection visits, etc.*
- *Embodiment of a Service Bulletin.*
- *Application of airworthiness directives.*
- *Repairs.*
- *Maintenance tasks resulting from special flights.*
- *Maintenance tasks to maintain airworthiness during flight training, demo flights and other non-revenue flights.*

Any maintenance activities must be recorded in the Aircraft Log Book. It must be signed by certifying staff for attesting the conformity of the work to the applicable airworthiness data.

In some cases the Aircraft Log Book is not available, or the production organisation prefers to use a separate form (for instance for a large work package or for delivery of the aircraft to the customer). In these cases, production organisations must use the Certificate of Release to Service shown in Supplement 3 which must subsequently become part of the aircraft maintenance records.

2.4.15 **Production Control of Critical Parts**

If the responsible Design Organisation identifies a critical part any associated special procedures requested will be adhered to.

Note. Where the production organisation does not manufacture critical parts this section should be marked N/A.

2.4.16 **Inspection and Testing**

Procedure ref. 'xxx' 'Manufacturing Under A8-21' defines the process for '1st Article' and 'Verification' inspections and is the responsibility of the Head of Operations. Testing of products will be to the specifications/standards laid down by the Design Organisation.

Notes: (not for inclusion in the Exposition)

The purpose of the Inspection System is to check at suitable points during production and provide objective evidence that the correct specifications are used, and that processes are carried out strictly in accordance with the specification.

All items produced should be subject to inspection to be carried out at suitable phases which permit an effective verification of conformity with the design data. These inspections may provide for the execution of tests to measure performances as set out in the applicable design data. Considerations of complexity of the item and/or its integration in the next level of production will largely determine the nature and time for these tests, for example:

- *appliances - will require full functional testing to the specifications;*
- *parts - will at least require basic testing to establish conformity, but due allowance may be made for further testing carried out at the next level of production;*
- *material - will require verification of its stated properties.*

During the manufacturing process, each article should be inspected in accordance with a plan which identifies the nature of all inspections required and the production stages at which they occur. The plan should also identify any particular skills or qualification required of person(s) carrying out the inspections (e.g., NDT personnel).

If the parts are such that, if damaged, they could compromise the safety of the aircraft, additional inspections for such damage should be performed at the completion of each production stage.

2.4.16.1 **Flight Testing**

Note. Organisations holding a BCAR A8-9 approval should refer to those procedures here.

For flight testing of ex-military aircraft a CAA Permit to Fly for Test is required unless undertaken within the scope of the A8-9 approval.

2.4.17 **Occurrence Reporting Procedure**

Mandatory reporting is carried out in accordance with CAA publication CAP 382, Mandatory Occurrence Reporting Scheme, and Procedure ref. 'xxx' 'Reporting Mandatory Occurrences' which is the responsibility of the Quality Manager.

All staff will be encouraged to report non-conforming products and un-airworthy conditions. Representation will then be made to the responsible company/ department to ensure corrective and preventative action is taken and if appropriate the Design Authority and regulatory authorities notified.

3 APPENDICIES

3.1 Sample of Documents

3.1.1 Approval Certificate and Terms of Approval

Include copy of these.

3.1.2 Approved Certificate

Include the organisation specific Approved Certificate with name address etc. Could include completion instructions if no other procedure covers this.

3.1.3 Aircraft Statement of Conformity

Include if you intend to produce complete aircraft.

3.1.4 **Design Arrangement**

<table>
<tr><th colspan="3">ARRANGEMENT</th></tr>
<tr><td colspan="2">The undersigned agree on the following commitments:</td><td>Relevant interface procedures</td></tr>
<tr><td colspan="2">The design organisation [NAME] takes responsibility to:
• assure correct and timely transfer of up-to-date applicable design data (e.g., drawings, material specifications, dimensional data, processes, surface treatments, shipping conditions, quality requirements, etc.) to the production organisation approval holder [NAME];
• provide visible statement(s) of approved design data.</td><td></td></tr>
<tr><td colspan="2">The production organisation approval holder [NAME] takes responsibility to:
• assist the design organisation [Name] in dealing with continuing airworthiness matter and for required actions;
• assist the design organisation [Name] in case of products prior to type certification in showing compliance with airworthiness requirements;
• develop, where applicable, its own manufacturing data in compliance with the airworthiness data package.</td><td></td></tr>
<tr><td colspan="2">The design organisation [Name] and the POA holder [Name] take joint responsibility to:
• deal adequately with production deviations and non conforming parts in accordance with the applicable procedures of the design organisation and the production organisation approval holder;
• achieve adequate configuration control of manufactured parts, to enable the POA holder to make the final determination and identification for conformity or airworthiness release and eligibility status.</td><td></td></tr>
<tr><td colspan="3">The scope of production covered by this arrangement is detailed in ... [DOC REF/ ATTACHED LIST]</td></tr>
<tr><td colspan="3">[When the design organisation is not the same legal entity as the production organisation approval holder.]
Transfer of approved design data.
The TC/STC holder [NAME] acknowledges that the approved design data provided, controlled and modified in accordance with the arrangement are recognised as approved.</td></tr>
<tr><td colspan="3">[When the design organisation is not the same legal entity as the production organisation approval holder.]
Direct Delivery Authorisation.
This acknowledgment includes also [OR does not include] the general agreement for direct delivery to end users in order to guarantee continued airworthiness control of the released parts and appliances.</td></tr>
<tr><td>for the [NAME of the design organisation]

date: .....

signature: .....

[NAME in block letters] .....</td><td colspan="2">for the [NAME of the POA holder]

date: .....

signature: .....

[NAME in block letters] .....</td></tr>
</table>

Instructions for completion of Design Arrangement:

Title: The title of the relevant document must clearly indicate that it serves the purpose of a design/production interface arrangement in accordance with A8–21 2.3 c).

Commitment: The document must include the basic commitments between the design organisation and the POA holder.

> **Relevant Procedures**: Identify an entry point into the documentary system of the organisations with respect to the implementation of the arrangement (for example a contract, quality plan, expositions, common applicable procedures, working plans etc.).

Scope of arrangement: The scope of arrangement must state by means of a list or reference to relevant documents those products, parts or appliances that are covered by the arrangement.

Transfer of applicable design data: Identify the relevant procedures for the transfer of the applicable design data required by 2.3 c) from the design organisation to the POA holder.

The means by which the design organisation advises the POA holder whether such data is approved or not approved must also be identified.

Direct Delivery Authorisation: Where the design organisation and the POA holder are separate legal entities the arrangement must clearly identify whether authorisation for direct delivery to end users is permitted or not.

Where any intermediate production/design organisations are involved in the chain between the original design organisation and the POA holder evidence must be available that this intermediate organisation has received authority from the design organisation to grant Direct Delivery Authorisation.

Signature: The basic document must be signed mutually by the authorised representatives of the design organisation and the POA holder.

Chapter A8-22 Approval of Qualified Entities – Group E5

1 Scope

An A8-22 Qualified Entity is an organisation that carries out airworthiness investigations on behalf of the CAA and submits reports and recommendations to the CAA. Article 165 of the Air Navigation Order 2005 (as amended) provides for persons to be approved to submit reports to the CAA. Set out below are the requirements to be met by organisations seeking UK national approval as Qualified Entities.

2 Eligibility

2.1 Any natural or legal person ('organisation') shall be eligible as an applicant for an approval under this Requirement.

2.2 The applicant shall satisfy the CAA that the scope of approval applied for is appropriate on an ongoing basis.

3 Application

Each application for the approval of a Qualified Entity shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

4 Issue of approval

An organisation shall be entitled to be approved as a Qualified Entity by the CAA when it has demonstrated compliance with the applicable requirements under this Requirement.

5 Requirement for Grant of Approval

5.1 The organisation shall demonstrate that it complies with the criteria for qualified entities defined in Annex V to the European Regulation (EC) 216/2008, see Supplement 1 to this Chapter.

5.2 The organisation shall demonstrate that it has established and is able to maintain a quality system for the control and supervision of the design, production, flight testing and/or maintenance of products, parts and appliances as applicable to this application. This quality system shall be such as to enable the organisation:

a) to ensure that the design of the products, parts and appliances or the design change thereof, comply with the applicable approval basis and environmental protection requirements or equivalent; and

b) to ensure that each product, part or appliance produced conforms to the applicable design data and is in condition for safe operation; and

c) to ensure that its responsibilities are properly discharged in accordance with:

i) the appropriate provisions of this Requirement; and

ii) the terms of approval issued under this Requirement; and

d) to independently monitor the compliance with, and adequacy of, the documented procedures of the quality system. This monitoring shall include a feedback system to a person or a group of persons having the responsibility to ensure corrective actions.

5.3 The organisation shall demonstrate, on the basis of the information submitted in the exposition that:

a) with regard to general approval requirements, facilities, working conditions, equipment and tools, processes and associated materials, number and competence of staff, general organisation and coordination are adequate to discharge the organisation's obligations under this Requirement;

b) with regard to all necessary airworthiness, noise, fuel venting and exhaust emissions data:

i) the organisation is in receipt of such data from the CAA, and from the holder of, or applicant for, any type-approval or design approval, to determine conformity with the applicable design data;

ii) such data are kept up to date and made available to all personnel who need access to such data to perform their duties;

c) with regard to management and staff:

i) a manager has been nominated by the organisation, and is accountable to the CAA. Their responsibility within the organisation shall consist of ensuring that all tasks are performed to the required standards and that the organisation is continuously in compliance with the data and procedures identified in the exposition;

ii) a person or group of persons have been nominated to ensure that the organisation is in compliance with these Requirements, and are identified, together with the extent of their authority. Such person(s) shall act under the direct authority of the accountable manager referred to in subparagraph i). The persons nominated shall be able to show the appropriate knowledge, background and experience to discharge their responsibilities;

iii) staff at all levels have been given appropriate authority to be able to discharge their allocated responsibilities and that there is full and effective coordination within the organisation in respect of airworthiness, noise, fuel venting and exhaust emission data matters; and

d) with regard to certifying staff, authorised by the organisation to sign the documents issued under the privileges of this approval:

i) the knowledge, background (including other functions in the organisation), and experience of the certifying staff are appropriate to discharge their allocated responsibilities;

ii) the organisation maintains a record of all certifying staff, which shall include details of the scope of their authorisation;

iii) certifying staff are provided with evidence of the scope of their authorisation.

6 Exposition

6.1 The organisation shall submit to the CAA an exposition providing the following information:

a) A statement signed by the accountable manager confirming that the exposition and any associated manuals which define the approved organisation's compliance with this Requirement will be complied with at all times;

b) The title(s) and names of nominated personnel accepted by the CAA;

c) The duties and responsibilities of the nominated personnel including matters on which they may deal directly with the CAA on behalf of the organisation;

d) An organisational chart showing associated chains of responsibility of the nominated personnel;

e) A list of certifying staff;

f) A general description of manpower resources;

g) A general description of the facilities located at each address specified in the organisation's certificate of approval;

h) A general description of the scope of work relevant to the terms of approval;

i) The procedure for the notification of organisational changes to the CAA;

j) The distribution and amendment procedure for the exposition; and

k) A description of the quality system and associated procedures.

6.2 The exposition shall be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments shall be supplied to the CAA.

7 Changes to the approved organisation

7.1 After the issue of the organisation approval, each change to the organisation, particularly changes to the quality system, that is significant to the showing of compliance, conformity or to the airworthiness and environmental protection of the product, part or appliance, shall be approved by the CAA.

7.2 A change of the location of the facilities of the approved organisation is deemed a change of significance and therefore necessitates application to the CAA.

7.3 An application for approval shall be submitted to the CAA and before implementation of the change the organisation shall demonstrate that it will continue to comply with these Requirements after implementation.

8 Transferability

Approval as a Qualified Entity is not transferable, except as a result of a change in ownership. A change of ownership is considered a significant change and necessitates application to the CAA.

9 Terms of approval

9.1 The terms of approval shall identify the scope of work, the categories of products, parts and appliances, for which the holder is entitled to exercise the privileges of this approval.

9.2 Those terms shall be issued as part of an organisation approval.

10 Changes to the terms of approval

Each change to the terms of approval shall be approved by the CAA. An application for a change to the terms of approval shall be made in a form and manner established by the CAA. The organisation shall comply with the applicable requirements of A8-22.

11 Investigations

11.1 The organisation shall make arrangements that allow the CAA to make any investigations necessary to determine compliance and continued compliance with the applicable requirements of this Chapter.

11.2 The organisation shall allow the CAA to review any report and make any inspection and perform or witness any flight and ground test necessary to check the validity of the compliance statements submitted.

12 Findings

12.1 When objective evidence is found by the CAA showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) A level one finding is any non-compliance with these Requirements that could lead to uncontrolled non-compliances with applicable requirements and which could affect the safety of the aircraft.

b) A level two finding is any non-compliance with these Requirements that is not classified as level one.

12.2 After receipt of notification of findings:

a) In case of a level one finding, the holder of the organisation approval shall demonstrate corrective action to the satisfaction of the CAA within a period of no more than 21 working days after written confirmation of the finding;

b) In case of level two findings, the corrective action period granted by the CAA shall be appropriate to the nature of the finding but in any case initially shall not be more than six months. In certain circumstances and subject to the nature of the finding the CAA may extend the six-month period subject to a satisfactory corrective action plan.

12.3 In case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

13 Duration and continued validity

13.1 The approval of a Qualified Entity shall be issued for an unlimited duration. It shall remain valid unless:

a) the organisation fails to demonstrate compliance with the applicable requirements; or

b) the CAA is prevented by the organisation from performing it's investigations; or

c) there is evidence that the organisation cannot maintain satisfactory control of the activities under the approval; or

d) the organisation no longer meets the eligibility requirements for this approval; or

e) the certificate has been surrendered or revoked.

13.2 Upon surrender or revocation, the certificate shall be returned to the CAA.

14 Privileges

The Qualified Entity shall be entitled, within its terms of approval and under the relevant procedures of the quality system:

a) to certify to the CAA that the design, construction and flying characteristics of an aircraft comply with the applicable requirements;

b) to make recommendations in respect of airworthiness certificates to the CAA, which may be accepted without further verification;

c) to validate non-expiring airworthiness certificates;

d) to submit reports to the CAA;

e) to control test flights;

f) to issue information or instructions containing the following statement: 'The technical content of this document is approved under the authority of the UK CAA organisation approval reference: [x/y/z].'

15 Obligations of the holder

The holder of an organisation approval shall, as applicable:

a) ensure that the exposition and the documents to which it refers, are used as basic working documents within the organisation;

b) maintain the organisation in conformity with the data and procedures approved for the organisation approval;

c) determine that the design of products, or changes or repairs thereof, as applicable, comply with applicable requirements and have no unsafe feature;

d) ensure that required manuals or instructions for continued airworthiness, or changes thereof, are reviewed and approved either by the organisation or the CAA as appropriate;

e) provide to the CAA information or instructions related to Airworthiness Directives and Mandatory Permit Directives;

f) determine that each aircraft conforms to the type design and is in condition for safe operation prior to making recommendation to the CAA;

g) record all details of work carried out;

h) establish and maintain an internal occurrence reporting system in the interest of safety, to enable the collection and assessment of reports in order to identify adverse trends or to address deficiencies. This system shall include evaluation of relevant information relating to these reports and the promulgation of related information;

i) report to the holder of the type-approval or design approval, all cases where products, parts or appliances have been released and subsequently identified to have possible deviations from the applicable design data, and investigate with the holder of the type-approval or design approval in order to identify those deviations which could lead to an unsafe condition;

j) report to the CAA the deviations which could lead to an unsafe condition identified according to subparagraph i). Such reports shall be made in a form and manner established by the CAA;

k) provide assistance to the holder of the type-approval or design approval in dealing with any continuing airworthiness actions that are related to the exercise of the privileges of this approval;

l) establish an archiving system ensuring conservation of the data used to justify conformity of the products, parts or appliances. Such data shall be held at the disposal of the CAA and be retained in order to provide the information necessary to ensure the continuing airworthiness of the products, parts or appliances.

Supplement 1 to A8-22

EU Criteria for qualified entities

1 The entity, its Director and the staff responsible for carrying out the checks, may not become involved, either directly or as authorised representatives, in the design, manufacture, marketing or maintenance of the products, parts, appliances, constituents or systems or in their operations, service provision or use. This does not exclude the possibility of an exchange of technical information between the involved organisations and the qualified entity.

2 The entity and the staff responsible for the certification tasks must carry out their duties with the greatest possible professional integrity and the greatest possible technical competence and must be free of any pressure and incentive, in particular of a financial type, which could affect their judgment or the results of their investigations, in particular from persons or groups of persons affected by the results of the certification tasks.

3 The entity must employ staff and possess the means required to perform adequately the technical and administrative tasks linked with the certification process; it should also have access to the equipment needed for exceptional checks.

4 The staff responsible for investigation must have:

- sound technical and vocational training,
- satisfactory knowledge of the requirements of the certification tasks they carry out and adequate experience of such processes,
- the ability required to draw up the declarations, records and reports to demonstrate that the investigations have been carried out.

5 The impartiality of the investigation staff must be guaranteed. Their remuneration must not depend on the number of investigations carried out or on the results of such investigations.

6 The entity must take out liability insurance unless its liability is assumed by one Member State in accordance with its national law.

7 The staff of the entity must observe professional secrecy with regard to all information acquired in carrying out their tasks under this Regulation.

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Appendix 1 to A8-22

Guidance Material (GM)

GM to 5.1
Quality System

The Quality System is an organisational structure with responsibilities, procedures, processes and resources, which implement a management function to determine and enforce quality principles.

The Quality System should be documented in such a way that the documentation can be made easily available to personnel who need to use the material for performing their normal duties, in particular:

- Procedures, instructions and data to cover the issues of 5.1 are available in a written form and the updating process is clearly described;
- Distribution of relevant procedures to offices/persons is made in a controlled manner;
- Procedures which identify persons responsible for the prescribed actions are established.

The manager responsible for ensuring that the quality system is implemented and maintained should be identified.

The CAA will verify on the basis of the exposition and by appropriate investigations that the Qualified Entity has established and can maintain their documented quality system.

GM No.1 to 5.1(d)
Quality System – Independent quality assurance function

The quality assurance function, which is part of the organisation, is required to be independent from the function being monitored. This required independence relates to the lines of reporting, authority and access within the organisation and assumes an ability to work without technical reliance on the monitored functions.

GM No.2 to 5.1(d)
Quality System – Adequacy of procedures and monitoring function

Adequacy of procedures means that the quality system, through the use of these procedures, is capable of meeting the objectives identified in 5.1.

To ensure the above, the quality assurance function should include planned continuing and systematic evaluation or audits of factors that effect conformity (and, where required, safe operation) to the applicable design. This evaluation should include all elements of the quality system in order to show compliance with Chapter A8-22.

GM to 14(e)
Privileges – to control test flights

The privilege to control test flights is intended to allow similar activity to that defined in Schedule 3 of the Air Navigation Order (2005) as amended, "A and B Conditions". In producing procedures covering the control of test flights applicants should refer to the BCAR Chapters listed below. Although strict compliance to the content of these BCAR is not necessary the principle features should be adopted within the applicants' procedures as appropriate.

BCAR Chapter A3-3, A3-5, A3-7, A3-8 and A8-9.

GM to 15(h)(i)(j)

Obligations of the holder – internal airworthiness reporting system

Although not normally the holder of any type approval or design approval, a Qualified Entity may have responsibility for a number of aircraft types and is therefore required to have in place an internal airworthiness reporting system. The internal airworthiness reporting system should take the form of a process for gathering information, assessing the causes and potential impacts on the aircraft administered under the approval held, and if found to be necessary, promulgating technical information to the appropriate parties to address any issues that may arise.

The organisation's procedures should establish

a) A means for receiving information, which may be presented in a range of different formats, from external sources (e.g. manufacturers, distributors, owners, inspectors) and internally from within their own organisation. Information sources could include, but are not limited to:

   - accident, incident and defect reports;
   - applications for repair approval;
   - information promulgated by manufacturers or agents, and could come in the form of written or verbal communication of which a record should be made.

b) The receipt of such reports should be logged on a common register and periodic meetings should take place involving the technical team who assess the severity of the actual or potential risk associated with the condition, progress any investigation and define any corrective actions deemed necessary.

A formal record of these meetings should be maintained and clearly identify the decision making process throughout. Conclusions could range from no action being taken to a recommendation to the CAA for mandatory action. The organisation should also develop a means for promulgating both targeted and general safety information or recommendations directly to their membership.

Chapter A8-23 Approval of Organisations Responsible for Maintenance and Restoration of Non-EASA Aircraft

(See Paragraph 1.1 NOTE 1)

1 Scope

1.1 This Requirement applies only to aircraft and associated parts, that are not required to comply with European Regulation (EC) No. 216/2008, i.e. Non-EASA Aircraft with a Certificate of Airworthiness or a Permit to Fly. It establishes the procedure for the approval of Non-EASA Aircraft maintenance organisations and rules governing the rights and obligations of applicants for, and holders of, such approvals. Any organisation involved with the maintenance of EASA Aircraft and/or associated parts, should refer to the appropriate European regulations; see Note 2) below.

NOTES:

1 The requirements of this Chapter A8-23 are applicable to organisations maintaining and restoring: aircraft above 5700 kg, classified as complex (Ref A8-25 Supplement 2), multi engine rotorcraft, and all aircraft used for Commercial Air Transport, or used for State purposes.

2 "Non-EASA aircraft" are aircraft that are within the categories of Annex II of Regulation (EC) No. 216/2008 (reference Article 4 of the Regulation). Non-EASA aircraft are not subject to regulation of airworthiness by EASA, but are subject to national regulations.

3 Individual aircraft engaged in military, customs, police, search and rescue, firefighting, coastguard or similar activities or 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).

4 BCAR A8-23 has been adapted from Part 145 which is an Annex to European Commission Regulation (EU) No. 1321/2014. As guidance for the reader the BCAR A8-23 paragraphs corresponding to their Part 145 equivalents have been tabulated in Appendix 3 of this chapter. It should be noted however, that for BCAR A8-23 the applicable legislation is the Air Navigation Order 2016, as amended.

5 Where the aircraft of Military Design and Service has been classified as a Complex type (defined in A8-25), the organisation must be able to demonstrate that it can achieve a level of serviceability, safety, reliability and operational control equivalent to that of the military authority or the aircraft manufacturer. The organisation must have access to spares and required test equipment together with the appropriate facilities. The organisation must also have available sufficient experienced staff in all the necessary areas of expertise. This can only be achieved with the direct support of the manufacturers or an equivalent organisation for the complete aircraft, its major components and its equipment.

2 Application

2.1 Each application for a maintenance organisation approval shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

3 Issue of Approval

3.1 An organisation shall be entitled to have a maintenance organisation approval issued by the CAA when it has demonstrated compliance with this Requirement.

4 Terms of Approval

4.1 The organisation shall specify the scope of work deemed to constitute the approval in its exposition.

5 Facility Requirements

5.1 The organisation shall ensure that:

a) Facilities are provided appropriate for all planned work, ensuring in particular, protection from the weather elements. In addition, specialised workshops and bays are segregated as appropriate, to ensure that environmental and work area contamination is unlikely to occur. Also:

   i) for base maintenance of aircraft, aircraft hangars are both available and large enough to accommodate aircraft undergoing planned base maintenance;

   ii) for component maintenance, component workshops are large enough to accommodate the components undergoing planned maintenance.

b) Office accommodation is provided for the management of the planned work referred to in paragraph a) and for certifying staff, so that they can carry out their designated tasks in a manner that contributes to good aircraft maintenance standards.

c) The working environment including aircraft hangars, component workshops and office accommodation is appropriate for the task carried out and that any special requirements are observed. Unless otherwise dictated by the particular task environment, the working environment must be such that the effectiveness of personnel is not impaired, in particular:

   i) temperatures must be maintained such that personnel can carry out required tasks without undue discomfort;

   ii) dust and any other airborne contamination are kept to a minimum and not be permitted to reach a level in the work task area where visible aircraft/component surface contamination is evident. Where dust/other airborne contamination results in visible surface contamination, all susceptible systems are sealed until acceptable conditions are re-established;

   iii) lighting is such as to ensure each inspection and maintenance task can be carried out in an effective manner;

   iv) noise shall not distract personnel from carrying out inspection tasks. Where it is impractical to control the noise source, such personnel are provided with the

necessary personal equipment to stop excessive noise causing distraction during inspection tasks;

v) where a particular maintenance task requires the application of specific environmental conditions different to the foregoing, then such conditions are observed. Specific conditions are identified in the maintenance data;

vi) the working environment for line maintenance is such that the particular maintenance or inspection task can be carried out without undue distraction. Therefore where the working environment deteriorates to an unacceptable level in respect of temperature, moisture, hail, ice, snow, wind, light, dust/other airborne contamination, the particular maintenance or inspection tasks must be suspended until satisfactory conditions are re-established.

d) Secure storage facilities are provided for components, equipment, tools and material. Storage conditions ensure segregation of serviceable components and material from unserviceable aircraft components, material, equipment and tools. The conditions of storage are in accordance with the manufacturer's instructions to prevent deterioration and damage of stored items. Access to storage facilities is restricted to authorised personnel.

6 Personnel Requirements

6.1 The organisation shall appoint an accountable manager who has corporate authority for ensuring that all maintenance required by the customer can be financed and carried out to the standard required by this Chapter A8-23. The accountable manager shall:

a) ensure that all necessary resources are available to accomplish maintenance in accordance with paragraph 15.2 to support the organisation approval;

b) establish and promote the safety and quality policy specified in paragraph 15.1;

c) demonstrate a basic understanding of this Chapter A8-23.

6.2 The organisation shall nominate a person or group of persons, whose responsibilities include ensuring that the organisation complies with this Requirement. Such person(s) shall ultimately be responsible to the accountable manager, and:

a) the person or persons nominated shall represent the maintenance management structure of the organisation and be responsible for all functions specified in this Requirement;

b) the person or persons nominated shall be identified and their credentials submitted in a form and manner established by the CAA;

c) the person or persons nominated shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft or component maintenance and demonstrate a working knowledge of this Requirement;

d) the procedures shall make clear who deputises for any particular person in the case of lengthy absence of the said person.

6.3 The accountable manager under paragraph 6.1 shall appoint a person with responsibility for monitoring the quality system, including the associated feedback system as required by paragraph 15.3. The appointed person shall have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on quality and compliance matters.

6.4 The organisation shall have sufficient staff to plan, perform, supervise, inspect and quality monitor the organisation in accordance with the approval. In addition the

organisation shall reassess work intended to be carried out when actual staff availability is less than the planned staffing level for any particular work shift or period.

6.5 The organisation shall establish and control the competence of personnel involved in any maintenance, management and/or quality audits in accordance with a procedure and to a standard agreed by the CAA. In addition to the necessary expertise related to the job function, competence must include an understanding of the application of human factors and human performance issues appropriate to that person's function in the organisation. 'Human factors' means principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance. 'Human performance' means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

NOTE: For further information on human factors in aviation maintenance, see CAP 716 'Aviation Maintenance Human Factors (EASA Part-145)'.

6.6 The organisation shall ensure that personnel who carry out and/or control, a continued airworthiness non-destructive test of aircraft structures and/or components, are appropriately qualified for the particular non-destructive test in accordance with the European or equivalent Standard recognised by the CAA. Personnel who carry out any other specialised task shall be appropriately qualified in accordance with officially recognised Standards. By derogation to this paragraph those personnel specified in paragraphs 6.7, 6.8 a) and 6.8 b), qualified in accordance with BCAR Section L, or category B1 or B3 in accordance with Part 66, may carry out and/or control colour contrast dye penetrant tests.

6.7 Any organisation maintaining aircraft, except where stated otherwise in paragraph 6.10, shall in the case of aircraft line maintenance, have appropriate aircraft type rated certifying staff qualified in accordance with BCAR Section L, or category B1, B2, B3, as appropriate, in accordance with Part-66, and paragraph 7 of this Chapter A8-23. In addition such organisations may also use appropriately task trained certifying staff holding the privileges described in points 66.A.20(a)(1) and 66.A.20(a)(3)(ii) and qualified in accordance with Annex III (Part-66) and point 145.A.35 to carry out minor scheduled line maintenance and simple defect rectification. The availability of such certifying staff shall not replace the need for category B1, B2, B3 certifying staff, as appropriate.

6.8 Any organisation maintaining aircraft, except where stated otherwise in paragraph 6.10 shall:

a) in the case of base maintenance of large aircraft, have appropriate aircraft type rated certifying staff qualified in accordance with BCAR Section L, or category C in accordance with Part-66, and paragraph 6 of this Chapter A8-23. In addition, the organisation shall have sufficient aircraft type rated staff qualified in accordance with BCAR Section L, or category B1 and B2 in accordance with Part-66, and paragraph 6 of this Chapter A8-23, to support the base maintenance certifying staff in particular:

   i) appropriately type rated BCAR Section L or B1 and B2 support staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the base maintenance certifying staff issues the certificate of release to service;

   ii) the organisation shall maintain a register of any such base maintenance support staff;

   iii) the base maintenance certifying staff shall ensure that compliance with sub-paragraph i) above has been met and that all work required by the customer has been accomplished during the particular base maintenance check or work package, and shall also assess the impact of any work not carried out with a view

to either requiring its accomplishment or agreeing with the operator to defer such work to another specified check or time limit.

b) in the case of base maintenance of aircraft other than large aircraft have either:

i) appropriate aircraft rated certifying staff qualified in accordance with BCAR Section L or category B1, B2, as appropriate, in accordance with Part-66 paragraph 6 of this Chapter A8-23; or

ii) appropriate aircraft rated certifying staff qualified in Part-66 category C assisted support staff as specified in sub-paragraph 6.8 a).

c) in the case of aircraft with a Permit to Fly

i) The organisation shall have appropriate staff for the normal expected contracted work. The use of temporary staff is permitted in the case of higher than normally expected contracted work.

ii) The organisation may use volunteers to support the maintenance of an aircraft eligible for a National Permit to Fly.

iii) By derogation from paragraph i), for long term restoration work of Permit to Fly aircraft, an organisation may utilise throughout the project, temporary staff provided they are under the management and control of the nominated engineer.

6.9 Component certifying staff shall comply with BCAR Section L or Part-66 as appropriate.

Staff will have sufficient experienced and training for the task and able to demonstrate their competence. Where relevant, the organisation shall be able to demonstrate that arrangements have been made to maintain and safely operate equipment and systems such as:

a) ejection seats;

b) pilot's parachute and personal survival packs;

c) liquid or gaseous oxygen systems;

d) brake arresting parachutes;

e) explosive and pyrotechnic systems;

f) externally mounted fuel tanks;

g) digital avionic systems.

6.10 By derogation to paragraphs 6.7 and 6.8, the organisation may use certifying staff qualified in accordance with the following provisions:

a) An organisation maintaining aircraft that qualify for a National Permit to Fly where there are no suitably qualified licensed personnel may use unlicensed personnel when assessed for technical competence and have appropriate, recent practical experience on the applicable airframe/engine type and agreed by the CAA.

b) For organisation facilities located outside the UK, certifying staff may be qualified in accordance with the national aviation regulations of the State in which the organisation facility is registered, subject to written agreement of the CAA.

c) For line maintenance carried out at a line station of an organisation which is located outside the UK, the certifying staff may be qualified in accordance with the national aviation regulations of the State in which the line station is based, subject to written agreement of the CAA.

d) For a repetitive pre-flight airworthiness directive or mandatory permit directive which specifically states that the flight crew may carry out such airworthiness

directive, the 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. However, the organisation shall ensure that sufficient practical training has been carried out to ensure that such aircraft commander or flight engineer can accomplish the airworthiness directive or mandatory permit directive to the required standard.

e) In the case of aircraft operating away from a supported location the organisation may issue a limited certification authorisation to the commander and/or the flight engineer on the basis of the flight crew licence held, subject to being satisfied that sufficient practical training has been carried out to ensure that the commander or flight engineer can accomplish the specified task to the required standard. The provisions of this paragraph shall be detailed in an exposition procedure.

f) In the following unforeseen cases, where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the organisation contracted to provide maintenance support may issue a one-off certification authorisation:

   i) to one of its employees holding equivalent type authorisations on aircraft of similar technology, construction and systems; or

   ii) to any person with not less than five years maintenance experience and holding a valid ICAO aircraft maintenance licence rated for the aircraft type requiring certification, provided there is no organisation appropriately approved under this Requirement at that location and the contracted organisation obtains and holds on file, evidence of the experience and the licence of that person.

   All such cases as specified in this sub-paragraph shall be reported to the CAA within seven days of the issuance of such certification authorisation. The organisation issuing the one-off authorisation shall ensure that any such maintenance that could affect flight safety is re-checked by an appropriately approved organisation.

7 Certifying Staff and Support Staff

7.1 In addition to the appropriate requirements of paragraphs 6.7 and 6.8, the organisation shall ensure that certifying staff and support staff have an adequate understanding of the relevant aircraft and/or components to be maintained, together with the associated organisation procedures. In the case of certifying staff, this must be accomplished before the issue or re-issue of the certification authorisation. 'Support staff' means those staff in the base maintenance environment who do not hold the necessary certification privileges. 'Relevant aircraft and/or components', means those aircraft or components specified in the particular certification authorisation. 'Certification authorisation' means the authorisation issued to certifying staff by the organisation and which specifies the fact that they may sign certificates of release to service within the limitations stated in such authorisation on behalf of the approved organisation.

7.2 Excepting those cases listed in paragraph 6.10 the organisation may only issue a certification authorisation to certifying staff in relation to the basic categories or subcategories and any type rating listed on the aircraft maintenance licence listed in BCAR Section L or Part 66, subject to the licence remaining valid throughout the validity period of the authorisation and the certifying staff remaining in compliance with BCAR Section L or Part 66 as appropriate. Certification Authorisations may be granted by the approved organisation, on a controlled basis, for issuing a Permit Flight Release Certificate or for the issuing of a Permit Maintenance Release.

7.3 The organisation shall ensure that all certifying staff and support staff are involved in at least six months of actual relevant aircraft or component maintenance experience in any consecutive two year period. For the purpose of this paragraph 'involved in actual relevant aircraft or component maintenance' means that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorisation and/or has actually carried out maintenance on at least some of the aircraft type systems specified in the particular certification authorisation.

7.4 The organisation shall ensure that all certifying staff and support staff receive sufficient continuation training in each two year period to ensure that such staff have up-to-date knowledge of relevant technology, organisation procedures and human factor issues.

7.5 The organisation shall establish a programme for continuation training for certifying staff and support staff, including a procedure to ensure compliance with the relevant parts of this paragraph 7, as the basis for issuing certification authorisations under this Requirement to certifying staff, and a procedure to ensure compliance with BCAR Section L or Part 66.

7.6 Except where any of the unforeseen cases of sub-paragraph 6.10 f) apply, the organisation shall assess all prospective certifying staff for their competence, qualification and capability to carry out their intended certifying duties in accordance with a procedure as specified in the exposition prior to the issue or re-issue of a certification authorisation under this Requirement.

7.7 When the conditions of paragraphs 7.1, 7.2, 7.4, 7.6 and, where applicable, paragraph 7.5 have been fulfilled by the certifying staff, the organisation shall issue a certification authorisation that clearly specifies the scope and limits of such authorisation. Continued validity of the certification authorisation is dependent upon continued compliance with paragraphs 7.1, 7.2, 7.4, and where applicable, paragraph 7.5.

7.8 The certification authorisation must be in a style that makes its scope clear to the certifying staff and the CAA. Where codes are used to define scope, the organisation shall make a code translation readily available.

7.9 The person responsible for the quality system shall also remain responsible on behalf of the organisation for issuing certification authorisations to certifying staff. Such person may nominate other persons to actually issue or revoke the certification authorisations in accordance with a procedure as specified in the exposition.

7.10 The organisation shall maintain a record of all certifying staff and support staff.

7.10.1 The staff records shall contain:

a) details of any aircraft maintenance licence held under BCAR Section L or Part-66, as appropriate;

b) all relevant training completed;

c) the scope of the certification authorisations issued, where relevant;

d) particulars of staff with limited or one-off certification authorisations.

7.10.2 The organisation shall retain the record for at least three years after the certifying staff or support staff have ceased employment with the organisation, or as soon as the authorisation has been withdrawn. In addition, upon request, the maintenance organisation shall furnish certifying staff with a copy of their record on leaving the organisation.

7.10.3 The certifying staff shall be given access on request to their personal records as detailed above.

7.11 The organisation shall provide certifying staff with a copy of their certification authorisation in either a documented or electronic format.

7.12 Certifying staff shall produce their certification authorisation to any authorised person within 24 hours.

7.13 The minimum age for certifying and support staff is 21 years.

8 Equipment, Tools and Material

8.1 The organisation shall have available and use the necessary equipment, tools and material to perform the approved scope of work, in particular:

a) where the manufacturer specifies a particular tool or equipment, the organisation shall use that tool or equipment, unless the use of alternative tooling or equipment is agreed by the CAA, via procedures specified in the exposition;

b) equipment and tools must be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. Such cases shall be detailed in an exposition procedure;

c) an organisation approved for base maintenance shall have sufficient aircraft access equipment and inspection platforms/docking such that the aircraft can be properly inspected.

8.2 The organisation shall ensure that all tools, equipment and particularly test equipment, as appropriate, are controlled and calibrated according to an officially recognised standard at a frequency to ensure serviceability and accuracy. Records of such calibrations and traceability to the standard used shall be kept by the organisation.

9 Acceptance of Components

9.1 All components shall be classified and appropriately segregated into the following categories:

a) components which are in a satisfactory condition, released on a UK CAA Approved Certificate, EASA Form 1 or equivalent and appropriately marked;

b) components which are in a satisfactory condition and released on a UK CAA Approved Certificate for use on aircraft with a Permit to Fly;

c) spare parts and components which are obtained for use on aircraft of military origin and do not have a UK CAA Approved Certificate, EASA Form 1 or equivalent;

d) spare parts and components which are obtained for use on aircraft with a Permit to Fly and do not have a UK CAA Approved Certificate, EASA Form 1 or equivalent;

e) unserviceable components which shall be maintained in accordance with this paragraph 9;

f) unsalvageable components which are classified in accordance with paragraph 9.4 below;

g) standard parts used on an aircraft, engine, propeller or other aircraft component when specified in the manufacturer's illustrated parts catalogue and/or the maintenance data;

h) material both raw and consumable used in the course of maintenance 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.

9.2 Prior to installation of a component, the organisation shall ensure that the particular component is eligible to be fitted when different modification and/or Airworthiness Directive or Mandatory Permit Directive standards may be applicable.

9.3 The organisation may fabricate a restricted range of parts to be used in the course of undergoing work within its own facilities provided procedures are identified in the exposition.

9.4 Components which have reached their certified life limit or contain a non-repairable defect shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended, or a repair solution has been approved according to BCAR Section A or Part-21, as appropriate.

9.5 Spares Procurement for Aircraft of Military Design and Service operating on a Permit to Fly

a) Spare parts and components for aircraft of military origin must be obtained from original sources or known and reputable suppliers or manufacturers as determined to be suitable.

b) Where items are obtained from military, or other related sources, the items must be inspected and evaluated for physical condition, life details, completeness of records, modification status and compatibility with the aircraft serial number. Acceptability of each item should be assessed and recorded by an authorised certifying person prior to fitment. The procedure for this shall be stated in the exposition.

c) The assessment of the condition of a component must consider the need to carry out an internal examination to determine the effects of age and corrosion. A partial or full strip investigation is required, if the component's condition cannot be adequately determined by other means.

d) Structural components, must be inspected for condition, damage and age related deterioration, for example the use of NDT techniques must be employed when required. Wherever possible the manufacturer's advice must be sought.

e) For engines, propellers, gearboxes and any other significant components, their history and serviceability must be adequately established by the organisation prior to installation. If the component status cannot be confirmed, it must be dismantled, inspected and if necessary overhauled in order to positively establish the serviceability of the component. With respect to all life-limited parts, where it cannot be established that the records are accurate and complete, such parts must be scrapped. Any component disassembly, inspection and overhaul must be carried out by an organisation acceptable to the CAA.

f) Standard aircraft hardware such as fasteners must originate from recognised aviation sources and must conform to the specified part number. Where specifications differ from items in civil use, a statement of conformity for equivalence must be provided by a suitably approved organisation.

g) Items no longer manufactured or not available from recognised sources must only be accepted if their serviceability and suitability can be determined by inspection or overhaul. The use of alternative parts is only permitted with the agreement of the manufacturer or when supported by a competent design organisation.

h) The organisation must have a procedure detailing the processes for the receipt and acceptance of components.

10 Maintenance Data

10.1 The organisation shall hold and use applicable current maintenance data in the performance of maintenance, including modifications and repairs. 'Applicable' means relevant to any aircraft, component or process specified in the organisation's approval class rating schedule and in any associated capability list. In the case of maintenance data provided by an operator or customer, the organisation shall hold such data when the work is in progress, with the exception of the need to comply with paragraph 13.3.

10.2 For the purposes of this Requirement, applicable maintenance data shall be any of the following:

a) any applicable requirement, procedure, operational directive or information issued by the authority responsible for the oversight of the aircraft or component;

b) any applicable Airworthiness Directive or Mandatory Permit Directive issued by the authority responsible for the oversight of the aircraft or component;

c) instructions for continuing airworthiness, issued by type certificate holders, supplementary type certificate holders, any other organisation required to publish such data and in the case of aircraft or components from outside the UK, the airworthiness data mandated by the authority responsible for the oversight of the aircraft or component;

d) any applicable standard, such as but not limited to, maintenance standard practices recognised by the CAA as a good standard for maintenance;

e) any applicable data issued in accordance with paragraph 10.4;

f) for aircraft operating on a Permit to Fly applicable maintenance data may be the latest edition of historical data.

10.3 The organisation shall establish procedures to ensure that if found, any inaccurate, incomplete or ambiguous procedure, practice, information or maintenance instruction, contained in the maintenance data used by maintenance personnel, is recorded and notified to the author of the maintenance data.

10.4 The organisation may only modify maintenance instructions in accordance with a procedure specified in the maintenance organisation's exposition. With respect to those changes, the organisation shall demonstrate that they result in equivalent or improved maintenance standards and shall inform the type-certificate holder of such changes. 'Maintenance instructions' for the purposes of this paragraph means instructions on how to carry out the particular maintenance task, they exclude the engineering design of repairs and modifications.

10.5 The organisation shall provide a common work card or worksheet system to be used throughout relevant parts of the organisation. In addition, the organisation shall either transcribe accurately the maintenance data contained in paragraphs 10.2 and 10.4 onto such work cards or worksheets, or make precise reference to the particular maintenance task or tasks contained in such maintenance data. Work cards and worksheets may be computer generated and held on an electronic database, subject to both adequate safeguards against unauthorised alteration and a back-up electronic database which shall be updated within 24 hours of any entry made to the main electronic database. Complex maintenance tasks shall be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the complete maintenance task.

Where the organisation provides a maintenance service to an aircraft operator who requires their work card or worksheet system to be used then such work card or

worksheet system may be used. In this case, the organisation shall establish a procedure to ensure correct completion of the aircraft operators' work cards or worksheets.

10.6 The organisation shall ensure that all applicable maintenance data is readily available for use when required by maintenance personnel.

10.7 The organisation shall establish a procedure to ensure that the maintenance data it controls is kept up to date. In the case of operator/customer controlled and provided maintenance data, the organisation shall be able to show that either it has written confirmation from the operator/customer that all such maintenance data is up to date, or it has work orders specifying the amendment status of the maintenance data to be used, or it can show that it is on the operator/customer maintenance data amendment list.

11 Work Planning

11.1 The organisation shall have a system appropriate to the amount and complexity of work to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the safe completion of the maintenance work.

11.2 The planning of maintenance tasks, and the organising of shifts, shall take into account human performance limitations.

11.3 When it is required to hand over the continuation or completion of maintenance tasks for reasons of a shift or personnel changeover, relevant information shall be adequately communicated between outgoing and incoming personnel.

12 Certification of Maintenance

12.1 For aircraft eligible for a Certificate of Airworthiness a certificate of release to service shall be issued by appropriately authorised certifying staff on behalf of the organisation when it has been verified that all maintenance ordered has been properly carried out by the organisation in accordance with the procedures specified in paragraph 16, taking into account the availability and use of the maintenance data specified in paragraph 10, and that there are no known non-compliances which hazard flight safety.

12.2 For aircraft eligible for a National Permit to Fly a Permit Maintenance release as specified in BCAR Chapter A3-7 shall be issued when it has been verified that all maintenance ordered has been properly carried out in accordance with the procedures specified in paragraph 16, taking into account the availability and use of the maintenance data specified in paragraph 10, and that there are no known non-compliances which hazard flight safety.

12.3 At the completion of any maintenance a certificate of release to service or permit maintenance release shall be issued before flight, as appropriate.

12.4 New defects or incomplete maintenance work orders identified during the above maintenance shall be brought to the attention of the aircraft owner/operator to obtain agreement to rectify the defects or complete the maintenance. In the case where the aircraft owner/operator declines to have such maintenance carried out under this paragraph, paragraph 12.7 is applicable.

12.5 A certificate of release to service shall be issued at the completion of any maintenance on a component whilst off the aircraft. The UK CAA Approved Certificate, contained within Supplement 1 to this Requirement A8-23, constitutes the component certificate of release to service When an organisation maintains a component for its own use, a

UK CAA Approved Certificate may not be necessary depending upon the organisation's internal release procedures, defined in the exposition.

12.6 For components that are intended only for installation on aircraft eligible for a Permit to Fly, a UK CAA Approved Certificate contained in A3-7 can be issued on the completion of any maintenance whilst off aircraft.

12.7 By derogation to paragraph 12.1 and 12.2, when the organisation is unable to complete all maintenance ordered, it may issue a certificate of release to service within the approved aircraft limitations. The organisation shall enter such fact in the aircraft certificate of release to service before the issue of such certificate.

12.8 By derogation to paragraphs 12.1, 12.2 and 9, when an aircraft is grounded at a location other than the main line station or main maintenance base due to the non-availability of a component with the appropriate release certificate, it is permissible to temporarily fit a component without the appropriate release certificate for a maximum of 30 flight hours or until the aircraft first returns to the main line station or main maintenance base, whichever is the sooner, subject to the aircraft operator agreement. The component shall have some form of release certificate identifying the serviceability of the component, the organisation releasing the component, the approval or authorisation reference and the responsible aviation authority for that organisation. The component shall be otherwise in compliance with all applicable maintenance and operational requirements. Such components shall be removed by the above prescribed time limit, unless an appropriate release certificate has been obtained in the meantime under paragraphs 12.1, 12.2 and 9.

12.9 The certificate of Release to Service should relate to the task specified in the relevant maintenance data and contain the following statement:

'The work recorded above has been carried out in accordance with the requirements of the Air Navigation Order for the time being in force and in that respect the aircraft/equipment is considered fit for Release to Service.'

13 Maintenance Records

13.1 The organisation shall record all details of maintenance work carried out. As a minimum, the organisation shall retain records necessary to prove that all requirements have been met for issuance of the certificate of release to service, including subcontractor's release documents.

13.2 The organisation shall provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific approved repair/modification data used for repairs/modifications carried out.

13.3 The organisation shall retain a copy of all detailed maintenance records and any associated maintenance data for three years, from the date the aircraft or component, to which the work relates to, was released from the organisation.

13.3.1 Records under this paragraph shall be stored in a safe way to ensure protection from damage, alteration and theft.

13.3.2 Computer backup discs, tapes etc. shall be stored in a different location from that containing the working discs, tapes etc., in an environment that ensures they remain in good condition.

13.3.3 Where an organisation approved under this Requirement terminates its operation, all retained maintenance records covering the last three years, shall be distributed to the

last owner or customer of the respective aircraft or component, or shall be stored as specified by the CAA.

14 Occurrence Reporting

14.1 The organisation shall report to the CAA, the state of registry and the organisation responsible for the design of the aircraft or component, any condition of the aircraft or component identified by the organisation that has resulted or may result in an unsafe condition that hazards flight safety.

14.2 The organisation shall establish an internal occurrence reporting system, detailed in the exposition, to enable the collection and evaluation of such reports, including the assessment and extraction of those occurrences to be reported under paragraph 14.1. This procedure shall identify adverse trends, corrective actions taken or to be taken by the organisation, to address deficiencies and include evaluation of all known relevant information relating to such occurrences and a method to circulate the information as necessary.

14.3 The organisation shall make such reports in a form and manner, established by the CAA, and ensure that they contain all pertinent information about the condition and evaluation results known to the organisation.

14.4 Where the organisation is contracted by a commercial operator to carry out maintenance, the organisation shall also report to the operator any such condition affecting the operator's aircraft or component.

14.5 The organisation shall produce and submit such reports as soon as practicable but in any case within 96 hours of the organisation identifying the condition to which the report relates.

15 Safety and Quality Policy, Maintenance Procedures and Quality System

15.1 The organisation shall establish a safety and quality policy for the organisation to be included in the exposition under paragraph 16.

15.2 The organisation shall establish procedures agreed by the CAA, taking into account human factors and human performance to ensure good maintenance practices and compliance with this Requirement, which shall include a clear work order or contract such that aircraft and components may be released to service in accordance with paragraph 12. The organisation shall ensure that:

a) the maintenance procedures under this section apply to paragraphs 5 to 21;

b) the maintenance procedures established or to be established by the organisation under this paragraph shall cover all aspects of carrying out the maintenance activity, including the provision and control of specialised services and lay down the standards to which the organisation intends to work;

c) with regard to aircraft line and base maintenance, the organisation shall establish procedures to minimise the risk of multiple errors and capture errors on critical systems, and to ensure that no person is required to carry out and inspect, in relation to a maintenance task involving some element of disassembly/reassembly of several components, of the same type fitted to more than one system on the same aircraft during a particular maintenance check. However, when only one person is available to carry out these tasks then the organisation's work card or worksheet shall include

an additional stage for re-inspection of the work by this person after completion of all the same tasks;

d) maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data approved by the CAA, EASA or by an approved BCAR or Part-21 design organisation, as appropriate.

15.3 The organisation shall establish a quality system that includes the following:

a) independent audits in order to monitor compliance with required aircraft/aircraft component standards and adequacy of the procedures to ensure that such procedures invoke good maintenance practices and airworthy aircraft/aircraft components. In the smallest organisations, the independent audit part of the quality system may be contracted to another organisation approved under this Chapter or a person with appropriate technical knowledge and proven satisfactory audit experience; and

b) a quality feedback reporting system to the person or group of persons specified in paragraph 6.2 and ultimately to the accountable manager that ensures proper and timely corrective action is taken in response to reports resulting from the independent audits established to meet paragraph a).

16 Maintenance Organisation Exposition[1]

16.1 The organisation shall submit to the CAA an exposition (see Appendix 2 to this Chapter A8-23) containing the following information:

a) a statement signed by the accountable manager, confirming that the exposition and any associated manuals which define the organisation's compliance with this Requirement will be complied with at all times;

b) the organisation's safety and quality policy as specified by paragraph 15;

c) the title(s) and name(s) of the persons nominated under paragraph 6.2;

d) the duties and responsibilities of the persons nominated under paragraph 6.2, including matters on which they may deal directly with the CAA on behalf of the organisation;

e) an organisation chart showing associated chains of responsibility between the persons nominated under paragraph 6.2;

f) a list of certifying and support staff;

g) a general description of manpower resources;

h) a general description of the facilities located at each address specified in the organisation's approval certificate;

i) a description of the organisation's scope of work relevant to the extent of approval;

j) the procedure for the notification of organisational changes to the CAA;

k) the exposition amendment procedure;

l) a description of the quality system and associated procedures established by the organisation under paragraphs 5 to 20;

1 When an organisation holds more than one BCAR approval the expositions can be combined to cover common areas e.g. management structure and quality system. Or, for A8-23 a supplement can be added to an existing EASA Part 145 approved exposition

m) a list of commercial operators, where applicable, to which the organisation provides an aircraft maintenance service;

n) a list of subcontracted organisations, where applicable, as specified in sub-paragraph 17.1 b);

o) a list of line stations, where applicable, as specified in sub-paragraph 17.1 d); and

p) a list of contracted organisations, where applicable;

q) for aircraft of military design and service, the organisation shall have procedures in place to ensure that arrangements have been made to maintain and safely operate specialist equipment and systems.

16.2 The exposition shall be amended as necessary to remain an up-to-date description of the organisation and copies of any amendments shall be supplied to the CAA for review and approval.

16.3 Notwithstanding paragraph 16.2 minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval).

17 Privileges of the Organisation

17.1 In accordance with the terms of approval issued under these Requirements and in accordance with the exposition, the holder of a maintenance organisation approval may:

a) maintain any aircraft and/or component for which it is approved, at the locations identified in the approval certificate, and in the exposition;

b) arrange for maintenance of any aircraft or component for which it is approved at another organisation that is working under the quality system of the organisation. This refers to work being carried out by an organisation not itself appropriately approved to carry out such maintenance under this Requirement, and is limited to the work scope permitted under paragraph 15.2 procedures. This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module;

c) maintain any aircraft or any component for which it is approved at any location, subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the exposition;

d) maintain any aircraft and/or component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance, and only if the organisation exposition both permits such activity and lists such locations;

e) issue certificates of release to service in respect of completion of maintenance in accordance with paragraph 12.

18 Limitations on the Organisation

18.1 The organisation shall only maintain an aircraft or component for which it is approved when all the necessary facilities, equipment, tooling, material, maintenance data and certifying staff are available.

19 Changes to the Organisation

19.1 The organisation shall notify the CAA of any proposal to make any of the following changes, before such change takes place (excepting short notice personnel changes). These changes must be notified at the earliest opportunity to enable demonstration of continued compliance with this Requirement to the CAA, and amendment of the exposition and approval certificate, as appropriate:

a) the name of the organisation;

b) the main location of the organisation;

c) additional locations of the organisation;

d) the accountable manager;

e) any of the persons nominated under paragraph 6.2;

f) the facilities, equipment, tools, material, procedures, work scope or certifying staff that could affect the approval.

20 Continued Validity

20.1 An organisation approval shall be issued for an unlimited duration. It shall remain valid unless:

a) the organisation fails to demonstrate compliance with the applicable requirements; or

b) the CAA is prevented by the approved organisation, or any of its partners or subcontractors, from performing it's investigations; or

c) there is evidence that the organisation cannot maintain satisfactory control of the maintenance of products, parts or appliances under the approval; or

d) the certificate has been surrendered or revoked.

20.2 Upon surrender or revocation, the approval shall be returned to the CAA.

21 Findings by the CAA

21.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) a level one finding is any non-compliance with the applicable requirements, which lowers the safety standard and hazards flight safety;

b) a level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

21.2 After receipt of notification of findings:

a) the holder of the approval shall define the corrective action plan and demonstrate corrective action to the satisfaction of the CAA, and within a period agreed with the CAA;

b) for level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) for level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than three months. In certain circumstances, the CAA may extend the three month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan;

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

21.3 In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

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Supplement 1 to A8-23

1 United Kingdom Civil Aviation Authority	**UK CAA APPROVED CERTIFICATE**				*3* Form Tracking No.
4 Approved Organisation Name and Address					*5* Work Order / Contract / Invoice
6 Item	*7* Description	*8* Part No.	*9* Qty	*10* Serial No.	*11* Status/Work
12 Remarks					
13a Certifies that the items identified above were manufactured in conformity to: ☐ approved design data and are in a condition for safe operation ☐ non-approved design data specified in block 12			*14a* Certifies that the work specified, except as otherwise specified in block 12, was carried out in accordance with the Air Navigation Order for the time being in force and in respect to that work the aircraft/aircraft component is considered ready for release to service		
13b Authorised Signature	*13c* Approval No.		*14b* Authorised Signature	*14c* Approval No.	
13d Name	*13e* Date (dd/mmm/yyyy)		*14d* Name	*14e* Date (dd/mmm/yyyy)	

Issue2

USER/INSTALLER RESPONSIBILITIES

.

NOTES:

1 This certificate does not automatically constitute authority to install the item(s).

2 Where the user/installer performs work in accordance with the regulations of another airworthiness authority, it is essential that the user/installer ensure that his/her airworthiness authority accepts items from the UK CAA.

3 Statements 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer, before the aircraft may be flown.

APPROVED CERTIFICATE

COMPLETION INSTRUCTIONS

These instructions relate only to the use of the UK CAA Approved Certificate for maintenance purposes. Attention is drawn to Supplement 1 to A8-21, which cover the use of the UK CAA Approved Certificate for production purposes.

1 PURPOSE AND SCOPE

A primary purpose of the Certificate is to declare the airworthiness of maintenance work undertaken on products, parts and appliances (hereafter referred to as 'item(s)').

The Certificate can serve as an official certificate for the delivery of items to users. The Certificate is not, however, a delivery or shipping note.

It may only be issued by organisations certificated by the CAA, within the scope of such an approval. Aircraft are not to be released using the Certificate. The Certificate is NOT to be used for the certification of maintenance work on Products, Parts or Appliances for aircraft that are the responsibility of the European Aviation Safety Agency (EASA).

The Certificate does not constitute approval to install the item on a particular aircraft, engine, or propeller but helps the end user determine its airworthiness approval status.

A mixture of production released and maintenance released items is not permitted on the same Certificate.

2 GENERAL FORMAT

The Certificate must comply with the format attached including block numbers and the location of each Block. The size of each Block may, however, be varied to suit the individual application, but not to the extent that would make the Certificate unrecognisable. The overall size of the Certificate may be significantly increased or decreased so long as the Certificate remains recognisable and legible. The Certificate must be in 'Portrait' rather than 'Landscape' to help differentiate it from the EASA Form 1. If in doubt consult the CAA.

Please note that the user responsibility statements can be placed on either the reverse or front of this Certificate.

All printing must be clear and legible to permit easy reading and be in English.

The Certificate may either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted.

The details to be entered on the Certificate may be either machine/computer printed or hand-written using block letters, permit easy reading and be in English. Abbreviations must be restricted to a minimum.

The space remaining on the reverse side of the Certificate may be used by the originator for any additional information but must not include any certification statement.

The original Certificate must accompany the items and correlation must be established between the Certificate and the item(s). A copy of the Certificate must be retained by the organisation that manufactured the item. Where the Certificate format and the data

is entirely computer generated, subject to acceptance by the CAA, it is permissible to retain the Certificate format and data on a secure database.

There is no restriction in the number of copies of the Certificate sent to the customer or retained by the originator.

The Certificate that accompanies the item may be attached to the item by being placed in an envelope for durability.

3 COMPLETION OF THE CERTIFICATE BY THE ORIGINATOR

Except as otherwise stated, there must be an entry in all Blocks to make the document a valid certificate.

Block 1 Pre-printed 'United Kingdom Civil Aviation Authority'.

Block 2 Pre-printed 'UK CAA Approved Certificate'.

Block 3 A unique number must be pre-printed in this Block for Certificate control and traceability purposes except that in the case of a computer generated document, the unique number need not be pre-printed where the computer is programmed to produce the number.

Block 4 Enter the full name and address of the approved organisation releasing the work covered by this Certificate. Logos, etc., are permitted if the logo can be contained within the block.

Block 5 To help facilitate customer traceability of the item(s), enter the work order number, contract number, invoice number, or similar reference. The use of the Block for such traceability is mandatory in the absence of item Serial Numbers or batch numbers in Block 10. When not used, state N/A.

Block 6 The Block is provided for the convenience of the organisation issuing the Certificate to permit easy cross-reference to the 'Remarks' Block 12 by the use of line item numbers. Block 6 must be completed where there is more than one line item.

Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

Block 7 Enter the name or description of the item. Preference should be given to the term used in the instructions for continued airworthiness or maintenance data (e.g. Illustrated Parts Catalogue, Aircraft Maintenance Manual, Service Bulletin).

Block 8 Enter the part number as it appears on the item or tag/packaging. In case of an engine or propeller the type designation may be used.

Block 9 State the quantity of items being released.

Block 10 State the items Serial Number or Batch Number if applicable. If neither is applicable, state 'N/A'.

Block 11 The following table describes the permissible entries for block 11. Enter only one of these terms - where more than one may be applicable, use the one that most accurately describes the majority of the work performed and/or the status of the article.

Entry	Meaning
Overhauled	A process that ensures the item is in complete conformity with the applicable service tolerances specified in the type certificate (or equivalent) holder's, or equipment manufacturer's instructions for continued airworthiness, or in the data that is approved or accepted by the CAA. The item will be at least disassembled, cleaned, inspected, repaired as necessary, reassembled and tested in accordance with the above specified data.
Repaired	Rectification of defect(s) using an applicable standard.*
Inspected/Tested	Examination, measurement, etc. in accordance with an applicable standard* (e.g. visual inspection, functional testing, bench testing and operational checks). The results shall be described or referenced in block 11.
Modified	Alteration of an item to conform to an applicable standard.*

* Applicable standard means a manufacturing/design/maintenance/quality norm, method, technique or practice approved by or acceptable to the CAA. The Applicable Standard shall be described in block 12.

Block 12 State any information in this block, either directly or by reference to supporting documentation, necessary for the user or installer to determine the airworthiness of the item in relation to the work being certified. If necessary a separate sheet may be used and referenced from the main Certificate. Each statement must be clearly identified as to which item in block 6 it relates. If there is no statement, state 'None'.

Examples of statements in block 12 are:

- Maintenance documentation used, including the revision status.
- Compliance with airworthiness directives or service bulletins.
- Repairs carried out.
- Modifications carried out.
- Replacement parts installed.
- Life limited parts status.
- Deviations from the customer work order.
- Release statements to satisfy a foreign CAA maintenance requirement.

Block 13a-e Requirements for blocks 13a to 13e:

Not used for maintenance release. Shade, darken, or otherwise mark to preclude inadvertent or unauthorised use.

Block 14a Pre-printed certification statement.

The certification statement 'except as otherwise specified in block 12' is intended to address the following situations;

a) The case where the maintenance could not be completed.

b) The case where the maintenance deviated from the standard required by A8-23.

c) The case where the maintenance was carried out in accordance with a non A8-23 requirement.

Whichever case or combination of cases, this shall be specified in block 12.

Block 14b The hand-written normal signature of a person who has written authority from the approved maintenance organisation to make Certifications in respect of maintenance. Use of a stamp instead of a signature is not permitted, but the authorised person may add a stamp impression to his or her signature to aid recognition. Subject to the agreement of the CAA in any particular case, computer-generated signatures are permitted if it can be demonstrated that an equivalent level of control, traceability and accountability exists.

Block 14c State the full authorisation reference given by the CAA to the maintenance organisation releasing the items.

Block 14d The name of the person signing Block 14b, printed, typed, or written in a legible form.

Block 14e The date on which Block 14b is signed, in the format day/month/year. The month must be stated in letters (sufficient letters must be used so there can be no ambiguity as to the month intended).

Supplement 2 to A8-23 Class and Ratings System for the Approval of A8-23 Maintenance Organisations

1 Except as stated otherwise for the smallest organisations in paragraph 12 of this Supplement 2 to A8-23, the table referred to in point 13 provides the standard system for the approval of maintenance organisations under A8-23. An organisation must be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.

2 In addition to the table referred to in point 13, the approved maintenance organisation is required to indicate its scope of work in its maintenance organisation manual/ exposition. See also paragraph 11 of this Supplement.

3 Within the approval class(es) and rating(s) granted by the CAA, the scope of work specified in the maintenance organisation manual defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organisation's scope of work are matching.

4 A 'category A' class rating means that the approved maintenance organisation may carry out maintenance on the aircraft and any component (including engines and/or Auxiliary Power Units (APUs)), in accordance with aircraft maintenance data or, if agreed by the CAA, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such an 'A rated' approved maintenance organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph. This will be subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.

5 A 'category B' class rating means that the approved maintenance organisation may carry out maintenance on the uninstalled engine and/or APU and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the CAA, in accordance with component maintenance data, only whilst such components are fitted to the engine and/or APU. Nevertheless, such a 'B rated' approved maintenance organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organisation approved with a 'category B' class rating may also carry out maintenance on an installed engine during 'base' and 'line' maintenance subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the CAA.

6 A 'category C' class rating means that the approved maintenance organisation may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organisation approved with a category C class rating may also carry out maintenance on an installed component during base and line maintenance, or at an engine/APU maintenance facility, subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the CAA.

7 A 'category D' class rating is a self contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 - Non Destructive Testing (NDT) rating is only necessary for an approved maintenance organisation that carries out NDT as a particular task for another organisation. A maintenance organisation, approved with a class rating in A or B or C category, may carry out NDT on products it is maintaining subject to the maintenance organisation exposition containing NDT procedures, without the need for a D1 class rating.

8 In the case of maintenance organisations, approved in accordance with A8-23 'category A' class ratings, are subdivided into 'Base' or 'Line' maintenance. Such an organisation may be approved for either 'Base' or 'Line' maintenance or both. It should be noted that a 'Line' facility located at a main base facility requires a 'Line' maintenance approval.

9 The limitation section is intended to give the CAA the flexibility to customise the approval to any particular organisation. Ratings shall be mentioned on the approval only when appropriately limited. The table referred to in point 13 specifies the types of limitation possible. Whilst maintenance is listed last in each class rating it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the organisation (an example could be avionic systems installations and related maintenance). Such mention in the limitation section indicates that the maintenance organisation is approved to carry out maintenance up to and including this particular type/task.

10 When reference is made to 'series', 'type' and 'group' in the limitation section of class A and B:

a) 'series' means a specific type series such as: Douglas DC-3, or Douglas DC-6 series, or Auster series.

b) 'type' means a specific type or model such as Douglas DC-3C-R-1830-90C type;

any number of series or types may be quoted;

c) 'group' means for example, Aeronca single piston engine aircraft or Walter Minor 6-III Series piston engines.

11 When a lengthy capability list is used which could be subject to frequent amendment, then such amendment may be in accordance with the indirect approval procedure.

12 A maintenance organisation that employs only one person to both plan and carry out all maintenance can only hold a limited scope of approval rating. The maximum permissible limits are:

CLASS	RATING	LIMITATION
AIRCRAFT	A2 AEROPLANES 5700 KG AND BELOW	PISTON ENGINE 5700 KG AND BELOW
AIRCRAFT	A3 HELICOPTERS	SINGLE PISTON ENGINE 3175 KG AND BELOW
AIRCRAFT	A4 AIRCRAFT OTHER THAN A1, A2 AND A3	NO LIMITATION
ENGINES	B2 PISTON	LESS THAN 450 HP
COMPONENTS RATING OTHER THAN COMPLETE ENGINES OR APU'S.	C1 TO C22	AS PER CAPABILITY LIST
SPECIALISED	D1 NDT	NDT METHOD(S) TO BE SPECIFIED.

It should be noted that such an organisation may be further limited by the CAA in the scope of approval dependent upon the capability of the particular organisation.

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Aeroplanes above 5700 kg	*Rating reserved to Maintenance Organisations approved in accordance with A8-23. Shall state aeroplane manufacturer or group or series or type and/or the maintenance tasks Example: Douglas DC-3 Series*	YES/ NO	YES/ NO
	A2 Aeroplanes 5700 kg and below	*Shall state aeroplane manufacturer or group or series or type and/or the maintenance tasks Example: Auster Series*	YES/ NO	YES/ NO
	A3 Helicopters	*Shall state helicopter manufacturer or group or series or type and/or the maintenance task(s) Example: Bell 47 Series*	YES/ NO	YES/ NO
	A4 Aircraft other than A1, A2 and A3	*Shall state aircraft series or type and/or the maintenance task(s).*	YES/ NO	YES/ NO
ENGINES	B1 Turbine	*Shall state engine series or type and/or the maintenance task(s) Example: Arriel Series II Series*		
	B2 Piston	*Shall state engine manufacturer or group or series or type and/or the maintenance task(s)*		
	B3 APU	*Shall state engine manufacturer or series or type and/or the maintenance task(s)*		

CLASS	RATING	LIMITATION	BASE	LINE
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	*Shall state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross-refer to a capability list in the exposition and/or the maintenance task(s). Example: PT6A Fuel Control*		
	C2 Auto Flight			
	C3 Comms and Nav			
	C4 Doors - Hatches			
	C5 Electrical Power & Lights			
	C6 Equipment			
	C7 Engine - APU			
	C8 Flight Controls			
	C9 Fuel			
	C10 Helicopter - Rotors			
	C11 Helicopter - Trans			
	C12 Hydraulic Power			
	C13 Indicating -recording system			
	C14 Landing Gear			
	C15 Oxygen			
	C16 Propellers			
	C17 Pneumatic & Vacuum			
	C18 Protection ice/ rain/fire			
	C19 Windows			
	C20 Structural			
	C21 Water ballast			
	C22 Propulsion Augmentation			
SPECIALISED SERVICES	D1 Non Destructive Testing	Shall state particular NDT method(s)		

Appendix 1 to A8-23 Acceptable Means of Compliance to A8-23–Applicability of EASA AMC to BCAR A Maintenance Requirements

1 General

1.1 In general, the EASA AMC should be taken to be applicable as guidance material for those BCAR A Maintenance Requirements contained within Chapter A8-23, which state a Part 145 requirements paragraph number (in italic text), in their heading.

1.2 Where the EASA AMC text mentions Agency or Competent Authority, this should be read as the CAA.

1.3 Where EASA AMC paragraphs refer to 'Member State', those paragraphs may not be applicable to BCAR approvals. If there is any doubt, the CAA should be consulted.

1.4 Where the EASA AMC text refers to Part 145, reference should be made to the appropriate Chapter of BCAR A. See table 1.

AMC to A8-23, 6.8c) iii)

The nominated engineer is an individual with the appropriate experience for the aircraft being maintained or restored by the organisation. It is not necessary for the individual to hold a licence, but he must be able to demonstrate his experience and training. He will have overall responsibilities for the management and control of the staff.

Table 1 Applicability of individual Part 145, AMC to BCAR A Maintenance Requirements Chapter A8-23

Where no applicability is stated, it should be assumed that the relevant Part 145, AMC applies to those BCAR A paragraphs which state a Part 145 requirements paragraph number (in italic text), in their heading.

Part 145 reference number	BCAR Section A reference number	Subject	Applicable/Not applicable to BCAR A
AMC 145.A.10 and GM 145.A.10	A8-23, paragraph 1	Scope	The paragraph referring to facilities outside the Member State, is not applicable to BCAR.
AMC 145.A.15	A8-23, paragraph 2	Application	Not applicable, see BCAR text.
AMC 145.A.35 (a), (b), (d), (e), (f) and (j)	A8-23, paragraph 7	Certifying staff and support staff	B1 and B2 not used in BCARs - AMC applicable to all certifying staff.
AMC 145.A.42	A8-23, paragraph 9	Acceptance of components	Use UK CAA Approved Certificate, not EASA Form 1.
AMC 145.A.50(b)	A8-23, paragraph 12	Certification of maintenance	This AMC is guidance only with regard to BCARs. Refer to the Air Navigation Order, Article 30 for the content of Certificate of Release to Service under the ANO. Reference should be made to the BCAR A8-23 approval number.
AMC No 2 to 145.A.50(d)	A8-23, paragraph 12	Certification of maintenance	With regard to used aircraft components, AMC M.A.613(a)(2.8) may be applied. Details of status & compliance should be entered in block 12 of the UK CAA Approved Certificate.
GM 145.A.50(d)	A8-23, paragraph 12	Certification of maintenance	The correct guidance material for the completion of a UK CAA Approved Certificate is contained in BCAR Chapter A8-23, Supplement 1.
AMC 145.A.60	A8-23 paragraph 14	Occurrence reporting	Not applicable, refer to CAP 382.
AMC 145.A.70	A8-23, paragraph 16	Maintenance Organisation Exposition	For those organisations which already hold a Part 145 approval to work on EASA aircraft, the BCAR approval would be an incremental approval to the existing 145 approval. The exposition required for the BCAR approval, would likewise be a supplement of an additional chapter or two to the existing 145 exposition. Any approval charges would also be incremental. Surveillance audits would approve both BCAR (in this example A8-23) and Part 145 approvals.
AMC 145.A.75	A8-23, paragraph 17	Privileges of the organisation	Organisations with only BCAR approval, cannot have FAR 145 repair station approval.

Appendix 2 to A8-23 Example A8-23 Organisation Exposition

SPECIMEN EXPOSITION

This specimen Exposition has been prepared for the guidance of those aircraft and component maintenance organisations wishing to obtain A8-23 approval. The contents relate directly to the requirements of A8-23.

Part 1 Management; this section should be fully completed.

The Notes in Part 1 explain the recommended text and suggest ways in which the organisation might expand it to suit its own purposes. It will be appreciated that no single specimen Exposition can meet the needs of all types and sizes of organisation or, indeed, reflect the different organisational structures and corporate policies, which emerge as companies develop. The guidance given has been expanded by including a suitable text or procedure wherever possible. It must be appreciated that this is not the only method of compliance and may, in fact, be unsuitable for some organisations. Its purpose is only to illustrate the nature of the information required.

For example, in management Duties and Responsibilities, the text given here reflects the specific requirements of A8-23 only, and does not attempt to deal with matters such as employment and the discipline of personnel, meeting work quotas or achieving output targets. These matters depend on the specific organisation and must, therefore, be included as appropriate by the applicant for approval.

Parts 2-3 Procedures; the organisation's procedures may be included in these sections, or a summary should be provided of the relevant procedures, together with a cross reference to the actual procedures or work instructions.

Parts 4-5 Miscellaneous/Appendices; sample documents should, as a minimum have an actual facsimile of the organisation's release documentation, i.e. CAA Approved Certificate, and a copy of the Approval Certificates provided by the CAA when granting approval. A list of parts or products may be included as a capability list but this is optional, unless specifically requested by the CAA.

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ANYBODY'S A8-23
EXPOSITION

Organisation address

Telephone number

Fax number

Email address

Approval Number…(once notified by CAA)

Document Reference:

Issue Number:

Reference : Specimen / Expo /1 Issue: 1 Date : Sept 2003	Copy Number : Holder:

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INTRODUCTION

This document, the Organisation Exposition, satisfies the requirements of the UK Civil Aviation Authority (CAA), British Civil Airworthiness Requirements (BCAR), A8–23.

Notes: (Not for inclusion in the exposition)

1. *Applicable to Organisations wishing to be approved to maintain aircraft in accordance with A8-23.*
2. *All material contained within this document is for guidance purposes only. It is descriptive not prescriptive in content. Organisations may choose which parts of the text they wish to adopt/adapt expanding the content where necessary to reflect their processes. All references in italics are for editorial guidance or where general guidance is given to aid an organisation in drafting a MOE that would accurately reflect their situation.*

Distribution List

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Engineering Director	2
Aircraft Maintenance Manager	3
Workshop Maintenance Manager	4
Quality Manager	5
Civil Aviation Authority (Regional Office)	6
.....	7
.....	8

Amendment Control Page

All Holders are responsible for ensuring that amendments to their publication are carried out immediately and in accordance with instructions contained in amendment transmittal letters.

Date and sign this sheet to reflect amendment insertion as appropriate and return amendment confirmation slip to the Quality Department.

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2			16		
3			17		
4			18		
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1 MANAGEMENT

1.1 Corporate Commitment of Accountable Manager

This Exposition and any associated referenced manuals defines the organisation and procedures upon which the Civil Aviation Authority A8-23 approval is based.

These procedures are approved by the undersigned and must be complied with, as applicable, when work/orders are being progressed under the terms of the A8-23 approval.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the Civil Aviation Authority from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the Civil Aviation Authority will approve this organisation whilst the Civil Aviation Authority is satisfied that the procedures are being followed and work standards maintained. It is further understood that the Civil Aviation Authority reserves the right to suspend, limit or revoke the A8-23 approval of the organisation if the Civil Aviation Authority has evidence that procedures are not followed or standards not upheld or the organisation is no longer in compliance with A8-23.

Signed .....

Accountable Manager and..... *(quote position, e.g. Chief Executive)*

For and on behalf of .....*(quote organisation's name)*

NOTES:- (not for inclusion in the Exposition)

1. *Any modification to the statement must not alter its intent.*
2. *Whenever the Accountable Manager is changed it is important that the new Accountable Manager signs the statement at the earliest opportunity as part of his/her acceptance by the CAA.*

1.2 General Presentation of the Organisation

Suggested Subject Headings:

- Structure of company
- Legal name / entity
- Brief description of company activities
- If company is 'trading as' A.N other company

Under this A8-23 approval the company is approved to:

Maintain any aircraft and/or component for which it is approved, at the locations identified in the approval certificate, and in the exposition, and;

Arrange for maintenance of any aircraft or component for which it is approved at another organisation that is working under the quality system of the organisation. This refers to work being carried out by an organisation not itself appropriately approved to carry out such maintenance under this Requirement, and is limited to the work scope permitted under these procedures. This work scope shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module;

Maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance, subject to the conditions specified in the exposition;

Maintain any aircraft and/or component for which it is approved at a location identified as a line maintenance location capable of supporting minor maintenance, and only if the organisation exposition both permits such activity and lists such locations;

Issue certificates of release to service on completion of maintenance.

1.3 Safety and Quality Policy

The Safety and Quality Policy of this organisation is to:

- Recognise safety as a prime consideration at all times;
- Apply Human factors principles;
- Encourage personnel to report maintenance related errors/incidents to meet A8-23 requirements;
- Recognise that compliance with procedures, quality standards and regulations is the duty of all personnel;
- Recognise the need for all personnel to cooperate with the Quality Auditors.

1.4 Management Personnel

Accountable Manager .....

Engineering Director.....

Aircraft Maintenance Manager .....

Workshop maintenance Manager .....

Quality Manager .....

Nominated Level 3 for NDT.....

NOTES: (not for inclusion in the Exposition)

1. *This list comprises the minimum Senior Personnel in a medium to large organisation, for which the CAA would require a CAA biographical details form to be completed. Lesser posts could exist in a smaller company. This, in effect, is the 'group of persons' referred to in A8-23 Group Para 6 whose responsibilities include ensuring that the A8-23 approved maintenance organisation is in compliance with the requirements. These persons are ultimately directly responsible to the Accountable Manager for this function.*

2. *Other posts may be added if desired but it should be clearly shown whether or not they are considered as 'management' for a CAA biographical details form purposes. A marked separation (dividing line) would suffice with the text 'no biographical details form required' or, identify each post in this way.*

3. *The Engineering Director may be the Accountable Manager if it is a Corporate Board position and meets with the other requirements for that post. In a very small organisation where there is no Engineering Manager the accountable manager could be the Maintenance Manager, alternatively the duties of the Quality Manager could be performed by the Accountable Manager (if he/she is appropriately qualified) but in that case he/she cannot also perform maintenance certification.*

4. *It is recommended that this list is included in the Exposition on a separate page so that it can be easily amended when changes occur.*

1.5 Duties and Responsibilities of Management Personnel

1.5.1 Accountable Manager

1. *The Accountable Manager is responsible for ensuring that maintenance carried out by the approved organisation meets the standards required by the CAA.*
2. *He/she is responsible for ensuring that the necessary finance, manpower resources and facilities are available to enable the company to perform the maintenance to which it is committed for contracted operators, and any additional work which may be undertaken.*
3. *He/she is responsible for ensuring that any charges are paid, as prescribed by the CAA in respect of A8-23 approval.*
4. *He/she is responsible for establishing and promoting the safety and quality policy specified in A8-23.*
5. *He/she is responsible for nominating the senior person for monitoring of the quality system.*
6. *He/she is responsible for ensuring the competence of all personnel including management personnel has been assessed.*
7. *He/she can demonstrate a basic understanding of the requirements of A8-23.*

NOTES: (not for inclusion in the Exposition)

1. Any additional duties and responsibilities within the organisation may be added provided they do not conflict with those above, which constitute the Accountable Manager's specific responsibilities under A8-23.

2. The organisation should decide who will be responsible for liasing and negotiating with the CAA and show this in his/her terms of reference. If more than one person is nominated it must be clearly shown what each person is responsible for with, as a general rule, no overlapping of responsibility.

1.5.2 Engineering Director

1. *The Engineering Director is responsible for ensuring that the organisation has:*
   - facilities appropriate to the planned work.
   - office accommodation appropriate to the management of the planned work.
   - a working environment appropriate to the tasks being undertaken.
   - storage facilities for parts, tools, equipment and materials.
   - sufficient competent personnel to plan, perform, supervise, inspect and certify the work being performed.
   - tools, equipment and materials to perform the planned tasks.
   - all necessary maintenance data as required by A8-23.
   - for notifying the Accountable Manager whenever deficiencies emerge which require his attention in respect of finance and the acceptability of standards.
   - Has responsibility for submitting M.O.Rs (Mandatory Occurrence Reports) required.
2. *The Engineering Director ensures that maintenance procedures are established and published within the organisation, to achieve good maintenance practices and compliance with CAA requirements, and for establishing a Quality System for the organisation to ensure that work is accomplished to the highest standards of airworthiness and workmanship.*
3. *The Engineering Director is responsible for ensuring that all maintenance is correctly certified and that records of maintenance carried out are retained safely and securely for the statutory period. Unless previously reported by the Operator the Engineering Director is responsible for reporting to the manufacturer and to the CAA any condition of the aircraft (or a component), which could hazard safety.*
4. *Chief Engineer is responsible for liaising and negotiating with the CAA.*
5. *The Chief Engineer will identify key posts/personnel and will appoint individuals who will deputise in the case of lengthy absence of the said person. List of individuals will be detailed in the Appendices.*

NOTES: (not for inclusion in the Exposition)

1. *Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel.*
2. *Alternatively some of the above duties may be allocated to other management personnel, e.g. item 3 might be allocated to the Aircraft and /or Workshops Maintenance Manager.*
3. *In a very small organisation the Maintenance Manager/Chief Engineer may adopt all of the above responsibilities.*

1.5.3 Aircraft (and/or) Workshops Maintenance Manager

The Maintenance Manager is responsible for:

- the satisfactory completion and certification of all work required by contracted operators/customers, in accordance with the work specification;
- ensuring that the organisation's procedures and standards are complied with when carrying out maintenance;
- ensuring, through the workforce under his/her control, that the quality of workmanship in the final product is to a standard acceptable to the organisation and the CAA;
- ensuring the competence of all personnel engaged in maintenance by establishing a programme of training and continuation training using:
  - internal and external sources;
  - on-the-job instruction and evaluation;
  - examination/testing as necessary; and
- keeping a record of all training and experience of maintenance-related personnel;
- ensuring that all sub-contract orders are correctly detailed and that the requirements of the contract/order are fulfilled in respect of inspection and quality control;
- responding to quality deficiencies in the area of activity for which he/she is responsible, which arise from independent quality audits.

Notes: (not for inclusion in the Exposition)

1. Any additional duties and responsibilities may be added provided they do not conflict with those of other management personnel.

2. The combined Duties and Responsibilities of managers should illustrate the composition of the Quality System in the particular organisation by making it clear how quality standards are set and quality is controlled.

1.5.4 Quality Manager

1. *The Quality Manager is responsible for establishing an independent quality system to monitor compliance with CAA requirements.*

2. *He/she is responsible for implementing a quality audit programme in which compliance with all maintenance procedures is reviewed at regular intervals, in relation to each type of aircraft (or component) maintained, and any observed non-compliances or poor standards are brought to the attention of the person concerned via his/her manager.*

3. *The Quality Manager has direct access to the Accountable Manager the event of any reported discrepancy not being adequately attended to by the relevant person, or in respect of any disagreement over the nature of a discrepancy.*

4. *With specific reference to the A8-23 approval, the Quality Manager is responsible for:*

   - assessing sub-contractors for extension of the quality system, and maintaining the expertise necessary to be able to do so, to the satisfaction of the CAA;
   - assessing external specialist services required to be used by the company in the performance of maintenance;
   - assessing suppliers of new and used components, and materials, for satisfactory product quality in relation to the needs of the organisation;
   - preparing standard practices and procedures for use within the organisation, derived from approved sources, and keeping them up to date;
   - defect analysis in respect of aircraft undergoing maintenance so that any adverse trends are identified and responded to promptly.

Notes: (not for inclusion in the Exposition)

1. The functions defined above are typical for a medium to small sized organisation where the Quality Manager also performs 'airworthiness control' tasks in addition to those of quality assurance. The actual division of duties will vary with the particular organisation so that some tasks may be accomplished by, for example, Planning, Production or Technical Services etc.

2. It must be remembered that the quality system is required to be 'independent' which will normally mean that the Quality Manager and the Quality Monitoring Staff are not directly involved in the maintenance process or with maintenance certification.

1.5.5 Other Personnel as Determined by the Organisation

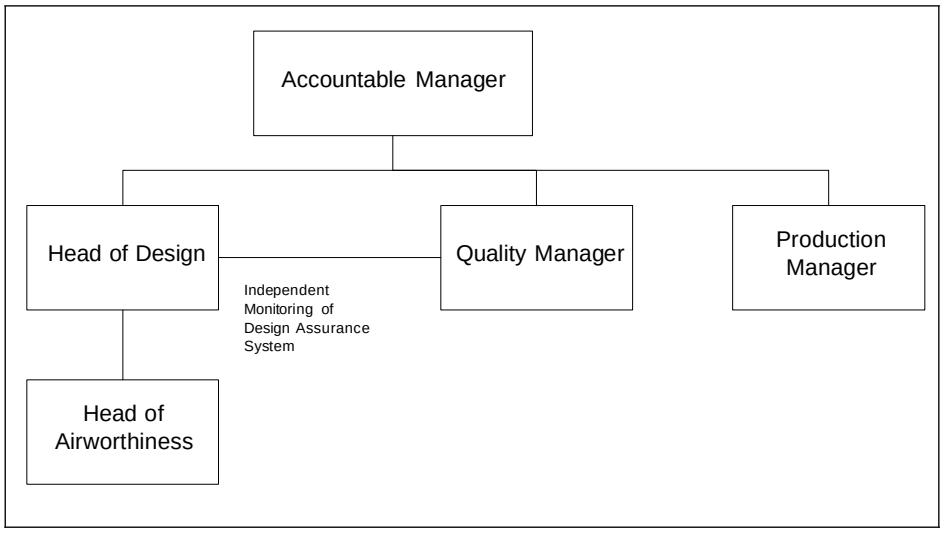
Notes: (not for inclusion in the Exposition)

1. This section can be continued with the terms of reference of additional management personnel, who report to the upper level of management, as necessary to fully describe the organisation.

2. These personnel would not normally be required to complete a CAA biographical details form. (to be agreed with the respective CAA Regional Office or responsible Department/Section).

3. This should include the nominated level 3 for NDT who does require to be nominated by a CAA biographical details form.

1.6 Management Organisation Chart



Notes: (not for inclusion in the Exposition)

1. Quality audit personnel must remain independent of the Maintenance Manager. Release to Service personnel may report to the Quality Manager position.

2. Technical records personnel may report to the Aircraft (Workshop) Maintenance Manager.

1.7 **List of Certifying Staff**

1.7.1 **Base Certifying Staff** (CRS)

1.7.2 **Line Certifying Staff** (Mechanical/Avionics)

1.7.3 **Component Certifying Staff** (CAA Approved Certificate)

1.7.4 **Field Service Engineers** (if appropriate)

1.7.5 **Personnel with Protected Rights**

1.7.6 **Base Maintenance Qualified Support Staff**

1.7.7 **ANO/BCAR Signatories**

1.7.8 Temporary sub-contract Staff

1.7.9 Volunteer Staff

Notes: (not for inclusion in the Exposition)

1. It is possible to cross-refer from this paragraph 1.7 to another record (including a computer record) where a list of the names is kept. If the organisation's individual staff authorisation records are referred to as the 'list', they should be preceded by a summary listing all of the staff names included, thereby meeting the intent of the requirement.

2. UK Approved Certificate will only be relevant if the organisation holds an approval with a Rating in group B or C, i.e. for component maintenance. If the release is 'internal', to an aircraft being maintained by the organisation under its A Rating approval, the work should be certified with a CRS and an UK Approved Certificate is not necessary.

3. Field Service Engineers would normally only be employed by manufacturers who hold an A8-23 approval to maintain their own products, which may require support in the field, together with certain major component maintenance organisations where the cost of transporting the component to the approved facility prompts the need for on-site maintenance (e.g. Engines and APU).

1.8 **Manpower Resources**

1.8.1 **Base Maintenance / Component Maintenance**

Suggested Subject Headings

- Maintenance - Aircraft / Workshops
- Engineering
- Technical Services
- Planning
- Administration
- Quality Department
- Quality Audit
- (etc.)

1.8.2 **Line Maintenance**

Suggested Subject Headings

- Station Resources
- En-Route arrangements

1.8.3 **Sub-contracted Services**

Suggested Subject Headings

- Full-time
- On-demand

1.8.4 **Specialised Activities**

Notes: (not for inclusion in the Exposition)

1. The resources described must justify the grant of approval as defined in paragraphs 1.8 (facilities to be approved) and 1.9 (scope of work) in sufficient detail to explain the support at each site and for each function as required.

2. Numbers of personnel should be given in general terms so that a clear picture is given without the need for amendment as a result of routine staff fluctuations, but able to highlight any significant re-deployment or loss of staff.

3. Where the approval is sub-divided into sites or different major functions the resources should be related to each site and function. Resources do not only mean numbers, it also means qualifications and competence.

1.9 Facilities

1.9.1 Base maintenance facilities

- Hangar accommodation
- Specialised workshops
- Environmental provisions
- Office accommodation for:
  - planning
  - technical records
  - quality
  - technical reference area
  - etc.
- Storage

1.9.2 Line maintenance facilities (at each location) as appropriate, see Base facilities.

1.9.3 Component maintenance facilities

1.9.4 Layout of premises

1.9.5 Work away from main base / workshop

1.9.5.1 Appropriate accommodation is available at the locations as stated for the purposes of aircraft maintenance, management, planning, technical records or quality staff, such that they can carry out their designated tasks in a manner that contributes to good standards. An adequate technical library and room for document consultation is also available.

1.9.5.2 In the event of an aircraft being unserviceable away from the main base, then manpower resources may be sent together with the necessary tooling, manuals and equipment to the aircraft location and carry out any necessary repairs in order to allow the aircraft to return.

Notes: (not for inclusion in the Exposition)

1. This section should describe each of the facilities, in some detail, at which the organisation intends to carry out maintenance, thereby building up a picture of what the CAA is being asked to approve. All sites should be covered, however, a different emphasis can be placed on sites of different importance, for example, those sites mentioned in the approval document, will need detailed description. Other significant sites, such as principal (over-night) line stations must be clearly described while en-route stations at which minor line maintenance tasks are performed may be briefly covered. The level of detail required in each case will vary with the scope of work and should be discussed with the CAA Regional Office.

2. Where the accommodation is not owned by the organisation, as in the case of a hangar where access is rented or shared, proof of tenancy/access may be required and the CAA may want this included in as an Appendix or Supplement to the Management part of the Exposition.

3. The CAA may also need to see the 'hangar visit plan' for those Commercial Air Transportation operators supported by the organisation where the size of the accommodation gives rise to questions of adequacy. The hangar visit plan should include the Non Commercial Air Transport activity.

1.10 Scope of Work

1.10.1 Aircraft Maintenance

- Aircraft:
  - Base
  - Line
- Helicopters:
  - Base
  - Line

1.10.2 Engine Maintenance

1.10.3 Component Maintenance

1.10.4 Specialised Services

1.10.5 Additional Significant Activities

1.10.6 Fabrication of parts

Notes: (not for inclusion in the Exposition)

1. This paragraph must show the range of work carried out at each approved site within the scope of each approval rating shown in the 'Schedule of Approval'. This section should also relate to paragraph 1.8 in such a way that it can be clearly seen what tasks are performed at which locations.

2. The degree of definition required is set somewhere between the very broad definition given in the Schedule of Approval and the fine detail, which one would expect to see in a 'Capability List'.

For example:

Schedule of Approval -- Rating C -- Electrical.

Scope of Work -- Engine Driven Generators -- not exceeding. 9kw dc.

Capability List -- Lucas Aerospace -- Part No. .....

3. In the case of aircraft maintenance, particularly line maintenance, this paragraph should show what level of work is undertaken at each station.

4. This should include any NDT activities or special processes that are carried out internally and not necessarily included on Approval Certificate.

1.11 **Notification Procedure to the CAA Regarding Changes to the Organisation's Activities / Approval / Location / Personnel**

1.11.1 The name of the organisation

1.11.2 Accountable Manager

1.11.3 Senior nominated personnel (CAA biographical details form refers)

1.11.4 Changes of approved locations / maintenance bases

1.11.5 Changes in company activities affecting:

- Schedule of Approval
- Scope of Work (Exposition subject 1.9)
- Capability Lists

Notes: (not for inclusion in the Exposition)

1. CAA approval is based on the management, organisation, resources, facilities and scope of work described in this Part 1 of the Exposition. Any significant change therefore affects the conditions under which the approval was granted and has been allowed to continue. This part of the Exposition must show how the company would go about notifying the CAA of the following changes:

- The Accountable Manager -- Prior to his / her appointment.
- Senior nominated management personnel -- With a CAA biographical details form and supporting Exposition amendment proposal in time to allow the CAA to 'accept' the nominated person and approve the proposed Exposition amendment in good time with relation to the intended appointment.
- Changes affecting the Schedule of Approval -- By application to CAA Gatwick, by using the appropriate CAA application form.
- Changes affecting the approved facilities (addresses) and Scope of Work -- By notification to the responsible Regional Office or specialist Department / Section, enclosing the draft Exposition change.

1.12 Exposition Amendment Procedures

1.12.1 Person responsible for amending the Exposition

The Quality Manager is responsible for the monitoring and amendment of the Exposition, including associated procedures manuals, and the submission of proposed amendments to the CAA.

1.12.2 Sources of proposed amendments within the organisation.

1.12.3 Definition of minor amendments to the Exposition that can be amended without the prior approval of the CAA.

1.12.4 Summary of documents, including 'lower order' documents, constituting the total Exposition.

1.12.5 Procedures for the control and amendment of capability list

Notes: (not for inclusion in the Exposition)

1. Exposition amendments may be initiated from any part of the organisation but must be monitored for compliance with A8-23 requirements by the Quality Manger who should also be the focal point for submitting amendments to the CAA. Amendments will only be accepted for approval from one source within each organisation.

2. The summary of documents comprising the complete Exposition and 'extended' Exposition may be by means of a list or descriptive text but should also, if possible, include a diagrammatic illustration to show their inter-relation.

3. The effect of the text in this part of the document should be to clearly show how the Exposition is 'managed' and the distinction between those parts under the control of the company and those parts for which amendments are required to receive prior CAA approval.

1.13 Findings by the CAA

1.13.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) A level one finding is any non-compliance with the applicable requirements, which lowers the safety standard and hazards flight safety.

b) A level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

1.13.2 After receipt of notification of findings:

a) the holder of the approval shall define the corrective action plan and demonstrate corrective action to the satisfaction of the CAA, and within a period agreed with the CAA;

b) For level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) For level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than 3 months. In certain circumstances, the CAA may extend the 3 month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan.

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. Where the CAA imposes a partial or full suspension or revocation, the organisation shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval within a timely manner.

2 MAINTENANCE PROCEDURES

Notes: (not for inclusion in the Exposition)

1. In the remainder of this specimen Exposition the suggested paragraph titles are utilised to provide an acceptable path to compliance with the requirements. In each case subject headings are suggested in which the particular nature of the organisation's actual procedures should be defined. Subject headings should be deleted if they do not apply and others may be included if that is the most suitable method of describing the particular organisation.

2.1 Supplier Evaluation and Subcontract Control Procedure

Suggested Subject Headings

- Company Policy - (sources of supplies)
- Approved Suppliers
- Monitoring of Suppliers
- System for placing orders
- Control of Subcontractors.

2.2 Acceptance / Inspection of Aircraft Components and Materials from Outside Customers

Suggested Subject Headings

- Component / Material acceptance procedures (sources, conformity with company requirements, records)
- Incoming inspection (required documentation, compliance with order, condition, 'Quarantine' procedure)
- Acceptance of components from internal sources
- Components removed serviceable from aircraft
- Components received from customers for Repair and/or Overhaul etc.
- Spares procurement for aircraft of military service

2.3 Storage, Tagging and Release of Aircraft Components and Material to Aircraft Maintenance

Suggested Subject Headings

- Procedures for maintaining satisfactory storage conditions (rotables, perishables, flammable fluids, engines, bulky assemblies, special storage requirements)
- System for control of shelf life and modification standard
- Tagging / Labelling system (serviceable, unserviceable, robbery, scrap etc.)
- Issue of components to the maintenance process
- Free-issue dispensing of standard parts (control, identification, segregation)
- Disposal of unsalvageable components.

2.4 Acceptance of Tools and Equipment

Suggested Subject Headings

- Process for acceptance - (identification, certification, control, calibration)
- Procedure for use of non-manufacturer recommended (i.e. alternative) tools and equipment.

2.5 Calibration of Tools and Equipment

Suggested Subject Headings

- Inspection, servicing and calibration programme / equipment register
- Establishment of inspection, servicing and calibration time periods and frequencies
- Identification of servicing / calibration due dates.

2.6 Use of Tooling and Equipment by Staff (including alternate tools)

Suggested Subject Headings

- Issue of tools - (record of user and location)
- Determining tool serviceability prior to issue
- Training and control of personnel in the use of tools and equipment -(records of training)
- Personal (own) instrument / tool control
- Loan tool control and audit
- Control of alternate tools.

2.7 Cleanliness Standards of Maintenance Facilities

Suggested Subject Headings

- 'Foreign Object' exclusion programme
- Cleaning programme - individual responsibilities - Timescales
- Waste material disposal.

2.8 Maintenance Instructions and Relationship to Aircraft / Component Manufacturer's Instructions Including Updating and Availability to Staff

Suggested Subject Headings

- Control of information - Technical library (information held, control, issue)
- Technical information amendment procedures - Manuals - Service Information (AD - SB etc.)
- Uncontrolled copies of manuals
- Company Technical Procedures / Instructions
- Awareness of Technical Publications, Instructions and Service Information
- Maintenance documentation - (preparation from approved sources - amendment control)
- CAA acceptance of organisation's transfer of airworthiness data
- Review and identification of amendment status of maintenance instructions
- Distribution of airworthiness data - access by maintenance personnel
- The verification and validation of new procedures where practicable
- Incorporation of best practice and human factors principles
- Control of customer supplied maintenance data.
- Control and use of historical data for Permit aircraft.

2.9 Repair Procedure

Suggested Subject Headings

- Company policy - (internal/external - sources of repair approval)
- Company approval - scope of work - limitations and conditions
- Control system for parts manufacture, processing and inspection.

2.10 Aircraft Maintenance Programme Compliance

Suggested Subject Headings

- Maintenance programme development (if applicable)
- Maintenance programme variations if applicable
- Control of programme and amendments
- Reliability monitoring and reporting
- Corrosion control programme reporting
- Maintenance Programme Inspection Standards.

2.11 Airworthiness Directives Procedure

Suggested Subject Headings

- Airworthiness Directive response procedure - (terminating action / inspection)
- Records of AD compliance and certification
- Repetitive AD requirements - (inspection control).

2.12 Optional Modification Procedure

Suggested Subject Headings

- Continued Airworthiness Information - (assessment procedure and methods of response)
- Modification control - (requirements and approval).

2.13 Maintenance Documentation in use and its Completion

Suggested Subject Headings

- Worksheets for non-routine tasks
- Assembly of work packages for issue to maintenance activity
- Worksheet / work card completion - Maintenance sign-off
- Assembly of completed work package for certification
- Recording of test results and dimensions
- Control and use of customer supplied work card/worksheets.

2.14 Technical Records Control

Suggested Subject Headings

- System for control, storage and retrieval (paper or computer based)
- Control of access to records - (paper and / or computer based records)
- Record-keeping systems - (essential records)
- Turbine engines - module records
- Disposal of records - transfer of aircraft
- Lost or destroyed records (reconstruction and CAA acceptance)
- Provision of records (CRS) to operator
- Retention of records (periods - methods and security).

2.15 Rectification of Defects Arising During Base Maintenance

Suggested Subject Headings

- Recording and sign-off of base maintenance defects
- Carrying forward defects to future maintenance Inputs - (control and accountability)
- Analysis of defects and rectification - human factors - maintenance programme implications - reliability.

2.16 Release to Service Procedure

Suggested Subject Headings

- Company procedures - (C R S statement)
- Issue of CRS after Base Maintenance
- Issue of CRS after Line Maintenance
- Issue of CRS after Defect Rectification - Base - Line. (inc. Mechanic self certifying, if applicable)
- Issue of a CRS with incompleted work
- Issue of a CRS by flight crew
- Issue of a one off certification authorisation CRS
- Issue of a Permit Maintenance Release (PMR)
- Sign off after maintenance task completion
- Issue of UK Approved Certificate
- Certification - identity - qualified staff
- Cross-reference to work packs
- Re-release of components removed serviceable from aircraft.

2.17 Records for an Operator

Suggested Subject Headings

- Contracted record keeping - specific operators
- Arrangements for processing and retention of Operator's maintenance records.

2.18 Reporting of Defects to CAA / Operator / Manufacturer

Suggested Subject Headings

- Methods of Reporting to:
  - CAA
  - Manufacturer
  - Operator
- Persons Responsible for Reporting
- Reports must contain pertinent and evaluation results (where known)
- Defects Reported by Subcontractors and lessees
- Permitted Reporting Periods and Retention of Data
- Reportable Defects Investigation procedure and follow-up system
- Reporting timescale.

2.19 Return of Defective Aircraft Components to Store

Suggested Subject Headings

- Labelling and identification (required information)
- Handling and movement of components
- Storage of defective components
- Components 'on hold' (pending determination of serviceability status).

2.20 Defective Components to Outside Contractors

Suggested Subject Headings

- Dispatch of components for repair / overhaul / calibration
- Control of dispatch, location and return
- Identification of required work
- Return of unserviceable loan parts.

2.21 Control of Computer Maintenance Records System

Suggested Subject Headings

- Information retrieval
- Back-up systems and second site storage
- Security and safeguards to unauthorised access.

2.22 Control of Man Hours Planning Versus Scheduled Maintenance Work

Suggested Subject Headings

- Company Planning v Time available procedure
- Complexity of work
- Organisation of shifts
- Account of human performance limitations.

2.23 Control of Critical Tasks

Suggested Subject Headings

- Duplicate inspection procedures
- Critical task procedures and control
- Critical task list.

2.24 Specific Maintenance Procedures

Suggested Subject Headings

- Engine running
- Aircraft pressure run
- Aircraft towing
- Aircraft taxying
- Handling and control of waste materials
- Flight under the 'A' Conditions - Certification of Fitness for Flight
- Scrapping of parts
- Working away from main base / workshop
- ANO/BCAR privilege procedures
- Etc.

2.25 **Procedures to Detect and Rectify Maintenance Errors**

Suggested Subject Headings

- Aims and objectives of error management system
  - The encouragement of reporting
  - A code of practice
- Description of process that reports occurrences
- Description of process that investigates occurrences
- Description of process that records occurrences
- The analysis of occurrence data
- Management actions in response to occurrence findings
- Feedback to staff
- Sharing information from investigations.

2.26 **Shift/task Handover Procedures**

Suggested Subject Headings

- Aims and objectives of the shift handover
- Training of personnel in shift/task handover processes
- Recording of shift/task handover
- Description of shift handover process
  - Facility status
  - Work status
  - Manning status
  - Outstanding issues
- Other information.

2.27 **Procedures for Notification of Maintenance Data Inaccuracies and Ambiguities to the Type Certificate Holder**

Suggested Subject Headings

- Definitions of maintenance data ambiguities
- Responsible person for coordination of reporting and remedial actions
- Method of internal reporting of maintenance data ambiguities
- Method of external reporting of maintenance data ambiguities to the authors of that data
- Feedback to staff and implementation of TC Holder/Manufacturer corrections.

2.28 **Production Planning Procedures**

Suggested Subject Headings

- Establishment of a clear work order or contract
- Procedures for establishing all necessary resources are available before commencement of work
- Procedures for organising maintenance personnel and providing all necessary support during maintenance
- Consideration of human performance limitations
- Planning of critical tasks.

2.29 **Specialist equipment and systems**

L2 ADDITIONAL LINE MAINTENANCE PROCEDURES

Notes: (not for inclusion in the Exposition)

1. This part need not be included in the Exposition if the organisation's Schedule of Approval does not include the performance of Line Maintenance.

L2.1 Line Maintenance Control of Aircraft Components, Tools, Equipment, Etc.

Suggested Subject Headings

- Component / Material acceptance - (required documentation, condition, 'Quarantine' procedure)
- Components removed serviceable from aircraft
- Procedures for maintaining satisfactory storage conditions - (rotables, perishables, flammable fluids, engines, bulky assemblies, special storage requirements)
- System for control of shelf life and modification standard
- Tagging / Labelling system (serviceable, unserviceable, robbery, scrap etc.)
- Issue of components to the maintenance process
- Free-issue dispensing of standard parts (control, identification, segregation)
- Tools and Test Equipment, servicing and calibration programme / equipment register
- Identification of servicing / calibration due dates.

L2.2 Line Maintenance Procedures Related to Servicing / Fuelling / De-icing Etc.

Suggested Subject Headings

- Maintenance documentation
  - (control and amendment)
- Airworthiness data
  - (control and amendment)
- Fuel supply quality monitoring
  - bulk storage
  - aircraft re-fuelling
- Ground de-icing
  - procedures
  - Monitoring of sub-contractors
- Maintenance carried out in the open
  - (limitations)
- Maintenance of ground support equipment
- Monitoring of sub-contracted ground handling and servicing
- Care and maintenance of ULD and cargo loading systems / retention equipment.

L2.3 **Line Maintenance Control of Defects and Repetitive Defects**

Suggested Subject Headings

- Reportable defects - PIREPS - Engineering entries - Cabin
- Deferred defect classification system
- Rules for deferring (periods - review - permitted personnel - conformity with MEL provisions)
- Certification of defect rectification - Transfer of defects to worksheets / cards
- Awareness of deferred defects carried by aircraft - monitoring of repetitive defects
- Communication with main base.

L2.4 **Line Procedure for Completion of Technical Log**

Suggested Subject Headings

- Explanation of Technical Log system - completion of Sector Record Page - Distribution of copies
- Certification / Sign-off - Maintenance, Pre-flight / Transit, ETOPS - Duplicate Inspections
- Maintenance control systems - Special Inspections, Out-of-Phase maintenance
- Retention of records
- Maintenance Statements.

L2.5 **Line Procedure for Pooled Parts and Loan Parts**

Suggested Subject Headings

- Verification of approved sources of parts - Modification Standard and AD compliance
- Compliance with loan and contract requirements - Tracking and control
- Required documentation
- Processing removed loan parts for return to source - service record
- Robbery system - control procedures, authority.

L2.6 **Line Procedure for Return of Defective Parts Removed from Aircraft**

Suggested Subject Headings

- Required documentation - service record
- Processing advice of removal and dispatch to Technical Records
- Dispatch to rectification.

L2.7 **Line Procedure for Control of Critical Tasks**

Suggested Subject Headings

- Method for capturing errors
- List of tasks or processes concerned
- Identifying tasks or processes
- Identifying critical steps.

3 QUALITY SYSTEM PROCEDURES

3.1 Quality Audit of Organisation Procedures

Suggested Subject Headings

- Company Audit Policy
- Definition of the Quality System
  - independence
  - access to Accountable Manager
  - composition and functions of management quality group
- Annual Review of Maintenance Procedures
- Audit programme
  - Adequate and satisfactory facilities
  - Compliance with approved procedures
  - Dates and timescales
  - Audit of suppliers and Subcontractors

3.2 Quality Audit of Aircraft (and /or Equipment)

Suggested Subject Headings

- System description and initiation of corrective action (see 3.3)
- Audit programme
  - Auditing of standards
  - Product samples (aircraft and / or components)
  - Dates and timescales
- Auditing methods
  - Sampling - 'Trail' audits.

3.3 Quality Audit Remedial Action Procedure

Suggested Subject Headings

- Quality audit report feedback system
- Accountable Manager / senior management review meeting
- Corrective action and timescale
  - remedial action
  - disciplinary action
- Management responsibilities for corrective action and follow-up
- Quality audit and feedback records.

3.4 Certifying Staff and Support Staff Qualification and Training Procedures

Suggested Subject Headings

- Experience, training and competence requirements
- Examination, test and assessment procedures
- Continuation training
  - programme
  - Procedures
- Qualifying subcontractor's personnel (if applicable)
- Authorisations issue and renewal procedures
  - recency
  - licence validity
- One off certification authorisation
- Flight crew limited certification authorisation.

3.5 Certifying Staff and Support Staff Records

Suggested Subject Headings

- List of certifying personnel and support staff
- Minimum information of staff particulars
- Control of certifying staff records
- Access to staff records
  - authorised persons
  - CAA personnel
  - Authorised managers
- Retention of records
- Format of authorisation document and authorisation codes.

3.6 Quality Audit Personnel

Suggested Subject Headings

- Nominated personnel
- Allocated man-hours (if not full-time)
- Independence of quality audit personnel
- Experience, training and competence of quality audit personnel.

3.7 Qualifying Inspectors

Suggested Subject Headings

- Experience (duration and technical), training and competence requirements
- Assessment procedures
  - (Examination - test)
- Continuation training
  - programme
  - procedures.

3.8 Qualifying Mechanics

Suggested Subject Headings

- Experience (duration and technical), training and competence requirements
- Assessment procedures
  - (Examination - test)
- Continuation training
  - programme
  - procedures.

3.9 Aircraft or Component Maintenance Tasks, Exemption Process Control

Suggested Subject Headings

- System for control and processing with CAA.

3.10 Concession Control for Deviation from the Organisation's Procedures

Suggested Subject Headings

- System for approval and control of concession
- Concession criteria
- Request procedure
- Evaluation, response and approval.

3.11 Qualification Procedure for Specialised Activities such as Ndt, Welding etc.

Suggested Subject Headings

- Experience, Training and Examination
- Continuation training and testing
- Auditing of staff and system.

3.12 Control of Manufacturer's and Other Maintenance Working Teams

Suggested Subject Headings

- Source of work
  - authorisation of personnel
- System for control of materials, working instructions and procedures
- Control of documentation - drawings - modification - repair instructions
- Certification - repair - replacement - modification - overhaul - inspection
- Environmental conditions
- Final certification by the company.

3.13 Human Factors Training Procedure

Suggested Subject Headings

- Aims and objectives
- Categories of staff to be trained
- Duration
- Requirements for trainers
- Training methods and syllabus
- Continuation training.

3.14 Competence Assessment of Personnel

Suggested Subject Headings

- Personnel to be assessed in accordance with A8-23 paragraph 6
- Assessment procedures - training, qualifications, supervision, assessors
- Management competence assessment
- Assessment records.

4

Notes: (not for inclusion in the Exposition)

1. This Part need not be included if the organisation is not directly contracted to provide maintenance support for an operator. Such contracts are only likely to be found for the provision of aircraft or engine / APU maintenance.

2. Where this Part is not used it should be shown in the Exposition as Not Applicable

4.1 Contracted Operators

Suggested Subject Headings

- List those operators for whom maintenance is provided, with details of the types of aircraft (and/or engines/APU) and the scope of work undertaken, e.g. Base maintenance, Line maintenance, Defect rectification etc., with any limitations.
- It should be shown whether the contract is solely for carrying out maintenance or also for performing the Operator's maintenance management tasks.

4.2 Operator Procedures and Paperwork

Suggested Subject Headings

- All maintenance management tasks should be described, which are performed by the maintenance organisation on behalf of the operator. Such tasks could include: (for example)
  - Spares management procedures
  - Engine management programme
  - Reliability monitoring
  - Control of maintenance between Base maintenance inputs
  - Sector record page analysis
  - Deferred and repetitive defect control
  - Aircraft external damage control identification and control
  - Reporting of unairworthy conditions (MOR)
  - Etc.

4.3 Operator Records Completion

Suggested Subject Headings

- Completing operator's log books
- Keeping the Operator's technical records
- Retention of records on behalf of operators.

Note: Part 4 of the Exposition links the A8-23 approval to the Commercial Air Transportation operators for whom maintenance is performed and should complement the operator's own Maintenance Management Exposition. The two documents, together, will define how the Operator achieves safe operation by airworthy aircraft.

5 APPENDICES

5.1 Sample of Documents

Suggested contents:

- Request to CAA for approval of an Exposition amendment
- Request to CAA for acceptance of a Capability List change
- Goods Inwards Inspection Record (GRN)
- Serviceable, Unserviceable, Robbery and Scrap labels
- Register (or Card) of Precision Equipment and Tools
- Test Equipment 'Calibration Due' Tag
- Controlled Manual / Service Information Identification
- AD control card / record
- Continued Airworthiness information (SB etc.) assessment record
- Maintenance Task Card (Scheduled Maintenance)
- Maintenance Task Card (Additional Defects)
- Lifed Component / Out-of-Phase Work or Inspection - Record Card
- Base Maintenance CRS
- Line Maintenance CRS and / or Technical Log Sector Record Page
- CAA Approved Certificate
- Unairworthy Conditions Report Form (inc. MOR)
- Quality Audit Report Form
- Quality Audit Remedial Action Report Form
- Personnel Training Record
- Certifying Staff Authorisation Record
- Certifying Staff Personal Authority
- Concession Application and Approval

Note: (not for inclusion in the Exposition)

1. This is a typical List of company Forms and is not intended to be exhaustive or to represent the forms required for any particular organisation. The approved organisation must include those Forms with which it controls and records its maintenance work and procedures. Alternatively, if the Forms are contained with the respective procedure, to which cross-reference is made in the Exposition it may be possible, by agreement with the CAA, to include here only the minimum of Forms needed to define the Approval conditions and limitations

5.2 List of Subcontractors

(if approval for the control of subcontractors is held by the organisation - see Part 1, item 1.7)

5.3 List of Line Maintenance Locations

(if line maintenance locations are established by the organisation - see Part 1, item 1.8)

5.4 List of Contracted Organisations

(NDT contractors etc)

Note: The two lists shown in 5.2, 5.3 and 5.4 may be kept separate from the Exposition and may be kept on a computer data base as long as an adequate cross-reference is included in the Exposition.

6 OPERATOR MAINTENANCE PROCEDURES

This section is reserved for those A8-23 approved maintenance organisations who are also operators of commercial Air transport aircraft.
The details of such procedures can be found in JAR OPS Sub part M or Part M.

Chapter A8-24 Approval of Organisations Responsible for Maintenance and Restoration of Non-EASA Aircraft below 5700 kg, or Single Engined Helicopters, not used for Commercial Air Transport or State Purposes

(See Paragraph 1.1 NOTE 1)

1 Scope

1.1 This Requirement applies only to aircraft and associated parts, that are not required to comply with European Regulation (EC) No. 216/2008, i.e. Non-EASA Aircraft with a Certificate of Airworthiness or a Permit to Fly. It establishes the procedure for the approval of Non-EASA Aircraft maintenance organisations and rules governing the rights and obligations of applicants for, and holders of, such approvals. Any organisation involved with the maintenance of EASA Aircraft and/or associated parts, should refer to the appropriate European regulations; see Note 2 below.

NOTES:

1 The requirements of this Chapter A8-24 are applicable to organisations maintaining and restoring: aircraft below 5700 kg, not classified as complex (Ref A8-25 Supplement 2), and single engine rotorcraft, that are not used for Commercial Air Transport, or for State purposes.

2 "Non-EASA aircraft" are aircraft that are within the categories of Annex II of Regulation (EC) No. 216/2008 (reference Article 4 of the Regulation). Non-EASA aircraft are not subject to regulation of airworthiness by EASA, but are subject to national regulations.

3 Individual aircraft engaged in military, customs, police, search and rescue, firefighting, coastguard or similar activities or 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).

4 BCAR A8-24 has been developed from Part M which is an Annex to European Commission Regulation (EU) No. 1321/2014. As guidance for the reader the Part M paragraphs corresponding to their BCAR A8-24 equivalents have been tabulated in Appendix 3 of this chapter. It should be noted however, that for BCAR A8-24 the applicable legislation is the Air Navigation Order 2016, as amended.

2 Application

2.1 Each application for a maintenance organisation approval shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

3 Issue of Approval

3.1 An organisation shall be entitled to have a maintenance organisation approval issued by the CAA when it has demonstrated compliance with this Requirement.

4 Terms of Approval

4.1 The organisation shall specify the scope of work deemed to constitute the approval in an exposition or a maintenance organisation manual.

5 Extent of Approval

5.1 An approved maintenance organisation may fabricate, in conformity with maintenance data, a restricted range of parts for the use in the course of undergoing work within its own facilities, as identified in the maintenance organisation manual.

6 Maintenance Organisation Manual[1]

6.1 The maintenance organisation shall provide a manual (see Appendix 2 to this Chapter A8-24) containing at least the following information:

a) a statement signed by the accountable manager to confirm that the organisation will continuously work in accordance with this Chapter A8-24 and the manual at all times; and

b) the organisation's scope of work; and

c) the title(s) and name(s) of person(s) referred to in paragraph 8.2; and

d) an organisation chart showing associated chains of responsibility between the person(s) referred to in paragraph 8.2; and

e) a list of certifying staff with their scope of approval; and

f) a list of locations where maintenance is carried out, together with a general description of the facilities; and

g) procedures specifying how the maintenance organisation ensures compliance with this Requirement; and

h) the maintenance organisation manual amendment procedure(s).

i) for aircraft of military design and service, the organisation shall have procedures in place to ensure that arrangements have been made to maintain and safely operate specialist equipment and systems.

6.2 The maintenance organisation manual and its amendments shall be approved by the CAA.

6.3 Notwithstanding paragraph 6.2, minor amendments to the manual may be approved through a procedure (hereinafter called indirect approval).

1 When an organisation holds more than one BCAR approval the MOM can be combined to cover common areas e.g. management structure and quality system. Or, for A8-24 a supplement can be added to an existing EASA Part M Subpart F approved MOM.

7 Facilities

7.1 The organisation shall ensure that:

a) facilities are provided for all planned work, specialised workshops and bays are segregated as appropriate, to ensure protection from contamination and the environment;

b) office accommodation is provided for the management of all planned work including in particular, the completion of maintenance records;

c) secure storage facilities are provided for components, equipment, tools and material. Storage conditions shall ensure segregation of unserviceable components and material from all other components, material, equipment and tools. Storage conditions shall be in accordance with the manufacturers' instructions and access shall be restricted to authorised personnel.

8 Personnel Requirements

8.1 The organisation shall appoint an accountable manager, who has corporate authority for ensuring that all maintenance required by the customer can be financed and carried out to the standard required by this Chapter A8-24.

8.2 A person or group of persons shall be nominated with the responsibility of ensuring that the organisation is always in compliance with this paragraph 8. Such person(s) shall be ultimately responsible to the accountable manager.

8.3 All paragraph 8.2 persons shall be able to show relevant knowledge, background and appropriate experience related to aircraft and/or component maintenance.

8.4 The organisation shall have appropriate staff for the normal expected contracted work. The use of temporarily sub-contracted staff is permitted in the case of higher than normally expected contracted work and only for personnel not issuing a certificate of release to service.

a) The organisation may use volunteers to support the maintenance of an aircraft eligible for a National Permit to Fly.

b) For long term restoration work of Permit to Fly aircraft, an organisation may utilise throughout the project, temporary staff provided they are under the management and control of the nominated engineer.

8.5 The qualification of all personnel involved in maintenance shall be demonstrated and recorded.

8.6 Personnel who carry out specialised tasks such as welding, non-destructive testing/ inspection other than colour contrast shall be qualified in accordance with an officially recognised standard.

8.7 The maintenance organisation shall have sufficient certifying staff to issue certificates of release to service for aircraft and components. They shall comply with the requirements of BCAR Section L or Part 66. Certification Authorisations may be granted by the approved organisation, on a controlled basis, for issuing a Permit Flight Release Certificate or for the issuing of a Permit Maintenance Release.

8.8 By derogation from paragraph 8.7, the organisation may use certifying staff qualified in accordance with the following provisions when providing maintenance support to operators involved in commercial operations, subject to appropriate procedures to be approved as part of the organisation's manual:

a) for a repetitive pre-flight airworthiness directive, which specifically states that the flight crew may carry out such an airworthiness directive, the organisation may issue a limited certifying staff authorisation to the aircraft commander on the basis of the flight crew licence held, provided that the organisation ensures that sufficient practical training has been carried out to ensure that such a person can accomplish the airworthiness directive to the required standard;

b) in the case of aircraft operating away from a supported location, the organisation may issue a limited certifying staff authorisation to the aircraft commander on the basis of the flight crew licence, provided that the organisation ensures that sufficient practical training has been carried out to ensure that such a person can accomplish the task to the required standard.

8.9 By derogation to paragraphs 8.7 and 8.8, the organisation may use certifying staff qualified in accordance with the following provisions:

An organisation maintaining aircraft that qualify for a National Permit to Fly where there are no suitably qualified licensed personnel may use unlicensed personnel when assessed for technical competence and have appropriate, recent practical experience on the applicable airframe/engine type and agreed by the CAA.

9 Certifying Staff

9.1 In addition to paragraph 8.7, certifying staff can only exercise their privileges, if the organisation has ensured:

a) that certifying staff can demonstrate that they are in compliance with this Requirement; and

b) in the preceding two-year period they have, either had six months of maintenance experience in accordance with the privileges granted by the aircraft maintenance licence or, met the provision for the issue of the appropriate privileges; and

c) are able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written; and

d) that certifying staff have an adequate understanding of the relevant aircraft and/or aircraft component(s) to be maintained, together with the associated organisation procedures.

9.2 In the following unforeseen cases, where an aircraft is grounded at a location other than the main base where no appropriate certifying staff is available, the maintenance organisation contracted to provide maintenance support may issue a one-off certification authorisation:

a) to one of its employees holding type qualifications on aircraft of similar technology, construction and systems; or

b) to any person with not less than three years maintenance experience, and holding a valid ICAO aircraft maintenance licence rated for the aircraft type requiring certification, provided there is no organisation appropriately approved under this Requirement at that location, and the contracted organisation obtains and holds on file evidence of the experience and the licence of that person.

All such cases must be reported to the CAA within seven days of the issuance of such certification authorisation. The approved maintenance organisation issuing the one-off certification authorisation shall ensure that any such maintenance that could affect flight safety is re-checked.

9.3 The approved maintenance organisation shall record all details concerning certifying staff and maintain a current list of all certifying staff together with their scope of approval, as part of the organisation's manual pursuant to sub-paragraph 6.1 e).

10 Components, Equipment and Tools

10.1 The organisation shall:

a) hold the equipment and tools specified in the maintenance data described in paragraph 11, or verified equivalents as listed in the maintenance organisation manual, as necessary for day-to-day maintenance within the scope of the approval; and

b) demonstrate that it has access to all other equipment and tools used only on an occasional basis.

10.2 Tools and equipment shall be controlled and calibrated to an officially recognised standard. Records of such calibrations and the standard used shall be kept by the organisation.

10.3 The organisation shall inspect, classify and appropriately segregate all incoming components.

10.4 Spares Procurement for Aircraft of Military origin

a) Spare parts and components for aircraft of military origin must be obtained from original sources or known and reputable suppliers or manufacturers as determined to be suitable.

b) Where items are obtained from military, or other related sources, the items must be inspected and evaluated for physical condition, life details, completeness of records, modification status and compatibility with the aircraft serial number. Acceptability of each item should be assessed and recorded by an authorised certifying person prior to fitment. The procedure for this shall be stated in the exposition.

c) The assessment of the condition of a component must consider the need to carry out an internal examination to determine the effects of age and corrosion. A partial or full strip investigation is required, if the component's condition cannot be adequately determined by other means.

d) Structural components, must be inspected for condition, damage and age related deterioration, for example the use of NDT techniques must be employed when required. Wherever possible the manufacturer's advice must be sought.

e) For engines, propellers, gearboxes and any other significant components, their history and serviceability must be adequately established by the organisation prior to installation. If the component status cannot be confirmed, it must be dismantled, inspected and if necessary overhauled in order to positively establish the serviceability of the component. With respect to all life-limited parts, where it cannot be established that the records are accurate and complete, such parts must be scrapped. Any component disassembly, inspection and overhaul must be carried out by an organisation acceptable to the CAA.

f) Standard aircraft hardware such as fasteners must originate from recognised aviation sources and must conform to the specified part number. Where specifications differ from items in civil use, a formal statement of conformity for equivalence must be provided by a suitably approved organisation.

g) Items no longer manufactured or not available from recognised sources must only be accepted if their serviceability and suitability can be determined by inspection or overhaul. The use of alternative parts is only permitted with the agreement of the manufacturer or when supported by a competent design authority.

h) The organisation must have a procedure detailing the processes for the receipt and acceptance of components.

11 Maintenance Data

11.1 The organisation shall have access to and use only applicable current maintenance data in the performance of maintenance, including modifications and repairs. In the case of customer provided maintenance data, it is only necessary to have such data when the work is in progress.

11.2 For the purposes of this Requirement, applicable maintenance data is:

a) any applicable requirement, procedure, standard or information issued by the CAA;

b) any applicable Airworthiness Directive (AD) or Mandatory Permit Directive (MPD);

c) applicable instructions for continuing airworthiness, issued by type certificate holders, supplementary type certificate holders and any other organisation that publishes such data in accordance with Part 21 or Chapter A8-21;

d) any applicable data issued in accordance with A8-23, paragraph 10.4;

e) For aircraft operating on a Permit to Fly applicable maintenance data may be the latest edition of historical data.

11.3 The organisation shall ensure that all applicable maintenance data is current and readily available for use when required. The organisation shall establish a work card or worksheet system to be used, and shall either transcribe accurately the maintenance data onto such work cards or worksheets, or make precise reference to the particular maintenance task or tasks contained in such maintenance data.

12 Maintenance Work Orders

12.1 Before the commencement of maintenance a written work order shall be agreed between the organisation and the organisation requesting maintenance to clearly establish the maintenance to be carried out.

13 Performance of Maintenance

13.1 All maintenance shall be performed by qualified personnel, following the methods, techniques, standards and instructions specified in the maintenance data. Furthermore, an independent inspection shall be carried out after any flight safety sensitive maintenance task, unless otherwise specified by the CAA.

13.2 All maintenance shall be performed using the tools, equipment and material specified in the maintenance data unless otherwise specified by the CAA. Tools and equipment shall be controlled in accordance with the requirements of paragraph 10.2.

13.3 The area in which maintenance is carried out shall be well organised and clean in respect of dirt and contamination.

13.4 All maintenance shall be performed within any environmental limitations specified in the maintenance data.

13.5 In case of inclement weather or lengthy maintenance, proper facilities shall be used.

13.6 After completion of all maintenance a general verification must be carried out to ensure the aircraft or component is clear of all tools, equipment and any other extraneous parts and material, and that all access panels removed have been refitted.

14 Component Maintenance

14.1 The maintenance of components shall be performed by maintenance organisations appropriately approved in accordance with this Requirement, or as agreed in writing by the CAA.

14.2 By derogation from paragraph 14.1, maintenance of a component in accordance with aircraft maintenance data or, if agreed by the CAA, in accordance with component maintenance data, may be performed by an "A rated" organisation approved in accordance with this Requirement, only whilst such components are fitted to the aircraft. Nevertheless, such an organisation may temporarily remove this component for maintenance, in order to improve access to the component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph. Component maintenance performed in accordance with this paragraph is not eligible for the issuance of a UK CAA Approved Certificate and shall be subject to the aircraft release requirements.

14.3 By derogation from paragraph 14.1, maintenance of an engine/Auxiliary Power Unit (APU) component in accordance with engine/APU maintenance data or, if agreed by the CAA, in accordance with component maintenance data, may be performed by a "B rated" organisation approved in accordance with this Requirement only whilst such components are fitted to the engine/APU. Nevertheless, such B rated organisation may temporarily remove this component for maintenance, in order to improve access to the component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph.

15 Aircraft Defects

15.1 Any aircraft defect that hazards flight safety shall be rectified before further flight.

15.2 Only appropriately authorised certifying staff, using approved maintenance data, can decide whether an aircraft defect hazards flight safety and therefore when and which rectification action shall be taken before further flight and which defect rectification can be deferred. However, this does not apply when:

a) the approved Minimum Equipment List (MEL), as mandated by the CAA, is used by the pilot; or

b) aircraft defects are defined as being acceptable by the CAA.

15.3 Any aircraft defect that would not hazard flight safety shall be rectified as soon as practicable, within any limits specified in the maintenance data.

15.4 Any defect not rectified before flight shall be recorded in the aircraft maintenance record system or operator's technical log system as applicable.

16 Aircraft Certificate of Release to Service

16.1 At the completion of all required aircraft maintenance in accordance with this Requirement an aircraft certificate of release to service shall be issued by appropriate certifying staff on behalf of the maintenance organisation.

16.2 For aircraft with a National Permit to Fly a Permit Maintenance release as specified in BCAR Chapter A3-7 shall be issued when it has been verified that all maintenance has been properly carried out in accordance with the procedures specified in paragraph 6, taking into account the availability and use of the maintenance data specified in paragraph 11, and that there are no known non-compliances which hazard flight safety.

16.3 By derogation from paragraph 16.1, in the case of unforeseen situations, when an aircraft is grounded at a location where no appropriately approved maintenance organisation and no appropriate certifying staff are available, the owner may authorise any person, with not less than three years of appropriate maintenance experience and holding the proper qualifications, to maintain according to the standards set out in this Requirement and release the aircraft. The owner shall in that case:

a) obtain and keep in the aircraft records details of all the work carried out and of the qualifications held by that person issuing the certification; and

b) ensure that any such maintenance is rechecked and released by an organisation approved in accordance with this Requirement at the earliest opportunity but within a period not exceeding seven days; and

c) notify the organisation responsible for the continuing airworthiness management of the aircraft when contracted, or the CAA in the absence of such a contract, within seven days of the issuance of such certification authorisation.

16.4 A Certificate of Release to Service shall contain as a minimum:

a) basic details of the maintenance carried out; and

b) the date such maintenance was completed; and

c) the identity of the organisation issuing the release to service, including:

i) the approval reference of the maintenance organisation and the certifying staff issuing the certificate; or

ii) in the case of a certificate of release to service described under paragraph 16.2, the identity and licence number of the certifying staff issuing such a certificate; and

d) the limitations to airworthiness or operations, if any.

16.5 By derogation from paragraph 16.1 and notwithstanding the provisions of paragraph 16.6, when the maintenance prescribed cannot be completed, a certificate of release to service may be issued within the approved aircraft limitations. Such fact together with any applicable limitations of the airworthiness or the operations shall be entered in the aircraft certificate of release to service before its issue as part of the information required in sub-paragraph 16.4 d).

16.6 A Certificate of Release to Service shall not be issued in the case of any known non-compliance that endangers flight safety.

16.7 The Certificate of Release to Service should relate to the task specified in the relevant maintenance data and contain the following statement:

'The work recorded above has been carried out in accordance with the requirements of the Air Navigation Order for the time being in force and in that respect the aircraft/ equipment is considered fit for release to service.'

17 Component Certificate of Release to Service

17.1 At the completion of all required component maintenance, in accordance with this Requirement, a component Certificate of Release to Service, UK CAA Approved Certificate, shall be issued. This document constitutes the component certificate of release to service; except when such maintenance on aircraft components has been performed in accordance with paragraph 14.2, or the components have been fabricated in accordance with paragraph 5.1, in which case the aircraft release procedures in accordance with paragraph 16 are applicable.

17.2 Components that are intended only for installation on aircraft eligible for a Permit to Fly, a UK CAA Approved Certificate for Permit Aircraft contained in Chapter A3-7 can be issued on the completion of any work whilst off aircraft. When an organisation maintains a component for its own use, a UK CAA Approved Certificate may not be necessary depending upon the organisation's internal release procedures, defined in the exposition.

17.3 The component Certificate Release to Service document, UK CAA Approved Certificate, may be generated from a computer database.

18 Maintenance Records

18.1 The approved maintenance organisation shall record all details of work carried out. Records necessary to prove all requirements have been met for issuance of the certificate of release to service including the sub-contractor's release documents shall be retained.

18.2 The approved maintenance organisation shall provide a copy of each certificate of release to service to the aircraft owner, together with a copy of any specific approved repair/modification data used for repairs/modifications carried out.

18.3 The approved maintenance organisation shall retain a copy of all maintenance records and any associated maintenance data for three years from the date the aircraft, or aircraft component to which the work relates, was released from the approved maintenance organisation, and:

a) the records shall be stored in a manner that ensures protection from damage, alteration and theft;

b) all computer hardware used to ensure backup shall be stored in a different location from that containing the working data in an environment that ensures they remain in good condition;

c) where an approved maintenance organisation terminates its operation, all retained maintenance records covering the last three years shall be distributed to the last owner or customer of the respective aircraft or component, or shall be stored as specified by the CAA.

19 Privileges of the Organisation

19.1 The maintenance organisation approved in accordance with this BCAR A Chapter A8-24, may:

a) maintain any aircraft and/or component for which it is approved at the locations specified in the approval certificate and the Maintenance Organisation Manual;

b) arrange for the performance of specialised services under the control of the maintenance organisation at another organisation appropriately qualified, subject to appropriate procedures being established as part of the Maintenance Organisation Manual approved by the CAA directly;

c) maintain any aircraft and/or component for which it is approved at any location subject to the need of such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional maintenance, subject to the conditions specified in the Maintenance Organisation Manual;

d) issue certificates of release to service on completion of maintenance, in accordance with paragraphs 16 and 17.

20 Organisational Review

20.1 To ensure that the approved maintenance organisation continues to meet these requirements, it shall organise, on a regular basis, organisational reviews.

21 Changes to the Approved Maintenance Organisation

21.1 In order to enable the CAA to determine continued compliance with these Requirements, the approved maintenance organisation shall notify it of any proposal to carry out any of the following changes, before such changes take place:

a) the name of the organisation;

b) the location of the organisation;

c) additional locations of the organisation;

d) the accountable manager;

e) any of the persons specified in paragraph 8.2;

f) the facilities, equipment, tools, material, procedures, work scope and certifying staff that could affect the approval.

21.2 In the case of proposed changes in personnel not known to the management beforehand, these changes shall be notified at the earliest opportunity.

22 Continued Validity of Approval

22.1 An approval shall be issued for an unlimited duration. It shall remain valid subject to:

a) the organisation remaining in compliance with this Chapter A8-24, in accordance with the provisions related to the handling of findings as specified under paragraph 23; and

b) the CAA being granted access to the organisation to determine continued compliance with this Chapter A8-24; and

c) the approval not being surrendered or revoked.

22.2 Upon surrender or revocation, the approval certificate shall be returned to the CAA.

23 Findings by the CAA

23.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) a level one finding is any non-compliance with the applicable requirements, which lowers the safety standard and hazards flight safety;

b) a level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

23.2 After receipt of notification of findings:

a) the holder of the approval shall define the corrective action plan and demonstrate corrective action to the satisfaction of the CAA, and within a period agreed with the CAA;

b) for level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) for level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than 3 months. In certain circumstances, the CAA may extend the 3 month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan;

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

23.3 In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

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Supplement 1 to A8-24

1 United Kingdom Civil Aviation Authority	**UK CAA APPROVED CERTIFICATE**				*3* Form Tracking No.
4 Approved Organisation Name and Address					*5* Work Order / Contract / Invoice
6 Item	*7* Description	*8* Part No.	*9* Qty	*10* Serial No.	*11* Status/Work
12 Remarks					
13a Certifies that the items identified above were manufactured in conformity to: ☐ approved design data and are in a condition for safe operation ☐ non-approved design data specified in block 12			*14a* Certifies that the work specified, except as otherwise specified in block 12, was carried out in accordance with the Air Navigation Order for the time being in force and in respect to that work the aircraft/aircraft component is considered ready for release to service		
13b Authorised Signature	*13c* Approval No.		*14b* Authorised Signature	*14c* Approval No.	
13d Name	*13e* Date (dd/mmm/yyyy)		*14d* Name	*14e* Date (dd/mmm/yyyy)	

Issue2

USER/INSTALLER RESPONSIBILITIES

.

NOTES:

1 This certificate does not automatically constitute authority to install the item(s).

2 Where the user/installer performs work in accordance with the regulations of another airworthiness authority, it is essential that the user/installer ensure that his/her airworthiness authority accepts items from the UK CAA.

3 Statements 13a and 14a do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer, before the aircraft may be flown.

APPROVED CERTIFICATE

COMPLETION INSTRUCTIONS

These instructions relate only to the use of the UK CAA Approved Certificate for maintenance purposes. Attention is drawn to (Supplement 1 to A8-21), which cover the use of the UK CAA Approved Certificate for production purposes.

1 PURPOSE AND SCOPE

A primary purpose of the Certificate is to declare the airworthiness of maintenance work undertaken on products, parts and appliances (hereafter referred to as 'item(s)').

The Certificate can serve as an official certificate for the delivery of items to users. The Certificate is not, however, a delivery or shipping note.

It may only be issued by organisations certificated by the CAA, within the scope of such an approval. Aircraft are not to be released using the Certificate. The Certificate is NOT to be used for the certification of maintenance work on Products, Parts or Appliances for aircraft that are the responsibility of the European Aviation Safety Agency (EASA).

The Certificate does not constitute approval to install the item on a particular aircraft, engine, or propeller but helps the end user determine its airworthiness approval status.

A mixture of production released and maintenance released items is not permitted on the same Certificate.

2 GENERAL FORMAT

The Certificate must comply with the format attached including block numbers and the location of each Block. The size of each Block may, however, be varied to suit the individual application, but not to the extent that would make the Certificate unrecognisable. The overall size of the Certificate may be significantly increased or decreased so long as the Certificate remains recognisable and legible. The Certificate must be in 'Portrait' rather than 'Landscape' to help differentiate it from the EASA Form 1. If in doubt consult the CAA.

Please note that the user responsibility statements can be placed on either the reverse or front of this Certificate.

All printing must be clear and legible to permit easy reading and be in English.

The Certificate may either be pre-printed or computer generated but in either case the printing of lines and characters must be clear and legible. Pre-printed wording is permitted in accordance with the attached model but no other certification statements are permitted.

The details to be entered on the Certificate may be either machine/computer printed or hand-written using block letters, permit easy reading and be in English. Abbreviations must be restricted to a minimum.

The space remaining on the reverse side of the Certificate may be used by the originator for any additional information but must not include any certification statement.

The original Certificate must accompany the items and correlation must be established between the Certificate and the item(s). A copy of the Certificate must be retained by the organisation that manufactured the item. Where the Certificate format and the data

is entirely computer generated, subject to acceptance by the CAA, it is permissible to retain the Certificate format and data on a secure database.

There is no restriction in the number of copies of the Certificate sent to the customer or retained by the originator.

The Certificate that accompanies the item may be attached to the item by being placed in an envelope for durability.

Correlation must be established between the Certificate and the item(s).

3 COMPLETION OF THE CERTIFICATE BY THE ORIGINATOR

Except as otherwise stated, there must be an entry in all Blocks to make the document a valid certificate.

Block 1 Pre-printed 'United Kingdom Civil Aviation Authority'.

Block 2 Pre-printed 'UK CAA Approved Certificate'.

Block 3 A unique number must be pre-printed in this Block for Certificate control and traceability purposes except that in the case of a computer generated document, the unique number need not be pre-printed where the computer is programmed to produce the number.

Block 4 Enter the full name and address of the approved organisation releasing the work covered by this Certificate. Logos, etc., are permitted if the logo can be contained within the block.

Block 5 To help facilitate customer traceability of the item(s), enter the work order number, contract number, invoice number, or similar reference. The use of the Block for such traceability is mandatory in the absence of item Serial Numbers or batch numbers in Block 10. When not used, state N/A.

Block 6 The Block is provided for the convenience of the organisation issuing the Certificate to permit easy cross-reference to the 'Remarks' Block 12 by the use of line item numbers. Block 6 must be completed where there is more than one line item.

Where a number of items are to be released on the Certificate, it is permissible to use a separate listing cross-referring Certificate and list to each other.

Block 7 Enter the name or description of the item. Preference should be given to the term used in the instructions for continued airworthiness or maintenance data (e.g. Illustrated Parts Catalogue, Aircraft Maintenance Manual, Service Bulletin).

Block 8 Enter the part number as it appears on the item or tag/packaging. In case of an engine or propeller the type designation may be used.

Block 9 State the quantity of items being released.

Block 10 State the items Serial Number or Batch Number if applicable. If neither is applicable, state 'N/A'.

Block 11 The following table describes the permissible entries for block 11. Enter only one of these terms - where more than one may be applicable, use the one that most accurately describes the majority of the work performed and/or the status of the article.

Entry	Meaning
Overhauled	A process that ensures the item is in complete conformity with the applicable service tolerances specified in the type certificate (or equivalent) holder's, or equipment manufacturer's instructions for continued airworthiness, or in the data that is approved or accepted by the CAA. The item will be at least disassembled, cleaned, inspected, repaired as necessary, reassembled and tested in accordance with the above specified data.
Repaired	Rectification of defect(s) using an applicable standard.*
Inspected/Tested	Examination, measurement, etc. in accordance with an applicable standard* (e.g. visual inspection, functional testing, bench testing and operational checks). The results shall be described or referenced in block 11.
Modified	Alteration of an item to conform to an applicable standard.*

* Applicable standard means a manufacturing/design/maintenance/quality norm, method, technique or practice approved by or acceptable to the CAA. The Applicable Standard shall be described in block 12.

Block 12 State any information in this block, either directly or by reference to supporting documentation, necessary for the user or installer to determine the airworthiness of the item in relation to the work being certified. If necessary a separate sheet may be used and referenced from the main Certificate. Each statement must be clearly identified as to which item in block 6 it relates. If there is no statement, state 'None'.

Examples of statements in block 12 are:

- Maintenance documentation used, including the revision status.
- Compliance with airworthiness directives or service bulletins.
- Repairs carried out.
- Modifications carried out.
- Replacement parts installed.
- Life limited parts status.
- Deviations from the customer work order.
- Release statements to satisfy a foreign CAA maintenance requirement.

Block 13a-e Requirements for blocks 13a to 13e:

Not used for maintenance release. Shade, darken, or otherwise mark to preclude inadvertent or unauthorised use.

Block 14a Pre-printed certification statement.

The certification statement 'except as otherwise specified in block 12' is intended to address the following situations;

a) The case where the maintenance could not be completed.

b) The case where the maintenance deviated from the standard required by A8-23.

c) The case where the maintenance was carried out in accordance with a non A8-23 requirement.

Whichever case or combination of cases, this shall be specified in block 12.

Block 14b The hand-written normal signature of a person who has written authority from the approved maintenance organisation to make Certifications in respect of maintenance. Use of a stamp instead of a signature is not permitted, but the authorised person may add a stamp impression to his or her signature to aid recognition. Subject to the agreement of the CAA in any particular case, computer-generated signatures are permitted if it can be demonstrated that an equivalent level of control, traceability and accountability exists.

Block 14c State the full authorisation reference given by the CAA to the maintenance organisation releasing the items.

Block 14d The name of the person signing Block 14b, printed, typed, or written in a legible form.

Block 14e The date on which Block 14b is signed, in the format day/month/year. The month must be stated in letters (sufficient letters must be used so there can be no ambiguity as to the month intended).

Supplement 2 to A8-24 Class and Ratings System for the Approval of A8-24 Maintenance Organisations

1 Except as stated otherwise for the smallest organisations in paragraph 12 of this Supplement 2 to A8-24, the table referred to in point 13 provides the standard system for the approval of maintenance organisations under A8-23. An organisation must be granted an approval ranging from a single class and rating with limitations to all classes and ratings with limitations.

2 In addition to the table referred to in point 13, the approved maintenance organisation is required to indicate its scope of work in its maintenance organisation manual/ exposition. See also paragraph 11 of this Supplement.

3 Within the approval class(es) and rating(s) granted by the CAA, the scope of work specified in the maintenance organisation manual defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organisation's scope of work are matching.

4 A 'category A' class rating means that the approved maintenance organisation may carry out maintenance on the aircraft and any component (including engines and/or Auxiliary Power Units (APUs)), in accordance with aircraft maintenance data or, if agreed by the CAA, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such an 'A rated' approved maintenance organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph. This will be subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval.

5 A 'category B' class rating means that the approved maintenance organisation may carry out maintenance on the uninstalled engine and/or APU and engine and/or APU components, in accordance with engine and/or APU maintenance data or, if agreed by the CAA, in accordance with component maintenance data, only whilst such components are fitted to the engine and/or APU. Nevertheless, such a 'B rated' approved maintenance organisation may temporarily remove a component for maintenance, in order to improve access to that component, except when such removal generates the need for additional maintenance not eligible for the provisions of this paragraph. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organisation approved with a 'category B' class rating may also carry out maintenance on an installed engine during 'base' and 'line' maintenance subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the CAA.

6 A 'category C' class rating means that the approved maintenance organisation may carry out maintenance on uninstalled components (excluding engines and APUs) intended for fitment to the aircraft or engine/APU. The limitation section will specify the scope of such maintenance thereby indicating the extent of approval. A maintenance organisation approved with a category C class rating may also carry out maintenance on an installed component during base and line maintenance, or at an engine/APU maintenance facility, subject to a control procedure in the maintenance organisation exposition to be approved by the CAA. The maintenance organisation exposition scope of work shall reflect such activity where permitted by the CAA.

7 A 'category D' class rating is a self contained class rating not necessarily related to a specific aircraft, engine or other component. The D1 - Non Destructive Testing (NDT) rating is only necessary for an approved maintenance organisation that carries out NDT as a particular task for another organisation. A maintenance organisation, approved with a class rating in A or B or C category, may carry out NDT on products it is maintaining subject to the maintenance organisation exposition containing NDT procedures, without the need for a D1 class rating.

8 In the case of maintenance organisations, approved in accordance with A8-23 'category A' class ratings, are subdivided into 'Base' or 'Line' maintenance. Such an organisation may be approved for either 'Base' or 'Line' maintenance or both. It should be noted that a 'Line' facility located at a main base facility requires a 'Line' maintenance approval.

9 The limitation section is intended to give the CAA the flexibility to customise the approval to any particular organisation. Ratings shall be mentioned on the approval only when appropriately limited. The table referred to in point 13 specifies the types of limitation possible. Whilst maintenance is listed last in each class rating it is acceptable to stress the maintenance task rather than the aircraft or engine type or manufacturer, if this is more appropriate to the organisation (an example could be avionic systems installations and related maintenance). Such mention in the limitation section indicates that the maintenance organisation is approved to carry out maintenance up to and including this particular type/task.

10 When reference is made to 'series', 'type' and 'group' in the limitation section of class A and B:

a) 'series' means a specific type series such as: Douglas DC-3, or Douglas DC-6 series, or Auster series.

b) 'type' means a specific type or model such as Douglas DC-3C-R-1830-90C type;

any number of series or types may be quoted;

c) 'group' means for example, Aeronca single piston engine aircraft or Walter Minor 6-III Series piston engines.

11 When a lengthy capability list is used which could be subject to frequent amendment, then such amendment may be in accordance with the indirect approval procedure.

12 A maintenance organisation that employs only one person to both plan and carry out all maintenance can only hold a limited scope of approval rating. The maximum permissible limits are:

CLASS	RATING	LIMITATION
AIRCRAFT	A2 AEROPLANES 5700 KG AND BELOW	PISTON ENGINE 5700 KG AND BELOW
AIRCRAFT	A3 HELICOPTERS	SINGLE PISTON ENGINE 3175 KG AND BELOW
AIRCRAFT	A4 AIRCRAFT OTHER THAN A1, A2 AND A3	NO LIMITATION
ENGINES	B2 PISTON	LESS THAN 450 HP
COMPONENTS RATING OTHER THAN COMPLETE ENGINES OR APU'S.	C1 TO C22	AS PER CAPABILITY LIST
SPECIALISED	D1 NDT	NDT METHOD(S) TO BE SPECIFIED.

It should be noted that such an organisation may be further limited by the CAA in the scope of approval dependent upon the capability of the particular organisation.

CLASS	RATING	LIMITATION	BASE	LINE
AIRCRAFT	A1 Aeroplanes above 5700 kg	*Rating reserved to Maintenance Organisations approved in accordance with A8-23. Shall state aeroplane manufacturer or group or series or type and/or the maintenance tasks Example: Douglas DC-3 Series*	YES/ NO	YES/ NO
	A2 Aeroplanes 5700 kg and below	*Shall state aeroplane manufacturer or group or series or type and/or the maintenance tasks Example: Auster Series*	YES/ NO	YES/ NO
	A3 Helicopters	*Shall state helicopter manufacturer or group or series or type and/or the maintenance task(s) Example: Bell 47 Series*	YES/ NO	YES/ NO
	A4 Aircraft other than A1, A2 and A3	*Shall state aircraft series or type and/or the maintenance task(s).*	YES/ NO	YES/ NO
ENGINES	B1 Turbine	*Shall state engine series or type and/or the maintenance task(s) Example: Arriel Series II Series*		
	B2 Piston	*Shall state engine manufacturer or group or series or type and/or the maintenance task(s)*		
	B3 APU	*Shall state engine manufacturer or series or type and/or the maintenance task(s)*		

CLASS	RATING	LIMITATION	BASE	LINE
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	*Shall state aircraft type or aircraft manufacturer or component manufacturer or the particular component and/or cross-refer to a capability list in the exposition and/or the maintenance task(s). Example: PT6A Fuel Control*		
	C2 Auto Flight			
	C3 Comms and Nav			
	C4 Doors - Hatches			
	C5 Electrical Power & Lights			
	C6 Equipment			
	C7 Engine - APU			
	C8 Flight Controls			
	C9 Fuel			
	C10 Helicopter - Rotors			
	C11 Helicopter - Trans			
	C12 Hydraulic Power			
	C13 Indicating -recording system			
	C14 Landing Gear			
	C15 Oxygen			
	C16 Propellers			
	C17 Pneumatic & Vacuum			
	C18 Protection ice/ rain/fire			
	C19 Windows			
	C20 Structural			
	C21 Water ballast			
	C22 Propulsion Augmentation			
SPECIALISED SERVICES	D1 Non Destructive Testing	Shall state particular NDT method(s)		

Appendix 1 to A8-24 Acceptable Means of Compliance to A8-24–Applicability of EASA AMC to BCAR A Maintenance Requirements

1 General

1.1 In general, the EASA AMC should be taken to be applicable as guidance material for those BCAR A Maintenance Requirements contained within chapter A8-24, which state a Part M requirements paragraph number (in italic text), in their heading.

1.2 Where the EASA AMC text mentions Agency or Competent Authority, this should be read as the CAA.

1.3 Where EASA AMC paragraphs refer to 'Member State', those paragraphs may not be applicable to BCAR approvals. If there is any doubt, the CAA should be consulted.

1.4 Where the EASA AMC text refers to Part M, reference should be made to the appropriate chapter of BCAR A. See table 1.

AMC to A8-24, 8.4b)

The nominated engineer is an individual with the appropriate experience for the aircraft being maintained or restored by the organisation. It is not necessary for the individual to hold a licence, but he must be able to demonstrate his experience and training. He will have overall responsibilities for the management and control of the staff.

Table 1 Applicability of individual Part M, AMC to BCAR A Maintenance Requirements Chapter A8-24

Where no applicability is stated, it should be assumed that the relevant Part M, AMC applies to those BCAR A paragraphs which state a Part M requirements paragraph number (in italic text), in their heading.

Part M reference number	**BCAR Section A reference number**	**Subject**	**Applicable/Not applicable to BCAR A**
AMC M.A. 402(a)	A8-24, paragraph 13	Performance of maintenance.	Paragraph 2 does not apply, see instead Air Navigation (General) Regulations, paragraph 12. The Air Navigation Order does not require a CRS to be issued under certain circumstances, see ANO Article 29.
AMC M.A.501(a)	M.A.501 Not used in BCAR		Not applicable.
AMC M.A.601	A8-24, paragraph 1		Not applicable.
AMC M.A.604 2)	A8-24 paragraph 6	Maintenance Organisation manual	For those organisations which already hold Part M approval to work on EASA aircraft, the BCAR approval would be an incremental approval to the existing Part M approval. The manual required for the BCAR approval, would likewise be a supplement of an additional chapter or two to the existing Part M manual. Any approval charges would also be incremental. Surveillance audits would approve both BCAR (in this example A8-24) and Part M approvals.
AMC M.A.606(c)	A8-24, paragraph 8	Personnel requirements.	Where text refers to Part M, reference should be made to the appropriate BCAR.
AMC M.A. 613(a)	A8-24, paragraph 17	Component Certificate of Release to Service.	Use CAA Form 1, not EASA Form 1. See BCAR Chapter A8-24, Supplement 1.

Appendix 2 to A8-24 Example A8-24 Organisation Manual

SPECIMEN MANUAL

This specimen Manual has been prepared for the guidance of those aircraft and component maintenance organisations wishing to obtain A8-24 approval. The contents relate directly to the requirements of A8-24.

Parts 1-2 General/Description; these sections should be fully completed.

The 'Notes' explain the recommended text and suggest ways in which the organisation might expand it to suit its own purposes. No single specimen Manual can meet the needs of all types and sizes of organisation or reflect the different organisational structures and corporate policies, which emerge as companies develop. The guidance given has been expanded by including a suitable text or procedure wherever possible. It must be appreciated that this is not the only method of compliance and may be unsuitable for some organisations. Its purpose is only to illustrate the nature of the information required.

Parts 3-4 Description/Procedures; the organisation's procedures may be included in these sections, or a summary should be provided of the relevant procedures, together with a cross reference to the actual procedures or work instructions.

Part 5 Appendices; sample documents should, as a minimum have an actual facsimile of the organisation's release documentation, i.e. CAA Approved Certificate, and a copy of the Approval Certificates provided by the CAA when granting approval. A list of parts or products may be included as a capability list but this is optional, unless specifically requested by the CAA.

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ANYBODY'S A8-24 EXPOSITION

Organisation address

Telephone number

Fax number

Email address

Approval Number…(once notified by CAA)

Document Reference:

Issue Number:

Reference : Specimen / Expo / 2 Issue: 1 Date : January 2008	Copy Number : Holder:

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INTRODUCTION

This document, the Organisation Exposition, satisfies the requirements of the UK Civil Aviation Authority (CAA), British Civil Airworthiness Requirements (BCAR), A8–24.

Notes: (Not for inclusion in the exposition)

1. *Applicable to Organisations wishing to be approved to maintain aircraft 5700kgs and below not classified as complex (Ref A8-25 Supplement 2)or single engined helicopters, not used for Commercial Air Transport or State Purposes in accordance with A8-24.*
2. *All material contained within this document is for guidance purposes only. It is descriptive not prescriptive in content. Organisations may choose which parts of the text they wish to adopt/adapt expanding the content where necessary to reflect their processes. All references in italics are for editorial guidance or where general guidance is given to aid an organisation in drafting a MOM that would accurately reflect their situation.*

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Engineering Director	2
Aircraft Maintenance Manager	3
Workshop Maintenance Manager	4
Quality Manager	5
Civil Aviation Authority (Regional Office)	6
.....	7
.....	8

Amendment Control Page

All Holders are responsible for ensuring that amendments to their publication are carried out immediately and in accordance with instructions contained in amendment transmittal letters.

Date and sign this sheet to reflect amendment insertion as appropriate and return amendment confirmation slip to the Quality Department.

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2			16		
3			17		
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ACCOUNTABLE MANAGER'S STATEMENT

A8-24 MAINTENANCE ORGANISATION MANUAL

This Manual and any associated referenced manuals defines the organisation and procedures upon which the A8-24 approval of (enter organisation name) is based.

These procedures are approved by the undersigned and must be complied with, as applicable, when any maintenance is being carried out under the terms of the A8-24 approval.

The manual will be reviewed on and amended when the need arises, but no later than once per year

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that the CAA will approve this organisation, whilst the CAA is satisfied that the procedures are being followed and work standards maintained. It is further understood that the CAA reserves the right to suspend, limit or revoke the A8-24 approval of the organisation if CAA has evidence that procedures are not followed or standards not upheld

Signed .....

Date .....

Accountable Manager and..... *(quote position, e.g. Chief Executive)*

For and on behalf of .....*(quote organisation's name)*

NOTES:- (not for inclusion in the Exposition)

1. *Any modification to the statement must not alter its intent.*
2. *Whenever the Accountable Manager is changed it is important that the new Accountable Manager signs the statement at the earliest opportunity as part of his/her acceptance by the CAA.*

1 DESCRIPTION

1.1 Organisations Scope of Work

Suggested Subject Headings:

- Aircraft Maintenance/Aircraft types/Helicopter Types/Engines fitted
- Type of check, e.g.: 100 hour or annual
- Complex Tasks
- Embodiment of modifications / changes
- Engine Maintenance/Types
- Component Maintenance
- Specialised Services, such as NDT
- Issue of Flight Release Certificates
- Additional Significant Activities
- Fabrication of parts
- Off site maintenance.

NOTES: (not for inclusion in the Exposition)

1. This paragraph must show the range of work carried out at each approved site within the scope of each approval rating shown in the 'Schedule of Approval'

2. The degree of definition required is set somewhere between the very broad definition given in the Schedule of Approval and the fine detail, which one would expect to see in a 'Capability List'.

For example:

Schedule of Approval	*-- Rating 'XX' -- Electrical Power.*
Scope of Work	*-- Engine Driven Generators – not exceeding. 9kw dc.*
Capability List	*-- Lucas Aerospace -- Part No. .....*
Schedule of Approval	*-- XX Auster piston engine*
Scope of Work	*-- Up to and including 150 hour checks and limited structural repairs*
Schedule of Approval	*-- XX De Haviland engines*
Scope of Work	*-- gipsy major series overhaul*

1.2 General Presentation of the Organisation

Suggested Subject Headings:

- Structure of company
- Legal name / entity
- Brief description of company activities
- If company is 'trading as' A.N other company.

- Under this A8-24 approval the company is approved to:

a) Maintain any aircraft and/or component for which it is approved at the locations specified in the approval certificate and this manual; and

b) Maintain any aircraft or any component for which it is approved at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional maintenance subject to any conditions detailed in this manual; and

c) Arrange for the performance of specialised services under the control of the maintenance organisation at another organisation appropriately qualified, subject to appropriate procedures being established as part of this approved manual; and

d) Issue Certificates of Release to Service on completion of maintenance.

1.3 Management Personnel

Suggested Subject Headings:

- Accountable Manager .....(Nominated Position).....
- Chief Engineer .....(Nominated Position).....
- Quality Monitor.....
- Workshops Manager / Supervisor .....
- SeniorManagers .....

A CAA biographical details form will be submitted to the CAA for the above management positions, excluding the Accountabe Manager.

Any changes to the personnel named above will be notified to the CAA.

NOTES: (not for inclusion in the Exposition)

1. This list comprises the minimum Senior Personnel in a medium to large organisation. However the Accountable Manager does not require a form unless they also perform the function of another nominated post.

2. Other posts may be added if desired but it should be clearly shown whether or not they are considered as 'nominated management' for form submission purposes. This, in effect, is the 'group of persons' whose responsibilities include ensuring that the A8-24 approved organisation is in compliance with A8-24 requirements. These persons are ultimately directly responsible to the Accountable Manager for this function.

3. The actual job titles of the nominated managers may be used rather than 'Quality Monitor' etc. but they should correspond to the titles used in section, 'Duties and Responsibilities of Management Personnel'. It should also be clearly indicated who is the Accountable Manager.

4. It is recommended that this list is included in the Exposition on a separate page so that it can be easily amended when changes occur.

1.3.1 Duties and Responsibilities of Management Personnel

Notes: (not for inclusion in the Exposition)

1. The examples on the following pages are the usual core responsibilities of the managers nominated. Many other tasks need to be considered, as listed below, but which manager is responsible for each of these is dependent on the organisation. This list is not exhaustive and is intended as a guide only.

2. Examples of nominated managers' responsibilities:

- Ensuring that the certifying staff approval/authorisation system is satisfactorily maintained at all times;
- Ensuring that all staff are provided with sufficient technical training;
- Ensuring the provision and monitoring of initial and continuation training for all staff that carry out and/or certify airworthiness related tasks;
- Ensuring that legible and durable records are kept for all work undertaken, for the designated period;
- Ensuring that any tools and equipment used are calibrated to national standards and appropriately maintained;
- Ensuring that all technical data required for reference by staff is controlled and available;
- Ensuring that the movement and storage of all parts comply with good practice and customer requirements;
- Providing a process to ensure correct analysis of Airworthiness Directives, other safety information and manufacturers' service bulletins;
- The organisation should decide who will be responsible for liaising with the CAA and show this in his/her terms of reference. If more than one person is nominated it must be clearly shown what each person is responsible for with, as a general rule, no overlapping of responsibility. The CAA requires the nominated managers to be identified and their credentials submitted to the CAA in order that they may be seen to be appropriate in terms of relevant knowledge and satisfactory experience related to the nature of the activities as performed by the A8-24 organisation.

1.3.1.1 Accountable Manager

- The Accountable Manager is responsible for ensuring that maintenance carried out by the approved organisation meets the standards required by A8-24.
- He/she is responsible for ensuring that the necessary finance, manpower resources and facilities are available to enable the company to perform the maintenance to which it is committed for contracted operators, and any additional work which may be undertaken.
- He/she is responsible for ensuring that any charges are paid, as prescribed by the CAA in respect of A8-24 approval.
- He/she is responsible for nominating the person for monitoring of the 0rganisation procedures, unless this is carried out by internal organisational review.
- He/she is responsible for ensuring the competence of all personnel is established & appropriate to their responsibilities.

Notes: (not for inclusion in the Exposition)

1. Any additional duties and responsibilities within the organisation may be added provided they do not conflict with those above.

2. Accountable manager means the manager who is responsible, and has corporate authority for ensuring that all work is carried out to the required standard. This function may be carried out by the Chief Executive or by another person in the organisation, nominated by the Chief Executive to fulfil the function provided his or her position and authority in the organisation permits to discharge the associated responsibilities.

3. The manager is responsible for ensuring that all necessary resources are available and properly used in order to carry out work under the approval in accordance with A8-24.

4. The manager needs to have sufficient knowledge and authority to enable him or her to respond to the CAA regarding major issues of the approval and implement necessary improvements.

5. The manager needs to be able to demonstrate that he or she is fully aware of and supports the quality policy and maintains adequate links with the quality manager, or equivalent.

6. Any additional duties and responsibilities within the organisation may be added provided they do not conflict with those above, which constitute the Accountable Manager's core responsibilities under A8-24.

1.3.1.2 Chief Engineer

1. The Chief Engineer is responsible for ensuring that the organisation has:
   - facilities appropriate to the planned work
   - office accommodation appropriate to the management of the planned work
   - a working environment appropriate to the tasks being undertaken
   - storage facilities for parts, tools, equipment and materials
   - sufficient competent personnel to plan, perform, supervise, inspect and certify the work being performed
   - tools, equipment and materials to perform the planned tasks
   - all necessary maintenance data as required
   - for notifying the Accountable Manager whenever deficiencies emerge which require his attention in respect of finance, resources or the acceptability of maintenance standards
   - has responsibility for submitting M.O.Rs (Mandatory Occurrence Reports) required.
2. The Chief Engineer ensures that maintenance procedures are established and published within the organisation, to achieve good maintenance practices and compliance with the CAA requirements, and for establishing a system for the organisation to ensure that work is accomplished to the highest standards of airworthiness and workmanship.
3. The Chief Engineer is responsible for ensuring that all maintenance is correctly certified and that records of maintenance carried out are retained safely and securely for the statutory period. Unless previously reported by the Owner/ Operator, the Chief Engineer is responsible for reporting to the manufacturer and to the CAA any condition of the aircraft (or a component), which could hazard safety.

Notes: (not for inclusion in the Exposition)

1. Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel.

2. Alternatively some of the above duties may be allocated to other management personnel, e.g. item 3 might be allocated to the Aircraft and /or Workshops Manager.

3. In a very small organisation the / Chief Engineer may adopt all of the above responsibilities.

1.3.1.3 Quality Monitor

1. The task of auditing compliance with A8-24 will be carried out by an independent Quality Monitor.
2. The quality monitor is appointed by, and reports directly to the accountable manager to provide an independent audit of the following functions:
   a) Compliance with A8-24;
   b) Monitoring all supplier and subcontract activities;
   c) Implement and maintain a quality feedback reporting system;
   d) Establish a Quality Monitoring Programme which addresses all of the areas of the organisations activities;
   e) Responsible for issuing certification authorisations to certifying staff.

1.3.1.4 Senior Engineer, (and /or) Licenced Engineer

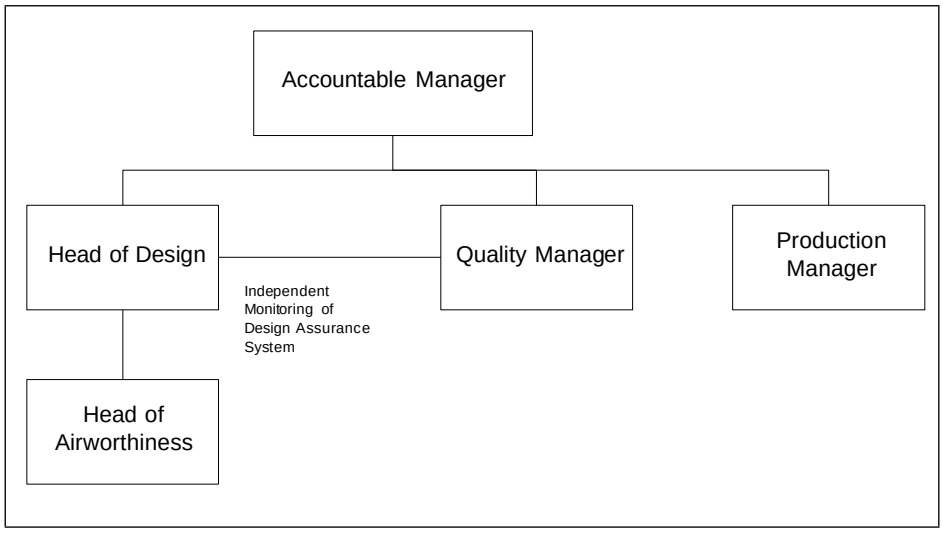
1. The Senior Engineer is responsible for:
   - the satisfactory completion and certification of all work required by contracted operators / customers, in accordance with the work specification;
   - ensuring that the organisation's procedures and standards are complied with when carrying out maintenance;
   - ensuring that the quality of workmanship in the final product is to a standard acceptable to the organisation and the CAA;
   - ensuring the competence of all personnel engaged in maintenance by establishing a programme of training and continuation training using:
     - internal and external sources;
     - on-the-job instruction and evaluation.;
     - Competence evaluation as necessary;
     - keeping a record of all training and experience of maintenance-related personnel;
     - ensuring that all work orders are correctly detailed and that the requirements of the contract / order are fulfilled in respect of release requirements;
     - responding to non-compliance with requirements in the area of activity for which he/she is responsible, which arise from independent organisational reviews.

Notes: (not for inclusion in the Exposition)

1. Any additional duties and responsibilities may be added provided they do not conflict with those of other management personnel.

2. The combined Duties and Responsibilities of managers should illustrate the composition of the organisational review in the particular organisation by making it clear how standards are set and controlled.

1.4 Organisation Chart



1.5 List of Certifying Staff

1.5.1 Aircraft Certifying Staff

- Cat B1 Technicians

  i.e. A JONES Part 66 Licence No, Types and Scope UK.M.F.0001/2 (plus specimen signature)

- Cat B2 Technicians

  i.e.J BLOGGS Part 66 Licence No, Type and Scope UK.M.F.0001/3 (plus specimen signature)

- Component Certifying Staff (CAA Approved Certificate)

  i.e. A N Other (plus specimen signature)

- Specialised tasks i.e. sheet metal / structural repairs

  i.e. O Other (plus specimen signature)

Notes: (not for inclusion in the Exposition)

1. Certifying staff must be identified by licence number and specimen signature within Para 2.5, Then they may be deemed authorised staff. Staff issuing a CAA Approved Certificate may also be included in this section.

2. The following is the minimum information to be recorded in respect of each certifying person:

a) Name
b) Date of Birth
c) Basic Training and standard attained
d) Specific Training and standard attained
e) If appropriate - Continuation Training
f) Experience
g) Scope of the authorisation
h) Date of first issue of the authorisation
i) If appropriate - expiry date of the authorisation
j) Identification Number of the authorisation

3. The record may be kept in any format and must be controlled by an internal procedure, which forms part of the quality system.

4. Persons authorised to access the system should be restricted to a minimum to ensure that records cannot be altered in an unauthorised manner and that confidential records are not accessed by unauthorised persons.

5. The certifying person must be given reasonable access, on request, to his or her own records. A copy of his/hers certification authorisation will be provided to each individual.

6. The CAA has a right of access to the data held in such a system.

7. The organisation must keep the record for at least two years after the certifying person has ceased employment with the organisation or withdrawal of the authorisation; whichever is the sooner.

1.6 Personnel

- Aircraft Maintenance / Component Maintenance
- Engineering
- Administration
- Numbers, qualifications and experience

Contracted Services

- Full-time
- On-demand
- Specialised Activities, such as weighing or NDT
- Avionics, if applicable

Volunteer Staff

Notes: (not for inclusion in the Exposition)

1. State here the approximate staff numbers by discipline, also detail any arrangements for temporary contracting of staff.

2. The resources described must justify the grant of approval and in sufficient detail to explain the support for each function.

3. Numbers of personnel should be given in general terms so that a clear picture is given without the need for amendment as a result of routine staff fluctuations, but able to highlight any significant re-deployment or loss of staff.

4. Where the approval is sub-divided into sites or different major functions the resources should be related to each site and function.

1.7 Facilities

- Maintenance facilities
  - Hangar accommodation
  - Specialised workshops
  - Environmental provisions
  - Office accommodation for:
    - Planning / Library technical reference area, etc.
    - Storage.
- Maintenance facilities as appropriate see above.
- Component maintenance facilities
- Hangar Plan

Appropriate accommodation is available at the locations as stated for the purposes of aircraft maintenance, management, planning, technical records or quality staff, such that they can carry out their designated tasks in a manner that contributes to good standards. An adequate technical library and room for document consultation is also available.

Notes: (not for inclusion in the Exposition)

1. This section should describe the facility, in some detail, at which the organisation intends to carry out maintenance, thereby building up a picture of what the CAA is being asked to approve.

2. The organisation is expected to provide for facilities in terms of size, environmental conditions docking, storage etc. for the work scope.

3. Where the accommodation is not owned by the organisation, as in the case of a hangar where access is rented or shared, proof of tenancy/access may be required.

4. Where the working environment deteriorates to an unacceptable level then the particular tasks must be suspended until satisfactory conditions are re-established.

1.8 Tools Equipment and Materials

Suggested Subject Headings:

- Identification, control, calibration of tools.
- use of alternative tools and equipment.
- Inspection, and calibration of equipment.
- Establishment of inspection, servicing and calibration time periods and frequencies.
- Tool control.
- Personal (own) instrument / tool control.
- Control & storage of tools and components.

1.9 Maintenance Data

Suggested Subject Headings:

- Control of information - Technical library (information held, control, issue)
- Technical information amendment procedures - Manuals - Service Information (AD - SB etc.)
- Awareness of Technical Publications, Instructions and Service Information
- Maintenance documentation - (preparation from approved sources - amendment control) Interface with an A8-25 approved organisation.
- Review and identification of amendment status of maintenance instructions
- Distribution of airworthiness data - access by maintenance personnel
- Control of customer supplied maintenance data
- Instructions for continued airworthiness issued by STC holders, or any organisation publishing data IAW Part 21 or Chapter A8-21.
- Procedure for use of web-based airworthiness information.
- Control and use of historical data for Permit aircraft.

1.10 Interface Procedures with a Continuing Airworthiness Management Organisation

Suggested Subject Headings:

- Procedures with a continuing airworthiness management organisation, (CAMO) where Airworthiness Review is Contracted-out.
- Workpack generation.
- Details of any agreements between the maintenance organisation, and the CAMO.
- Exchange of continued airworthiness data between organisations.
- Review of workpack after completion of maintenance - time periods.
- Feedback to CAMO post completion.

1.11 Interface Procedures with the Aircraft Owners

Suggested Subject Headings:

- Details of any agreements between the maintenance organisation, and the owner.
- Workpack specification / work order.
- Provision of technical / maintenance data.
- Acceptance / release of aircraft, and details of any incomplete maintenance.

2 GENERAL PROCEDURES

Notes: (not for inclusion in the Exposition)

1. A general description of the quality system should be entered here, also referring to any ISO 9000 approval or similar held e.g. 'The company incorporates AS9100 as its basic quality system but understands that it should not compromise in anyway the rules and regulations required by A8-24'. It should be noted that A8-24 does not require any other quality approval to be held and no credit is given for such approvals during the CAA assessment process.

2. The quality system should be documented in such a way that the documentation can easily be made available to personnel who need to use it for performing their normal duties, in particular:

- Procedures, instructions, data etc. are available in a written form;
- Distribution of relevant procedures to offices/persons is made in a controlled manner;
- Procedures which identify persons responsible for the prescribed actions are established;
- The updating process is clearly described.

2.1 Quality Audit of Organisational Procedures

Suggested Subject Headings:

- Company Audit Policy
- Definition of the Quality System; independence; access to Accountable Manager
- Annual Review of Procedures
- Audit programme; Adequate and satisfactory facilities; Compliance with approved procedures; Dates and timescales; Audit of suppliers and Subcontractors; Audit against BCAR A8-24.

2.2 Quality Audit of Product

As well as audits of the quality system, an audit of the actual output of an Organisation should be regularly undertaken; generally referred to as a vertical or product audit. The frequency depends on the throughput of work but a minimum of one product audit a year should be achieved. Where an organisation undertakes both design and production activity, then output from both activities should be sampled.

2.3 Organisational Review

For organisations whose terms of approval limit them to maintain aeroplanes defined in Group, do not need to have an independent quality system and can instead introduce an organisational review.

Suggested Subject Headings:

- Purpose of the organisational reviews
- Company Review Policy
  - Annual Review of Maintenance Procedures
  - Review programme - Adequate and satisfactory facilities
  - Compliance with A8-24 paragraph 19
- Review Check list

- Review of suppliers
- Review report feedback system to Account Manager
- Corrective action and timescale if necessary
  - remedial action
- Management responsibilities for reviews, corrective action and follow-up
- Forms to be used.

Organisational Review Policy, Plan and Audit Procedures

This Part defines the organisational review policy, planning and procedures to meet the requirements of A8-24.

2.3.1 Continuing Airworthiness Organisational Review Policy

The organisational review System and associated organisational review Assurance Programme enables monitoring of the organisation's compliance with A8-24 and any other standards specified by the organisation or the CAA, to ensure airworthy aircraft.

2.3.2 Organisational Review Programme

2.3.2.1 The organisational review Programme will be developed by the Quality Monitor in liaison with the responsible manager. The Quality Monitor will implement an organisational review programme which during a twelve-month period will address all of the aspects of A8-24 which have a bearing on the maintenance arrangements of the organisation.

2.3.2.2 The Organisational Review Programme will also incorporate Sample Surveys of the aircraft maintained by the organisation.

2.3.2.3 The Organisational Review Programme forms Appendix 1 to this Part of the Exposition.

2.3.3 Organisational Review Audit Remedial Action Procedure

The Quality Monitor, in liaison with the responsible manager and Accountable Manager, will conduct an annual review of the corrective actions recommendations issued as a result of reviews carried out during the preceding twelve months to ensure they have been appropriately implemented. If the fault lies within the organisation then immediate clearance action will be undertaken with the agreement of the Accountable Manager.

2.3.4 Monitoring of the Organisations Maintenance Management Activities

The Organisational Review Plan includes an assessment of the Management activities against the procedures defined in the Exposition and in particular the ability of the Quality Monitor's ability to discharge their responsibilities effectively with respect to A8-24.

2.3.5 Organisational Review Evaluation Personnel

2.3.5.1 All organisational review personnel shall be suitably qualified, trained and experienced to meet the requirements of the audit tasks.

2.3.5.2 The Quality Monitor has direct access to the Accountable manager and all parts of the organisations, subcontractors organisations.

2.4 Training

2.4.1 Training Policy

2.4.1.1 Training will be provided to ensure that each member of staff is adequately trained to carry out the functions of, and satisfy the responsibilities associated with the functions of the approvals) held by the organisation. This will include any staff who are required to carry out specialist tasks and need to hold an appropriate qualification.

2.4.1.2 Where changes occur to the organisation, its procedures, types maintained etc. Then suitable continuation training will be provided, where necessary.

2.4.1.3 The organisation will review training needs at intervals not exceeding two years or at more frequent intervals if, and when, significant changes occur to the organisation, procedures and aircraft types managed.

Suggested Subject Headings:

- Experience, training and competence requirements
- Examination, test and assessment procedures
- Recurrent training programme and procedures
- List of qualifications and record for each staff member
- Post-holders knowledge and understanding.

2.5 Contracting

Suggested Subject Headings:

- Contract Personnel Requirements
- Accountability of the contracted staff
- Competence assessment
- Contractual arrangements
- Review of workloads
- Specialised task personnel
- List of contractors.

2.6 One Time Authorisations

Suggested Subject Headings:

- Unforeseen Circumstances
- Qualifications of certifying staff
- Nominated person authorised to issue 'one off' authorisation.
- Register off one time Authorisations
- Reporting to the CAA and time scales.

2.7 Authorisation System: L.a.e, Pilot, and Mechanic *(Aircraft and Components)*

Suggested Subject Headings:

- Basis and scope of authorisation: Engineers Licence
- Nomination in Maintenance Organisation Manual Ref MOM 2.5
- Demonstrate competence and recency
- Validity and Scope of authorisation to align with licence
- Pilot / Owner maintenance authorisation - assessment of qualifications and competence
- Pilot authorisation scope of work

- Organisation shall ensure that all certifying staff are involved in at least six months of actual relevant aircraft or component maintenance in any consecutive two year period
- Component release staff to demonstrate and record competence.

NOTE: Understanding of the application of human factors and human performance issues appropriate to that person's function in the organisation. 'Human factors' means principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance. 'Human performance' means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

3 WORKING PROCEDURES

3.1 Work Order Acceptance

- A contract will be with the owner/operator and will define the work required to be carried out associated with continuing airworthiness and maintenance of their aircraft and to raise all work orders necessary for the aircraft to remain airworthy.
- The supply and use of maintenance data will be defined in the contract. As will any customer provided work pack.
- Before any maintenance is carried out a work pack will be prepared in accordance with paragraph 3.2 below.

3.2 Preparation and Issue of Work Package

Suggested Subject Headings:

- Worksheets for non-routine tasks
- Assembly of work packages for issue to maintenance activity
- Worksheet / work card completion - Maintenance sign-off
- Assembly of completed work package for certification
- Recording of test results and dimensions
- Control and use of externally supplied work card / worksheets
- Contracted record keeping - specific operators / owners
- Specimen signatures for identification purposes
- Provision for inclusion of SB's/AD's.

a) The organisation uses {name of system or details of} system for the planning of the work, to plan the availability of all necessary personnel, tools, equipment, material, maintenance data and facilities in order to ensure the safe completion of the maintenance work.

b) The planning of maintenance tasks, and the organising of shifts, takes into account human performance limitations.

c) When it is required to hand over the continuation or completion of maintenance tasks for reasons of a shift or personnel changeover, all relevant information is adequately communicated and recorded between outgoing and incoming personnel.

3.3 Storage of Parts

3.3.1 Purchase of Parts

- Only rotable spares and items listed in the illustrated parts manual that have a part number either from the TC holder, original equipment manufacturer or an appropriately approved supplier or repair station are purchased. Such suppliers will supply a UK CAA Approved Certificate or equivalent approval document. This will include the purchase and use of standard parts.
- Consumable spares and raw materials are purchased from recognised suppliers to the aviation industry depending on availability and delivery times. Spares will be accepted on the basis of a certificate of conformity. Material will be inspected to ensure that it meets the required specification and has appropriate traceability.
- Spares are ordered by purchase order, and the required release is specified.
- Spares procurement for aircraft of military service.

3.3.2 Acceptance of Parts

- All arriving parts are inspected by an approved person against the purchase order and for condition and damage. Released on a UK CAA Approved Certificate or equivalent.
- Following inspection all items are recorded to provide traceability.
- Parts not immediately required are placed in a secure store.
- Parts removed serviceable from aircraft are inspected and labelled (giving full details of the source) and placed in stores.
- Arriving parts which fail inspection will be placed in a quarantine store until their status can be confirmed.
- All parts will be checked prior to use or installation to ensure that it is eligible to be fitted (e.g. modification or airworthiness directive status).

3.3.3 Storage

Notes: (not for inclusion in the Exposition)

1 *Storage areas should be protected from dust, dirt, or debris, and adequate blanking and packaging of stored items should be practised.*

2 *All parts should be protected from extremes of temperatures and humidity and, where needed, temperature-controlled or fully air-conditioned facilities should be provided.*

3 *Racking and handling equipment should be provided such as to allow storage, handling and movement of parts without damage.*

4 *Lighting should be such as to allow safe and effective access and handling, but should also cater for items which are sensitive to light e.g., rubber items.*

5 *Care should be taken to segregate and shield items which can emit fumes (e.g., wet batteries), substances or radiation (e.g., magnetic items) which are potentially damaging to other stored items.*

6 *Procedures should be in place to maintain and record stored parts identities and batch information.*

7 *Access to storage areas should be restricted to authorised personnel who are fully trained to understand and maintain the storage control arrangements and procedures.*

8. Provisions should be made for segregated storage of non-conforming items pending their disposition. All materials and parts which have been identified at any stage in the manufacturing process as not conforming to the specific working and inspection instructions must be suitably identified by clearly marking or labelling, to indicate their non-conforming status.

- The ordering policy is such that items are purchased on an as required basis, and therefore are not held in long term storage. Where items have a shelf life the manufacturers recommendations will be used, e.g. rubber parts such as O rings, and rotable avionic equipment.
- Items are stored in accordance with manufacturer's instructions.
- Access to storage areas is limited to designated authorised individuals.

3.3.4 Procedure for Returning Unserviceable Parts

- Items which are identified as unserviceable will be placed in an unserviceable store pending a decision on their disposal.
- Unsalvageable components will be destroyed before disposal (Unsalvageable components shall be those that have reached their certified life limit or have a non-repairable defect).

3.4 Execution (Implementation Procedures)

Suggested Subject Headings:

- Persons/functions involved and respective rol
- Documentation Used (Workpackage and Workcards)
- Copy of Forms and Procedures for their use and distribution
- Use of Workcards or manufacturers documentation
- Procedures for accepting components from stores inc. eligibility check
- Procedures for returning unserviceable components to stores

3.5 Release to Service - Certifying Staff

Suggested Subject Headings:

- Authorised certifying staff functions and responsibilities.

A maintenance statement and scheduled maintenance inspection Certificate of Release to Service will be issued before flight at the completion of any maintenance. It will list any out of phase inspections and component changes due before the next SMI. A copy will be placed in the aircraft work pack and a copy given to the owner.

The Certificate of Release to Service will be issued by an appropriately authorised engineer.

The Certificate of Release to Service will be entered into the aircraft, engine and propeller log books following an SMI.

The Certificate of Release to Service will be issued following all aircraft or component maintenance. (Certificate detailed in Supplement 1 to A8-24)

Issue of a Permit Maintenance Release (PMR)

3.6 Release to Service - Supervision

Detailed description of the system used to ensure that all maintenance tasks, applicable to the work requested of the approved maintenance organisation, have been completed as required.

- Supervision content
- Copy of forms and procedure for their use and distribution
- Control of the work package.

3.7 Release to Service - Certificate of Release to Service

Suggested Subject Headings:

- Procedure for signing the CRS (including preliminary actions)
- Certificate of Release to Service wording and standardised form
- Procedure for the completion of a Permit Maintenenace Release
- Completion of the aircraft continuing airworthiness record system
- Completion of UK CAA Approved Certificate
- Incomplete maintenance
- Check flight authorisation
- Copy of CRS and UK CAA Approved Certificate
- Retention of CRS.

3.8 Records

Suggested Subject Headings:

- System for control, storage, security and retrieval of records (paper or computer based)
- Control of access to records - (paper and / or computer based records)
- Record-keeping systems - (essential records)
- Provision of records (CRS)
- Retention of records (periods - methods and security) Three years
- Recording of details of work carried out.

The organisation shall retain records necessary to prove that all requirements have been met for the issuance of the certificate of release to service, including where applicable all subcontractor's release documents.

The organisation shall provide a copy of each certificate of release to service to the aircraft operator, together with a copy of any specific approved repair/modification data used for repairs/modifications carried out.

Should the organisation terminate its operation, all retained maintenance records covering the last three years shall be distributed to the last owner or customer of the respective aircraft or component or shall be stored as specified by the competent authority.

3.9 Special Procedures

Suggested Subject Headings:

- Aircraft weighing
- Painting
- Control of subcontractors (if applicable)
- Re-certification of parts not having an CAA Approved Certificate
- Fabrication of parts
- Control of special processes, such as welding engine module replacements airframe repairs
- NDT
- Disposal of unsalvageable components.

3.10 Subcontracting of Tasks

Notes: (not for inclusion in the Exposition)

1. *The approval holder is responsible for determining and applying acceptance standards for physical condition, configuration status and conformity of supplied products, parts, appliances or raw materials. This responsibility also includes buyer furnished equipment, or customer supplied items.*

2. *To discharge this responsibility the quality system needs an organisational structure and procedures to adequately control external suppliers.*

3. *Control can be based upon use of the following techniques:*

   - qualification and auditing of supplier's quality system;
   - evaluation of supplier capability in performing all manufacturing activities,
   - first article inspection, including destruction if necessary, to verify that the article conforms to the applicable data for a new supplier;
   - incoming inspections and tests of supplied parts or appliances that can be satisfactorily inspected on receipt;
   - identification of incoming documentation and data relevant to the showing of conformity to be included in the certification documents;
   - a vendor rating system which gives confidence in the performance and reliability of this supplier;
   - any additional work, tests or inspection which may be needed for parts or appliances which are to be delivered as spare parts and which are not subjected to the checks normally provided by subsequent inspection stages.

4. *The approval holder may rely on inspection/tests performed by supplier if it can establish that:*

   - personnel responsible for these tasks satisfy the competency standards of the approval holder's quality system
   - quality measurements are clearly identified
   - the records or reports showing evidence of conformity are available for review and audit.

3.11 Supplier/Sub-Contractor List *(See Part 5 - Appendicies)*

Notes: (not for inclusion in the Exposition)

1. *A list can be incorporated in the exposition but this can result in frequent amendments due to the nature of this kind of information. A description of the procedure governing the list covering who is responsible for it etc. should be either included or precede and cross referred to.*

2. *Acceptance of specialist maintenance services, such as (but not limited to) NDT, surface treatment, heat treatment, welding, fabrication of specified parts for minor repairs and modifications without the need for A8-24 approval for those tasks.*

3. *The organisation providing such services is deemed acceptable by being included in this manual, and has been investigated prior to inclusion as to its capability to perform the tasks. The organisation(s) will be listed below, and details of its qualifications and the control procedures applied will be attached as an appendix to this manual. The certificate of release will be issued in accordance with para 4.7, and may be issued at either the sub-contractor or at this organisations facilities.*

3.12 Management of Indirect Approval of Amendments

Procedure for self-approval of minor amendments (requires prior acceptance by CAA)

Minor changes to this manual will be made without submission for approval to the CAA. These changes will have no impact on the organisations approval and may include typographical errors and format changes, and changes to procedures that do not alter the intent of the procedure.

The organisation shall notify the CAA of any proposal to make any of the following changes before such change takes place (excepting short notice personnel changes). These changes will be notified at the earliest opportunity to enable demonstration of continued compliance with this Requirement to the CAA and amendment of the exposition and approval certificate as appropriate:

a) The name of the organisation;

b) The main location of the organisation;

c) Additional locations of the organisation;

d) The accountable manager;

e) Any of the persons specified in paragraph 2.4;

f) The facilities, equipment, tools, material, procedures, work scope or certifying staff that could affect the approval.

NOTES:

1. *The Accountable Manager prior to appointment. The CAA will be notified of any anticipated changes to allow for interview of the proposed Accountable Manager if required.*

2. *The organisational structure or any of the managers nominated in this exposition. The CAA will be notified of any anticipated changes and the proposed candidate(s) will complete a biographical details form, which will be submitted to the CAA for acceptance.*

3. *Any changes to the facility, equipment or tooling that could affect the organisation approval will be notified to the CAA in writing with a copy of the revised exposition.*

4. *Proposed changes to the quality system will be notified to the CAA in writing with a copy of the revised exposition and may be considered a significant change by the CAA.*

5. *Any significant change shall be applied for using the appropriate CAA application form and will incur a fee. A significant change is a change of site, organisation name or change that requires the amendment of the Terms of Approval. The CAA will be consulted if in doubt of the significance of a change to the organisation. The organisation understands and accepts that the CAA may, at its discretion, prescribe conditions during the period that a change is being introduced.*

3.13 Independent Inspections

Suggested Subject Headings

- Anticipation during workpack preparation
- Incorporation of inspections when disturbing critical systems
- Qualification of second signature staff.

The Chief Engineer will anticipate the requirement for any independent inspections during the preparation of the work pack and will plan at what stage during the SMI the independent inspections will be carried out. The signatory for independent inspections will be an engineer holding the appropriate licence and holding a company authorisation.

3.14 Findings by the CAA

3.14.1 When objective evidence is found showing non-compliance with the applicable requirements of the approval, the CAA finding shall be classified as follows:

a) A level one finding is any non-compliance with the applicable requirements, which lowers the safety standard and hazards flight safety.

b) A level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

3.14.2 After receipt of notification of findings:

a) In case of a level one finding, the organisation shall demonstrate corrective action to the satisfaction of the CAA within a period of no more than 21 working days after written confirmation of the finding;

b) In case of level two findings, the corrective action shall be within the time period granted by the CAA.

c) For level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than 3 months. In certain circumstances, the CAA may extend the 3 month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan.

Where the CAA imposes a partial or full suspension or revocation, the organisation shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval within 24 hours.

4 APPENDICES

4.1 Sample of document forms used

4.2 List of Subcontractors

4.3 List of maintenance locations

4.4 List of contracted organisations

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Chapter A8-25 Continuing Airworthiness Management Organisation (CAMO)

1 Scope

1.1 This Chapter establishes the requirements to be met by an organisation to qualify for the issue or continuation of an approval for the management of the continuing airworthiness of non-EASA aircraft with a Certificate of Airworthiness or a Permit to Fly.

NOTES:

1 "Non-EASA aircraft" are aircraft that are within the categories of Annex II of Regulation (EC) No. 216/2008 (reference Article 4 of the Regulation). Non-EASA aircraft are not subject to regulation of airworthiness by EASA, but are subject to national regulations.

2 Individual aircraft engaged in military, customs, police, search and rescue, firefighting, coastguard or similar activities or 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).

3 Unless specifically detailed in this chapter, Requirements relating to Continuing Airworthiness Management for Permit to Fly aircraft are contained in BCAR Chapter A3-7.

4 Supplement 2 to this Chapter contains the requirements for the approval of organisations to undertake assessments and provide reports on the aircraft standard in respect for the initial issue of a Permit to Fly for aeroplanes and rotorcraft of military design and service.

5 BCAR Chapter A8-25 has been derived from European Commission Regulation (EU) No. 1321/2014, Annex I, Part M and the corresponding Part M paragraph references are given in Appendix 2 of this Chapter.

2 Application

2.1 Each application for an approval shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

3 Extent of Approval

3.1 The approval is indicated on a certificate issued by the CAA.

3.2 The scope of work deemed to constitute the approval shall be specified in the continuing airworthiness management exposition in accordance with paragraph 4.

4 Exposition[1]

4.1 The organisation shall provide an exposition in a concise form, insofar as it applies to the approval sought, which shall contain the following information:

a) A statement signed by the accountable manager to confirm that the organisation will work in accordance with this Chapter A8-25 and the exposition at all times; and

b) The organisation's scope of work; and

c) The title(s) and name(s) of person(s) referred to in paragraphs 6.1, 6.3, 6.4 6.8 and 6.11 as applicable; and

d) An organisation chart showing associated chains of responsibility between the person(s) referred to in paragraphs 6.2 and 6.3; and

e) A general description and location of the facilities; and

f) Procedures specifying how the organisation ensures compliance with this requirement; and

g) The Exposition amendment procedures.

4.2 The exposition shall contain the procedures detailing how the applicable privileges described in section 11 are addressed.

a) Organisations undertaking assessments and provide reports to the CAA for the initial issue of a Permit to Fly for aircraft of military origin, the Exposition shall take account of the additional procedures described in Supplement 2 Section 12.

b) A Continuing Airworthiness Management Organisation approved to carry out airworthiness reviews, a list of airworthiness review staff (see paragraph 7).

c) The list of approved aircraft maintenance programmes, or, for aircraft not involved in Commercial Air Transport (CAT), the list of 'generic' and 'baseline' maintenance programmes.

4.3 The exposition and its amendments shall be approved by the CAA.

4.4 Notwithstanding paragraph 4.3, minor amendments to the exposition may be approved indirectly through an indirect approval procedure. The indirect approval procedure shall define the minor amendment eligible, be established by the Organisation as part of the exposition and be approved by the CAA.

5 Facilities

The organisation shall provide suitable office accommodation at appropriate locations for the personnel specified in paragraph 6.

6 Personnel Requirements

6.1 The organisation shall appoint an accountable manager, who has corporate authority for ensuring that all continuing airworthiness management activities can be financed and carried out in accordance with this requirement.

1 When an organisation holds more than one BCAR approval the expositions can be combined to cover common areas e.g. management structure and quality system. Or, for A8-25 a supplement can be added to an existing EASA Part M Subpart G approved CAME.

6.2 For Commercial Air Transport (CAT), the accountable manager (paragraph 6.1) shall be the person who also has corporate authority for ensuring that all the operations of the operator can be financed and carried out to the standard required for the issue of an air operator's certificate.

6.3 A person or group of persons shall be nominated with the responsibility of ensuring that the organisation is always in compliance with this Requirement. Such person(s) shall be ultimately responsible to the accountable manager.

6.4 For Commercial Air Transport (CAT), the accountable manager shall designate a nominated post holder. This person shall be responsible for the management and supervision of continuing airworthiness activities, pursuant to paragraph 6.3.

6.5 The organisation shall have sufficient appropriately qualified staff for the expected work.

6.6 Persons referred to in paragraphs 6.3 and 6.4 shall be able to show relevant knowledge, background and appropriate experience related to aircraft continuing airworthiness.

6.7 The qualification of all personnel involved in continuing airworthiness management shall be recorded.

6.8 For organisations extending National Airworthiness Review Certificates in accordance with paragraphs 11.1 d) and Chapter A3-1, paragraph 10, the organisation shall nominate persons authorised to do so, subject to approval by the CAA.

6.9 The organisation shall define and keep updated in the exposition the title(s) and name(s) of person(s) referred to in paragraphs 6.1, 6.3, 6.4, 6.8 and 6.11.

6.10 For all large aircraft and for aircraft used for CAT the organisation shall establish and control the competence of personnel involved in the continuing airworthiness management, airworthiness review and/or quality audits in accordance with a procedure and to a standard agreed by the CAA.

6.11 Organisations with the privilege described in paragraph 11.1 a) shall nominate a senior engineer as the contact with the CAA. The nominated person will gather and submit evidence to the CAA in order to establish the design/build standard of any particular aircraft. This person shall have adequate qualifications and experience appropriate to the category of aircraft concerned.

7 Airworthiness Review Staff

7.1 To be approved to carry out airworthiness reviews, an approved Continuing Airworthiness Management Organisation (CAMO) shall have appropriate airworthiness review staff to issue National Airworthiness Review Certificates or Certificates of Validity, or to make recommendations referred to in Chapter A3-1 and Chapter A3-7.

a) For all aircraft used in Commercial Air Transport (CAT), State and aircraft above 2,730 kg MTWA, except balloons, the staff shall have acquired:

   i) at least five years experience in continuing airworthiness; and

   ii) an appropriate licence in compliance with BCAR Section L or Commission Regulation (EU) 1321/2014 Annex III (Part-66) as amended, appropriate to the aircraft category or an aeronautical degree or equivalent; and

   iii) formal aeronautical maintenance training; and

   iv) a position within the approved organisation with appropriate responsibilities;

v) notwithstanding paragraphs i) to iv) above, the requirement laid down in paragraph 7.1 a) ii) may be replaced by five years of experience in continuing airworthiness additional to those already required by paragraph 7.1 a) i).

b) For aircraft not used in Commercial Air Transport (CAT) of 2,730 kg MTWA and below, the staff shall have acquired:

i) at least three years experience in continuing airworthiness; and

ii) an appropriate licence in compliance with BCAR Section L or Commission Regulation (EU) 1321/2014 Annex III (Part-66) as amended, appropriate to the aircraft category or an aeronautical degree or equivalent; and

iii) appropriate aeronautical maintenance training; and

iv) a position within the approved organisation with appropriate responsibilities;

v) notwithstanding paragraphs i) to iv) above, the requirement laid down in paragraph 7.1 b) ii) may be replaced by four years of experience in continuing airworthiness additional to those already required by paragraph 7.1 b) i).

c) For aircraft that qualify for a National Permit to Fly and a Certificate of Validity the staff shall have acquired:

i) four years of relevant maintenance/continuing airworthiness experience; or

i) two years if the applicant has satisfactorily completed an appropriate aeronautical maintenance training course.

7.2 Airworthiness review staff nominated by the approved continuing airworthiness organisation can only be issued an authorisation by the approved continuing airworthiness organisation when formally accepted by the CAA after satisfactory completion of an airworthiness review under supervision.

7.3 The organisation shall ensure that aircraft airworthiness review staff can demonstrate appropriate recent continuing airworthiness management experience.

7.4 Airworthiness review staff shall be identified by listing each person in the Exposition together with their airworthiness review authorisation reference.

7.5 The organisation shall maintain a record of all airworthiness review staff, which shall include details of any appropriate qualification held together with a summary of relevant continuing airworthiness management experience and training and a copy of the authorisation. This record shall be retained until two years after the airworthiness review staff have left the organisation.

8 Continuing Airworthiness Management

8.1 All continuing airworthiness management shall be carried out in accordance with Chapter A6-1 (Certificate of Airworthiness) or Chapter A3-7 (Permit to Fly) as appropriate.

8.2 For every aircraft managed by the approved organisation, the organisation shall:

a) develop and control a maintenance programme for the aircraft, including any applicable reliability programme;

b) present the aircraft maintenance programme and its amendments to the CAA for approval, unless covered by an indirect approval procedure in accordance with Chapter A6-1, paragraph 5.3, and provide a copy of the programme to the owner of

aircraft not involved in commercial air transport. For permit to fly aircraft refer to BCAR Chapter A3-7 paragraph 15;

c) manage the approval of modification and repairs;

d) ensure that all maintenance is carried out in accordance with the approved maintenance programme and released in accordance with Chapter A6-1;

e) ensure that all applicable Airworthiness Directives (ADs), Mandatory Permit Directives (MPDs) and operational directives with continuing airworthiness impact, are applied;

f) ensure that all defects discovered during scheduled maintenance or reported, are corrected by an appropriately approved maintenance organisation;

g) ensure that the aircraft is taken to an appropriately approved maintenance organisation whenever necessary;

h) coordinate scheduled maintenance, the application of Airworthiness Directives (ADs), Mandatory Permit Directives (MPDs), the replacement of service life limited parts, and component inspection to ensure the work is carried out properly;

i) manage and archive all continuing airworthiness records and/or operator's technical log;

j) ensure that the mass and balance statement reflects the current status of the aircraft;

k) Ensure that any required check flight has been satisfactorily completed, the results recorded in the appropriate Check Flight Schedule (CFS) and any necessary action taken in accordance with Chapter A6-1 (Certificate of Airworthiness) or Chapter A3-7 (Permit to Fly) as appropriate.

8.3 In the case of Commercial Air Transport (CAT) or operation of a State Aircraft, when the operator is not appropriately approved in accordance with Chapter A8-23, the operator shall establish a written maintenance contract (see Supplement 1), between the operator and a Chapter A8-23 approved maintenance organisation or another operator approved in accordance with A8-23, detailing the functions specified under Chapter A6-1, paragraphs 4.1 b),c),e) and f), ensuring that all maintenance is ultimately carried out by a Chapter A8-23 approved maintenance organisation and defining the support of the quality functions of paragraph 12.2. The aircraft base, scheduled line maintenance and engine maintenance contracts, together with all amendments, shall be approved by the CAA. However, in the case of:

a) An aircraft requiring unscheduled line maintenance, the contract may be in the form of individual work orders addressed to the Chapter A8-23 maintenance organisation;

b) Component maintenance, including engine maintenance, the contract as referred to in paragraph 8.3 may be in the form of individual work orders addressed to the Chapter A8-23 maintenance organisation.

8.4 A written maintenance contract is not required for aircraft operating on a National Permit to Fly but if an owner wishes to enter into such a contract the principles of the Continuing Airworthiness Arrangement as detailed in Supplement 1 should be followed.

9 Documentation

9.1 The approved Organisation shall hold and use applicable current maintenance data for the performance of continuing airworthiness tasks referred to in paragraph 8. This data may be provided by the owner or the operator, subject to an appropriate contract being

established with such an owner or operator. In such case, the organisation only needs to keep such data for the duration of the contract, except when required by paragraph 14.

9.2 For aircraft not involved in Commercial Air Transport (CAT), the approved Organisation may develop 'baseline' and/or 'generic' maintenance programmes in order to allow for the initial approval and/or the extension of the scope of an approval without having the contracts referred to in Supplement 1 to this Requirement. These 'baseline' and/or 'generic' maintenance programmes however do not preclude the need to establish an adequate Aircraft Maintenance Programme in compliance with Chapter A6-1, paragraph 5 in due time before exercising the privileges referred to in paragraph 11.

10 Airworthiness Review

10.1 For aircraft operating on a National Permit to Fly see Chapter A3-7 paragraph 12.

10.2 For aircraft operating on a National Certificate of Airworthiness (C of A), to satisfy the requirements of Chapter A3-1, Aircraft Airworthiness Review, a full documented review of the aircraft records shall be carried out by the approved organisation in order to be satisfied that:

a) Airframe, engine and propeller flying hours and associated flight cycles have been properly recorded; and

b) The flight manual is applicable to the aircraft configuration and reflects the latest revision status; and

c) All the maintenance due on the aircraft according to the approved maintenance programme has been carried out; and

d) All known defects have been corrected or, when applicable, carried forward in a controlled manner; and

e) All applicable airworthiness directives have been applied and properly registered; and

f) All modifications and repairs applied to the aircraft have been registered and are approved according to the relevant Chapters of BCAR Section A or Commission Regulation (EU) 748/2012, Annex Part-21 as amended; and

g) All service life limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit; and

h) All maintenance has been released in accordance with the applicable requirements; and

i) The current weight and balance statement reflects the configuration of the aircraft and is valid; and

j) The aircraft complies with the latest revision of its type design approved or accepted by the CAA;

k) If required, the aircraft holds a noise certificate corresponding to the current configuration of the aircraft in compliance with the relevant BCAR or Subpart I of the Annex (Part 21) of regulation (EU) No. 748/2012, as appropriate;

l) Any required evaluation flight has been completed as follows:

   i) in the case of initial issue of the Certificate of Airworthiness, in accordance with Chapter A3-3, or

ii) when required by paragraph 8 of this Chapter A8-25, a check flight has been satisfactorily completed, the results recorded in the Check Flight Schedule, and any necessary action taken.

10.3 The approved Organisation's airworthiness review staff shall carry out a physical survey of the aircraft. For this survey, airworthiness review staff not appropriately qualified in accordance with an approved authorisation procedure or to BCAR Section L or Commission Regulation (EU) 1321/2014 Annex III (Part- 66), as amended, shall be assisted by such qualified personnel.

10.4 Through the physical survey of the aircraft, the airworthiness review staff shall ensure that:

a) All required markings and placards are properly installed; and

b) The aircraft complies with its approved flight manual or equivalent; and

c) The aircraft configuration complies with the approved documentation; and

d) No evident defect can be found that has not been addressed; and

e) No inconsistencies can be found between the aircraft and the paragraph 10.2 documented review of records.

10.5 The airworthiness review in accordance with Chapter A3-1 'Aircraft Airworthiness Review', can be anticipated by a maximum period of 90 days without loss of continuity of the airworthiness review pattern, to allow the physical review to take place during a maintenance check.

10.6 A Chapter A3-1, National Airworthiness Review Certificate or Chapter A3-7 Permit to Fly/Certificate of Validity or a recommendation is issued by appropriately authorised airworthiness review staff in accordance with paragraph 7 on behalf of the approved organisation when satisfied that the airworthiness review has been properly carried out.

10.7 A copy of any National Airworthiness Review Certificate issued or extended for an aircraft, or any Certificate of Validity issued for an aircraft shall be sent to the CAA within ten days.

10.8 Airworthiness review tasks shall not be sub-contracted.

10.9 Should the outcome of the airworthiness review be inconclusive, the CAA shall be informed.

11 Privileges of the Organisation

11.1 A Continuing Airworthiness Management Organisation approved in accordance with this Chapter A8-25 may:

a) be approved to undertake assessments and provide reports to the CAA on the aircraft design/build standard for the initial issue of a Permit to Fly for aircraft of military origin in accordance with Supplement 2 of this Chapter; and/or

b) manage the continuing airworthiness of aircraft as listed in the exposition;

c) arrange to carry out limited continuing airworthiness tasks with any contracted organisation, working under its quality system, as listed on the approval certificate;

d) extend, under the conditions of Chapter A3-1, a National Airworthiness Review Certificate that has been issued by the CAA or by another continuing airworthiness management organisation approved in accordance with this Chapter A8-25.

11.2 An Organisation approved in accordance with paragraph 11.1 may, additionally, be approved to carry out airworthiness reviews referred to in paragraph 10 and:

a) Issue and extend the related National Airworthiness Review Certificate, in accordance with Chapter A3-1, paragraph 10, and/or issue the Certificate of Validity in accordance with Chapter A3-7, paragraph 11; and

b) Make a recommendation to the CAA to issue the initial airworthiness review certificate and/or the initial Certificate of Validity.

12 Quality System

12.1 To ensure that the approved organisation continues to meet the requirements of this Chapter, it shall establish a quality system and designate a quality manager to monitor compliance with, and the adequacy of, procedures required to ensure airworthy aircraft. Compliance monitoring shall include a feedback system to the accountable manager to ensure corrective action as necessary.

12.2 The quality system shall monitor the activities described in this Chapter. It shall at least include the following functions:

a) Monitoring that all activities described in this Chapter are being performed in accordance with the approved procedures; and

b) Monitoring that all contracted maintenance is carried out in accordance with the contract; and

c) Monitoring the continued compliance with this requirement.

12.3 The records of these activities shall be stored for at least three years.

12.4 Where the approved organisation is approved in accordance with another BCAR Sub-Section A8 organisational approval, the quality system may be combined with that required by the other Sub-Section A8 approval.

12.5 In the case of a small organisation not managing the continuing airworthiness of aircraft used in Commercial Air Transport (CAT) or state operations, the quality system may be replaced by regular organisational reviews subject to the approval of the CAA, except when the organisation issues Airworthiness Review Certificates for aircraft above 2,730 kg MTWA other than balloons. In the case where there is no quality system, the organisation shall not contract continuing airworthiness management tasks to other parties.

13 Changes to the Approved Organisation

13.1 In order to enable the CAA to determine continued compliance with these Requirements, the approved Organisation shall notify it of any proposal to carry out any of the following changes, before such changes take place:

a) The name of the organisation;

b) The location of the organisation;

c) Additional locations of the organisation;

d) The accountable manager;

e) Any of the persons specified in paragraph 6.3;

f) The facilities, procedures, work scope and staff that could affect the approval.

13.2 In the case of personnel changes that could affect the approval, having to be carried out at short notice, these changes shall be notified to the CAA at the earliest opportunity.

14 Record-keeping

14.1 The organisation shall record all details of work carried out. The records required by Chapter A6-1, paragraph 8 (for CofA aircraft), and/or Chapter A3-7, paragraph 18 (for Permit to Fly aircraft) 'Aircraft continuing airworthiness record system' and if applicable Chapter A6-1, paragraph 9 'Operator's technical log system', shall be retained for the times specified in Article 226, Schedule 7 of the Air Navigation Order 2016.

14.2 If the organisation has the privilege referred to in paragraph 11.2, it shall retain a copy of each Airworthiness Review Certificate or Certificate of Validity and recommendation issued or, as applicable, extended, together with all supporting documents. In addition, the organisation shall retain a copy of any Airworthiness Review Certificate that it has extended under the privilege referred to in paragraph 11.1 d).

14.3 The organisation shall retain a copy of all records listed in paragraph 14.2 until two years after the aircraft has been permanently withdrawn from service.

14.4 The records shall be stored in a manner that ensures protection from damage, alteration and theft.

14.5 All computer hardware used to ensure backup shall be stored in a different location from that containing the working data in an environment that ensures they remain in good condition.

14.6 Where continuing airworthiness management of an aircraft is transferred to another organisation or person, all retained records required by paragraph 14.1 shall be transferred to the said organisation or person. The time periods prescribed for the retention of records shall continue to apply to the said organisation or person.

14.7 Where an organisation terminates its operation, all retained records shall be transferred to the owner of the aircraft.

15 Continued Validity of Approval

15.1 An organisation approval shall be issued for an unlimited duration. It shall remain valid unless:

a) the organisation fails to demonstrate compliance with the applicable requirements; or

b) the CAA is prevented by the approved organisation, or any of its partners or subcontractors, from performing its investigations; or

c) there is evidence that the organisation cannot maintain satisfactory control of the maintenance of products, parts or appliances under the approval; or

d) the certificate has been surrendered or revoked.

15.2 The CAA shall be consulted where there is any difficulty about the interpretation of the requirements, the associated procedures, or on any airworthiness matter, which involves new issues or techniques.

15.3 Upon surrender or revocation, the approval certificate shall be returned to the CAA.

16 Findings by the CAA

16.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) a level one finding is any non-compliance with the applicable requirements which lowers the safety standard and hazards flight safety;

b) a level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

16.2 After receipt of notification of findings:

a) the holder of the approval shall define the corrective action plan and demonstrate corrective action to the satisfaction of the CAA, and within a period agreed with the CAA;

b) for level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) for level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than three months. In certain circumstances, the CAA may extend the three month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan;

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

16.3 In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

Supplement 1 to A8-25 Continuing Airworthiness Arrangement

1 When an owner or operator contracts an approved Organisation (see Chapter A8-25), to carry out continuing airworthiness management tasks, the organisation shall make a copy of the arrangement available to the CAA upon request, once it has been signed by both parties.

2 The arrangement shall be developed taking into account the requirements of Chapter A8-25 and shall define the obligations of the signatories in relation to continuing airworthiness of the aircraft.

3 It shall contain as a minimum the:

a) aircraft registration;

b) aircraft type;

c) aircraft serial number;

d) aircraft owner or operator or registered lessee's name or company details including the address;

e) approved continuing airworthiness organisation details (see Chapter A8-25) including the address.

4 The arrangement shall state the following:

4.1 The owner or operator entrusts to the approved organisation the management of the continuing airworthiness of the aircraft, the development of a maintenance programme that shall be approved by the CAA, and the organisation of the maintenance of the aircraft according to said maintenance programme in an approved organisation.

4.2 According to the present arrangement, both signatories undertake to follow the respective obligations of this arrangement.

4.3 The owner or operator certifies, to the best of their belief that all the information given to the approved organisation concerning the continuing airworthiness of the aircraft is and will be accurate and that the aircraft will not be altered without prior approval of the approved organisation.

4.4 In case of any non-conformity with this arrangement, by either of the signatories, it will become null. In such a case, the owner or operator will retain full responsibility for every task linked to the continuing airworthiness of the aircraft and the owner or operator will undertake to inform the CAA within two full weeks.

5 When an owner or operator contracts an A8-25 approved Organisation in accordance with paragraph 2 the obligations of each party shall be shared as listed in paragraphs 5.1 and 5.2 of this Supplement 1 to A8-25.

5.1 Obligations of the approved organisation:

a) have the aircraft type in the scope of its approval;

b) respect the conditions to maintain the continuing airworthiness of the aircraft listed below:

i) develop a maintenance programme for the aircraft, including any reliability programme developed, if applicable;

ii) declare the maintenance tasks (in the maintenance programme) that may be carried out by the pilot or owner or operator in accordance with paragraph 13.3 (see Chapter A6-1);

iii) organise the approval of the aircraft's maintenance programme;

iv) once it has been approved, give a copy of the aircraft's maintenance programme to the owner/operator;

v) organise a bridging inspection with the aircraft's prior maintenance programme;

vi) organise for all maintenance to be carried out by an approved maintenance organisation;

vii) organise for all applicable airworthiness directives to be applied;

viii) organise for all defects discovered during scheduled maintenance, airworthiness reviews or reported by the owner or operator to be corrected by an approved maintenance organisation;

ix) coordinate scheduled maintenance, the application of Airworthiness Directives, the replacement of life limited parts, and component inspection requirements;

x) inform the owner or operator each time the aircraft shall be brought to an approved maintenance organisation;

xi) manage all continuing airworthiness records;

xii) archive all continuing airworthiness records;

c) organise the approval of any modification to the aircraft in accordance with BCAR Requirements or Regulation (EC) 748/2012 Annex Part 21, before it is embodied;

d) organise the approval of any repair to the aircraft in accordance with BCAR Requirements or Regulation (EC) 748/2012 Annex Part 21, before it is carried out;

e) inform the CAA whenever the aircraft is not presented to the approved maintenance organisation by the owner or operator as requested by the approved organisation;

f) inform the CAA whenever the present arrangement has not been respected;

g) carry out the airworthiness review of the aircraft when necessary and issue the National Airworthiness Review Certificate, or Certificate of Validity, or the recommendation to the CAA;

h) send within ten days to the CAA, a copy of any National Airworthiness Review Certificate issued or extended or any Certificate of Validity issued;

i) carry out all occurrence reporting mandated by applicable regulations;

j) inform the CAA whenever the present arrangement is terminated by either party.

5.2 Obligations of the owner or operator:

a) have a general understanding of the approved maintenance programme;

b) have a general understanding of the Requirements;

c) present the aircraft to the approved maintenance organisation agreed with the approved organisation at the time requested by the approved organisation;

d) not modify the aircraft without first consulting the approved organisation;

e) inform the approved organisation of all maintenance exceptionally carried out without the knowledge and control of the approved organisation;

f) report to the approved organisation through the logbook all defects found during operations;

g) inform the CAA whenever the present arrangement is terminated by either party;

h) inform the CAA and the approved organisation whenever the aircraft is sold;

i) carry out all occurrence reporting mandated by applicable regulations;

j) inform the approved organisation on a regular basis, of the aircraft flying hours and any other utilisation data, as agreed with the approved organisation. The frequency should be sufficient that the approved organisation can manage the continuing airworthiness of the aircraft;

k) enter the details of any maintenance performed in the logbooks, as described in Chapter A6-1, paragraph 13.4, when performing pilot or owner or operator maintenance without exceeding the limits of the maintenance tasks list as declared in the approved maintenance programme as laid down in point Chapter A6-1, paragraph 13.3;

l) inform the approved Organisation responsible for the management of the continuing airworthiness of the aircraft not later than 30 days after completion of any pilot or owner or operator maintenance task in accordance with Chapter A6-1, paragraph 8.1;

m) the operator will ensure the approved organisation has access to all the required airworthiness data required to maintain the airworthiness of the contracted aircraft.

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Supplement 2 to A8-25 Approval of Organisations Responsible for Providing Reports to the CAA in Respect of the Initial issue of Permits to Fly in accordance with Chapter A3–7, for Aeroplanes and Rotorcraft of Military Design and Service

1 Introduction

1.1 The requirements of this supplement are applicable to the approval of organisations to perform the functions specified in paragraph 1.2, in respect of aeroplanes and rotorcraft of military design and service.

1.2 To undertake assessments and provide reports to the CAA on the aircraft standard for the Initial issue of a Permit to Fly in accordance with Chapter A3–7. Approval will be granted for one or more of the following categories:

a) Simple: single piston engine types.

b) Intermediate: multiple piston engine or turbine (single or multiple) engine types with simple mechanical flying controls or with powered controls having an independent back-up system that can enable continued safe flight following failure of the powered system.

c) Complex: all other types, including those having features that require specialised knowledge and/or equipment to maintain, aircraft without independent back-up systems for powered flying controls or having automatic stabilisation systems or electronic engine controls.

NOTES: 1 The classification of aircraft types will be the responsibility of the CAA.

2 With reference to BCAR Chapter A3-7, the CAA will not necessarily require an A8-25 Organisation Approval for the acceptance of simple fixed wing types of up to 2730 kg MTWA.

2 Publications and Information

2.1 The organisation shall make available to the staff concerned the necessary technical data appropriate to the scope of work for which approval is sought:

a) The technical data shall consist of that issued from design authorities, manufacturers or relevant military authorities by way of maintenance manuals, micro fiche, service bulletins and other forms of continuing airworthiness information. English language translations of all foreign language documents pertaining to continuing airworthiness information and maintenance data are required to be available;

b) Where the aircraft or equipment is required to be supported by a manufacturer under paragraph1.2(c)) 'Complex', then written agreements shall be made between the organisation and the appropriate manufacturers, or other recognised suppliers, for

the supply of amendments and changes to the publications held. A suitable system for amending the documents shall be provided. Copies of the formal agreements shall be included in the exposition;

c) Where technical data is held on loan it shall be the responsibility of the organisation and the user to ensure that the documents concerned are kept up to date;

d) Records shall not be destroyed without authorisation from the CAA.

2.2 The permanent company records of technical investigations performed under the approval shall be such as to provide proper correlation with aircraft technical records and an adequate record of the basis and substantiation concerning the compilation of company reports.

3 Approval to Provide Reports to the CAA in Respect of the Issue of Permits to Fly

3.1 The acceptability of an aircraft for issue of a Permit to Fly is primarily dependent upon a demonstrated experience of safe operation (see Chapter A3–7, sub-paragraph 4.1(d)) and the ability of the organisation approved for the aircraft types to provide the necessary information and support (see Appendix 1 to Chapter A3–7). The required capability of the approved organisation and the consequent investigation into each aspect will depend upon the design complexity of the aircraft type(s) in question.

3.2 **All Types**

a) The build standard of an aircraft for which a Permit to Fly application is made should be adequately documented, such that it can be shown to conform to the type design standard and that all modifications, including significant repairs, have been approved by the organisation responsible for the design (manufacturer) or the Military Authority. Simple repairs and modifications not covered, including those "approved" by other civil airworthiness authorities, will be investigated by the CAA.

b) The fatigue lives or damage tolerance integrity should be verified as applicable, including the effects of structural repairs upon fatigue life. Damage tolerance inspection periods must be established.

c) The documentation including Flight Manual or Pilots Notes should be available and verified.

d) Ensure that any additional modifications and limitations for certification under a Permit to Fly are recognised and embodied and if necessary approved by the CAA.

3.3 **Intermediate Types**

In addition to paragraph 3.2 above, the organisation shall have facilities and personnel to establish the eligibility of the type for classification as Intermediate, including:

a) The provision of sufficient details of the type service history and accident record for accident statistics to be determined. This may require a breakdown of the accident record during military operations, training, systems/ equipment/ structural failures etc. Figures obtained will be compared with similar information gathered for types where an acceptable safety record has been demonstrated. Where examples of the type have previously been granted a Permit to Fly, this requirement can be assumed to have been satisfied unless otherwise notified by the CAA;

b) A review of the flying control systems shall be conducted providing confirmation that failure of any powered flying control system does not prevent continued safe flight;

c) A general appraisal of other features that may prevent safe flight or require additional operating limitations shall be carried out.

3.4 **Complex Types**

3.4.1 In addition to the ability to provide information required for All and Intermediate Types, for Complex Types the CAA requires continued airworthiness design support from the manufacturer, or an equivalent organisation suitably approved for this purpose. This support shall be subject to a formal agreement and shall be written into the exposition. Continued approval of the organisation will be predicated on continuation of the design support.

3.4.2 Such formal agreements shall provide for regular consultation between the A8-25 organisation and each external organisation involved with support of the aircraft. An A8-25 organisation may support several aircraft types. Individual aircraft types may require the support of different external organisations. It may therefore be appropriate to cover each type in separate sections or appendices of the exposition.

4 Procedures

4.1 Any two aircraft of military origin ostensibly of identical type may be of significantly differing design/build standards and fatigue states and for this reason the CAA does not consider that it is generally possible to accept one aircraft as series to another.

4.2 Each aircraft requires an individual investigation report from an approved design organisation for the issue, by the CAA, of an Airworthiness Approval Note (AAN) specific to that aircraft to support the initial issue of a Permit to Fly. However, cross referencing to previous reports for the same type is acceptable in areas where the design/build standard is identical.

4.3 The basis upon which aircraft of military origin may qualify for issue of a permit is in Chapter A3–7 sub-paragraph 4.1 d) and Chapter A3–7 Appendix 1 which lists the evidence required to substantiate applications for Permits. The organisation responsible for gathering the evidence necessary for substantiation of submissions to the CAA, is also responsible for subsequently maintaining documentary records covering these submissions.

5 Initial Application to the CAA and Establishment of Aircraft Complexity Grouping

5.1 The organisation must make initial application to the CAA for approval of the aircraft early in the process (Form CA3 (SRG 1710)). Where the CAA has not previously accepted an example of the type, the applicant must also propose and obtain the agreement of the CAA to the grouping (see paragraph 1.2 above) of the particular aircraft type. The proposal must contain sufficient information on the design features of the type to justify the grouping recommendation.

6 Establishment of Safety Record (Chapter A3–7 Appendix 1 Paragraph 2.1)

6.1 Where the CAA has not previously accepted an example of a type, classified as an Intermediate or Complex aircraft of conventional design and construction, the investigation will commence with a demonstration that the aircraft type has a safety

record in military service that is acceptable to the CAA for its intended civil use. Combat losses or those directly attributable to peculiarly military operational causes, such as low-level training may be discounted, but a review employing such judgements should be made by appropriately qualified personnel. The organisation's procedures should include methods for the presentation of the safety record in terms of total loss and fatal accidents per million flying hours. The safety record shall be presented to the CAA for acceptance prior to commencement of the design/build standard investigation.

NOTE: It may be possible to establish that particular aircraft showed hazardous characteristics only in specific operational circumstances, or with particular modifications fitted. In that event, it may be that application of additional limitations may render the aircraft type acceptable to the CAA. In the case of complex aircraft, the CAA will require that such submissions are supported by the manufacturer or an equivalent organisation.

7 Continued Airworthiness Support/Information

7.1 The more complicated the aircraft, the more it will be necessary to have adequate technical and design expertise for the type, in order to maintain the level of continued airworthiness support. In the case of organisations supporting only Simple or Intermediate types, it may not be justifiable to retain full time staff of adequate capability to cover initial approval of a given aircraft. In these cases adequate arrangements must be in place to cover initial approval and ensure continued airworthiness support of each aircraft.

7.2 Complex aircraft will require a formal contract of support from the manufacturer or an equivalent organisation covering each aspect of design. The exposition of all organisations approved to cover a Complex aircraft must include procedures for the necessary interfaces with the manufacturer or equivalent Organisation providing the support contract for the aircraft and its critical equipment and/or an acceptable Military Authority. The nature and depth of such procedures will be subject to the agreement of the CAA.

8 Establishment of Conformity to Type Design Standard (Chapter A3–7 Appendix 1, paragraph 2.2)

8.1 The organisation must have a procedure to establish that the individual aircraft conforms to the Type Design Standard to which the established safety record is related. The following aspects will be covered as part of establishing conformity to design/build standard:

a) **Modification State**

i) The organisation must ensure that any modifications necessary to maintain the standard of airworthiness are identified and incorporated. This activity is to include compiling records, in the English language, of the modifications that were considered essential to airworthiness by the manufacturer and or the Military Operators Engineering Authority. The organisation must then review the aircraft together with its accompanying documents to verify that all such modifications are embodied. The Exposition must show that the organisation will compile a statement identifying each modification showing embodiment or an acceptable alternative action. This review of modifications must also include military technical and servicing requirements as applicable. Verification of compliance with Mandatory Permit Directives promulgated by the CAA for the type is also required.

ii) The organisation must identify and describe all other modifications (whether military or civilian) and present a justification for the acceptance of each by the CAA.

b) **Fatigue State**

The organisation must:

i) research and identify fatigue critical components, their lives and accounting procedures;

ii) check that all such components are identifiably within these limits and are supported by documentary evidence covering the full life of the component;

iii) obtain CAA agreement to procedures as applied to civil operation of the aircraft (role factors etc.).

NOTE: Statements for submission to the CAA should be signed by nominated personnel (see paragraph 6 of BCAR A8-25).

c) **Unusual Features and Specialist Equipment**

Unusual features must be brought to the attention of the CAA for assessment. Such features may include, but are not limited to, the means to induce simulated failures intended for military pilot training and jettisonable doors. Special equipment such as ejection seats and jettisonable fuel tanks must be the subject of particular investigation.

d) **Published Information**

The organisation must obtain copies (in the English Language) of all documentation necessary to operate and maintain the aircraft. This will normally include the Aircraft Flight Manual or Pilot Notes, the maintenance schedules and the maintenance and repair manuals covering airframe, engine and propeller overhaul. Any specialist systems should also be adequately covered.

e) **Identification of Limitations**

The organisation will identify and record normal operating limitations appropriate to the aircraft and observe any limitations that the CAA may determine having regard to the safety of third parties and occupants during intended operations of the aircraft.

NOTE: Limitations must be accepted by the CAA and be supported by published documentation or flight test reports. Examples of circumstances where more restrictive limitations may be applied (subject to agreement of the CAA) are:

i) where flight testing has identified potentially unsafe characteristics in part of the operating envelope, and operation in that regime must therefore be avoided;

ii) where the equipment fit renders more restrictive limits appropriate, e.g. restriction of maximum altitude as a consequence of lack of oxygen system;

iii) where the operator chooses to operate an engine to more restrictive limitations than those published, in order to conserve engine condition.

9 Modifications Required for the Initial Issue of the Permit to Fly

9.1 In general the normal CAA procedure as detailed in Chapters A2–5/B2–5 will apply. The Approval granted in accordance with this Chapter does not confer approval of any activity to design or seek approval for major modifications on this class of aircraft. Minor modifications to aircraft or components are required to be submitted either to the CAA,

along with the technical justification to substantiate such a change, or alternatively, be submitted via a CAA Approved design organisation of appropriate capability.

9.2 Significant changes to the aircraft in terms of powerplant changes, propeller type, alternative material specifications or equipment changes may be the subject of major modification action and all such applications must be discussed and agreed with the CAA. If the organisation wishes to undertake such work, this must be supported by a competent design organisation or person acceptable to the CAA.

9.3 While the aircraft should conform as closely as possible to the military type design/build standard in respect of which the safety record has been accepted, it is recognised that the operating organisation may wish to embody modifications in order to simplify operation of the aircraft (such as replacement of non-standard oxygen supply connectors with NATO standard connectors). The organisation's exposition must include a procedure whereby such modifications are identified, defined and submitted to the CAA for approval complete with justification of their airworthiness. They must be adequately defined on modification sheets, to include drawings, circuit diagrams as applicable and changes to Pilots Notes showing any effect on limitations and operations.

NOTES: 1 In the event that the initial basis of acceptance of an aircraft into service is not known in detail, the basis for the approval of such a modification is subject to the agreement of the CAA (e.g. compliance with appropriate parts of a design code such as EASA Certification Specification CS-23 or CS-27).

2 Material substitution during the manufacture of replacement parts or any repairs not demonstrably made in accordance with manufacturers repair manuals, constitute modifications the process of which must be approved by the CAA.

9.4 Major modifications to Complex aircraft must be accepted in writing by the design organisation or the manufacturer supporting the aircraft prior to CAA Approval.

10 Compilation of Company Assessment and Report

10.1 The organisation must have a procedure for the compilation and submission of a report, summarising the results of its investigations, to the CAA prior to the issue of a permit to test for flight testing. The Airworthiness Approval Note (AAN) will be compiled (approved) and published by the CAA, to minimise administrative work, it is preferred the organisation provides the required information in the form of a series of reports. This must summarise all the aspects covered in paragraphs 8 and 9 as applicable, to support the issue of the Permit to Fly.

10.2 The procedure of the organisation must provide for the submission of the assessment and report to the CAA and the arrangement of the CAA survey of the aircraft and records, prior to flight testing.

NOTES: 1 The CAA will, on request, provide examples of AANs.

2 Maintenance Schedules, where they differ from published schedules, are subject to the approval of the CAA. The maintenance schedule must be approved prior to the issue of a Permit to Fly.

11 Flight Test Arrangements

11.1 For the initial issue of the Permit to Fly the aircraft must be subject to a satisfactory flight evaluation programme as detailed in Chapter A3-7.

12 Exposition

The headings below are additional procedures, which need to be covered in the Exposition.

a) procedures for obtaining modification and repair approval;

b) procedures for controlling concessions approved by the design approval holder;

c) Defect investigation;

d) flight evaluation procedures.

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Appendix 1 to A8-25 Acceptable Means of Compliance to A8-25–Applicability of EASA AMC to BCAR A Maintenance Requirements

1 General

1.1 In general, the EASA AMC should be taken to be applicable as guidance material for those BCAR A Maintenance Requirements contained within chapter A8-25, which state a Part M requirements paragraph number (in italic text), in their heading.

1.2 Where the EASA AMC text mentions Agency or Competent Authority, this should be read as the CAA.

1.3 Where EASA AMC paragraphs refer to 'Member State', those paragraphs may not be applicable to BCAR approvals. If there is any doubt, the CAA should be consulted.

1.4 Where the EASA AMC text refers to Part M, reference should be made to the appropriate chapter of BCAR A. See table 1.

Table 1 Applicability of individual Part M, AMC to BCAR A Maintenance Requirements Chapter A8-25

Where no applicability is stated, it should be assumed that the relevant Part M, AMC applies to those BCAR A paragraphs which state a Part M requirements paragraph number (in italic text), in their heading.

Part M reference number	BCAR Section A reference number	Subject	Applicable/Not applicable to BCAR A
AMC M.A.702	A8-25, paragraph 2	Application	Not applicable
AMC M.A.704	A8-25, paragraph 4	Continuing Airworthiness Management Exposition	If a CAME already exists to satisfy M.A.704, a supplement may be added to satisfy a BCAR A8-25 approval. It is not necessary to duplicate existing CAME.
AMC M.A.707(a)	A8-25, paragraph 7	Airworthiness review staff	BCAR requirements are slightly different. Permit to Fly not applicable. Restrictive on person that can be authorised. For part 145 - please read A8-23.
AMC M.A.707(b)	A8-25, paragraph 7	Airworthiness review staff	EASA Form 4 may be used for the addition of BCAR A8-25 approval privilege.
AMC M.A. 710(d)	A8-25, paragraph 10	Airworthiness review	Controlled environment - refer to A3-1 Section 10.4.2. The BCAR requirement differs from the EASA requirements.
AMC M.A. 711(c)	A8-25, paragraph 11	Privileges of the organisation	Not applicable

Appendix 2 to A8-25

Table of References

The following table is provided as an aid to the reader. It shows the EASA Annex 1, Part M paragraphs which correspond in terms of their technical content, to the paragraphs of BCAR Chapter A8-25. It should be understood that the legal basis upon which BCAR A8-25 rests, is the Air Navigation Order 2009, as amended.

Chapter A8-25 Paragraph Number	Subject	Part M Paragraph Number
1	Scope	M.A.701
2	Application	M.A.702
3	Extent of approval	M.A.703
4	Continuing airworthiness management exposition	M.A.704
5	Facilities	M.A.705
6	Personnel requirements	M.A.706
7	Airworthiness review staff	M.A.707
8	Continuing airworthiness management	M.A.708
9	Documentation	M.A.709
10	Airworthiness review	M.A.710
11	Privileges of the organisation	M.A.711
12	Quality system	M.A.712
13	Changes to the approved continuing airworthiness organisation	M.A.713
14	Record keeping	M.A.714
15	Continued validity of approval	M.A.715
16	Findings by the CAA	M.A.716

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Chapter A8-26 Approval of Organisations Supporting Recreational Aviation

1 Introduction

1.1 An Organisation for supporting Recreational Aviation (hereinafter referred to as the Organisation) is a representative body that encompasses a specific sector of the industry involved in sport, recreational and/or leisure flying and for the purposes of this Chapter wishes to perform an airworthiness related function.

1.2 The requirements of this Chapter A8–26 are applicable to the approval of the Organisation to allow them to perform the functions associated with the privileges specified in paragraph 1.3, in respect of aircraft eligible for a National Permit to Fly specified in paragraph 1.4.

1.3 An Organisation may, when in compliance with the requirements of this Chapter A8–26, be approved to provide oversight, design, continuing airworthiness management and maintenance of aircraft as may be agreed by the CAA for the aircraft groups defined in paragraph 1.4.

1.4 The Organisation approval may be issued in respect of aircraft that are eligible for the issue of a Permit to Fly. The capability of the Organisation may be defined by one or more of the following groups:

a) Amateur built aircraft that are eligible for a National Permit to Fly in accordance with Chapter A3-7;

b) Commercially built aircraft that are eligible for a National Permit to Fly in accordance with Chapter A3-7.

2 Extent of Approval

2.1 Oversight

2.1.1 An Organisation may carry out certain airworthiness investigations or privileges on behalf of the CAA, subject to the agreement of the CAA.

2.1.2 Such privileges may include one or more of the following:

a) To submit reports, which may include a recommendation, in relation to the assessment of a first off aircraft design, in support of a standard agreed with the CAA, for the issue of a UK Permit to Fly;

NOTE: The CAA will determine an appropriate level of involvement in the initial approval of type approved aircraft.

b) To submit reports, which may include a recommendation, in respect of the noise testing of aircraft as may be agreed by the CAA;

c) To submit reports, which may include a recommendation, to the CAA with regard to the oversight and audit of the organisations that design, manufacture and assemble aircraft and their components;

d) To classify changes submitted by approved organisations;

e) To approve changes submitted by approved organisations;

f) To submit reports in respect of flight testing of aircraft in support of the initial issue of a Permit to Fly or the approval of a change, or the evaluation of a new design or design feature;

g) To create initial operating limitations and subsequent changes;

h) To submit reports and recommendations in relation to the classification of an aircraft within Annex II of EC Regulation 216/2008.

2.2 Design

2.2.1 An Organisation may hold privileges relating to the design, initial and continued airworthiness of aircraft, products, parts and appliances, as may be agreed by the CAA. These privileges shall support the issue of a Permit to Fly and/or a Certificate of Validity, subject to compliance with the design assurance system requirements of this Chapter A8-26.

2.2.2 Such privileges may include one or more of the following:

a) To submit reports in relation to the assessment of amateur built or type accepted aircraft designs, in support of a standard agreed with the CAA, for the issue of a UK Permit to Fly;

b) To classify changes to aircraft such as may fall within the scope of their approval as 'major' or 'minor';

c) To approve changes to aircraft that fall within the scope of their approval, as may be agreed by the CAA;

d) To manage the flight testing of an aircraft in accordance with section 2.4, in support of the issue of a Permit to Fly or the approval of a change, or the evaluation of a new design or design feature;

e) To issue continued airworthiness information or instructions containing the following statement: *'The technical content of this document is approved under the authority of the UK CAA organisation approval reference: [x/y/z]'.*

2.2.3 Approval will be granted in respect of one or more of the following product categories:

a) Amateur built microlight aeroplanes;

b) Amateur built aeroplanes (other than microlights);

c) Amateur built rotorcraft;

d) Amateur built balloons or airships;

e) Amateur built Self-Launching Motor Gliders (SLMG)

f) Changes to microlight aeroplanes;

g) Changes to gyroplanes;

h) Changes to commercially built aircraft that are eligible for a National Permit to Fly in accordance with Chapter A3-7.

2.2.4 The organisation shall maintain a capability list of each aircraft or, if of a generic nature, the type that is covered by this paragraph. The capability list must be referenced in the company Exposition if kept on a separate database.

2.3 Construction Oversight and Continuing Airworthiness

2.3.1 An organisation may hold privileges relating to the construction oversight and continuing airworthiness and related management of aircraft, products, parts and appliances as

may be agreed by the CAA, subject to compliance with the requirements of this Chapter A8-26.

2.3.2 Such privileges may include one or more of the following, for aircraft that fall within the scope of approval of the Organisation to:

a) oversee the construction and/or changes to aircraft as defined in 1.4;

b) manage the continuing airworthiness of aircraft, including the dissemination of continuing airworthiness information for aircraft within the scope of the approval and appropriate liaison with the CAA as necessary when mandatory action may be required;

c) develop and control a maintenance programme, either generically or specifically;

d) approve the weight and balance schedule for a specific aircraft;

e) carry out airworthiness reviews associated with the issue or renewal of a Certificate of Validity;

f) manage check flights as may be required to support airworthiness reviews carried out in accordance with Chapter A3-7;

g) issue a Certificate of Validity for a specific aircraft.

2.4 **Flight Test**

2.4.1 An Organisation may hold flight test privileges in support of the issue of a Permit to Fly, Certificate of Validity, the approval of a change or the evaluation of a new design or design feature.

2.4.2 Such an organisation approved to this Chapter may operate aircraft under 'B' Conditions, as prescribed in Schedule 3 of the Air Navigation Order, subject to any conditions specified by the CAA in such approval. The aircraft may fly without a National Permit to Fly being in force.

2.4.3 The Exposition required by paragraph 7 of this Chapter shall also contain the particulars identified in Appendix 1 to Chapter A8-9. The Organisation shall, in the opinion of the CAA, be such as to ensure that, in all matters affecting airworthiness and flight testing, full and efficient co–ordination exists within departments and between related departments.

2.4.4 The Schedule of Approval may restrict the Organisation to a limited scope, aircraft category, or specific aircraft dependent upon the flight test expertise retained and the relative complexity of the projects undertaken.

3 Application

Applications for approval shall be made in a form and manner established by the CAA and shall include an outline of the terms of approval and associated privileges requested.

4 Issue of Approval

An organisation shall be entitled to have an approval under this Chapter A8-26 issued by the CAA when it has demonstrated compliance with the applicable requirements stated herein.

5 Continuing Airworthiness Management System

5.1 The Organisation shall demonstrate that it has established and is able to maintain a continuing airworthiness management system such that it can carry out the periodic airworthiness review and issue the Certificate of Validity for Permit to Fly aircraft covered by their approval.

5.2 The continuing airworthiness management function shall ensure that the airworthiness of each aircraft is managed by the Organisation such that:

a) The aircraft continues to meet the agreed configuration;

b) All modifications have been approved;

c) All mandatory requirements have been satisfied;

d) All prescribed maintenance has been accomplished to the agreed maintenance schedule or programme;

e) All avionic equipment has been inspected, tested and certified in accordance with the requirements;

f) Any check flight has been carried out in accordance with any agreed programme;

g) The aircraft's weight and balance schedule is satisfactory;

h) The required placards and instrument markings, where stipulated, are installed, are legible and correct.

5.3 The Organisation shall establish a process to conduct the airworthiness review of each aircraft in accordance with the criteria specified in Chapter A3-7 and paragraph 5.2 above.

5.4 The Organisation shall ensure that those personnel as may be authorised to conduct airworthiness reviews are suitably qualified against such criteria for training and competence as described in A3-7 or as may be agreed by the CAA.

6 Flight Test Functions (See A8-9 paragraph 3.4)

6.1 Elements of Approval

A flight testing approval in accordance with this Chapter requires the availability of suitable and appropriately approved personnel, facilities and procedures for the control of the principal aspects of flight under 'B' Conditions. These shall include the following functions:

a) **Flight Operations** – to conduct safe flight operations;

b) **Design** - to provide information on the appropriate flight test conditions and limitations;

c) **Airworthiness and Inspection**;

d) **Quality Management**.

The relative strengths of these four functions may vary according to the nature of the work undertaken (See Appendix 1 to Chapter A8-9). The Applicant may form an association with other approved Organisations to meet the requirements of the approval.

6.2 **Flight Testing Procedures** (See A8-9 paragraph 3.4.2)

6.2.1 Flight testing procedures must be documented and agreed with the CAA to address the following:

a) Flight test operations, to ensure that an aircraft shall not fly unless the aircraft is in every way fit for flight and to ensure that flights are only undertaken in accordance with the Air Navigation Order supplemented by procedures which are accepted by the CAA;

b) Consideration of special safety equipment for each test flight;

c) Provision for Certificates of Clearance such that an aircraft shall not fly on any test flight unless an appropriate Certificate of Clearance is completed by the approval holder (see A8-9 paragraph 3.7);

d) Flight Crew Composition. The number and qualifications (including licences where applicable) of the minimum flight crew shall be subject to agreement between the Organisation and the CAA for each type or category of aircraft (as appropriate) concerned (see A8-9 paragraph 3.6);

e) Maintenance of Aircraft. Any aircraft shall continue to be maintained in accordance with the maintenance schedule or programme approved for the aircraft and prepared in accordance with appropriate procedures of the approval holder (see A8-9 paragraph 3.10).

6.3 **Nomination of Persons for Acceptance by the CAA** (See A8-9 paragraph 3.5)

6.3.1 Except where otherwise stated for each person nominated under this paragraph, a CAA Form 4 shall be submitted to the CAA.

6.3.2 For the head of the flight test function and all flight test aircrew, the following additional particulars are required:

a) Licences held;

b) Particulars of flight training;

c) Aircraft types on which in current flying practice;

d) Total hours on each type;

e) Test flying qualifications and experience.

6.3.3 The Applicant for approval shall also nominate for acceptance by the CAA:

a) The individual accountable for ensuring compliance with the requirements of this Chapter whose function will include co–ordination between all Organisations involved;

b) Signatories to certificates and schedules required by this Chapter.

7 Exposition

7.1 The Organisation shall submit to the CAA an Exposition providing the following information:

a) A statement signed by the accountable manager confirming that the Exposition and any associated manuals which define the approved organisation's compliance with this Requirement will be complied with at all times;

b) A general description of the scope of work relevant to the terms of approval;

c) The title(s) and name(s) and terms of reference of Person(s) referred to in paragraphs 6.3 and 9, including but not limited to:

i) Accountable Manager;

ii) Chief Designer / Chief Technical Officer;

iii) Head of Flight Test/ Chief Test Pilot;

iv) Chief Inspector;

v) Head of Quality Assurance / Quality Manager;

d) An organisation chart showing associated chains of responsibility;

e) A list of authorised design signatories;

f) A list of authorised airworthiness review staff and personnel;

g) A list of authorised inspectors with their scope of approval;

h) A general description of manpower resources;

i) Procedures specifying how the organisation ensures compliance with the relevant elements of this requirement;

j) The procedure for the notification of organisational changes to the CAA;

k) The amendment procedure for the Exposition;

l) A record of, or a reference to, each aircraft that is covered by this approval;

m) Details of the organisations record keeping retention policy;

n) A general description of the facilities located at each address specified in the organisations certificate of approval.

NOTE: It is acceptable that records/lists as required in f), g) and l) above can be maintained as separate databases as long as reference is made to the applicable databases and their configuration control in the Exposition.

7.2 The organisation may provide a combined or modular Exposition reflecting each aspect of their proposed operation. The Exposition shall demonstrate how the organisation separates each part of their approval.

7.3 The Exposition shall be amended as necessary to remain an up-to-date description of the organisation, and copies of any amendments shall be supplied to the CAA.

8 Assurance Systems of the Approval

8.1 Quality Assurance

a) When granted, the approval will apply to the whole organisation as described in the Exposition and encompassed by this approval, headed by the Accountable Manager. The approval will necessitate control of standards/specifications and amendments to the satisfaction of the CAA.

b) The organisation shall demonstrate that it has established and is able to maintain a documented quality system. The organisation shall demonstrate the process and procedures that have been put in place where necessary to separate the activities of each group in terms of activities, personnel and processes.

c) The Quality System will ensure that the approved Organisation continues to meet the requirements of this Chapter, it shall designate a Quality Manager to monitor

compliance with, and the adequacy of, procedures required to ensure airworthy aircraft. Compliance monitoring shall include a feedback system to the Accountable Manager to ensure corrective action as necessary.

d) In order to fully demonstrate compliance to c) above, the organisation shall define an internal auditing programme to the satisfaction of the CAA that addresses continued compliance to all elements of the approval.

e) At all reasonable times, the CAA shall have access to all data, reports, and records relating directly or indirectly to the flight testing or airworthiness of an aircraft, engine, or any part thereof. The CAA shall also have the right to witness tests or inspections in any way associated with establishing the airworthiness or fitness for flight of an aircraft, engine, propeller, or any part thereof.

8.2 **Design Assurance System** (See A8.21 paragraph 5)

8.2.1 The Organisation shall demonstrate that it has established and is able to maintain a design assurance system for the control and supervision of the design, and of design changes, of products, parts and appliances approved by the Organisation under this approval. The design assurance system shall be such as to enable the organisation to:

a) ensure that the design activities of the organisation agree with such standards as may be agreed by the CAA for the class of aircraft;

b) ensure that its responsibilities are properly discharged in accordance with:

i) the appropriate provisions of this Requirement; and

ii) the terms of approval issued under this Requirement.

8.2.2 The design assurance system shall include an independent checking function of the showings of compliance.

8.3 **Construction Oversight and Continuing Airworthiness Assurance System**

8.3.1 The Organisation shall demonstrate that it has established and is able to maintain a continuing airworthiness assurance system for the control and supervision of the construction, continuing airworthiness support, maintenance and inspection of aircraft covered by the approval.

8.3.2 The control and supervision of the construction of aircraft shall be such as to enable the organisation to:

a) ensure that the construction of an aircraft is monitored during the process by suitably qualified persons who are authorised by the Organisation for the purpose;

b) ensure that the aircraft conforms to the design configuration and modification standard as defined in the aircraft definition;

c) ensure that the aircraft is constructed to a suitable quality and inspected as being fit for flight prior to the commencement of any flying programme associated with the issue of a Permit to Fly;

d) ensure that the aircraft meets the requirements to allow it to qualify for a Permit to Fly.

NOTE: The organisation may also assess aircraft imported from outside the United Kingdom in relation to the recommendation of an initial permit to Fly. In these cases, they shall ensure full compliance is demonstrated to b), c) and d) above.

8.3.3 The Organisation shall ensure that those personnel as may be authorised to conduct inspections and to hold the privileges prescribed in paragraph 8.3 are suitably qualified, based upon such criteria for training and competence as may be agreed by the CAA.

9 Personnel Requirements

9.1 The organisation shall appoint personnel to fulfil each required position for each area of approval. Individuals shall be nominated with the responsibility of ensuring that the organisation is always in compliance with the approval. A CAA Form 4 shall be completed by each nominated individual.

9.2 The staff in all appropriate technical departments shall be of sufficient number and experience as may be reasonably be expected to undertake the volume of work in the groups for which the approval is sought.

9.3 Records shall be held of competency assessment and training and professional development for all posts within the organisation supporting the approval.

10 Findings by the CAA

10.1 When objective evidence is found showing non-compliance of the holder of an organisation approval with the applicable requirements, the finding shall be classified as follows:

a) a level one finding is any non-compliance with the applicable requirements which lowers the safety standard and hazards flight safety;

b) a level two finding is any non-compliance with the applicable requirements, which is not classified as level one.

10.2 After receipt of notification of findings:

a) the holder of the approval shall propose a corrective action plan, encompassing root cause identification and analysis to prevent re-occurrence. The corrective action(s) shall be demonstrated to the satisfaction of the CAA, within the agreed timescales;

b) for level one findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, the organisation approval, until successful corrective action has been taken by the organisation;

c) for level two findings, the corrective action period granted by the CAA will be appropriate to the nature of the finding and initially will not be more than three months. In certain circumstances, the CAA may extend the three month period, subject to the nature of the finding and the demonstration of a satisfactory corrective action plan;

d) action will be taken by the CAA to suspend in whole or in part the organisation approval in case of failure to comply within the agreed timescales.

10.3 In the case of level one or level two findings, the organisation approval may be subject to a partial or full suspension or revocation. The holder of the organisation approval shall provide confirmation of receipt of the notice of suspension or revocation of the organisation approval in a timely manner.

11 Authorisation Systems for Inspecting Personnel

11.1 General

11.1.1 This Chapter permits persons to be granted, by the holder of the Organisation approval, Authorisations to issue a Permit Maintenance Release and to determine that the construction of an aircraft conforms with the specifications, drawings and instructions

which comprise the design accepted, when the CAA has agreed the conditions of such Authorisations.

NOTE: Compliance with this Chapter does not provide a basis for the grant of personnel certification privileges outside of the approved Organisation.

11.1.2 Approved organisations wishing to issue certifying personnel Authorisations shall develop suitable procedures to determine competence to hold such authorisations, and to manage and control the process within their organisation. These procedures shall clearly define the limits to which Authorisations can be granted and shall be agreed by the CAA.

11.1.3 An authorisation cannot be granted to persons of less than 18 years of age.

12 Changes to the Approved Organisation

In order to enable the CAA to determine continued compliance with these Requirements, the approved Organisation shall notify it of any proposal to carry out any of the following changes, before such changes take place:

a) the name of the organisation;

b) the location of the organisation;

c) additional locations of the organisation;

d) the accountable manager;

e) any of the required persons specified in the Exposition;

f) the facilities, procedures, work scope and staff that could affect the approval.

In the case of personnel changes that could affect the approval, having to be carried out at short notice, these changes shall be notified to the CAA at the earliest opportunity.

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Appendix 1 to A8-26

AMC to A8-26, 11.1

Experience

An applicant for an Authorisation shall have had the following minimum experience in the design, build, inspection, servicing and maintenance of aircraft, as appropriate:

a) For the issue of Authorisation privileges, at least:

   i) four years of relevant maintenance/design/build experience; or

   ii) two years if the applicant has satisfactorily completed an approved training course.

b) For the issue of a restricted Authorisation, a period of time agreed by the CAA that will enable a level of competency equivalent to that required by a) to be obtained, provided that this is not less than two years.

Knowledge

It shall be established by the organisation that applicants have an adequate knowledge of a relevant sample of the aircraft type(s) gained through a formalised training course including documented evidence of practical experience.

Formalised training courses may be replaced by demonstration of knowledge, by documented evidence of experience and by an assessment performed by the organisation in accordance with procedures agreed by the CAA.

This assessment shall include:

a) relevant parts of initial and continuing airworthiness regulations;

b) relevant parts of operational requirements and procedures, if applicable;

c) the organisation's relevant procedures;

d) knowledge of a relevant sample of the type(s) gained through training and/or work experience;

e) where applicable, design, build, final certification, and/or maintenance practices and techniques.

Records shall be maintained including:

- Results of initial and subsequent assessments;
- Names and positions of assessors;
- Subsequent activity levels as per 13.2.4 below;
- Training courses attended;
- Audit assessments.

Continued Validity

The organisation shall ensure that all inspecting staff are involved in at least six months of actual relevant experience in any consecutive two year period. For these purposes 'actual relevant experience' means that the person has worked in a particular environment and has exercised the privileges of the certification authorisation and/or has actually carried out tasks on at least some of the type systems specified in the particular certification authorisation.

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