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| Foreign Part 145 approvals  Maintenance Organisation Exposition | | | | |
| **UG.CAO.00024-003** | | | | |
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|  | Name | Validation | Date |
| Prepared by: | Marc GRAGNOLI | Validated | 07/11/2013 |
| Verified by: | Karl SPECHT | Validated | 11/11/2013 |
| Reviewed by: | Dominique PERRON | Validated | 12/11/2013 |
| Approved by: | Wilfried SCHULZE | Validated | 13/11/2013 |

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| **DOCUMENT CONTROL SHEET** |

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| --- |
| **Reference documents** |
| **a) Contextual documents** |
| Commission Regulation (EC) 2042/2003  - Commission Regulation (EC) of 20 November 2003 laying down implementing rules for the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks  Commission Regulation (EC) 593/2007 - Regulation of 31 May 2007 on the fees and charges levied by the European Aviation Safety Agency Regulation (OJ L140, 01.06.2007)  EASA/FAA Maintenance Annex Guidance (MAG)  EASA/TCCA Maintenance Annex Guidance ( MAG)  ED Decision 2003/19/RM - On AMC and GM to Commission Regulation (EC) 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks  MB decision 01-2011 - On guidelines for allocation of certification tasks to national aviation authorities and qualified entities.  Regulation (EC) 216/2008 - Regulation of European Parliament and of Council of 20 Feb. 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency and repealing Council Directive 91/670/EEC,Regulation (EC)1592/2002 and Directive 2004/36/EC |
| **b) Internal documents** |
| Applicable documents are listed in the form “FO.CAO.00136-XXX - Foreign Part 145 approvals – Documentation Index”. |

|  |  |  |
| --- | --- | --- |
| **Log of issues** | | |
| Issue | Issue date | Change description |
| 001 | 14/07/2010 | First issue |
| 002 | 13/11/2013 | Second issue following review of all foreign Part 145 approvals procedures. This document is aimed to provide the applicant with guidance material supporting the application/approval, and as such has been reviewed by Rulemaking Product Support Continuing Airworthiness Section (R.4.2). |
| 003 | 01/09/2014 | Update of Quality documents to implement the new corporate image of the Agency and the changes to the organization structure. |

# Introduction.

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## Definitions and Abbreviations.

|  |
| --- |
| **Abbreviations** |
| A&P Applications and procurements services  AMC Acceptable Means of Compliance  AMO approved MAINTENANCE ORGANISATION  CAA CIVIL AVIATION Authority  CAMO Continuing Airworthiness Management Organisation  CAMOC Continuing Airworthiness Management Oversight Coordinator  CAN145 CANADIAN PART 145  CAOM Continuing Airworthiness Organisations Manager  CAO Continuing Airworthiness Organisation  CAP Corrective Action Plan  C/S CERTIFYING STAFF  CC/S COMPONENT CERTIFYING STAFF  EASA European Aviation Safety Agency  EU EUROPEAN UNION  F145 FOREIGN PART 145  F147 FOREIGN PART 147  FAA Federal Aviation Administration  GM EASA Guidance Material  IORS Internal OCCUREnCE REPROTING SYSTEM  MOA Maintenance Organisation Approval  MOAP Maintenance Organisation Approval PROCEDURES  MOC Maintenance Oversight Coordinator  MOE MAINTENANCE ORGANISATION EXPOSITION  MOR MANDATORY OCCURRENCE REPORTING  MTOA Maintenance Training Organisation Approval  MTOAP Maintenance Training Organisation Approval PROCEDURES  MTOC MAINTENANCE TRAINING OVERSIGHT COORDINATOR  MTOE MAINTENANCE TRAINING ORGANISATION EXPOSITION  NAA National Airworthiness Authority  PPB Principal Place of Business  QE Qualified Entity  SIS Sampling Inspection system  TCCA Transport Canada Civil Aviation  US145 US PART 145  WG WORKING GROUP  WH WORKING HOURS  WHOC WORKING HOURS EASA OVERSIGHT COORDINATOR |

## Scope and Applicability.

This User Guide is applicable to EASA Part 145 organisations having their principal place of business located outside the EU Member States, the USA and Canada (hereinafter referred to as “Foreign Part 145 organisations”). EASA is the Competent Authority for the maintenance organisations as established by Part 145.1 “General” and therefore responsible for the final approval of those Organisations. EASA has also established procedures detailing how EASA Part 145 application and approval are managed.

This User Guide is complementary to the requirements of Implementing Rule - Regulation EU 2042/2003 Annex II, Part-145 “as amended” and does not supersede or replace the information defined within that document.

This User Guide comes into effect 90 days after publication on the EASA website.

## Purpose.

This user guide is designed to be used by:

* + Part 145 Maintenance Organisations - To assist them in the production of their own MOE.
  + Competent Authority - As a comparison document for MOEs submitted to them for approval.

## Associated Instructions.

EASA has developed associated instructions (user guides, Forms, templates and work instructions), that detail specific matters, which have to be considered as an integral part of this procedure.

A complete listing of these documents, together with their applicability to the applicant/ approval holder or NAA / QE / EASA, is addressed in the current revision of the “**Foreign Part 145 approvals – documentation Index”, FO.CAO.00136-XXX** (XXX identifies the revision number). Documents which are applicable to both NAA/QE/EASA and Applicant /Approval holder are made available on the EASA Web site:

<http://easa.europa.eu/approvals-and-standardisation/organisation-approvals/CAO-related-to-regulation-2042-2003-part-145.php>.

Each time a cross reference is provided to another document or another chapter / paragraph of the same document, this reference is identified with **grey text**.

## Communication.

All documents and correspondences between the Applicant, the accredited NAA/QE and EASA shall be in the English language unless otherwise agreed by EASA.

# General Guidance.

## Preliminary Considerations.

The MOE should be customised by each organisation to demonstrate how they comply with:

* + Part 145, and
  + the Part M paragraphs applicable to Maintenance Organisations as listed below[[1]](#footnote-1):
    - M.A.402 (a) & (f) – Performance of Maintenance;
    - M.A.403 (b) – Aircraft defect;
    - M.A.501.(a) & (c) & (d) – Installation of components, parts etc.
    - M.A.504 (a) & (b) & (d) & € - Control of unserviceable components.

For each detailed procedure described within the MOE, the Part 145 organisation should address the following questions:

What must be done? Who should do it? When must be done? Where must it be done? How must it be done? Which procedure(s)/form(s) should be used?

The organisation may choose to use another format to the one described in this user guide, as long as all the applicable sections of the regulation are addressed and cross-referenced.

The AMC 145.A.70 (a) §3 states: “Where an organisation uses a different format, for example, to allow the exposition to serve for more than one EASA approval, …….”

This AMC has to be read in conjunction with the EC 2042/2003 Article 1, thereby limiting the use of the EASA Part 145 MOE for approvals covered by the Basic Regulation. As a consequence the EASA MOE, associated procedures and lists shall not make reference to any national approval and must be exclusively dedicated to EASA Part 145.

Since the competent authority responsible for the Part-145 approval does not have any legal power to approve procedures, means and methods for aircraft outside the Basic Regulation, the MOE can only contain procedures, means and methods applicable to aircraft covered by the Basic Regulation.

## Exposition Format and Language.

The MOE may be produced in hardcopy or electronic format;

* + Hardcopy: EASA does recommend using white paper (format A4); The MOE shall be provided in a binder with section dividers. (recto/verso can be used)
  + Electronic Format: The Exposition should be in Portable Document Format (PDF) but a printed copy shall be delivered to the overseeing authority to facilitate the document study.

The MOE shall be available in the English language however, it may also be written in a second language (English and the language of the country where the organisation is located) provided that the overseeing competent authority has agreed and EASA has finally accepted. In the case the MOE is written in English and in a second language, the English version shall prevail.

## Terms in Use.

For the purpose of this procedure, the references to the MOE document are identified by the use of following terms:

* “MOE Part” is used to identify the main parts of the MOE (e.g. meaning Part 1 Management, Part 2 Maintenance Procedures, Part 3 Quality System procedures, etc.) as identified in the AMC 145.A.70.(a);
* “MOE chapter” is used to identify each chapter within an MOE Part (e.g. MOE 1.2 Safety and quality policy, MOE 3.2 Quality audit of aircraft, MOE 5.1 sample of documents) as identified in the AMC 145.A.70.(a);
* “MOE paragraph” is used to identify a paragraph within an MOE chapter (e.g. MOE 3.4.1 “Aircraft certifying staff”, MOE 3.4.2 “Components certifying staff”, etc.). At the paragraph level the numbering system is not pre-identified in the Part 145 regulation and it is left to the need of the organisation.

## Further division to sub-paragraphs may be also used.Structure of the Maintenance Organisation Exposition.

The MOE may be produced in the form of a single document or may consist of several separate documents.

* + Single document: The standard MOE produced i.a.w. AMC 145.A.70 (a) is a unique and complete document. It must contain all the information required to show compliance with the regulation including detailed maintenance procedures and detailed quality system procedures (see AMC 145.A.70 (a)).
  + Several documents: The MOE must contain at least the information as detailed in AMC 145.A.70 (a) 1.1 to 1.11 (Management). The additional material may be published in separate documents which must be referenced from the MOE. In this case:
    - The MOE shall cross refer to the associated procedures, documents, appendices, forms and all other lists which are managed separately (e.g. the list of certifying staff, the capability list, the list of sub-contractors, etc).

Therefore the MOE chapter 1.11 is expected to summarise the associated procedures and/or lists references (refer to the chapter 1.11 for further guidance).

* + - These associated documents must meet the same rules as described for the MOE and shall not make reference to any national approval
    - This/these associated document(s), procedure(s) and form(s) etc. shall be provided to and approved by the competent authority (as part of the MOE).

In that case, the MOE shall contain however a minimum information demonstrating compliance to the regulation. An MOE chapter only referring to an associated procedure is not acceptable.

For some organisations certain sections of the headings defined within AMC 145.A.70 (a) may be ‘not applicable’. In this case they shall be annotated as such within the MOE.

As the assigned inspector is referring to this user guide when reviewing the MOE submitted by the Maintenance Organisation, a different structure will result in additional workload and time. Therefore the Maintenance Organisation is strongly recommended to stick to the MOE structure described in AMC 145.A.70 and this user guide.

### Management Control of the MOE.

In order to properly monitor the approval, it is essential that the Organisation clearly identifies the initial edition of the Exposition and each subsequent change. Any change to the approved MOE shall be identified (depending from the numbering system chosen) by:

* + a new issue and/or revision number;
  + a new issue and/or revision date;
  + clear identification of the modified text in each MOE chapter/paragraph (e.g. using vertical bars, highlighting with a specific colour the changed text, etc.)

The MOE 1.11 chapter is intended to detail the methods chosen to identify changes to the MOE (e.g. issue/revision number, vertical bars, etc.).

In particular, depending on the complexity and need of the organisation, one of the two following possibilities is recommended:

1. MOE identified by both an Issue number and Revision number.

This option is intended to use two different numbering systems (Issue and Revision number).

In particular, each time the issue number is changed, the revision number will start again from “0” . The following table is given as an example:

|  |  |  |  |
| --- | --- | --- | --- |
| Issue number | Issue date | Revision number | Revision date |
| 1 **(initial)** | 1/1/2012 | 0 | 1/1/2012 |
| 1 | 17/2/2012 |
| 2 | 25/3/2012 |
| 2 | 20/4/2012 | 0 | 20/4/2012 |
| 1 | 10/5/2012 |
| 2 | 15/6/2012 |

There may be various reasons to choose this option of double identification, such as for example to identify any major change of the organisation with a change of the issue number and each minor change by changing the revision number.

This solution will therefore require to identify the MOE with Issue number, Issue date, Revision number and Revision date.

1. MOE identified only by a revision (or issue) number.

This solution is less flexible than the previous one, because any change to the MOE will be identified only by a change in the revision (or issue) number.

The numbering of the revision (or issue) will start with “0” and increase at each revision. The following table is given as an example:

|  |  |
| --- | --- |
| Revision (or issue) Nr. | Revision (or issue) date |
| 0 **(initial)** | 1/1/2012 |
| 1 | 17/2/2012 |
| 2 | 25/3/2012 |

This solution will therefore require to identify the MOE only with Revision (or issue) number and Revision (or Issue) date.

### Exposition Pages Presentation.

Each page of the MOE shall be identified as follows (this information may be added in the header or footer), as applicable depending on the MOE revision identification option chosen in the previous chapter of this User Guide:

* + the name of the organisation (official name as defined on the EASA Form 3 approval certificate);
  + the issue number of the MOE;
  + the issue date;
  + the revision number of the MOE;
  + the revision date;
  + the chapter of the MOE (i.e 1-5);
  + the page number;
  + the name of the document "Maintenance Organisation Exposition”;

At the beginning of the volume, the first page shall specify:

* + Part 145 Maintenance Organisation Exposition;
  + The name of the organisation (the official one defined on the EASA Form 3 approval certificate);
  + The address, telephone, fax numbers and e-mail address of the Principal Place of Business of the Organisation;
  + The copy number from the distribution list;
  + The approval reference of the PART 145 organisation;

## MOE Initial Approval Process.

### First Submission of the “Draft” MOE.

Prior to submission of the ‘draft’ MOE to the competent authority for approval, the Accountable Manager must sign and date the Corporate Commitment statement (MOE chapter 1.1). This confirms that they have read the document and understand their responsibilities under the approval. In the case of change of the Accountable Manager the new incumbent shall sign the document and submit a suitable amendment to their competent authority for approval.

### Tracking Changes to the Initial Draft MOE.

Following the receipt of the first “draft” MOE, the competent authority will review it and formulate eventual remarks in writing to the applicant.

At the receipt of such remarks, the applicant is expected to revise the first “draft” and produce a second “draft” MOE, where all the remarks have been addressed. In order to have a clear tracking of the changes and to allow the review of the revised MOE by the competent authority the following is expected:

* + The applicant shall reply in writing to each remark explaining how it has been addressed and in which MOE chapter/paragraph;
  + The applicant shall issue a second “draft” MOE, which clearly identifies the changes introduced. This could be done by:
* Maintaining the MOE “draft” identified as “initial” (i.e Issue 1, Rev. 0), but changing the date to identify the new draft issued;
* Identifying clearly the text modified in each MOE chapter/paragraph (e.g. using vertical bars, highlighting with a specific colour the changed text, etc.)

This process will be eventually continued with the issue of a third, fourth, etc. “draft” MOE, until the Exposition is considered acceptable by the competent authority in order to proceed further with the technical investigation process.

# MOE Structure and Content.

# PART 0 - INTRODUCTION

## Table of Contents.

*For standardisation purposes and to facilitate the production of the MOE by the Part 145 maintenance organisation EASA recommends adoption of the following format for the MOE as per AMC 145.A.70 (a). The maintenance organisation should customise the document to suit their organisation and may add pages/paragraphs as necessary*.

PART 0 - INTRODUCTION

0.1 Table of Contents x

0.2 List of Effective Page x

0.3 List of issues / Amendments Record of Revisions x

0.4 Distribution List x

PART 1 - MANAGEMENT

1.1 Corporate Commitment by the Accountable Manager x

1.2 Quality and Safety Policy x

1.3 Management Personnel x

1.4 Duties and Responsibilities of Management Personnel x

1.4.1 Accountable Manager x

1.4.2 Quality Manager x

1.4.3 Maintenance Manager (may be Base MM and/or Line MM and/or Workshop MM) x

1.4.4 Responsible Level III x

1.5 Management Organisation Chart x

1.6 List of certifying staff and B1 and B2 Support Staff x

1.6.1 Scope of the National Licence by Comparison to EASA Certifying Staff Categories x

1.6.2 Categories of Certifying staff and support staff x

1.6.3 Content of the list(s) x

1.6.4 Management of the list(s) x

1.7 Manpower resources x

1.8 Facilities x

1.9 Scope of Work x

1.10 Notification Procedure to the Authority Regarding Changes to the Organisation's Activities / Approval / Location / Personnel x

1.11 Exposition Amendment Procedures (including, delegated procedures) x

PART 2 – MAINTENANCE PROCEDURES

2.1 Supplier Evaluation and Subcontract Control Procedure x

2.1.1 Type of suppliers x

2.1.2 Monitoring the suppliers x

2.2 Acceptance / Inspection of Aircraft Components and Materials from Outside Customers x

2.2.1 Component / Material certification x

2.2.2 Receiving inspection procedure x

2.3 Storage, Tagging and Release of Aircraft Components and Materials to Aircraft Maintenance x

2.4 Acceptance of Tools and Equipment x

2.5 Calibration of Tools and Equipment x

2.6 Use of Tooling and Equipment by Staff (including alternate tools) x

2.7 Cleanliness Standards of Maintenance Facilities x

2.8 Maintenance Instructions and Relationship to Aircraft / Aircraft Component Manufacturer's Instructions including Updating and Availability to Staff x

2.8.1 Maintenance data coming from external sources x

2.8.2 Documentation/Maintenance instructions issued by the Part 145 AMO x

2.9 Repair Procedure x

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2.9.2 Fabrication of Parts x

2.10 Aircraft Maintenance Programme Compliance x

2.11 Airworthiness Directives Procedure x

2.12 Optional Modification Procedure x

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2.13.1 Conception and Update of the Template

2.13.2 Maintenance documentation is use x

2.13.3 Completion of maintenance documentation x

2.14 Technical Records Control x

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2.16 Release to Service Procedure x

2.17 Records for the Operator x

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2.23 Control of Critical tasks x

2.24 Reference to Specific Maintenance Procedures x

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3.10 Concession control for deviation from the organisations' procedures x

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3.12 Control of manufacturers' and other maintenance working teams x

3.12.1 External team working under their own EASA Part 145 approval x

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3.13 Human factors training procedure x

3.13.1 Initial Training (except C/S and S/S) x

3.13.2 All Maintenance staff Continuation Training x

3.14 Competence assessment of personnel x

3.15 Training procedures for on-the-job training as per Section 6 of Appendix III to Part-66 x

3.16 Procedure for the issue of a recommendation to the competent authority for the issue of a Part-66 licence in   
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5.1 Sample of Documents x

5.2 List of Subcontractors as per Part 145.A.75 (b) x

5.3 List of Line Maintenance Locations as per Part 145.A.75 (d) x

5.4 List of Contracted Organisations as per 145.A.70 (a) (16) x

Where a Part is not used it shall be shown in the Exposition as Not Applicable.

## List of Effective Page.

*This list of issue/revision shall allow traceability from the previously approved version.*

*The name of the organisation, the date of review, approval and the name of the person who has reviewed, approved the MOE should be included.*

**Example 1:** The example below is related to a MOE identified by both an Issue number and Revision number as explained in paragraph 1.3.1 of this User Guide.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Page nr.** | **Issue nr.** | **Revision nr.** | **Revision Date** | **Page nr.** | **Issue nr.** | **Revision nr.** | **Revision Date** |
| **PART 0** | | | | 121 | **1** | 1 | 01/01/07 |
| 001 | **2** | **0** | 01/01/12 | 122 | **1** | 1 | 01/01/07 |
| 002 | **2** | **0** | 01/01/12 | **PART 2** | | | |
| 003 | **2** | **0** | 01/01/12 | 201 | **1** | **0** | 19/12/06 |
| 004 | **2** | **0** | 01/01/12 | 202 | **1** | **0** | 19/12/06 |
| 005 | **2** | **0** | 01/01/12 | 203 | **1** | **0** | 19/12/06 |
| 006 | **2** | **0** | 01/01/12 | 204 | **1** | **0** | 19/12/06 |
| 007 | **2** | **0** | 01/01/12 | 205 | **1** | **0** | 19/12/06 |
| 008 | **2** | **0** | 01/01/12 | 206 | **1** | **0** | 19/12/06 |
| 009 | **2** | **0** | 01/01/12 | 207 | **1** | **1** | 01/01/07 |
| **PART 1** | | | | **PART L2** | | | |
| 101 | **1** | **0** | 19/12/06 | L201 | **1** | **0** | 19/12/06 |
| 102 | **1** | **0** | 19/12/06 | L202 | **1** | **0** | 19/12/06 |
| 103 | **2** | **0** | 01/01/12 | L203 | **1** | **0** | 19/12/06 |
| 104 | **1** | **1** | 01/01/07 | L204 | **1** | **0** | 19/12/06 |
| 105 | **1** | **1** | 01/01/07 | **PART 3** | | | |
| 106 | **1** | **0** | 19/12/06 | 301 | **2** | **0** | 01/01/12 |
| 107 | **1** | **1** | 01/01/07 | 302 | **2** | **0** | 01/01/12 |
| 108 | **1** | **1** | 01/01/07 | 303 | **1** | 1 | 01/01/07 |
| 109 | **2** | **0** | 01/01/12 | 304 | **1** | 1 | 01/01/07 |
| 110 | **1** | **1** | 01/01/07 | 305 | **1** | **0** | 19/12/06 |
| 111 | **1** | **0** | 19/12/06 | 306 | **1** | **0** | 19/12/06 |
| 112 | **1** | **1** | 01/01/07 | 307 | **1** | **0** | 19/12/06 |
| 113 | **1** | **0** | 19/12/06 | 308 | **1** | **0** | 19/12/06 |
| 114 | **1** | **0** | 19/12/06 | **PART 4** | | | |
| 115 | **1** | **1** | 01/01/07 | 401 | **2** | **0** | 01/01/12 |
| 116 | **1** | **0** | 19/12/06 | 402 | **2** | **0** | 01/01/12 |
| 117 | **1** | **0** | 19/12/06 | 403 | **2** | **0** | 01/01/12 |
| 118 | **1** | **0** | 19/12/06 | **PART 5** | | | |
| 119 | **1** | **0** | 19/12/06 | 501 | **2** | **0** | 01/01/12 |

MOE **Issue 2, Revision** 0 dated **01/01/12**

MOE internal Review by the Organisation :

|  |  |
| --- | --- |
| **reviewed by: (name & position)** | **date:** |

MOE Approval [[2]](#footnote-2)\* (to be only used in case of indirect approval):

|  |  |
| --- | --- |
| **Indirectly approved by:** (name, position and signature of the approving person) | **date:** 15 January 2012 |

**Example 2:** the example below is related to a MOE identified only by a revision number as explained in paragraph 1.3.1 of this User Guide

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Page Number** | **Revision Date Revision** | **Revision**  **number** | **Page Number** | **Revision Date** | **Revision number** |
| **PART 0** | | | 121 | 01 January 07 | Rev. 1 |
| 001 | 1 January 12 | Rev. 2 | 122 | 01 January 07 | Rev. 1 |
| 002 | 1 January 12 | Rev. 2 | **PART 2** | | |
| 003 | 1 January 12 | Rev. 2 | 201 | 19 December 06 | Rev. 0 |
| 004 | 1 January 12 | Rev. 2 | 202 | 19 December 06 | Rev. 0 |
| 005 | 1 January 12 | Rev. 2 | 203 | 19 December 06 | Rev. 0 |
| 006 | 1 January 12 | Rev. 2 | 204 | 19 December 06 | Rev. 0 |
| 007 | 1 January 12 | Rev. 2 | 205 | 19 December 06 | Rev. 0 |
| 008 | 1 January 12 | Rev. 2 | 206 | 19 December 06 | Rev. 0 |
| 009 | 1 January 12 | Rev. 2 | 207 | 01 January 07 | Rev. 1 |
| **PART 1** | | | **PART L2** | | |
| 101 | 19 December 06 | Rev. 0 | L201 | 19 December 06 | Rev. 0 |
| 102 | 19 December 06 | Rev. 0 | L202 | 19 December 06 | Rev. 0 |
| 103 | 1 January 12 | Rev. 2 | L203 | 19 December 06 | Rev. 0 |
| 104 | 01 January 07 | Rev. 1 | L204 | 19 December 06 | Rev. 0 |
| 105 | 01 January 07 | Rev. 1 | **PART 3** | | |
| 106 | 19 December 06 | Rev. 0 | 301 | 1 January 12 | Rev. 2 |
| 107 | 01 January 07 | Rev. 1 | 302 | 1 January 12 | Rev. 2 |
| 108 | 01 January 07 | Rev. 1 | 303 | 01 January 07 | Rev. 1 |
| 109 | 1 January 12 | Rev. 2 | 304 | 01 January 07 | Rev. 1 |
| 110 | 01 January 07 | Rev. 1 | 305 | 19 December 06 | Rev. 0 |
| 111 | 19 December 06 | Rev. 0 | 306 | 19 December 06 | Rev. 0 |
| 112 | 01 January 07 | Rev. 1 | 307 | 19 December 06 | Rev. 0 |
| 113 | 19 December 06 | Rev. 0 | 308 | 19 December 06 | Rev. 0 |
| 114 | 19 December 06 | Rev. 0 | **PART 4** | | |
| 115 | 01 January 07 | Rev. 1 | 401 | 1 January 12 | Rev. 2 |
| 116 | 19 December 06 | Rev. 0 | 402 | 1 January 12 | Rev. 2 |
| 117 | 19 December 06 | Rev. 0 | 403 | 1 January 12 | Rev. 2 |
| 118 | 19 December 06 | Rev. 0 | **PART 5** | | |
| 119 | 19 December 06 | Rev. 0 | 501 | 1 January 12 | Rev. 2 |

MOE **Revision 2** dated **01 January 12**

MOE internal review by the Organisation :

|  |  |
| --- | --- |
| **reviewed by: (name & position)** | **date:** |

MOE Approval [[3]](#footnote-3)\* (to be only used in case of indirect approval):

|  |  |
| --- | --- |
| **Indirectly approved by:** (name, position and signature of the approving person) | **date:** 15 January 2012 |

**Example 3:** the example below is related to a MOE identified only by a revision number and a revision date, all pages being re-issued each time the MOE is revised with the changes duly identified on each page.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Page Number** | **Revision**  **Date Revision** | **Revision**  **Number** | **Page Number** | **Revision Date** | **Revision Number** |
| **PART 0** | | | 121 | 1 January 13 | Rev. 5 |
| 001 | 1 January 13 | Rev. 5 | 122 | 1 January 13 | Rev. 5 |
| 002 | 1 January 13 | Rev. 5 | **PART 2** | | |
| 003 | 1 January 13 | Rev. 5 | 201 | 1 January 13 | Rev. 5 |
| 004 | 1 January 13 | Rev. 5 | 202 | 1 January 13 | Rev. 5 |
| 005 | 1 January 13 | Rev. 5 | 203 | 1 January 13 | Rev. 5 |
| 006 | 1 January 13 | Rev. 5 | 204 | 1 January 13 | Rev. 5 |
| 007 | 1 January 13 | Rev. 5 | 205 | 1 January 13 | Rev. 5 |
| 008 | 1 January 13 | Rev. 5 | 206 | 1 January 13 | Rev. 5 |
| 009 | 1 January 13 | Rev. 5 | 207 | 1 January 13 | Rev. 5 |
| **PART 1** | | |  | | |
| 101 | 1 January 13 | Rev. 5 | L201 | 1 January 13 | Rev. 5 |
| 102 | 1 January 13 | Rev. 5 | L202 | 1 January 13 | Rev. 5 |
| 103 | 1 January 13 | Rev. 5 | L203 | 1 January 13 | Rev. 5 |
| 104 | 1 January 13 | Rev. 5 | L204 | 1 January 13 | Rev. 5 |
| 105 | 1 January 13 | Rev. 5 | **PART 3** | | |
| 106 | 1 January 13 | Rev. 5 | 301 | 1 January 13 | Rev. 5 |
| 107 | 1 January 13 | Rev. 5 | 302 | 1 January 13 | Rev. 5 |
| 108 | 1 January 13 | Rev. 5 | 303 | 1 January 13 | Rev. 5 |
| 109 | 1 January 13 | Rev. 5 | 304 | 1 January 13 | Rev. 5 |
| 110 | 1 January 13 | Rev. 5 | 305 | 1 January 13 | Rev. 5 |
| 111 | 1 January 13 | Rev. 5 | 306 | 1 January 13 | Rev. 5 |
| 112 | 1 January 13 | Rev. 5 | 307 | 1 January 13 | Rev. 5 |
| 113 | 1 January 13 | Rev. 5 | 308 | 1 January 13 | Rev. 5 |
| 114 | 1 January 13 | Rev. 5 | **PART 4** | | |
| 115 | 1 January 13 | Rev. 5 | 401 | 1 January 13 | Rev. 5 |
| 116 | 1 January 13 | Rev. 5 | 402 | 1 January 13 | Rev. 5 |
| 117 | 1 January 13 | Rev. 5 | 403 | 1 January 13 | Rev. 5 |
| 118 | 1 January 13 | Rev. 5 | **PART 5** | | |
| 119 | 1 January 13 | Rev. 5 | 501 | 1 January 13 | Rev. 5 |

MOE **Revision 5** dated **01 January 13**

MOE internal review by the Organisation :

|  |  |
| --- | --- |
| **reviewed by: (name & position)** | **date:** |

MOE Approval [[4]](#footnote-4)\* (to be only used in case of indirect approval):

|  |  |
| --- | --- |
| **Indirectly approved by:** (name, position and signature of the approving person) | **date:** 05 February 2013 |

## List of Issues / Amendments Record of Revisions.

**Example 1:** the example below is related to an MOE identified by both an Issue number and a Revision number as explained in paragraph 1.3.1 of this User Guide.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Issue number** | **Issue date** | **Revision number** | **Revision date** | **Revision type** | **Reason for change** |
| **1** | 19/12/06 | 0 | 19/12/06 | **INITIAL** | **n/a** |
| 1 | 01/01/07 | minor | New procedure for cleaning |
| **2** | 01/01/12 | 0 | 01/01/12 | major | Change of Quality Assurance Manager and extension of the A1 scope of approval |

**Example 2:** the example below is related to an MOE identified only by a revision number as explained in paragraph 1.3.1 of this User Guide.

|  |  |  |  |
| --- | --- | --- | --- |
| **Revision number** | **Revision Date** | **Revision Type** | **Reason for change** |
| **0** | 19 December 06 | **INITIAL** | **n/a** |
| **1** | 01 January 07 | minor | New procedure for cleaning |
| **2** | 01 January 12 | major | Change of Quality Assurance Manager and extension of the A1 scope of approval |

## Distribution List.

**Example**

|  |  |  |
| --- | --- | --- |
| **MOE COPY NUMBER** | **MOE HOLDER** | **FORMAT** |
| Copy No. 1 | Accountable Manager | CD-ROM |
| Copy No. 2 | Engineering Director | PAPER |
| Copy No 3 | Aircraft Maintenance Manager | CD-ROM |
| Copy No. 5 | Workshop Maintenance Manager | CD-ROM |
| Copy No. 5 | Quality Manager | PAPER |
| Copy No. 6 | Overseeing authority | PAPER |
| Copy No. 7 | Reserved |  |
| Copy No. 8 | Reserved |  |

“Overseeing authority”: may be EASA or the allocated NAA/QE.

# PART 1 – MANAGEMENT.

## Corporate Commitment by the Accountable Manager.

*Part 145.A.30 (a) (c) (e) (g) / AMC 145.A.30 (a) - Part 145.A.70 (a) / AMC 145.A.70 (a)GM 145.A.70 (a) - Part 145.A.90 (a)*

This Exposition and any associated referenced manuals define the organisation and procedures upon which EASA Part 145 approval is based as required by Part 145.A.70

These procedures only apply to aircraft covered by the Basic Regulation, are approved by the undersigned and must be complied with at all time and when work/orders are being progressed under the terms of the Part 145 approval.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by EASA from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that EASA will approve this organisation whilst the Agency is satisfied that the procedures are being followed and work standards maintained. It is further understood that EASA reserves the right to suspend, limit or revoke the Part 145 approval of the organisation if EASA has evidence that procedures are not followed or standards not upheld.

Signed\_\_\_\_\_\_\_\_\_\_\_\_\_

Dated\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Accountable Manager \_\_\_\_\_\_\_\_\_\_\_(quote position) \_\_\_\_\_\_\_\_\_\_\_\_\_

For and on behalf of\_\_\_\_\_\_\_\_\_\_\_\_\_(quote organisation's name)\_\_\_\_\_\_

*According to PART 145.A.70 (a) 1, if the Accountable Manager is not the highest level responsible of the organisation, the latter must then countersign the statement.*

*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 EASA.*

*This statement is a copy of the text given in GM 145.A.70 (a).any modification to the statement must not alter its intent.*

## Quality and Safety Policy.

*Part 145.A.30 (a) - Part 145.A.65 (a) / AMC 145.A.65 (a) - Part 145.A.70 (a) 2*

*The Quality and Safety Policy shall, as a minimum, include a statement committing the organisation to:*

Apply human factors principles.

Encourage personnel to report maintenance related errors/incidents to meet Part-145 requirements.

Recognise safety as a prime consideration at all times for all the staff.

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.

Ensure that safety standards are not reduced by commercial imperatives.

Ensure good use of resources and pay particular attention to carry out correct maintenance at the first attempt.

Train all organisation staff to be aware of human factors and set a continuous training programme in this field.

## Management Personnel.

*Part 145.A.30 (b) 1, 2, 3, 4, (c) / AMC 145.A.30 (b) 1,2,7,8 - Part 145.A.70 (a) 3*

*This chapter shall identify the maintenance management personnel of the organisation by listing, as minimum, the title and names of the Accountable manager plus all the persons nominated to hold a position as required by Part 145.A.30 (b) & (c). Their respective deputies have also to be identified. The group of “nominated persons” shall be chosen/identified so that all the Part 145 functions are covered under their respective responsibilities and their credentials shall be submitted to the competent authority using an EASA Form 4.*

The MOE chapter 1.3 needs to be at any time consistent with the MOE chapters 1.4 and 1.5 and shall represent the up-to-date description of the maintenance management structure of the organisation

1.3.1 Accountable Manager & Deputy;

1.3.2 Nominated Persons;

1.3.3 Deputy Nominated Personnel as per 145.A.30 (b) & (c);

1.3.4 Managers (if applicable);

1.3.5 Responsible NDT Level III \* (if applicable).

*\* The AMC 145.A.30.(f).(4) requires examinations related to NDT methods to be conducted by personnel or organisations under the general control of an NDT Board. In order to consider this requirement met, the Responsible NDT Level III shall demonstrate he has been qualified in at least one method in accordance with EN 4179 by an organisation under the control of an European NDT Board.*

For further guidance on the management personnel classification, the Part 145 organisation structure, the various cases when an EASA Form 4 is required/recommended in order for the management personnel to be acceptable to the competent authority, refer to *“Foreign Part 145 – Management personnel & EASA Form 4 instructions”- WI.CAO.00115-XXX.*

The following is an example of Part 145 AMO Organisation list of management personnel, where the name of the person associated to each position/tile shall also be added:

|  |  |  |
| --- | --- | --- |
| ***Management personnel List*** | ***Deputies*** |  |
| ***Accountable Manager*** | Deputy Accountable Manager |  |
| ***List of Nominated Personnel:***   * Base Maintenance Manager; * Line Maintenance Manager; * Workshop Maintenance Manager; * Quality Manager. | * Deputy Base Maintenance Manager; * Deputy Line Maintenance Manager; * Deputy Workshop Maintenance Manager; * Deputy Quality Manager. |  |
| ***List of Managers:***   * Auditing Manager; * Occurrence Reporting Manager; * Engineering Manager; * Logistic manager. | N/A |  |
| ***NDT Level III*** | N/A |  |

## Duties and Responsibilities of Management Personnel.

*Part 145.A.30 (a) 1, 2, 3 (c) / AMC 145.A.30 (a) (b) 3,4,5,6 (c) - Part 145.A.35 (i) / AMC 145.A.35 (a) 2 - AMC 145.A.45 (d) - Part 145.A.65 (a) (c) 2 / AMC 145.A.65 (a) (c) (2) (4) - Part 145.A.70 (a) 1, 2 - Part 145.A.90 (a)*

*The duties and responsibilities of all management personnel identified in the MOE chapter 1.3 must be detailed in this chapter. It shall be ensured that all Part 145 functions are addressed, as applicable to the Organisation.*

*Any Part 145 function, which is applicable to the Organisation (e.g. to perform the independent audit, to issue the certifying staff authorisation, to have available appropriate facilities, tools and equipment, to issue a certificate of release to service, etc.) shall be under the responsibility of a Nominated Person as listed in MOE chapter 1.3 who shall ensure compliance of that function with the relevant Part 145 regulation requirements.*

*The responsibilities of a Nominated person cannot be delegated to other Manager(s), unless such Manager(s) is/are identified as “Deputy Nominated Person” for the related function (i.e Deputy Maintenance Manager).*

*The duties of any Nominated Person may be delegated to other Manager(s) who are reporting to him/her.*

*The MOE chapter 1.4 needs to be at any time consistent with the MOE chapters 1.3 and 1.5 and shall represent the up-to-date description of the maintenance management structure of the organisation.*

For further guidance on the management personnel classification, refer to *“Foreign Part 145 – Management personnel & EASA Form 4 instructions”- WI.CAO.00115-XXX.*

### 1.4.1 Accountable Manager.

The Accountable Manager is responsible for ensuring that maintenance carried out by the approved organisation meets the standards required by EASA;

He/she is responsible for establishing and promoting the safety and quality policy specified in Part 145.A.65 (a);

He/she is responsible for nominating the management staff;

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 the supervision of the progress of the corrective actions/review of the overall results in terms of quality;

He/she is responsible for ensuring the competence of all personnel including management personnel has been assessed;

He/she is responsible for ensuring that any charges are paid, as prescribed by EASA i.a.w. the fees & charge regulation.

*Any additional duties and responsibilities may be added provided that they do not conflict with those of the other management personnel. Depending on the structure of the organisation some duties may be distributed differently.*

### 1.4.2 Quality Manager

*Duties and Respons*i*bilities.* *The* following *list is not exhaustive*.

The Quality Manager is responsible for establishing an independent quality assurance system to monitor compliance of the Part 145 organisation with EASA requirements;

He/she shall have direct access to the Accountable Manager on matters concerning the quality system;

Defines the human factors principles to be implemented within the organisation;

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 (including the management and completion of audits and production of audit reports). He/she should ensure that any observed non-compliances or poor standards are brought to the attention of the person concerned via his/her manager;

He/she is responsible for follow up and closure of any non-conformance;

The Quality Manager should establish regular meetings with the Accountable Manager to appraise the effectiveness of the quality system. This will include details of any reported discrepancy not being adequately addressed by the relevant person or in respect of any disagreement concerning the nature of a discrepancy;

He/she is responsible for preparing standard practices and procedures (MOE, including the associated procedure(s) for use within the organisation and ensuring their adequacy regarding Part 145 and any amendments to the Regulation;

He/she is responsible for submission of the MOE and any associated amendments, to the competent authority for approval (which includes completion of and submission of EASA Form(s) 2, EASA Form(s) 4 or equivalent);

He/she is responsible for assessing Subcontractors and suppliers of new and used components and materials for satisfactory product quality in relation to the needs of the organisation;

He/she is responsible for issue /renewal/cancellation of certifying staff authorisations;

He/she is responsible for co-ordinating action on airworthiness occurrences and for initiating any necessary further investigation and follow-up activity (145.A.60, AMC M.A.202.a) ;

He/she is responsible for establishing feedback from maintenance incidents/issues and feeding these back into the continuation training programme;

He/she is responsible for assessing contractors working under the quality system and maintaining the expertise necessary to be able to do so, to the satisfaction of EASA. He/she is also responsible for assessing external specialist services required to be used by the organisation in the performance of maintenance;

*It must be reminded that the quality system is required to be "independent" which normally means that the Quality Manager and the Quality Monitoring Staff are not directly involved in the Part 145 function being audited (e.g. maintenance process, maintenance certification, issue of authorisations, training, etc).*

**Depending on the Organisation structure, some of the quality system duties may be delegated to one or several managers who report to the Quality manager and are therefore not subject to an EASA Form 4.**

**Example of quality system duties that could be delegated:**

***1.4.2.1 Occurrence Reporting Manager***

*Duties*

establishing feedback from maintenance incidents/issues and feeding these back into the continuation training programme.

***1.4.2.2 Auditing Manager***

*Duties*

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 (including the management and completion of audits and production of audit reports). He/she should ensure that any observed non-compliances or poor standards are brought to the attention of the person concerned via his/her manager;

follow up and closure of any non-conformances identified.

### 1.4.3 Maintenance Manager (may be Base MM and/or Line MM and/or Workshop MM).

**Duties and Responsibilities.****The following list is not exhaustive.**

He/she is responsible for the satisfactory completion and certification of all work required by contracted operators/customers in accordance with the work specification (Work Order and approved MOE procedures);

He/she is responsible for ensuring that the organisation's procedures and standards are complied with when carrying out maintenance;

He/she is responsible for ensuring the competence of all personnel engaged in maintenance;

He/she is responsible of establishing a programme of training and continuation training using internal and/or external sources (this responsibility may be also under the Quality Manager) ;

He/she is responsible for 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;

He/she is responsible for providing feedback to the Quality System about the services provided by contracted Organisations, Subcontractors ;

He/she is responsible for responding to quality deficiencies in the area of activity for which he/she is responsible, which arise from independent quality audits;

He/she is responsible for 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 EASA;

He/she is responsible for the implementation of the safety policy and human factor issues;

He/she is responsible for availability of facilities appropriate to the planned work including hangars, workshops office accommodation, stores as applicable for the planned work;

He/she is responsible for availability of a working environment appropriate to the tasks being undertaken;

He/she is responsible for the incoming inspection of components, parts, materials, tools and equipment, the related classification, segregation and storage according to the manufacturer’s recommendations ;

He/she is responsible to develop a production planning system appropriate to the amount and complexity of the maintenance scope of work ;

He/she is responsible for availability of tools, equipment and materials to perform the planned tasks;

He/she is responsible for availability of sufficient competent personnel to plan, perform, supervise, inspect and certify the work being performed;

He/she is responsible for availability of all necessary maintenance data as required by Part 145.A.45;

He/she is responsible to record and notify any inaccurate, incomplete or ambiguous procedure, practice information or maintenance instruction contained in the maintenance data used by maintenance personnel to the author of maintenance data;

He/she is responsible to provide a common work card or worksheet system to be used throughout relevant parts of the organisation and ensure such documents comply with 145.A.45.(e) ;

He/she is responsible for notifying the Accountable Manager whenever deficiencies emerge which require his attention in respect of finance and the acceptability of standards (Accountable Manager and Quality Manager to be officially informed of any lack of 25% of available man-hours over a calendar month);

He/she is responsible for the implementation of the safety policy and human factor issues;

He/she is responsible for supplying the necessary technical documents for customers and storage of the organisation’s technical records;

*Any additional duties and responsibilities may be added provided they do not conflict with those of other management personnel.*

*Depending on the Organisation structure, some of the maintenance duties may be delegated to one or several managers who report to the Maintenance Manager ((may be Base MM and/or Line MM and/or Workshop MM). and are therefore not subject to an EASA Form 4.*

**Example of maintenance duties that could be delegated:**

***1.4.3.1 Engineering Manager***

*Duties*

ensuring the availability of all necessary maintenance data as required by Part 145.A.45;

supplying the necessary technical documents for customers and storage of the organisation’s technical records;

recording and notifying any inaccurate, incomplete or ambiguous procedure, practice information or maintenance instruction contained in the maintenance data used by maintenance personnel to the author of maintenance data;

providing a common work card or worksheet system to be used throughout relevant parts of the organisation and ensuring such documents comply with 145.A.45.(e) ;

***1.4.3.2 Logistics Manager***

*Duties*

performing the incoming inspection of components, parts, materials, tools and equipment, the related classification, segregation and storage according to the manufacturer’s recommendations;

### 1.4.4 Responsible NDT Level III[[5]](#footnote-5)

**Duties and Responsibilities.****The following list is not exhaustive.**

He/she is responsible to ensure that the applicable NDT requirements (e.g. 145.A.30.(e), EN4179, etc.) are met and to act on behalf of the employer in this area;

He/she is responsible to develop the procedures (e.g. MOE 3.11, written practice, NDT manual, etc.) for the qualification and certification of NDT personnel;

He/she is responsible to develop the procedures describing the specific technique(s) within each NDT method in use by the Organisation (e.g. written practice, NDT manual, etc.)

## Management Organisation Chart.

*Part 145.A30 (b) (c) / AMC 145.A.30 (b) 2 - Part 145.A.70 (a) 5*

The organisation chart shall show the associated chains of responsibility of the “nominated persons” identified in Chapter 1.3. When other “Managers” are identified in chapter 1.3 (e.g. Auditing Manager, etc) they need also to be reflected in the organisation chart to show that they report ultimately through a “nominated person” to the Accountable Manager.

The Organisation chart of this chapter needs to be at any time consistent with the MOE chapters 1.3 and 1.4 and shall represent the up to date description of the maintenance management structure of the organisation

For further guidance on the Organisational structure classification of a the Part 145 organisation, refer to *“Foreign Part 145 – Management personnel & EASA Form 4 instructions”- WI.CAO.00115-XXX.*

**The following is an example of a Part 145 Approved Maintenance Organisation structure :**

|  |
| --- |
| ***(\*) Form 4 holder*** |

*The Form 4 Post-holders shall be clearly identified in the chart. The names of the management personnel may be included in the boxes of the organisation chart but this is optional.*

*Quality Assurance personnel must be shown to be independent from the Maintenance Managers.*

*Certifying staff may report to any of the managers specified depending upon which type of control the approved maintenance organisation uses (for example licensed engineers/independent inspection/dual function supervisors etc.) as long as the quality compliance monitoring staff specified in 145.A.65(c)(1) remain independent.*

## List of Certifying Staff and B1 and B2 Support Staff.

*Part 145.A.30 (g) (h) - Part 145.A.35 (j) / AMC 145.A.35 (j) - Part 145.A.70 (a) 6 / GM 145.A.70 (a) 3*

This chapter shall detail the scope of the national licence by comparison to EASA C, B1, B2 and A categories certifying staff and support staff, the different categories of Certifying staff and Support Staff depending on the intended scope of work, the content of the list and its management (in conjunction with Chapter 1.10, 1.11).

### 1.6.1 Scope of the National Licence by Comparison to EASA Certifying Staff Categories.

*This comparison is not needed when the AMO intends to authorise staff holding an EASA Part 66 License.*

*summary (preferably in a table) of the privileges of the national license (Associated limitation(s) shall be also recorded);*

Comparison *(preferably in a table) of* these national privileges with EASA Certifying staff and support staff privileges (*associated limitation(s) shall be also considered).*

### 1.6.2 Categories of Certifying Staff and Support Staff.

Based upon the above comparison, the procedure shall define the privileges to be granted under the Part 145 approval for each certifying staff category.

Aircraft Base maintenance certifying staff (category C) ;

Aircraft Base maintenance support staff (category B1 & B2) ;

Aircraft Line maintenance certifying staff[[6]](#footnote-6):

* Category B1;
* Category B2 ;
* Category A (The tasks each staff is authorized to release, have to be recorded in the individual authorisation).

Engines certifying staff (EASA FORM 1);

Components certifying staff (EASA FORM 1);

Specialised Services (NDT) certifying staff (EASA FORM 1).

*The Organisation shall detail the tasks that shall be considered as “Simple tasks” as defined in AMC 145.A.30 (g) 2. Moreover those that shall be agreed by the competent authority as defined in the AMC 145.A.30 (g) 2 (r).*

### 1.6.3 Content of the list(s).

*This list must include at least the following main information as per AMC 145.A.35 (j) :*

Name/forename;

EASA C/S Category;

Identification of the Support Staff for Base maintenance activity ;

Function;

Authorisation identification number;

Date of the first issue of the authorisation;

Expiry date of the Authorisation ;

Scope/limitation of the authorisation;

For aircraft certifying staff and support staff only, the aircraft maintenance license identification number;

Line and base maintenance certifying staff authorised under the protected rights as per Part 145 Appendix IV, paragraph 2.

### 1.6.4 Management of the list(s).

*This procedure shall detail the following:*

Identification and management of the list(s) ;

Approval of the list in conjunction with MOE chapter 1.10 and 1.11;

Retention of records:

* Duration / location;
* Type of documents (evidences, ..).

*This list(s), whatever included to or separated from the basic MOE, is an integral part of the approval. This means that it shall be approved (directly by the authority or by the organisation, through a procedure which has been previously approved by the competent authority (refers to Chapter 1.10, 1.11 ).*

*It is possible to cross-refer from this chapter 1.6 to another record (including a computer record) where a list of the approval holders is kept. In this case an explanation of where the list is maintained and how it is updated shall be included in this paragraph thereby meeting the intent of the EASA requirement.*

## Manpower Resources.

*Part 145.A30 (d) / AMC 145.A.30 (d) - Part 145.A.70 (a)*

The numbers of personnel shall be provided so that a clear picture of the adequacy of staffing levels can be demonstrated without the need for amendment as a result of routine fluctuations. The system must however, be able to highlight any significant re-deployment or loss of staff. The system shall also address the numbers of specialist staff in each department (as applicable).

1.7.1 Base maintenance / Component maintenance

* Maintenance—aircraft / work shops / stores
* Technical services

1.7.2 Line maintenance

* Station resources
* En-Route arrangements

1.7.3 Quality department

* Quality assurance staff (including quality audit staff)
* Quality control staff
* Etc.

1.7.4 Technical support staff

* Engineering
* Administration
* Planning
* Librarian
* Etc.

1.7.5 Subcontracted services

* Full-time
* On-demand

1.7.6 Specialised activities

*The organisation must be able to demonstrate that they have adequate resources to justify the grant of an approval as defined in chapter 1.8 (facilities to be approved) and 1.9 (scope of work). The system used must be presented in sufficient detail to explain the support at each site and for each function as required by Part 145.A.30 (d).*

*The organisation shall not declare a percentage of staff used under this approval but the number of staff needed to comply with Part 145 requirements.*

*In any case the Maintenance Organisation shall ensure the number of staff declared in this MOE and the latest application Form 2 remains consistent.*

For further guidance on how to develop this chapter, refer to the “Foreign Part 145 – definition of the organisation’s staff number, UG.CAO.00120-xxx).

## Facilities.

*2042-2003 Article 2(m), Part 145.A.25 (a) (b) (c) 1, 2, 3,4,5,6, (d)/ AMC 145.A.25 (a) 1,2,3,4 (b) (d) 1,2,3 - Part 145.A.70 (a) 8,15 - Part 145.A.75 (d).*

This section shall describe each of the facilities, in some detail, at which the organisation intends to carry out maintenance. This shall provide a clear picture of what EASA is being asked to approve. All sites shall be covered; however, a different emphasis can be placed on sites dependent on the level of work undertaken.

The system of protection against weather, dust and other airborne contaminants (paint, smoke...), ground water protection, heating/air conditioning, lighting, noise protection, safety system (limited accesses, fire, staff security...) should be described either in the diagram or in the associated text.

1.8.1 Principal Place of Business (PPB).

The PPB is the head office or the registered office of the Organisation within which the principal financial functions and operational control of the activities referred to in Part 145 regulation are exercised.

The PPB is the address which will be included in the EASA Form 3 approval certificate together with the main base sites address(es).

1.8.2 Postal (surface mail and e-mail) address

The postal address of the maintenance organisation to be used by EASA for formal mail communication needs to be clearly identified.

In addition, to ensure anefficient and stable communication channel between EASA and the Foreign Part 145 approval holder/applicant, the organization shall create a “generic” email address (without reference to a family name) to be used regardless any future personnel changes**.**

1.8.3 Base maintenance facilities

* Hangar accommodation
* Specialised workshops
* Environmental provisions
* Office accommodation for: (planning, technical records, Quality, technical reference area, Storage, etc)

1.8.4 Line maintenance facilities (at each location) as appropriate.

1.8.5 Engines / APU and Component maintenance facilities.

1.8.6 Layout of premises

*Where the accommodation is not owned by the organisation, as in the case of a hangar where space is rented or shared, proof of tenancy/access may be required and the competent authority may wish to have this included in an Appendix or Supplement to the MOE.*

*In accordance with AMC 145.A.25 (a) 3, for line maintenance of aircraft, hangars may be required. In this case the availability of a suitable hangar shall be demonstrated, particularly in the case of inclement weather for minor scheduled work and lengthy defect rectification.*

*Note: The hangar visit plan requirement is expected to be in the MOE chapter 2.22, due to relation with the man-hour plan.*

## Scope of Work.

*Part 145.A.20 / AMC 145.A.20 - Part 145.A.42 (c) - Part 145.A70 (a) 9 - Part 145.A.75 (a) (b) (c) (d) (e) - Part 145.A.80 / AMC 145.A.80*

This chapter must show the range of work carried out at each approved site.

* + 1. Aircraft Maintenance.

**Example:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rating** | **TC HOLDER** | **AIRCRAFT MODEL** | **LIMITATION** | **MAINTENANCE Level \*\*** | **Base** | **Line** |
| A1 | AIRBUS | A300 B2-202  A300 B4-102 | Airbus A300 basic model (GE CF6) | Up to and including C\* checks | X | X |
| A1 | AIRBUS | A300 C4-203 | Airbus A300 basic model (GE CF6) | Daily /weekly / defect rectification |  | X |
| A1 | AIRBUS | A300 B2-320 | Airbus A300 basic model (PW JT9D) | Daily/Weekly/defect rectifications |  | X |
| A1 | AIRBUS | A318-110  A321-110 | Airbus A318 /A321 (CFM56) | Daily/Weekly/defect rectifications |  | X |
| A1 | The BOEING COMPANY | Boeing 737-500 | Boeing 737-500 (CFM56) | Up to A check and multiple |  | X |
| A1 | The BOEING COMPANY | Boeing 767-200 | BOEING 767-200 (PW 4000) | Up to C checks\* excluding C4C, S4C and multiples | X | X |
| A2 | PILATUS AIRCRAFT | PC-12  PC-12/45  PC-12/47E | Pilatus PC 12  (PW PT6) | Up to and including weekly checks |  | X |
| A2 | LAVIA ARGENTINA S.A. (LAVIASA) | - | Piper PA-25 (Lycoming) | Up to and including 100H/Annual checks\* | X |  |
| A3 | EUROCOPTER | AS355 E  AS355 F1  AS355 F2 | Eurocopter AS 355 (RR Corp 250) | Defect rectification, Daily |  | X |
| A4 |  | NIL |  |  |  |  |

***For A/C****, shall be mentioned in this table:*

* *in column TC holder: the information from the column “TC Holder” of the table in Appendix I to AMC to Part-66, as amended.*
* *in column Aircraft Model: the data from column “Model” from the same Appendix Ito AMC to Part-66, as amended, except that the word “Series” should be deleted*
* *in column limitation: the information from the column “Part- 66 Type rating endorsement” of the table in Appendix I to AMC to Part-66, as amended, except that the word “Series” should be deleted. The A/C type not intended to be included to the scope of approval should not be mentioned (e.g Airbus A318/A321, Boeing 737-500).*
* *in column Maintenance level: the scope of maintenance activity agreed by the Competent Authority.*
* *in case of group rating, each aircraft composing the group shall be listed.*

*\*: The limitation relative to the maintenance checks/tasks shall be addressed as referenced in TC Holder data (e.g. MRB/MPD).*

*\*\*: In case of unforeseen maintenance such as but not limited to major repairs and modifications that is not already described within this chapter, the AMO shall contact the competent authority.*

* + 1. Engine Maintenance.

**Example:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Rating** | **ENGINE/APU MODEL** | **Limitation** | **Maintenance level** |
| B1 | TFE 731-20 | TFE 731- 20AR | Modules turbine exchange |
| B1 | GE CF6 80 E1 | GE CF6-80E1A1  GE CF6-80E1A2 | All Modules repair |
| B1 | PWC 545 | PWC 545A  PWC 545C | Repairs IAW CMM  Hot Section inspection |
| B2 | Continental IO-360 | IO-360-A  IO-360-AES | O/H |
| B3 | Honeywell GTCP 85 | GTCP 85-H | Minor repair i.a.w CMM 49-XX-XX |

***For engines only****, shall be mentioned in this table:*

* *in column Engine / APU Model: the engine type as listed in the engine TCDS,*
* *in the column Limitation: the engine variant as defined in the engine TCDS,*
* *in the column Maintenance level: the scope of work agreed by the Competent Authority, reference to the relevant maintenance data shall be made;*
* *when the maintenance performed under B1 or B3 rating is limited to boroscoping inspections, the MOE shall specify the engine/APU types associated to the boroscoping technique limitation,*
* *for Piston engines, the column Engine Model and Limitation shall contain the data: Continental and Continental IO-360 series respectively,*
* *as some engines may be installed also by STC, shall be added only the engine agreed for installation as per the list of approved STC shown in the list of the EASA web site (Certification).*

***For APU only****, shall be mentioned in the table:*

* *in column Engine / APU Model: the APU type*
* *in the column Limitation: the APU variant as defined by the OEM,*
* *in the column Maintenance level: the scope of work agreed by the Competent Authority, reference to the relevant maintenance data shall be made.*
  + 1. Component Maintenance.

This section shall specify the component manufacturer or the particular component and/or cross refer to a referenced capability list. The part number and the level of work performed shall be included. The reference of the relevant CMM shall also be added.

**Example:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rating** | **ATA** | **P/N** | **Designation** | **Reference of the CMM** | **Level of maintenance** | **Work Shop** |
| C1 | 21 |  |  |  |  |  |
| C2 | 22 |  |  |  |  |  |
| C3 | 34 |  |  |  |  |  |
| C4 | 52 |  |  |  |  |  |
| C5 |  |  |  |  |  |  |
| C6 |  |  |  |  |  |  |
| C7 |  |  |  |  |  |  |
| C8 |  |  |  |  |  |  |
| C9 |  |  |  |  |  |  |
| C10 |  |  |  |  |  |  |
| C11 |  |  |  |  |  |  |
| C12 |  |  |  |  |  |  |
| C13 | 31 |  |  |  |  |  |
| C13 | 42 |  |  |  |  |  |
| C13 | 46 |  |  |  |  |  |
| C14 |  |  |  |  |  |  |
| C15 |  |  |  |  |  |  |
| C16 |  |  |  |  |  |  |
| C17 |  |  |  |  |  |  |
| C18 |  |  |  |  |  |  |
| C19 |  |  |  |  |  |  |
| C20 |  |  |  |  |  |  |
| C21 | 41 |  |  |  |  |  |
| C22 | 84 |  |  |  |  |  |

***For C rating,*** *shall be mentioned:*

* *in the column Rating: the relevant class C rating, if some C ratings are not used, the line remains empty,*
* *in the column ATA, the ATA 2200 reference defined in AMC 145.A.20,*
* *in the column P/N and Designation: the detailed reference number and designation of the component as per CMM respectively,*
* *in the column CMM: the reference of the component maintenance manual (or equivalent document),*
* *in the column Level of maintenance: the scope agreed by the Competent Authority*
* *in the column Work shop: the base maintenance shop where maintenance takes place.*

When an Organisation is managing a separate “capability list” the information addressed above shall be mentioned in this list. In this case the chapter 1.9 shall only address the rating, the ATA and the Designation and shall refer to the capability list reference (see example below).

|  |  |  |  |
| --- | --- | --- | --- |
| **Rating** | **ATA** | **Designation** | **P/N** |
| C1 |  |  | Components in accordance with the capability list reference XXXX |
| C2 |  |  |
| C3 |  |  |
| C4 |  |  |

* + 1. Specialised Services Maintenance.
       1. NDT with D1 Rating.

When the Organisation intends to perform NDT tasks and release such tasks using an EASA Form 1, the rating D1 is necessary. Under the D1 rating, the capability to perform maintenance is determined by the “NDT method” listed in the approval schedule, regardless the specific aircraft, engine or component which is subject to the inspection method.

***For D1 rating,*** *shall be mentioned:*

* *in column Rating: D1,*
* *in column Limitation: shall be quoted the NDT method (strikethrough as necessary)*
* *in column Detail of limitation: the detailed method of test when applicable or the relevant exception.*
* **Example:**

|  |  |  |
| --- | --- | --- |
| **Rating** | **Limitation** | **Detail of limitation** |
| D1 | Penetrant testing (PT) |  |
|  | Magnetic testing (MT) |  |
|  | Eddy Current testing (ET) |  |
|  | Ultrasonic testing (UT) |  |
|  | Radiographic testing (RT) | Example : Except Gamma Ray inspection |
|  | Thermographic testing (TT) |  |
|  | Shearographic testing (ST) |  |

* + - 1. NDT without D1 Rating (“in the course of maintenance”).

When the Organisation intends to perform NDT tasks under another approved rating (e.g. as part of the maintenance carried out on aircraft under rating A1, engines under rating B1, components under a C rating) the NDT tasks are considered done in the “course of maintenance”.

* In this case, even if the Organisation does not need to hold a D1 rating, the various NDT methods applied during maintenance shall be listed in this paragraph for each approved site and workshop *.*
  + - 1. Other Specialised Activities.
* Each specialised maintenance tasks such as but not limited to painting, welding, machining, NDI, shall be detailed in this paragraph
* These specialised services maintenance shall be detailed for each approved site and workshop

*It has to be noted that those specialised maintenance tasks may need to be carried out under specific conditions (e.g. aircraft painting is considered to be a base maintenance task and therefore a base maintenance scope of approval is required in addition to listing such activity in this chapter).*

* + - 1. Maintenance Away From the Approved Locations as per 145.A.75.(c).
* If applicable, this paragraph shall make reference to the fact that the Organisation may perform works away from the approved locations, subject to the condition specified in MOE 2.24 (specific maintenance procedure for works away from the approved locations).

*It shall be noted that this privilege, is approved by the competent authority based upon the ability of the Quality System to deal adequately with the Part 145 requirements. This ability cannot be therefore demonstrated at the time of the initial approval. In any case this procedure cannot be detailed in the MOE and therefore approved by the competent before the first 2 year period has been completed.*

* When an AMO is performing maintenance in multiple locations the corresponding scope of work shall additionally be detailed for each site. This shall also relate to chapters 1.8 & 5.3 in such a way that it can be clearly seen which specific tasks are performed at each location.

## Notification Procedure to the Authority Regarding Changes to the Organisation's Activities / Approval / Location / Personnel.

*Part 145.A.15 (a) / AMC 145.A.15 - Part 145.A30 (a) (b) - Part 145.A.70 (a) 10 / GM 145.A.70 (a) 9 - Part 145.A.85 / AMC 145.A.85*

EASA 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. According to § 145.A.85 this part of the Exposition must show how the company would notify the competent authority and manage the related change .

* + 1. Notification

The procedure shall define the changes to be notified directly to EASA using an EASA Form 2 and the ones that can be notified directly to the Assigned Inspector

Change of the name of the organisation

Change of the PPB

Addition or cancellation of approved maintenance sites

Change of Accountable Manager

Change of nominated personnel

Any changes in company activities that could affect the scope of approval as per EASA Form3 or MOE chapter 1.9 and related to:

* Facilities, Certifying staff
* Equipment, Tools, Material
* Procedures, Work scope

Change of MOE, associated procedures, lists and forms which does not affect the scope of approval

Change not listed above.

In addition, this procedure shall also detail:

When to notify the change

How to notify the change (using the EASA Form 2 or not)

Who in the AMO is in charge of the notification

Where to send the notification (When EASA is to be notified the following address is to be used foreign145@easa.europa.eu)

* + 1. management of the change with the assigned inspector.

Once the change has been notified, the AMO shall detail how the related change is internally managed:

Internal audit by the Quality system

Composition of the package associated to any of the above listed change (e.g. EASA Form 2, MOE, internal audit, C of I, Form 4, etc.)

Who in the AMO is in charge of monitoring the change with the assigned inspector.

*For initial approval and change of approval applications, the organisation shall carry out an internal audit in accordance with its MOE 3.1 audit procedure, prior to the audit by the competent authority, confirming that processes, areas, activities and personnel subject to the application have been reviewed and audited showing satisfactory compliance with all applicable Part 145 requirements. The relevant audit report together with a statement of compliance form the Quality Manager shall be provided to the assigned inspector.*

*The requirement to have such internal audit carried out as part of any application for change, shall be addressed in a procedure under this MOE 1.10 chapter.*

## Exposition Amendment Procedures (including delegated procedures).

*Part 145.A.70 (a) 11, (b) (c) / GM 145.A.70 (a) 6, 7 - Part 145.A.85*

The Quality Manager is responsible for reviewing the MOE on a regular basis and amending if necessary, this includes the associated procedure manuals, and the submission of proposed amendments to the assigned inspector responsible for oversight.

* + 1. MOE Amendment.

*This procedure shall at least address the Exposition amendment procedure.*

Person responsible for amending the Exposition.

Definition of minor & major amendments to the Exposition and related approval process.

Definition of criteria for new issue and/or revision (depending from the MOE revision system numbering adopted as described in this user guide, paragraph 1.4.1 “Management control of the MOE”)

The record of the Part-145 approval certificate and approval of the MOE and subsequent amendment shall be described:

* Approval letter from the competent authority as applicable
* PART 145 approval certificate and/or appendix amendments following evolution of the scope of activity and/or evolution of the locations and/or a new issue of the MOE
  + 1. Associated Procedures, Lists and Forms.

The minimum procedures/lists to be considered are all those identified in AMC 145.A.70.(a), which are therefore integrally part of the Exposition*.*

*This procedure shall at least address*:

Summary table of associated procedures and lists:

**Example:**

|  |  |
| --- | --- |
| ***Type of Document*** | ***Document reference*** |
| Certifying staff and Support staff list | AMO-DOC-1 |
| Workshop capability list | AMO-DOC-2 |
| List of Subcontractors | AMO-DOC-3 |
| List of Line Maintenance Locations | AMO-DOC-4 |

Definition of minor & major amendments to each associated procedure/list identified in the table.

Person responsible for amending these documents.

Definition of minor & major amendments to each kind of documents.

Definition of criteria for new issue and/or revision

*In addition, when the organisation develops second level procedures (for example to describe the details of maintenance processes in each area/workshop), those procedures shall be collected into a separate manual (e.g. procedures manual) to be also listed in this table.*

* + 1. Approval Process

Direct approval:

The procedure shall at least describe the process followed to get the approval from the competent authority.

Indirect approval:

In case of minor amendment (of the MOE and/or associated procedures and lists) the Quality Manager may be delegated for indirect approval provided the appropriate procedure within this chapter 1.11 of the MOE is approved by EASA.

The procedure **shall at least include:**

the documents subject to an indirect approval and the related procedure.

the limits of change that can be indirectly approved for each document.

the person responsible for the internal approval of the related documents

the notification of such approval to the competent authority

The record of such indirect approval.

*Such a delegation is to be based upon the ability of the Quality System to deal adequately with the Part 145 requirements. This ability cannot be therefore demonstrated at the time of the initial approval. Therefore an indirect approval procedure cannot be detailed in the MOE before the first 2 year period has been complete.*

*After this 2 year period the organisation shall demonstrate its ability to manage the quality system in order to be eligible for such an indirect approval privilege.*

*In any case the overseeing authority must continue to receive a copy and acknowledge receipt of all such minor changes when “indirectly” approved.*

# PART 2 – MAINTENANCE PROCEDURES.

## 2.1 Supplier Evaluation and Subcontract Control Procedure.

*Part 145.A.42 (a) / AMC 145.A.42 (a) - Part 145.A.70 (a) 12, 14, 16 - Part 145.A.75 (b) / AMC 145.A.75 (b)*

This chapter shall be clearly structured to cover all the cases where the Part 145 AMO is using the services of other organisations

### 2.1.1 Type of Suppliers.

This chapter shall describe how the organisation identifies the suppliers where to purchase serviceable necessary materials, components to carry out maintenance. A “list of suppliers” shall be developed under the control of the Quality Department.

Suppliers of tools and tools calibrations services shall be described in the MOE chapter 2.4

Suppliers of materials, standard parts, components

* Sources of supplies (e.g. constructor, original manufacturer (OEM), distributor approved by the manufacturer, retailer, airline, ...)
* Types of (e.g. components, consumables, standards, materials, ingredients, …)

*This paragraph shall describe how the AMO may contract part of the maintenance to another EASA Part 145 approved Organisation as per 145.A.70.(a)(16). All such contracted organisations shall be listed in the MOE chapter 5.4*

Contracted organisations

* Sources of services (e.g. EASA Part 145 approved maintenance organisation and related approved ratings)
* Types of services (e.g. specialised work, line maintenance, component maintenance, ..)

*This paragraph shall describe how the AMO may contract part of the maintenance to another Organisation not holding an EASA Part 145 approval, as per 145.A.75.(c). All such “Subcontractors” shall be listed in the MOE chapter 5.2.*

Subcontracted organisations

* Sources of services (non- Part 145 approved organisation and related qualification)
* Types of services (e.g. specialised work, line maintenance, component maintenance, ..)

### 2.1.2 Monitoring the Suppliers.

*For each category of supplier identified in the previous chapter , the related monitoring and approval process shall be described.*

*In the case of Subcontractors, the acceptance and monitoring process shall comply with AMC 145.A.75.(b).*

Initial approval of suppliers, contracted organisations and subcontractors:

* Selection processes;
* Internal acceptance process;
* Issuance of the internal authorisations (e.g. scope of authorisation, validity, ...);
* Producing the list of suppliers, contracted organisations and subcontractors;
* Internal distribution of the list – access / authorisation of computerised list

Monitoring of the list of suppliers, contracted organisations and subcontractors versus internal authorisation:

* Incoming inspection results, audit results, possible internal limitation…
* Assessment of the service provided
* Updating of the list
* Withdraw of the internal authorisation, when applicable

Management of the purchase orders according to the approved suppliers/ subcontractors.

Records of suppliers, contracted organisations and subcontractors information:

* Files;
* Duration / location;
* Type of documents (Certificates, audit reports, list of suppliers, incoming inspection results, …)

## 2.2 Acceptance / Inspection of Aircraft Components and Materials from Outside Customers.

*Part 145.A.42 (a) 1, 4, 5 (c) / AMC 145.A.42 (a) (b) (c) (d) (e -Part 145.A.55 (a) - Part 145.A.70 (a) 12, 14, 16*

This chapter shall refer to Part 145.A.42 (a) 1, 4, 5, AMC 145.A.42 (a) (b) ( c) (d) (e), and M.A.501.(a) & (c) & (d) – Installation of components, parts, that cover the compliance of materials in general (components, standard parts, materials, ingredients) received from suppliers / subcontractors / internal sources.

### 2.2.1 Component / Material certification.

*This chapter is expected to identify the release documents to be expected/accepted for each type of part/material depending from their status (new/used) . It is recommended to develop a table listing all the cases, for easy reference to receiving inspection personnel.*

New Parts

|  |  |
| --- | --- |
| **STATUS “NEW”** | |
| **type of part/material** | **document to be expected** |
| standard parts | when the part/material is purchased directly from the manufacturer, the Certificate of Conformity issued by the manufacturer is expected;  when the part/material is purchased thru a third party (i.e. distributor, operator, maintenance organisation, etc.) the following documents are expected:   * Certificate of Conformity issued by the manufacturer, and; * Statement from the supplier source, |
| Materials (raw materials and/or consumables) |
| aircraft parts | EASA Form 1 or equivalent release documents:   * As per AMC 145.A.42(a)1 & AMC M.A.501.(a).(5) * FAA Form 8130-3 (with status “new”) ; * TCCA Form One (with status “new”) |

Used Parts

|  |  |
| --- | --- |
| **STATUS “USED”** | |
| **type of part/material** | **document to be expected** |
| aircraft parts | EASA Form 1 or equivalent release documents:   * As per AMC 145.A.42(a)1 & AMC M.A.501.(a).(5); * FAA Form 8130-3 for a used part (e.g. overhauled) issued by an EASA approved organisation located in the USA, having the EASA dual release in the remark block; * TCCA Form One for a used part (e.g. overhauled) issued by an EASA approved organisation located in Canada, having the EASA dual release in the remark block; |

*Depending on the type of components the organisation shall additional describe the specific requirements applicable to PMA parts, Life Limited parts, used parts, etc.*

### 2.2.2 Receiving inspection procedure.

Incoming inspection For Components / Materials/ Standard Parts received from external sources:

* Required documentation
* Compliance with order / condition
* Conformity with company requirements (e.g. type of release requested, Sources
* Identification of parts/material after receiving inspection (e.g. tag)
* Materials/standard parts received in batches and related traceability (e.g. split of batches)
* Traceability of parts and materials to the related documentation (e.g. internal tracking number)
* Receiving inspection records
* "Quarantine" procedure
* Modification Standard and AD compliance
* Identification of storage limitation/ life limits

Acceptance and incoming inspection of components from internal sources (e.g. transfer between stores, from the workshops):

* Conformity with company requirements,
* Records
* Required documentation
* Compliance with order, condition,
* "Quarantine" procedure
* Identification of storage limitation/ life limits

Acceptance and incoming inspection of internal fabricated parts in accordance with 145.A.42 (c).(9).

Acceptance and incoming inspection Components removed serviceable from aircraft.

Acceptance of components received in AOG (these parts are normally received directly at the AOG location and dedicated procedures need to be in place)

Procedure of treatment of a suspected unapproved part « bogus part »

* Identification
* Record
* notification to the Authority
* Form used (e.g. refer to the MOE 2.18 occurrence reporting procedure/form)
* notification address to EASA
* etc....

## 2.3 Storage, Tagging and Release of Aircraft Components and Materials to Aircraft Maintenance.

*Part 145.A.25 (d), AMC 145.A.25 (d) 1, 2, 3 - Part 145.A.40 (a) - AMC 145.A.42 (b) - Part 145.A.70 (a) 12*

Procedures for maintaining satisfactory storage conditions (including segregation) of:

* Routable
* Perishables, raw material
* Flammable fluids
* Engines
* Bulky assemblies
* Record of position in the store (s)
* Etc

System and procedure to control shelf life / Life limit and modification standard.

Special storage requirements (condition and limitation) e.g.: ESD sensitive devices, rubber.

Tagging / Labelling system and storage areas

* Serviceable parts /material
* Unserviceable
* Unsalvageable components (see Part145.A.42(d))
* Quarantine
* Batch number
* Scrap (etc.)

Issue of components to the maintenance process

Free-issue dispensing of standard parts (control, identification, segregation)

*The storage condition and the storage limitation must be based upon manufacturer specifications.*

## 2.4 Acceptance of Tools and Equipment.

*Part 145.A.40 (a) 1, 2, 3 (b) / AMC 145.A.40 (a) (b) - Part 145.A.70 (a) 12*

This chapter shall refer to PART 145.A.40 (a) 1, 2, 3 and AMC 145.A.40 (a) (b). It must describe the procedures for the acceptance of new, maintained, modified, calibrated tools/ equipment received and also the lent/ hired tooling. It could also specify (as for chapter 2.1) the assessment processes of tooling suppliers and control of subcontractors carrying out maintenance services on tooling:

Tools and equipment acceptance procedure

* Sources
* Conformity with company requirements (e.g. certification, ...)
* Records

Incoming inspection for tools

* Required documentation
* Compliance with order / condition
* "Quarantine" procedure
* Internal identification
* Verification of necessary control / calibration

Monitoring of tools suppliers and subcontractors

* Selection processes for each type of suppliers
* internal authorisation processes for each type of suppliers and subcontractors
* Monitoring of the internal authorisations (e.g. scope of authorisation, validity, ... )
* Withdrawal of the internal authorisation

## 2.5 Calibration of Tools and Equipment.

*Part 145.A.40 (a) 1, 2, 3 (b) / AMC 145.A.40 (a) (b) 1, 2 - Part 145.A.70 (a) 12*

This chapter shall refer to PART 145.A.40 (a) 1, 2, 3 (b) and AMC 145.A.40 (a) (b) 1, 2. It must describe all the procedures related to the controls, revisions, modifications, checking and calibrations of the tools/ equipment:

Inspection, servicing and calibration programme / equipment and calibrated tool register.

Establishment of inspection, servicing and calibration time periods and frequencies.

Person/ department responsible for the calibration programme, the register, the follow-up, time period and frequencies (link between departments if necessary).

Identification of servicing / calibration due dates.

Management of personal or loaned calibrated tools

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 – calibration of tools and equipment, UG.CAO.00131-xxx).

## 2.6 Use of Tooling and Equipment by Staff (including alternate tools).

This chapter shall refer to PART 145.A.40 (a) 1, 2, 3 (b) and AMC 145.A.40 (a) (b) 1, 2. It must describe all management procedures for tooling, distribution and return of the tooling after use:

Distribution of tools

* record of user
* location of use
* Verification of A/C or component is clear of all tools after completion of maintenance

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:

* Demonstration of equivalence between design/manufacturing data of alternate tools and the data/features of the tools recommended in the maintenance data of the manufacturers
* In-house identification rule of alternate tools (PN, SN)
* Alternate tools validation process
* Register of alternate tools /tagging/relation between the references of origin tools and alternate tools.
* Treatment of possible changes of maintenance data according to the new references of alternate tooling (modifications limited to the references of the tooling to be used and/or adaptation of maintenance data regarding alternate tooling)
* Use/storage/maintenance manuals according to the need
* In-house approval of each alternate tooling before servicing
* Storage of the records of alternate tooling.

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 – use of tools, UG.CAO.00132-xxx).

## 2.7 Cleanliness Standards of Maintenance Facilities.

Organisation of the cleaning of the facilities:

* “Foreign Object" exclusion programme
* Cleaning programme
* Individual responsibilities
* Timescales
* Waste material disposal
* Special procedure for some facilities (painting, white room, parts cleaning)
* Segregation of facilities to prevent cross contamination

## 2.8 Maintenance Instructions and Relationship to Aircraft / Aircraft Component Manufacturer's Instructions including Updating and Availability to Staff.

*Part 145.A.45 (a) (b) (c) (d) (e) (f) (g) / AMC 145.A.45 (b) 1, 2, 3, 4, 5, 6 (e) - AMC 145.A.45 © 1, 2 (d), (f) 1, 2 (g) 1, 2, 3 - Part 145.A.70 (a) 12*

This chapter shall refer to PART 145.A.45(a), (b), (c), (d), (e) (f) (g) and AMC 145.A.45(b) 1, 2, 3, 4, 5, 6, ( c) 1, 2, (d) (e) (f) 1, 2, (g) 1, 2, 3, and describe the management of all the technical documentation in use within the Organisation.

This chapter shall be structured to clearly identify the various types of documentation in use (both of external and/or internal origin), to be controlled by the organisation in order to perform the intended scope of work. The documentation may be divided in two main groups:

### 2.8.1 Maintenance Data Coming from External Sources.

This paragraph needs to identify the applicable Maintenance data is use as defined in 145.A.45.(b).1,2,3,4 coming from external sources such as TCH, STC holders, the Agency (e.g. instructions for continued airworthiness, AD, SB, etc);

Control of information

* Technical library
* Subscriptions control
* Information held / need regarding the scope of work
* Issue / amendment control

Technical information amendment procedures

* Manuals
* Service Information (AD - SB – SIL, etc.)
* Distribution: access to the staff

Control of customer supplied maintenance data (refers also to Chapter 2.13)

### 2.8.2 Documentation/Maintenance Instructions Issued by the Part 145 AMO.

This chapter need to identify and describe the objective and management of the documentation issued by the Part 145 AMO itself, as for example:

Modification of maintenance instructions by the organisation as defined in 145.A.45.(d) as applicable;

Maintenance instructions issued in conformity to approved data as per 145.A.45.(e) in order to facilitate/customise the maintenance (e.g. work card/work sheet, engineering orders, technical specifications, etc.) as applicable (refers also to Chapter 2.13)

Documentation issued for internal information purposes (e.g. quality information bulletins, quality alerts, occurrence investigation reports, etc.) as applicable;

Control of information

* Technical library
* Information held / need regarding the scope of work
* Issue / amendment control

Verification and validation of new procedures where practicable

Incorporation of best practice and human factors principles

Incorporation of FTS concept on maintenance documentation (Job Instruction Cards etc.)

Incorporation of CDCCL concept. ED Decision n° 2009/007R

* compliance with CDCCL instructions
* traceability of CDCCL completion

Awareness of Technical Publications, Instructions and Service Information by the staff

## 2.9 Repair Procedure.

*Part 145.A.42 (c) - Part 145.A.45 (a) (b) (c) (d) (e) (f) (g) / AMC 145.a.45 (b) (c) (d) (f) (g) - Part 145.A.70 (a) 12*

### 2.9.1 Repairs

This chapter is intended to describe how the organisation is performing repairs on aircraft/components/engines according to already available maintenance data and how is managing the repairs not described in the manufacturers' documentation.

It has to be noted that the privilege given by PART 145.A.45 (d) in order for the organisation to develop modified maintenance instructions (as described in previous MOE chapter 2.8), is excluding the engineering design of repairs and modifications.

Maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data specified in M.A.304

Repairs according to already available maintenance data

* repairs In accordance with AMM, SRM, CMM etc.
* repairs already approved by EASA Part 21 DOA or EASA.
* repairs already approved by the TC Holder[[7]](#footnote-7).
* internal process in use and forms to manage the repairs

Repairs requiring a new approval (not already included in the available maintenance data)

* Sources of repair approval as per M.A.304 (e.g.: EASA Part 21 DOA, EASA, TC Holder6)
* Acceptance of Minor/major repairs approvals (it is recommended to develop a table listing the various cases, including the acceptance of repairs under bilateral agreements)
* Work order
* internal process in use and forms to manage the repairs
* Maintenance instruction (job cards,..)

Control of the scope of work versus the requested repair (limitations and conditions).

Repairs approved by a FAA Designated Engineering Representative (DER) are only acceptable under the terms of the bilateral agreement.

### 2.9.2 Fabrication of Parts.

A Maintenance procedure shall be established to address requirements of the Part 145.A.42.(c) and its associated AMC.

This procedure shall at least includes:

* The internal criteria defining in which case the AMO can fabricate parts – For example:
* Related parts must be fabricated and fitted on A/C, component at the same location (in the course of maintenance)
* Fabricated part cannot be sold as an isolated part
* Condition requiring prior authorisation from the competent authority
* A control process to ensure that the related fabrication data are approved by the Agency or the type certificate (TC) holder or Part-21 design organisation approval holder, or supplemental type certificate (STC) holder)
* The origin and the type of the data used to fabricate the part
* A detailed definition of the fabrication, identification, inspection, assembly, test and delivery to service[[8]](#footnote-8) directives.
* The composition of the related work package and its internal approval

## 2.10 Aircraft Maintenance Programme Compliance.

*Part 145.A.45 (a) (b) (c) (d) (e) (f) (g) / AMC 145.A.45 (b) (c) (d) (f) (g) - Part 145.A.70 (a) 12 (b) -* *Appendix I to AMC M.A.302 and AMC M.B.301 (b)*

This chapter shall refer to the aircraft, engines and component maintenance programmes (scheduled tasks, inspections, adjustment, tests, replacement of component/limited life parts...). The content of the maintenance program remains always the responsibility of the Operator. However the CAMO organisation may delegate certain functions to the Part-145 organisation under contract, provided this organisation proves to have the appropriate expertise.

This procedure is aimed to explain how the AMO intends to comply with Part M Appendix I paragraph 6.4

qualification and experience required to demonstrate appropriate expertise

details about contract with CAMO

delegated functions:

(a) Developing the aircraft maintenance and reliability programmes,

(b) Performing the collection and analysis of the reliability data,

(c) Providing reliability reports, and

(d) Proposing corrective actions to the CAMO organisation.

More generally the procedure shall also detail how the AMO is providing adequate reporting to the Operator:

Maintenance programme variations

Corrosion control programme reporting

SSI reporting

Reliability reporting

*It is necessary to make a difference between the activities of management / developing of the maintenance program on behalf of customers/ air carriers and the one carried out as part of PART 145 agreement. Only the activities above which concern PART 145 organisation works have to be presented in the MOE*

## 2.11 Airworthiness Directives Procedure.

*Part 145.A.45 (a) (b) (c) (d) (e) (f) (g) / AMC 145.A.45 (b) 1 - Part 145.A.70 (a) 12*

The follow up of the airworthiness directives is the responsibility of the owner/operator who must request their enforcement on the work order sent to the AMO. The AMO is then responsible to embody the ADs which have been ordered.

It is necessary to make a difference between the activities of management / launching of ADs on behalf of the customers and the one carried under the Part 145 approval.

Only the AD related activities which concern the AMO tasks have to be described in the MOE, with particular reference to the following points.

identification of the responsibilities of the Part 145 AMO with regards to Airworthiness directives, such as but not limited to establishing compliance with the following:

* Paragraph 145.A.42 “Acceptance of component” requires the AMO to ensure that the particular component is eligible to be fitted when different modification and/or airworthiness directive standards may be applicable”. In order to comply with this requirement, the organisation shall demonstrate to have an adequate control on ADs applicable to components in their store(s), being able to demonstrate as a minimum:
* access to the relevant ADs;
* when the airworthiness control is directly ensured by the owner/operator, the AMO shall demonstrate that a contract is in place, attributing the responsibilities related to the ADs to such owner/operator. This also applies to component(s) directly delivered by the operator to the line stations;
* when the AMO retains control of the airworthiness status of the component(s) (i.e. the AMO owns the component), the AMO shall ensure that all applicable ADs are embodied to the parts they have in store. The AMO shall employ qualified staff for the AD analysis, issuing internal work orders, performing the AD compliance follow-up;
* Paragraph 145.A.45 “Maintenance data” requires the organisation to hold and use applicable current maintenance data in the performance of maintenance, including modifications and repairs. This means the AMO shall demonstrate, as a minimum:
* access to the relevant ADs;
* Paragraph 145.A.50 “Certification of Maintenance” requires to issue a certificate of release to service when it has been verified that ….. and that there are no non-compliances which are known to endanger flight safety. This means that the organisation shall demonstrate, as a minimum:
* access to the relevant ADs;
* a procedure to ensure that a CRS is only issued when there is no non-compliance which is known to endanger flight safety (i.e. AMO is aware of an overdue airworthiness directive applicable to the product/component being maintained)

Company policy

* Studying ADs according to the scope of work of the organisation
* Selection ADs according to the scope of work of the organisation
* Recording ADs according to the scope of work of the organisation
* Internal or external ADs embodiment (linked to the scope of work)

Accomplishment of Aircraft/components/engines ADs / work orders specifying the status of the document to be used

Awareness of the mandatory character of the associated maintenance data

Identification of the mandatory requirement in the maintenance documentation

## 2.12 Optional Modification Procedure.

*Part 145.A.45 (a) (b) (c) (d) (e) (f) (g) / AMC 145.A.45 (b) (c) (d) (f) (g) - Part 145.A.70 (a) 12 (b)*

This chapter shall refer to the modifications to be embodied on the aircraft/components/engines described in the manufacturers' documents and the modifications not defined in manufacturers’ documents. It has to be noted that the privilege given by PART 145.A.45 (d) in order for the organisation to develop modified maintenance instructions (as described in previous MOE chapter 2.8), is excluding the engineering design of repairs and modifications.

Maintenance procedures shall be established to ensure that damage is assessed and modifications and repairs are carried out using data specified in M.A.304

Company policy

* Sources of modification approval (EASA Part 21 DOA, TC Holder[[9]](#footnote-9). or EASA)
* Internal modification
* External modification including embodiment of STCs’

Control of the scope of work (limitations and conditions)

*The follow up of the Optional Modification is the responsibility of the operator who must ask their enforcement on the order sent to the maintenance organisation.*

*It is necessary to make a difference between the activities of management / developing/launching of Optional modification on behalf of customers/ air carriers and the one carried out as part of PART 145 agreement. Only the activities above which concern PART 145 organisation works have to be presented in the MOE.*

## 2.13 Maintenance Documentation in use and its Completion.

*Part 145.A.45 (e) / AMC 145.A.45 (f) - Part 145.A.55 (a) - Part 145.A.70 (a) 12*

This chapter shall refer to the creation of a standard work file and how to complete the work documents/ work cards making up these files. Specific instructions from manufacturer maintenance data related to CDCCL shall be considered.

It is recommended to structure this chapter in three separate paragraph as indicated below. Clear differentiation is expected for each individual rating in the scope of work (e.g. aircraft, engines, components, specialised services)

### 2.13.1 Conception and Update of the Template.

This procedure shall identify the process of issuing , updating templates for the documents to be used during maintenance.

Conception / Validation of a template

Identification of the templates needed

analysis and implementation of Manufacturer data revisions

Revision of the template

### 2.13.2 Maintenance Documentation in Use.

This procedure shall identify all the internal documents used for recording maintenance and making the complete work package.

List of maintenance documents which build up a standard work package (e.g. front page with General information, list of tasks required, work cards, associated work orders, expected CRS…)

Assembly of work packages for issue to maintenance activity

Worksheets for non-routine task

Assembly of completed work package for certification

Control and use of customer supplied work card/worksheets

### 2.13.3 Completion of Maintenance Documentation.

This procedure shall describe the completion of each of the documents identified in the previous paragraph . This may be done by reference to MOE chapter 5.1 where the related sample document is included together with its related filling instructions. This procedure shall detail:

Process of declaring a task not applicable including conditional tasks

Process of recording test results and dimensions (AMC 145.A.50 (b))

Process of recording materials/parts replaced together with the related traceability to the accompanying documents

Record and management of additional works.

Record and management of deferred items.

Process to correct a maintenance record imperfectly/incorrectly entered during the performance of maintenance. This cannot obviously be done after CRS issuance.

Worksheet / work card completion and maintenance / independent inspection sign-off

Use of personal stamps

This procedure shall also clarify the process of tasks sign-off[[10]](#footnote-10), depending on the various situations (e.g. sign-off of a normal task, of a task requiring an independent inspection, sign-off with a person on training, etc.) and depending from the job descriptions identified within the organisations (e.g. certifying staff/support staff in MOE 3.4, qualifying mechanics in MOE 3.8, qualifying inspectors in MOE 3.7, etc.).

The procedure shall clearly indicate when a task is to be considered signed-off and by which mean (e.g. use of personal stamp, use of signature, combination of stamp plus signature, etc.).

The use of a summary table for tasks-sign off is recommended. Example:

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of task** | **task sign-off by “authorised personnel”** | **aircraft/**  **component/**  **engine**  **release to service** |  |
| **Normal task** | authorised person for the task performance (e.g. mechanic, C/S),  or | Certifying staff[[11]](#footnote-11) |  |
| Trainee  +  authorised person for the task performed under supervision (e.g. C/S, inspector) |  |
| task requiring an **Independent inspection**  (i.e. engine installation, etc.) | authorised person for the task performance (e.g. C/S, mechanic)  +  authorised person for the independent inspection (e.g. C/S, inspector),  or |  |
| Trainee  +  authorised person for the task performed under supervision (e.g. C/S, inspector)  +  authorised person for the independent inspection (e.g. C/S, inspector) |  |
| task requiring a  **re-inspection**  when only one authorised person is available  (i.e. dual engine oil uplift, etc.) | authorised person for the task performance (e.g. mechanic, C/S),  +  additional record of re-inspection by the same authorised person |  |

All the personnel “authorised” [[12]](#footnote-12) by the Part 145 AMO to sign off tasks shall be identified (e.g. by reference to a separate personnel roster)

Consistency of this paragraph shall be ensured with the job descriptions introduced in the other MOE chapters (e.g. 3.4, 3.7, 3.8, 3.11).

## 2.14 Technical Records Control.

*Part 145.A.55 (a) (c) 1, 2, 3 / AMC 145.A.55 (c) / GM 145.A.55 (a) 1, 2, 3 - Part 145.A.70 (a) 12 (b)*

System for control, storage conditions (fire extinguisher system, fire detection, ...) and retrieval of records (paper or computer based)

Control of access to records (paper and / or computer based records)

Record-keeping systems (W/P, TLB…)

Lost or destroyed records (reconstruction and EASA acceptance)

Provision of records to operator (copy or original W/P, TLB, CRS)

Retention of records

* Periods
* Methods and security

## 2.15 Rectification of Defects Arising During Base Maintenance.

*Part 145.A.50.(c), (e), Part 145.A.70.(a)*

New defects or incomplete maintenance work orders identified during maintenance shall be brought to the attention of the customer operator for the specific purpose of obtaining agreement to rectify such defects or completing the missing elements of the maintenance work order.

In the case where the customer declines to have such maintenance carried out, 145.A.50.(e) is applicable in order to issue the release to service (with deferred maintenance), as addressed in MOE chapter 2.16

Base maintenance procedure:

* Records of base maintenance defects
* Sign-off of base maintenance defects

Analysis of defects and rectification

Notification process (when necessary) to the customer, manufacturer and authority

Report to the operator/ approval of the customer to launch the rectification according to the contract

*Incorporation of standard defect rectification in work files, record, control, release certificate and information to the customers are to be dealt with in chapters 2.13, 2.14, 2.16, 2.17*

## 2.16 Release to Service Procedure.

*Part 145.A.30 (g) (h) (i) (j) / AMC 145.A.30 (e) 3, (g) (h) (j) - Part 145.A.35 (a) to (m) / AMC 145.A.35 (a) (b) (e) (f) (g) - Part 145.A.50 (a) (b) (d) (e) (f) / AMC 145.A.50 (a) 1, 2 (b) 1, 2, 3, 4, 5 / AMC 145.A.50 (d) (e) 1, 2, 3 (f) 1, 2 - Part 145.A.55 (a) (b) (c) / AMC 145.A.55 (c) - Part 145.A.70 (a) 12 - Part 145.A.75 (e).*

Clear differentiation is expected for each different rating in the scope of work (e.g. aircraft, engines, components, specialised services). The release to service procedure shall at least address the following issues :

Definition of the CRS statement;

Issuance and completion instruction of CRS after:

* Base Maintenance (e.g. Maintenance Release Certificate)
* Line Maintenance
* Engines/components/specialised services maintenance (EASA Form 1)

Cross-reference to work packs (initial work order, additional works, …) to ensure that all the tasks ordered have been performed

Minimum information to be contained in the certificate of release to service:

* basic details of the maintenance carried out (by reference to the maintenance data and related revision status, plus any eventually associated work package or job card as applicable to the product or component being maintained) ; and
* the date such maintenance was completed; and
* the location where the release to service is issued; and
* the identity of the organisation and person issuing the release to service, including:
* the approval reference of the maintenance organisation; and
* the certification authorisation number of the certifying staff issuing such a certificate;
* the limitations to airworthiness or operations, if any.

Issuance of a CRS with limitations/incomplete work as per 145.A.45.(e) (e.g. AMO not in condition to complete all the maintenance ordered, deferred maintenance, customer operator approval)

Impossibility to sign a release certificate that could hazard flight safety e.g.:

* AD owed and not enforced
* work carried out not in accordance with the approved data
* discrepancies that may have consequences on the airworthiness of the aircraft/ component/ engine

Issuance and completion instruction of CRS in the following specific cases, if applicable:

* One-off authorisation (note: the MOE 3.4 specifies the related qualification requirement)
* Maintenance Away from the Approved Location(s) as per 145.A.75.(c) (note: the MOE 2.24 specifies the related conditions)

Release to service for components removed serviceable from aircraft (AMC 145.A.50 (a))

* issuance of an EASA Form 1 for components removed serviceable from EU registered A/C;
* swap/change over serviceable components between EU registered A/C or between different positions of the same EU registered aircraft; A component removed serviceable shall be released to service following the specific procedures included in MOE 2.16 before being installed in another position.
* issuance of an EASA Form 1 for components removed serviceable from a non EU registered A/C;

Temporary fitting an aircraft component without appropriate release certificate in AOG condition (e.g. 30 hours of flight, agreement of the customer, acceptable certificate, checking the status of the component, technical log record, corrective action when the aircraft returns to its maintenance base...).

The specificities of EASA Form 1:

This procedure shall at least address the following issues:

* The address to be recorded in the EASA Form 1 block nr. 4 is the address of the maintenance site where the EASA Form 1 is issued;
* The tracking numbering system of EASA Form 1 shall be described demonstrating a unique number is used;
* An identification system shall enable to track the location where the maintenance has been released to service;
* The recording system allowing to easily retrieve all the issued Form 1;
* The cancellation or correction of an EASA Form 1 mistakenly completed/issued.

## 2.17 Records for the Operator.

*Part 145.A.55 (b) - Part 145.A.70 (a) 12*

This chapter is only applicable when the maintenance organisation is retaining records on behalf of the customer operator (e.g. Original Aircraft Technical Logbooks, Life limited parts records, etc.)

Contracted record keeping for operators

Arrangements for processing and retention of Operator's maintenance records

## 2.18 Reporting of Defects to the Competent Authority/ Operator/ Manufacturer.

*AMC 145.A.50 (a) - Part 145.A.60 (a) (b) (c) (d) (e) / AMC 145.A.60 (b) / GM 145.A.60 (a) (c) - Part 145.A.70 (a) 12*

### 2.18.1 Internal Occurrence Reporting System.

It shall be understood that the internal occurrence reporting system is intended to collect all reports internally generated by the organisation. The internal occurrences which fall within the definition of occurrences to be reported as per Part 145.A.60 (e.g. to EASA, etc. ) shall be only a part of the collection.

collection and evaluation of reports;

extraction of occurrences to be reported as per 145.A.60;

just culture;

Description of the process to investigate occurrences (i.e, criteria to identify occurrences to be investigated, investigation report format, management actions in response to investigation findings, follow-up system, feedback to staff, etc.)

methods of maintenance errors investigation (e.g. this may be referred to a separate detailed procedure in the MOE chapter 2.25)

maintenance errors identified to be used for internal human factors training

Description of process to record occurrences

The analysis of occurrence data

Sharing information from investigations

### 2.18.2 Reportable Occurrences as per 145.A.60.

This procedure must describe the reporting procedure to EASA, the state of registry and the organisation responsible for the design of the aircraft or component and where applicable the customer operator. Any condition of the aircraft or component identified by the organisation that has resulted or may result in unsafe condition that hazards seriously the flight safety shall be reported. These reporting procedures are part of the internal occurrence reporting system as detailed in § 145.A60 (a) (b)(c)(d), AMC 145.A60(b) and AMC 20-8 and described in MOE § 2.25.

List of Reportable occurrences (refer to AMC 20-8 for further guidance);

Technical Occurrence report Form (the form can be found on the EASA website using the following the link <http://easa.europa.eu/iors/reporting.html>)

Methods for reporting to:

* EASA and allocated NAAs
* Manufacturer
* Operator

Reporting timescale

Reports must contain pertinent information and evaluation of results (where known)

Persons responsible for reporting

Occurrences reported by subcontractors

## 2.19 Return of Defective Aircraft Components to Store.

*Part 145.A.40 - Part 145.A.42 (d) / AMC 145.A.42 (d) 1, 2 - Part 145.A.70 (a) 12*

This chapter shall refer to the process of parts returned by maintenance teams to the store.

Labelling and identification of “defective” components (required information)

serviceable aircraft component found “defective” at installation (e.g. involvement of quality system for investigation, possible need to report the occurrence as per MOE 2.18)

Handling and movement of components (link between involved departments)

Storage of “defective” components

## 2.20 Defective Components to Outside Contractors.

*Part 145.A.40 - Part 145.A.42 - Part 145.A.70 (a) 12, 14, 16*

This chapter shall refer to the process of sending components to outside contractors for repair or modification.

*This chapter is only applicable when the Part 145 AMO is sending/contracting component maintenance:*

* *to another EASA Part 145 approved Organisation as per 145.A.70.(a).(16). This fact shall be reflected in the MOE 2.1 and the contracted organisation(s) listed in MOE chapter 5.4, or*
* *to another Organisation not holding an EASA Part 145 approval, as per 145.A.75.(c). This fact shall be reflected in the MOE 2.1 and the “Subcontractors” listed in the MOE chapter 5.2.*

Dispatch of components for repair / overhaul / calibration

Identification of required work

return of the serviceable component after maintenance at the contractor/subcontractor facility

Control of dispatch, location and return

Return of unserviceable loan parts

Management of the packaging and special transportation condition (e.g.: Wheels – oxygen bottles)

## 2.21 Control of Computer Maintenance Records System.

*Part 145.A.45 / AMC 145.A.45 (g) 3 - AMC 145.A.50 (b) 5 - Part 145.A.55 (c) 2 / AMC 145.a.55 (a) 4, 6, (c) 2*

This chapter shall refer to the computer systems used to manage and/or record information regarding the maintenance tasks carried out

Description of the computer records system in use and relate objectives (e.g. AMOS to track on-going maintenance in the hangar, etc.)

Information retrieval

Back-up systems (frequency, means, delay) and second site storage (frequency, means, delay)

Security and safeguards to unauthorised access

*This chapter shall not be confused to chapter 2-14 “Technical record control” which is intended to cover the record keeping requirement addressed in Part 145.A.55*

## 2.22 Control of Man-Hour Planning versus Scheduled Maintenance Work.

*Part 145.A.30 (d) / AMC 145.a.30 (d) 1, 2, 3, 4, 5, 7, 8 - Part 145.A.70 (a) 12, (b)*

Hangar visit plan versus man-hour plan

*The "hangar visit plan" shall be made available to demonstrate sufficiency of hangar space to carry out planned base maintenance. The relation between the hangar visit plan and the man-hour plan shall be described. The hangar visit plan shall also include non-commercial air transport or other activities.*

Management system of company planning versus time available (e.g. A/C or components base maintenance activity, …)

Type of planning (man hours availability versus work load)

Type of factors taken into account in the planning:

* Human performance limitations
* Complexity of work
* Additional factors

Planning revision process

Organisation of shifts

Use of “contracted” [[13]](#footnote-13) personnel as per AMC.145.A.30.(d)

*At least half the staff that perform maintenance in each workshop, hangar or flight line on any shift shall be employed to ensure organisational stability. For the purpose of meeting a specific operational necessity, a temporary increase of the proportion of contracted staff may be permitted to the organisation by the competent authority, in accordance with an approved procedure to be included in this MOE chapter, which shall describe the extent, specific duties, and responsibilities for ensuring adequate organisation stability.*

Notification to the Accountable Manager of deviations exceeding 25% between the work load and the man hour availability

## 2.23 Control of Critical Tasks.

*Part 145.A.65 (b) 3 / AMC 145.A.65 (b) 3 - Part 145.A.70 (a) 12 (b)*

This chapter shall identify the list of “critical maintenance tasks” defined by the Organisation, as applicable depending on its intended scope of work, and related error capturing method (The primary method to be used should be the independent inspection method as per AMC M.A.402.(a)). A procedure shall be established to detect and rectify maintenance errors that could, as minimum, result in a failure, malfunction, or defect endangering the safe operation of the aircraft if not performed properly.

Procedure for performance of critical maintenance tasks

* Minimum list of “critical maintenance tasks” defined by the AMO (e.g. engine installation, rigging/adjustment of flight controls) .
* Data sources used to identify the list of “critical maintenance tasks” (TCH data, occurrence reporting, audit, etc.);
* Error capturing method, such as independent inspection (may be referred to a detailed procedure in MOE chapter 2.25)

*The list of “critical maintenance tasks” should be subject to continuous evaluation and when necessary amendment by the organisation as the result of maintenance errors investigations, audit, TCH data analysis, etc.*

The procedure shall also cover the prevention, where possible, of simultaneous maintenance by the same person on similar systems on the same aircraft (disassembly/reassembly of several components of the same type fitted to more than one system on the same aircraft during a particular maintenance check). The procedure shall also define the process to minimise the risk of multiple errors/errors repeated in identical maintenance tasks and related errors capturing methods (such as independent inspection or re-inspection).

Procedure to minimise the risk of multiple errors and errors being repeated in identical maintenance tasks (e.g. dual engine oil uplift, etc.) including Error capturing methods, such as for example (may be referred to a detailed procedure in MOE chapter 2.25):

* re-inspection when only one person is available (re-inspection to be recorded);
* Preventing omissions (sign-off only after completion, sign-off of group of tasks, work by trainees performed under supervision, etc.).

Independent inspection as a possible error capturing method (may be described in this chapter or referred to a procedure in MOE chapter 2.25)

* Definition as per AMC M.A.402.(a)
* How to perform the independent inspection/what to check (e.g ensure correct assembly, locking and sense of operation, etc.)

*This Independent inspection procedure shall be consistent with the job descriptions entered in the MOE chapters 3.4, 3.7, 3.8, 3.11 and with the sign-off policy entered in MOE 2.13*

*When the operator/customer defines its own critical maintenance tasks to be subject to Independent Inspections, the one to be performed are the result of integration between the independent inspections required by the Part 145 MOE and the one required by the operator/customer.*

## 2.24 Reference to Specific Maintenance Procedures.

*Part 145.A.70 (a) 12*

Maintenance outside the approved location (s) \* as per 145.A.75/(c) and chapter 1.9.

* Support an unserviceable aircraft (AOG requiring defect rectification)
* Occasional Line maintenance

Engine run up

Aircraft pressure run

Aircraft towing

Aircraft taxiing

Technical wash

Control/ supervision of de-icing systems

Handling and control of waste materials

Scrapping of parts

\* For further guidance on how to develop the procedure related to Maintenance outside the approved location (s) as per 145.A.75/(c), refer to the “Foreign Part 145 –aircraft line maintenance, UG.CAO.00134-xxx).

## 2.25 Procedures to Detect and Rectify Maintenance Errors.

*Part 145.A.60 (a) (b) (c) (d) / AMC 145.A.60 (b) - Part 145.A.65 (b) 3 /AMC145.A.65 (b) 3 - Part 145.A.70 (a) 12, AMC M.A.402.(a)*

Error capturing method(s) chosen by the organisation (this procedure may be developed in the MOE 2.23 chapter also);

Aims and objectives of error management system (this procedure may be developed in this chapter or referred to a procedure introduced in MOE chapter 2.18)

* The encouragement of reporting
* A code of practice
* No reprisal policy
* Feedback of the independent inspections

## 2.26 Shift / Task Handover Procedures.

*Part 145.A.47 (c) / AMC 145.A.47 (c) - Part 145.A.70 (a) 12*

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 and required information

* Facility status
* Work status
* Manning status
* Outstanding issues
* Other possible information

Responsible person for managing and filling up the shift / task handover

## 2.27 Procedures for Notification of Maintenance Data Inaccuracies and Ambiguities to the Type Certificate Holder.

*Part 145.A.45 (c) / AMC 145.A.45 © 1, 2 - Part 145.A.70 (a) 12*

Definitions of maintenance data ambiguities

Method of internal reporting of maintenance data ambiguities

Method of external reporting of maintenance data ambiguities to the authors of that data (the reporting method may be referred to the one indicated in MOE 2.18 as per 145.A.60)

Feedback to staff and implementation of TC Holder/Manufacturer corrections

Impact of the data ambiguity on the on-going maintenance task

*The authors are:*

* *Aircraft / component design organisation (AMM, SB, SRM..)*
* *The competent authority AD*
* *The organisation itself in the case of organisation job cards*
* *The customers in the case of job cards issued and furnished by the customers*

## 2.28 Production Planning Procedures.

*Part 145.A.47 (a) (b) / AMC145.A.47 (a) (b) - Part 145.A.70 (a) 12*

Analysis of the work order to ensure the requested maintenance remains within the approved scope of approval.

verification that the maintenance work package provided by the customer is utilizable by the AMO. In any case the organisation shall issue an internal work package as detailed in MOE Chapter 2.13:

* Case 1: customer job cards to be used (with appropriate training) ± AMO work sheets
* Case 2: work package to be developed and prepared by the AMO based on the customer work order

Control of the availability and update of maintenance documents (list + MM / job cards /…)

Procedure for establishing all necessary resources are available before commencement of work (manpower with required capabilities, staff, facilities, tools, equipment, parts, documentation, etc.)

Procedure for outsourcing contractors as necessary.

Procedure for organizing maintenance personnel and providing all necessary support during maintenance

Consideration of human performance limitations (Circadian rhythm / 24 hours body cycle...)

Planning of critical tasks

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 –aircraft line maintenance, UG.CAO.00134-xxx).

*Note: The main driver to determine whether a scheduled maintenance check shall be considered as “line maintenance” shall remain the content of the check. Additional tasks or constraints may be also associated to the check such as deferred items, rectification of defects, inspection requesting skilled workers, qualification of the certifying staff, environmental conditions, overall length of the tasks etc. Access to a hangar or hangar in the nearby shall be part of the decision making. Therefore a “decision making process” is necessary to assess the content of the check.*

# PART L2 ADDITIONAL LINE MAINTENANCE PROCEDURES

MOE Part L2 is intended to provide additional procedures which are specific for the line maintenance environment, which have been not been covered in the MOE Part 2. Where a procedure, was already covered in the MOE part 2 and there is no need of further detail to be added, a direct reference to the MOE (part 2) chapter may be used in the relevant MOE (part L2) chapter.

## L2.1 Line Maintenance Control of Aircraft Components, Tools, Equipment, etc..

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the additional / special procedures of the management of the facilities, materials/ ingredients and tools/ equipment, technical documentations, staff associated to the line maintenance activity. For example, this applies when a line station separate from the main maintenance site needs to use procedures to control the components, tools, equipment which are not the same used in the main site as described in MOE Part 2.

Component / Material acceptance - (required documentation, condition, "Quarantine" procedure)

Components removed serviceable from aircraft;

Procedures to maintain satisfactory storage conditions - (routable, perishables, flammable fluids, engines, bulky assemblies, special storage requirements)

System for control of shelf life and modification standard

Tagging / labelling system (serviceable, unserviceable, scrap, etc)

Release of components to the maintenance process

Free-issue dispensing (self service) 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 Procedure Related to Servicing / Fuelling / De-icing / etc ..

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the additional / special procedures of management of the specific activities:

Technical and maintenance documentation management (control and amendment)

Company Technical Procedures / Instructions management

Fuel supply quality monitoring (bulk storage / aircraft re-fuelling)

Ground de-icing (procedures / monitoring of sub-contractors)

Maintenance of ground support equipment

Monitoring of sub-contracted ground handling and servicing

## L2.3 Line Maintenance Control of Defects and Repetitive Defects.

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the general procedures followed by the organisation regarding the rectification of defects and repetitive defects recorded during operation of the aircraft. The procedures shall also cover the follow up of defects and repetitive defects on behalf of customers/ operators and the PART 145 approval holder.

Reportable defects

Rules for deferring (periods - review - permitted personnel - conformity with MEL /CDL provisions)

Awareness of deferred defects carried by aircraft – (monitoring of repetitive defects - Communication with main base)

Analysis of tech log (repetitive defects – crew complaints - Analysis and transfer of cabin log items as required)

Co-ordination with the operator

## L2.4 Line Procedure for Completion of Technical Log.

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the additional procedures of management/completion of the technical log(s) in use. It must also cover the procedures for ETOPS release where applicable. These procedures must be associated to chapters 2.13, 2.16 of the MOE.

Technical Log system:

* Taking into account Operator Procedure
* Completion of Sector Record Page
* Distribution of copies

Training on customer operators procedures and maintenance record completion (logbook, …)

Certification / Sign-off (Maintenance Statements)

Maintenance Duplicate Inspections

ETOPS Certification

Retention of records

* Periods
* Methods and security

## L2.5 Line Procedure for Pooled Parts and Loan Parts.

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the additional management procedures for pooled or loaned parts specific to the line maintenance activity. It shall also cover the removal of serviceable parts from aircraft for use on another aircraft. These procedures must be associated to chapters 2.2, 2.3, 2.19, 2.20 of the MOE.

Verification of approved sources of parts (sources, conformity with company requirements, Modification Standard and AD compliance, records)

Compliance with loan and contract requirements

* Tracking and control
* Required documentation

Processing removed loan parts for return to source (records)

Components removed serviceable from aircraft

## L2.6 Line Procedure for Return of Defective Parts Removed from Aircraft.

*Part 145.A.70 (a) 12, 15 - Part 145.A.75 (b), (c), (d)*

This chapter must describe the additional management procedures for treatment of defective components associated with the line maintenance activity. These procedures must cover the same subjects specified in chapters 2.19, 2.20 (return of removed components, sending components...) of the MOE.

Required documentation

Service record

Processing advice of removal (W/O) and dispatch to technical records

Dispatch of the part for rectification

## L2.7 Line Procedure Control of critical Tasks.

*Part 145.A.65 (b) 3 / AMC 145.A.65 (b) 3 - Part 145.A.70 (a) 12, 15*

This chapter is the equivalent of the chapter 2.23 of the MOE for the line maintenance activity.

Follow guidance as per AMC 145.A.65 (b)(3)

# PART 3 – QUALITY SYSTEM PROCEDURES.

## 3.1 Quality Audit of Organisation Procedures.

*Part 145.A.65 (a) - Part 145.A.65 (c) (1), (2) / AMC 145.A.65 (c) (1)*

This chapter must explain how the audit of internal procedures is organised and managed i.a.w. PART 145.A.65 and AMC 145.A.65. In particular this chapter shall describe how the requirements for system/procedure audit are complied with and the methodology of the audit.

Definition of the Quality System:

* Independence of the quality compliance monitoring staff (e.g. quality auditor)
* Access to Accountable Manager
* Composition and functions of management quality group

Definition of the “system/procedure” audit (ref. AMC 145.A.65.(c).(1).3&4)

* common audit procedures for several lines of product
* specific audit procedure by line of product
* single exercise audit or subdivided over 12 months

Findings classification (ref. 145.A.95)

* procedures to manage findings and related due dates to be entered in MOE chapter 3.3

“System/procedure” Audit programme

* System/procedure audit plan (refer to GM 145.A.65.(c).(1))
* Principles of annual audit procedure planning
* grouping of audits
* Dates and timescales.
* Audit of contracted organisations /Subcontractors/suppliers, as applicable depending to the monitoring criteria defined in MOE chapter 2.1.
* Scheduled audits and audits to be carried out at random and to be carried out during maintenance including night shifts.
* Validation/internal approval of the audit programme and management of changes to the programme
* Follow up of the audit program: scheduled, performed, audit report issued, open/close – link with chapter 3.3

Company Audit Policy including compliance audit:

* Audit notification;
* Audit reports (documents used, writer, issue, points checked and deviations noted, deadline for rectification)
* Reference can be made to MOE chapter 3.3 detailing the process to manage findings
* Allocation of resources to the audit (audit team, team leader, etc.)
* principles when deviations are noted on a line of product

Quality audit reports retention

* Duration (At least duration of 2 years from the date of the findings closure) / location
* Type of documents (notification, audit reports, check list, audit programs)

*Small organisation may choose to subcontract the audits to another organisation or an outside person with satisfactory technical knowledge and satisfactory audit experience (link to chapter 3.6).*

## 3.2 Quality Audit of Aircraft and/or Components.

*Part 145.A.65 (c) (1), (2) / AMC 145.A.65 (c) (1)*

This chapter must describe the procedures related to the product audits (aircraft, aircraft component, engine, specialised service) according to PART 145.A.65 (c) 1 and AMC 145.A.65 (c).

Definition of “Product” audit (ref. AMC 145.A.65.(c).(1).5

Company “Product” Audit Policy

* A dedicated “Product” audit policy may be added, provided it does not conflict with the one describe in the previous chapter . The Company audit procedure shall include the quality audit of aircraft (and/or component)

“Product” Audit programme

* Product samples for each line of product (aircraft and / or components and/or engines and/or specialised services)
* Dates and timescales

“Product” Auditing methods

* Sampling
* "Trail" / “investigation” audits

Records of “Product” audit reports

* Duration (At least duration of 2 years from the date of the findings closure) / location
* Type of documents (notification, audit reports, check list, audit programs, …)

*Small organisation may choose to subcontract the audits to another organisation or an outside person with satisfactory technical knowledge and satisfactory audit experience (link to chapter 3.6).*

## 3.3 Quality Audit Corrective Action Procedure.

*Part 145.A.65 (c) (2) / AMC 145.A.65 (c) (2)*

This chapter must describe the procedures of follow up of corrective actions***.***

Description of the quality audit report feedback system

Corrective action and timescale

* Corrective action planning and follow up e.g notified, answered, corrective action accepted, open/closed
* The corrective action plan shall be designed in a way which allows identifying and recording the finding, the root cause, the relevant immediate and long term preventive action with the appropriate timescales.

management of finding due dates

* Alert system, finding database
* Extension of the due date
* Procedure describing the organisation actions when the corrective action deadline has to be postponed or when the answer has not been received on time.

Management responsibilities for corrective action and follow-up

Review of the Quality system overall results

* Meeting with the Accountable Manager. (including record of meeting procedure)
* Regular meetings to check the progress of corrective actions

*The follow up of corrective actions cannot be subcontracted. The revision of the audit planning according to the deviations noted/corrected could be linked to chapter 3.1*

## 3.4 Certifying Staff and Category B1 and B2 Support Staff Qualification and Training Procedures.

*Part 145.A.30 ©, (e), (g), (j) (1, 3, 4, 5) - Part 145.A.35 (a) to (i) and (m) / AMC 145.A.35 (b), (e) - Appendix IV*

This chapter shall refer to PART 145.A.30, AMC 145.A.30, PART 145.A.35 and AMC145.A.35 and is limited to the certifying staff and category B1 and B2 support staff qualification***.*** Clear differentiation is expected for each different rating in the scope of work (e.g. aircraft, engines, components, specialised services).

### 3.4.1. Aircraft Certifying Staff and/or Support Staff.

Experience, training and competence requirements (including compliance with Part 145 Appendix IV for staff not qualified to Part 66)

Examination, test and assessment procedures including internal criteria and practical assessment

Authorizations issue, renewal or withdrawal procedures including

* “Certification Authorization” for aircraft line/base maintenance certifying staff (cat. A, B1, B2, C as applicable);
* Individual authorisation for aircraft base maintenance support staff (B1, B2 as applicable)

Continuation training procedures including

**One-off certification authorisation**.

For further guidance on how to develop this chapter , refer to the:

“Foreign Part 145 –aircraft certifying staff and support staff UG.CAO.00121-xxx);

“Foreign Part 145 –aircraft type training (theoretical and practical), UG.CAO.00122-xxx);

“Foreign Part 145 –demonstration of 6/24 months maintenance experience, UG.CAO.00128-xxx);

### 3.4.2. Components/Engines/APU Certifying Staff.

Experience, training and competence requirements

Examination, test and assessment procedures including internal criteria and practical assessment

Continuation training procedures including

“Certification Authorization” issue, renewal or withdrawal procedures

For further guidance on how to develop this procedure, refer to the

“Foreign Part 145 – components, engines and APU certifying staff UG.CAO.00126-xxx);

“Foreign Part 145 – demonstration of 6/24 months maintenance experience, UG.CAO.00128-xxx);

### 3.4.3. Specialised Services (NDT) Certifying Staff.

Internal Experience, training and competence requirements in addition to EN4179

Examination, test and assessment procedures including internal criteria and practical assessment

Continuation training procedures

“Certification Authorization” issue, renewal or withdrawal procedures

For further guidance on how to develop this procedure, refer to the

“Foreign Part 145 –NDT activities including certifying staff UG.CAO.00127-xxx);

“Foreign Part 145 –demonstration of 6/24 months maintenance experience, UG.CAO.00128-xxx);

## 3.5 Certifying Staff and B1/B2 Support Staff Records.

*Part 145.A.35 (j), (k), (l) / AMC 145.A.35 (j) - Part 145.A.70 (a)*

This chapter must describe how the certifying staff records are managed.

List of certifying personnel and B1/B2 support staff (refer if need be to chapter 1.6).

Constitution of the records including:

* Identity, date of birth, authorisation reference number, experience, scope of the authorisation, date of issue, validity, copy of the licence, copy of diplomas, copy of training certificate, continuation training, copy of the Part 145 authorisation, summary sheet, C/S assessment check lists and associated documents / material, ...)
* Type of record: electronic or paper copy

Management of certifying staff records

Retention of records

* Duration / location
* Type of documents

Format of authorisation document and authorisation codes

Control of certifying staff records

* Authorized persons
* EASA personnel
* Authorized managers
* Delivery of a copy of their certification authorisation in either a documented or electronic format (Part 145.A.35 (k)). The scope of work has to be detailed, including limitations when applicable

## 3.6 Quality Audit Personnel.

*Part 145.A.30 (e)*

This chapter must describe how the Quality system personnel are managed.

Required experience and competence (professional background and minimum number of audits performed under supervision)

Required training including audit techniques, Regulation, MOE and continuation training

Specific experience and/or technical training in order to be authorised to audit specific areas or to cover specific audit functions, as applicable to the organisation (e.g. audit of NDT areas, Lead auditor, etc.)

Scope of authorisation for auditors (e.g. Product auditor, System Auditor, NDT auditor, etc.)

Authorizations issue, renewal or withdrawal procedures

Examination, test and assessment procedures (as necessary)

Independence of quality audit personnel when the organisation uses skilled personnel working within another department than that of Quality

Retention of records

* Duration / location
* Type of documents

Check that the number of quality personnel remains adapted to the maintenance activity to be supervised (relation with 2.22 Man hour planning).

Allocated man-hours (if not full-time employed) shall be addressed.

## 3.7 Qualifying Inspectors.

This chapter is dedicated to the qualification and authorisation of the “qualifying inspectors” which undertake inspection functions and sign-off the related task(s).

The various types of “Qualifying inspector” personnel, as applicable to the organisation, need to be addressed (e.g. aircraft inspector, component inspector, engine inspector, store receiving inspector, etc.).

For example, they may be authorised:

* As Aircraft/component/engine qualifying inspectors, in order to sign-off (ref. MOE 2.13 table):
  + the tasks performed under supervision (i.e. work performed by trainees);
  + the independent inspection tasks.
* As Store incoming inspectors, to perform and attest the receiving inspection of aircraft components/materials as per MOE 2.2 procedure

An Aircraft/component/engine qualifying inspectors is not authorised to issue a release to service for aircraft or component or engine, unless he/she is also holding a “certifying staff privilege”.

Note: In the aircraft base maintenance environment the qualifying inspectors function does not correspond to the support staff function. After the task sign-off, a further inspection stage is necessary by B1 and/or B2 Support staff as applicable. B1 and B2 Support Staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service.

When the staff is holding more than one authorisation (i.e. qualifying mechanic, qualifying inspector and certifying staff), the different authorisations shall be clearly distinguished.

For example: a person may be at the same time:

* qualifying mechanic on the A320(CFM56), B777 (GE90) and ERJ-170 (GE CF34);
* qualifying inspector on the A320(CFM56) and B777 (GE90);
* holding a certification authorisation as certifying staff only for the B777 (GE90);

Clear differentiation is expected for each different ratings in the scope of work (e.g. aircraft, engines, components, specialised services).

Education requirements

Aeronautical and practical Experience,

Training (FTS, CDCCL, EWIS when needed and Human Factor, MOE, standard practices,…)

Examination, test and assessment procedures including internal criteria for Competence assessment. This shall cover the practical assessment and assessment of the language in which the maintenance approved data are written.

Authorizations issue, renewal or withdrawal procedures including scope of authorisation

Continuation training procedures including

* Training Programme (MOE and associated procedures, PART 145, Human Factors, special requirements, …)
* Training setting up
* Duration, intervals

Retention of records

* Duration / location
* Type of documents

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 –qualification and authorisation of maintenance personnel not being certifying staff/support staff - UG.CAO.00130-xxx);

## 3.8 Qualifying Mechanics.

*Part 145.A.30 (e), (g) - Part 145.A.35 (a), (m)*

This chapter shall refer to the different specialities of technicians (mechanics, avionics, sheet metal workers, cabin, fuel, engines, painters, welders, cleaners, components, NDT staff, composites, line maintenance, ...), as applicable to the organisation. Those personnel have to be considered authorised by the maintenance organisation approved under Part-145 to sign-off[[14]](#footnote-14) tasks that the authorised qualifying mechanic has personally performed. Consistency shall be ensured with the sign-off policy described in MOE chapter 2.13. An authorised qualifying mechanic is not authorised to issue a release to service for aircraft or component or engine or NDT, unless he/she is also holding a “certifying staff privilege”.

When the staff is holding more than one authorisation (i.e. qualifying mechanic, qualifying inspector and certifying staff), the different authorisations shall be clearly distinguished.

For example: a person may be at the same time:

* qualifying mechanic on the A320(CFM56), B777 (GE90) and ERJ-170 (GE CF34);
* qualifying inspector on the A320(CFM56) and B777 (GE90);
* holding a certification authorisation as certifying staff only for the B777 (GE90);

Clear differentiation is expected for each different rating in the scope of work (e.g. aircraft, engines, components, specialised services)

Education requirements

Aeronautical and practical Experience,

Training (FTS, CDCCL, EWIS when needed and Human Factor, MOE, standard practices,…)

Examination, test and assessment procedures including internal criteria for Competence assessment. This shall cover the practical assessment and assessment of the language in which the maintenance approved data are written.

Authorizations issue, renewal or withdrawal procedures including scope of authorisation

Continuation training procedures including

* Training Programme (MOE and associated procedures, PART 145, Human Factors, specific technical requirements, …)
* Training setting up
* Duration, intervals

Retention of records

* Duration / location
* Type of documents

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 –qualification and authorisation of maintenance personnel not being certifying staff/support staff - UG.CAO.00130-xxx);

## 3.9 Aircraft or Aircraft Component Maintenance Tasks Exemption Process Control.

This chapter must describe the procedures of the organisation regarding exceptional authorisations related to maintenance tasks. As per Appendix XI to AMC to M.A.708.(c), deviations have to be requested by the operator to its competent authority or granted by the operator in accordance with a procedure acceptable to its competent authority. The contract between the operator and the maintenance organisation shall specify the support the Part-145 approved organisation may provide to the operator in order to substantiate the deviation request. This chapter is to be considered applicable only under these circumstances.

System for control and processing with the competent authority which includes:

* Relations with the operator/ customer in case of derogation for an intervention in progress by the workshop
* Supply to the customer/ operator of information enabling to write out requests for exceptional authorisation applications.
* Control of the approval by the competent authority (linked with CRS)

*The difference between the activity study/ preparation/ redaction/ submission of exceptional authorisation application related to maintenance tasks on behalf of customers/ operator and the PART 145 activity here above should be kept in mind.*

## 3.10 Concession Control for Deviation from the Organisations' Procedures.

This chapter must describe the procedures followed by the AMO in order to deviate from the approved MOE procedures.

It shall be understood that any request for concession to deviate from an MOE procedures shall be anyway in compliance with any regulatory requirement with particular reference to EASA Part 145. Under no circumstances this chapter may be used to deviate from regulatory requirements.

Concession criteria

* Object, procedures involved, justifications, compensatory conditions, period of validity, etc.

Concession management procedure

* Internal evaluation
* Drafting process
* Response
* Internal validation process and follow-up

System of approval and control of concession

Feedback from the Quality system to EASA

Any concession shall be approved by EASA.

## 3.11 Qualification Procedure for Specialised Activities Such as Non-Destructive Testing, Welding…

*Part 145.A.30 (f)- AMC 145.A.30 (f)-* *EN 4179*

This chapter shall refer to the qualification of specialised services staff such as defined in AMC 145.A.30 (f). It shall apply to all the specialised services mentioned in MOE paragraph 1.9.4 (e.g. NDT, painting, welding, machining, NDI).

It is recommended to structure this chapter to provide qualification requirements for each group of specialised services staff in a separate paragraph.

### 3.11.1 NDT personnel

NDT staff

* List of non-destructive testing personnel
* Levels of qualification and authorisation
* Role and privileges of these staff (including responsible level 3 person who shall approve the organisation’s NDT procedures and written practice for training and certification of NDT personnel.)

Experience & qualification

* Criteria regarding experience, training and skills
* Experience required by NDT method for each level of authorisation
* Responsible NDT level III shall demonstrate an appropriate knowledge of the manufacturer maintenance Data, Part 145 requirements, MOE, Human Factors, FTS and EWIS
* Level III requires suitable training/examination provided by an organisation under the general control of an EU NDT Board should be addressed in this paragraph

Training

* Basic NDT training for each level of authorisation
* Training on the NDT procedures of the organisation

Examination

* Procedure of skills assessment (practical assessment and/or examination related to the job card)
* General examination on the fundamentals of the NDT methods
* Specific examination by NDT method
* Practical examination by level of authorisation
* Medical examination
* Eyesight testing

Continuation training and testing

Authorizations issue, renewal or withdraw procedures

Retention of NDT staff records

* Duration / location
* Type of documents

Contract arrangement (this applies in the case of contracted staff as per AMC.145.A.30.(d))

*The certifying staff authorised in accordance with subcategory B1 of the PART 66 can carry out and/or control colour contrast dye Penetrant tests.*

*When an Organisation uses NDT methods defined by EN 4179 para 6.4 as “emerging NDT method”, the related requirements for personnel training, experience and examination shall be established by the organisation in accordance with EN 4179 and the particular equipment manufacturers’ recommendations.*

*This chapter shall also describe the qualification requirements applicable to NDT Level III, particularly when he is contracted and/or not Certifying Staff.*

Detailed guidance on NDT Level III qualification requirements may be found in“Foreign Part 145 –management personnel and Form 4 instructions UG.CAO.00115-xxx);

For further guidance on how to develop this procedure, refer to the “Foreign Part 145 –NDT activities including certifying staff UG.CAO.00127-xxx);

### 3.11.2 Other specialised activities personnel (e.g. welders, painters, etc.)

Similar topics as the ones mentioned for NDT staff shall be described for each category, as applicable.

## 3.12 Control of Manufacturers' and Other Maintenance Working Teams.

This chapter shall refer to the role of outside teams acting in the premises of the organisation to carry out a maintenance task on an aircraft/ engine/ component in the scope of a task under the responsibility of the organisation.

### 3.12.1 External Team Working under their own EASA Part 145 Approval.

In this case at the end of the work, the external team will issue their own CRS for the work done (aircraft CRS or EASA Form 1, as applicable).

Segregation between the two EASA Part 145 AMOs working in the same premises

Clear work order provided to the external working team

Type of support (tools/equipment, facilities,…) made available to the External Team Working

Management of the progress of work (meetings, etc)

EASA Part 145 release to service to be expected from the working team

### 3.12.2 External Working Team not Holding an EASA Part 145 Approval.

In this case, the external working team shall be considered as a “Subcontractor” and the applicable procedures developed in MOE chapter 2.2 shall be followed. The Organisation shall be listed in MOE 5.2 together with the scope of authorisation.

control of the Subcontractor

System for control of materials, tools, working instructions and procedures

System for control of documentation such as drawings, modification, repairs instructions

Management of the progress of work (meetings, etc)

Certification procedure for work performed by the outside team such as : repair, replacement, modification, overhaul, test, inspection.

Environmental conditions

Final certification

Training on the internal procedures to external staff

## 3.13 Human Factors Training Procedure.

*Part 145.A.30 (e) / AMC 145.A.30 (e) 6, 8, 9, 10 - Part 145.A.35 (d) - Part 145.A.65 (b)*

This chapter shall refer to § 145.A.30 (e) and AMC 145.A.30 (e) 6, 7, 8, 9 and 10 which concern the human factors training for the organisation personnel[[15]](#footnote-15).

### 3.13.1 Initial Training (except C/S and S/S)

Aims and objectives

Categories of staff to be trained

Implementation time frame[[16]](#footnote-16)

Training methods and syllabus: (refer to GM 1 - 145.A.30.(e))

Duration of training

Validation of the training courses (syllabus and duration)

Requirements for trainers

Training Records

* Duration / location
* Type of documents

### 3.13.2 All Maintenance staff Continuation Training

Aims and objectives

Categories of staff to be trained

Training methods and syllabus: GM 1 - 145.A.30.(e) tailored to the audience + audit findings + feedback in relation to relevant quality audit findings and other internal/external sources of information available to the organisation on human errors in maintenance (link with § 2.25) (AMC145.A.30 (e) 8).

Duration of training

Validation of the training courses (syllabus and duration)

Requirements for trainers

Training Records

* Duration / location
* Type of documents

*Human factors training could be adjusted to reflect the particular nature of the organisation (size, scope of work).Human factors continuation training shall be of an appropriate duration in each two year period.*

## 3.14 Competence Assessment of Personnel.

*Part 145.A.30 (e) / AMC 145.A.30 (e) 2*

This chapter 3.14 applies to all personnel involved in the organisation’s maintenance activities and particularly the staff and the personnel working for the production support services (engineering, planning / preparation, reception supervisors, store keepers, tools administrators, purchasers, subcontractors, administrators ...).

Personnel to be assessed in accordance with AMC 1 145.A.30.(e) and GM 2 145.A.30.(e) “Competence assessment procedure”

Assessment procedures/ Evaluation system

* Training
* Qualifications
* On-the-Job performance
* Supervision
* Assessors
* Commission/ examination

Management competence assessment

Assessment records

* Duration / location
* Type of documents

## 3.15 Training procedures for on-the-job training as per Section 6 of Appendix III to Part-66.

This chapter is limited to the case where the competent authority for the Part-145 approval and for the Part-66 licence is the same and as a consequence it is to be considered not be applicable to Foreign Part 145 Organisations.

## 3.16 Procedure for the issue of a recommendation to the competent authority for the issue of a Part-66 licence in accordance with 66.B.105

This chapter is limited to the case where the competent authority for the Part-145 approval and for the Part-66 licence is the same and as a consequence it is to be considered not applicable to Foreign Part 145 Organisations.

# PART 4.

This MOE Part is to be considered applicable only when the Organisation is holding a maintenance contract for aircraft covered by the Basic Regulation and this part is intended to cover any operator peculiar requirement which has to be endorsed in the MOE for the purpose of being used in the performance of maintenance (e.g. how to acquire the necessary information for removal of serviceable components, etc.). It is recommended to have a separate procedure for each customer operator.

When the organisation is performing line maintenance for a customer operator limited to an IATA Standard Ground Handling Agreement, this part is not applicable and the line maintenance procedures to be followed are the one indicated in the MOE Part L2 plus any other line maintenance procedure directly provided by the customer operator (e.g. Operator line station manual).

## 4.1 Contracting Operators.

This chapter must 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.

## 4.2 Operator Procedures and Paperwork.

*Part 145.A.70 (a) 13*

This chapter must describe for each contracting operator, the special mode of operation (procedures/ documents/ exchange of information, planning meetings, technical, quality, reliability) between the organisation and its customer.

need to receive training on customer operators procedures, work card / worksheet

## 4.3 Operator Record Completion.

*Part 145.A.55 - Part 145.A.70 (a) 13*

This chapter must describe (for each contracted operator) how the organisation:

Completes operator's log books

Keeps the operator's technical records

Retains records on behalf of the operators

Communicates with the operator

# PART 5.

## 5.1 Sample of Documents.

This chapter must list all the documents and forms in use by the organisation. Each form shall be uniquely identified with a number and revision date to allow traceability of changes

Examples:

Request to EASA for approval of an Exposition amendment

Request to EASA for acceptance of a Capability List change

Material tags: Serviceable, Unserviceable and Scrap labels

Tooling identification tag

Maintenance Task Card (Scheduled Maintenance)

Maintenance Task Card (Additional Defects)

Base Maintenance CRS

Line Maintenance CRS

EASA Form 1

Un-airworthy Conditions Report Form (inc. MOR)

Quality Audit Report Form

Quality Audit Corrective Action Report Form

Personnel Training Record

Certifying Staff Authorisation

Concession Application and Approval

## 5.2 List of Subcontractors as per Part 145.A.75 (b).

This chapter must list the non-PART 145 subcontractors working under of the maintenance organisation quality system- linked with MOE chapter 2.2

## 5.3 List of Line Maintenance Locations as per Part 145.A.75 (d)

This chapter must list the line station locations – linked with MOE chapter 1.8 and 1.9 – (airport and addresses)

## 5.4 List of Contracted Organisations as per 145.A.70 (a) (16).

This chapter must provide the list of contracted organisation such as but not limited to Part 145- linked with MOE chapter 2.2 .

*The 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 MOE chapter 1.11*

|  |
| --- |
| **RECORDS** |

No record associated with this User Guide.

1. This Part M paragraphs list contains only Part –M requirements that are not yet included in Part 145 regulations. [↑](#footnote-ref-1)
2. - *In the case of MOE direct approval by the competent authority, the MOE approval is given through a formal letter issued by EASA. This letter shall be made available to the final users also.*

   *- In the case of MOE indirect approval by the Quality Assurance manager, the MOE approval is completed by the organisation entering the date of the MOE approval, the name, position and signature of the approving person.* [↑](#footnote-ref-2)
3. - *In the case of MOE direct approval by the competent authority, the MOE approval is given through a formal letter issued by EASA. This letter shall be made available to the final users also.*

   *- In the case of MOE indirect approval by the Quality Assurance manager, the MOE approval is completed by the organisation entering the date of the MOE approval, the name, position and signature of the approving person.* [↑](#footnote-ref-3)
4. - *In the case of MOE direct approval by the competent authority, the MOE approval is given through a formal letter issued by EASA. This letter shall be made available to the final users also.*

   *- In the case of MOE indirect approval by the Quality Assurance manager, the MOE approval is completed by the organisation entering the date of the MOE approval, the name, position and signature of the approving person.* [↑](#footnote-ref-4)
5. Even though the Responsible NDT level III does not directly report to the Accountable Manager, he is strongly recommended to provide an EASA Form 4. [↑](#footnote-ref-5)
6. Certifying staff of any line maintenance station located in EU Member States must be qualified in accordance with EASA Part 66. [↑](#footnote-ref-6)
7. Limited to country where a bilateral with EASA is in place [↑](#footnote-ref-7)
8. No EASA Form 1 can be issued for such a fabricated part. [↑](#footnote-ref-8)
9. Limited to country where a bilateral with EASA is in place [↑](#footnote-ref-9)
10. A “sign-off” is a statement by the competent person performing or supervising the work, that the task or group of tasks has been correctly performed. A sign-off relates to one step in the maintenance process and is therefore different from the release to service of the aircraft [↑](#footnote-ref-10)
11. In the case of aircraft base maintenance, B1 and B2 Support Staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service [↑](#footnote-ref-11)
12. “Authorised personnel” means personnel formally authorised by the maintenance organisation approved under Part-145 to sign-off tasks. “Authorised personnel” are not necessarily “certifying staff”. [↑](#footnote-ref-12)
13. *“contracted” means the person is employed by another organisation and contracted by that organisation to the maintenance organisation approved under Part-145.* [↑](#footnote-ref-13)
14. A “sign-off” is a statement by the competent person performing or supervising the work, that the task or group of tasks has been correctly performed. A sign-off relates to one step in the maintenance process and is therefore different from the release to service of the aircraft [↑](#footnote-ref-14)
15. Initial training to Human Factors for Certifying Staff and Support Staff is defined in Chapter 3.4 [↑](#footnote-ref-15)
16. Initial training to be provided to personnel within 6 months of joining the maintenance organisation, but temporary staff may need to be trained shortly after joining the organisation (AMC145.A.30 (e) 6). [↑](#footnote-ref-16)