Notes:

1. This example exposition is produced to provide GA industry with an example of a complete Combined Airworthiness Exposition for an organisation holding all four privileges of the approval, using an Organisational Review system and limited to fixed wing aircraft below 2730kg (Part-ML) aircraft. It does not take account of CAO managed and maintained aircraft where Part-M is applicable although some helpful detail is provided in the notes.
2. The structure and content is based on CAO.A.25 and AMC1 CAO.A.25.
3. All material contained within this document is for guidance purposes only. It is descriptive not prescriptive in content. Organisations may choose which if any parts of the text they wish to adopt/adapt expanding the content where necessary toreflect their processes. All references in redare for editorial guidance or where general guidance is given to aid an organisation in drafting a CAE that would accurately reflect their situation. It should not form part of any completed exposition.
4. The UK CAA provide this document in the spirit of industry engagement and assistance. If content is used, it is the responsibility of the organisation to ensure it is adjusted to fully reflect the organisations processes and also in respect of the approval held, meet the applicable regulatory requirements, specifically Part-ML, Part-M, Part-CAO & Part-21. There is no obligation to use this material, and organisations are entitled to produce a suitable document that meets the requirements without reference to this example.
5. This material will not be updated by the CAA on an ongoing basis, nor should industry expect it to be updated. Updates to company expositions to reflect amended requirements are the responsibility of the approved organisation, not the CAA.
6. The formatting has deliberately been kept to a minimum to assist in customisation should any of the content be used by industry.
7. Comparisons between the old EASA approvals (Part-MF & Part-MG) and Part-CAO can be found in the transition guide which is linked from the CAA website Part-ML page. <https://www.caa.co.uk/Part-ML/>
8. Where sections are not applicable due to the organisation not having all privileges associated with Part-CAO, the section should be annotated, “Not Used” and the same annotation made in the combined List of Effective Pages and contents.
9. Where organisations employ large numbers of airworthiness review staff who are not co-located, the CAA will not permit designation as a small Part-CAO.
10. Although every effort is made to produce an exposition that reflect all applicable requirements, organisations should check the UK CAA EU Exit web page and ensure that the latest information is included in the exposition prior to submission.

**COMPANY LOGO**

**ABCD Aero Limited**

**UK CAA Approval Number: UK.CAO.XXXX**

**CAE Reference: XXXX/CAE/001**

**Company E-Mail Address: XXXXXXXXXXXXXXX**

**Company Telephone: XXXX XXXXXXX**



**Combined List of Effective Pages and Contents**

|  |  |  |
| --- | --- | --- |
| Sec | Description | Page |
| PART A – General Description |
| - | Front Page |  |
| - | Combined LOEP / Contents |  |
| - | Amendment Record |  |
| A1 | Accountable Manager’s Statement |  |
| A2 | General Presentation |  |
| A3 | Description and Location Facilities |  |
| A4 | Scope of Work |  |
| A5 | Exposition Amendments & Changes to the Organisation  |  |
| A6 | Procedures for Alternative Means of Compliance |  |
| A7 | Management Personnel  |  |
| A8 | Organisation Chart |  |
| A9 | Manpower Resources |  |
| A10 | List of Certifying Staff |  |
| A11 | List of Staff Responsible for the Development and Approval of the AMP |  |
| A12 | List of Airworthiness Review Staff |  |
| A13 | List of Staff Responsible for the Issuance of a Permit to Fly |  |
| PART B – General Procedures |
| B1 | Quality / Organisational Review System |  |
| B2 | Audit Plan |  |
| B3 | Monitoring of Maintenance Contracts |  |
| B4 | Qualification, Assessment and Training of Staff |  |
| B5 | One-Off Certification Authorisation |  |
| B6 | Limited Certification Authorisation (Crew Authorisation) |  |
| B7 | Subcontracting |  |
| B8 | Maintenance and Data and Continuing Airworthiness Data |  |
| B9 | Records Management and Retention |  |
| B10  | Performance of the Airworthiness Review |  |
| B11 | Conformity with Approved Flight Conditions |  |
| B12 | Issue of the Permit to Fly |  |
| PART C – Maintenance Procedures |
| C1 | Maintenance – General |  |
| C2 | Work Order Acceptance |  |
| C3 | Components, Equipment, Tools and Material  |  |
| C4 | Maintenance Facility |  |
| C5 | Maintenance Accomplishment and Maintenance Standards |  |
| C6 | Prevention of Maintenance Errors |  |
| C7 | Critical Maintenance Tasks and Error Capturing |  |
| C8 | Fabrication |  |
| C9 | Certifying Staff Responsibilities and Maintenance Release |  |
| C10 | Defects arising during Maintenance |  |
| C11 | Maintenance away from the Approved Location |  |
| C12 | Procedure for Component Maintenance under Aircraft or Engine Rating |  |
| C13 | Procedure for Maintenance on Installed Engine (or component) under engine (or component) rating |  |
| C14 | Special Procedures (specialised tasks e.g. engine running, NDT) |  |
| C15 | Issue of Airworthiness Review Certificate under Maintenance Privileges.  |  |

|  |  |  |
| --- | --- | --- |
| Sec | Description | Page |
| PART D – Continuing Airworthiness Management Procedures |
| D1 | Continuing Airworthiness Management – General  |  |
| D2 | Minimum Equipment List and Configuration Deviation List |  |
| D3 | AMP Development, Control and Periodic Review |  |
| D4 | Airworthiness Directives and other Mandatory Airworthiness Information |  |
| D5 | Modifications and Repairs |  |
| D6 | Pre-Flight Inspection |  |
| D7 | Defects |  |
| D8 | Establishment of Contracts and Work Orders for the Maintenance |  |
| D9 | Coordination of Maintenance Activities |  |
| D10 | Mass and Balance Statement |  |
| D11 | Issue of ARC or ARC Recommendation |  |
| D12 | ARC Extension |  |
| D13 | Maintenance Check Flights |  |
| PART E – SUPPORTING DOCUMENTS |
| E1 | Sample Documents |  |
| E2 | List of Sub-contracted Organisations |  |
| E3 | List of Organisations Contracted by the CAO |  |
| E4 | Aircraft Technical Log System |  |
| E5 | List of Currently Approved Alternative Means of Compliance |  |
| E6 | Copy of Contracts for Subcontracted Continuing Airworthiness Tasks  |  |
| PART F & G – UK NATIONAL SUPPLEMENT |
| F | A8-24 Supplement |  |
| G | A8-25 Supplement |  |
| PART H – NDT MANUAL |
| H | NOT USED |  |

**Amendment Transmittal** and **Record:**

|  |  |
| --- | --- |
| Issue  | Initial Issue |
| Revision  | N/A |
| Highlights: | This Combined Airworthiness Exposition is issued to reflect the requirements of Part-CAO and how the organisation complies with those requirements through its working practices. As the approval is a new approval, this exposition is entirely new.  |

Note: This page includes details related only to the latest revision. For details of changes made in previous revisions please refer to the appropriate revision.

I confirm that this revision meets the applicable requirements of Part-ML / Part-CAO as appropriate.

Signed:

Dated:

Chief Engineer

Part M will need to be added to the above if the organisation manages or maintains Part-M aircraft.

A1. Statement by the Accountable Manager:

As Accountable Manager of the organisation, I confirm that work undertaken will at all times be in accordance with this Combined Airworthiness Exposition (CAE) and the requirements of Regulation (EU) No 1321/2014 - Annex VD (Part-CAO).

Name:

Signed:

Dated:

Accountable Manager

A2. General Presentation of the Organisation

ABCD Aero Limited has been trading since 1986 at the current location. The current Owner and Accountable Manager is Mrs. ABCD who has owned the organisation since 2001. The organisation has previously held BCAR A8-15 (M3) approval and more recently Part-MF, Part-MG, BCAR A8-24 and A8-25 approvals using which it has provided maintenance and management services to light aircraft owners within the Essex and Suffolk area.

As the organisation employs less than ten full time staff involved in maintenance, less than five full time staff involved in continuing airworthiness management and only manages aircraft subject to Part-ML, the organisation is considered a small Part-CAO organisation.

As the organisation has transitioned from previously held EASA approvals, certain transition arrangements and alleviations apply as detailed in the cover regulation of EU 1321/2014. Where not contained in the content of this exposition, those arrangements and alleviations still apply.

For a new organisation it would not be necessary to include the last paragraph.

For a larger organisation, reference to being a small Part-CAO could be removed.

A small Part-CAO is defined as Part-ML aircraft only (no Part-M aircraft managed or maintained), less than 5 full time Continuing Airworthiness Management Staff, less than 10 full time Maintenance Staff. If any of those is exceeded, the organisation is not a small Part-CAO. GM1 CAO.A.100 (e) concludes that an organisation can be a small CAO for one privilege, not a small CAO for the other privilege and in these situations, the organisation is not considered to be a small CAO as a whole.

**A3. Description and Location of Facilities**

Coggeshall Facility

The companies approved location is as follows:

***ABCD Aero Limited,***

***Hangar 1,***

***Spirit Farm,***

***Coggeshall,***

***Essex,***

***CO6 1TZ.***

The organisation performs all routine approved activities from the main site detailed below. The site includes a small metal clad insulated hangar with a paint sealed floor, oil fired heating, LED down lighting, compressed air and adequate storage for removed parts. There is a small component workshop with equipment required to service magnetos and a small battery shop for servicing lead acid batteries. Secure bonded store facilities are in place for received and inspected parts and a separate secure quarantine store is available for quarantined items.

Staff are able to access maintenance data from a terminal in the Hangar and also the Technical Office.

Other than general cleanliness and environmental protection from the elements, there are no special environmental conditions required to be applied to any tasks performed by the organisation or any items stored.

Continuing airworthiness management activities are performed from the Technical Office, a small portacabin adjacent to the hanger. The cabin has adequate desk space and computer terminals as well as secure archive storage for both maintenance and continuing airworthiness records associated with the approved activities. Appropriate internet and power connections are in place to support the company’s activities.

Hangar Visit Plan

The Hangar Visit Plan consists of a wall planner which is completed by the Technical Officer with a projection of known scheduled work for the next twelve months. It allows for scheduling for the two aircraft spaces available to the most efficient use.

Where an organisation has more than one location, details should be included in this section.

Description and location of facilities to be customised for the approval held (the above text is an example) and would include additional locations, workshops, paint and NDT facilities

AMC1 CAO.A.30 details some alleviation on facility requirements for balloons and airships as well as aircraft subject to Part-ML regulation only.

**Coggeshall Facility Diagram**



**A4. Scope of Work**

The organisation scope of work includes Maintenance, Continuing Airworthiness Management, Airworthiness Review and Permit to Fly issue as expressed in the tables below:

This example shows Aircraft rating and Components rating. Additional ratings should be added to A4 as held or applied for.

Aircraft Ratings

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rating | Maintenance | Continuing Airworthiness Management | Airworthiness Review | Permit to Fly |
| Piston Engine Aeroplanes up to 2730 kg (MTOM) | Yes | Yes | Yes | Yes |

Note1: Permit to Fly can only be issued where the organisation also holds Airworthiness Review Privileges.

Note2: Maintenance Privilege may be further limited subject to AML qualifications and any associated construction limitations.

Where an organisation has multiple sites with different scope, this should be reflected here such that the scope in each location is accurately defined.

Additional aircraft ratings should be indicated in this section. Available ratings can be found in Appendix 1 of Part-CAO and the detail required to be in the scope of work can be found in CAO.A.020 and the associated AMC and GM. CAO.A.95 shows available top-level privileges available for a Part-CAO organisation.

Note that if the organisation is adding aircraft subject to Part-M regulation, then the individual types are to be listed in the scope of work. Adding additional types subject to Part-M regulation is a change that requires CAA approval.

Note that the rating section above could be further limited to ELA 1 or ELA 2 aircraft if appropriate. As an example, this might be applicable if the only LAE utilised had only a B3 license.

If an organisation manages Part M aircraft and has an indirect approval for maintenance programmes, that privilege must be included in this section.

Components other than complete engines

|  |  |  |
| --- | --- | --- |
| Component Rating | Details | Scope |
| C5 Electrical Power | Concorde Series 12 & 24V Lead Acid Batteries | Capacity Test |
| Gill Series 12 & 24V Lead Acid Batteries | Capacity Test |
| C7 Engine | Slick Champion 4200 Series Magneto | Maintenance and Overhaul  |

 Note: Maintenance or overhaul work performed under the component rating means performance of maintenance or overhaul using the CMM, on uninstalled components (excluding complete engines) intended for fitment to an aircraft or engine where the CRS is to be issued at component level (CAA Form 1). Refer to section C9 for further release detail.

Component level detail can be split out to a standalone capability list if needed, however it should be referenced here such that the capability list is identified as the source document. In any case, the actual C ratings held need to be listed here.

Where an organisation has multiple sites with different scope, this should be reflected here such that the scope in each location is accurately defined.

A list of C ratings can be found in CAO.A.020.

**A5. Exposition Amendments and Changes to the Organisation**

Changes to the Organisation

The UK CAA will be informed of any of the following changes **prior to** such changes taking place:

1. Changes affecting information contained in the approval certificate or terms of approval.
2. Changes to the Accountable Manager or Nominated Personnel.
3. Changes in the scope of work by addition of aircraft subject to Part-M regulation.
4. Changes in the scope of work related to complete turbine engines.
5. Addition of Airworthiness Review Staff
6. Any changes to this CAE Section A5 only.

Changes noted in item 1 above will also require a variation application to be made, investigated, approved and a new approval certificate issued prior to such changes taking effect.

Changes noted in items 2 through 6 will be notified to the UK CAA by the submission of a Part-CAO Change Form (CAA Form SRG 1777) and supporting information and where appropriate, an amended CAE. The change will not be considered approved until Form Part-CAO Change Form is returned, signed on behalf of the UK CAA.

The following changes will be notified to the UK CAA within 15 days of the changes taking place including in that notification an updated CAE:

1. Any other changes in locations and or facilities not affecting the approval certificate.
2. Any changes in staff, tooling, equipment, material, scope of work or procedures affecting content of this CAE.

**Changes to the CAE Component Rating Scope of Work**

As the company holds a component rating as part of the approval, additional C ratings and / or components can be added and approved using this internal procedure and associated form.

The Chief Engineer will approve any additional C ratings or component additions to existing C ratings after completion of an assessment for increase in capability. The assessment will establish that relevant tooling, equipment, data, facilities and competent personnel (including any additional training required) are in place prior the addition of the rating or component being approved. Such assessments will be documented on Form ABCD/002. Any issues arising from the assessment will be addressed adequately before the capability is added.

Completed Form ABCD/002 will be retained in the archive and CAE Section A4 will be amended to reflect the change and processed as detailed below.

If the company holds a rating for complete piston engines, complete electrical engines or NDT, this section should cater for those changes also. Noteworthy is that GR23 for NDT remains mandatory therefore company Level 3 involvement and CAA approval of certain changes related to that work is still required. The processes for addition of scope for these activities would in most cases require more detail than applicable in the example here.

Process and Approval of CAE Amendments

The initial CAE will be submitted to the UK CAA for approval as part of the initial application for Part-CAO approval. Further amendments to the CAE are approved by the Chief Engineer.

After determining compliance with applicable regulations relating to each change, the Chief Engineer will approve amendments to the CAE by signing the transmittal page. A copy will be sent to the UK CAA for records purposes to apply@caa.co.uk within 15 days of the change.

When the CAE is amended, the entire document takes the revision number given. Changes are highlighted and all previously highlighted changes are removed. Summary information relating to the changes will be included in the transmittal page.

Where changes to the CAE relate to a variation application, such amendments will not be considered to take effect until the variation application has been completed and a new Part-CAO approval certificate has been issued.

This is reflecting that for routine changes, the CAA is no longer required to approve the exposition. Note that notwithstanding this, certain categories of changes to the scope of work or organisation require CAA approval, therefore the CAE would be part of the submission to the CAA to justify that change as discussed in A5 above. Although the CAA will not explicitly approve the CAE amendment, they will approve the change to the organisation.

**A6. Procedures for Alternative Means of Compliance**

The EASA produced Acceptable Means of Compliance (AMC) will be used to demonstrate compliance with the Annex VD (Part-CAO) requirements.

On occasion where staff wish to use an Alternative Means of Compliance (Alt MOC), a proposal will be made to the Chief Engineer with a full description of how that Alt MOC is compliant with Annex VD (Part-CAO) requirements.

After satisfactory verification and assessment, the UK CAA will be provided with the information above with an associated request for approval of the Alt MOC. The Alt MOC will not be used until properly documented in the CAE and the Alt MOC has been given formal approval by the UK CAA.

**A7. Management Personnel**

Accountable Manager Mrs. ABCD

Chief Engineer Mr. ABCD (Also Senior Airworthiness Review Staff)

Quality Monitor (Independent) Mr. ABQA

The Accountable Manager is also responsible for the Organisational Review.

This section should list the staff responsible for ensuring the Part-CAO is always in compliance with Part-CAO. The above reflects a small organisation. In larger organisations there may be a Quality Manager, Workshops Manager, Continuing Airworthiness Manager. Staff are accepted but there is no longer a need to submit a Form 4 for review and approval. See section A5 for the new simple method of informing the CAA about changes to the Part-CAO, including Senior Staff.

**A8. Organisation Chart**

\*Senior Staff referred to in CAO.A.035 (a) & (b)

**A9. Manpower Resources**

Management 2 Full Time

Quality Monitor 1 Part Time

Administration 1 Part Time

Hangar Staff 2 Full Time (1 LAE & 1 Mechanic)

Technical Office 1 Full Time

Total Maintenance Staff: 2.5\*

Total Continuing Airworthiness Staff: 1.5\*

Total Organisation Staff: 7

\*Includes 50% of the Chief Engineer’s available time.

**A10. List of Certifying Staff**

**Aircraft Rating**

Mr. ABCD Chief Engineer B1.2 (Full Group 3) AML.1234567A ABCD01

Mrs. ACEF LAE B3 / B2L AML.1234789A ABCD02

The above staff are authorised to perform and certify maintenance to the extent of the referenced AML and this CAE Section A4 Scope of Work, whichever is most restrictive.

Note: There are currently no Limited Authorisations issued for Flight Crew.

**Component Rating**

Mrs. ACEF LAE C5/C7 ABCD02

The above staff are authorised to perform and certify maintenance related to components listed in the section A4, within the C ratings shown against each person above.

**A11. List of Staff Responsible for the Development and Approval of the AMP**

Mr. HDYU Technical Officer Development only ABCD03

Mr. ABCD Chief Engineer Development and approval ABCD01

The above staff are authorised to develop and or approve AMP (initial and amendments) as applicable, limited to aircraft in Section A4 of this CAE for which the privilege of Continuing Airworthiness Management is held.

**A12. List of Airworthiness Review Staff**

Mr. ABCD Chief Engineer ABCD01

Mrs. ACEF LAE ABCD02

The above staff are authorised to perform Airworthiness Review, and issue or recommend an ARC limited to aircraft in Section A4 of this CAE for which the privilege of Airworthiness Review is held.

**A13. List of Staff Responsible for the Issuance of a Permit to Fly**

Mr. ABCD Chief Engineer ABCD01

Mrs. ACEF LAE ABCD02

The above staff are authorised to issue Permit to Fly, limited to aircraft in Section A4 of this CAE for which the privileges of Airworthiness Review and Permit to Fly are both held.

Note: Part-CAO details scope of an individual’s authorisation is to be defined in the exposition rather than requiring standalone authorisation documents for authorised functions.

For a simple approval this approach as above will work. As the approval becomes more complex, the above would also become more complex therefore it could be useful to reference out to a separate document issued to the individual.

Note: Part-CAO requires a valid Part-66 for certifying work but does not specifically require that organisations track staff license validity. Tracking actively the license expiry dates can save a lot of time, embarrassment and legal release issues when work must be recertified due to continued certification with an expired AML.

**B1. Organisational Review**

The CAA has approved ABCD Aero as a Small CAO [CAO.A.100(f)]. The organisation uses a system of organisational reviews to provide an independent monitoring function of how the organisation ensures compliance with the applicable requirements, policies and procedures, and to request actions where non-compliances are identified.

Organisational reviews are performed by the Quality Monitor who reports directly to the Accountable Manager.

The Quality Monitor will have a thorough knowledge of the applicable regulations (e.g. Part-M, Part-ML & Part-CAO) and knowledge of audits obtained by either training or experience (e.g. previous audit experience or active participation in several audits conducted by the UK CAA). The Quality Monitor will not be involved in or responsible for the functions, procedures or products that are audited.

Findings against the organisations procedures or regulatory requirements will be notified and processed using Form ABCD/013b which will be issued to the Accountable Manager by the Quality Monitor. All findings that lower the safety standard and seriously hazard flight safety should be immediately notified to the competent authority and all necessary actions on aircraft in service should be immediately taken

The Accountable Manager will review all other findings which will be rectified, and a response given to the Quality Monitor within 3 months. The response will include the corrective action and preventative action. The preventative action will address the reason why the condition existed in the first place (i.e. root cause). Upon receipt, the Quality Monitor will review and either close or return to the responsible Manager for further action. The closed report and findings will be forwarded to the Accountable Manager for review and filing.

In addition to the current Organisational Review record, the organisation will retain review records for the previous two years.

Organisational Review can only be used if the organisation is a small Part-CAO and with the CAA agreement. A small Part-CAO is defined as Part-ML aircraft only, less than 5 full time Continuing Airworthiness Management Staff, less than 10 full time Maintenance Staff. If any of those is exceeded, the organisation is not a small Part-CAO and this section would be renamed Quality System and must contain all the associated detail. Corresponding changes would need to be made to Section B2 and B3 below. CAO.A.100 refers. GM1 CAO.A.100 (e) concludes that an organisation can be a small CAO for one privilege, not a small CAO for the other privilege and in these situations, the organisation is not considered to be a small CAO as a whole.

Where organisations employ large numbers of airworthiness review staff who are not co-located, the CAA will not permit designation as a small Part-CAO.

Although not specifically aimed at GA, CAP 1760 includes details that may be useful when considering problem solving and root cause analysis.

**B2. Audit Plan (Organisational Review)**

Organisational Review Checklist Form ABCD/13a will be used to record the performance of the Organisational Review and includes an appropriate combination of records / documentation review, sample check of aircraft under contract or maintenance workorder, interview of personnel involved, review of discrepancies and deviations (e.g. notified difficulties with procedures / tools / systematic deviations from procedures) and a review of customer complaints. The form will reference the items sampled.

Organisational Reviews will be scheduled to ensure that when performed, sufficient work is ongoing such as to allow a meaningful review process. The audit schedule ensures that each checklist item is checked at least once every 12 months and is as follows:

Quarter 1 (each calendar year) – Full organisational review using checklist Form ABCD/013a

Where there are multiple sites or if the organisation chooses to split out the different elements of the business to be audited at different times, that would need to be reflected in the above to show how the entire organisation (geographically) and the scope of work for each location is captured by the Organisational Review system.

**B3. Monitoring of Maintenance Contracts**

The Organisational Review programme will sample maintenance being performed for compliance with the work order and will include a sample of all the aircraft, engine and component ratings held by the company.

Record of this activity will be on Form ABCD/013a and form part of the standard Organisational Review.

**B4. Qualification, Assessment and Training of Staff**

**Nominated Staff (e.g. Management)**

Staff nominated by the Accountable Manager as detailed in section A8 of this CAE will meet the following requirement and demonstrate:

1. Practical experience and expertise in the application of aviation safety standards and safe operating practices including 5 years aviation experience, at least 2 years should be from the aeronautical industry in an appropriate position **and**;
2. Comprehensive knowledge of Part-M, Part-ML and any associated requirements, procedures, Quality / Organisational Review systems, maintenance standards (including human factors) as well as the content of this CAE **and;**
3. Knowledge of a relevant sample of types, components that are within the scope of work. This knowledge may be demonstrated by documented evidence or by an assessment performed by the UK CAA. Training courses when used as documented evidence should be at level equivalent to Part-66 Appendix III Level 1, by the manufacturer or by another organisation accepted by the competent authority.

Competence Assessment, Initial and Recurrent Training

The Chief Engineer will ensure that all staff involved in maintenance and continuing airworthiness management are assessed for competence and qualification. On the job evaluation or specific examination as deemed appropriate by the Chief Engineer will be performed and recorded as detailed on Staff Record Form, ABCD/003 prior to unsupervised work being performed.

Initial training will be adequate for the position, as determined by the Chief Engineer but will not be less than training required by the applicable regulatory requirements. Training in the requirements of this CAE will apply to all staff where relevant to their tasks.

Initial training will be by hangar briefing, one to one discussion, computer or classroom based as appropriate to the material or as required by the regulation and will be recorded on Staff Record form ABCD/003.

Recurrent training will be adequate for the position as determined by the Chief Engineer. Examples of material to be considered are as follows:

1. New technology, aircraft and / or components where training is appropriate
2. Results of MORs / Investigations / Incident & Accident Reports
3. Changes in the content of this CAE or regulation that impact the individual’s role

Recurrent training will be by hangar briefing, one to one discussion, computer or classroom based as appropriate to the material and will be recorded on Staff Record form ABCD/003.

Specialised Staff

Welding will be performed by personnel qualified in accordance with an officially-recognised standard (e.g. CAA BCAR A8-10, ISO 24394) valid for the welding procedure / material group being utilised. A copy of that qualification will be held on file.

Non-Destructive Testing (excluding colour contrast penetrant inspection) will be contracted to an appropriately approved organisation.

Note: As the NDT written practice is requiring each amendment to be approved as detailed in GR23, it makes sense to reference it here, and state that it will comply with EN4179 and cross refer out to the NDT Manual that will be separate from this document (for organisations with NDT ratings).

Note that where approval of welders is managed in house (e.g. BCAR A8-10), then the associated procedures for managing that approval should be included here.

Certifying Staff

The Chief Engineer will ensure that **Aircraft Certifying Staff** meet the following requirements prior to releasing aircraft to service:

1. Be qualified in accordance with Part-66 and appropriately type rated (if applicable) and;
2. Have at least 6 months maintenance experience in the last 24 months consistent with the privileges of the license and;
3. Have adequate training and competence demonstrated in line with this section B4 and;
4. Be able to read, write and communicate to an understandable level in English and the language of applicable technical data and;
5. Have an adequate understanding of the aircraft as well as applicable company procedures.

The Chief Engineer will ensure that **Component Certifying Staff** meet the following requirements prior to releasing aircraft to service:

1. Have at least 6 months applicable component maintenance experience in the last 24 months and;
2. Have adequate training and competence demonstrated in line with this section B4 and;
3. Be able to read, write and communicate to an understandable level in English and the language of applicable technical data and;
4. Have an adequate understanding of the components as well as applicable company procedures.

The list of Certifying Staff along with the associated scope of authorisation is contained in this CAE, Section A10. Records demonstrating compliance with the above will be kept by the Chief Engineer.

Airworthiness Review Staff

Note that for Airworthiness Review Staff, the below would need to be amended if the organisation is to cover Part-M aircraft. The requirements are different.

Airworthiness Review staff must be nominated by the organisation and formally accepted by the UK CAA prior to performing an Airworthiness Review and issuing an ARC.

The Chief Engineer will ensure that **Airworthiness Review Staff** meet the following requirements prior to performing an Airworthiness Review and issuing an ARC:

1. Have acquired experience in continuing airworthiness of at least 1 year for sailplanes and balloons and of at least 3 years for all other aircraft and;
2. Hold an appropriate Part-66 license or an Aeronautical Degree or equivalent and;
3. Have adequate training and competence demonstrated in line with this section B4 and;
4. Have acquired appropriate aeronautical maintenance training.
5. Where compliance with point 2 above cannot be demonstrated, the qualifications can be substituted by an additional 2 years’ experience (balloons and sailplanes) or an additional 4 years’ experience for all other aircraft. As an example, for a fixed wing aircraft or helicopter, this would equate to 7 years continuing airworthiness management experience.
6. Have satisfactorily completed and recorded an “Airworthiness Review under Supervision” with either the UK CAA or another current ARC signatory listed in this exposition.

The experience specified in item 1 refers to any appropriate combination of tasks related to maintenance, continuing airworthiness management including if applicable surveillance of such tasks.

An equivalent to an Aeronautical Degree as specified in item 2 above refers to an engineering degree from mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft.

Addition to the List of Airworthiness Review Staff in this CAE is a notifiable change requiring prior UK CAA approval. The change will require the satisfactory completion of an ARC under supervision of another company approved ARC signatory. A record of the review under supervision will be made on Staff Record Form ABCD/003.

Continued validity of the above authorisation is dependent on the Airworthiness Review Staff performing at least one Airworthiness Review in the last 12-month period **or** having experience of continuing airworthiness tasks for at least 6 months in every 2-year period. Restoration of lost validity will be achieved by performing an Airworthiness Review under supervision of the UK CAA or any other company approved Airworthiness Review staff holding a valid and current authorisation. A record of the review under supervision will be made on Staff Record Form ABCD/003.

The list of Airworthiness Review Staff with the associated scope of approval is contained in this CAE section A12. Records showing compliance with all the above requirements for Airworthiness Review Staff will be kept for at least 2 years after the staff member has left the organisation.

Temporary Sub-Contracted Staff

Temporary staff may be utilised; however, the organisation will ensure that such staff meet the full requirements of this CAE prior to use.

**B5. One Off Certification Authorisation**

In unforeseen circumstances where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the Chief Engineer may issue a one-off certification authorisation to:

1. A company employee holding type qualifications for aircraft of similar technology, construction and systems **or;**
2. To a person with no less than 3 years of maintenance experience and holding a valid ICAO aircraft maintenance license rated for the aircraft type, provided there are no organisations at that location approved in accordance with Part-CAO that could perform the work.

In the case of item 2 above, the Chief Engineer will retain evidence of the experience and license of the person authorised. Form ABCD/005 will be used for the issue and recording of One Off Certification authorisations.

The Chief Engineer will ensure that where the above is issued, any task that could impact flight safety is rechecked by Certifying Staff at the earliest practical opportunity.

**B6. Limited Certification Authorisations (Flight Crew)**

When providing support to Commercial Operators, the Chief Engineer may authorise under this Part-CAO approval, the Pilot in Command (PIC) to perform:

1. Repetitive AD tasks where the AD specifically states that the AD may be accomplished by the flight crew **and / or;**
2. Limited maintenance tasks where the aircraft is operated away from a supported location. This will be limited to simple tasks performed on non-critical / flight safety related systems, not requiring removal of cowlings or complete panels and not requiring further investigation as to the cause of the defect. (As an example, this could include navigation (position) light filament changes or top off the air in the aircraft tyre).

The qualification to be checked and retained relating to items 1 & 2 above is a copy of the relevant valid Flight Crew License. In all cases, practical training and assessment on a task by task basis is to be provided such that the Chief Engineer can be entirely satisfied that the task can be completed to the required standard.

Flight Crew qualification, training, assessment and authorisation will be recorded on Form ABCD/004.

Note that this provision applies to commercial operation only where normal pilot owner maintenance is not permitted. Such authorisations will be listed in Section A10 of this CAE.

B7. Sub-Contracting

The organisation does not sub-contract any Maintenance or Continuing Airworthiness Management functions to non-approved organisations at present.

For this approval, the following activities are not considered to be a sub-contract arrangement:

1. A subscription service for the provision of Technical Data
2. Contracting the use of a software tool for the management of data and records, provided that if the tool is used by multiple organisations, each has access to its own data only and introduction of data can only be performed by the personnel of the Part-CAO and the data can be retrieved at any time.

Note that a small Part-CAO using an Organisational Review system cannot sub-contract continuing airworthiness management tasks. It could however sub-contract certain maintenance tasks (e.g. specialised services such as plating or heat treatment, wheeling). In this case the way the organisation extends its approval and oversees this work should be stated here. Note that if work is contracted to an organisation that issues a Form 1 for the work performed, that is not considered to be a subcontract as the organisation being contracted is properly approved. Those companies would be listed in section E3.

B8. Maintenance Data & Continuing Airworthiness Management Data

The Chief Engineer will ensure that all maintenance and continuing airworthiness management work performed is supported by the applicable current maintenance data. Applicable means:

1. Any applicable requirement, procedure, standard, AD or information published by the UK CAA or applicable source (e.g. NAA, EASA other State of Design).
2. Applicable Instructions for Continuing Airworthiness issued by the Type Certificate Holder, Supplemental Type Certificate holder or Part-21 organisation as appropriate. Practical examples include the Service Manual, Parts Catalogue, Repair Manual & Modification Data.

The organisation subscribes to // website of service provider // for commonly maintained types such as Cessna Piper aircraft, Lycoming & Continental Manuals. A subscription is in place and is the responsibility of the Chief Engineer.

For less common types and components, or where the maintenance data is provided by the owner, or where the data is free to view via the DAH website (e.g. Fly Rotax), the Chief Engineer will ensure the availability of current applicable maintenance data prior to any work taking place and will ensure that only that data is used.

With respect to Maintenance activities and Continuing Airworthiness Management, current applicable data need only be held for the duration of the work (maintenance), or the duration of the aircraft management contract or when performing Airworthiness Review activities (e.g. standalone ARC on a non-managed aircraft).

B9. Records Management & Retention

On a practical level, records retention will be performed by the Technical Office and Administration Staff although the responsibility for the process and work will rest with the Chief Engineer.

Records retention will be as detailed in the table below:

|  |  |
| --- | --- |
| **Records Details / Subject** | **Retention Duration** |
| Maintenance Records including the CRS, and subcontractor documentation and additionally any modification / repair data related to that work. | Until superseded by new equivalent information and in any case, not less than 3 Years from the CRS date. |
| Continuing Airworthiness Management records (ML.A.305) | \*Until 2 years after the aircraft has been permanently withdrawn from service.  |
| Airworthiness Review Certificate, Report, Recommendation, extension (as applicable) and all supporting documents.  | \*Until 2 years after the aircraft has been permanently withdrawn from service. |
| Any issued Permit to Fly and associated supporting documentation.  | \*Until 2 years after the aircraft has been permanently withdrawn from service. |
| Assessment and Qualification of all personnel involved in Continuing Airworthiness Management and / or Maintenance. Records of Certifying Staff, Records of Airworthiness Review Staff.  | Until 2 years after the staff are no longer employed or contracted by the organisation.  |
| Records of Calibration and standards used.  | 3 years from the CRS date of last use.  |
| Records of Organisational Review  | Two previous years in addition to the current year of review.  |

\*When these records are transferred to another organisation or person, from the moment of transfer, the retention of records requirements will apply to that organisation or person.

Managed Aircraft

Aircraft Continuing Airworthiness Records will consist of logbooks for the airframe, engine(s), propeller(s) and log cards or equivalent for any service life limited components or engine modules.

Logbooks for managed aircraft will be kept up to date by the Technical Officer who will record the aircraft type, registration, date together with total flight time / cycles / landings as appropriate.

For managed aircraft, live records are the following:

1. The current status of ADs and measures mandated by the competent authority in immediate reaction to a safety problem;
2. The current status of modifications, repairs and other DAH maintenance recommendations;
3. The current status of compliance with the AMP;
4. The current status of service-life-limited components;
5. The current mass and balance report;
6. The current list of deferred maintenance.

The above takes the form of an excel spreadsheet for each aircraft. These records are used to provide a live status for managed aircraft.

The information received relating to defects, maintenance performed, and utilisation is used to update the spreadsheet which produces the next due detail from which the ongoing maintenance is derived. The spreadsheet “Live Status Record” for each individual aircraft is controlled by the Technical Office, saved to the Server in each aircraft folder and backed up to the company cloud on saving. Updates to the records will be made as soon as possible but not later than 30 days after the day of completion of the maintenance task.

In addition to the EASA / CAA Form 1 (or equivalent), the following information will be entered in the relevant logbook / log cards as applicable:

1. Identification of the component
2. Type, serial number and registration (as applicable) of the aircraft, engine, propeller, module or component to which the component has been installed, including installation / removal details.
3. The date together with the accumulated total flight time, flight cycles, landings and calendar time, as appropriate to the component.
4. Applicable status items from 1-6 above.

Record Storage & Disposal

Logbooks, Continuing Airworthiness & Maintenance Records will be retained in a large, shelved steel cupboard in the Archive adjacent to the Technical Office. The Archive will be kept locked under the supervision of the Technical Office Staff. The Archive will not be used for storage of any items other than company and aircraft records. All records in work in the Technical Office will be returned to the archive at the end of the working day and the archive locked.

Some long term and historic records are kept electronically. In this case the data is saved on the Technical Office Server under the nationality and registration mark (e.g. G-ABCD) or the particular subject matter folder (e.g. Company AMPS).

The server is automatically backed up to the company cloud when saving. The server is protected by password access given to the Technical Office & Admin Staff only. Saved documents will be checked on scanning / saving to verify that the document is not corrupt, and the scan / save quality is acceptable.

In the event that the company terminates its operation, the Chief Engineer will ensure that all Continuing Airworthiness and Maintenance Records will be transferred to the last owner or customer or where this is not possible, will be stored as defined by the UK CAA.

Where the aircraft is withdrawn from service, the maintenance records (or copies) will be retained as detailed in the table above. Unless contracted by the owner / operator, all continuing airworthiness management records will be transferred to the owner / operator who will then be responsible for retention in accordance with ML.A.305 (h).

Part-M requirements would need to be reflected for Part-M aircraft (e.g. M.A.305 & 306).

This section could be significantly reduced if only the maintenance privilege is held (e.g. transition from Part-MF only).

B10. Performance of the Airworthiness Review

This section would need review and minor adjustment if Part-M aircraft are to be managed as it refers to Part-ML and also the CAA Form 15c.

The airworthiness review will be recorded on form ABCD/006a and will include details of what was checked along with any findings. Findings must be resolved prior to the issue of the CAA Form 15c Airworthiness Review Certificate.

Airworthiness Review – Full Documented Review

Only the Airworthiness Review Staff listed in this exposition will perform a documented review of the aircraft records to verify that:

1. Airframe, engine and propeller flying hours and associated flight cycles have been properly recorded;
2. The flight manual is applicable to the aircraft configuration and reflects the latest revision status;
3. All the maintenance due on the aircraft according to the AMP has been carried out;
4. All known defects have been corrected or deferred in a controlled manner;
5. All applicable ADs have been applied and properly registered;
6. All modifications and repairs made to the aircraft have been registered and are in compliance with Annex I (Part 21) to Regulation (EU) No 748/2012;
7. All service-life limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit;
8. All maintenance has been certified in accordance with Annex Vb (Part-ML);
9. If required, the current mass and balance statement reflects the configuration of the aircraft and is valid;
10. The aircraft complies with the latest revision of its type design approved by the agency;
11. If required, the aircraft holds a noise certificate corresponding to the current configuration of the aircraft in compliance with subpart I of Annex I (Part-21) to regulation (EU) 748-2012;
12. Where applicable, the review of the effectiveness of the AMP will be performed in conjunction with the airworthiness review.

Airworthiness Review – Physical Survey

The airworthiness review staff referred to above will also carry out a physical survey of the aircraft. Airworthiness Review Staff not appropriately qualified under Annex III (Part-66) will be assisted by Part-66 Certifying Staff in removing panels, ensuring access and generally facilitating the review. Any work performed to facilitate the review will be certified by the Certifying Staff. The Physical Survey will be performed only by the Airworthiness Review Staff.

Through the physical survey of the aircraft, the Airworthiness Review Staff will ensure that:

1. All required markings and placards are properly installed;
2. The aircraft complies with its approved flight manual;
3. The aircraft configuration complies with the approved documentation;
4. No evident defect can be found that has not been addressed according to point ML.A.403;
5. No inconsistencies can be found between the aircraft and the documented review of records as referred to above;
6. Where applicable, the review of the effectiveness of the AMP is performed in conjunction with the airworthiness review.

Airworthiness Review – Effectiveness of the AMP

Where the AMP is declared by the owner or for Managed Aircraft when the Chief Engineer requests it, the company Airworthiness Review Staff will as part of the airworthiness review process review the effectiveness of the AMP. The process for the review is detailed in this CAE Section D3.

Airworthiness Review – Anticipation

The Airworthiness Review may be anticipated for a maximum period of 90 days without loss of continuity of the airworthiness review pattern, so as to allow the physical review to take place during a maintenance check.

B11. Approval of Flight Conditions

To issue a Permit to Fly (PtF) the organisation must first submit the flight conditions to support the PtF to the CAA for approval.

The application for the Flight Conditions approval must be submitted on a CAA Form 18b and include:

1. the proposed flight conditions i.e. specific technical limitations (e.g. maintenance that must be performed before flight) or operational limitations (e.g. crew to be carried, operation in a certain configuration);

2. the documentation supporting these conditions; and

3. a declaration that the aircraft is capable of safe flight under the conditions or restrictions of point 21.A.708(b).

Further information is available here:

<https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Type-design-approvals/Approval-of-flight-conditions-for-Permits-to-Fly/>

Where the conditions relate to functions outside of the Part-CAO organisations control, the person issuing the Permit to Fly must ensure that the requirements have been effectively communicated to other parties involved. In a practical sense this may include briefing of the pilot in command and highlighting the flight conditions to them.

B12. Issue of the Permit to Fly

The organisation may issue a Permit to Fly for the following purposes:

1. Ferry Flying: flying the aircraft to a location where maintenance or airworthiness review are to be performed, or to a place of storage [21.A.701 (a) 11],
2. Maintenance Check Flights: flying an aircraft for troubleshooting purposes or to check the functioning of one or more systems, parts or appliances after maintenance [21.A.701 (a) 16].

The Permit to Fly (CAA Form 20b) may be issued by the signatories listed in Section A13 of this exposition having ensured that:

1. The aircraft is within the approval scope **and;**
2. They are satisfied that the Flight Conditions have been established and approved **and;**
3. They have verified compliance with the approved Flight Conditions **and;**
4. They have confirmed that any maintenance specified in the approved Flight Conditions has been carried out **and;**
5. The organisation holds Airworthiness Review Privilege for the aircraft type.

Prior to a flight being made with a Permit to Fly being in Force, a CRS will be issued in accordance with Part-ML. The CRS will contain details verifying that the aircraft conforms with the conditions specified on the Permit to Fly, CAA Form 18b and any associated documents, and that the aircraft has been inspected and is fit for the intended flight.

The validity of a temporary Permit to Fly will not exceed the validity of the associated Flight Conditions or 3 months, whichever is shorter.

A copy of any issued Permit to Fly along with the associated Flight Conditions will be sent to the UK CAA at the earliest opportunity or no later than 3 days after issue.

If at some point during the validity of the Permit to Fly, the aircraft no longer conforms with the approved Flight Conditions or the aircraft does not remain on the same register, the Chief Engineer is responsible for revoking the Permit to Fly and returning the document to the UK CAA.

C1. Maintenance - General

The following section details the maintenance procedures to be followed during the performance of maintenance work undertaken by the organisation.

C2. Work Order Acceptance & Work Pack Creation

The Chief Engineer will ensure that all maintenance work is supported by a written work order before the commencement of work. The written work order can take the form of an e-mail, fax, purchase order, letter or work package (e.g. from the Technical Office or another Part-CAO / Part-CAMO).

The work order will only be accepted if the aircraft / component is within the organisations scope of work, the work order detail clearly establishes the maintenance to be carried out, the facility can physically accommodate the aircraft / component for the duration of the maintenance and all applicable facility requirements, tooling, equipment, data, personnel and parts can be made available to facilitate proper performance of the work. A copy of the work order will be filed with the completed work package.

All work orders are processed by the Technical Officer or Chief Engineer by allocation of a work order number and creation of a work package to ensure that the documentation being used for aircraft maintenance is clear as to the maintenance requirement and includes the following as applicable:

1. An index sheet so the content of the work pack can be controlled. It also contains aircraft identification, details of maintenance data (Inc. Rev Status), the work order number and specimen signatures.
2. Task cards for the routine maintenance.
3. Non-routine cards for recording defects and other non-routine work.
4. An Independent Inspection sheet for the recording and signing off of Independent Inspections
5. AD or Mandatory Work Task Card for recording compliance with ADs
6. Engine Ground Run Record
7. Certificate of Release to Service & Finals Card (includes tool / panel / misc. items check)
8. Parts Used sheet

With respect to component maintenance, the work pack will consist of a component worksheet detailing the work to be performed including testing as well as the part number / serial number of the item itself.

The Work Order number is generated by prefix of the aircraft registration and the next sequential work order number from the Work Order Book, which provides the basic details of all Work Orders accepted by the company (e.g. G-ABCD/001).

C3. Components, Equipment, Tools and Material (supply, acceptance, segregation, storage, calibration etc.).

Tooling Control and Use

The company holds all required tooling as specified by the maintenance data to perform the normal scope of work, as listed on the tools and equipment spreadsheet held by the chief engineer. The company tooling is held in the secure tool store at the front of the hangar. The tool store has adequate allocated racking for the various tooling and is arranged in such a way that makes it clear if a piece of tooling is missing. This is achieved by having marked space for each tool on the racking.

Unserviceable tooling will be placed in the Quarantine Store and be reported to the Chief Engineer in order that a repair or replacement can be organised. Any missing tooling will be reported immediately to the Chief Engineer who will determine the action to be taken.

Where maintenance data details tooling that the organisation does not have access to, the work is to be stopped and the Chief Engineer informed.

Where tooling is not required to be available due to its infrequent use, the Chief Engineer will source the tooling for purchase or loan as appropriate. Where that tooling is subject to calibration, records will be kept (as detailed in the Tooling Calibration section below) to demonstrate that it was calibrated to an appropriate standard at the point of use.

Personal tooling such as standard hand tooling and air tools are the responsibility of the owner who is responsible to the Chief Engineer for keeping the toolbox in such a condition as would enable them to identify readily any missing tooling. Any missing tooling will be reported immediately to the Chief Engineer who will determine the action to be taken.

Equivalent Tooling & List

Equivalent tooling may be used where permitted by the maintenance data or where the Chief Engineer has verified equivalence. Any equivalent tools (if applicable) will be listed here along with detailed of how equivalence was established:

|  |  |
| --- | --- |
| **Tooling Details** | **Equivalence Notes / Details**  |
|  |  |

Tooling Calibration

The Chief Engineer holds an inventory of tools and equipment on an excel spreadsheet which in the case of calibrated equipment indicates last done and next due dates. Calibration is contracted to an outside agency who calibrate the tooling every 12 months. The Chief Engineer is responsible for monitoring the calibration system and ensuring that calibration activity takes place on schedule. Records of calibration are held in a folder in the archive and include calibration certificates that identify the tooling by part/serial number, date of calibration and standard. For the purpose of this procedure, standard means either the manufacturers standard or another officially recognised standard (e.g. BS EN 837-2).

Notwithstanding the above, torque wrenches set and checked each use using the Acratork rig on the outside wall of the tool store and are not subject to annual calibration. The Acratork rig is calibrated annually as detailed above. Any discrepancy must be reported to the Chief Engineer.

Personal tooling subject to calibration is permissible but will be declared to the Chief Engineer and be managed and recorded as detailed in this section.

Component Acceptance & Storage

This section is based entirely on Part-ML requirements therefore differences between Part-ML and Part-M would need to be identified and included in the event of Part-M aircraft being managed.

Components, parts, consumables and raw material being received are inspected on the bench outside the bonded store for condition, acceptable documentation and conformity with the order.

If satisfactory the part is entered on the batch number list and a batch number issued (Form ABCD/008) before a parts label being affixed and being placed in the bonded store or issued to the aircraft. The parts label includes part number, serial number, batch number and shelf life expiry as applicable. If the manufacturers label or packaging contains the above information, it is acceptable to simply write the batch number clearly on the manufacturers packaging using indelible ink. A copy of the CAA Form 1 (or equivalent) will be attached to any rotable parts or where there are relevant comments in Block 12 for the information of the installer.

If unserviceable it is either routed to the workshop (for component maintenance), placed in the Quarantine Store or returned to the shipper as appropriate.

Incoming paperwork is filed sequentially in Lever Arch files kept in the Bonded Store. Once full, lever arch files are stored in the Archive.

The Certifying Engineer will only certify installation of a component if:

1. The part is in a satisfactory condition **and;**
2. Has been appropriately released using a CAA Form 1 or equivalent **and;**
3. Has been marked in accordance with Part-21, Subpart Q (e.g. Part / Serial Number, TSO markings as applicable).
4. Is eligible to be fitted if different modification standards or AD configurations are applicable.

Equivalent documents to a CAA Form 1 may be:

1. EASA Form 1 issued prior to 1st January 2021.
2. EASA Form 1 issued by a non-UK organisation, acceptable for installation until 31st December 2022;
3. A release document issued by an organisation under the terms of a bilateral agreement signed by the EU or JAA.
4. A JAA Form 1 issued by a JAR 145 organisation approved by a JAA Full Member State prior to 28th November 2004.
5. In the case of new aircraft components that were released from manufacturing prior to the Part-21 compliance date, a JAA Form 1 issued by a JAR-21 organisation approved by a JAA Full Member State within the JAA mutual recognition system.
6. A JAA Form 1 issued prior to 28th September 2005 by a Production Organisation approved by a competent authority in accordance with its national regulations.
7. A JAA Form 1 issued prior to 28th September 2008 by a maintenance organisation approved by a competent authority in accordance with its national regulations.
8. A release document acceptable to the competent authority according to the provisions of a bilateral between the competent authority and the third country as long as the agreement has been notified to the European Commission and other competent authorities.
9. A CRS and release document issued by an organisation approved by the UK CAA prior to 28th October 2008 in accordance with national regulation in force at that time.

Where used components are supplied with an FAA Form 8130-3 without EASA release, reference should be made to procedure C9 of this CAE.

Standard parts may be fitted to a component or aircraft when the maintenance data specifies those particular standard parts. They will be accompanied by evidence of conformity to the applicable standard (e.g. C of C).

Raw or consumable material will only be used on the component or aircraft if the aircraft or component manufacturer allows for its use in the appropriate maintenance data. The material must be accompanied by documentation clearly relating to the particular material, confirming conformity with the material specification as well as the manufacturer and supplier source (e.g. Oil Company Chemical Certificate).

The bonded store contains only serviceable items, has adequate racking, is lockable under the control of the Chief Engineer. Ordinarily, no items are stored that require special storage conditions however, for parts being booked in, any highlighted storage condition requirements will be identified to the Chief Engineer who will action them accordingly. Items are adequately packaged and protected to prevent contamination or damage.

For standard parts, raw or consumable material, no CAA Form 1 is required therefore none should be expected.

Components accepted by the owner in accordance with 21.A.307(c) of Part-21 or parts do not need a Form 1. Such parts are defined as follows and limited to ELA1 or ELA2 aircraft:

1. Not life limited nor part of the primary structure or flight controls.
2. Manufactured in accordance with an applicable design.
3. Marked in accordance with Part-21 Subpart Q.
4. Identified for installation in a specific aircraft.
5. To be installed in an aircraft for which the owner has verified compliance with the conditions 1 through 4 and has accepted responsibility for this compliance.

Any item being booked in subject to shelf life control will be added to the shelf life control register. The register will be checked monthly and any items expiring within the next month will be noted for removal on the correct day. Once stock has been fully used or removed and disposed of, the item line on the shelf life control register will be struck through.

**Unserviceable Components & Storage**

Unserviceable components may be deemed to be unserviceable as a result of any of the following circumstances:

1. Expiry of a stated life limit.
2. Non-compliance with an applicable AD or mandatory requirement.
3. Issues with or an absence of documentation needed to establish the status of the item.
4. The item is defective.
5. Involvement in an incident / accident.

Where an item is deemed to be unserviceable, it will be processed using one of the methods below:

1. Returned to the supplier if received defective or with questionable paperwork.
2. Quarantined in the Quarantine Store to allow further investigation or to give time to determine the next steps.
3. Returned to the owner (a record needs to be made of this).
4. Routed to an appropriately approved workshop, either internally or externally.
5. Destruction or mutilation.

Components that have reached the certified life limit or have a non-repairable defect or malfunction will be marked as such, returned to the owner responsible for the airworthiness of the aircraft and an entry made in the continuing airworthiness records to that effect. Where permission has been granted by the owner or the organisation responsible for the continuing airworthiness of the aircraft, the Chief Engineer only may decide on mutilation or destruction of the item such as to prevent re-entry into the supply chain.

Great care should be taken in making this decision as sometimes life extensions are made available due to amendments to maintenance data by the DAH. To that end, the chief Engineer may authorise items with a certified life limit to stay in the Quarantine Store for an indefinite period.

The Quarantine store contains only U/S items as listed on the Quarantine Register Form ABCD/017, has adequate racking, is kept locked and is under the control of the Chief Engineer. No items are stored that require special storage conditions. Items are adequately packaged and protected to prevent contamination or damage. Items are clearly marked as U/S.

The Chief Engineer is responsible for ensuring compliance with the above. Traceability of the decision regarding storage or mutilation of U/S parts is as detailed in the Quarantine Register Form ABCD/017 or entries in Continuing Airworthiness Records for Service Life Limited parts returned to the owner or organisation responsible for the continuing airworthiness.

Parts removed from the aircraft and / or replaced as part of routine servicing defects (e.g. rod ends, spark plugs) will be retained in case of dispute with the aircraft owner and destroyed / disposed of when advised by the Chief Engineer.

Where an item removed from the aircraft is subject to an investigation (e.g. MOR or AAIB action), the part will not be disposed of and will be quarantined as detailed above.

C4. Maintenance Facility

Cleanliness of the facility is the responsibility of all staff and cleaning activities will be organised and or directed by the Chief Engineer such that the area is kept clear of dirt or contamination (e.g. leaves blown in, bird faeces, excessive dust, machine work contamination).

Where maintenance data specifies conditions that must be met for a particular task, the staff performing the work will ensure those conditions are met prior to the work being completed.

Whilst it may be appropriate to perform some work outside of the hangar such as 50-hour check or minor defect rectification, in the case of lengthy maintenance, the work will be performed in the hangar. Where the weather is inclement to the point that there is a risk of the work not being completed to the required standard, the work will cease until appropriate conditions prevail or the aircraft is moved inside.

For details relating to work away from the approved location, refer to section C11 of this CAE.

C5. Maintenance Accomplishment and Maintenance Standards

Notwithstanding the content of section C11 which allows work away from the approved location in certain circumstances, the organisation will ensure that work under this approval is limited to the maintenance of any aircraft or component for which it is approved at the locations specified in section A3 of this CAE.

Methods, Techniques, Standards and Instructions specified in the maintenance data will be adhered to.

For details relating to the extent of work permitted under the Aircraft or Component ratings, refer to section A4.

C6. Prevention of Maintenance Errors

The company has in place certain safeguards to protect against maintenance error as follows.

Staff are responsible to the Chief Engineer for ensuring tasks are signed off only after they have been completed.

Where performing maintenance involving multiple steps that are grouped for the purpose of sign off, the worksheet will be annotated with an entry for each critical step to allow the Certifying Staff to assess the work performed and apply an appropriate level of inspection prior to that sign off.

Any work performed by staff under supervision will be checked and signed off by an appropriate member of certifying staff.

Where a task involves removal/installation or assembly/dissasembly of several components of the same type fitted to more than one system, whose failure could have an impact on safety, the Chief Engineer will allocate different persons to perform identical tasks in different systems. An example of where this is applied is twin engined aircraft engine servicing during a Scheduled Maintenance Inspection, although it equally applies to other systems that meet the definition above. The key to error prevention regarding basic servicing tasks is having different performers rather than appplication of additional post work inspections and this is therefore the company policy.

Notwithstanding the above, where only one qualified person is available, then the item can be reinspected by the same person. This is achieved by raising a re-inspection entry for sign off on the work card and reinspecting the work as a separate function, Any reinspection will be clearly identified as such in the work record.

C7. Critical Maintenance Tasks and Error Capturing (Independent Inspection)

A Critical Maintenance Task is defined as follows and any task meeting the below criteria will be subject to an independent inspection:

1. Tasks that may affect the control of the aircrafts flight path and attitude such as the installation, rigging and adjustment of flight controls.
2. Tasks that may affect the aircraft stability control systems (e.g. autopilot / fuel transfer)
3. Tasks that may affect the propulsive force of the aircraft, including the installation of aircraft engines, propeller and rotors.
4. The overhaul, calibration or rigging of engines, propellers, transmissions and gearboxes.

After the performance of a critical maintenance task, an independent inspection will be called up by the Certifying Staff inspecting the work and perfomed as follows:

The independent inspection will ensure:

1. All of those parts of the system that have actually been disconnected or disturbed are inspected for their correct assembly and locking.
2. The system as a whole is inspected for full and free movement over the complete range.
3. The cables are correctly tensioned with adequate clearance at secondary stops.
4. That the operation of the control system as a whole is observed to ensure that contols operate in the correct sense.
5. Where controls are interconnected, all other interactions should be checked through the full range of the applicable controls.
6. Software that is part of the critical maintenance task is checked e.g. for version and compatibility with the aircraft configuration.

The completed task is performed or supervised and signed off by the authorised person who assumes full responsibility for the task. An entry is made recording the full details of the work performed and the task is signed off in the normal way. At this point an entry is made in the workpack requiring an Independent Inspection referring back to the task that has been completed. That reference must also include detail of what has been checked.

The Independent Inspection attests to the satisfactory completion of the task and is completed by the independent qualified person and signed off prior to the CRS for the aircraft or component being issued.

Staff authorised to perform Independent Inspection are as follows:

1. Certifying Staff with scope to cover the applicable aircraft or component.
2. Staff authorised by the Chief Engineer after training and assessment of that person’s experience and competence specifically noted on Form ABCD/003.

Note that with regard to item 2, the training will take the form of on the job training supervised by the Chief Engineer.

In unforeseen cases where only one person is available, the Independent Inspection may be performed by the person that performed or supervised the task. This process is known as Reinspection. The conditions, documentation and performance of the task are the same as detailed above with the exception of the person performing the Independent Inspection. For the purpose of this procedure, the Reinspection cannot be planned to occur and must only be used in the case of a genuine unforeseen event such as sickness or accident. The task must be noted as a Reinspection in the task record.

C8. Fabrication

A restricted range of parts may be fabricated in conformity with maintenance data for use during work being performed by the organisation within its own facilities. The scope of fabrication work permitted is as follows:

|  |
| --- |
| Fabrication Scope of Work  |
| Fabrication of bushes and sleeves |
| Fabrication of control cables |
| Fabrication of secondary structural elements and skin panels |
| Fabrication of flexible and rigid pipes |
| Fabrication of electrical cable looms and assemblies |
| Fabrication of formed or machined metal panels for repairs |

Prior to commencing the work, the Chief Engineer will ensure that the person performing the work and the person certifying the fabricated part conforms to the approved data have the appropriate competence such as to be able to perform tasks to the required standard. They will also ensure that all equipment, tools and material is available to perform the work.

Fabrication activities will be recorded on form ABCD/001 in sufficient detail to ensure compliance with the following procedure can be demonstrated.

Parts will be fabricated in accordance with design data approved by either a Part 21 organisation, the Supplemental Type Certificate Holder, the Type Certificate Holder, EASA or the CAA. The data may also include repair activity where the technical data for that repair is sufficient to facilitate fabrication. Care will be taken to ensure data includes details such as part numbering, dimensions, materials, special raw materials, processes and any special manufacturing techniques.

Where special processes or inspection procedures are defined and not available in house, the part will not be fabricated by this organisation.

Items fabricated under this Part-CAO approval may only be used for in housework and will not be released with a CAA Form 1 or other delivery certification or supplied to a third party. Surplus fabricated parts may be retained and used for future work and will be traceable to the fabrication record and physically segregated from other stock.

Parts will not be fabricated to pattern unless permitted by the approved data.

Parts will be marked with the appropriate part number and the company approval number unless there is inadequate space.

Form ABCD/001 contains an inspection stage which will be performed to conform the item to the approved data against which it has been fabricated.

The list is not exhaustive, and procedures would need to be produced that reflect the items selected. Additions to the list can be made with appropriate procedural controls. The important point here is that 1. The procedures are appropriate, 2. Competence is established to do the job, 3. All facility, tooling, equipment, data is in place to ensure the correct standard of fabrication is consistently achieved.

C9. Certifying Staff Responsibilities and Maintenance Release

CRS requirements for Part-M aircraft would need to be reviewed and reflected in this section if aircraft subject to Part-M are managed.

Release to Service – General Requirements

It is the responsibility of each member of certifying staff to ensure that the requirements of this exposition section B4 continue to be met with respect to validity of the Part-66 AML (if applicable), aircraft, component and company procedures knowledge and demonstrable recent experience.

A CRS will be issued by Certifying Staff listed in this exposition only, after the maintenance required by the work order has been properly carried out.

A CRS may only be issued where the Certifying Staff has either performed the work themselves or exercised adequate supervision and control of the persons performing the work, i.e. subject to his direct and continuous control.

A CRS will not be issued in the case of any known non-compliance with the requirements of this exposition or any applicable regulation that may endanger flight safety.

Prior to aircraft or component release and after completion of maintenance, a general verification will be performed to ensure the aircraft or component is clear of all tools, equipment and any extraneous parts or material, and that all access panels removed have been refitted.

Aircraft Release to Service

The release to service for Aircraft Maintenance will utilise form ABCD/009 which will include:

1. Basic details of maintenance carried out (e.g. the check from the AMP).
2. Details of the AMP from which it has been derived (if applicable)
3. Date, flying hours and cycles at completion.
4. The Company Part CAO number and the normal signature and company stamp number of the Certifying Staff.
5. Cross reference to the work pack containing the full details of maintenance performed.

Aircraft CRS Wording will be as follows:

*‘Certifies that the work specified, except as otherwise specified, was carried out in accordance with Part-ML, and in respect to that work, the aircraft is considered ready for release to service’.*

In limited cases and within any relevant aircraft limitations, a CRS may be issued where required maintenance cannot be completed, however, the CRS will indicate the work that could not be completed as well as indicate any associated airworthiness or operational limitations. An example could be where the DAH requires a maintenance check flight (MCF) after the performance of a set task or check. In this case, the CRS signatory will release the incomplete maintenance with full details of the MCF required and once the MCF has been satisfactorily completed a CRS will be issued for the entire work package.

Release to Service – Standard Repairs / Changes (CS-STAN)

The certifying Staff responsible for the embodiment of the Standard Repair/Standard Change will ensure the following:

1. No conflict is apparent with data produced by the TC/STC holder or other approved repairs or modifications;
2. Adequate design and full embodiment of the SR/SC;
3. The selection / manufacturing of suitable parts including identification;
4. Properly documenting the SR/SC in the maintenance work pack;
5. Communication of the SR/SC to the owner, CAMO or CAO (as appropriate) using CAA Form 123 including full information (e.g. drawings, embodiment instructions, instructions for continuing airworthiness) of the work performed.

The owner, CAMO or CAO as appropriate will be requested to sign the CAA Form 123 and return a signed copy to be filed with the work pack.

As long as it contains all of the correct information and is legible, a single CAA Form 123 can be used to record multiple SR/SC completed during one input.

Component Release to Service after Maintenance or Overhaul

An aircraft component maintained off of the aircraft requires a Certificate of Release to service which will be either at an aircraft work pack level or via the issue of a CAA Form 1.

As detailed in Section C12, some component maintenance is possible without a component rating and is released as part of the aircraft level CRS. Some work is only possible if the organisation holds a Component rating. The following table illustrates the type of release that can be employed vs the type of work and when the issue of an CAA Form 1 is not permitted.

|  |  |  |
| --- | --- | --- |
| **Activity** | **CAA Form 1 Release** | **Aircraft Work Pack Release** |
| **Components maintained in accordance with component maintenance data (maintenance data published by the component manufacturer)** |
| Component maintenance other than overhaul to limits of Section A4 – Scope of work | \*Yes | Yes |
| Component Overhaul  | \*Yes | No |
| Components maintained in accordance with aircraft maintenance data**(maintenance data published by the aircraft manufacturer)** |
| All components and all types of maintenance | Yes | Yes |

\*Applies only if the organisation has an appropriate component rating on the approval and the item is covered in the Components list in the scope of work specified in Section A4.

Where component work is released at aircraft work pack level, the release to service for that component is the aircraft CRS.

Components fabricated in accordance with the CAE section C8 are not eligible for release using a CAA Form 1.

Component Release to Service for new or removed used Parts

In addition to the routine component maintenance discussed above, a CAA Form 1 may be issued for an aircraft component (as long as either the aircraft or the component is in the organisations scope of work) that has been:

1. Maintained before Part-145 or Part-M became effective or manufactured before Part-21 became effective.
2. Used on aircraft and removed in a serviceable condition (e.g. leased or loaned components)
3. Removed from an aircraft which has been withdrawn from service or involved in abnormal occurrences such as accidents, incidents, heavy landings or lightning strikes.
4. Maintained by an unapproved organisation.

The above release to service can only be made when all reasonable measures have been taken to ensure that only approved and serviceable aircraft components are issued with a CAA Form 1. When issued under the provisions described, a CAA Form 1 will be issued by signing in block 14b and stating “inspected / tested” in block 11. Block 12 should specify:

1. When the last maintenance was carried out and by whom;
2. If new, when the component was manufactured and by whom along with reference to any original documentation;
3. A list of all ADs, repairs and modifications known to have been incorporated, if none or not known, this is also to be stated;
4. The detail of life used for service life limited parts being any combination of fatigue, overhaul or storage life;
5. For any component having its own history record, this should be referenced and attached to the CAA Form 1.

AMC1 CAO.A.070(a) paragraphs 2.5 thru 2.9 detail actions to be taken prior to issue of the CAA Form 1 depending on the circumstances and origin of the part. These requirements have been reflected in the forms listed below and will be completed and retained along with all supporting documentation and a copy of the CAA Form 1.

1. New / Unused Aircraft Components Form ABCD/012A.
2. Used aircraft components removed from a member state serviceable aircraft Form ABCD/012B.
3. Used aircraft components removed from a member state aircraft withdrawn from service. Form ABCD/012C
4. Used A/C components maintained by an organisation not approved in accordance with Part-M, Part-CAO or Part-145. Form ABCD/012D
5. Used A/C components removed from an aircraft involved in an incident or accident Form ABCD/012E

Where any of the requirements relating to the above cannot be met, the CAA Form 1 will not be issued.

This section is useful for organisations that recertify components under the circumstances above. For the smallest organisations where this tends to be limited to items 1 & 2 above, then only that detail need be included. It really is a company decision based on the work being done or envisaged.

Component Release using an CAA Form 1

Where a CAA Form 1 is required, the completed work pack will be passed to the Technical Officer who will review and populate a CAA Form 1 from the template Form ABCD/011a. The CAA Form 1 will be completed as detailed in Appendix II to Part-M and forwarded to the Component Certifying Staff for checking and signing. Each issued Form 1 will be serialised with the work order number related to the component or aircraft (as applicable) and suffixed by the component serial number (e.g. G-ABCD/001/DA34567). The Technical Officer will keep a Form 1 register to track the individual forms issued.

The following statement will be entered in block 12 of each Form 1 issued and is pre-printed on the template CAA Form 1 (ABCD/011a):

*‘Certifies that, unless otherwise stated in this block, the work identified in block 11 and described in this block was accomplished in accordance with the requirements of section A, Subpart F of Annex I (Part M) or Annex Vd (Part CAO) to Regulation (EU) No 1321/2014, and in respect to that work the item is considered ready for release to service.*

*THIS IS NOT A RELEASE UNDER ANNEX II (Part 145) TO REGULATION (EU) 1312/2014’*

Any errors prior to issue will be corrected on the template and the Form 1 reprinted and presented to the Component Certifying Staff for checking and signing. The copy with the error will be destroyed.

Errors noted on the Form 1 after it has been produced, signed and issued will be dealt with as detailed in Appendix II to Part-M.

A Form 1 will not be issued for any component when it is known that the component is unserviceable, except for a component undergoing a series of processes at several approved organisations. In this case a suitable statement of limitation will be entered in block 12. It will make clear that the release is for the work performed and does not attest to the serviceability of the component as a whole.

C10. Defects Arising During Maintenance

This section would need to be amended to reflect M.A.403 should Part-M aircraft also be managed.

All defects identified during maintenance will be recorded in the work package on an additional worksheet for investigation and correction prior to release to service of the aircraft.

Any aircraft defect that seriously endangers flight safety will be rectified before further flight.

For Part-NCO operations, the organisation managing the continuing airworthiness of the aircraft or the owner (as appropriate) will organise deferral of any defect post maintenance.

For other than Part-NCO operations, any deferral of defects post maintenance will be in accordance with the procedures of the organisation managing the continuing airworthiness of the aircraft.

C11. Maintenance Away from the Approved Location

Subject to the Chief Engineer approving the activity, maintenance of any aircraft or component for which approval is already held may be performed at any location where the need for such activity arises from either the unserviceability of the aircraft or the need to support occasional maintenance.

In all cases, the Chief Engineer, prior to approving the activity will ensure that the following are satisfied:

1. Appropriate current and valid maintenance data available at point of use.
2. Tooling and equipment is available to support the work.
3. Maintenance personnel are available to perform and support the work.
4. The environmental conditions are appropriate for the work being performed and where required, a suitable facility is available.

For scheduled maintenance, the above excludes the 100h/annual check or equivalent and typically this provision is used for minor scheduled maintenance checks, repairs and defects. For records purposes, the work pack will record the location of the work performed.

Additionally, this procedure can be used for work as described in section C13, where component work under the C rating is performed on wing or on engine.

Note that where other activity (such as Avionic Mods or NDT) is routinely performed away from the approved location, the scope of that activity and the associated controls should be contained here.

The use of this procedure to approve activity with a frequency of more than “occasional” is not permitted. Where repeat use of the facility is apparent and the term “occasional” can no longer be justified, the site should be included in the CAE either as a variation to add a second site or as alternative maintenance facilities described in AMC1 CAO.A.030(f) as appropriate.

C12. Component Maintenance under Aircraft or Engine Rating

Maintenance work performed under the aircraft rating means performance of maintenance on the aircraft and any component (including engines) in accordance with the aircraft maintenance data. If referenced from the airframe data as being applicable to the completion of an AMP task or defect, work may be performed under the airframe rating in accordance with engine or component maintenance data. This excludes overhaul level work and in the case of engines is limited to work that does not split the engine casings or remove accessory gearboxes or covers (unless aircraft level data expressly permits it). Engines and components may be temporarily removed to improve access to that engine or component except when removal itself or a condition identified during the work creates a need for additional maintenance not eligible for work under the aircraft rating.

C13. Maintenance on Installed Components under Component Rating

Maintenance work on installed components under the component rating while an aircraft / engine is undergoing aircraft or workshop level maintenance is permissible however, prior to the work being performed, the Chief Engineer will establish communication with the organisation performing the aircraft or engine work to ensure that the work can be performed safely to the required standard and that the organisation certifying the complete aircraft or engine have sufficient information to determine when release to service of the engine / aircraft is appropriate. A Form 1 will be issued for any work performed using this provision. Any work away from the approved location will be controlled as detailed in C11 of this CAE.

This section can be adapted for engine rated companies to cover also maintenance on installed engines under the engine rating. The same principles apply.

C14. Special Procedures

The organisation does not hold a Non-Destructive Testing (NDT) approval.

Engine ground running will only be performed by persons assessed as being competent by the Chief Engineer, as recorded on Form ABCD/003 and this is divided into tail draggers and tricycle aircraft. An engine ground run (ABCD/014) form will be completed for each run, both pre and post maintenance. Any specific instructions in the maintenance or operational data for ground running will be observed.

Ground pressurisation checks will only be performed by staff authorised as recorded on form ABCD/003. Any specific instructions in the maintenance or operational data for ground pressurisation checks will be observed.

Aircraft taxiing will only be performed by persons assessed as being competent by the Chief Engineer, as recorded on Form ABCD/003 and this is divided into tail draggers and tricycle aircraft. Any specific instructions in the operational data for taxiing will be observed.

The above are typical special procedures but there may be others (borescope, painting, carbon monoxide measuring equipment operation, application of special coatings). Consider parts of the business that need special guidance outside of the normal maintenance data provided or normal exposition procedures. What does your organisation do that is special, different or niche?

C15. Issue of Airworthiness Review Certificate under Maintenance Privilege

Not used. See section D as the organisation has airworthiness management privileges.

If the organisation performs this work and has no Airworthiness Management privilege, then this section would need to reflect the issue of the ARC. The content in D11 may be useful and it would need to reflect that it can only perform this function coincident with the performance of the 100h check / annual.

D1. Continuing Airworthiness Management – General Procedures

There are differences from Part-M throughout section D, therefore this would need review to include Part-M requirements and references.

The continuing airworthiness management function of the organisation is the responsibility of the Chief Engineer and staff consists of the Chief Engineer, Technical Officer and the administrative staff, managing the continuing airworthiness of contracted aircraft, developing and approving the AMP as well as performing limited continuing airworthiness tasks. Work undertaken also includes the preparatory work related to performing airworthiness review of non-contracted aircraft.

The activities of the organisation are currently limited to providing maintenance and continuing airworthiness services relevant to aircraft subject to Part-ML therefore this CAE does not include procedures showing compliance with Part-M.

Where the aircraft owner or operator contracts the organisation to manage the continuing airworthiness of the aircraft, this will be formalised in a written contract. Thereafter and until that contract expires or is terminated, the aircraft will be managed using the processes and systems described in this section D. Prior to signing a contract, the aircraft will be researched, and records obtained such that the aircraft can be satisfactorily managed in accordance with this CAE from the point the contract is signed.

The written contract will be as described in Part-ML Appendix 1 which will be customised to include the required information, and also detail the manner in which (and the frequency) this organisation communicates information to or receives information from (e.g. utilisation, exceptional maintenance, defects) the owner / operator.

The “Live Status Record” described in Section B9 will be monitored and actioned as described in Section D9 to ensure that aircraft are presented for maintenance at the appropriate time.

D2. Minimum Equipment List (MEL) and Configuration Deviation List (CDL)

Where applicable, a deferral will only be made in accordance with the applicable MEL or CDL. Any limitations (e.g. hours / calendar / configuration) must be noted and complied with.

Where the MEL or CDL specifies maintenance actions to be performed as part of the deferral, such action will be recorded and certified prior to the deferral being made.

As defects are deferred in real time, once received, information supplied by the owner / operator will be verified by Technical Office staff against the MEL/CDL and the above as part of the process of adding the open defect to the “Live Status Report”.

This procedure should be read in conjunction with this CAE Section D7 (Defects).

D3. AMP Development / Approval / Control and Periodic Review (Part-ML aircraft)

This section is the section of most differences between Part-ML and Part-M therefore the section would need to be split to cater for both aircraft groups (Part-ML and Part-M).

Maintenance Programme – General

The current status of compliance with the AMP will be recorded in the “Live Status Record”. On completion of maintenance, the Technical Office will update the “Live Status Record”.

The Technical Officer will perform the work associated with this procedure with the exception of the approval of the AMP, which will be performed by the Chief Engineer after reviewing the work performed by the Technical Officer.

Part ML.A.302 requires that maintenance be organised in accordance with a Maintenance Programme (AMP). Where this organisation is the contracted continuing airworthiness management organisation, the AMP must be approved by this organisation and cannot be declared by the owner.

Aircraft used for commercial purposes (e.g. Commercial ATO / DTO or non-NCO operations) must contract a continuing airworthiness management organisation (CAO or CAMO) therefore the AMP must be approved by the CAO or CAMO and not be declared by the owner. Where contracted the Chief Engineer will ensure such AMP are appropriately approved.

Where an AMP was approved in accordance with Part M.A.302 prior to 24 September 2019, that AMP will continue to be valid after 24 March 2020. Any aircraft remaining on CAA LAMP (CAP 1454 refers) must be compliant with ML.A.302 at the first airworthiness review after 24 March 2020, but in any case, no later than 24 March 2021, beyond which LAMP is no longer an acceptable AMP. The above is also company policy and appropriate action will be taken to ensure compliance.

Company policy is to utilise the standard maintenance template from AMC 2 ML.A.302 for all new AMPs developed and approved.

Aircraft Maintenance Programmes – Development (Based on MIP or DAH Data)

The AMP will identify the owner of the aircraft, the aircraft as well as the installed engine and propeller types.

The AMP will be based on the ICA issued by the DAH or alternatively the tasks or inspections contained in the Minimum Inspection Programme (MIP).

DAH refers to the holder of the type certificate, restricted type certificate, supplemental type certificate, European Technical Standard Order (ETSO) authorisation, repair or change to the type design. The ICA issued by the DAH do not include the data issued by other original equipment manufacturer (OEM), except where the DAH’s ICA makes clear reference to such OEM data.

The AMP will include all mandatory information (e.g. Repeat ADs, Airworthiness Limitations, maintenance required by the TCDS, Operational Directives). Care will be taken when considering what is mandatory as the regulatory system in place today may not have been so clear when the aircraft was designed and produced. Airworthiness Limitations being an example.

The intent is that the AMP (whether it is based on the MIP or DAH data) contains all mandatory scheduled maintenance requirements identified during the initial airworthiness activity by the TC, STC or engine TC holder. These requirements may have been identified under a variety of designations such as:

1. Airworthiness Limitations or Airworthiness Limitation Items (ALI)
2. Certification Maintenance Requirements (CMR)
3. Safe Life Items, Safe Life Limits or Safe Life Limitations
4. Life Limited Parts (LLP)
5. Time Limits
6. Retirement Life
7. Mandatory Inspections or Mandatory Airworthiness Inspections
8. Fuel Airworthiness Limitations or Fuel Tank Safety Limitations

The above will be considered as part of the AMP development process, and where doubt exists as to the intent of the DAH with regard to mandatory status, the DAH will be contacted by the Technical Officer for clarification.

The AMP will identify any additional maintenance tasks to be performed because of the specific aircraft type, aircraft configuration, type & specificity of operation taking into consideration as a minimum;

1. Specific installed equipment,
2. modifications, repairs,
3. life limited components,
4. flight safety critical components,
5. maintenance recommendations such as TBO intervals issued through service information,
6. applicable operational directives or requirements related to the periodic inspection of certain equipment,
7. special operational approvals and the use of the aircraft including its operational environment.

Additional maintenance actions may be added at the request of or with the agreement of the owner.

The AMP will identify whether pilot owners are authorised to perform maintenance.

The AMP may also include more than one aircraft registration. In such cases the maintenance requirements for each registration where they differ will be clearly specified.

An aircraft will be maintained in accordance with only one programme at a time and when transitioning from one programme to another, the organisation will consider any additional maintenance needed to bridge from one programme to another.

As significant additional detail is provided in the template, it will be considered to be part of this procedure. Form ABCD/018 refers.

Aircraft Maintenance Programmes – Additional Requirements for use of a MIP

Any programme based on the ML.A.302 (d) Minimum Inspection Programme (MIP) requirements will be prepared in accordance with ML.A.302 (c) & (d) and the associated GM and AMC. Company policy is to use the AMC1 ML.A.302(d) acceptable MIP as a basis for MIP based programmes adding to them if and as required.

Whilst the MIP itself does not necessarily follow all DAH recommended tasks, the tasks required by the MIP must be performed in accordance with the manufacturers data.

In the context of the MIP, an operational test is a task used to determine that an item is operating normally. It does not require quantative tolerances. A functional test is a quantative check to determine if one or more functions of an item performed within the limits specified in the maintenance data. The measured parameter should be recorded.

The MIP must be customised as detailed in the development section above. This is catered for in the standard AMP template around which this procedure is based.

Notwithstanding that the use of the MIP is possible by a CAO, any deviations from or tasks alternative to the DAH recommendations will be justified as detailed in the section below.

A transponder test that is carried out in accordance with EASA SIB 2011-15 or US Title 14 CFR Part 43 Appendix F considered to include the MIP task mentioned in ML.A.302(d)(2)(d).

The MIP will contain for aeroplanes, touring motor gliders and balloons, intervals of every annual or 100 h, whichever comes first. The MIP will contain for sailplanes and powered sailplanes other than touring motor gliders, an annual interval.

Part-ML as published does not specify a MIP for rotorcraft or airships, therefore their AMP will be based on the ICA as issued by the DAH.

Aircraft Maintenance Programmes – Alternative Tasks / Deviations

Deviations or tasks alternative to mandatory requirements are not permissible under this procedure.

When evaluating an alternative to a maintenance task issued or recommended by the DAH, such as the extension of TBO intervals, or when considering when not to include a maintenance task issued or recommended by the DAH, a risk-based approach will be taken, considering aspects such as the operation, engine type, hours, calendar time in service, redundancy of components and any compensating measures. Consideration of the above should allow for an informed decision to be made when evaluating alternative tasks.

When considering deviations from DAH recommendations, reference will be made to ML.A.302 and specifically AMC1 ML.A.302(c).

Maintenance actions alternative to those recommended by the DAH will in no cases be less restrictive than the applicable MIP. That means the extent and type of task, the time / frequency applied cannot be less than the extent of the corresponding task in the MIP. When considering maintenance actions alternate to those recommended by the DAH, reference will be made to GM1 ML.A.302(c) 3.

All deviations and alternate tasks will be approved by the Chief Engineer on Form ABCD/015 prior to the AMP being amended.

Full justification for deviations and alternate tasks will be held on file (Form ABCD/015) with the AMP to demonstrate how each determination at a task level was made and will also be copied to the owner / operator.

Risk appetite for approving deviations will necessarily be different from organisation to organisation and maybe impacted by technical expertise in a particular area allowing a reasoned judgement to be made, the general attitude to taking the full legal responsibility for deviations previously supported by UK CAA documents (e.g. GR24) and of course the content of the framework contained in AMC1 ML.A.302(c). For this reason, only the basic detail and key points are included above.

This is an area of major difference to the previous Part-M rules and affords the Part-CAO organisation significant additional freedom to determine the maintenance required for a particular aircraft. Of course, with that additional freedom comes the responsibility for appropriate use of the new rules and this is a key point. Any deviations should be carefully considered based on the merits of the individual situation.

Aircraft Maintenance Programmes – Update and Review

The AMP will be reviewed at least annually by the Technical Officer or Chief Engineer. The following will constitute a review which will be recorded on Form ABCD/006b:

1. Review of the results of the maintenance performed during that year which may reveal that the current maintenance programme is not adequate.
2. Review the results of the Airworthiness Review itself which may reveal that the current maintenance programme is not adequate.
3. Revisions to the maintenance data that forms the basis of the programme such as the MIP or the DAH data.
4. Changes in the aircraft configuration and type and specificity of operation.
5. Changes in the list of pilot owners.
6. Applicable mandatory for compliance with Part 21 such as AD’s, Airworthiness Limitations, CMR tasks, and specific maintenance requirements contained on the TCDS.

When reviewing item 1 & 2, attention must be paid to as to whether the defects found during that period or as a result of the review could have been prevented by introducing DAH recommendations that were initially disregarded by the owner, CAMO or CAO.

Where the company manages the aircraft, the review output when required will lead to amendment of the Maintenance Programme.

Where the programme is owner declared and this review is being performed as part of the Airworthiness Review process, the owner will be requested to amend the programme. Where there is disagreement between the Airworthiness Review Staff and the owner, the UK CAA will be notified to take appropriate action. CAA Form 15c will not be issued with open discrepancies related to the review of the AMP or where a “promise” of action to be taken has been given. The discrepancy must be corrected in the AMP and the revised AMP appropriately declared by the owner prior to issue of the CAA Form 15c.

In the context of responsibilities for maintenance programmes, reviewing staff may find the content of GM1 ML.A.302 useful.

The review will be recorded in the appropriate section of the AMP.

Aircraft Maintenance Programme – Approval

The AMP will be allocated a unique reference number.

No UK CAA reference number is required, and although the CAA are able to request a copy, it is not required to send a copy of the AMP or amendments to the UK CAA as part of the approval process.

A copy of each complete AMP, subsequent amendment, approval and justification for any deviations or alternate tasks will be kept on file and a copy provided to the aircraft owner. Initial Issue, Amendments, Deviations and Alternate Tasks will be approved by the Chief Engineer.

If the company produces and approves an amendment to a programme previously submitted by this company and approved by the UK CAA (for aircraft in the scope of Part-ML only), the programme at the point of approval of the amendment becomes an organisation approved programme and the CAA approval of that programme is no longer valid. The UK CAA must be notified that the programme is no longer directly CAA approved and is now under Part-CAO control by sending brief details requesting cancellation of the programme to apply@caa.co.uk

Short Term Variations to Check Periodicities

Short term variations may be issued for aircraft scheduled maintenance checks due to operational needs or to cover unforeseen events as follows:

|  |  |  |
| --- | --- | --- |
| **Basis** | **Details**  | **Permitted Variation** |
| DAH Data | Where tolerance / variations permitted by DAH data | As per DAH data |
| DAH Data  | Where variations are not expressed by the DAH | 10% (hours), 1 month (check periodicity over 6 months) \* |
| MIP | Annual / 100h (Aeroplanes / TMGs / Balloons) | 1 Month or 10h\* |
| MIP | Annual (Sailplanes and powered sailplanes, not TMG) | 1 Month\* |

\*Where two values are given, the soonest occurring will apply. The next interval will be calculated as from the time the inspection takes place.

Mandatory items (such as ADs / ALIs / Life Limits) cannot be varied using this procedure.

Variations will be issued by the Chief Engineer and documented by either a log book entry in the relevant logbooks or by the use of Form ABCD/016 which can be affixed to the current log book page.

The decision to issue a short-term variation will also take into consideration the validity of the ARC and the impact on mandatory items such as Airworthiness Directives that cannot be varied.

Aircraft Maintenance Programmes – When a formal AMP is not required

Notwithstanding the above, when all of the following conditions apply, a formal AMP approval or declaration by the owner is not required:

1. All ICA issued by the Design Approval Holder (DAH) are be followed without deviation;
2. All maintenance recommendations, such as TBO intervals, issued through Service Bulletins, Service Letters and other non-mandatory service information are being followed without any deviations;
3. There are no additional maintenance tasks to be performed resulting from specific equipment, modifications, repairs, life limited or flight safety critical components, operational approvals or use of the aircraft and operational environment;
4. Pilot owners are authorised to perform pilot owner maintenance.

Pilot owner maintenance does not preclude this option unless the pilot owner or any of the pilot owners are not authorised to perform pilot owner maintenance, because this has to be specified in the AMP.

D4. Airworthiness Directives and other Mandatory Airworthiness Requirements

The Chief Engineer and Technical Officer monitor Airworthiness Directives through active subscriptions to AD services relevant to the UK and the State of Design for aircraft, engines, propellers and installed components / equipment. Operational directives issued by the UK CAA where they have a continuing airworthiness implication will also be monitored and actioned as required. UK CAA Generic Requirements will also be monitored for applicability.

The primary source for the above from the 1st January 2021 is the UK CAA, CAP 747 Mandatory Requirements for Airworthiness. State of Design ADs will be considered to apply unless the UK choose not to adopt the AD and publish a decision to that effect. Where applicable, periodically issued documents and reports (e.g. Bi-weekly reports) will also be checked by the Technical Officer as a method of ensuring that no applicable AD or mandatory requirement is missed.

For Airworthiness Directives issued prior to 1st Jan 2021, the EASA Safety Publications Tool will be considered the primary source of information. State of Design ADs shall apply unless EASA has chosen not to adopt the AD and published a decision to that effect.

Registered e-mail addresses will be checked daily to ensure that any mandatory requirements are captured. When received, the notification will be checked against managed aircraft for applicability and the following action taken (note below AD term used, but applies equally to any mandatory requirement):

|  |  |
| --- | --- |
| **AD Action Required** | **Action** |
| Emergency AD – Immediate or very short notice compliance required. | Owner / Operator contacted regarding operation noting any limitations. AD planned and accomplished according to AD requirements.  |
| AD – Will be due before the next maintenance opportunity.  | Owner / Operator contacted regarding operation noting any limitations. AD planned and accomplished according to AD requirements. |
| AD – Due date after the next maintenance opportunity.  | AD added to the next package of work for accomplishment. AD planned and accomplished according to AD requirements. |
| Any of the above having also recurrent requirements (Repeat ADs) | AMP amended with appropriate details to ensure capture of the repeat requirements.  |

The AD will be entered in the “Live Status Record”, raised in the appropriate work order / work pack with reference to the AD number and subject in order that it is clear for the maintainer as to the exact requirement. Where there are multiple parts of an AD with different compliance requirements, the “Live Status Record” and work detail will be specific in the work it is requesting to be performed.

Once work ordered for AD compliance has been completed, the record is checked by the Technical Office to ensure that the ordered work was complied with. AD compliance will be entered in the aircraft / engine / propeller / components continuing airworthiness records and the AD Status List updated. If the AD is a single event, once complied with it will be removed from the “Live Status Record”.

Recurrent ADs are controlled via the AMP and “Live Status Record” which will be updated with relevant details. Where terminating action is completed, the AD will be removed from the “Live Status Record” and the AD status list updated with the terminating action.

The above process will be followed for the application of any applicable Operational Directives & UK CAA Generic Requirements that have a continuing airworthiness implication.

D5. Modifications and Repairs

Where an owner / operator requests a modification, the Chief Engineer or Technical Officer will review the request and where satisfied, load the task into an appropriate work package for accomplishment. The check will ensure that the data for the requested modification is approved and that it is eligible for the specific aircraft to which it is to be applied.

Where an aircraft is damaged, that damage will be assessed by a maintenance organisation. Based on that assessment and dialogue between the organisations where appropriate, a work package will be created making reference to the approved data to be used to accomplish the repair.

Modifications and Repair data will be either approved by the CAA, approved by a design organisation (Part-21) or be a Standard Change or Repair. In a practical sense, the following are more common examples of acceptable repair or modification data as appropriate:

* Service Bulletin Issued by the manufacturer
* AMM or Repair Manual Issued by the manufacturer
* Part-21 Approved Data (Modification or Repair)
* Standard Change or Standard Repair (CS-STAN)
* EASA Supplemental Type Certificate
* CAA Supplemental Type Certificate
* FAA Supplemental Type Certificate – where grandfathered or validated by EASA.

The above list is not exhaustive but covers the most common scenarios. In cases of doubt the Chief Engineer will be consulted and give direction regarding the status of modification or repair data. In all cases, including the above, the approval status and validity for the particular aircraft will be established.

Where a repair or modification is performed during maintenance either as requested or as a result of a defect, the repair / modification work record will be checked, and details entered into the continuing airworthiness records (e.g. filing the work card / CAA Form 123 / copies of the modification or repair data and making an appropriate log book entry).

Any instructions for continuing airworthiness resulting from a repair or modification will be used to make an appropriate amendment to the AMP and the “Live Status Record”.

D6. Pre-Flight Inspection

In general aviation, the Pre-flight Check is usually performed by the Pilot in Command (ML.A.201 (d)).

D7. Defects

This is an area of significant difference between Part-M and Part-ML therefore would need more detail for Part-M and potentially splitting the different aircraft groups (Part-M & Part-ML).

Until rectified, the Technical Officer will ensure that the “Live Status Record” contains details of any pilot reported and or deferred defects. The “Live Status Record “constitutes the current list of Deferred maintenance mentioned in ML.A.305.

Defects reported by the owner / operator will be assessed and arrangements made with an appropriate maintenance provider to have them rectified. A work order will be issued to cover the work accomplishment.

Where the work cannot be accomplished, or it is preferable to defer the rectification to a more convenient time (e.g. due to spares availability or operational requirements), it may be possible to defer the defect in accordance with ML.A.403 as detailed below.

The following table shows where a pilot can determine a defect does not hazard seriously flight safety and therefore defer the defect. This is produced for the Technical Office Staff to determine that the deferring person has appropriate authority. Operators procedures will also be considered where applicable. All other defects may only be deferred by Certifying Staff.

|  |
| --- |
| **Defect / Operation Scenario** |
| Non-required aircraft equipment  |
| Defects deferred in accordance with the MEL |
| \*Aircraft operated only under Part-NCO |
| \*Balloons **not** operated under Subpart ADD of Part-BOP  |
| \*Sailplanes **not** operated under Subpart DEC of Part-SAO |

\*Only after agreement of this Part-CAO

Once deferred, the defect will be tracked by the Technical Office who will organise rectification within applicable limits as soon as practical. Where a questionable deferral has been made, the Chief Engineer will be consulted to establish an appropriate resolution. Where needed, steps will be taken by the Chief Engineer to safeguard the aircraft.

It will be ensured that deferred defects are made known to the owner / operator along with any associated operational or airworthiness limitations.

Defects will not be deferred in cases where they may seriously hazard flight safety.

Where the aircraft has an applicable MEL/CDL, refer also to Section C2 of this CAE.

D8. Establishment of Work Orders and Contracts for Maintenance

Note that for aircraft subject to Part-M, there would be differences in who can perform the work.

Where maintenance is to be performed by a third party, this may be influenced by the owner / operator however, the selection must ensure that the third party is appropriately approved. The extent of approval needed will depend on the aircraft use.

Where used for any commercial purpose, the organisation must be approved to either Part-145, Part-MF or Part-CAO. Where the aircraft is privately operated and not used for commercial purposes, it is possible for a work order to be placed on an Independent Certifying Staff who will certify the work under their license privileges. GM1 to MLA.201 gives further detail in this regard.

Once the organisation has been selected, a work order will be raised by the Technical Officer based on the required work. The work order will define the work to be performed such that the maintainer can easily determine the work to be accomplished at a task level. Ordinarily this will be achieved by supplying a work pack with all relevant work cards, however, it could also be by including in the work order a description of the work to be performed and a copy of the AMP. In the case of components, it may be by raising a work order form and making reference to the maintenance data and the check or work to be performed (e.g. 500h inspection). In any case the method used must always make it clear to the maintainer the work to be performed.

Even where work is loaded to the company’s inhouse maintenance team, the above is the minimum standard in communicating the required work. The maintenance scope of work will be checked to ensure capability for the aircraft / engine type or component as applicable.

D9. Coordination of Maintenance Activities

Live records are considered to be those that detail open or recurrent tasks such as but not limited to status of compliance with the maintenance programme, recurrent ADs or other mandatory requirements, LLPs or component maintenance limitations, list of deferred maintenance and take the form of an excel spreadsheet. These records are used to provide a live status for managed aircraft. The information received relating to defects, maintenance performed, and utilisation is used to update the spreadsheet which produces the next due detail from which the ongoing maintenance is derived. The spreadsheet “Live Status Record” for each individual aircraft is controlled by the Technical Office and backed up to the cloud as described in section B9.

The “Live Status Record” will be monitored by the Technical Office who at the appropriate time will request the owner / operator to present the aircraft at the required organisation on the specified date for the maintenance to be performed. In practice this will be via liaison and general communication.

When the work has been performed and the maintenance record / CRS received, the Technical Officer will check that the release has been properly executed and the work ordered has been performed. Appropriate entries will be made in the continuing airworthiness records (e.g. log book entries) and the “Live Status Record”. In all cases such entries will be made no later than 30 days after the release of the aircraft / component or within a timeframe required to maintain effective management of the aircraft, whichever is sooner.

Any difficulties will be referred to the Chief Engineer who will determine the next course of action.

D10. Mass & Balance Statement

When an aircraft is initially taken on under a management arrangement, the validity of the Mass & Balance Statement will be verified, or the aircraft re-weighed as appropriate.

The Technical Officer will highlight any subsequent activity that will require the aircraft is reweighed (e.g. painting or where specified by modification or repair data) or where a calculation might be appropriate (e.g. minor modifications). This will be discussed with the Chief Engineer and a decision made as to the action required.

Any new or amended weight and balance report or schedule as appropriate will be provided to the owner / operator prior to operation of the aircraft. Where required, a copy will be placed in the appropriate section of the approved flight manual and or the aircraft essential documents carried on board.

Practical guidance relating to Weight and Balance can be found in CAP 562 CAAIPs Leaflet 8-10.

D11. Issue of ARC or ARC Recommendation

For Part-M aircraft this would need additional detail, including the rules around the issue of a 15b.

Performance of the Airworthiness Review will be as described in Section B10 of this exposition.

The ARC expiry date will be entered on the “Live Status Record” for tracking purposes.

The Airworthiness Review Staff listed in this exposition upon completion of the airworthiness review may only issue the CAA Form 15c Airworthiness Review Certificate when all findings have been closed and any discrepancy found in the AMP as a result of the coincident AMP review has been satisfactorily addressed.

The Airworthiness Review Certificate will be valid for 12 months from the date of issue.

The UK CAA ARC online system will be used to produce the ARC. Where the system is not available the CAA Form 15c template may be used. A copy of any issued CAA Form 15c will be sent to the state of registry within ten days of issue, the original will be placed on-board the aircraft or given to the owner / operator as appropriate and a copy retained with the Airworthiness Review file.

Where the UK CAA are to issue the Airworthiness Review Certificate, a full Airworthiness Review will be performed and documented as detailed in Section B10 of this exposition.

An ARC will not be issued when there is evidence or reason to believe the aircraft is not airworthy.

D12. ARC Extension

For Part-M aircraft this would need additional detail, including the rules around the extension of a 15b and reference to the controlled environment, language that is left out of Part-ML.

The validity of the CAA Form 15c may be extended a maximum of two consecutive times, for a period of one year each time, subject to the following conditions:

1. The aircraft has been continuously managed for the previous twelve months by this organisation.
2. The aircraft has been maintained for the previous 12 months by approved maintenance organisations; this includes pilot owner maintenance tasks carried out and released to service by either the pilot owner or by independent certifying staff.

The above extension is possible regardless of which staff or organisation issued the Airworthiness Review Certificate.

The extension of the ARC may be anticipated for a maximum period of 30 days without loss of continuity of the airworthiness review pattern, to ensure the availability of the aircraft in order to place the original ARC on board.

ARC extension is possible after expiry as long as the above requirements have been met, however, the extension date is the date the extension was given, not the date it expired and the 12m extension cannot extend beyond 12 months after the ARC issue or 1st extension (as applicable) expired.

An ARC will not be extended when there is evidence or reason to believe the aircraft is not airworthy.

The extended ARC expiry date will be entered on the “Live Status Record” for tracking purposes.

A copy of any extended CAA Form 15c will be sent to the state of registry within ten days of issue, the original will be placed on-board the aircraft or given to the owner / operator as appropriate and a copy retained with the aircraft records.

D13. Maintenance Check Flights

Maintenance Check Flights (MCF) are defined in the Air Ops rules and are the responsibility of the owner / operator, however, as part of the preparation, the flight itself and the post flight activities, there may be processes that require the input of Maintenance staff, indeed the reason for the MCF may result from a maintenance or continuing airworthiness requirement. All company decisions related to the conduct of MCF will be made by the Chief Engineer.

The common scenarios for MCF are as follows:

1. The aircraft maintenance manual (AMM), or any other maintenance data issued by the DAH, requires that an MCF be performed before completion of the maintenance ordered. In this scenario, a certificate after incomplete maintenance, when in compliance with ML.A.801(f) or 145.A.50(e), should be issued and the aircraft can be flown for this purpose under its airworthiness certificate.

Due to incomplete maintenance, a new entry in the aircraft journey log or Technical Log as applicable will be made to identify the need for an MCF. This new entry should contain or refer to, as necessary, data relevant to perform the MCF, such as aircraft limitations and any potential effect on operational and emergency equipment due to incomplete maintenance, maintenance data reference and maintenance actions to be performed after the flight. After a successful MCF, the maintenance records will be completed, the remaining maintenance actions finalised and a certificate of release to Service issued.

1. Based on its own experience and for reliability considerations and/or quality assurance, an operator, owner, CAO or CAMO may wish to perform an MCF after the aircraft has undergone certain maintenance while maintenance data does not call for such a flight. Therefore, after the maintenance has been properly carried out, a CRS is issued, and the aircraft airworthiness certificate remains valid for this flight.
2. After troubleshooting of a system on the ground, an MCF is proposed by the maintenance personnel or organisation as confirmation that the solution applied has restored the normal system operation. During the maintenance performed, the maintenance instructions are followed for the complete restoration of the system and therefore a CRS is issued before the flight. The airworthiness certificate is valid for the flight. An open entry requesting this flight may be recorded in the aircraft logbook.
3. An aircraft system has been found to fail, the dispatch of the aircraft is not possible in accordance with the maintenance data, and the satisfactory diagnosis of the cause of the fault can only be made in flight. The process for this troubleshooting is not described in the maintenance data and therefore scenario (1) does not apply. Since the aircraft cannot fly under its airworthiness certificate because it has not been released to service after maintenance, a Permit to Fly is required. After the flight and the corresponding maintenance work, the aircraft can be released to service and continue to operate under its original certificate of airworthiness.

For certain MCFs, the data obtained or verified in flight will be necessary for assessment or consideration after the flight by the maintenance personnel or organisation prior to issuing the maintenance release. For this purpose, when the maintenance staff cannot perform these functions in flight, it may rely on the crew performing the flight to complete this data or to make statements about in-flight verifications. In this case, the maintenance staff should appoint the crew personnel to play such a role on their behalf and, before the flight, brief the appointed crew personnel on the scope, functions and the detailed process to be followed, including required reporting information after the flight and reporting means, in support of the final release to service to be issued by the certifying staff.

Further guidance is provided in the CAA Check Flight Handbook (CAP1038).

E1. Sample Documents

The following forms, as amended form part of this CAE:

Fabrication ABCD/001

Capability Assessment Form ABCD/002

Staff Record Form ABCD/003

Limited Authorisation (Flight Crew) ABCD/004

One-off Certification Authorisation ABCD/005

Airworthiness Review Report ABCD/006a

AMP Review Report ABCD/006b

National Airworthiness Review Report (CofA) ABCD/006c

National Annual Review Report ABCD/006d

National Airworthiness Review Report (Permit) ABCD/006e

Permit to Fly ABCD/007

Batch Number List ABCD/008

Workpack CRS & Finals Card ABCD/009

Workpack Index & Signature Sheet ABCD/010a

Workpack non-routine task card ABCD/010b

Workpack Independent Inspection Card ABCD/010c

Workpack AD/Mandatory Requirement Task Card ABCD/010d

Workpack Parts Used Form ABCD/010e

CAA Form 1 ABCD/011a

National UK CAA Approved Certificate ABCD/011b

Recertification – New / Unused Parts ABCD/012a

Recertification – Used Parts (member state a/c) ABCD/012b

Recertification – Used Parts (withdrawn member state a/c) ABCD/012c

Recertification – Used Parts (non-approved organisations) ABCD/012d

Recertification – Used Parts (Incident or Accident) ABCD/012e

Organisational Review Report ABCD/013a

Organisational Review – Findings Report ABCD/013b

Engine Run Report ABCD/014

AMP Deviation / Alternate Task – Justification ABCD/015

Log Book Entry – Variation ABCD/016

Quarantine Register ABCD/017

Maintenance Programme Template ABCD/018

E2. List of Sub-Contracted Organisations

Not used.

E3. List of Organisations Contracted by the CAO

|  |  |  |
| --- | --- | --- |
| Name  | Function | Approval Number |
| BCDF Aero Ltd | NDT | UK.CAO.001 |
| CDEF Aero Ltd | Engine Overhaul & Repair | UK.CAO.001 |

E4. Aircraft Technical Log System

Not used. At present ABCD Aero Ltd does not perform maintenance or CAMO functions for an operator that is required to have a Technical Log system.

E5. List of Currently Approved Alternative Means of Compliance

Not used.

E6. Copy of Contracts for Subcontracted Continuing Airworthiness Tasks

Not used. As a small Part-CAO, the organisation is not permitted to sub-contract continuing airworthiness management tasks to other organisations.

Not for inclusion (delete this page):

Issue 1 – Original issue

Issue 2 – Updated to clarify small CAO / Inclusion of SRG 1777

Issue 3 –Additional red text for Part M guidance, EU Exit changes. Adjustment to Permit to fly procedures.