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Information and Advisory Notice No. 03A

Issue No: 04 dated 12 June 2023

Aircraft Maintenance Programme Development and Approval (CMPA and Other-Than-CMPA falling under Part-M)

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Revision Highlights

Date	Revision	Comments
		Revision of IAN 03A to cover CMPA and other-than-CMPA under Regulation (EU) 1321/2014 Annex I Part-M only.
24/04/2020	Issue 1	This IAN supersedes IAN 03 Issue 10, provides AMP development responsibilities guidance as per Part-M, tolerances and escalations of maintenance intervals as well as minor changes in the National requirements table 1 and 2.
22/07/2022	Issue 2	Minor correction of narrative associated with implementation of Working Instruction No 05/2022 – Section A (4), editorial changes, Table 1 has been revised.
22/05/2023	Issue 3	Minor revisions to the text in particular headings 4 and 14. Minor changes to Table 1.
22/06/2023	Issue 4	Introduced new Part 26 requirements, & Damage tolerant Inspections Review of the indirect approval procedures Review of the reliability programme procedures for operators of small fleets.

Introduction

This Notice is issued to identify the Transport Malta Civil Aviation Directorate (TM CAD) interpretation of the requirements of M.A.302 and the respective means of compliance and to provide some further clarifications and guidance in complying with the requirements and establish national requirements.

These interpretations, clarifications and instructions shall be referred to by Owners, Licenced Air Carriers, Continuing Airworthiness Management Organisations (CAMO) and Combined Airworthiness Organisations (CAO) when developing and presenting specific maintenance programmes for TM CAD approval.

Section A of this Notice, covers the requirements for 'Complex Motor Powered Aircraft'. Section B covers the requirements for Other-Than-Complex Motor-Powered Aircraft <u>not</u> falling under Part-ML.

Note 1: For definition of 'Complex Motor-Powered Aircraft' please refer to Article 3(j) Regulation (EC) No 216/2008.

Note 2: for aircraft subject to Regulation (EU) 1321/2014 Annex Vb (Part-ML) refer to Information advisory Notice (IAN) No. 03B.

Regulation (EU) No <u>1321/2014</u> Annex I (Part-M) M.A.302 requires that Aircraft Maintenance Programmes (AMP's) must establish compliance with the instructions issued by the Competent Authority and the instructions for continuing airworthiness issued by the holders of Type Certificate (TC), Restricted Type Certificate (RTC), Supplemental Type Certificate (STC), major repair design approval, ETSO authorisation or any other relevant approval issued under Regulation (EU) No <u>748/2012</u> and its Annex (Part-21).

It also requires that AMP's and any amendments shall be approved by the competent authority. AMC to M.A.302 describes the acceptable means which may be used by aircraft owners/operators in order to achieve compliance with the requirements of M.A.302.

Commission Regulation (EU) No <u>965/2012</u> Part-CAT.GEN.MPA and its AMCs include provisions for scheduled inspections and checks for operational equipment installed on aircraft operated for CAT.

AMP Development responsibilities

For CMPA and other-than-CMPA being operated by an Air Carrier licensed in accordance with Regulation (EC) No. 1008/2008, an operator's CAMO is responsible for the AMP. The AMP development may be contracted to another organization under the control of the operator's CAMO.

For CMPA used

- for commercial specialized operations;
- for CAT operations other than those performed by air carriers licensed in accordance with Regulation (EC) No 1008/2008; or
- by commercial Approved Training Organisations ('ATO') and Declared Training Organisations ('DTO') referred to in Article 10a of Regulation (EU) No 1178/2011, the operator shall ensure that the tasks associated with continuing airworthiness are performed by a CAMO approved in accordance with Annex Vc (Part-CAMO) or Part-M Subpart G. This means that the operator's Part-CAMO is responsible for the AMP. The AMP development may be contracted to another organization under the control of the operator's Part-CAMO.

When the operator is not approved in accordance with Annex Vc (Part-CAMO), it shall conclude a written contract as regards the performance of those tasks in accordance with Appendix I to Part-M (Annex I) with an organisation approved in accordance with Annex Vc (Part-CAMO).

The CAM tasks here above include the responsibility for the AMP and AMP development.

For **CMPA** operated in accordance with Annex VI to Regulation (EU) No 965/2012 **Part-NCC** the owner shall ensure that the tasks associated with continuing airworthiness are performed by a CAMO approved in accordance with Annex Vc (Part-CAMO);

This means that the Owner the Part-CAMO is responsible for the AMP.

When the owner is not approved in accordance with Annex Vc (Part-CAMO), it shall conclude a written contract as regards the performance of those tasks in accordance with **Appendix I to Part M** with an organisation approved in accordance with Annex Vc (Part-CAMO);

This means that the AMP development may be contracted by the Owner to another Part-CAMO.

For other-than-CMPA used:

- for commercial specialized operations, or
- for CAT operations other than those performed by air carriers licensed in accordance with Regulation (EC) No 1008/2008, or
- by commercial ATOs and commercial DTOs referred to in Article 10a of Regulation (EU) No 1178/2011 the tasks associated with continuing airworthiness are performed by a CAMO approved in accordance with Annex Vc (Part-CAMO) or
- Part-M Subpart G, or a Combined Airworthiness Organisation ('CAO') approved in accordance with Annex Vd (Part-CAO);

This means that the operator's Part-CAMOis responsible for the AMP.

When the operator is not approved either in accordance with Annex Vc (Part-CAMO), or approved in accordance with Annex Vd (Part-CAO), it shall conclude a written contract in accordance with Appendix I to Part M with an Annex Vc (Part-CAMO), or a CAO approved in accordance with Annex Vd (Part-CAO);

This means that the AMP development may be contracted by the owner to another Part-CAMO/ Part-CAO.

For other-than CMPA operated in accordance with Annex VI to Regulation (EU) No 965/2012 Part-NCC, or used for limited operations, the owner shall attribute the continuing airworthiness tasks referred to in point M.A.301 to a CAMO or CAO through a written contract concluded in accordance with **Appendix I to Part M** which includes the development of the AMP.

When the owner takes responsibility for the CAM of the aircraft, he/she **shall** (still) contract the tasks of the development of and the processing of the approval of the AMP, only if those tasks are performed by a CAMO or CAO through a limited contract concluded in accordance with point M.A.302.

Indirect Approvals and Transfer of Responsibilities

When the continuing airworthiness of aircraft is managed by a CAMO or CAO, or when there is a limited contract between the owner and a CAMO or CAO, the AMP and its amendments may be approved through an indirect approval procedure.

In that case, the indirect approval procedure shall be established by the CAMO or CAO concerned as part of the continuing airworthiness management exposition ('CAME') referred to in point CAMO.A.300 of Annex Vc or point Part-M.A.704 or as part of the combined aairworthiness exposition ('CAE') referred to in point CAO.A.025 of Annex Vd and shall be approved by the competent authority responsible for that CAMO or CAO. The indirect approval procedure shall only be used when the CAMO/CAO concerned is under the oversight of TM CAD unless a written contract has been concluded in accordance with point 3 of point M.1 transferring the responsibility for the approval of the aircraft maintenance programme to the competent authority responsible for the CAMO or CAO., Implementation of the Indirect approval of AMP by the operator is usually allowed at the discretion of the TM CAD Airworthiness Inspectorate when the trust/confidence level is satisfactory to the TM CAD.

In the case of Part-M Appendix I agreements between the owner/operator with a CAMO approved by another EASA Member States or aircraft operated by AOC holders of other EASA Member State, the approval of the AMP may be delegated to the National Competent Authority of the CAMO under the provisions of Part-M M1.3. This applies also to one business CAMO aircraft under the provision of M.A.201(ea).

SECTION A – COMPLEX MOTOR-POWERED AIRCRAFT (CMPA)

1. General Principles

Type Certificate and RTC holders of the aircraft, engines and propellers are legally bound to issue Instructions for Continuing Airworthiness (ICA) for their products. The ICA issued by the aircraft manufacturer will normally cover all installed systems and equipment which are standard part of the aircraft. In case of modifications involving the Supplemental Type Certification process, the same requirements apply for the STC holders. The maintenance programmes developed and presented for TM CAD approval shall be based on the ICA issued by the respective TC, RTC and STC holders, ALI's, ETSO authorization, or Part-21 Design Organisation Approvals as appropriate. In some cases, specific maintenance tasks may not be covered by the ICA, Maintenance Review Board Report (MRBR) or Maintenance Planning Document (MPD) issued by the TC or STC holders. In absence of specific recommendations issued by the TC or STC holder or other equipment manufacturer with regard to aircraft system or component, the instructions identified in **Appendix 1 (Table 1)** of this IAN constitute the TM CAD Requirements. These maintenance tasks should be integrated in the complete maintenance programme and can be included within the scheduled maintenance checks (e.g. as part of the annual inspection) or as out of phase maintenance at the specified intervals.

Other modifications (not involving the STC process) and some repairs may also necessitate development of maintenance tasks to be integrated in the maintenance programme.

Competent authorities may issue mandatory information in the form of Airworthiness Directives or Operating Directives, which in some cases may necessitate introduction of certain maintenance tasks in the AMP affected by the associated AD or OD.

EASA also issues Service Information Bulletins (SIB) related to maintenance tasks and recommendations which may be mandated by the TM CAD.

Any aircraft should only be maintained to one maintenance programme at a given point in time. In case an owner/operator or a CAMO wishes to change from one approved programme to another, a bridging check or inspection may need to be performed in order to implement the change. This may also be the case when developing and approving a maintenance programme when importing used aircraft into Malta.

New or modified applicable mandatory requirements on which the programme is based (e.g. TC/STC holders MRB report, MPD, AMM Chapter 05, ALI's, life limitations, Overhaul Service Bulletins and Letters, ICA and competent authority instructions, including ones introduced through Airworthiness Directives) should be incorporated in the programme as soon as possible. In any case, the maintenance programme details should be reviewed at least annually with, as a minimum, a review of all of the documents on which the programme is based.

For aircraft used for commercial air transport, the programme should also be monitored for its effectiveness in accordance with approved procedures in the CAME. The system principles should be briefly described in the maintenance programme's introduction section with more detailed description to be provided in the associated Continuing Airworthiness Management Exposition (CAME).

In developing the maintenance programme, owners / operators / CAMO should take into account the aircraft anticipated utilisation and nature of operation, e.g. VFR or IFR flights, low flying, saline or sandy conditions, anticipated flight hours to flight cycles ratio, predominant weather conditions at the place the aircraft will be based and/or operated, special operational approvals such as RVSM, ETOPS/EDTO, AWO, PBN etc. or airport specific conditions. In cases whereby manufacturer recommendations are developed assuming specific aircraft annual utilisation and substantially different utilisation is anticipated for the aircraft to which the programme applies, the programme tasks should be assessed and intervals modified as appropriate.

2. Maintenance Programme Content

M.A.302(d) requires that the maintenance programme shall contain details, including frequency, of all maintenance to be carried out, including any specific tasks linked to specific operations. This means that all maintenance tasks to which the aircraft, its engine(s), propeller(s), systems and equipment should be subjected during its whole operational life should be listed, together with their brief description and intervals (frequencies) at which they should be performed. AMC M.A.302 points 4, 5, 6 and Appendix 1 provide description and details about the maintenance programme content.

Maintenance programmes should normally be based on documents such as: Maintenance Review Board (MRB) Report where applicable; Maintenance Planning Document (MPD); relevant ATA Spec. 100 Chapters of Aircraft Maintenance Manual; service manual or any other supplemental maintenance data/ICA issued by the TC/STC holder, DOA or equipment manufacturer containing maintenance scheduling.

When an aircraft is maintained in accordance with a maintenance programme based on a MRB report process, any associated programme for the continuing surveillance of the reliability or aircraft / engine condition monitoring should be considered as part of the aircraft maintenance programme.

In all cases, the documents which form the basis on which the programme had been developed should be identified in the programme's introduction section together with their current revision/amendment status. Individual tasks should bear reference to the source document from which they were derived plus any additional information specific to the tasks, e.g. MRBR, MPD, Low Utilisation MPD, AMM Chapter 05, AD, ALI, CMR*, CMR**, CPCP, CDCCL, EZAP, EWIS, STC ICA, AMMS, RVSM, ETOPS, CAT II AWO, TM CAD recommendations etc.

For aircraft that are used as part of an AOC, the AMP should also cover the tasks as listed in Annex I (Part-26) Additional Airworthiness Specifications for Operations.

The aircraft to which the maintenance programme relates should be identified in the introductory section by: Manufacturer Designation (Type and Model), Manufacturer Serial Number (MSN), National & Registration Marks. Engine, propeller and APU types should be identified as applicable.

Tasks intervals/frequencies permitted variations, tasks escalation and adjustment procedures should be included in the programme's Introduction section.

Tasks to be carried out & certified under Limited Certification Authorisations issued by appropriately approved EASA Part 145 AMO may be also identified if it is applicable in a particular case,

Therefore, the scope of the maintenance to be performed by authorised crew shall be specified in the aircraft maintenance programme.

The names of all crew authorized as indicated above and designated to perform maintenance tasks shall be listed in the aircraft maintenance programme or in an associated document.

3. Development of AMP for Aircraft under "Storage" or "Completion"

Aircraft that are undergoing storage or completion i.e. outfitting an aircraft with a interior elements, for example VIP interior layout, do not need to submit an AMP that with all the scheduled maintenance listed in the MPD since they shall be following a storage programme.

They should however list the storage programme that they shall be following (as well as the tasks) for the aircraft and engines and list all repetitive ADs and LLPs. Storage should also indicate if engines and APU shall be kept on the wing or off-wing.

The AMP preamble should clearly state that the AMP is only valid whilst the aircraft is under completion or storage. Upon return to service a bridging programme shall be performed and a new AMP based on the bridging programme should be presented to TM-CAD.

Refer also to Heading 8 of this IAN 03A.

4. Variations and Extensions (Tolerances)

There may be cases whereby the operator/owner of an aircraft may request a one-time extension to the maintenance tasks intervals specified in the maintenance programmes over and above the recommendations of the manufacturer.

Variations shall be permitted only when the periods prescribed by the Programme (or documents in support of this Programme) cannot be complied with due to circumstances, which could not reasonably have been foreseen by the operator. The decision to vary any of the prescribed periods shall be made only by the operator. Particulars of every variation so made shall be entered in the appropriate Logbook(s).

Where the TC/STC holder has not prescribed any variation that may be applied to inspection periods, the operator may vary the periods prescribed by the Programme provided that such variations are within the limits of subparagraphs (a) to (d).

Where the TC/STC holder has prescribed variations that may be applied using operator procedures to inspection intervals in the Programme, the operator shall use those tolerance and not those prescribed in sub-paragraphs (a) to (d) below

Period Involved Maximum Variation of the Prescribed Period.

a) Items Controlled by Flying Hours (FH)

- (i) 5000 flying hours or less 10%
- (ii) More than 5000 flying hours 500 FH

b) Items Controlled by Calendar Time.

(i) 1 year or less	10% or 1 month, whichever is the lesser.
(ii) More than 1 year but not exceeding 3 years	2 months

(iii) More than 3 years 3 months

c) Items Controlled by Landing/Cycles

- (i) 500 landings/cycles or less 10% or 25 landings/cycles, whichever is the lesser
- (ii) More than 500 landings/cycles 10% or 500 landings/cycles, whichever is the lesser.

d) Items Controlled by More Than One Limit.

For items controlled by more than one limit, e.g., items controlled by flying hours and calendar time or flying hours and landings/cycles, the more restrictive limit shall be applied.

NOTES.

- I. The variations permitted above do not normally apply to:-
 - A. Those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure, components with limited fatigue lives, and high energy rotating parts for which containment is not provided). Details concerning all items of this nature are included in the Type Certificate holder's documents or manuals, and are included in the preface pages to the Maintenance Programme.
 - B. Those tasks included in the Maintenance Programme, which have been classified as mandatory by the Type Certificate/Supplemental Type Certificate holder or the TM CAD.
 - C. Certification Maintenance Requirements (CMR) unless specifically agreed by the TC Holder and approved by the TM CAD.
 - D. Critical Design Configuration Control Limitations (CDCCL Items)
 - E. Airworthiness Limitation Items (ALIs)
 - F. Special Federal Aviation Regulations (SFARs)

Any further grant of extension to the maintenance task intervals requested beyond the maintenance programme may only be granted under special circumstances upon the AI receiving from the applicant substantiations from the TC Holder and the applicant based upon the reliability reports, experience record of the operator on the type, type of operation, and occurrences. In such cases special conditions or limitations might be imposed by the AI as deemed necessary.

5. Engine Health Monitoring

For those engines whose life limit is defined as 'On Condition' or 'Condition Monitoring' an Engine Health Monitoring Programme as defined by the TC Holder / OEM should be in place.

The Maintenance Programme should define the type of recommended ECTM programme that is in place, and the method of collection of engine parameters to be followed as per manufacturer recommendations.

When ECTM Provider is not an organisation working on behalf of Engine TC Holder, all mandatory parameters to be recorded should be included in the AMP also considering the different phases of flight. The frequency of the engine data collection should also be specified. The AMP should also list the

manufacturer recommended parameters for the operational approval as listed on their AOC (such as ETOPS, SET-IMC etc.).

The maximum number of Engine EGT exceedances and in what zone before the engine is sent for overhaul should also be covered in the AMP.

6. Part-26 (Additional Airworthiness Specifications) AMP requirements

The Part-26 regulation as laid out in Article 1 of Regulation (EU) 2015/640, applies to:

- (a) Operators of:
 - Aircraft registered in a member state
 - Aircraft registered in a third country and used by an operator for which a Member state ensures oversight.
- (b) Holders of a type-certificate, restricted type-certificate, supplemental type-certificate or a change and repair design approval approved by the Agency in accordance with Commission Regulation (EU) No 748/20121 or deemed to have been issued in accordance with Article 3 of that Regulation;
- (c) The applicants for a type-certificate or a restricted type-certificate for a turbine-powered large aeroplane, for which the application was submitted before 1 January 2019 and who are issued with the certificate after 26 August 2020 when specified in Annex I (Part-26)

Unless otherwise noted, by 26 February 2024, as per 26.370, for Operators or owners of turbine-powered large aeroplanes certified on or after 1 January 1958, the AMP shall also include:

- (i) For aeroplanes certified to carry 30 passengers or more, or with a payload capacity greater than 3 402 kg (7 500 lbs), an approved damage-tolerance-based inspection programme;
- (ii) For aeroplanes operated IAW Part-CAT and certified to carry 30 passengers or more or with a payload capacity greater than 3 402 kg (7 500 lbs), a means for addressing the adverse effects that repairs and modifications may have on fatigue-critical structure and on inspections provided for in point (i)
- (iii) for aeroplanes certified with a maximum take-off weight (MTOW) greater than 34 019 kg (75 000 lbs) an EASA approved LOV or an EASA-approved limitation on the applicability of the ALS of the ICAs at aeroplane level. (before 26 August 2021 1, or 6 months after the publication of the LOV, or before operating the aeroplane, whichever occurs later). Unless otherwise approved by EASA Table 1 of CS 26.370 provides a list of the LOVs.
- (iv) a CPCP programme

7. Ageing Aircraft

The operator has the responsibility to assess and ensure a high level of structural integrity for their fleet of aircraft, especially in the case of ageing aircraft.

The operator is responsible for the incorporation of the instruction or recommendations of the Repair or Modification approval holder into the AMP.

To discharge this responsibility the operator shall consider performing an assessment/survey of existing repairs and incorporate any necessary inspection programmes. This should be done with the assistance of TC/STC Holders/DA Holders.

EASA has issued <u>AMC 20-20B</u> "*Continuing Structural Integrity Programme*" which provides guidance in developing continuing structural integrity programmes including provision to preclude Widespread Fatigue Damage.

TC Holders also issue documents to guide and assist the operator in developing and updating a structural inspection programme in the AMP.

8. Corrosion Prevention & Control Programme

As per M.A.302 the Corrosion Prevention and Control Programme (CPCP) is part of the AMP. The CPCP is required for all primary aircraft structures and a baseline is developed during the MRB process. It applies to damage tolerant and safe-life structures.

For those aircraft whose maintenance schedule is not based on an MRB process this is covered in a separate document.

The Baseline Programs recognize three levels of corrosion that are used to assess CPCP effectiveness as the following:

- Level 1 Corrosion found during the accomplishment of the numbered Corrosion Tasks indicates an effective program.
- Level 2 Corrosion indicates that program adjustments are necessary.
- Level 3 Corrosion is an urgent airworthiness concern requiring expeditious action on the part of the operator to protect its entire model fleet.

Operators may either develop CPCP's tailored to their operations based on the manufacturer's Baseline Programme or adopt the manufacturer's programme in total. Early implementation, especially on older airplanes, of a CPCP is necessary to ensure that pre-existing unsafe levels of corrosion are removed from an operator's fleet.

TM-CAD shall be notified immediately through the occurrence reporting system upon determination of Level 3 Corrosion and OEM. Level 2 and Level 3 Corrosion findings must be reported to the manufacturer for evaluation and possible Baseline Program adjustment. The mechanism to report to TM CAD shall follow the guidelines detailed in IAN 01 "Occurrence Reporting".

Although the CPCP is initially based on the baseline programme recommended by the TC Holder, the operator shall monitor the effectiveness of the inspection programme. Inspection findings and operating/storage conditions may dictate de-escalation/adjustment of the inspection intervals and/or more intensive inspections.

9. Approved Damage-Tolerance-Based Inspection programme (DTI):

Damage Tolerance inspections help ensure the integrity of fatigue critical structure on transport category airplanes operated in air transportation. This approach requires evaluating previous repairs and modifications to the structure to determine its crack growth and residual strength characteristics. The evaluation supplies the information necessary to develop a maintenance plan for continued airworthiness.

Compliance with point 26.370(a)(i) of Part-26 is demonstrated by incorporating into the aircraft maintenance programme (AMP) the approved damage-tolerance-based inspection programme developed by the design approval holders in accordance with CS 26.302

Compliance with point 26.370(a)(ii) of Part-26 is demonstrated by complying with the above, or by ensuring that the adverse effects that repairs and modifications may have on a Fatigue Critical Structure (FCS) are addressed by:

- (1) incorporating into the AMP all available approved DTIs for modifications by 26 February 2024 following compliance with points (c) to (e) of CS 26.370
- (2) For all major modifications affecting FCS incorporated in an aeroplane that is imported to the EU after 26 February 2021, the applicable approved DTI should be obtained and incorporated into the AMP by 26 February 2024 or before operating the aeroplane in accordance with Part CAT, whichever occurs later.

(3) incorporating in the AMP the approved DTIs for all other repairs and modifications in accordance with the schedule adopted in a plan to be included, or referred to, in the AMP by 26 February 2024 in compliance with points (g) and (h) of CS 26.370

10. Aircraft Storage Programme

The AMP should make reference to an aircraft storage programme which has procedures for placing the aircraft (airframe and engines) in various levels of preservation that shall be put in place during periods of inactivity, and for de-preserving the aircraft when placing it back in service. Procedures should also be in place for documenting these actions.

Recommendations are usually found in AMM Chapter 10 & 71 and Engine ESM.

11. Flight Recorders

Part-CAT.GEN.MPA.195 (b) covers the requirement for inspection and checking of flight recorders for aircraft operated for CAT.

Part-NCC.GEN.145 (b) covers the requirement for inspection and checking of flight recorders for noncommercial air operations with complex motor powered aircraft.

Part-SPO.GEN.145 (b) also covers requirements for checking of recorders in complex motor-powered aircraft operated for specialised activities (aerial work).

AMC1 CAT.GEN.MPA.195(b) has been amended by <u>Annex I to ED Decision 2015/021/R</u>. This amendment has to be taken into consideration when developing the aircraft maintenance programme.

The requirements found in the Part-CAT AMCs to this regulation are very much in keeping with the TM CAD long-time policies on CVR and FDR testing and checking. However the operator can avail from certain exemptions from scheduled inspections of FDRs and CVRs on account of redundancy of equipment installed on the aircraft and the Flight Data Monitoring programme of the operator. The conditions found in **AMC1 CAT.GEN.MPA.195 (b)** have to be met for such exemptions.

It is to be noted that data link recording may be checked as part of CVR testing. In case of any doubts, the OEMs should be contacted for verification.

FDR and CVR malfunction occurrences, recurrent reliability issues and recording quality deficiencies should be reported to the competent authority and to the TC or STC Holder.

Dispatch with any known recording failure of the CVR or of FDR required parameter(s) should not be authorised, unless it is done in accordance with the provisions of the operator's approved Minimum Equipment List.

12. Indirect Approval of Aircraft Maintenance Programmes

When the CA of an aircraft is managed by a CAMO or a CAO, or when there is a limited contract between the owner and a CAMO concluded in accordance with point M.A.201(i)(3), the AMP and its amendments may be approved through an indirect approval procedure.

Indirect approval privileges may be granted by TM-CAD by a procedure established by the CAMO as part of the CAME section 1.2.

The procedure in the CAME should at least contain the following elements:

- Development and control of document;
- Review, assessment and checking of document (refer to AMC M.B.301(c));
- Internal approval of document;
- Authorised personnel to develop, check and approve the document;
- Training and experience requirements for the accomplishment of related tasks;
- Conditions and limitations for indirect approval;
- Forms to be used for the indirect approval process; Interface with TM CAD.
- Procedures to be followed for the submission of the indirectly approved AMP to TM-CAD, and uploading to the TM-CAD Operator Documents Centrik Portal.Auditing of indirect approval privileges as part of the audit plan.

Although an organisation may have an approved AMP Indirect Approval Privileges, TM-CAD reserves the right to review and possibly comment on the indirectly-approved AMP.

13. Review of the AMP

The aircraft maintenance programme shall be reviewed at least annually for the purpose to ensure that new and modified OEM instructions are incorporated, in service experience collected including changes in aircraft and specific of operations, and, thereby, AMP remains valid considering the operating experience, adequate and efficient.

This review of the maintenance programme shall be performed by own CAMO or by the contracted organisation managing the continuing airworthiness of the aircraft in those cases where the review of the maintenance programme is not performed in conjunction with an airworthiness review.

If the review shows discrepancies on the aircraft linked to deficiencies in the content of the maintenance programme, the person performing the review shall inform the competent authority of the Member State of registry and the owner shall amend the maintenance programme as agreed with such competent authority.

In particular, the annual review should take into consideration including but not limited the following elements:

- results from performed maintenance;
- results from the airworthiness review, changes to TC Holders recommendations;
- ALIs from TC Holders;
- changes, repairs and AD's; and
- the declared operator fleet type utilization and that actually flown. If there is more than ±25% delta, then the Maintenance Programme must be re-evaluated in respect of its effectiveness.

CAMO shall keep review record even no provision requiring amendment had been detected during annual AMP review.

14. Maintenance Programme Effectiveness

The operator should have in place a system to monitor and assess the effectiveness of the maintenance programme based on maintenance and operational experience.

This Continuous Airworthiness Task can be subcontracted as part of the M.A.201(h) "Subcontracting of Continuous Airworthiness Management Tasks". The collection of data and initial assessment may be made by the sub-contracted organisation; the required actions are to be endorsed by the operator.

Where reliability monitoring is used to establish maintenance programme effectiveness, this may be provided by the sub-contracted organisation and should be specified in the relevant procedures. Reference should be made to the operators approved maintenance programme and reliability programme. Participation of the operator's personnel in reliability meetings with the sub-contracted organisation should also be specified.

15. Reliability Programmes

Part-M.A.302(g) requires that the maintenance programme includes a reliability programme when the maintenance programme is based on Maintenance Steering Group (MSG) Logic or is based mainly on condition monitoring. AMC M.A.302(g) and Appendix 1 to AMC M.A.302 and provide extensive guidance on this matter.

For those operators where the fleet of same aircraft type is small (less than 6 aircraft of the same type), it is encouraged that the operator participates in fleet reliability programmes of the aircraft TC Holder. Reliability meetings should also be held in conjunction with the Airworthiness Inspectorate at agreed intervals, to assess this programme and evaluate the effectiveness of the maintenance programme. Escalations of scheduled tasks shall be based on reliability programmes and shall be approved directly by TM CAD.

The Operator's Principal Airworthiness Inspector shall be invited in writing to participate in half-year and annual reliability meeting.

16. Escalations

The AMP should be the subject of periodic review by the operator to ensure that it is updated in line with mandatory requirements; manufacturers recommendations, the demonstrated maintenance need (reliability/occurrence reporting) of the aircraft and its systems. During the early and mid-years of the projected aircraft life, it is reasonable to expect that the operator will request escalation of his check intervals to maximise the use of the aircraft, reduce direct maintenance cost and to optimise the applied continued airworthiness tasks.

However, such requests must be based upon sound evaluation principles, data and experience on the type.

Basis for Escalation

The following is a summation of basic considerations to be applied to any escalation scheme, or process that is presented to the TM CAD.

The whole escalation process must be backed by approved and implemented organisation procedures, personnel, expertise, and sound substantiation data in the form of valid reliability data and reporting system. This must be supplemented with a scheduled maintenance check/finding analysis and continued review. This will ensure that the applied maintenance continues to be valid in light of aircraft operating experience.

Escalations should only be considered if the operator can demonstrate that (typically) in excess of 90% of the current approved check framework intervals are being utilised, on a regular basis. Any usage figure below this is not deemed adequate justification for any escalation and could trigger questions concerning the suitability of the current maintenance schedule and the declared annual utilisation it is based upon.

Fleet check findings/sample review in support of any proposed escalation must be agreed with the TM CAD. Typically this should be from no less than 15% of the aircraft fleet, covering 3 successive representative checks.

Careful consideration must be given to MRB Safety Tasks (MSG 3 Route 5 and 8), CMR tasks, airworthiness limitations, safe life items, fatigue and damage tolerant tasks, together with the aircraft modification standard in respect of Service Bulletin and Airworthiness Directive compliance.

The impact upon all MRB Precluded Maintenance Tasks must be considered, based upon the original interval determined by the MRB Working Group. Refer to the TC Holder MRBR.

Check interval escalation must be compatible with all lower order check intervals, such that overall control is not compromised and out of phase issues (this relates to the lower order check and task intervals being logically divisible within the higher check intervals) are minimal.

The escalation of any MRBR Zonal Task must also be very carefully evaluated. This is because many individual Systems & Powerplant tasks will be credited within the Zonal programme, such tasks are referred to as "Precluded Tasks". A check should be made against all the MRBR listed precluded tasks and intervals to ensure that they will be compatible with the new task interval.

Check interval de-escalation must also be a significant feature of any operator's scheme, such that ageing aircraft and system considerations are taken into account. This will also be applicable and appropriate; if negative in-service feedback proves that operational reliability has been significantly degrading, as a direct result of the revised check interval/framework.

The final escalated check interval must be supported and endorsed by the Manufacturer.

Any agreed check framework escalation, once approved, should be applied to the whole operator's fleet, as covered by the approved maintenance schedule. This is to ensure that the reliability data from the new intervals is very quickly available and continues to support/validate the new check intervals. Obviously, if the escalation is quite large and complex, the operator might have to approach the TM CAD to agree a transition package to transfer aircraft onto the new check intervals, over a set time scale.

17. TM - Civil Aviation Directorate additional requirements and policy

In the absence of specific recommendations issued by the TC or STC holder or other equipment manufacturer the maintenance tasks identified in Table 1 below should be used by the owners/operators and CAMO's when developing aircraft maintenance programmes.

These tasks should be addressed in the bridging check before certification of the aircraft to comply with the new maintenance programme.

Terminology in use:

Bench Test

Functional check of a component off the aircraft using ground testing/laboratory equipment.

Calibration is the process of configuring an instrument to provide a result for a standard sample within an acceptable range.

Check (CHK)

Verification of compliance with the instructions / specifications specified in the maintenance data.

Functional (FUNC) Check

A detailed examination of a complete system, sub-system or component to determine if operating parameters are within limits of range of movement, rate of flow, temperature, pressure, revolutions per minute, degrees of travel, etc., as specified in the appropriate maintenance data. Parameters are usually measured and recorded. External test equipment is usually used.

Inspection (INSP)

A visual check performed externally or internally to detect unsatisfactory conditions/discrepancies using, where necessary, inspection aids (mirrors, torches, magnifying glasses etc.) Surface cleaning and removal of panels, covers and fabric may be required.

Operational (OPS) Check

A test used to determine that a system or component or any function thereof is operating normally. This is usually performed by operating the system or the component on the aircraft either in normal or in test mode.

Table 1 - Maintenance tasks and intervals

Where TC holder's continuing airworthiness instructions are contradicting with tasks/intervals containing in this table, priority should be given to TC holder's continuing airworthiness instructions. Tasks & intervals shall be applied where no specific instruction is provided by TC Holder where it is applicable.

No.	ITEM	Maintenance Level	Interval / Note:
1	Aircraft battery capacity checks	Bench Test	12 months, 1
2	Compass swing	FUNC Check	24 months / 36 months, 2
3	Airspeed calibration	Calibration	24 months, 3
4	Altimeter calibration	Calibration	24 months, 4
5	Pitot/static system leak check	FUNC Check	24 months, 5
6	Portable fire extinguishers by weighing	Check	12 Months, 6
7	Hydrostatic test of pressure vessels	Inspection & Bench Test	60 months, 7
8	Flexible fuel and oil hoses pressure test.	Inspection & Bench Test	72 months & 36 months, 8
<mark>9</mark>	First Aid and Emergency Medical Kit content	Check	12 Months, 9
10	Ground operable circuits, fuses and manually operated circuit breakers.	OPS Check	12 Months, 10
11	HF transceiver	OPS Check	12 Months, 11
12	Radio equipment (ADF, ILS, VOR/DME, Marker Beacons)	Check	On condition, 12
13a	ATC Transponder / Mode "C"	FUNC Check	12 Months, 13
13b	Mode S Transponder	FUNC check	24 months, 14
14	Satellite navigation equipment (GPS / GNSS)	OPS check	12 months
15	Audio/intercom including emergency operation	OPS check	12 months
16	FDR read-out (data download) (operational checks and evaluations). (Note 15 (1), (2), (3)) If the FDR records on magnetic wire or uses FM technology.	Check Check	12 months, 15 3 months
	continuous monitoring for proper operation. (Note 15 (4), (5))	Check	24 months
17	FDR system. (Note 15 (1), (2))	Calibration	5 years
18	When no Aural & Visual means are available for Pre-flight checking of FDR for proper recording	OPS Check	7 days of operation
19	Data Link recording intelligibility check (Note 15(1)) (operational checks and evaluations)	Check	5 years
20	CVR intelligibility check (Note 15 (1), (2), (3)) (operational checks and evaluations)	Check	12 months
21A	Emergency Locator Transmitters (ELT) Testing	Inspection / Test	12 months. 16
21B	Battery and Transmitter overhaul	ELT Manufacturer	s Recommendations
22	Auto pilot/Flight director	OPS check	12 months
23	Instruments and indicators	Inspection & operational check	12 months. 17
24	Escape slide / raft	FUNC check	72 months. 18
25	Electronic Flight Bag (EFB) System	OPS Check	IAW EFB OEM. 19
26	Aircraft Weight & Balance (CAT)	Aircraft weighing	<mark>4 years. 20</mark>
27	Aircraft Weight & Balance (other than CAT)	Aircraft weighing	Note21
<mark>28</mark>	Seat, seat belts and harnesses	Inspection	6 Months, note 22
<mark>29</mark>	Tyre Pressure Check	Check	Daily 23
<mark>30</mark>	Tyre Pressure Indicating System Check	Check	As per OEM Instructions 24

Notes:

- 1. 12 Months or OEM recommended interval.
- If applicable / Applies for remote and stand-by magnetic compasses. For aircraft in which magnetic compass is used as means of primary navigation device 24 months. For aircraft in which magnetic compass is used as means of supplemental navigation device 36 months. Stand-by magnetic compass 36 months or OEM recommended interval.
- Applicable to analogue / pressure-sensing flight instruments only, Calibration in-situ is permitted. Includes stand-by units. For further information on Altitude Reporting Equipment and Transponder System Maintenance and inspection practices please refer also to <u>FAA AC 43-6D</u> *"Altitude Reporting Equipment and Transponder System Maintenance and Inspection Practices"*. Field Test set to be used.
- Applicable to analogue / pressure-sensing flight instruments only, Calibration in-situ is permitted. Includes stand-by units. For further information on Altitude Reporting Equipment and Transponder System Maintenance and inspection practices please refer also to <u>FAA AC 43-6D</u>. Field Test set to be used.
- 5. 24 Months or OEM recommended interval.
- 6. 12 Months or OEM recommended interval.
- 7. 60 Months or OEM recommended interval. Please also refer to <u>EASA SIB No: 2015-11</u> "Hydrostatic Test Requirement for Pressure Vessels Installed on an Aircraft".
- 8. Requirement applicable for aircraft with elastomeric hoses with the exception of PTFE ones: Threshold: 72 Months; Interval: 36 Months or as recommended by OEM.
- 9. As specified by OEM or Aviation Medical Facility. Please refer to AMC2 CAT.IDE.A.220 "*First aid-kit*" / AMC4 CAT.IDE.A.225 "*Emergency Medical Kit*".
- 10. Subject to aircraft configuration, observe condition of fuses and CB, pay attention on C/B under red & yellow caps or equivalent marking associated to critical aircraft system & flight conditions.
- 11. If installed, 12 Months or OEM recommended interval which occurs latest.
- 12. On condition. Field Test set to be used.
- 13. 12 Months or OEM recommended interval which occurs first. field test set to be used, including frequency tolerance, side lobe suppression, mode "C".
- 14. Refer to <u>EASA SIB No 2011-15</u> "Mode S and Mode C Transponder Systems: Ground Testing" recommendations for ground testing and Appendix I to this IAN testing. The correct Mode S address should be periodically confirmed for each transponder installed on the aircraft, via a field test set at an appropriate maintenance opportunity (not to exceed a 2 year periodicity).
- 15. As applicable below:

- (1) Prior to the first flight of the day, the built-in test features for the flight recorders and flight data acquisition unit (FDAU), when installed, shall be monitored by manual and/or automatic checks. Refer to Eurocae Document ED-112 and <u>EASA SIB No 2009-28R1</u> "Flight Data Recorder and Cockpit Voice Recorder Systems Serviceability".
- (2) In case of a DFDR/SSCVR consult with the AI if maintenance requirements diverge significantly from items 16, 17, 18, 19 of the Table 1.
- (3) Unless the conditions of **CAT.GEN.MPA.195(b)** *"Handling of flight recorder recordings: preservation, production, protection and use"* are met.
- (4) In the case of an aircraft equipped with two solid-state flight data and cockpit voice combination recorders, where:
 - i) The flight recorder systems are fitted with continuous monitoring for proper operation, and
 - ii) The flight recorders share the same flight data acquisition, a comprehensive inspection of the recording needs only to be performed for one flight recorder position. The inspection of the recordings should be performed alternately so that each flight recorder position is inspected at time intervals not exceeding four years.
- (5) Where all the following conditions are met, the inspection of the FDR recording is not needed:
 - i) The aircraft flight data are collected in the frame of a flight data monitoring (FDM) programme;
 - ii) The data acquisition of mandatory flight parameters is the same for the FDR and for the recorder used for the FDM programme;
 - iii) An inspection like the inspection of the FDR recording and covering all mandatory flight parameters is conducted on the FDM data at time intervals not exceeding two years; and
 - iv) The FDR is solid-state, and the FDR system is fitted with continuous monitoring for proper operation.
- 16. Reference to the ELT installation/operations manual from the manufacturers' of the ELT and <u>EASA</u> <u>SIB 2019-09</u> *"Emergency Locator Transmitters and Personal Locator Beacon - Annual Testing"* should be made.

Ensure that the manufacturer's recommendations ELT test and inspections addresses the following aspects:

- ELT installation has not degraded (attachment to the aircraft structure, connectors, cables, antennas);
- absence of battery defect (absence of leak, vent, deformation, trace of heating);
- if the ELT is fitted in or attached to an article intended for floatability: absence of wear, puncture of the article fabrics that may affect the floating capability.
- g-switch operation.
- transmitted power and frequencies.

Please refer also to <u>FAA AC 91-44A Section 9</u> "Operational and Maintenance Practices for Emergency Locator Transmitters and Receivers" for further information.

- 17. Applies to all instruments and indicators. Check for satisfactory condition, mounting, marking and operation (on ground).
- 18. 72 months or as prescribed by OEM. Please also refer to **CAT.IDE.A.265** "*Means of emergency evacuation*".
- 19. Please refer to CAD166-EFB Application
- 20. Please refer to CAT.POL.MAB.100 "Mass and balance, loading" for CAT operations.

- 21. Please refer to .POL.105 group of requirements, as applicable.
- 22. In the absence of manufacturer's recommendations, all installed seat belts and harnesses shall be subject to a programme of Detailed Visual Inspection at periods not exceeding 6 months.
- 23. As required by Part-26 26.201(b), Can be performed by pressure gauge or monitored through a TPMI system (if installed). Time intervals longer than 48 hours may be used if they are substantiated and agreed by TM-CAD. This substantiation includes at least an analysis of the expected loss of tyre pressure during operation, taking into account environmental and operational factors, including the potential for pressure loss at a rate that exceeds the normal diffusion resulting from damage to or degradation of the tyre/wheel assembly. If available, statistical data related to pressure losses gathered from the service experience of aeroplanes equipped with equivalent wheel designs may also be used. The substantiation is to made in cooperation with the tyre manufacturer(s).

The time interval should not exceed the applicable value provided by the type certificate holder in the instructions for continued airworthiness.

24. As required by Part-26 26.201(d). Tasks are included as necessary in the AMP (taking into account the instructions for continued airworthiness provided by the design approval holder) to ensure that the calibration of the tyre pressure monitoring system is maintained.

18. Administrative Provisions

Owners/operators and CAMO's shall submit aircraft maintenance programmes or amendments/revisions thereof for TM CAD approval via Centrik. They may be requested, if found necessary, to submit copies of the respective documentation used, on which the programme development was based (electronic format may be acceptable) or to provide access to such documentation.

Following the approval of the maintenance programme, copies of the consolidated document must be distributed as per distribution list. The consolidated AMP document should be in a single, searchable pdf file and scans of the approval, as well as the acceptance letter should be appended to the same pdf. A copy of the document must be submitted to the Airworthiness Inspectorate for reference iaw WI 06-2020.

SECTION B – OTHER-THAN-COMPLEX MOTOR POWERED Aircraft not falling under Part-ML

1. Introduction - Part-ML

Part-ML applies to the following other than complex motor powered aircraft:

- (a) aeroplanes of 2 730 kg maximum take-off mass or less;
- (b) rotorcraft of 1 200 kg maximum take-off mass or less, certified for a maximum of up to 4 occupants;
- (c) other ELA2 aircraft.

NOTE: for aircraft subject to Regulation (EU) 1321/2014 Annex Vb (Part-ML) refer to Information advisory Notice (IAN) No. 03B

Where aircraft referred to points (a), (b) and (c) of the first subparagraph are listed in the air operator certificate of an air carrier licensed in accordance with Regulation (EC) No 1008/2008, the requirements of Annex I (Part-M) shall apply. Please refer to the Introduction of this IAN 03a.

2. General Principles

Type Certificate and STC holders of the aircraft, engines and propellers are legally bound to issue Instructions for Continuing Airworthiness (ICA) for their products. The ICA issued by the aircraft manufacturer will normally cover all installed systems and equipment which are standard part of the aircraft. In case of modifications involving the Supplemental Type Certification process, the same requirements apply for the STC holders.

The maintenance programmes developed and presented for TM CAD approval shall be based on the ICA issued by the respective TC, RTC and STC holders or Part-21 Design Organisation Approvals as appropriate. In some cases, specific recommended maintenance tasks may not be issued by the TC or STC holders. In absence of specific recommendations issued by the TC or STC holder or other equipment manufacturer with regard to aircraft system or component, the instructions identified in **Table 2** of this IAN constitute the National Requirements. These maintenance tasks should be integrated in the complete maintenance programme and can be included within the scheduled maintenance checks (e.g. as part of the annual inspection) or as out of phase maintenance at the specified intervals.

Other modifications (not involving the STC process) and some repairs may also necessitate development of maintenance tasks to be integrated in the maintenance programme.

Competent authorities may issue mandatory information in the form of Airworthiness Directives or Operating Directives, which in some cases may necessitate introduction of certain maintenance tasks in the AMP affected by the associated AD or OD.

EASA also issues Service Information Bulletins (SIB) related to maintenance tasks and recommendations which may be mandated by the TM CAD.

Any aircraft should only be maintained to one maintenance programme at a given point in time. In case an owner/operator or a CAMO wishes to change from one approved programme to another, a bridging check or inspection may need to be performed in order to implement the change. This may also be the case when developing and approving a maintenance programme when importing used aircraft into Malta.

New or modified applicable mandatory requirements on which the programme is based (e.g. TC/STC holders, ATA AMM Chapter 05, Service Manual, ALI's, ETSO authorization, life limitations, ICA and

competent authority instructions, including ones introduced through Airworthiness Directives) should be incorporated in the programme as soon as possible. In any case, the maintenance programme details should be reviewed at least annually with, as a minimum, a review of all of the documents on which the programme is based.

For aircraft used for commercial air transport, the programme should also be monitored for its effectiveness in accordance with approved procedures in the CAME. The system principles should be briefly described in the maintenance programme's introduction section with more detailed description to be provided in the associated Continuing Airworthiness Management Exposition (CAME).

In developing the maintenance programme, operators/CAMO/CAO should take into account the aircraft anticipated utilisation and nature of operation, e.g. VFR or IFR flights, low flying, saline or sandy conditions, anticipated flight hours to flight cycles ratio,

predominant weather conditions at the place the aircraft will be based and/or operated, specific airspace requirements or airport conditions. In cases whereby manufacturer recommendations are developed assuming specific aircraft annual utilisation and substantially different utilisation is anticipated for the aircraft to which the programme applies, the programme tasks should be assessed and intervals modified as appropriate.

3. Permitted Variations To Maintenance Periods

In the absence of any instructions from the TC holders the following can be implemented.

i) Items Controlled by Flying Hours

Period Involved	Maximum Variation of the Prescribed Period
All	10%

(ii) Items Controlled by Calendar Time

	Period Involved	Maximum Variation of the Prescribed Period
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6 month check	10% (18 days)
Annual Check	30 days

The tolerances shall be of non cumulative basis, i.e the next compliance time shall be determined from the initial due date.

These same rules may be applied to the requirements listed in **Table 2**.

Conditions

The Annual Check may be anticipated for a maximum period of 30 days however the interval between annual checks shall not exceed 12 Months. Thus, for example, where the full 30 days is invoked, the following Annual Check would become due 12 months after the completion of the Annual Check which was anticipated. The period by which the Annual Check was anticipated and the date of the next Annual Check shall be recorded in the appropriate log book.

Items Controlled by More Than One Limit. For items controlled by more than one limit, e.g. items controlled by flying hours and calendar time, the more restricted limit shall be applied.

Variations shall be permitted only when the periods prescribed within the AMP cannot be complied with due to circumstances, which could not reasonably have been foreseen by the Operator or by the contracted Maintenance Organisation.

Particulars of every variation so made shall be entered in the appropriate Log Book(s) and also the CAMO records.

The variations permitted do not apply to those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure, CMR tasks, ALI's, Airworthiness Directive, or components with limited fatigue lives and high energy rotating parts of which containment is not provided).

4. TM Civil Aviation Directorate additional requirements and policy

In absence of specific recommendations issued by the TC or STC holder or other equipment manufacturer the maintenance tasks identified in the **Table 2** below should be used by the owners/operators and CAMO's when developing aircraft maintenance programmes.

Terminology

Inspection

A visual check performed externally or internally to detect unsatisfactory conditions/discrepancies using, where necessary, inspection aids (mirrors, torches, magnifying glasses etc.) Surface cleaning and removal of panels, covers and fabric may be required.

Check

Verification of compliance with the instructions specified in the maintenance data.

Operational Check

A test used to determine that a system or component or any function thereof is operating normally. This is usually performed by operating the system or the component on the aircraft either in normal or in test mode.

Functional Check

A detailed examination of a complete system, sub-system or component to determine if operating parameters are within limits of range of movement, rate of flow, temperature, pressure, revolutions per minute, degrees of travel, etc., as specified in the appropriate maintenance data. Parameters are usually measured and recorded. External test equipment is usually used.

Bench test

Functional check of a component off the aircraft using ground testing/laboratory equipment.

Table 2 - Maintenance tasks and intervals

Where TC holder's continuing airworthiness instructions are contradicting with tasks/intervals containing in this table, priority should be given to TC holder's continuing airworthiness instructions.

Tasks & intervals shall be applied where no specific instruction is provided by TC Holder where it is applicable.

No	Task	Nature of Maintenance	Interval
1	Lead-acid battery capacity test	Bench test	12 months
2	Nickel-cadmium battery capacity test	Bench Test	12 months
3	Compass swing (Note 1)	Functional check	36 months/ 24 months (Note1)
4	Airspeed Indicator calibration (Note 2)	Calibration	24 months
5	Altimeter calibration (Note 2)	Calibration	24 months
6	Pitot/static system leak check	Functional check/Calibration	24 months
7	Hydrostatic test of pressure vessels (Note 3)	Inspection & bench check	60 months (Note 3)
8	Flexible fuel and oil hoses (Except PTFE ones) pressure test.	Inspection & bench check	72 months Repeat 36 months
9	Fire extinguisher content by weight	Check	12 months
10	Cabin Carbon Monoxide Detector	Check	12 months
11	First Aid Kit contents	Check	12 months
12	Over/under voltage system warnings. Load sharing.	Operational check	12 months
13	Ground operable circuits, manually operated circuit breakers.	Operational check	12 months
14	ADF receiver (Note 4)	Functional check	12 months
15	ILS receiver (Note 5)	Functional check	12 months
16	VOR receiver (Note 6)	Functional check	12 months
17	Marker (Note 7)	Functional check	12 months
18	DME (Note 8)	Functional check	12 months
19	Transponder (Note 9)	Functional check	12 months
20	Mode S Transponder (Note 13)	Operational check	24 months
21	Weather radar	Operational check	12 months
22	Satellite navigation (GPS)	Operational check	12 months
23	Audio/intercom including emergency operation	Operational check	12 months

24	Emergency Locator Transmitters Testing (Note 15)	Inspection & test	12 months
24A	ELT (Battery and Transmitter overhaul) (Note 10)	ELT Manufacturers' Recommendations Refer to Installation Manuals	
25	Auto pilot/Flight director	Operational check	12 months
26	Instruments and indicators (Note 11)	Inspection & operational check	12 months
27	VHF transceiver (Note 12)	Functional check	36 months
28	Aircraft Weight & Balance	Aircraft weighing	5 years
29	Carefully examine all cable terminal fittings that attach to all turnbuckles for corrosion and/or cracking (Note 14)	Inspection	12 Months

Notes:

- Applies for remote and stand-by magnetic compasses. For aircraft in which magnetic compass is used as means of primary navigation device – 24 months. For aircraft in which magnetic compass is used as means of supplemental navigation device - 36 months. Stand-by magnetic compass – 36 months.
- Calibration in-situ is permitted. Includes stand-by units. For further information on Altitude Reporting Equipment and Transponder System Maintenance and inspection practices please refer also to <u>FAA</u> <u>AC 43-6D</u>.
- 3. Including fire extinguisher vessels. Refer to <u>EASA SIB No: 2015-11</u> and vendor recommendations.
- 4. Using stations of known bearing for checking accuracy. Check audio signal on all bands.
- 5. With a field test set, including flag warnings, accuracy, sense, course width and audio.
- 6. With a field test set, including flag warnings, radial resolving, RMI accuracy at 90° intervals.
- 7. With a field test set, including 3-tone operational check, high/low sensitivity.
- 8. With a field test set, including range accuracy, audio.
- 9. With a field test set, including frequency tolerance, side lobe suppression, mode "C".
- 10. Reference to the ELT installation/operations manual from the manufacturers' of the ELT should be made
- 11. Applies to all instruments and indicators. Check for satisfactory condition, mounting, marking and operation (on ground).
- 12. With a field test. Frequency tolerance is to be checked only if recommended by the equipment manufacturer.
- Refer to <u>EASA SIB No 2011-15</u> or US Title 14 CFR Part 43 Appendix F recommendations for ground testing and Appendix I to this IAN.

This is also considered to include the MIP task described in ML.A.302(d)(2(d)

- 14. Refer to <u>EASA SIB No 2019-12</u> or US SAIB CE-19-13 recommendations to aeroplane owners, pilots, operators and manufacturers of an airworthiness concern regarding the risks of cracking and fracturing of flight control cable terminal attachment fittings connected to turnbuckle barrels on small aeroplanes with mechanical flight control cables
- 15. Reference to the ELT installation/operations manual from the manufacturers' of the ELT and <u>EASA</u> <u>SIB 2019-09</u> should be made. Ensure that the manufacturer's recommendations ELT test and inspections addresses the following aspects:
 - ELT installation has not degraded (attachment to the aircraft structure, connectors, cables, antennas);
 - absence of battery defect (absence of leak, vent, deformation, trace of heating);

- if the ELT is fitted in or attached to an article intended for floatability: absence of wear, puncture of the article fabrics that may affect the floating capability;
- g-switch operation;
- transmitted power and frequencies.
- Verification of the beacon registration.

Please refer also to FAA AC 91-44A Section 9 further information.

5. Administrative Provisions

Owners/operators and CAMO's shall submit aircraft maintenance programmes or amendments/revisions thereof for TM CAD approval accompanied by a cover letter. The cover letter should contain a statement on how compliance with the respective Part-M requirements and the provisions of this IAN was achieved. They may be requested, if found necessary, to submit copies of the respective documentation used, on which the programme development was based (electronic format may be acceptable) or to provide access to such documentation. Following the approval of the maintenance programme, copies of the document have to be distributed as per distribution list. A copy of the document has to be submitted to the Airworthiness Inspectorate for reference.

Appendix 1 – Extract from EASA SIB 2011-15

Testing for correct functionality should include the following items:

- The Mode S 24-Bit aircraft address
- Altitude reporting including the check of the altitude sensor at adequate intervals from ground to the certified altitude ceiling of the aircraft
- Mode S Elementary Surveillance (ELS) & Downlink Aircraft Parameters (DAPs):
 - Aircraft Identification
 - Capability Report
 - Pressure Altitude
 - o Flight Status
- Mode S Enhances Surveillance (EHS) & Downlink Aircraft Parameters (DAPs)
 - Magnetic Heading
 - Indicated Airspeed
 - Mach No.
 - o Vertical Rate
 - Roll Angle
 - Track Angle Rate or True Airspeed
 - True Track Angle
 - Ground Speed
 - Selected Altitude (and Barometric Pressure Setting where appropriate)

Note 1: Care should be taken, not to disturb the operation of ATC or other aircraft when performing any transponder (or ACAS) related tests. Guidance for the ground testing of transponders can be found in Appendix 1 of this SIB.

Note 2: In case the ramp test equipment indicates an error with the transmission of the data as specified above, or indicates any other type of failure (e.g. out of frequency, power etc), the problem should be corrected prior to the next flight.

Note 3; Detailed information on EHS DAP's may be found in EASA AMC 20-13 - Certification of Mode S Transponder Systems for Enhanced Surveillance.