

TECHNICAL AIRWORTHINESS ADVISORY CIRCULAR



DIRECTORATE GENERAL TECHNICAL AIRWORTHINESS

REGULATORY REQUIREMENT FOR NON-AIRBORNE SYSTEM

REFERENCE

- A. TAAC-G-001 Revision: 0 dated 31st May 2024 – Transition of An Airworthiness Management System from Technical Airworthiness Management Manual (TAMM) to Malaysian State Technical Airworthiness Manual (MSTAM).
- B. Malaysian State Technical Airworthiness Programme (MSTAP) Interim Vol. 1.

INTRODUCTION

1. State Airworthiness Authority (SAA) has approved the use of the new airworthiness framework MSTAM to replace TAMM in accordance with Reference A.
2. The new Airworthiness Management System (AMS) framework is formulate following the baseline European Military Airworthiness Requirements (EMAR) to align with international practices of aviation conventions to oversee aviation safety.
3. The MSTAM consists of a general policy and requirements described under the Malaysian State Technical Airworthiness Programme (MSTAP) and a set of implementing regulations for design, production, maintenance, training, and personnel licensing described under the Malaysian State Technical Airworthiness Regulation (MSTAR), respectively.
4. The EMAR and MSTAR environments are specifically tailored for the application of regulations pertaining to aircraft systems. The non-airborne system is fundamentally outside of the emerging definition of EMAR airworthiness framework.
5. A direct application of MSTAR Regulation to non-airborne systems may impose undue burdens and costs on organisations holding government contracts in the article. Therefore, DGTA takes a careful approach in its obligation to oversee aviation safety activities associated with this article in ensuring the risk to safety is being governed and adhered to As Far As Reasonably Practicable (AFARP). Thus, this TAAC is established to ensure compliance for those engaged in the non-airborne system.

DEFINITION

6. “Non-airborne system” in this TAAC will refer to the system or sub-system or its equipment and component that has no airworthiness element, indirectly related to the

aircraft, and no direct interfaces to the aircraft where performance could not directly affect airworthiness. The non-airborne system oversight hereafter will refer to 'Class G'.

EFFECTIVITY

7. The requirements and stipulations outlined in this TAAC will take effect upon the signing of the document.

PURPOSE

8. This TAAC is intended to provide regulatory requirements for safety oversight to the Class G and articulates the requirements for the organisation's approval, certification, and management. These requirements define a minimum safety rule and standard of compliance for achieving an acceptable level of risk AFARP.

TECHNICAL REQUIREMENT

SCOPE AND APPLICABILITY

9. The requirements outlined in this paragraph and the subsequent sections of this TAAC apply to:

- a. Non-airborne system (Class G) under the following rating:
 - (1) Simulator,
 - (2) Air Ground Support Equipment (AGSE) and Air Specialist Vehicle (AGSV),
 - (3) Safety Equipment,
 - (4) Sling & Lifting Tackle and Cable & Arrestor Barrier,
 - (5) Ground Air Defence & Air Traffic Radar, Surveillance Radar/System and Ground Electronic, and
 - (6) Airfield Equipment and Services.
- b. Any organisation or industry that seeks the Organisation Approval to maintain the Class and Rating listed in Para 9a is owned by the State Aircraft Operator (SAO), State Registered Aircraft Operator (SRAO), Ministry of Defence, or Government of Malaysia.

TERM OF APPROVAL

10. Maintenance of Class G and its sub-system, including equipment and its components shall only be performed by an authorised organisation through its respective Sponsoring Agency (SAO or SRAO) as an AMO.

11. All service and commercial organisations shall only operate after successful demonstration or grant through this TAAC as an AMO with a valid certificate issued by DGTA.

12. The organisation shall define its maintenance activity in accordance with the Class and Rating in Appendix I of this TAAC for which the certificate is issued by authority in accordance with a Sponsoring Letter or a Contractual Agreement between the Government of Malaysia.

13. Organisations are prohibited from carrying out maintenance on Class G without a valid AMO certificate issued by DGTA except when:

a. The organisation is part of an AMO's list of contracted or subcontracted or tasked organisations and is performing maintenance on behalf of and within the authorised class and rating of an AMO holder. The AMO shall retain full accountability for the technical integrity of the work or task contracted.

b. Contracted or subcontracted or tasked organisations that are not part of a list of AMO holders but are then endorsed by DGTA and SAO or SRAO in writing.

AUTHORIZATIONS REQUIREMENT

14. **Application for AMO Certification.** An organisation seeking an AMO (hereafter referred to as the 'applicant') shall submit an application to DGTA through its relevant SAO or SRAO. Each application shall be submitted with the following details:

a. Written authorisation from the relevant SAO or SRAO or Government of Malaysia, whichever is applicable, in accordance with MSTAP Part 1, Chapter 1, Para 18.

b. The applicants shall produce a Maintenance Management System (MMS) documented in a Maintenance Organisation Exposition (MOE), a document that contains the material specifying and providing a description of the Class and Rating of maintenance activity, deemed to constitute approval, and showing how the applicant satisfies or intends to satisfy these TAAC requirements and any documents that are cross-referred. Expected content of the maintenance organisation MOE can be referred to in Appendix II to this TAAC.

c. Any relevant certifications held by the organisation and not limited to certification by the International Aviation Quality Management System or any State recognised Standard Maintenance System.

d. Any additional documentation in support of its application whenever requested by the SAO or SRAO or DGTA.

15. **Award and Retention of AMO Certification.** Each applicant's submission shall be assessed to ensure that:

a. The Maintenance Management System (MMS) complies with all applicable clauses of this TAAC.

b. The MOE contains processes that ensure maintenance carried out by the applicant on Class G is being performed:

- (1) To DGTA approved standards,
- (2) By competent and Authorised Personnel,
- (3) By personnel acting as members of an Approved Organisation,
- (4) Based on approved procedures and using approved data.

c. The applicant shall have sufficient competent personnel to plan, supervise, perform and inspect all maintenance activities within the Class and Rating applied for.

d. The applicant shall provide appropriate and adequate facilities for the Class and Rating of maintenance applied for.

e. The applicant shall have all necessary tools, equipment and material to carry out maintenance within the Class and Rating applied for.

16. The applicant/AMO shall allow DGTA to conduct inspections on its facilities, personnel and records as required to satisfy DGTA that the applicant/AMO complies, and continues to comply with these Regulations.

17. Application satisfying the requirements of Para 14 and Para 15, followed by satisfactory compliance assessment, entitles the applicant to be formally certified as an AMO by issuance of a Certificate and accompanying Covering Letter.

18. Failure to comply with Para 14 and Para 15 will be a basis for rejection of the application. Such rejection will be fully documented and disclosed to the applicant.

19. The continued validity of an AMO certification shall be reassessed by a process and at a frequency determined by DGTA. Failure to comply with this TAAC will be a basis for the AMO certificate to be suspended or revoked.

20. **Changes to AMO Certification.** Each AMO shall:

a. Continue to comply with all the requirements of this TAAC,

b. Advise any changes to the basis of its certification to DGTA within seven (7) working days of the change and seek written approval for that change, and

c. Ensure that, where DGTA has verified and approved changes to the basis of an AMO's certification in accordance with Para 20b, its MOE and other related documentation are updated to reflect all the changes approved by DGTA.

21. **Validity of AMO Certification.** The AMO Certificate and accompanying Covering Letter shall remain in force and valid up to three (3) years, or until the certification to which it relates, expires or is suspended, revoked, surrendered, or superseded.

22. **Organisation Approval Extension.** Temporary Approval is not applicable under MSTAM. For OA holders with AMO validity expired due to contract expiry or unavailability of government contract, the OA shall submit a request for extension to the DGTA with justification and supporting documents as such:

- a. Latest Internal Quality Audit (IQA) report with corrective action taken,
- b. Latest Management Review Meeting (MRM) addressing airworthiness issues, and
- c. Latest organisation Safety Report.

23. **Extension of AMO Prior to Full Transition of MSTAM.** In the condition that AMO validity expires while the organisation is waiting for contract renewal, the Authority may consider granting the extension up to six (06) months. The organisation seeks to apply this provision shall provide:

- a. Three (03) documents as listed in Para 22,
- b. A new application to embark to MSTAM as stated in Para 14, and
- c. The Authority will plan for an oversight visit or Initial Approval audit under the application of MSTAM Regulation within the period of extension on the agreed date.

24. **Suspension, Revocation and Limitation of AMO Certification.**

- a. DGTA may act appropriately on the AMO certificate with reasonable grounds in the case of a possible safety threat, by applying a suspension or revocation when during audits, or by other means, evidence is found to be non-compliant to the requirements of this TAAC.
- b. DGTA may limit the class and rating of an AMO when, during audits, or by other means, evidence is found to be non-compliant with the requirements of this TAAC.

ORGANISATION REQUIREMENT

25. **Key Appointments and Groups within an AMO.** In its submission, an applicant for AMO certification shall structure their key maintenance management appointments and other functional groupings as listed below. The applicant shall use these appointments and groupings in the application, and clearly define the correlation between them.

- a. Top Management:
 - (1) Accountable Manager (AM).
- b. Management:
 - (1) Senior Maintenance Manager (SMM).
 - (2) Quality Manager (QM) and/or Safety Manager (SM).
 - (3) Maintenance Manager (MM).
- c. Supervisory:
 - (1) Maintenance Inspector.
 - (2) Maintenance Supervisor.
- d. Technician Support Staff:
 - (1) Authorised Trade Person (ATP).
 - (2) Non-Trade Person (NTP).

26. **Documentation of Organisational Structure.** The AMO shall document its organisational structure in the MOE. The description of the organisational structure shall contain:

- a. The title(s) of management positions,
- b. The titles of supervisory positions, and
- c. An organisational chart showing associated chains of management and maintenance responsibility of the key appointments and groups specified in Para 25.

27. **Contracted / Subcontracted / Tasked Organisation.** This paragraph elaborates the requirement to the organisation previously known as Maintenance Support Network (MSN) to AMO holders.

- a. Where the AMO regularly outsources maintenance activities due to insufficient internal resources or capabilities, the AMO shall state in the MOE, either directly or by reference:
 - (1) The organisation(s) which supplement the AMO's maintenance or maintenance support functions, and
 - (2) The class and rating of maintenance conducted by the external organisation(s) on behalf of the AMO.

b. The AMO shall be accountable for ensuring the technical integrity of Class G including its sub-system or equipment and components whichever or whenever maintenance is outsourced by the AMO.

c. The AMO shall state, either directly or by reference, in the MOE, the management processes associated with assessing and authorising sub-contractors for inclusion in the organisation.

28. Quality Management System (QMS) and Safety Management System (SMS).

a. The AMO shall establish and maintain a QMS and SMS that are acceptable to DGTA. The system shall be defined, either directly or by reference, in the MOE. It shall describe the following:

- (1) A system of internal quality indicators, and
- (2) Management reviews of processes, procedures and audit findings.

b. The QMS and SMS shall include an internal audit system program that, as a minimum:

- (1) Ensures the documented QMS and SMS continues to comply with all the requirements of this TAAC,
- (2) Evaluates ongoing compliance with procedures and processes as defined in the MOE,
- (3) Evaluates corrective action follow-up, effectiveness and close-out, and
- (4) Evaluates the effectiveness remedial of preventive actions.

c. The AMO shall carry out Quality and Safety Management Review and Internal Quality Audit (IQA) at a minimum frequency of once a year.

PERSONNEL REQUIREMENTS

29. The AMO shall establish and maintain a system to assess and assign personnel involved in planning, performing, supervising, inspecting, or certifying the maintenance.

30. The applicant or AMO holder is responsible for establishing the internal organisation of Qualification, Training, and Experience (QTE) for its personnel, which must be documented in the Maintenance Organisation Exposition (MOE).

31. The AMO shall maintain and utilise a system to record all assessments and approvals for the assignment of maintenance privilege.

32. The systems and processes to assess, assign and record assignment of Maintenance Privilege shall be clearly stated, either directly or by reference, in the MOE.

33. **Accountable Manager (AM).** Every AMO shall appoint an AM who possesses corporate or command authority to ensure that all resources for maintenance activities are sufficient.

34. **Senior Maintenance Manager (SMM).**

a. Each AMO shall have an appointed SMM who is responsible for the conduct of all maintenance activities within the AMO's authorised Class and Rating as specified in the MOE.

b. Specific selection criteria for appointment as the SMM, detailing appropriate engineering/maintenance qualifications, training and experience required, shall be defined, either directly or by reference, in the MOE.

c. The AMO shall demonstrate to the satisfaction of DGTA that the SMM is competent to comply with the aviation safety requirements stipulated in this manual to the level commensurate with his position.

d. The SMM shall demonstrate a thorough understanding of the regulations in relation to the maintenance of non-airborne systems carried out by the organisation.

e. The SMM's responsibilities shall be stated either directly or by reference in the MOE.

f. In the case of maintenance activities performed by SMM, SMM shall be classified as a self-certifying maintainer with appropriate selection criteria.

g. In the event of a prolonged absence of the SMM, it is required that the SMM appoint deputies who will assume responsibilities through a valid delegation document, and this appointment must be recorded in MOE.

35. **Quality Manager (QM) and/or Safety Manager (SM).**

a. The AMO shall have a QM and/or SM who is authorised by and responsible directly to the AM.

b. Specific selection criteria for the QM and/or SM, detailing qualifications, training and experience required, shall be stated, either directly or by reference, in the MOE.

c. The person appointed as the QM and/or SM shall have appropriate qualifications, training and experience (QTE) in justification of quality and safety management system as minimum as comply to requirement in Para 38b.

36. **Maintenance Manager (MM).**

- a. The SMM shall authorise MM, as required, to meet the maintenance management responsibilities and workloads within the AMO.
- b. MM shall be authorised by the SMM after formal assessment to determine the applicant's competence and knowledge of maintenance, supervision, inspection, and technical administration requirements in their area of responsibility.
- c. Specific selection criteria for MM, detailing qualifications, training and experience required, shall be stated, either directly or by reference, in the MOE.
- d. The SMM shall ensure that each MM is competent to comply with the technical requirements stipulated in this TAAC to the level commensurate with their position.
- e. MM shall be formally re-assessed and re-authorised by the SMM on a periodic basis not exceeding 12 months.

37. **Maintenance Inspector / Supervisor (MI/S).**

- a. The SMM shall authorise MI/S as required, to meet maintenance inspection and supervision responsibilities within the AMO.
- b. Specific selection criteria for MI/S shall be stated, either directly or by reference, in the MOE.
- c. Specific selection criteria for MI/S shall comply with a standard acceptable to DGTA.
- d. The SMM shall ensure that each MI/S is competent to comply with the technical requirements stipulated in this TAAC to the level commensurate with their position.
- e. MI/S shall be formally reassessed and reauthorised by the SMM on a periodic basis not exceeding 12 months.

38. **Authorised Trade Persons (ATP).**

- a. The SMM, or delegated personnel approval holder authorised by the SMM, shall authorise the persons to be ATP as required to meet the maintenance responsibilities and workloads within the AMO.
- b. Specific selection criteria for ATP shall be stated either directly or by reference in the MOE.
- c. A selection criterion for ATP described in MOE shall at least meet the minimum requirement of the National Occupational Skill Standard (NOSS) or equivalent standard accepted by Authority.

d. The SMM shall ensure that each ATP is competent to comply with the technical requirements stipulated in this TAAC to the level commensurate with their position.

e. ATP shall be formally reassessed and reauthorised by the SMM or appropriate delegate on a periodic basis not exceeding 12 months.

39. Non-Trade Person (NTP).

a. The SMM shall authorise NTP, as required, to meet the maintenance responsibilities and workloads within the AMO.

b. The scope of maintenance tasks authorised by the SMM shall be defined, either directly or by reference, in the MOE.

c. The SMM shall ensure that each NTP is competent to comply with the technical requirements stipulated in this TAAC to the level commensurate with their position.

d. NTP shall be reassessed and reauthorised by the SMM on a periodic basis not exceeding 12 months.

e. A selection criterion for NTP described in MOE shall at least meet the minimum requirement of the National Occupational Skill Standard (NOSS) or equivalent standard accepted by authority.

40. Human Factors in Maintenance.

a. The AMO shall develop, establish, implement, maintain and operate at least one of the standard management systems for the identification, investigation, notification, reporting and management of human factors and maintenance errors within the AMO to achieve their objectives in managing Human Factors in order to minimise effects on safety. These systems are to be documented, either directly or by reference, in the MOE.

b. The systems and procedures for the management of human factors shall be integrated with the needs of a standard management system such as:

- (1) Quality Management System (QMS).
- (2) Occupational Safety and Health Management System (OSHMS).
- (3) Safety Management System (SMS).
- (4) Environment Management System (EMS).
- (5) Security Management System (SEMS).

c. The Accountable Manager shall ensure that personnel do not perform maintenance on non-airborne systems when an acceptable level of performance would, or might be impaired.

- d. AMO personnel shall be responsible for notifying the Accountable Manager or their delegate, when they are subject to psychological or physiological factors that would impair, or might impair, their ability to safely perform maintenance.
- e. The AMO shall establish a program of continuation training on human factors and maintenance error management awareness for all personnel and retain a record of that training.
- f. When incorrect or inappropriate maintenance has occurred, the AMO shall, as a minimum, conduct an investigation and report to the Authority.

FACILITY REQUIREMENTS

41. Organisation Facilities.

- a. The AMO shall have, or have access to, the necessary maintenance facilities for all management, planning, certification and maintenance activities conducted under the Class and Rating of its certification as an AMO.
- b. The AMO shall maintain a general description of its facilities, layout plan and location used to conduct maintenance on Class G, either directly or by reference, in its MOE.

42. Storage Facilities. Facilities shall be provided and utilised for the storage of Class G or its sub-system or equipment and component and maintenance documentation for which the AMO is responsible. The storage facilities shall have an acceptable security level, adequate appropriate segregation and acceptable standard control measures to minimise deterioration, contamination, corrosion and damage.

43. Alternative Facilities.

- a. AMO shall establish and document the alternative facilities required to conduct maintenance on Class G or its sub-system or equipment and components away from the main maintenance facility, either directly or by reference in the MOE.
- b. AMO shall establish and document, either directly or by reference, in the MOE, procedures to assess facilities required to conduct maintenance on Class G or its sub-system or equipment and component away from the main maintenance facility.
- c. Alternative facilities shall only be used after approved by DGTA.

CONDUCT OF MAINTENANCE REQUIREMENT

44. Maintenance Activities. The Approved Maintenance Organisation (AMO) shall only conduct maintenance of Class G to the Class and Rating stated in the AMO Certification and associated with the condition in the Covering Letter.

45. **Publications, Instructions, Orders and Data.**

a. The AMO shall ensure that only local (other than provided by OEM) Publications, Instructions, Orders and Data authorised by SAO Configuration Item (CI) manager by each respective group are used in the conduct of maintenance on Class G.

b. The repair or maintenance procedures, as well as work instructions created by the organisation, shall adhere to the criteria and standards certified by the relevant authority accepted by DGTA prior to seeking approval for their implementation from the appropriate SAO CI manager.

c. The Senior Maintenance Manager (SMM) shall ensure that AMO has access to the SAO CI manager and/or OEM approved technical publications, instructions, orders and data required for the maintenance activities within their assigned class and rating.

d. The AMO shall list all publications and instructions held by the AMO, either directly or by reference, in the MOE. The list shall contain, as minimum, the publication reference, title, amendment no., amendment date and location. Hereinafter, the list shall be called Publication Master List (PML). The PML must tally with the physical holding and be adequate for AMO Class and Rating at all time.

e. A system for management and review of Publications, Instructions, Orders and Data used for the maintenance of non-airborne systems shall be documented, either directly or by reference, in the MOE.

f. The AMO shall have access to the original and be responsible to ensure all publications and instructions used for the maintenance of Class G shall be:

- (1) Complete (no missing pages and legible),
- (2) Up-to-date (latest amendment authorised by SAO CI manager or OEM),
- (3) Maintained in good order,
- (4) Accessible to personnel,
- (5) Satisfactory and applicable for the Class and Rating of AMO,
- (6) Supported by a master record allowing the amendment status and document completeness to be ascertained, and
- (7) Contain or display:
 - (a) Their authority for use,
 - (b) Document name,

- (c) Date of issue, and
- (d) Their sponsor.

46. **Maintenance Procedures.**

- a. The AMO shall only use maintenance procedures approved by appropriate SAO CI manager or OEM to conduct maintenance on non-airborne system.
- b. The AMO shall use only those maintenance policies, plans, and procedures applicable to the non-airborne system being maintained, or as determined by SAO CI manager or OEM.
- c. The AMO shall report to the SAO CI manager as applicable any discrepancies in approved maintenance procedures.
- d. The AMO shall submit recommendations for changes to approved maintenance practices or procedures to the SAO CI manager.
- e. The SMM may authorise a local maintenance procedure to amplify or clarify SAO CI manager or OEM authorised maintenance procedures.
- f. The SMM shall ensure that all local maintenance procedures authorised under Para 45b and Para 45f are stated, either directly or by reference, in the MOE.

47. **Maintenance Certification.** AMO holder shall ensure:

- a. All maintenance performed shall be accurately and properly documented.
- b. The maintenance document record shall be certified by the person who performed the maintenance.
- c. Only competent and duly authorised persons shall certify maintenance on completion of the task.
- d. The person certifying maintenance shall ensure that the certification makes reference to the applicable technical instruction used in the conduct of the maintenance.
- e. Where an authorised person is responsible for supervising a person under training, the authorised person shall accept full responsibility for the maintenance performed and certify that maintenance.
- f. A person certifying the release of non-airborne systems after the maintenance shall confirm:
 - (1) All required maintenance has been completed and certified, or a determination has been made in accordance with the Requirement in Para 51 to defer any maintenance required.

- (2) The non-airborne system is in an approved configuration.
- (3) All tools and test equipment used during maintenance have been removed from the non-airborne system and / or accounted for.

48. **Additional Maintenance Release Inspections.**

- a. The SMM shall ensure that only personnel authorised in accordance with Requirement Para 37 (Maintenance Inspector / Supervisor) perform maintenance release inspections.
- b. The SMM shall specify additional maintenance release inspections as required.
- c. Maintenance release inspector shall ensure that all items:
 - (1) Are correctly and completely assembled, adjusted or locked (where applicable),
 - (2) Operate with serviceable state and function, and in the correct sense, and
 - (3) Have no loose or foreign objects.
- d. Maintenance Release Inspection requirements as detailed in this regulation shall be stated, either directly or by reference, in the MOE.

49. **Foreign Object Control.** The AMO shall have procedures documented, either directly or by reference, in the MOE, to prevent the ingress of foreign objects into, and the detection and removal of those objects from, a non-airborne system or sub-system or its equipment.

50. **Safety.** The AMO shall observe all safety precautions detailed in the Class G technical publications and documents.

51. **Carried Forward Unserviceability (CFU).**

- a. The AMO shall state, either directly or by reference, in the MOE the procedure to authorise deferment of maintenance required, allowing a subject non-airborne to operate prior to its rectification.
- b. All CFU shall be approved by SMM, or personnel authorised by the SMM, provided it complies with the standard procedure and the decision is endorsed by the SAO CI manager.
- c. The SMM shall define and state, either directly or by reference, in the MOE the minimum competency standards for personnel authorised to approve CFU.
- d. The SMM shall maintain a system to regularly review all CFU.

52. **Standard Repairs.** The AMO shall conduct standard repairs in accordance with the relevant Class G repair manuals.

53. **Non-Standard Repairs, Engineering and Design.**

a. The AMO shall submit all design details of non-standard repairs to the SAO CI manager for acceptance, prior to incorporation.

b. The AMO shall retain documentation disclosing all non-standard repairs in accordance with Maintenance Records, Documentation and Data requirements.

c. All non-standard repair, engineering or design for Class G shall obtain prior approval from appropriate Authorised Engineering Organisation (AEO), Production Organisation Approval (POA), Design Organisation Approval (DOA) or OEM prior to acceptance by the respective SAO CI manager manager.

d. The organisation shall comply with the policies and procedures set by the SAO or SRAO or the designated SAO CI manager regarding the management and registration of any non-standard repair, engineering and design activities.

e. Any work instruction or procedure created or developed by the organisation that pertains to non-standard repairs, engineering and design shall comply with the requirement as stipulated in Para 45b.

54. **Modifications.**

a. Non-airborne system shall only be modified in accordance with instructions authorised by the SAO CI manager.

b. Incorporation of modifications shall be documented in accordance with Maintenance Records and Documentation requirements.

c. The organisation shall comply with the policies and procedures set by the SAO or SRAO or the designated SAO CI manager regarding the management and registration of any modification made.

d. Work instruction or procedure created or developed by the organisation that pertains to modification shall comply with the requirement as stipulated in Para 45b.

MAINTENANCE RECORDS AND DOCUMENTATION REQUIREMENT

55. The AMO shall establish and maintain a system, documented, either directly or by reference, in the MOE, to clearly and accurately document all Class G maintenance activities for which they are responsible.

56. The SMM shall ensure that all personnel making entries in the Class G maintenance records are authorised and the tasks performed in accordance with procedure stipulated in the MOE.

57. Occasions and prerequisites when entries may be made into maintenance documentation and records. The circumstances are:

- a. Annotation of maintenance that is due,
- b. Certification of maintenance done,
- c. Recording of Carried Forward Unserviceability,
- d. Certification of serviceability of non-airborne systems,
- e. Release of non-airborne systems from maintenance, and/or
- f. Recording of the life usage or accumulation readings (whenever applicable).

58. The SMM shall ensure that all entries in maintenance documentation and records describing unserviceable conditions contain, as a minimum:

- a. The name of the person making the entry or approval stamp,
- b. An accurate and concise description of the unserviceable condition and the maintenance required, and
- c. The date and time the unserviceable condition was entered.

59. The SMM shall ensure that entries pertaining to the completion of maintenance:

- a. Accurately describe the activity(s)/corrective action(s) undertaken,
- b. Makes reference to the relevant approved and authorised technical publication instructions and orders used, and
- c. Contain certifications that comply with Maintenance Certification requirement at Para 47:
 - (1) Identify the person who made the certification,
 - (2) Stipulate the capacity in which the certification was provided, and
 - (3) Record the date and time of certification.

60. The SMM shall ensure that the maintenance documentation and records contain sufficient detail to show the make, model, identification number and/or serial number of the non-airborne system being maintained.

61. The SMM shall ensure that the maintenance documentation and records are:
- a. Controlled (serially, where appropriate),
 - b. Legible and comprehensible,
 - c. Unable to be changed, either deliberately or inadvertently without leaving evidence that a change did take place and maintaining legibility of the original data. The original entry shall remain visible,
 - d. Stored and supported in such a manner as to retain readability (visual or electronic) for the required retention period,
 - e. Appropriately protected against loss, damage and unauthorised alteration, and/or
 - f. Able to be secured.

62. **Electronic Records.** Due to their volatile nature, electronic records have their own particular requirements in addition to satisfying the requirements of paper-based systems.

- a. To allow electronic records to remain readable, any tools used to access, manipulate and read current and archived electronic records need to be maintained along with the training for personnel using these tools.
- b. An AMO that relies on electronic records must possess the capability to safeguard and retrieve data in the event that the devices facilitating the system or the existing records become inaccessible. The implementation of backup records and/or physical printouts serves to reduce data loss and mitigate any potential adverse effects on aviation safety in the event of an electronic system failure.
- c. Other concerns with an electronic based record keeping system centre on the requirement to track changes to the system and identify those persons making the changes.

63. The security access requirements of an electronic or paper-based record system should align with Malaysian Government promulgated requirements.

64. **Retention and Review of Maintenance Documentation and Records.**

- a. The SMM shall ensure that the AMO has a system for retention and review of maintenance documentation and records that meets the following criteria:
 - (1) The SAO required retention period is adhered to,
 - (2) Stored in a secured facility to ensure unauthorised access,
 - (3) Stored in a safe facility to ensure free from deterioration, and

(4) A periodic review of record security, condition, completeness and accuracy is performed.

65. Falsification, Reproduction or Alteration of Maintenance Records.

a. The SMM shall ensure that only appropriately authorised personnel perform alterations to any record, document or report required under these TAAC requirements.

b. The SMM shall ensure that no person shall make, or be caused to make changes for fraudulent purposes, of any record, document or report required by this TAAC requirement which encompasses:

(1) False entry and/or Alterations, and

(2) Reproduction.

REPORTING AND INVESTIGATION REQUIREMENT

66. Reporting of Unserviceable Conditions.

a. Details of all unserviceable conditions discovered, experienced, or reported during operation or maintenance shall be recorded at the first opportunity after identifying the condition, and at least before release of Class G from maintenance.

b. All unserviceable conditions shall be documented in a relevant and approved Class G maintenance record.

c. When an SMM, or authorised delegate, judges that an unserviceable condition is the result of special occurrence (other than fair wear and tear), the AMO shall prepare a documented report meeting the content and reporting time-limits defined by the SAO CI manager and forward it to the SAO CI manager.

d. The AMO shall ensure that Class G that are subject to reporting of an unserviceable condition in accordance with Requirement Para 66c are quarantined from other serviceable and unserviceable items, and appropriately identified to show the item is subject to special occurrence reporting action.

67. Maintenance Incident Reporting. When an incorrect or inappropriate maintenance activity that adversely impacts aviation safety has occurred, the AMO shall ensure an investigation is conducted and a formal report is submitted to DGTA and the SAO CI manager.

68. Other Reporting Requirements.

a. Unless covered as part of a report submitted in accordance with Requirement Para 66c or Para 67, the AMO shall submit a report to the SAO CI manager where:

- (1) An unapproved non-airborne system, sub-system or equipment has been received,
- (2) An installed non-airborne system component has been identified as an unapproved product,
- (3) A system or sub-system or equipment or component is believed to make the Class G product substandard for the required system performance, and/or
- (4) The packaging of Class G product compromises technical integrity.

b. The AMO shall comply with any other failure or unsafe condition reporting requirements defined by the SAO CI manager for the Class G group.

69. **Technical Reporting Systems.** SMM shall ensure that the AMO complies with all technical reporting requirements as defined in the applicable SAO publications, instructions and orders.

TOOLS AND EQUIPMENT REQUIREMENT

70. Tools and Support Equipment.

a. The AMO shall list all common/general tools, special tools, test and precision measuring equipment, test equipment and support equipment used in the support of Class G, either directly or by reference, in the MOE. The list shall contain, as minimum, the part number, description, serial number, calibration status, condition status and location. Hereinafter, the list shall be referred to as Tools and Equipment Master List (TEML). The TEML must tally with the physical holding and be adequate for AMO Class and Rating at all time.

b. The AMO shall maintain and follow a tool management system, documented, either directly or by reference, in the MOE, for the control and accounting of all tools, equipment and test equipment used on, or in the vicinity of Class G.

c. AMO shall ensure that all tools and support equipment, including test equipment or measuring result, serviceability, functional equipment, and ground support equipment, used in the maintenance and servicing of Class G are:

- (1) Serviceable,
- (2) Appropriate and authorised for the maintenance tasks for which they are employed,
- (3) Calibrated (where applicable),
- (4) Individually identified and traceable to the job and person using

the tool. **Traceability** is compulsory for test and precision measuring equipment (TPME) and special tools. However, traceability is optional for common tools, and/or

(5) Are accounted for during maintenance or servicing and prior to final certification of the maintenance or servicing.

d. Where a tool or item used in maintenance cannot be located and accounted for, all system in the vicinity in which the tool may have been used or stored shall not be released from maintenance until the tool or item is found, or the SMM, or nominated delegate, is satisfied.

e. In a case of an organisation does not have sufficient or adequate tools or equipment, the organisation is permitted to outsource or loan such item. However, the borrowing organisation must assume responsibility for the technical integrity of the tool or equipment. The policy and procedures governing this type of arrangement shall be outlined in the MOE.

71. Local Manufacture or Modification of Tooling.

a. The SMM may authorise the local manufacture, modification and use of standard tooling where an urgent operationally based maintenance requirement exists.

b. Where a tool is to be locally manufactured or modified, and this is not listed in the maintenance documentation, the SMM shall ensure that:

(1) The tool manufactured or modified is fit for the intended purpose, and

(2) Details of the tool and its intended and correct use shall be documented in the AMO's local procedures.

72. Salvage equipment. A non-airborne system or sub-system or equipment or components that have been the subject of an accident shall only be reused following authorisation by the relevant SAO CI manager.

EXEMPTIONS REQUIREMENTS

73. Each AMO shall:

a. Not operate in any manner contrary to this TAAC unless permitted by a written exemption granted by DGTA,

b. Document the Exemption in the MOE,

c. Submit a written request for Exemption to DGTA when the AMO is unable to meet any of these TAAC requirements and any of the terms of its MOE,

d. Action the approved Exemption in accordance with the terms and conditions specified by DGTA,

- e. Maintain a detailed permanent record of all Exemptions either requested or approved, and
- f. Notify DGTA in writing within seven (7) working days when any of the Exemption is no longer applicable.

REPORTING / RECORDING ACTIONS

74. **Reports Required.** There is no mandatory reporting requirement on receipt of this TAAC. This TAAC can be accessed through DGTA official web portal at www.dgta.gov.my.

75. **Recording Action.** A copy of this TAAC is to be retained in the applicable document management system records in accordance with applicable internal procedures.

76. **Point Of Contact.** The DGTA point of contact for this TAAC is The Director of Aircraft & Aeronautical Maintenance Regulatory (AAMR) of DGTA through email dgta@mod.gov.my.

29 August 2024

A handwritten signature in black ink, appearing to read 'S. Ali', with a large, sweeping horizontal stroke underneath.

**DIRECTOR GENERAL
TECHNICAL AIRWORTHINESS AUTHORITY**

Appendices

Appendix I: Table of Class and Rating for Class G Approval Maintenance Organisation.
Appendix II: Maintenance Organisation Exposition (MOE) Guideline.

Appendix I to TAAC-G-002 - Table of Class and Rating for Class G Approved Maintenance Organisation (AMO)

NO.	CLASS	RATING	MAINTENANCE	REPAIR	LIMITATION
1.	G1	Simulator			
2.	G2	AGSE and AGSV			
3.	G3	Safety Equipment			
4.	G4	Sling & Lifting Tackle and Cable & Arrester Barrier			
5.	G5	Ground Air Defence & Air Traffic Radar, Surveillance Radar/System and Ground Electronic			
6.	G6	Airfield Equipment and Services			

Appendix II to TAAC-G-002 - Maintenance Organisation Exposition (MOE) Guideline.

- **Expected content of the maintenance organisation's MOE:**

This Appendix is developed to facilitate compliance check of the minimum expected content of the MOE. It has to be considered however, that this Appendix applies to any maintenance organisation with any scope of approval, therefore it is the maintenance organisation responsibility to identify the “expected content” applicable to the maintenance organisation. When an “MOE paragraph” is identified in this Appendix, the same paragraphs structure is expected to be establish in the MOE.

- **Comments:**

Comments and supporting information are inserted in “italics” font. They are only intended to provide additional clarifications.

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- List of effective pages
- List of issues / amendments / record of revisions
- Distribution list
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- TAAC-G-002 requirements cross-reference list
- General information / Authorisation / validity of AMO / validity of Government Instrument

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- 1.2 Certification Procedure
 - 1.2.1 Application for AMO
 - 1.2.2 Award and Retention of AMO
 - 1.2.3 Suspension, Revocation and Limitation of AMO
- 1.3 Safety and quality policy
- 1.4 Management personnel
- 1.5 Duties and responsibilities of the management and maintenance personnel
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 - 1.5.3 Maintenance Manager
 - 1.5.4 Safety Manager
 - 1.5.5 Senior Maintenance Manager

- 1.5.6 Maintenance Inspector/Supervisor (MIS)
- 1.5.7 Authorised Tradeperson (ATP)
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 - 1.7.3 Contracted / Tasked Services
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 - 1.8.4 Maintenance facilities (at each location) as appropriate
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- 2.8 Maintenance publication, manual and instructions
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- 4.1 Sample of documents

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List of effective pages

Example:

Page	Revision
1	Original
2	Original

Page	Revision
3	Original
4	Original

Page	Revision
5	Original
.....

List of issues / amendments / record of revisions

Example:

Issue number	Revision number	Date	Reason for change
1	0	19/12/06	n/a
2	0	01/01/12	Extension of the scope of approval
	1	01/01/14	New procedure for cleaning

Distribution list

The document should include a distribution list to ensure proper distribution of the MOE and to demonstrate to the DGTA that all personnel involved in maintenance have access to the relevant information. This does not mean that all personnel have to be in receipt of a MOE but that a reasonable number of copies are distributed within the organisation(s) so that all personnel may have quick and easy access to it. Reference should also be made to the location of any e-copies of the MOE.

Accordingly, the MOE should be distributed to:

- the AMO’s management personnel and any person at a lower level as necessary; and,
- the DGTA.

TAAC-G-002 requirements cross-reference list

The MOE should contain a cross-reference list with an explanation as to where each TAAC-G-002 requirement is addressed in the MOE.

General information

This chapter should illustrate how the maintenance organisation will be independent from other organisational functions (e.g. production tasks, operations). It should describe broadly how the whole organisation (i.e. including the Operating Organisation or OEM) is organised under the management of the Accountable Manager and should refer to the organisation charts.