

## PART M CONTINUING AIRWORTHINESS MANAGEMENT

#### DIRECTORATE GENERAL TECHNICAL AIRWORTHINESS



#### **TECHNICAL AIRWORTHINESS ORDERS**

#### PART M - CONTINUING AIRWORTHINESS MANAGEMENT

- 1. MAKLUMAT YANG TERKANDUNG DALAM DOKUMEN INI TIDAK BOLEH DIBERITAHU SECARA LANGSUNG ATAU TIDAK LANGSUNG KEPADA AKHBAR ATAU SESIAPA YANG TIDAK BERHAK MENERIMANYA. DOKUMEN INI ADALAH HAK MILIK KERAJAAN MALAYSIA DAN DIMAKSUDKAN BAGI MAKLUMAN ORANG-ORANG YANG PERLU MENGETAHUI KANDUNGAN DALAMNYA DALAM MASA MENJALANKAN TUGAS-TUGAS RASMI MEREKA.
- 2. Penamaan dan penomboran baru Publikasi TUDM telah dipersetujui melalui Mesyuarat Jawatankuasa Penasihat Panglima Tentera Udara (JPPTU) Siri 104/2005. Sementara mesyuarat Senior Engineers Forum (SEF) 1/06 pula telah mengesahkan penggunaannya sebagai dokumen yang sah (Legal Documents) di seluruh TUDM.
- 3. Sesiapa yang menjumpai dokumen ini adalah dikehendaki oleh undang-undang menyerahkannya kepada Pejabat Daerah, Balai Polis atau Pejabat Angkatan Tentera untuk dihantar kepada Bahagian Staf Perisikan Pertahanan (BSPP) beserta dengan keterangan-keterangan termasuk tarikh, masa, tempat dan bagaimana dijumpai. Menyimpan atau membinasakan dokumen ini dengan tiada kebenaran adalah suatu kesalahan di bawah **AKTA RAHSIA RASMI 1972**.

#### AIRWORTHINESS MANAGEMENT MANUAL

#### **FOREWORD**

- 1. Aviation is a highly regulated industry encompassing both the military and security services, including commercial organisations. As such, adherence and strict compliance with the stipulated regulatory standard and procedures are mandatory. It is paramount to address and guarantee that the technical airworthiness regulatory requirement is ascertained to ensure safe flight operation.
- 2. In cognisance with the overarching policy on the highly regulated aviation community, as State Airworthiness Authority (SAA) who is entrusted with ensuring state aviation is regulated and airworthy endorse this 3<sup>rd</sup> Edition of Air Publication PU 2103 Technical Airworthiness Maintenance Manual (TAMM) issued under the authority of the Directorate General Technical Airworthiness (DGTA) as Technical Airworthiness Authority (TAA), as stipulated in the TAMM (Part 1 Chapter 1 Para 2 and 3). This latest edition of TAMM is effective from the date of signature. Hence, this publication is to be adopted by all State Aircraft Operators (SAOs) and affected commercial organisations without prejudice.
- 3. Overall, this publication provides an overview of technical airworthiness concepts, the regulations pertaining to the management of design, maintenance, training, personnel licensing and continuing airworthiness management. Lastly, the guidance materials to the regulatory clauses are also provided for effective compliance.
- 4. For all intent and purposes, the Regulations that are covered in Part 3 form the main part of this manual which governs the continuous airworthiness management of the SAO/SRAO aircraft. These Regulations are to be adhered to by all engineering organisations either inside or outside SAO involved with the continuing airworthiness management activities. Non-compliance to these Regulations shall form the basis for suspension or revocation of certification issued by DGTA.
- 5. As SAA, I assert that TAMM regulations are to be strictly adhered to by all SAO and defence contractors to ensure the state aviation capability remains airworthy, credible, efficient and effective.

June 2021

DATO' SRI ACKBAL BIN HJ ABDUL SAMAD General RMAF State Airworthiness Authority

#### **CONTINUING AIRWORTHINESS MANAGEMENT**

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The addressee must record Issue Number and Date released upon received new amendment. Please sign the amendment record on page iv to confirm that the amendment has been performed.

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#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

#### **GLOSSARY**

#### Notes:

- 1. Definitions with no superscript have been sourced directly from the European Military Airworthiness Document (EMAD 1). Those definitions and terminologies with a superscript \* are either DGTA specific or derived from other sources.
- 2. In addition, some Regulation or Guidance titles are labelled with a [MY] which means a adaptation of the particular regulation or guidance.

#### **Acceptable Means Of Compliance**

This illustrates a means, but not the only means, by which regulation can be met and a regulated entity may decide to show compliance by other means. Hence only an Authority can agree alternatives to the published Acceptable Means Of Compliance. Acceptable Means of Compliance are strongly recommended practices and justification will be required to the Authority if they are not followed. The burden of proof that regulation is satisfied rests entirely with a regulated entity when alternatives are proposed to the Authority.

#### **Accountable Manager**

A person designated by the Approved Organisation and named in the Exposition, who is accountable to the DGTA for maintaining safety standards required by relevant MSAR and any additional standards specified in the respective Exposition. Also, a key figure who has influence within the organisation and the ability to make appropriate resource decisions to ensure compliance with airworthiness regulations.

#### Addition

The inclusion of further basic categories or sub-categories to a State Aircraft Maintenance Licence that is already held by an individual.

#### **Advisory Material**

Advisory material provides interpretation of technical airworthiness requirements and standards to assist in understanding and implementation. It also provides guidance on methods and procedures that are in compliance with technical airworthiness requirements and standards. Advisory material, including the described methods and procedures, is not mandatory and organisations may choose to follow other means of demonstrating compliance.

#### **Aeronautical Product\***

Any airframe, aircraft system (airframe, avionics, engine, armament and egress and survival), aircraft power train (including engines, auxiliary power units and transmissions), propeller, rotor and or components/parts/materials, equipment parts including computer systems software/firmware which when connected has a direct effect on the structural and technical integrity of the aircraft.

#### **Aircraft**

Any vehicle that is capable of atmospheric flight including the installed equipment (hardware and software).

#### **Aircraft Airborne Equipment\***

Equipment which interfaces with and is borne by the aircraft or aircrew during flight. This includes role equipment but not items of cargo.

#### Aircraft Technical Log\*

The primary source for technical and operational data on each flight that occurs on an aircraft. A system for recording data that includes defects and malfunctions, block times and fuel consumption during the aircraft operation and for recording details of all maintenance carried out on an aircraft between scheduled base maintenance visits. Also known as the journey logbook used for recording flight safety and maintenance information the operating crew need to know.

#### Aircraft Non-Airborne Equipment\*

Equipment which interfaces with the aircraft, aircrew or aircraft equipment, but which is not usually airborne itself. Such equipment may include but is not limited to aircraft ground servicing equipment, ground test equipment and some mission planning systems which interface with the aircraft or aircraft equipment.

#### **Aircraft-Related Equipment\***

Aircraft-related equipment can be aircraft airborne equipment or aircraft non-airborne equipment whose performance could directly affect airworthiness.

#### **Aircraft Flight Manual**

An Aircraft Flight Manual is a manual, associated with the Malaysian State Type Certificate (MSTC), containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft.

#### **Aircraft Maintenance Programme**

A document which describes or incorporates by reference the specific scheduled maintenance tasks and their frequency of completion, the associated maintenance procedures and related standard maintenance practices necessary to preserve the airworthiness of those aircraft to which it applies.

#### **Airworthiness**

The ability of an aircraft, or other airborne equipment or system, to operate in flight and on ground without significant hazard to aircrew, ground-crew, passengers (where relevant) or to other third parties.

#### **Airworthiness Codes**

Product airworthiness requirements, applicable to the design of a product that is approved by a competent airworthiness authority for the use with standardised aircraft categories (e.g. EASA CS, FAA FAR, STANAG, Def-STAN, etc.)

#### **Airworthiness Directive**

A document issued or adopted by the Authority which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may otherwise be compromise

#### **Airworthiness Limitation Item**

This is an item arising from a system safety analysis that has been shown to have failure mode(s) associated with an unsafe condition.

#### **Airworthiness Requirements**

The comprehensive and detailed airworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.

#### Airworthy\*

The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.

#### **Approved Basic Training Course\***

Approved basic training course shall consist of knowledge training, knowledge examination, practical training and a practical assessment.

#### Approved Maintenance Organisation (AMO)\*

An organisation that has been certified (awarded a Maintenance Authority Certificate (MAC)) by the TAR and authorised by the relevant Maintenance Authorising Office (MAO) to conduct maintenance on SAO aircraft and aeronautical product.

#### Approved Maintenance Training Organisation (AMTO)\*

An organisation that has been certified by the TAR and authorised by the relevant MAO to conduct training and/or examinations required by SAO and for such organisations to issue certificates to students upon successful completion of such courses.

#### **Approved Organisation**

An Organisation which has been approved by an Authority and deemed to have met their applicable Regulations or Requirement

#### **Approved Training Course\***

Means a defined course of maintenance training designed to give a level of knowledge and some experience to a student.

#### **Approved Type Training Course\***

Aircraft type training may be sub-divided in airframe type training, engine type training, avionics systems type training, electrical and instrument system.

#### **Authorised Person\***

The person who performs the task or supervises the task, and assumes the full responsibility for the completion of the task in accordance with the applicable maintenance data;

#### **Artefact**

An airworthiness related document, either hard copy or electronic, that can be used as evidence in making an airworthiness judgement.

#### **Base Maintenance**

Maintenance tasks falling outside the criteria for Line Maintenance

#### Certification

Recognition that a product, part or appliance, organisation or person complies with the applicable airworthiness requirements followed by the declaration of compliance.

#### **Certification Basis\***

The set of standards which define the criteria against which the design of aircraft or aircraft-related equipment, or changes to that design, are assessed to determine their airworthiness.

#### **Certification Specifications**

Detailed requirements for the design, manufacturing and certification of aircraft.

#### Certificate of Release to Service

This is a statement, signed by an appropriately authorised person, on behalf of an approved organisation, which asserts that maintenance has been properly carried out.

The Certificate of Release to Service contains the basic details of the maintenance carried out, the date that it was completed and the identification details (may include an authorisation stamp) of the person issuing the certificate.

#### **Certification Review Item**

A document recording Deviations, Special Conditions, new Means of Compliance or any other certification issue which requires clarification and interpretation, or represents a major technical or administrative issue.

#### **Certifying Staff**

Personnel responsible for the release of an aircraft or a component after production and/or maintenance.

#### **Certificate of Airworthiness\***

A certificate issued under State Technical Airworthiness Regulations.

#### **Chief Executive Officer**

Person who is responsible for a civil company within which the Approved Organisation operates. The Chief Executive Officer may report to a board of directors and may appoint other managers, or he/she may be one of very few people in a small company. In relation to MSAR-M, the Chief Executive Officer is mentioned as he/she may be senior to the Accountable Manager

#### Civil Registered Aircraft\*

The state aircraft that is registered with Civil Aviation Authority of Malaysia.

#### **Competent Authority**

The person or organization that has the legally delegated or invested authority, capacity, or power to perform a designated function

#### Compliance\*

The state or fact of according with or meeting rules or standards or Act or regulations.

#### **Compliance Demonstration**

Activities to demonstrate that the product, part or appliance complies with the requirements in the Certification Basis.

#### **Component**

Any engine, propeller, part or appliance.

#### **Component Maintenance Manual**

A formal document which details the way in which off-aircraft maintenance instructions on the specified component shall be accomplish

#### Configuration\*

The functional and physical characteristics of existing or planned hardware, firmware, software or a combination thereof, as set forth in technical documentation (which includes specifications, standards and drawings) and ultimately achieved in a product.

#### **Configuration Control**

A systematic process that ensures that changes to released configuration documentation are properly identified, documented, evaluated for impact, approved by an appropriate level of authority, incorporated, and verified.

#### **Configuration Deviation List**

A list, established by the Type Certificate Holder and approved by the National Military Airworthiness Authority, which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction.

Examples of Configuration Deviation List items will vary from aircraft type, but typically may include external light covers, retractable landing lights etc

#### **Configuration Item**

Any component, module, subcomponent, equipment, technical manuals, software, ground support equipment, which can be submitted to the configuration control process.

#### **Configuration Management**

A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design and operational information throughout its life.

#### **Continuing Airworthiness**

All of the processes ensuring that, at any time in its operating life, the aircraft complies with the airworthiness requirements in force and is in a condition for safe operation.

#### Continued (design) airworthiness

All tasks to be carried out to verify that the conditions under which a Type- Certificate or a Supplemental Type Certificate has been granted continue to be fulfilled at any time during its period of validity.

#### Crew / Aircrew

Includes Pilot(s) and other personnel on-board the aircraft and/or the Unmanned Aerial Vehicle control station with responsibilities to ensure the safe conduct of the flight.

#### **Critical Design Configuration Control Limitations**

Critical Design Configuration Control Limitations identify the critical design features such as proper wire separation, proper installation of a panel gasket, minimum bonding jumper resistance levels, etc., that must be maintained in exactly the same manner throughout the life of the aircraft in order to comply with the Type Certificate and maintain airworthiness. The purpose of the Critical Design Configuration Control Limitations is to provide instructions to ensure these critical features are present throughout the life of the airplane and are inspected and verified when changes, repairs, or maintenance actions occur in the area.

#### **Declaration of Compliance**

A statement, signed by the Head of Design or by an authorised representative, to show compliance with all applicable type certification basis and, where applicable, environmental protection requirements. It declares that the aircraft is airworthy within the specific design limitations

#### Design\*

The process or act of creating or changing a product and related technical process descriptions through the application of scientific and engineering effort (verb), or the outcome of that process (noun). The design therefore encompasses not only the configuration of the product, but also the:

- a. Testing and evaluation needed to validate that the design meets performance and safety requirements.
- b. Manufacturing processes (including production test requirements) which require special control to ensure the product meets requirements.
- c. In-service monitoring requirements, maintenance processes and authorised repairs.
- d. Maintenance lives and intervals and fatigue life.
- e. Operating procedures and limits.

#### **Design Approval Certification\***

The act of approval of design output resulting from a process that formally examines and documents compliance of a design (or design change) with specified requirements and design standards.

#### **Design Change\***

A design change is a change in Type Design as defined in TAO - 21A.91.

#### **Design Change Equivalent level of Safety Finding**

This is when literal compliance with a certification requirement cannot be shown and compensating factors in the design can be shown to provide a level of safety equivalent to that established by the airworthiness standards. An Equivalent level of Safety Finding may document a method of compliance that is different from what is stated in the requirements, but is judged as acceptable by the DGTA.

#### **Design Review**

The act whereby a design (or design change) is independently checked by an authorised person (other than the person who developed the design) to: verify the validity of the assumptions, conditions, data and methods used in design development; and to verify that the design output meets the specified design input requirements.

#### **Deviation**

A specific written authorisation to depart from an item's current approved configuration documentation. A deviation differs from an engineering change in that an approved engineering change requires revision of documentation defining the affected item whereas a deviation does not revise the applicable document or drawing.

#### **Engineering Change\***

A change to the current approved configuration documentation of a CI at any point in the life cycle of the CI.

#### **Exposition**

The document or documents that contain the material specifying the scope of work deemed to constitute approval and showing how the organisation complies with a Technical Airworthiness Orders (TAO).

#### **Extension**

Inclusion of additional topics to Categories A, B1 and B2 State Aircraft Maintenance Licences as detailed in TAO - 66 Regulation 7.14 (which includes Modules 50-55) that are not part of the applicable modules for that category of State Aircraft Maintenance Licence.

#### Fit for Flight

Condition of a type design being certified as compliant with applicable airworthiness requirements as well as of an aircraft having been serviced and inspected as meeting the certified design and prepared for the intended flight

#### Flight Safety Critical Item

Any part, assembly or installation containing a critical characteristic whose failure, malfunction or absence could cause a catastrophic failure or an uncommand engine shutdown, resulting in loss or serious damage to the aircraft or an unsafe condition.

#### **Guidance Material**

This is typically developed to provide additional explanation to assist the application of the requirement and/or explain the Acceptable Means of Compliance

#### **Human Factors**

Principles which apply to design, certification, production, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration of human performance.

#### **Human Performance**

Human capabilities and limitations which have an impact on the safety and efficiency of operations.

#### **Instructions for Continuing Airworthiness**

Instructions for Continuing Airworthiness detail the methods, inspections, processes, and procedures necessary to keep aircraft and/or products airworthy.

#### Journey log book\*

A form signed by the pilot in command of each flight that records the aircraft's registration, crew member names and duty assignments, the type of flight, and the date, place, and time of arrival and departure. Also known as Aircraft Technical Log.

#### **Life Limited Parts**

Parts that, as a condition of their type certificate, may not exceed a specified operating time, calendar time, number of operating cycles, or any other approved service life consumption units

#### **Limited Certification Authorisation**

This is issued by the Approved Maintenance Organisation, in accordance with a procedure approved by the DGTA, for flight crew, flight engineer or crew chief to carry out specific tasks (usually away from their home base or station). The authorisation permits the holder to issue certificates of release to service following specific tasks within the limits of the tasks specifically endorsed on the authorisation

#### Line Maintenance

Carried out before flight to ensure that the aircraft is fit for the intended flight

#### Log book\*

An aircraft log book, engine log book or variable pitch propeller log book, or personal flying log book, includes a record kept either in a book, or by any other means approved by the State Airworthiness Authority in the particular case;

#### Letter of Maintenance Training Authority (LMTA)\*

An attachment to the MTAC which defines the scope of activity and any caveats and limitations under which the MTAC is issued.

#### Maintenance

Any one or combination of overhaul, repair, inspection, replacement, modification or defect/fault rectification of an aircraft or component, with the exception of pre-flight inspection.

#### Maintenance Authorising Office (MAO)\*

The MAO is the Head of SAO Aviation Engineering Organisation that has a responsibility for controlling the resources that enable the maintenance organisation to conduct maintenance.

#### **Maintenance Document\***

The orders, instructions, publications and forms utilised by technical personnel when conducting maintenance. These include Airworthiness Directive, Standing Instructions, maintenance forms, Special Technical Instructions, specifications and worksheets. Maintenance documents may be provided in a paper-based format and/or an electronic based format.

#### **Maintenance Manual\***

That part of the Instructions for Continuing Airworthiness (ICA). Those instructions required to keep aircraft and aircraft-related equipment in an airworthy condition.

#### Maintenance Records\*

An important document that provides information to demonstrate that compliance to the airworthiness requirements has been met. It completed and signed by an authorised person to certify that the maintenance work performed has been completed satisfactorily and in accordance with approved data. Maintenance records information includes:

- a. The total time in service (hours, calendar time and cycles, as appropriate) of the aeroplane and all life limited components;
- b. The current status of compliance with all mandatory continuing airworthiness information;

- c. Appropriate details of modifications and repairs;
- d. The time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aeroplane or its components subject to a mandatory overhaul life;
- e. The current status of the aeroplane's compliance with the maintenance programme; and
- f. The detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

#### Maintenance Release\*

A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organization's procedures manual or under an equivalent system. A maintenance release is a certification that includes:

- (a) Details of the maintenance carried out including detailed reference of the approved data used. Where appropriate, a statement that all items required to be inspected were inspected by a qualified person who determined that the work was satisfactorily completed;
- (b) The date such maintenance was completed and the total flight hours and cycles;
- (c) Then applicable, the identity of the AMO; and
- (d) The identity and authorization of the person signing the release.

#### **Maintenance Supervisor\***

A person authorised to conduct compulsory maintenance inspections and/or supervise maintenance activities on nominated aircraft type and aeronautical product. The term applies to all personnel with direct maintenance task supervision or inspection responsibilities, and as such may include, but is not limited to, trade supervisors, independent/final inspectors, and progressive/mandatory inspectors.

#### **Maintenance Training Authority Certificate (MTAC)\***

The certificate awarded by the TAR to an organisation to operate as an AMTO.

#### Maintenance Training Management Plan (MTMP)\*

A controlled quality document containing the details of an organisation's training management system. The MTMP describes all of the requirements that are satisfied by an organisation to become, and to remain, an AMTO.

#### **Maintenance Test Flight\***

Is a flight to ensure that an aircraft meets specification in regard to performance and handling characteristics and to establish, on prescribed occasions, that no deterioration of that standard has occurred in service.

#### Malaysian State Airworthiness Authority\*

The Competent Authority consist of State Airworthiness Authority, and includes an officer empowered by him to perform all or any of the functions conferred under State Airworthiness Act.

#### Malaysian State Type Certificate (MSTC)\*

A certificate issued by the State Airworthiness Authority (SAA), for an aircraft type entered on the register of State Aircraft. The MSTC signifies that the particular aircraft type has been assessed (undergone type certification) by the SAO as airworthy and supportable in its intended SAO role/s.

#### Material\*

Product that is used in the manufacture of components and in the maintenance and operation of aircraft, including fuels, oils and lubricants.

#### **Master Minimum Equipment List\***

The Master Minimum Equipment List is a list established for a particular aircraft type by the organisation responsible for the Type Design with the approval of the National Military Airworthiness Authority which identifies items which individually may be unserviceable at the commencement of a flight. The Master Minimum Equipment List may be associated with special operating conditions, limitations or procedures

#### **Means Of Compliance\***

The techniques that will be used to demonstrate the compliance of the type design against each certification requirement identified in the Certification Basis. Examples include test, analysis and inspection

#### Military Aircraft\*

Aircraft in the military service of the Armed Forces and include any aircraft that is commanded by a member of the Armed Forces in the course of his duties as such a member.

#### Mission Critical Item\*

An item whose failure will seriously degrade an aircraft's ability to complete an assigned mission or lead to a mission being aborted.

#### **Mission Operation\***

Any state registered aircraft on flight in which an aircraft is used to provide training, exercise or operation related to any core missions established in purpose to protect national sovereignty, integrity and national interest consist of:

- (a) Air and space superiority;
- (b) Intelligence, surveillance, and reconnaissance (ISR);
- (c) Air mobility;
- (d) Air Medical, Search and Rescue;
- (e) Airborne Firefighting;
- (f) Sea superiority;
- (g) Land superiority;
- (h) Maritime security;

#### **Airworthiness Review Certificate**

To ensure the validity of the State Certificate of Airworthiness, an airworthiness review of the aircraft and its continuing airworthiness records shall be carried out periodically. A Airworthiness Review Certificate is issued on completion of a satisfactory airworthiness review. The State Aircraft Review Certificate is valid for one year.

#### **Supplemental Type Certificate**

A document issued or endorsed by the Authority which certifies a major change to the type design by an organisation other than original design organisation.

#### **Type Certificate Holder**

The organisation responsible for the relevant Type Design and applying for, and then holding, the Type Certificate and accepting the rights and obligations for the product

#### **Minimum Equipment List**

A list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative which is prepared by an operating organisation in conformity with, or more restrictive than, the Master Minimum Equipment List established for the aircraft type. It is to be approved by the National Military Airworthiness Authority.

#### **Minor Amendment**

Those changes to the Organisation's Exposition(s) which do not affect the TAO - M related approval.

#### **Minor Maintenance**

Includes repetitive tasks and simple defect/fault rectification.

#### **Modification**

A modification is a change of design to the authorised configuration of the approved type design of a product, part or appliance.

Typical examples are component changes, equipment additions, or software changes and often involve a revision to the drawings and support documentation.

#### Non-Conformance\*

The failure of a product, process or system to meet its regulatory, specification, drawing, or quality requirements.

#### **Occurrence Reporting**

The reporting to the relevant Authorities, to the Malaysian State Type Certificate (MSTC) Holder, or Restricted Type Certificate Holder, and/or the Supplemental Type Certificate Holder as appropriate, of any failure, malfunction, defect or other occurrence which has resulted in or may result in an unsafe condition. An Occurrence Report can also be made by the Type Certificate Holder to the Authority

#### Operator\*

A person, organisation or enterprise engaged in or offering to engage in an aircraft operation.

#### Organisation\*

Means an organisation registered as a legal entity. Such an organisation may conduct business from more than one address and may hold more than one approval.

#### Original Equipment Manufacturer (OEM)\*

The OEM is the manufacturer listed as the approved source of manufacture for components in the type certificate data sheet. The OEM owns and controls the source drawings, i.e. the design of the component.

#### **Operational Maintenance (OM)\***

Tasks directly related to the preparation of equipment for immediate use, recovery and minor repair of the equipment after use. OM tasks require a limited range of support equipment and may involve the limited use of workshop facilities

#### **Parts and Appliances**

Parts and appliances are lower level components for which a European Technical Standard Order/Technical Standard Order may exist

#### Period of Operation\*

It is the time from the captain's acceptance of an aircraft until its released back to maintenance. For rotary wing aircraft period of operation includes when aircraft released to aircrew for ground running of engines with rotor engaged.

#### Permit to Fly\*

A permit issued under State Technical Airworthiness Regulations.

#### **Pre-Flight Checks**

Inspection that it is intended to mean all of the actions necessary to ensure that the aircraft is fit to make the intended flight.

#### **Procedure\***

A documented course of action to be followed to ensure a consistent outcome.

#### **Product**

An aircraft, an engine or a propeller

#### Rating\*

An authorisation entered on or associated with a license and forming part of the licence, stating special conditions, privileges or limitations relating to the license

#### Registration

Registration is the formal recording by the National Military Airworthiness Authority (or national equivalent) of individual aircraft on the state aircraft register and the assignment of a tail number

#### Repair

A 'repair' means the elimination of damage and/or restoration to an airworthy condition following initial release into service by the manufacturer of any product, part or appliance

#### Senior Maintenance Manager (SMM)\*

The senior appointment within an Approved Maintenance Organisation, with accountable responsibility for the maintenance function performed.

#### Sign-Off\*

A 'sign-off' is a statement issued by the 'authorised person' which indicates that the task or group of tasks has been correctly performed. A 'sign-off' relates to one step in the maintenance process and is, therefore, different to a certificate of release to service

#### Shall

Used to express a mandatory requirement

#### Should

Used to express a preferred, but not mandatory, method of accomplishment. An alternative method of accomplishment shall be agreed by the relevant Authority

#### Specification\*

A document defining the essential function and performance requirements of a product and which also identifies the relevant standards for the acquisition process. Specifications, in contrast to standards, provide a more complete description of requirements and include the basis for establishing conformance (particularly during test and evaluation), and hence validation for the acceptance of material.

#### Standard

A description of a material, product, doctrine or process meant for repeated applications by many users.

#### **Special Conditions**

Special conditions are included in the Certification Basis of the aircraft when the design features of a particular product or the experience in operation render any of the airworthiness code provisions inadequate or inappropriate to ensure conformity with essential requirements

#### **Standard Parts**

A Standard part is a part designated as such by the design approval holder responsible for the product, part or appliance, in which it is intended to be used and manufactured in complete compliance with an established specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements.

Examples of standard parts are aircraft general spares as defined by the design approval holder, such as nuts, bolts, washers, split pins, etc. All design, manufacturing, inspection data and marking requirements necessary to demonstrate conformity of the part will be in the public domain and published or established as part of recognised specifications

#### State Aircraft\*

State aircraft may be state registered aircraft or civil registered aircraft (including Unmanned Aircraft System) operated by or on behalf of Government of Malaysia. The provision of Regulation in this publication however is only applicable to state registered aircraft.

#### **State Aircraft Operator (SAO)\***

The SAO are the military organisations or Government of Malaysia enforcement agencies that operate and maintain state registered aircraft. SAO that are currently under the ambit of the SAA are as follows:

- a. Royal Malaysian Air Force (RMAF).
- b. Malaysian Army Air Wing.
- c. Royal Malaysian Navy (RMN) Air Wing.
- d. Malaysian Fire and Rescue Department (Air Wing).
- e. Malaysian Maritime Enforcement Agency (MMEA) Air Wing.
- f. Malaysian Joint Force Headquarter.

#### **State Airworthiness Authority\***

The Chief of Air Force that appointed by Minister of Defence under Section 7 to take accountable on the State Airworthiness;

#### **State Registered Aircraft\***

State aircraft that is registered with MSAA through DGTA shall be known as state registered aircraft.

#### **State Aircraft Maintenance Licence (SAML)\***

A categorised licence which, dependent upon completion of all relevant approved training & examinations, and the requisite levels of practical experience, permits an authorised individual to issue certificates of release to service or act as support staff for scheduled and/or unscheduled maintenance performed on an aircraft or aircraft systems as defined by MSAR-66.

Note:DGTA uses State Aircraft Maintenance Licences (SAML) term which meant similar but different process under MSAR-66 regulation.

#### State School\*

Any education or training facility that is under the control of a government ministry

#### **Support Staff**

Those staff holding an TAO-66 State Aircraft Maintenance Licence in Category B1 and/or B2 with the appropriate extensions and State Aircraft Type Ratings, working in a base maintenance environment while not necessarily holding certification privileges

#### **Supplemental Type Certificate (STC)\***

A certificate issued by Chief of Air Force for an aircraft which undergoes a major design change or role change that is beyond the type design defined in the original MSTC, but is not substantial enough to require a complete re-investigation of compliance of the aircraft with the applicable airworthiness standards (ie does not require a new MSTC).

#### **Technical Airworthiness\***

A concept which defines the condition of an aircraft and supplies the basis for the judgement of its sustainability for flight in that it has been designed, constructed and maintained to approved standards by competent and approved individuals, who are acting as members of an approved organisation and whose work is certified as correct and accepted on behalf of the SAO.

#### **Technical Data\***

All recorded information of a scientific, technical and engineering nature relating to a weapon system. Includes specifications, standards, engineering drawings, instructions, reports, manuals, tabular data, test results and software documentation used in the development, production, in-service operation and logistics support (such as maintenance, provisioning, codification, testing and modification), and disposal of a weapon system.

#### **Type Certification**

The process of:

- a. Prescribing and revising minimum standards governing the design of aircraft, engines, propellers and other aircraft equipment as may be required in the interests of safety.
- b. Administering a program to determine compliance with those prescribed standards and maintain certification integrity with a higher level of oversight, specification and compliance than the normal Design Acceptance process requires. Successful type certification activity leads to the issue of an MSTC.

#### **Type Certification Basis**

An agreed set of airworthiness requirements (including code, special condition, etc.) that a product must be compliant with in order to obtain a Type Certificate

#### **Type Design**

The set of approved design information necessary to define the product type, as detailed in TAO-21.A.31.

#### **Type Record**

A summary document that defines the (aircraft) type design at the time of acceptance by the Malaysia, by providing an index to the issue status of all type design data.

#### **Unmanned Aerial Vehicle**

A reusable aircraft which is designed to operate by being remotely piloted (no human pilot or passengers on board) or automatically flying a pre-programmed flight profile

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

#### LIST OF ABBREVIATIONS

#### Notes:

- 1. Abbreviations with no superscript have been sourced directly from the European Military Airworthiness Document (EMAD 1). Those abbreviations with a superscript \* are either DGTA specific or derived from other sources.
- 2. In addition, some Regulation or Guidance titles are labelled with a [MY] which means adaptation of the particular regulation or guidance.

AA*	Airworthiness Authority
ACAM	Aircraft Continuing Airworthiness Monitoring
AD	Airworthiness Directive
ALI	Airworthiness Limitation Item
AM*	Accountable Manager
AMC	Acceptable Means of Compliance
AMD*	Aircraft Maintenance Documentation
AMO	Approved Maintenance Organisation
AMTO*	Approved Maintenance Training Organisation
APU	Auxiliary Power Unit
ARC	Airworthiness Review Certificate
ATA	Air Transportation Association
CAME	Continuing Airworthiness Management Exposition
CAMO	Continuing Airworthiness Management Organisation
CAR*	Corrective Action Request
CDCCL	Critical Design Configuration Control Limitations
CDL	Configuration Deviation List
CEO	Chief Executive Officer
CFU*	Carried Forward Unserviceability
CI	Configuration Item
CAAM*	Civil Aviation Authority of Malaysia
CM*	Configuration Management
CMM	Component Maintenance Manual
CRS	Certificate of Release to Service
CS	Certification Specification
DOA	Design Organisation Approval
DOE	Design Organisation Exposition
DGTA*	Directorate General Technical Airworthiness
EASA	European Aviation Safety Agency
EDP	Electronic Data Processing
EMACC	European Military Airworthiness Certification Criteria
EMAD	European Military Airworthiness Document
EMAD R	European Military Airworthiness Document Recognition
EMAR	European Military Airworthiness Requirements

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

#### LIST OF ABBREVIATIONS

EMAR 145	Requirements for Maintenance Organisations
EMAR 66	Requirements for Military Aircraft Maintenance Licensing (of
	Personnel).
EMAR 147	Requirements for Maintenance Training Organisations
EMAR 21	Requirements for the Certification of Military Aircraft and related
	products, parts and appliances, and design and production organisations
EMAR M	Continuing Airworthiness Requirements
EMPA	European Military Part Approval
EMTSO	European Military Technical Standard Order
ESF	Equivalent level of Safety Finding
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
FRS	Flammability Reduction Systems
FTS	Fuel Tank Safety or Flight Test Schedule
GM	Guidance Material
HF	Human Factors
ICA	Instructions for Continuing Airworthiness
ICAO	International Civil Aviation Organisation
IQA	Internal Quality Audit
LEP	List of Effective Pages
LMS*	Learning Management System
LMTA*	Letter of Maintenance Training Authority
MA*	Maintenance Authority
MAC*	Maintenance Authority Certificate
MAO*	Maintenance Authorising Office
MCAR*	Malaysian Civil Aviation Regulations
MCOQ*	Multiple Choice Objective Question
MM*	Maintenance Manager
MTAC*	Maintenance Training Authority Certificate
MI/S*	Maintenance Inspector/Supervisor
MMI*	Maintenance Managed Item
MAML	Military Aircraft Maintenance Licence
MARC	Military Airworthiness Review Certificate
MEL	Minimum Equipment List
MFTP	Military Flight Test Permit
MOB	Main Operating Base
MOE	Maintenance Organisation Exposition
MSTC	Military Supplemental Type Certificate
MTC	Military Type Certificate
MTCH	Military Type Certificate Holder
MTO	Maintenance Training Organisation

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

#### LIST OF ABBREVIATIONS

NDT	Non-Destructive Testing
NAA	National Airworthiness Authority
NMAA	National Military Airworthiness Authority
OEM	Original Equipment Manufacturer
OJT*	On-Job Training
OM*	Operational Maintenance
OSH*	Occupational Safety and Health
PCEE	Post Course External Evaluation
pMS	participating Member State
POA	Production Organisation Approval
POE	Production Organization Exposition
QM*	Quality Manager
QMS*	Quality Management System
RPAS	Remotely Piloted Air System
QMS*	Quality Management System
RPAS	Remotely Piloted Air System
SAA*	State Airworthiness Authority
SAO*	State Aircraft Operator
SFP*	Special Flight Permit
SMM*	Senior Maintenance Manager
SOI*	Statement of Operating Intent
SOR*	Statement of Requirements
STC*	Supplemental Type Certificate
STI*	Special Technical Instruction
SB	Service Bulletin
STANAG	Standardisation Agreement (in NATO)
TAA*	Technical Airworthiness Authority
TAD*	Technical Airworthiness Directive
TAR*	Technical Airworthiness Regulator
TC	Type Certificate
TM*	Training Manager
TSN*	Training Support Network
TAO*	Technical Airworthiness Orders
TEMP*	Technical Equipment Maintenance Plan
UAV	Unmanned Aerial Vehicle
UCS	UAV Control Station

# TECHNICAL AIRWORTHINESS ORDERS PART M CONTINUING AIRWORTHINESS MANAGEMENT PART 1 TECHNICAL REQUIREMENT

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

# PART 1 CHAPTER 1 SECTION A TECHNICAL REQUIREMENT

#### SUBPART A - GENERAL

#### M.A.101 Scope

This section establishes the measures to be taken to ensure that airworthiness is maintained. It also specifies the conditions to be met by organisations involved in such continuing airworthiness management.

#### SUBPART B - ACCOUNTABILITY

#### M.A.201 Responsibilities

- (a) The Operating Organisation is accountable for the continuing airworthiness of an aircraft and shall ensure that no flight takes place unless:
  - 1. the aircraft is maintained in an airworthy condition; and
  - 2. any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable; and
  - 3. the Certificate of Airworthiness and the Certificate of Airworthiness Renewal Certificate (CoA) remain valid; and
  - 4. the maintenance of the aircraft is performed in accordance with the Aircraft Maintenance Programme (AMP) as specified in M.A. 302 AMP.
  - NOTE: 1. For individual aircraft or types for which a Certificate of Airworthiness or Restricted Certificate of Airworthiness is not appropriate, a Special Flight Permit (SFP) may be issued in accordance with TAMM Regulations 2 and 3.
  - 2. Airworthiness Review Certificate (ARC) will be known as Certificate of Airworthiness Renewal (CoA Renewal ) in the DGTA State Aircraft environment.
  - (b) NOT APPLICABLE.
- (c) Any organisation performing maintenance shall be responsible for the tasks performed.

- (d) The Operating Organisation shall be responsible for the satisfactory accomplishment of the pre-flight inspection. This inspection must be carried out by a qualified person but need not be carried out by a DGTA Approved Maintenance Organisation (AMO).
- (e) NOT APPLICABLE.
- (f) NOT APPLICABLE.
- (g) Maintenance of State Aircraft and components thereof shall be carried out by a DGTA AMO or another maintenance organisation accepted by the DGTA.
- (h) The Operating Organisation is responsible for the continuing airworthiness of the aircraft it operates and shall:
  - 1. be appropriately approved, in accordance with TAO-M Subpart G, the management of the continuing airworthiness of the aircraft it operates; and
  - 2. be approved in accordance with DGTA AMO or contract/task directly (or through a Continuing Airworthiness Management Organisation (CAMO)) such organisations; and
  - 3. ensure that paragraph (a) is satisfied.
- (i) Not applicable.
- (j) The Operating Organisation is responsible for granting the DGTA access to the organisation/aircraft to determine continued compliance with this DGTA.
- (k) By derogation to paragraph (h)1, an Operating Organisation may contract/task an organisation approved in accordance with Subpart G CAMO for the management of the continuing airworthiness of the aircraft it operates. In this case, a written contract/arrangement shall be made, and the CAMO assumes responsibility for the proper accomplishment of these tasks.

#### M.A.202 Occurrence Reporting

- (a) Any Operating Organisation accountable in accordance with M.A.201 Responsibilities, shall report to the DGTA, and all further addressees as required by national regulations, any identified condition of an aircraft or component which endangers flight safety.
- (b) The Operating Organisation shall establish an occurrence reporting system to enable the collection and evaluation of such reports, including the assessment and extraction of those occurrences to be reported under paragraph (a). This procedure shall identify adverse trends, corrective actions taken or to be taken by the Operating Organisation to address deficiencies and

include evaluation of all known relevant information relating to such occurrences and a method to circulate the information as necessary.

- (c) Reports shall be made in a form and manner established by the DGTA and contain all pertinent information about the condition known to the Operating Organisation.
- (d) Not Applicable.
- (e) Finding reports shall be made as soon as practicable, but in any case within 72 hours of the organisation identifying the condition to which the report relates.

#### SUBPART C - CONTINUING AIRWORTHINESS

#### M.A.301 Continuing airworthiness tasks

- (a) The continuing airworthiness of the aircraft shall be ensured by:
  - 1. the accomplishment of pre-flight inspections;
  - 2. the rectification in accordance with the data specified in M.A.304 of any defect and damage affecting safe operation, taking into account the Minimum Equipment List (MEL) and Configuration Deviation List (CDL) as applicable to the aircraft type;
  - 3. the accomplishment of all maintenance, in accordance with the M.A.302 approved Aircraft Maintenance Programme (AMP);
  - 4. the analysis of the effectiveness of the M.A.302 approved AMP;
  - 5. the accomplishment of any applicable:
    - (i) Airworthiness Directive;
    - (ii) operational directive with a continuing airworthiness impact;
    - (iii) continued or continuing airworthiness requirements mandated by the DGTA;
    - (iv) measures mandated by the DGTA in immediate reaction to a safety problem.
  - 6. the accomplishment of modifications and repairs in accordance with M.A. 304 Data for modifications and repairs;
  - 7. for non-mandatory modifications and/or inspections, the establishment of an embodiment policy;

- 8. maintenance check flights when necessary.
- (b) An aircraft shall not fly if:
  - 1. the continuing airworthiness of the aircraft or any component fitted to the aircraft does not meet the requirements of TAO-M; or
  - 2. the aircraft does not remain in conformity with the type design approved by the DGTA; or
  - 3. the aircraft has been operated beyond the limitations of the flight manual or the Certificate of Airworthiness, without appropriate action being taken; or
  - 4. the aircraft has been involved in an accident or incident that affects the airworthiness of the aircraft, without subsequent appropriate action to restore airworthiness; or
  - 5. a modification or repair is not in compliance with M.A.304 Data for modifications and repairs.

#### M.A.302 Aircraft Maintenance Programme (AMP)

- (a) Maintenance of each aircraft shall be organised in accordance with an AMP.
- (b) An organisation responsible for producing and amending an AMP in accordance with M.A.302 AMP shall also be responsible for sending the AMP to the DGTA. The DGTA shall approve the AMP and any subsequent amendments.
- (c) Not Applicable.
- (d) The AMP shall establish compliance with:
  - 1. instructions issued by the DGTA;
  - instructions for continuing airworthiness issued by any organisation recognised by the DGTA.
  - 3. additional or alternative instructions, once approved in accordance with paragraph (b), proposed by the CAMO, except for intervals of safety related tasks referred in paragraph (e), which may be extended, subject to sufficient reviews carried out in accordance with paragraph (g) and only when subject to direct approval in accordance with paragraph (b).
- (e) The AMP shall contain details, including frequency, of all maintenance to be carried out, including any specific tasks linked to the type and the specificity of operations.

- (f) The AMP shall include a reliability programme unless otherwise specified by the DGTA.
- (g) The AMP shall be subject to periodic reviews and amended accordingly when necessary. These reviews shall ensure that the AMP continues to be valid in light of the operating experience and instructions from the DGTA, whilst taking into account new and/or modified maintenance instructions promulgated by the Malaysian State Type Certificate (MSTC) and Supplementary Type Certificate (STC) holders and any other organisation that publishes such data in accordance with TAMM Regulation 2 and Regulation 3.

#### M.A.303 Airworthiness Directives

Any applicable Airworthiness Directive must be carried out within the requirements of that Airworthiness Directive unless otherwise specified by the DGTA.

#### M.A.304 Data for modifications and repairs

Damage shall be assessed and modifications and repairs carried out using as appropriate:

- (a) data approved by the DGTA; or
- (b) data approved by a DGTA AEO or
- (c) Not Applicable;
- (d) Data produced by an organisation accepted by the DGTA.

#### M.A.305 Aircraft continuing airworthiness record system

- (a) At the completion of any maintenance, the Certificate of Release to Service or equivalent required by relevant AMO regulation shall be entered in the aircraft continuing airworthiness record system. All maintenance performed shall be accurately and progressively documented.
- (b) The aircraft continuing airworthiness record system shall cover the aircraft, engine(s), propeller(s), any service life limited component(s) as appropriate and shall include an aircraft technical log.
- (c) The aircraft type and registration mark, the date, together with total flight time and/or flight cycles and/or landings and any other airworthiness data as required by the DGTA as appropriate, shall be entered in the aircraft continuing airworthiness record system.

- (d) The aircraft continuing airworthiness record system shall also contain as a minimum the current:
  - 1. status of Airworthiness Directives and measures mandated by the DGTA in immediate reaction to a safety problem;
  - 2. status of modifications and repairs;
  - 3. status of compliance with the AMP;
  - 4. status of service life limited components;
  - 5. weight and balance report;
  - 6. list of deferred maintenance:
  - 7. symmetry check report (if required).
- (e) In addition to the authorised release certificate, the following information relevant to any component installed (engine, propeller, engine module or service life-limited component) shall be entered into the aircraft continuing airworthiness record system:
  - 1. identification of the component; and
  - 2. the type, serial number and registration, as appropriate, of the aircraft, engine, propeller, engine module or service life-limited component to which the particular component has been fitted, along with reference to the installation and removal of the component; and
  - 3. the date together with the component's accumulated total flight time and/or flight cycles and/or landings and/or calendar time, and/or any other approved service life consumption units as appropriate; and
  - 4. the current paragraph (d) information applicable to the component.
- (f) The CAMO responsible for the management of continuing airworthiness tasks in accordance with Subpart B Accountability, shall control the records as detailed in this paragraph and present the records to the DGTA upon request.
- (g) All entries made in the aircraft continuing airworthiness record system shall be clear and accurate. When it is necessary to correct an entry, the correction shall be made in a manner that clearly shows the original entry.

- (h) An Operating Organisation shall ensure that a system has been established to keep the following records for the periods specified:
  - 1. all detailed maintenance records in respect of the aircraft and any service life-limited component fitted thereto, until such time as the information contained therein is superseded by new information equivalent in scope and detail but not less than 36 months after the aircraft or component has been released to service; and
  - 2. the total time in service (hours, calendar time, cycles, landings or any other approved service life consumption units) of the aircraft and all service life-limited components, at least 12 months after the aircraft or component has been permanently withdrawn from service; and
  - 3. the time in service (hours, calendar time, cycles, landings or any other approved service life consumption units) as appropriate, since last scheduled maintenance of the component subjected to a service life limit, at least until the component scheduled maintenance has been superseded by another scheduled maintenance of equivalent work scope and detail; and
  - 4. the current status of compliance with all maintenance programme tasks such that compliance with the Aircraft Maintenance Programme can be established at least until the aircraft or component scheduled maintenance task has been repeated; and
  - 5. the current status of Airworthiness Directives applicable to the aircraft and components, at least 12 months after the aircraft or component has been permanently withdrawn from service; and
  - 6. details of current modifications and repairs to the aircraft, engine(s), propeller(s) and any other component vital to flight safety, at least 12 months after they have been permanently withdrawn from service.

#### M.A.306 Aircraft technical log

- (a) In addition to the requirements of M.A.305 Aircraft continuing airworthiness record system, an Operating Organisation shall use an aircraft technical log containing the following information for each aircraft:
  - 1. information about each flight, necessary to ensure continued flight safety and
  - 2. the current aircraft Certificate of Release to Service or equivalent and

- 3. the current maintenance statement giving the aircraft maintenance status of what scheduled and out of phase maintenance is next due except that the DGTA may agree to the maintenance statement being kept elsewhere and
- 4. all outstanding deferred defects rectifications that affect the operation of the aircraft and
- (b) The aircraft technical log and any subsequent amendments shall be approved by the DGTA.
- (c) An Operating Organisation shall ensure that the aircraft technical log is retained for at least 36 months after the date of the last entry.

#### M.A.307 Transfer of aircraft continuing airworthiness records

- (a) The Operating Organisation shall ensure when an aircraft is permanently transferred to another Operating Organisation, that the records within the M.A. 305 Aircraft continuing airworthiness record system are also transferred. The time periods prescribed for the retention of records shall continue to apply to the new Operating Organisation.
- (b) The Operating Organisation shall ensure that when the continuing airworthiness management tasks are contracted/tasked to an external CAMO, that the records within the M.A.305 Aircraft continuing airworthiness record system are transferred to that CAMO.
- (c) Moved to paragraph (a).

#### **SUBPART D - MAINTENANCE STANDARDS**

Not applicable – See TAO-145

#### **SUBPART E - COMPONENTS**

Not applicable – See TAO-145

#### **SUBPART F - MAINTENANCE ORGANISATION**

Not applicable

# SUBPART G - CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION (CAMO)

#### M.A.701 Scope

This Subpart establishes the requirements to be met by an organisation to qualify for the issue or continuation of approval for the management of aircraft continuing airworthiness.

#### M.A.702 Application

- (a) An application for issue or change of a CAMO approval shall be made on a form and in a manner established by the DGTA.
- (b) It shall include the following documents:
  - 1. the Continuing Airworthiness Management Exposition (CAME); and
  - 2. the Operating Organisation's Aircraft Maintenance Programmes and
  - 3. the aircraft technical log(s); and
  - 4. where appropriate, the technical specification(s) of the M.A.708(c) maintenance contracts/tasking's with the DGTA AMO and
  - 5. any additional documentation required by the DGTA.
  - 6. Authorisation from the relevant MAO or Government of Malaysia, whichever is applicable.

#### M.A.703 Extent of Approval

- (a) The approval is indicated on a document issued by the DGTA.
- (b) Not applicable.
- (c) The scope of work deemed to constitute the approval shall be specified in the CAME in accordance with M.A.704.

#### M.A.704 Continuing Airworthiness Management Exposition (CAME)

- (a) The CAMO shall provide a CAME containing the following information:
  - 1. a statement signed by the Accountable Manager to confirm that the organisation will work in accordance with TAO-M and the Exposition at all times; and
  - 2. the organisation's scope of work; and
  - 3. the title(s) and name(s) of person(s) referred to in M.A.706(a), M.A.706(c), M.A.706(d) and M.A.706(i); and

- 4. an organisation chart showing associated chains of responsibility between all the person(s) referred to in M.A.706(a), M.A.706(c), M.A.706(d) and M.A.706(i); and
- 5. Not Applicable
- 6. a general description and location of the facilities; and
- 7. procedures specifying how the CAMO ensures compliance with this TAO-M; and
- 8. the CAME amendment procedures; and
- 9. the list of approved AMPs (see M.A.302 AMP); and
- 10. a list of all contractors/tasked organisations (where applicable); and
- 11. the names of all Operating Organisations to which CAMO support activities are provided (if applicable).
- (b) The CAME and its amendments shall be approved by the DGTA.
- (c) Notwithstanding paragraph (b), minor amendments to the CAME may be approved indirectly through an indirect approval procedure. The indirect approval procedure shall define the minor amendment eligible, be established by the CAMO as part of the CAME and be approved by the DGTA.

#### M.A.705 Facilities

The CAMO shall ensure suitable office accommodation is provided at appropriate locations for the personnel specified in M.A.705.

#### M.A.706 Personnel requirement

- (a) The CAMO shall appoint an Accountable Manager, who has corporate authority for ensuring that all continuing airworthiness management activities can be resourced and carried out in accordance with this TAO-M. Where the CAMO is part of an Operating Organisation, the Accountable Manager shall be the same person who has the corporate authority for ensuring that all operations of the Operating Organisation can be resourced and carried out to the standard detailed in M.A.201(h).
- (b) Not applicable.
- (c) A person or group of persons shall be nominated with the responsibility of ensuring that the CAMO is always in compliance with this Subpart. Such person(s) shall be ultimately responsible to the Accountable Manager.

- (d) The Accountable Manager shall designate a Continuing Airworthiness Manager. This person shall be responsible for the management and supervision of continuing airworthiness activities, pursuant to paragraph (c).
- (e) The Continuing Airworthiness Manager referred to in paragraph (d) shall not be employed by a DGTA AMO under contract to the Operating Organisation, unless specifically agreed by the DGTA.
- (f) The CAMO shall have sufficient appropriately qualified staff for the expected work.
- (g) All paragraph (c) and (d) persons shall be able to demonstrate relevant knowledge, background and appropriate experience related to aircraft continuing airworthiness.
- (h) The qualifications of all personnel involved in continuing airworthiness management shall be recorded.
- (i) N/A
- (j) The CAMO shall define and keep updated in the CAME, the title(s) and name(s) of the person(s) referred to in M.A.706(a), M.A.706(c), M.A.706(d) and M.A.706(i).
- (k) The CAMO shall establish and control the competence of personnel involved in the continuing airworthiness management, airworthiness review and/or quality audits, in accordance with a procedure and to a standard agreed by the DGTA.

#### M.A.707 Airworthiness review staff

Not Applicable in DGTA context.

#### M.A.708 Continuing Airworthiness Management

- (a) All continuing airworthiness management shall be carried out according to the prescriptions of M.A.301 Continuing Airworthiness Tasks.
- (b) For every aircraft managed, the CAMO shall:
  - 1. have access to and use the applicable current AMP(s) for the aircraft managed;
  - 2. require to:
    - (i) develop and control the AMP for the aircraft managed including any applicable reliability programme; and
    - (ii) present the AMP and its amendments to the DGTA for approval, unless covered by an indirect approval procedure. In

that case, the indirect approval procedure shall be established by the CAMO, as part of the CAME, and shall be approved by the DGTA.

- 3. manage the accomplishment of modifications and repairs;
- 4. ensure that all maintenance is carried out in accordance with the AMP and released in accordance with M.A.801 Certificate of Release to Service (CRS);
- 5. ensure that all applicable Airworthiness Directives and operational directives with a continuing airworthiness impact are applied;
- 6. ensure that all defects discovered or reported, are managed appropriately until corrected by a DGTA AMO;
- 7. ensure that maintenance is only carried out by a DGTA AMO;
- 8. coordinate scheduled maintenance, the application of Airworthiness Directives, the replacement of service life limited parts and component inspection and ensure the work is carried out properly;
- 9. manage and archive all continuing airworthiness records;
- 10. ensure that the weight and balance statement reflects the current status of the aircraft:
- 11. ensure the symmetry check statement reflects the current status of the aircraft (if applicable);
- 12. initiate and coordinate any necessary actions and follow-up activity highlighted by an occurrence report.
- (c) Where there is a maintenance contract/tasking with a TAO-145 AMO, it shall detail the functions specified under M.A.301(a)2, M.A.301(a)3, M.A.301 (a)5, M.A.301(a)6 and M.A.301(a)8 and define the support of the quality functions of M.A.712(b).

#### M.A.709 Documentation

- (a) The CAMO shall have access to and use applicable current maintenance data in accordance with TAO-145 AMO, for the performance of continuing airworthiness tasks referred to in M.A.708. This data will be provided by the Operating Organisation/TC holder/any other organisation as defined in DGTA AEO as appropriate, subject to an appropriate contract/tasking being established. In such a case, the CAMO only needs access to such data for the duration of the contract, except when required by M.A.714.
- (b) Not applicable.

#### M.A.710 Airworthiness Review

- (a) To satisfy the requirement for the airworthiness review of an aircraft referred to in M.A.901 Aircraft airworthiness review, a review of the aircraft records shall be carried out by the DGTA in order to be satisfied that:
  - 1. airframe, engine and propeller flying hours and associated flight cycles and/or landings and any other airworthiness data as required by the DGTA, have been properly recorded; and
  - 2. the aircraft flight manual and/or any other manuals required by the DGTA are applicable to the aircraft configuration and reflect the latest revision status: and
  - 3. all the maintenance due on the aircraft according to the AMP has been carried out; and
  - 4. all known defects have been corrected or, when applicable, carried forward in a controlled manner; and
  - 5. all applicable Airworthiness Directives have been applied and properly registered; and
  - 6. all modifications and repairs applied to the aircraft have been registered and are in compliance with M.A.304 Data for modifications and repairs; and
  - 7. all service life limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit; and
  - 8. all maintenance has been released in accordance with M.A.801 Certificate of Release to Service (CRS); and
  - 9. the current weight and balance statement reflects the configuration of the aircraft and is valid; and
  - 10. the aircraft complies with the latest revision of its type design approved by the DGTA/TC holder; and
  - 11. NOT APPLICABLE.
  - 12. if required, the current symmetry report reflects the configuration of the aircraft and is valid.
  - 13. if required any other areas/programmes.

This review shall be fully documented in TAO-M Form 15c – Airworthiness Review Report.

- (b) DGTA shall carry out a physical survey of the aircraft. For this survey, DGTA shall be assisted by such qualified/authorised personnel.
- (c) Through the physical survey of the aircraft, the DGTA auditors shall ensure that:
  - 1. all required markings and placards are properly installed; and
  - 2. the aircraft complies with its aircraft flight manual and/or any other manuals required by the DGTA; and
  - 3. the aircraft configuration complies with the approved data; and
  - 4. no evident defect can be found that could not have been reasonably expected to be addressed; and
  - 5. no inconsistencies can be found between the aircraft and the paragraph (a) review of records.
  - 6. This review shall be fully documented in TAO-M Form 15c Airworthiness Review Report
- (d) By derogation to M.A.901(a) Aircraft airworthiness review, the airworthiness review can be anticipated by a maximum period of 90 days without loss of continuity of the airworthiness review pattern, to allow the physical survey to take place during a maintenance check.
- (e) The Certificate of Airworthiness Renewal (CoA Renewal) can only be issued:
  - 1. by DGTA and
  - 2. when the airworthiness review has been completely carried out and that there is no non-compliance which is known to endanger flight safety.
- (f) Not Applicable.
- (g) Not Applicable.
- (h) Not Applicable.

#### M.A.711 Privileges of the organisation

- (a) In accordance with its CAME, for any aircraft listed on its approval certificate a CAMO approved in accordance with Section A, Subpart G CAMO:
  - 1. shall manage the continuing airworthiness of specific aircraft;

- 2. Not applicable;
- 3. may arrange for any of the continuing airworthiness management tasks to be carried out by another organisation that is:
  - (i) working under the quality system of the CAMO or
  - (ii) working under their own TAO-M Subpart G CAMO approval.

In either case, the CAMO retains responsibility for all CAMO functions irrespective of who is undertaking them. All such organisations shall be listed on the approval certificate.

- 4. Not applicable.
- (b) Not applicable
- (c) Not applicable.
- (d) Not applicable.

#### M.A.712 Quality system

- (a) To ensure that the CAMO continues to meet the requirements of this Subpart, it shall establish a quality system and designate a Quality Manager to monitor compliance with, and the adequacy of, procedures required to ensure airworthy aircraft. Compliance monitoring shall include a feedback system to the Accountable Manager to ensure corrective action as necessary.
- (b) The quality system shall monitor M.A.701 CAMO activities. It shall at least include the following functions:
  - 1. monitoring that all TAO-M M.A.701 CAMO activities are being performed in accordance with the approved procedures; and
  - 2. monitoring that all contracted/tasked maintenance is carried out in accordance with the contract/tasking; and
  - 3. monitoring the continued compliance with the requirements of this TAO-M.
- (c) The records of these activities shall be stored for at least two years.
- (d) Where an organisation has several TAO approvals, the quality systems may be combined.
- (e) Not applicable.
- (f) Not applicable.

(g) Not applicable.

#### M.A.713 Changes to the CAMO

- (a) In order to enable the DGTA to determine continued compliance with this TAO-M, the CAMO shall notify the DGTA of any proposal to change any of the following, before such changes take place:
  - 1. the name of the CAMO:
  - 2. the location of the CAMO:
  - additional locations of the CAMO;
  - 4. the Accountable Manager;
  - 5. any of the persons specified in M.A.706(c) Personnel requirement;
  - 6. the facilities, procedures, work scope and staff that could affect the approval;
  - 7. any change that affects the approval certificate.
- (b) In the case of proposed changes in personnel not known to the management beforehand, these changes shall be notified at the earliest opportunity.

#### M.A.714 Record-keeping

- (a) The CAMO shall record all details of continuing airworthiness management activity carried out. The aircraft records required by M.A.305 Aircraft continuing airworthiness record system and, if applicable, M.A.306 Aircraft technical log shall be retained.
- (b) The CAMO shall retain a copy of any CoA Renewal that DGTA has renewed.
- (c) Permits to Fly, and all documents relating to their issue as detailed in TAO-21 Subpart P shall be retained.
- (d) The CAMO shall retain a copy of all records referred to in paragraphs (b) and (c) for at least two years after the aircraft has been permanently withdrawn from service.
- (e) The records shall be stored in a manner that ensures protection from damage, alteration and theft. The records shall remain readable and accessible for the duration of the storage period.

- (f) All computer hardware used to ensure backup shall be stored in a different location from that containing the working data, in an environment that ensures they remain in good condition.
- (g) Where continuing airworthiness management of an aircraft is transferred to another CAMO, all retained records shall be transferred to the new CAMO. The time periods prescribed for the retention of records shall continue to apply to the new CAMO.
- (h) Where a CAMO terminates its operation, all retained records shall be transferred to the Operating Organisation (if applicable), unless determined otherwise by the DGTA.

#### M.A.715 Continuity validity of approval

- (a) An approval shall be issued for an unlimited duration. It shall remain valid subject to:
  - 1. the CAMO remaining in compliance with this TAO-M, in accordance with the provisions related to the handling of findings and;
  - 2. the DGTA being granted access to the CAMO to determine continued compliance with this TAO-; and
  - 3. the approval not being surrendered or revoked.
  - 4. until the contract to which it relates, expires or is suspended, revoked, surrendered, or superseded.
- (b) Upon surrender or revocation, the approval certificate shall be returned to the DGTA.

#### M.A.716 CAMO findings by the DGTA

- (a) After receipt of notification of findings, the CAMO shall:
  - 1. identify the root cause of the non-compliance; and
  - 2. define a corrective action plan; and
  - 3. demonstrate corrective action implementation to the satisfaction of the DGTA within a period required by the DGTA.
- (b) A level 1 finding is any significant non-compliance with TAO-M requirements which lowers the safety standard and hazards seriously the flight safety. Depending upon the extent of the level 1 finding, it leads to an immediate full or partial revocation, limitation or suspension of the approval by the DGTA until successful corrective action has been taken by the CAMO.

- (c) A level 2 finding is any non-compliance with the TAO-M requirements, which could lower the safety standard and possibly hazards the flight safety.
- (d) A CAMO's non-compliance with the actions identified in M.A.716(a) CAMO findings by the DGTA, leads to a full or partial suspension of the approval by the DGTA.

#### SUBPART I AIRWORTHINESS REVIEW CERTIFICATE (ARC)

#### M.A.901 Aircraft airworthiness review

To ensure the validity of the Certificate of Airworthiness, an airworthiness review of the aircraft and its continuing airworthiness records shall be carried out periodically.

- Note: 1. Airworthiness Review Certificate (ARC) will be known as the Certificate of Airworthiness Renewal (CoA Renewal) in the DGTA State Aircraft environment.
- (a) An CoA Renewal is issued in accordance with TAO-M Form 15a on completion of a satisfactory airworthiness review. The CoA Renewal is valid one year.
- (b) Not applicable.
- (c) Not applicable.
- (d) For all aircraft that have their continuing airworthiness managed by a CAMO that does not hold the privilege to carry out airworthiness reviews, the CoA Renewal shall be issued by the DGTA upon satisfactory assessment by DGTA. This CoA Renewal issued shall be based on an airworthiness review carried out in accordance with M.A.710 Airworthiness Review.
- (e) Not applicable.
- (f) Not applicable.
- (g) Not applicable.
- (h) Notwithstanding paragraphs (a), (c) and (d) above, the DGTA may carry out an CoA Renewal at any time it considers it appropriate to do so.
- (i) Not applicable.
- (j) When the DGTA carries out the airworthiness review and/or issues the CoA Renewal itself, the Operating Organisation shall provide the DGTA with:
  - 1. the documentation required by the DGTA; and
  - 2. Not applicable.

- 3. when necessary, the support of personnel appropriately authorised in accordance with DGTA AMO;
- (k) An CoA Renewal cannot be renewed if there is evidence or reason to believe that the aircraft is not airworthy.
- (I) CoA Renewal shall be subjected to an annual review by the Board of State Technical Airworthiness (BoSTA).
- (m) The CAMO presents to the BoSTA the relevant data showing conformance to the approved Type Design and record of continued airworthiness activities.

#### M.A.902 Validity of the CoA Renewal

- (a) An CoA Renewal becomes invalid if:
  - 1. surrendered, suspended or revoked; or
  - 2. the Certificate of Airworthiness is suspended or revoked; or
  - 3. the aircraft is removed from the state aircraft register of the DGTA; or
  - 4. the Type Certificate under which the Certificate of Airworthiness was issued is suspended or revoked.
- (b) Moved to M.A.301(b) Continuing Airworthiness tasks.
- (c) Upon surrender or revocation, the CoA Renewal shall be returned to the DGTA.
- M.A.903 Not applicable
- M.A.904 Not applicable

### M.A.905 Findings from an aircraft airworthiness review carried out by the DGTA

- (a) After receipt of notification of findings by the DGTA, the Operating Organisation of the aircraft concerned shall:
  - 1. ensure the aircraft subject to the finding does not fly until such time that the specific non-compliance with TAO-M, or other condition as defined in M.A.301(b) Continuing Airworthiness tasks, has been corrected; and
  - 2. identify the root cause of the non-compliance; and

- 3. define a corrective action plan; and
- 4. demonstrate corrective action implementation to the satisfaction of the DGTA within a period required by the DGTA.
- (b) A level 1 finding is any significant non-compliance with TAO-M requirements which lowers the safety standard and hazards seriously the flight safety.
- (c) A level 2 finding is any non-compliance with the TAO-M requirements, which could lower the safety standard and possibly hazards the flight safety.
- (d) The Operating Organisation shall consider the potential for non-compliance in other aircraft under its responsibility and take appropriate action in accordance with M.A.905(a)1 Findings from an airworthiness review carried out by the DGTA.

# TECHNICAL AIRWORTHINESS ORDERS PART M CONTINUING AIRWORTHINESS MANAGEMENT PART 2

ACCEPTABLE MEANS OF COMPLIANCE / GUIDANCE MATERIAL (AMC/GM)

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 2 CHAPTER 1

#### **SECTION A**

#### **INTRODUCTION**

1. The Technical Airworthiness Regulator (TAR) responsible for technical airworthiness management of state-registered aircraft, aeronautical products and aircraft-related equipment. The responsibility includes the Continuing Airworthiness Management for organisation approval of Continuing Airworthiness Management (CAMO) and initial issue/renewal of Certificate of Airworthiness (CoA). Thus, this chapter provides an Acceptable Means of Compliance and Guidance Material (AMC/GM) on how an organisation can comply with TAO-M.

#### **PURPOSE**

2. The purpose of this chapter is to provide Acceptable Means of Compliance and Guidance Material (AMC/GM) on TAO-M for an organisation seeking CAMO certification and application for initial issue/renewal of Certificate of Airworthiness (CoA).

#### **SCOPE**

- 3. The scope of this chapter is to provide guidance to assist an organisation by presenting an acceptable means of compliance and also amplification of the regulation for the purpose of better understanding of the regulation. Each information is presented in a form for easy referencing.
- 4. **Philosophy and Concept.** This information provides, from an airworthiness perspective, the reason for the regulation.
- 5. **Cross References**. The following references are relevant to the requirement of this regulation:
  - Australian Defence Force DASR M.
  - European Military Airworthiness Requirement (EMAR) M Edition 1.0
  - c. European Aviation Safety Agency (EASA) Part M.
- 6. **Guidance Material**. Guidance material (GM) is non-binding explanatory and interpretation material, including examples, intended to assist the user on complying with regulations.

- 7. **Acceptable Means of Compliance (AMC).** This information provides a means by which the regulation can be met. It should be noted that this might not necessarily be the only acceptable compliance method available to the organisation.
- 8. The AMC/GM is for Part 3 TAO-M and grouped as Subparts (chapters) starting from Subpart A, B, C, D, E, F, G, H to I, which follows the same grouping/naming/writing convention as in AMC/GM for EMAR M airworthiness framework.
- 9. Each Subpart may have one or more regulations within the Subpart and each regulation will be followed with its AMC and GM in consecutive order. Each of the regulations will be numbered. For Regulation without AMC/GM, it will be indicated as Not Applicable while some regulations may come with either AMC or GM.
- 10. The numbering of appendixes at the end of this volume follows the same convention as the in EMAR M airworthiness framework. AMC/GM and appendixes which follow with [MY] marking indicate guidance derived or adapted to DGTA environment.
- 11. To ensure seamless cross-referencing and subsequent updating process with corresponding regulation in EMAR M AMC/GM, the writing format and number are being maintained. As such, the writing format may differ from service writing.
- <u>Note:</u> 1. 2. Airworthiness Review Certificate (ARC) will be known as Certificate of Airworthiness Renewal (CoA Renewal ) in the DGTA State Aircraft environment.

#### SUBPART A - GENERAL

12. **M.A.101 SCOPE** 

Not Applicable

#### **SUBPART B - ACCOUNTABILITY**

#### 13. M.A.201 RESPONSIBILITIES

#### GM1 M.A.201(a) Responsibilities

- (a) Within the context of TAO-M, an Operating Organisation is to be understood as a force structure that operates state aircraft and is responsible for their Continuing Airworthiness.
- (b) The force structure may be a Squadron, Wing, Command or other organisation determined by SAO.
- (c) In the DGTA context, an Operating Organisation is known as State Aircraft Operator (SAO).

#### GM2 M.A.201(a) Responsibilities

'Accountability' as used in TAO-M M.A.201 stresses that this responsibility cannot be delegated.

#### GM3 M.A.201(a) Responsibilities

Where an Operating Organisation having responsibility for the Continuing Airworthiness of state aircraft that have been issued with a Special Flight Permit (SFP), the SAO regulations are to be followed, supplemented by the conditions identified in TAMM Regulations 2 and 3.

#### GM4 M.A.201(a) Responsibilities (MY)

Permit to Fly definition in the EMAR Environment is wider than in the TAMM environment. Special Flight Permit defined in the Reg 2.6 is superseded by the new definition (Subpart P of EMAR 21)

#### GM M.A.201(a)(2) Responsibilities

- 1. The SAO must ensure that aircraft operational and emergency equipment is only carried and operated in accordance with approved Orders, Instructions and Publications.
- 2. 'Aircraft operational equipment' are also called as role equipment.
- 3. 'Emergency equipment' means equipment installed/carried to be used in case of abnormal and emergency situations that demand immediate action for the safe conduct of the flight and protection of occupants, including life preservation (e.g. drop-out oxygen, crash axe, fire extinguisher, protective breathing equipment, manual release tool, slide-raft).

Note: Non-exhaustive list:

- emergency exits, emergency canopy opening
- passenger emergency briefing cards
- life jackets
- oxygen dispensing equipment
- life rafts
- other emergency equipment provided for individual passenger use or collective use
- parachutes
- fire protection or fighting equipment
- protective breathing equipment
- emergency medical kits, first aid kits
- emergency locator transmitter
- personnel locator transmitter
- emergency lighting
- pyrotechnics used in case of emergency

#### GM M.A.201(a)(3) Responsibilities (MY)

Airworthiness Review Certificate (ARC) will be known as the Certificate of Airworthiness Renewal (CoA Renewal ) the in DGTA State Aircraft environment.

Airworthiness Review is a new requirement. The TAO-M M.A.901 – CoA Renewal supersedes the TAMM Regulation 2.9.2 - Review of Certificate of Airworthiness. Airworthiness Review is now the process and procedure dedicated to the review of the airworthiness of the aircraft.

#### GM M.A.201(a)(4) Responsibilities (MY)

Aircraft Maintenance Programme (AMP) is a new definition introduced. AMP is a DGTA approved document with CAMO as the originator (owner). Refer to M.A.302 - AMP and Appendix 1 to AMC for M.A.302 - AMP for AMP content details.

#### AMC M.A.201(d) Responsibilities

'Qualified person' in this context means an individual who has received appropriate training for the relevant pre-flight inspection tasks to a standard as described in Para 3 to AMC for M.A.301(a)(1) - Continuing airworthiness tasks.

#### AMC M.A.201(h) Responsibilities

- 1. Reference to aircraft includes the components fitted to or intended to be fitted to the aircraft.
- 2. The performance of ground de-icing and anti-icing activities does not require maintenance organisation approval. Nevertheless, inspections required to detect, and when necessary, eliminate de-icing and/or anti-icing fluid residues are considered maintenance. Such inspections should only be carried out by suitably authorised personnel.
- 3. The requirement means that the CAMO is responsible for determining what maintenance is required, when it has to be performed and by whom and to what standard, in order to ensure the continuing airworthiness of the aircraft being operated.
- 4. The CAMO should therefore have adequate knowledge of the design status (type design data, Airworthiness Directives (AD), airworthiness limitations from the certification programme, fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL), modifications, repairs, operational equipment and, required and performed maintenance).
- 5. The CAMO should ensure adequate coordination between flight operations and maintenance to ensure that both will receive all information on the condition of the aircraft necessary to enable both to perform their tasks.
- 6. The requirement does not mean that an Operating Organisation itself performs the maintenance (this is to be done by a DGTA Approved

Maintenance Organisation (AMO)) but that the Operating Organisation carries the responsibility for the airworthy condition of aircraft it operates and thus should be satisfied before the intended flight that all required maintenance has been properly carried out.

7. When an Operating Organisation is not appropriately approved in accordance with AMO, the CAMO should provide a clear work order to the AMO. The fact that an Operating Organisation has contracted/tasked an AMO should not prevent it (or the organisation it contracts/tasks to manage the continuing airworthiness of the aircraft it operates) from checking at the maintenance facilities on any aspect of the tasked work if it wishes to do so to satisfy its responsibility for the airworthiness of the aircraft.

#### AMC M.A.201(h)(1) Responsibilities

- 1. When the Operating Organisation itself is approved in accordance with TAO-M Subpart G CAMO, the approval does not prevent the Operating Organisation contracting/tasking certain continuing airworthiness management tasks to competent organisations. This activity is considered as an integral element of the Operating Organisation's TAO-M Subpart G CAMO approval. The regulatory monitoring is exercised through the Operating Organisation's TAO-M Subpart G CAMO approval. The continuing airworthiness elements of the contracts/tasking documents should be acceptable to the DGTA.
- 2. The accomplishment of continuing airworthiness activities forms an important part of the Operating Organisation's responsibility with the Operating Organisation remaining accountable for satisfactory completion irrespective of any contract/tasking that may be established.
- 3. The Operating Organisation is ultimately responsible and therefore accountable for the airworthiness of its aircraft. To exercise this responsibility, the Operating Organisation should be satisfied that the actions taken by contracted/tasked organisations meet the standards required by TAO-M Subpart G CAMO. The Operating Organisation's management of such activities should therefore be accomplished by:
  - a. active control through direct involvement and/or
  - b. endorsing the recommendations made by the contracted/tasked organisation.
- 4. In order for the Operating Organisation to retain ultimate responsibility, the CAMO should limit contracted/tasked activities to those specified below:
  - a. Airworthiness Directive analysis and planning;
  - b. Service Bulletin analysis;
  - c. planning of maintenance;

- d. reliability monitoring, engine health monitoring and other forms of health monitoring as agreed by the DGTA;
- e. AMP development and amendments;
- f. any other activities which do not limit the Operating Organisation's responsibilities as agreed by the DGTA.
- 5. The Operating Organisation's management controls associated with contracted/tasked continuing airworthiness management activities should be reflected in the associated written contract/tasking and be in accordance with the Operating Organisation's policy and procedures defined in their Continuing Airworthiness Management Exposition (CAME). When such tasks are contracted/tasked, the Operating Organisation's continuing airworthiness management system is considered to be extended to the contracted/tasked organisation.
- 6. With the exception of engines and auxiliary power units, contracts/tasking should normally be limited to one organisation per aircraft type for any combination of the activities described in Appendix II to TAO-M AMC M.A.201(h)1. Where arrangements are made with more than one organisation, the Operating Organisation should demonstrate that adequate coordination controls are in place and that the individual responsibilities are clearly defined in related contracts/tasking.
- 7. Contracts/taskings should not authorise the contracted/tasked organisation to further contract/task to other organisations elements of the continuing airworthiness management tasks.
- 8. The CAMO should ensure that any findings arising from the DGTA monitoring of the contracted/tasked continuing airworthiness management activities will be closed to the satisfaction of the DGTA. This provision should be included in the contract/tasking.
- 9. The contracted/tasked organisation should agree to notify the CAMO of any changes affecting the contract/tasking as soon as practicable. The CAMO should then inform the DGTA. Failure to do so may invalidate the DGTA acceptance of the continuing airworthiness management elements of the contract.
- 10. Appendix II to AMC M.A.201(h)(1) Responsibilities provides information on the contracting/tasking of continuing airworthiness management activities.
- 11. The CAMO should only contract to organisations which are detailed in the CAME and approved by the DGTA.

#### GM M.A.201(h)(2) Responsibilities

- 1. The requirement is intended to provide for the possibility of the following three alternative options:
  - a. an Operating Organisation to be approved in accordance with DGTA AMO to carry out all maintenance of its aircraft and components;
  - b. an Operating Organisation to be approved in accordance with DGTA AMO to carry out some of the maintenance of its aircraft and components. This, at minimum, could be limited to line maintenance but may be considerably more but still short of an option (a);
  - c. An Operating Organisation not approved in accordance with DGTA AMO to carry out any maintenance.
- 2. An Operating Organisation may apply for any one of these options, but it will be for the DGTA to determine which option may be accepted in each particular case.
  - 2.1. N/A.
  - 2.2. N/A.
  - 2.3. N/A.
  - 2.4. N/A.

#### AMC M.A.201(k) Responsibilities

- 1. When an Operating Organisation contracts/tasks an TAO-M CAMO in accordance with M.A.201(k) to carry out continuing airworthiness management tasks, a copy of the arrangement should be sent by the Operating Organisation to the DGTA once it has been signed by both parties. The contracted/tasked organisation is considered to perform the continuing airworthiness management tasks as an integral part of the Operating Organisation's continuing airworthiness system.
- 2. The arrangement should be developed, taking into account the requirements of TAO-M and should define the obligations of the signatories in relation to the management of the continuing airworthiness of the aircraft.
- 3. The arrangement should contain as a minimum the:
  - aircraft registration(s); and
  - aircraft type / model / series; and
  - aircraft serial number(s); and
  - · aircraft Operating Organisation including the address; and

- TAO-M CAMO details including the address.
- 4. The arrangement should state the following:

The Operating Organisation entrusts to the CAMO the management of the continuing airworthiness of the aircraft, the development of an Aircraft Maintenance Programme that shall be approved by the DGTA (if applicable), and the organisation of the maintenance of the aircraft according to the Aircraft Maintenance Programme in a DGTA Approved Maintenance Organisation or equivalent. According to the present arrangement, both signatories undertake to follow the respective obligations of this arrangement.

The Operating Organisation certifies, to the best of their belief that all the information given to the CAMO concerning the continuing airworthiness of the aircraft is and will be accurate and that the aircraft will not be altered without prior approval of the CAMO.

In case of any non-conformity with this arrangement, by either of the signatories, it will become invalid. In such a case, the Operating Organisation will retain full responsibility for every task linked to the continuing airworthiness of the aircraft and the Operating Organisation shall inform the DGTA 'as soon as possible'.

- 5. When an Operating Organisation contracts a CAMO in accordance with M.A.201(k) the minimum obligations of each party should be shared as follows:
  - 5.1 Obligations of the CAMO:
    - have the aircraft type(s) in the scope of its approval;
    - 2. respect the conditions to maintain the continuing airworthiness of the aircraft in accordance with TAO-M M.A.708;
    - 3. Not Applicable;
    - 4. Not Applicable;
    - 5. inform the DGTA whenever the aircraft is not presented to the DGTA AMO by the Operating Organisation as requested by the CAMO:
    - 6. inform the DGTA whenever the present arrangement has not been respected;
    - 7. N/A
    - 8. N/A

- 9. carry out all applicable mandated occurrence reporting;
- 10. inform the DGTA whenever either party terminates the present arrangement.
- 5.2 Obligations of the Operating Organisation:
  - 1. have a general understanding of the approved maintenance programme;
  - 2. have a general understanding of this TAO-M;
  - 3. present the aircraft to the DGTA AMO agreed with the CAMO at the due time designated by the CAMO's request;
  - 4. not modify the aircraft without first consulting the CAMO;
  - 5. inform the CAMO of all maintenance exceptionally carried out without the knowledge and control of the CAMO;
  - 6. report to the CAMO through the aircraft technical log/aircraft continuing airworthiness record system all defects found during operations;
  - 7. inform the DGTA whenever either party denounces the present arrangement;
  - 8. inform the DGTA and the CAMO whenever the Operating Organisation no longer operates the aircraft;
  - 9. carry out all applicable mandated occurrence reporting;
  - 10. inform on a regular basis the CAMO about the aircraft flying hours and any other utilisation data, as agreed with the CAMO;
  - 11. Not Applicable;
  - 12. Not Applicable.
- 6. The contracted/tasked CAMO should be approved in accordance with Subpart G. However, this approval does not prevent the CAMO contracting / tasking certain continuing airworthiness management tasks to other competent organisations. This activity is considered as an integral element of the CAMO's TAO-M approval. The regulatory monitoring is exercised through the CAMO's TAO-M approval. The contracts/tasks should be acceptable to the DGTA. Contracts/taskings should not authorise the contracted/tasked organisation to further contract/task to other organisations elements of the continuing airworthiness management tasks. Appendix II to AMC M.A.201 (h)1 Responsibilities provides information on the contracting / tasking of continuing airworthiness management.

#### 14. M.A.202 OCCURRENCE REPORTING

#### AMC M.A.202(a) Occurrence Reporting

Operating Organisations should ensure that the Malaysian State Type Certificate (MSTC) holder receives adequate reports of occurrences for that aircraft type, to enable the MSTC holder to fulfil its TAO-21 obligations.

Liaison with the MSTC holder should be established to determine whether published or proposed service information will resolve the problem or to obtain a solution to a particular problem.

An approved CAMO should assign responsibility for co-ordinating action on airworthiness occurrences and for initiating any necessary further investigation and follow-up activity to a qualified person with clearly defined authority and status.

'Qualified person' in this context means an individual who has received appropriate training and has relevant experience in the management of airworthiness occurrences detailed in M.A.202. In the case of a contracted/tasked CAMO, close coordination between the CAMO and the Operating Organisation is needed to define the appropriate training and relevant experience and to ensure that such person is officially on record at the CAMO.

'Endanger flight safety' means any instance where the safe operation could not be assured or which could lead to an unsafe condition. It typically includes but is not limited to, significant cracking, deformation, corrosion or failure of primary structure, any evidence of burning (including overheating), electrical arcing, significant hydraulic fluid or fuel leakage and any emergency system or total system failure. An Airworthiness Directive overdue for compliance is also considered a hazard to flight safety.

#### AMC M.A.202(b) Occurrence Reporting

- (a) The aim of occurrence reporting is to identify the factors contributing to incidents and to make the system resistant to similar errors.
- (b) An occurrence reporting system should enable and encourage free and frank reporting of any (potentially) safety-related occurrence. This should be facilitated by the establishment of a "just culture". A CAMO should ensure that personnel are not inappropriately punished for reporting or co-operating with occurrence investigations.
- (c) The internal reporting process should be closed-loop, ensuring that actions are taken internally to address safety hazards.
- (d) Feedback to reporters, both on an individual and more general basis, is important to ensure their continued support for the scheme.

# AMC M.A.202(c) Occurrence Reporting

Occurrence reporting should be in a form and manner as defined by the SAO, taking into account any confidential/classified information.

## GM M.A.202(c) Occurrence Reporting

Each report should contain at least the following information:

- a. CAMO name and approval reference; and
- b. Information necessary to identify the subject aircraft and/or component; and
- c. Date and time relative to any life or overhaul limitation in terms of flying hours/cycles/landings etc. as appropriate; and
- d. Details of the condition as required by M.A.202(c); and
- e. Any other relevant information found during the evaluation or rectification of the condition; and
- f. Fleet implications or ability to continue to conform with the type design.

#### SUBPART C CONTINUING AIRWORTHINESS

#### 15. M.A.301 CONTINUING AIRWORTHINESS TASKS

#### AMC M.A.301(a)(1) Continuing airworthiness tasks

- 1. With regard to the pre-flight inspection shall be done by aircrew iaw flight manual, it is intended to mean all of the actions necessary to ensure that the aircraft is fit to make the intended flight. These should typically include but are not necessarily limited to:
  - (a) a walk-around type inspection of the aircraft, its emergency equipment and any stores/weapons carried for condition including, in particular, any obvious signs of wear, damage or leakage. In addition, the presence of all required equipment, including emergency equipment, should be established and the security of attachment of any stores/weapons carried should be checked.
  - (b) an inspection of the aircraft continuing airworthiness record system or the aircraft technical log as applicable to ensure that the intended flight is not adversely affected by any outstanding deferred defects and that no required maintenance action shown in the maintenance statement is overdue or will become due during the flight;

- (c) a control that consumable fluids, gases etc. uplifted prior to flight are of the correct specification, free from contamination, and correctly recorded:
- (d) a control that all doors are securely fastened;
- (e) a control that controls surface and landing gear locks, pitot/static covers, restraint devices and engine/aperture blanks have been removed:
- (f) a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc. and an assessment to confirm that, as the result of meteorological conditions and de-icing/anti-icing fluids having been previously applied on it, there are no fluid residues that could endanger flight safety. Alternatively to this pre-flight assessment, when the type of aircraft and nature of operations allow for it, the build-up of residues may be controlled through scheduled maintenance inspections/cleanings identified in the AMP;
- (g) removal of safety/arming pins if applicable.
- 2. Tasks such as oil and hydraulic fluid uplift and tyre inflation may be considered as part of the pre-flight inspection. The related pre-flight inspection instructions should address the procedures to be taken to determine whether the necessary fluid uplift or tyre inflation results from an abnormal consumption/excessive leakage, thereby possibly requiring additional maintenance action by the AMO or certifying staff as appropriate.
- 3. Operating Organisations should publish guidance to maintenance, flight and any other personnel performing pre-flight inspection tasks, as appropriate, defining their responsibilities for these actions. It should be demonstrated to the DGTA that pre-flight inspection personnel have received appropriate training for the relevant pre-flight inspection tasks. If a component of the pre-flight inspection is accomplished by the DGTA AMO, it should be incorporated into the AMP. The training standard for personnel performing the pre-flight inspection should be described in the CAME.

## AMC M.A.301(a)(2) Continuing airworthiness tasks

- 1. The CAMO should have a system to ensure that all defects affecting the safe operation of the aircraft are rectified within limits prescribed the approved Minimum Equipment List (MEL) or Configuration Deviation List (CDL) or national equivalents. Such defect rectification cannot be postponed unless agreed by the CAMO and in accordance with a procedure approved by the DGTA.
- 2. A system of assessment should be established to support the continuing airworthiness of the aircraft and to provide a continuous analysis of the effectiveness of the CAMO's defect control system in use.

- 3. The system should provide for:
  - a. significant incidents and defects: monitor incidents and defects that have occurred in flight and defects found during maintenance, highlighting any that appear significant in their own right.
  - b. repetitive incidents and defects: monitor on continuous basis defects occurring in flight and defects found during maintenance, highlighting any that are repetitive.
  - c. deferred defects: Monitor on a continuous basis deferred defects. Deferred defects are defined as those defects reported in operational service or arising during maintenance which are deferred for rectification at a later maintenance input.
  - d. unscheduled removals and system performance: analyse unscheduled component removals and the performance of aircraft systems for use as part of the AMP efficiency.
- 4. When deferring a defect the cumulative effect of a number of deferred defects occurring on the same aircraft and any restrictions contained in the MEL/CDL or national equivalents should be considered. Deferred defects should be made known to the pilot/flight crew prior to their pre-flight inspection of the aircraft.
- 5. This requirement supersedes Reg 5.1.11 (Carried Forward Unserviceability) where it is required that AMO shall mention a procedure managing MEL/CDL in the MMP. CAMO will undertake this responsibility from AMO and need to mention a procedure to manage MEL/CDL in CAME.

#### AMC M.A.301(a)(3) Continuing airworthiness tasks

The CAMO should have a system to ensure that all aircraft maintenance checks are performed within limits prescribed by the AMP and that, whenever a maintenance check cannot be performed within the required time limit, its postponement is allowed in accordance with a procedure agreed by the DGTA.

#### AMC M.A.301(a)(4) Continuing airworthiness tasks

The CAMO should have a system to analyse the effectiveness of the AMP, with regard to spares, established defects, malfunctions and damage, and to amend the AMP accordingly.

# AMC M.A.301(a)(5) Continuing airworthiness tasks

Operational directives with a continuing airworthiness impact include operating rules such as Extended Twin-engine Operations (ETOPS) / Long Range Operations (LROPS), Reduced Vertical Separation Minima (RVSM), Minimum Navigation Performance Specification (MNPS), All-Weather Operations (AWOPS), Area Navigation (RNAV), etc.

Any other continued airworthiness requirement made mandatory by the DGTA includes TC related requirements such as Certification Maintenance Requirements (CMR), certification life-limited parts, airworthiness limitations from the aircraft type-certification basis, fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL), etc.

# AMC M.A.301(a)7 Continuing airworthiness tasks

A CAMO managing the continuing airworthiness of the aircraft should establish and work according to a policy, which assesses non-mandatory information related to the airworthiness of the aircraft. Non-mandatory information includes Service Bulletins (or national equivalent), service letters and other information that is produced for the aircraft and its components by a design organisation accepted by the DGTA, or the manufacturer or the DGTA.

# 16. M.A.302 AIRCRAFT MAINTENANCE PROGRAMME (AMP)

## AMC M.A.302 Aircraft Maintenance Programme (AMP)

- a. The term' Aircraft Maintenance Programme (AMP)' is intended to include scheduled maintenance tasks, their associated maintenance procedures and standard maintenance practices. The term "maintenance schedule" is intended to embrace the scheduled maintenance tasks alone.
- b. The aircraft should only be maintained to one approved AMP at a given point in time. Where an Operating Organisation wishes to change from one AMP to another, a transfer check or inspection may need to be performed in order to implement the change.
- c. The AMP details should be reviewed at least annually. As a minimum, revisions of documents affecting the AMP basis need to be considered for inclusion in the AMP during the annual review. Applicable mandatory requirements for compliance with Regulation 2 and/or 3 should be incorporated into the AMP as soon as possible.
- d. The AMP should contain a preface which will define the AMP contents, the inspection standards to be applied, permitted variations to task frequencies and, where applicable, any procedure to manage the evolution of established check or inspection intervals.

Appendix I to AMC M.A.302 - AMP provides detailed information on the contents of an AMP.

Appendix I-a to AMC M.A.302 - AMP : Analysis Principles for CAMO (When a Reliability Programme has not been developed)

Appendix I-b to AMC M.A.302 - AMP: Sample statement/chapters in CAME for CAMO (When a Reliability Programme has not been developed)

e. Repetitive maintenance tasks derived from modifications and repairs should be incorporated into the AMP.

## **GM M.A.302(a) Aircraft Maintenance Programme (AMP)**

An AMP may indicate that it applies to several aircraft registration numbers as long as the AMP identifies the effectivity of the tasks and procedures that are not applicable to all of the listed registration numbers.

## AMC M.A.302(b) Aircraft Maintenance Programme (AMP) (MY)

The AMP shall be prepared by CAMO. The Section 1 of General Instruction – a statement of the following shall be presented:

- 1. Prepared by CAMO staff
- Certified Compliance by CAM
- Certified Compliance by AM or delegate
- 4. Approved by DGTA

## AMC M.A.302(d) Aircraft Maintenance Programme (AMP)

- 1. An Operating Organisation's AMP should normally be based upon the Maintenance Review Board (MRB) or equivalent report where applicable, the Maintenance Planning Document (MPD), the relevant chapters of the maintenance manual or any other maintenance data containing information on scheduling. Furthermore, an Operating Organisation's AMP should also take into account any maintenance data containing information on scheduling for components.
- 2. Instructions issued by the DGTA can encompass all types of instructions from a specific task for a particular aircraft to complete recommended maintenance schedules for certain aircraft types that can be used by the CAMO directly. The DGTA may issue these instructions in the following cases:
  - in the absence of specific recommendations of the Type Certificate Holder:
  - to provide alternative instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the Operating Organisation.
- 3. Where an aircraft type has been subjected to the Maintenance Review Board (MRB) / Reliability Centred Maintenance (RCM) report process, the initial AMP should normally be based upon the MRB/RCM report.

- 4. Where an aircraft is maintained in accordance with an AMP, based upon the MRB report process, any associated programme for the continuous surveillance of the reliability, or health monitoring of the aircraft should be considered as part of the AMP.
- 5. AMPs for aircraft types subjected to the MRB/RCM report process should contain identification cross-reference to the MRB/RCM report tasks such that it is always possible to relate such tasks to the current AMP. This does not prevent the AMP from being developed in the light of service experience to beyond the MRB/RCM report recommendations but will show the relationship to such recommendations.
- 6. Some AMPs, not developed from the MRB/RCM process, utilise reliability programmes. Such reliability programmes should be considered as a part of the AMP.
- 7. Alternative and/or additional instructions to those defined in M.A.302(d)(1) and (2), proposed by the Operating Organisation, may include but are not limited to the following:
  - -Extension of the interval for certain tasks based on reliability data or other supporting information. Appendix I recommends that the AMP contains the corresponding extension procedures. The extension in periodicity of these tasks is directly approved by the DGTA, including ALIs (Airworthiness Limitation Items).
  - -Reduced intervals from those proposed by the TC holder as a result of the reliability data or because of a more stringent operational environment.
  - -Additional tasks at the discretion of the Operating Organisation.
- 8. 'Field Evaluation' data from other military Operating Organisations using the same aircraft type in a similar manner may have been used to develop an initial Aircraft Maintenance Programme. However, where an aircraft has been procured from a foreign nation, security constraints or other nationally imposed limitations may result in a lack of complete data being available to support the AMP. In these cases, the Operating Organisation should justify to the NMAA that the available data is sufficient to reduce any risks to As Low As Reasonably Practicable (ALARP).

# **GM M.A.302(f) Aircraft Maintenance Programme (AMP)**

- 1. NOT APPLICABLE.
- 2. The purpose of a reliability programme is to ensure that the AMP tasks are effective and their periodicity is adequate.

- 3. The reliability programme may result in the extension or reduction of a maintenance task interval, as well as the deletion or addition of a maintenance task.
- 4. A reliability programme provides an appropriate means of monitoring the effectiveness of the AMP.
- 5. Appendix I to AMC M.A.302 AMP provides further guidance.
- 6. For SAO/industry that does not have any reliability programme, appendix 1-a to AMC M.A.302 AMP provides guidance on methods to effectively review AMP while appendix 1-b provides guidance for sample statements in CAME to continue to adhere to the requirement of a reliability programme.

#### 17. M.A.304 DATA FOR MODIFICATIONS AND REPAIRS

## AMC M.A.304 Data for modifications and repairs

A DGTA AMO repairing an aircraft or component should assess the damage against published approved repair data and the action to be taken if the damage is beyond the limits or outside the scope of such data. This action could involve any one or more of the following options:

- the repair by replacement of the damaged parts;
- requesting technical support from the STC holder or a design organisation approved or accepted by the DGTA;
- DGTA approval of the particular repair data.

# GM M.A.304(d) Data for modifications and repairs

An 'organisation accepted by the DGTA' should be understood to mean an organisation which does not have an appropriate TAMM Reg. 2 and 3 approval. However, the DGTA possesses sufficient knowledge of the organisation's processes, procedures, quality system and, where appropriate, the regulatory system under which the organisation operates, to enable it to be considered as a legitimate provider of this information.

CAMO shall take the responsibility of liaising with approved design organisation with regards to non-standard repair and modification.

## 18. M.A.305 AIRCRAFT CONTINUING AIRWORTHINESS RECORD SYSTEM

#### GM M.A.305(a) Aircraft continuing airworthiness record system (MY)

Examples of an aircraft continuing airworthiness record system utilised in the Malaysian Armed Forces are Sistem Pengurusan Komputer Bersepadu (SPKB), Aircraft Maintenance and Spares Information System (AMASIS) or/and Maintenance Data System (MDS).

All maintenance performed shall be accurately and progressively documented.

# AMC M.A.305(d) Aircraft continuing airworthiness record system

The current status of ADs should identify the applicable ADs, including any revision or amendment numbers. Where an AD is generally applicable to an aircraft or component type but is not applicable to the particular aircraft or component type used by the Operating Organisation, then this should be identified. The AD status includes the date when the AD was accomplished, and where the AD is controlled by flight hours or flight cycles it should include the aircraft or engine or component total flight hours or cycles or any other approved service life consumption units as appropriate. For repetitive ADs, only the last application should be recorded in the AD status. The status should also specify which part of a multi-part directive has been accomplished and the method, where a choice is available in the AD.

The status of current modification and repairs means a list of embodied modifications and repairs together with the substantiating data supporting compliance with the airworthiness requirements. This can be in the form of a Supplemental Type-Certificate (STC), Service Bulletin, Structural Repair Manual (SRM) or similar approved document.

The substantiating data may include:

- a. compliance programme; and
- b. master drawing or drawing list, production drawings, and installation instructions; and
- c. engineering reports (static strength, fatigue, damage tolerance, fault analysis, etc.); and
- d. ground and flight test programme and results; and
- e. weight and balance change data; and
- f. maintenance and repair manual supplements; and
- g. AMP changes and Instructions for Continuing Airworthiness; and
- h. aircraft flight manual supplement; and
- i. symmetry check report (if applicable).

A symmetry check is equivalent to a mensuration check or alignment check which is typically covered in the applicable Aircraft Maintenance Programme (AMP). Some gas turbine engines are assembled from modules and true total time in service for a total engine is not kept. When Operating Organisations wish to take advantage of the modular design, then total time in service and maintenance records for each module are to be maintained. The continuing airworthiness records as specified are to be kept with the module and should show compliance with any mandatory requirements pertaining to that module.

For some gas turbine engines, especially turbo-shaft engines, the true total time of continuous operation for particular power settings is to be maintained if applicable.

The current status of compliance with the aircraft maintenance programme means the last and next accomplishment data (referring to the applicable parameter) for the tasks specified in the maintenance schedule of the aircraft maintenance programme.

Where the task is controlled by flight hours and/or flight cycles and/or landings and/or calendar time and/or any other applicable parameter, the total in-service life accumulated by the aircraft, engine, propeller or component (as appropriate) in the suitable parameter(s) should also be included.

## AMC M.A.305(d)(4) Aircraft continuing airworthiness record system

The term 'service life limited components' embraces:

- (i) components subject to a certified life limit after which the components should be retired, and
- (ii) components subject to a service life limit after which the components should undergo maintenance to restore their serviceability.

The current status of service life limited aircraft components should indicate:

- (iii) for components subject to a certified life limit: the component life limitation, total number of hours, accumulated cycles, calendar time or any other approved service life consumption units and the number of hours/cycles/time/units remaining before the required retirement time of the component is reached;
- (iv) for components subject to a service life limit: the component service life limit, the hours, cycles, calendar time or any other approved service life consumption units since the component has been restored to their service life and the remaining service life (hours, cycles, calendar time or any other approved service life consumption units) before the components need to undergo maintenance.

Any action that alters the components' life limit (certified or service) or changes the parameter of the life limit (certified or service) should be recorded.

When the determination of the remaining life requires knowledge of the different types of aircraft/engine on which the component has previously been installed, the status of all service life-limited aircraft components should additionally include a full installation history indicating the number of hours, cycles, calendar time or any other approved service life consumption units relevant to each installation on these different types of aircraft/engine. The indication of the type of aircraft/engine should be sufficiently detailed with regard to the required determination of remaining life.

Recommendations from the TC Holder on the procedures to record the remaining life should be considered.

## AMC M.A.305(e) Aircraft continuing airworthiness record system (MY)

Existing Maintenance Action/Forms used by SAO that record similar information remain in use.

# AMC M.A.305(g) Aircraft continuing airworthiness record system

For paper documentation, entries made in error should not be erased but should be ruled through and initialled by the person making the correction. Opaque correction fluid should not be used in correcting paper records.

For electronic systems, incorrect entries should be flagged to indicate that they have been corrected, and a mechanism should be put in place to retain and easily access copies of the original if incorrect, data.

#### GM M.A.305(g) Aircraft continuing airworthiness record system

ISO 15489-1 (International Standard on Records Management) and Electronic Document and Records Management System provide further information on this topic.

#### AMC M.A.305(h) Aircraft continuing airworthiness record system

When a CAMO arranges for the relevant DGTA AMO to retain copies of the continuing airworthiness records on their behalf, the CAMO will continue to be responsible for the retention of records. If they cease to be the CAMO of the aircraft, they remain responsible for transferring the records to any other CAMO of the aircraft.

Keeping continuing airworthiness records in a form acceptable to the DGTA normally means in paper form or on a computer database or a combination of both methods. All records should remain readable and accessible for the duration of the storage period.

The term 'permanently withdrawn from service' refers to moving the aircraft or component to a location that is not used for storage and/or future return to service.

Retention period of records to adhere to the minimum period required in M.A.305(h) but can be extended following respective SAO instructions.

'Readable and accessible' means that the organisation should possess the ability to access the stored records in their original format for the duration of the specified storage period. Where the data contained in stored records is no longer compatible with changes and/or upgrades to equipment/computer/hardware/software, the organisation should put in place provisions to ensure that sufficient equipment is retained that is compatible with the storage medium, or that the records in their original format are transferred to an alternative medium.

Paper systems should use robust material, which can withstand normal handling and filing.

Computer systems should have at least one backup system, which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain program safeguards against the ability of unauthorised personnel to alter the database.

Continuing airworthiness records should be stored safely with regard to damage, alteration and theft. Computer backup discs, tapes, etc., should be stored in a different location from that containing the current working discs, tapes, etc., and in a safe environment. Reconstruction of lost or destroyed records can be done by reference to other records which reflect the time in service, research of records maintained by repair facilities and reference to records maintained by individual mechanics, etc. When these things have been done, and the record is still incomplete, the CAMO may make a statement in the new record describing the loss and establishing the time in service based on the research and the best estimate of time in service. The reconstructed records should be submitted to the DGTA for acceptance. The DGTA may require the performance of additional maintenance if not satisfied with the reconstructed records.

## GM M.A.305(h)(2) Aircraft continuing airworthiness record system

The term 'permanently withdrawn from service' refers to moving the aircraft or component to a location that is not used for storage and/or future return to service.

## AMC M.A.305(h)(4) Aircraft continuing airworthiness record system

## AIRCRAFT MAINTENANCE PROGRAMME

(a) The current status of compliance with the aircraft maintenance programme means the last and next accomplishment data (referring to the

applicable parameter) for the tasks specified in the maintenance schedule of the aircraft maintenance programme. It should include:

- (1) an identifier specific enough to allow an easy and accurate identification of the task to be carried out, such as a task reference combined with a task title or short description of the work to be performed;
- (2) the engine, propeller or component identification when the task is controlled at engine, propeller, or component level; and
- (3) the date when the task was accomplished (i.e. the date the certificate of release to service was issued) and for repetitive tasks when it is next due time, as well as when the terminating action is performed.
- (b) Where the task is controlled by flight hours and/or flight cycles and/or landings and/or calendar time and/or any other applicable parameter, the total in-service life accumulated by the aircraft, engine, propeller or component (as appropriate) in the suitable parameter(s) should also be included.

# AMC M.A.305(h)(6) Aircraft continuing airworthiness record system

For the purpose of this paragraph, a "component vital to flight safety" means a component that includes certified life limited parts or is subject to airworthiness limitations or a major component such as an engine, propeller, undercarriage or flight controls.

#### 19. M.A.306 - AIRCRAFT TECHNICAL LOG

#### AMC M.A.306(a) Aircraft technical log

The Operating Organisation's aircraft technical log is a system for recording defects and malfunctions during the aircraft operation and for recording details of all maintenance carried out on an aircraft between scheduled base maintenance visits. In addition, it is used for recording flight safety and maintenance information the flight crew need to know.

Where DGTA has promulgated instructions on the format and construct of an aircraft technical log, this format should be used by all organisations and personnel engaged in the maintenance and support of military registered aircraft and airborne equipment. These instructions should provide a description of the format and use of military aviation engineering documentation, together with any associated procedures.

#### AMC M.A.306(b) Aircraft technical log

The aircraft technical log can be either a paper or computer system or any combination of both methods acceptable to the DGTA.

In case of a computer system, it should contain program safeguards against the ability of unauthorised personnel to alter the database.

# GM M.A.306(c) Aircraft technical log

Other legislative requirements, overriding TAO-M, may require an organisation to keep records for a longer period.

# SUBPART G - CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION (CAMO)

## 20. M.A.702- Application

## AMC M.A.702(a) Application (MY)

On a form and in a manner established by the DGTA. An application should be made on a TAO-M Form 2 (Appendix IX to AMC M.A.702) or equivalent acceptable to the DGTA. Organisations applying for several approvals may do so using a single Form 2.

## AMC M.A.702(b) Application

- 1. Draft documents should be submitted at the earliest opportunity so that DGTA investigation of the application can begin. 'Issue' or 'Change' cannot be achieved until the DGTA is in possession of completed documents.
- 2. This information is required to enable the DGTA to conduct its investigation, to assess the volume of maintenance work necessary and the locations at which it will be accomplished.
- 3. The applicant should inform the DGTA where the base and scheduled line maintenance is to take place and give details of any contracted/tasked maintenance which is in addition to that provided in response to M.A.201(h)2 or M.A.708(c).
- 4. At the time of application, arrangements should be in place for all base and scheduled line maintenance for an appropriate time, as acceptable to the DGTA. Further arrangements should be established in due course before the maintenance is due.

Base maintenance contracts for high-life time checks may be based on one-time contracts/taskings when the DGTA considers that this is compatible with the Operating Organisation's fleet size.

## GM M.A.702(b) Application

The AMP may be provided to the CAMO for some aircraft types whilst for other aircraft types the AMP is to be 'developed and controlled' by the CAMO. This will be identified by the DGTA on a platform-by-platform basis. In these cases, the CAMO's responsibilities towards the 'development and control' of the AMP

of the aircraft types for which it is responsible may differ. These differences are to be identified in the CAME.

For clarification, the default DGTA position is that the CAMO develops and controls the DGTA approved Aircraft Maintenance Programme (AMP) for the aircraft managed.

GM – M.A.708(b)(2)(ii) - Continuing Airworthiness Management provides clarification on amending the AMP.

# AMC M.A.702(b)(2) Application

It is not required for the AMP to be submitted to DGTA if it is not developed and finalised by CAMO. In that case, DGTA shall verify that the manufacturer's maintenance programme/s is used in the approval audit. However, once approval is given, the CAMO shall submit the AMP for approval within a period determined by DGTA.

## GM M.A.702(b)(3) Application

The aircraft technical log may not be a physical document, rather it may be an electronic system. In this case, submitting the technical log may simply involve a description of the system, functionality and relevant user interface screenshots.

# GM M.A.702(b)(5) Application

- 1. Additional documentation may include, but not be limited to:
  - a. contract/tasking between the CAMO and other organisations in accordance with AMC M.A.201(h)1 Responsibilities.
  - b. Regulation M.A.201(k) Responsibilities contract/tasking between the Operating Organisation and the CAMO.
- 2. As only the technical parts of any contracts have to be acceptable to the DGTA, those elements that address costs, warranty etc. are not required.

#### GM M.A.702(b)(6) Application (MY)

1. AMO certification is valid whilst DGTA has acceptable compliance assurance and relevant MAO authorisation. In the case of commercial AMO, the authorisation shall be in a form of a current and applicable state-registered aircraft, aeronautical product and aircraft-related equipment maintenance contract or a sponsorship letter. As the certification authority, DGTA has full discretionary powers to suspend, revoke or limit any CAMO certification if sufficient evidence is available to support such an action.

#### 21. M.A.703 Extent of Approval

## **GM M.A.703 Extent of Approval**

- a. The approval is indicated on a certificate included in Appendix VI to M.A.703 issued by DGTA.
- b. The scope of work deemed to constitute the approval shall be specified in the continuing airworthiness management exposition in accordance with M.A.704.
- 22. M.A.704 Continuing Airworthiness Management Exposition (CAME)

#### AMC M.A.704 Continuing Airworthiness Management Exposition (CAME)

- 1. The purpose of the CAME is to set forth the procedures, means and methods of the CAMO. Compliance with its contents will assure compliance with TAO-M requirements.
- 2. 'Anybody's TAO-M CAME' satisfies the regulatory requirements of a CAME and is the DGTA's preferred CAME format. The template is available from the relevant DGTA desk officer.
- 3. Appendix V to AMC M.A.704: Continuing Airworthiness Management Exposition (CAME) list the recommended table of contents that also satisfies the regulatory requirement of CAME.
- 4. If Anybody's TAO-M CAME is not used, the DGTA should be engaged early in the process and the CAME should comprise:
  - Part 1 General organisation
  - Part 2 Continuing airworthiness management
  - Part 3 Quality system
  - Part 4 Airworthiness review (if applicable)
- 5. Personnel should be familiar with those parts of the CAME that are relevant to their tasks.
- 6. The CAMO should specify in the CAME who is responsible for the amendment of the document.
- 7. Unless otherwise agreed by the DGTA, the person responsible for the management of the quality system should be responsible for monitoring and amending the CAME, including any associated procedures manuals, and the submission of proposed amendments to the DGTA. The DGTA may agree with a procedure, which will be stated in the amendment control section of the CAME, defining the class of amendments which can be incorporated without the prior consent of the DGTA.

- 8. The CAMO may use Electronic Data Processing (EDP) for the publication of CAME. The CAME should be made available to the DGTA in a form acceptable to the DGTA. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the CAME, both internally and externally.
- 9. Part 1 "General organisation" of the CAME should include a corporate commitment by the CAMO, signed by the Accountable Manager, confirming that the CAME and any associated manuals define the organisation's compliance with TAO-M and will be complied with at all times.
- 10. The Accountable Manager's Exposition statement should embrace the intent of the following paragraph, and this statement may be used without amendment. Any modification to the statement should not alter the intent:

This exposition defines the organisation and procedures upon which the TAO-M M.A.704 - continuing airworthiness management approval is based.

These procedures are approved by the undersigned and should be complied with, as applicable, in order to ensure that all continuing airworthiness tasks of... (quote Operating Organisation's name) fleet of aircraft and/or of all aircraft under contract/tasking in accordance with M.A.201(k) with ... (quote CAMO's name) ... are carried out on time to an approved standard.

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

It is understood that the DGTA will approve this organisation whilst the DGTA is satisfied that the procedures are being followed and the work standard is maintained. It is understood that the DGTA reserves the right to suspend, vary or revoke the M.A.704 - continuing airworthiness management approval of the organisation if the DGTA has evidence that the procedures are not followed and the standards not upheld.

Signed
Dated
Accountable Manager and(quote position(quote
For and on behalf of(quote organisation's

11. Whenever the Accountable Manager changes, it is important to ensure that the new Accountable Manager signs the paragraph 9 statement at the

earliest opportunity as part of the acceptance by the DGTA. Whenever the accountable manager is changed it is important to ensure that the new accountable manager signs the paragraph 9 statement at the earliest opportunity as part of the acceptance by the DGTA.

Failure to carry out this action invalidates the M.A.704 - continuing airworthiness management approval.

12. The CAME should contain information as applicable, on how the CAMO complies with CDCCL instructions.

# AMC M.A.704(a)(4) CAME: Organisation Structure

- 1. Depending on the size and complexity of the organisation, one or more charts may be used to provide a comprehensive understanding of the whole organisation including the line of reporting.
- 2. Each State Aircraft Operator/commercial organisation shall have a Continuing Airworthiness Management section in their organisation layout structure as in Figures 1 and 2.
- 3. SAO/commercial organisations may also propose a CAMO structure that suits their organisation.

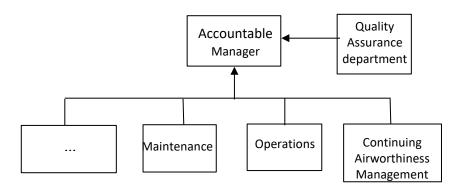


Figure 1: A typical Organisation Structure of Squadron / Cawang Kejuruteraan / Commercial Organisation With Continuing Airworthiness Management Section

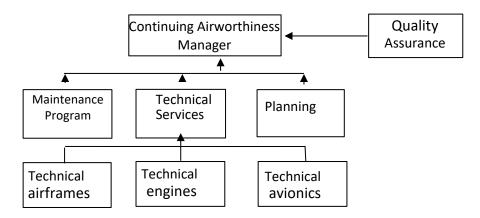


Figure 2: A Typical Organisation Structure for Continuing Airworthiness Management

## GM M.A.704(a)(4) CAME - Organisation Structure

- 1. Factors to consider when determining the organisational structure of the CAMO are:
  - i. The number of different aircraft types that they are responsible for and also the location of these aircraft.
  - ii. Multiple CAMOs (on different bases) for single aircraft types (with a lead CAMO/Main Operating Base) where the type is operated out of more than one airbase.
  - iii. A single CAMO on a base for multiple aircraft types (where different types are operated at the same air station).
  - iv. Single CAMOs on a base with a single aircraft type, where a CAMO is responsible for a single type only.
  - v. For aircraft on operations, consideration of the use of a Sub-CAMO for 'in-theatre aircraft' (how this works should be clearly detailed in the Continuing Airworthiness Management Exposition (CAME).
  - vi. Outsourcing of CAMO activities is possible but control should be retained within the SAO (the SAO is still responsible for the continuing airworthiness of the aircraft that they operate).

#### GM M.A.704(a)(8) CAME (MY)

Because of the interconnection between CAMO, AEO and AMO for the management of the continuing airworthiness, the CAME amendment procedure shall clearly identify the impact of the CAME amendment on MMP and EMP.

#### 23. **M.A.705 FACILITIES**

#### AMC M.A.705 Facilities

Office accommodation should be such that the occupants, whether they are continuing airworthiness management, planning, technical records or quality staff, can carry out their designated tasks in a manner that contributes to good standards. In a smaller CAMO, the approving DGTA may agree to these tasks being conducted from one office subject to being satisfied that there is sufficient space and that each task can be carried out without undue disturbance. Office accommodation should also include an adequate technical library and room for document consultation.

#### 24. M.A.706 PERSONNEL REQUIREMENT

## AMC M.A.706 Personnel requirement

- 1. The person or group of persons should represent the continuing airworthiness management structure of the CAMO and be responsible for all continuing airworthiness functions. Dependent on the fleet activity and the organisational structure, the continuing airworthiness functions may be divided under individual managers or combined in nearly any number of ways. However, the quality system should be independent from the other functions.
- 2. The actual number of persons to be employed and their necessary qualifications is dependent upon the tasks to be performed and thus dependent on the size and complexity of the CAMO (e.g. the number of aircraft and the aircraft types, the complexity of the aircraft and their age, operational usage etc.) and the amount and complexity of maintenance contracting or tasking. Consequently, the number of persons needed, and their qualifications, may differ greatly from one CAMO to another and a simple formula covering the whole range of possibilities is not feasible.
- 3. To enable the DGTA to accept the number of persons and their qualifications, a CAMO should analyse the tasks to be performed, how it intends to divide and/or combine these tasks, indicate how it intends to assign responsibilities and establish the number of individuals/hours and the qualifications needed to perform the tasks. If any significant changes will impact on the number of persons and their qualifications, this analysis should be updated.
- 4. The nominated person or group of persons should have:
  - 4.1 practical experience and expertise in the application of aviation safety standards and safe operating practices; and
  - 4.2 a comprehensive knowledge of:
    - relevant military operational requirements and procedures;
       and

- b. the content of the relevant parts of the Operating Organisation's Operations Manual (or national equivalent) when it impacts the continuing airworthiness of the aircraft operated.
- 4.3 knowledge of quality systems; and
- 4.4. five years of relevant experience of which at least two years should be within the aviation environment in a position considered appropriate by the DGTA; and
- 4.5 a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to the DGTA. 'Relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components;

The above recommendation may be replaced by 5 years of experience additional to those already recommended by paragraph 4.4 above. These 5 years should cover an appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management (engineering) and/or surveillance of such tasks.

- 4.6 thorough knowledge of the CAME; and
- 4.7 knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course(s). These course(s) should be at least at a level equivalent to TAO-M 66 Appendix III Level 1 familiarisation and could be imparted by a TAO-M 147 Maintenance Training Organisation (MTO), by the manufacturer, or by any other organisation accepted by the DGTA;

"Relevant sample" means that these courses should cover typical systems embodied in those aircraft being within the scope of CAMO's approval.

- 4.8 knowledge of maintenance methods; and
- 4.9 knowledge of applicable regulations; and
- 5. Nominated Deputy Management Personnel. A nominated deputy is a person who may be appointed as an alternate to the nominated person when the incumbent nominated person is absent for some time. To ensure clear lines of responsibility, the nominated deputy is required to assume all responsibilities when formally appointed in the absence of the incumbent nominated person. As a result, the nominated deputy is required to satisfy the same qualification experience and knowledge requirements as the incumbent per the relevant AMC and is to be approved by the DGTA. This approval can either be through the CAME or on Form 4 depending on if the nominated person's position requires a Form 4 approval per the table below.

- 6. There can only be one person fulfilling the role of the nominated position at any single point in time. When designating a nominated deputy to fulfil the role of the nominated position, it should be clearly articulated and promulgated when the incumbent relinquishes responsibility of the position and a nominated deputy assumes responsibility as the nominated person and for what period.
- Note, a deputy Accountable Manager or deputy nominated person is not intended to replace the nominated person for an indefinite time. This particularly applies when the Accountable Manager or a nominated person leaves the CAMO; in such a case the new nominated person is to be appointed within a reasonable time as agreed by the DGTA.
- 7. Where a nominated position requires a Form 4 approval, and the nominated person has not nominated an alternate person to be their deputy in the regulatory intent, the nominated person may still task a person or group of persons without a Form 4 approval to fulfil the duties of the nominated person, however, the nominated person retains responsibility for all functions performed.
- 8. Management Personnel Requiring a Form 4. The following table summarises when a TAO-M Form 4 Acceptance of Nominated Management Personnel, is required in order for the management personnel to be approved by the DGTA.
- \* Form 4 not required where the AM is also AM for a Military Air Operator.
- \*\* Regulation 4.7.6(c) positions should be appointed by the CAMO and will be accepted by the DGTA as part of the CAME approval and do not require a Form 4 approval. Form 4 applications for this personnel will only be processed if it is the intent that the person will be appointed as the CAM for a period of time in the absence of the CAM, ie a deputy CAM.
- \*\*\* A deputy requires a Form 4 approval when they are nominated as a deputy for a position requiring a Form 4 approval per this table.
- 9. Management Personnel Requiring a Form 4. The following table summarises when a TAO-M Form 4—Acceptance Of Nominated Management Personnel, is required in order for the management personnel to be approved by the DGTA.

MANAGEMENT PERSONNEL	Form 4 Required	Form 4 Not Required
Accountable Manager – M.A.706(a)		X*
Continuing Airworthiness Manager - M.A.706(d)	X	
Quality Manager - M.A.706(f) and M.A.712(a)	X	
Safety Manager - M.A.712(g)		Χ
Nominated Management Team - M.A.706(c)		X**
Airworthiness Review Staff – M.A.707(b)	X	
Maintenance Program Approval Employee - M.A.706(f)		Χ
Other Managers		Χ
Deputy Nominated Personnel	X***	

# AMC M.A. 706(a) Personnel requirement

Accountable Manager is normally intended to mean the Chief Executive Officer or a senior military commander of the CAMO approved under TAO-M Subpart G, who by virtue of position has overall (including in particular resource allocation) responsibility for running the organisation. The Accountable Manager may be the Accountable Manager for more than one organisation and is not required to be knowledgeable on technical matters as the CAME defines the continuing airworthiness standards.

## AMC M.A. 706(d) Personnel requirement

The Continuing Airworthiness Manager (CAM) and the nominated deputy require formal acceptance by the DGTA which is granted through the corresponding TAO-M Form 4 - Acceptance Of Nominated Management Personnel.

The Continuing Airworthiness Manager (CAM) should have:

- 1. practical experience and expertise in the application of aviation safety standards and safe operating practices;
- comprehensive knowledge of:
  - a. relevant parts of operational requirements and procedures;
  - b. the Operations Specifications when applicable;
  - c. the need for, and content of, the relevant parts of the Operations Manual when applicable;
- 3. knowledge of quality systems;
- 4. five years of relevant work experience, of which at least two years should be from the aeronautical industry in an appropriate position;
- 5. a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to the DGTA. 'relevant

engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components;

- 6. The above recommendation may be replaced by five years of experience additional to those already recommended by paragraph 4 above. These five years should cover an appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management (engineering) and/or surveillance of such tasks;
- 7. thorough knowledge with the organisation's continuing airworthiness management exposition;
- 8. knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses should be at least at a level equivalent to General Familiarisation and could be imparted by a TAO-147 organisation or equivalent, by the manufacturer, or by any other organisation accepted by the DGTA.

"Relevant sample" means that these courses should cover typical systems embodied in those aircraft being within the scope of approval.

- 9. knowledge of maintenance methods;
- 10. knowledge of applicable regulations.

#### AMC M.A. 706(e) Personnel requirement

The DGTA may accept that the Continuing Airworthiness Manager referred to in paragraph (d) is also part of a DGTA AMO being contracted/tasked by the Operating Organisation in the case where the individual has military command and control responsibilities over both organisations (e.g. a military Commanding Officer with responsibility for both organisations on an airbase).

This paragraph only applies to contracted/tasked maintenance and therefore does not affect situations where the organisation approved under TAO-M or DGTA AMO and the Operating Organisation are the same organisation.

#### AMC M.A. 706(f) Personnel requirement

Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required of continuing airworthiness management organisations' technical personnel, especially the staff involved with the management of CDCCL (if applicable), Service Bulletin assessment, work planning and maintenance programme management.

#### AMC M.A. 706(k) Personnel requirement

Adequate initial and recurrent training should be provided and recorded to ensure continued competence.

#### 25. M.A.707 AIRWORTHINESS REVIEW STAFF

Not Applicable in DGTA context.

#### 26. M.A.708 CONTINUING AIRWORTHINESS MANAGEMENT

## GM1 M.A.708(b)(1) Continuing Airworthiness Management

Aircraft Maintenance Programme is a new term introduced in TAO-M. AMP is a DGTA approved document with CAMO as the originator (owner) and reviewed by DAR. More details in the Regulation M.A.302 Appendix 1, 1-a, 1-b and 1-c about AMP.

## GM1 M.A.708(b)(2) Continuing Airworthiness Management

The AMP may be provided to the CAMO for some aircraft types whilst for other aircraft types the AMP is to be 'developed and controlled' by the CAMO. This will be identified by the DGTA on a platform-by-platform basis. In these cases, the CAMO's responsibilities towards the 'development and control' of the AMP of the aircraft types for which it is responsible may differ. These differences are to be identified in the CAME.

## GM2 M.A.708(b)(2) Continuing Airworthiness Management

The default SAO position is that the CAMO develops and controls, the DAR reviewed the AMP and DGTA approved AMP for the aircraft managed.

#### GM M.A.708(b)(2)(i) Continuing Airworthiness Management

To cross-refer GM2 M.A.708(b)(2). Reliability program management shall be under the CAMO.

#### **GM – M.A.708(b)(3) Continuing Airworthiness Management (MY)**

CAMO will conduct the process in close link with an AEO and AMO.

#### GM M.A.708(b)(4) Continuing Airworthiness Management

This requirement means that the CAMO is responsible for determining what maintenance is required, when it has to be performed, by whom and to what standard in order to ensure the continued airworthiness of the aircraft.

CAMO is responsible for the process even if it interacts with AMO requirements. This process shall be part of the CAME.

#### AMC M.A.708(b)(5) Continuing Airworthiness Management (MY)

The CAMO shall mention a procedure in CAME to ensure a procedure is in place to monitor any operational directive that may impact continuing airworthiness and vice versa.

## GM M.A.708(b)(6) Continuing Airworthiness Management (MY)

In the context of this regulation, a DGTA AMO also includes one assessed to be equivalent to Regulation M.A.201(g).

This requirement supersedes the TAMM Reg 5.1.11 (CFU), and the process shall be part of the CAME. MMP shall be compliant with the CAME.

## GM M.A.708(b)(7) Continuing Airworthiness Management (MY)

In the context of this regulation, a DGTA AMO also includes one assessed to be equivalent to Regulation M.A.201(g).

## AMC M.A.708(c) Continuing Airworthiness Management

- 1. Where an Operating Organisation is not approved under DGTA AMO where an Operating Organisation's maintenance organisation is an independent organisation, formal tasking or a contract should be agreed upon between the Operating Organisation/CAMO and a DGTA AMO which specifies, in detail the work to be performed by the DGTA AMO. Appendix XI to AMC M.A.708(c) gives further details on the subject.
- 2. Both the specification of work and the assignment of responsibilities should be clear, unambiguous and sufficiently detailed to ensure that no misunderstanding should arise between the parties concerned (Operating Organisation, CAMO and DGTA AMO) that could result in a situation where work that has a bearing on the airworthiness or serviceability of an aircraft is not or will not be properly performed.
- 3. Special attention should be paid to procedures and responsibilities to ensure that all maintenance work is performed, Service Bulletins (or national equivalent) are analysed, and decisions are taken on their accomplishment, Airworthiness Directives are completed on time and that all work, including non-mandatory modifications, is carried out to approved data and the latest standards.
- The purpose of Regulation M.A.708(c) is to ensure that all maintenance 4. is carried out by DGTA AMO. This does not preclude a primary maintenance arrangement with an organisation that is not such a DGTA AMO when it proves that such an arrangement is in the interest of the Operating Organisation by simplifying management The of its maintenance. Organisation/CAMO keeps an appropriate control of it. Such an arrangement should not preclude the Operating Organisation/CAMO from ensuring that all maintenance is performed by a DGTA AMO and complying with the Regulation M.A.201 continuing airworthiness responsibility requirements. A typical example of such an arrangement is:

The Operating Organisation may find it more appropriate to have a primary contractor that would dispatch the aircraft and/or components to appropriately approved maintenance organisations, rather than the

Operating Organisation itself sending the aircraft and/or different types of components to various DGTA AMO. The benefit for the Operating Organisation is that the management of maintenance is simplified by having a single point-of-contact for aircraft and/or component maintenance. The Operating Organisation remains responsible for ensuring that all maintenance is performed by DGTA AMO and in accordance with the approved standard.

In essence, this does not alter the intent of Regulation M.A.201(h) in that it also requires that the Operating Organisation has to establish formal tasking or a written maintenance contract and, whatever type of acceptable arrangement is made, the Operating Organisation/CAMO is required to exercise the same level of control on contracted or tasked maintenance, particularly through the Regulation M.A.706(c) continuing airworthiness management group of persons and quality system as referred to in Regulation M.A.712 - Quality system.

\* see Appendix XI to AMC - M.A.708(c) - continuing airworthiness management.

#### 27. M.A.710 AIRWORTHINESS REVIEW

# AMC M.A.710(a) Airworthiness Review

A review is a check of at least the following categories of documents:

- -registration papers (where applicable);
- -Regulation M.A.305 aircraft continuing airworthiness record system:
- -Regulation M.A.306 aircraft technical log;
- -list of deferred defects, MEL and CDL (where applicable);
- -aircraft flight manual and/or any other manuals required by the DGTA including aircraft configuration;
- -AMP:
- -maintenance data;
- -relevant work packages;
- -AD status;
- -modification and SB status (or national equivalent);
- -modification and repair approval sheets;

- -list of service life-limited components (to include a list of engine and/or propeller modules where appropriate);
- -relevant TAO-M Form 1s or equivalent;
- -weight and balance report and installed equipment list;
- -aircraft, engine and propeller TC Data Sheets;
- -if applicable, latest symmetry report.

As a minimum, sample checks within each document category should be carried out.

2. In the context of Regulation M.A.710(a), 'fully documented' means that the CAMO should develop procedures for airworthiness review staff to produce a compliance report that confirms the above has been reviewed and, based on objective evidence, found to be in compliance with TAO-M.

In this context, 'objective evidence' is physical evidence that individual auditing the airworthiness review can inspect and evaluate for themselves. It provides compelling evidence that the review or audit was performed as indicated, and that the criteria in M.A.710(a) were found to be in order.

## GM M.A.710(a) Airworthiness Review

The airworthiness review staff of the CAMO are required to examine the continuing airworthiness records for the aircraft to determine whether continuing airworthiness requirements are being met for the aircraft.

For many aircraft, the number of records that must be examined and the level of examination required will be extensive. It is anticipated that the DGTA staff will be assisted by other employees of the CAMO and/or appropriately experienced personnel in this regard. This does not prevent other personnel from assisting to retrieve records, compile information and prepare reports etc. for the examination by the DGTA staff. However, it is up to the DGTA staff carrying out the airworthiness review to be satisfied with the source, authenticity and accuracy of the information made available to them.

DGTA shall conduct entirely the airworthiness review process.

#### AMC M.A.710(a)(3) Airworthiness Review

1. Examine the records of compliance with the maintenance program to determine whether each maintenance task due to being carried out in accordance with the aircraft's maintenance program has been carried out and properly certified.

- 2. If the record of compliance with the maintenance program is kept in a computerised system, then a report generated by the computerised system may be used to comply with this requirement; provided the report clearly shows when the maintenance was last carried out, when it is next due and highlight any overdue task. The airworthiness review staff carrying out the review should ensure that such computer-generated reports include all maintenance tasks required to be carried out under the aircraft's maintenance program.
- 3. In addition to the examination of records kept the following actions should also be undertaken:
  - a. For each maintenance task that is mandatory under the aircraft's type design approval (such as airworthiness limitation and certification maintenance requirements if available for the type of fleet), documents that substantiate that the maintenance has been carried out should be examined to verify that information kept for these tasks are correct;
  - b. For all other maintenance tasks that are not mandatory under the aircraft's type design approval, a sample of maintenance tasks should be selected, and the documents that substantiate that the maintenance has been carried out should be examined to verify that information kept for these tasks is correct.
- 4. The sample should include a range of maintenance tasks carried out at various intervals. The sample size should be at least 5% (per cent) of the total number of maintenance tasks carried out or 50 maintenance tasks, whichever is lower. If discrepancies are found during the sample check, further investigation should be carried out to the extent necessary to determine the level of inaccuracy in the records kept. Each time a review is carried out, a different set of samples should be selected to ensure over time a wide range of maintenance tasks are checked.
- 5. Examples of documents that may substantiate maintenance has been carried out include:
  - a. maintenance records for maintenance carried out on the aircraft;
  - b. copies of authorised release certificates for product, parts or appliances;
  - c. log books for products such as engines and propellers; and
  - d. log cards for landing gear.
- 6. For product, parts or appliances, the document that substantiates that the maintenance has been carried out on the product, parts or appliances should relate to the product that is identified in the records kept by part number and serial number if applicable.

## AMC M.A.710(a)(4) Airworthiness Review

#### Rectification of Defects

Examine the aircraft's continuing airworthiness record system to determine whether there is any defect in the aircraft that needs rectification before flight. Defects that require rectification before flight should be rectified before the issue of an airworthiness review certificate.

#### **Deferred Defects**

Examine the existing deferred defects as recorded in the aircraft's continuing airworthiness record system to determine whether deferral of rectification has been done.

# AMC M.A.710(a)(5) Airworthiness Review

- 1. Examine the records containing compliance with Airworthiness Directives (AD) to determine whether actions required by each AD that applies to the aircraft, product, parts or appliances fitted to the aircraft have been complied with. An examination of documents that substantiate each AD has been complied with should be carried out to verify that information kept is correct. Examples of documents that may substantiate an AD has been complied with includes:
  - a. maintenance records for maintenance carried out on the aircraft;
  - b. copies of authorised release certificates for product, parts or appliances; and
  - c. logbooks for products such as engines and propellers.
- 2. For a product, parts or appliances, the document that substantiates that the AD has been complied with in relation to the product, parts or appliances should relate to the product that is identified in the records by part number and serial number if applicable.
- 3. Where an AD requires compliance with requirements contained in another document such as a service bulletin (SB), a record of compliance with the service bulletin would be acceptable as evidence of compliance with the AD.

#### AMC M.A.710(a)(6) Airworthiness Review

Examine the records of modifications kept to determine whether there is a TAMM Regulation 2 and/or 3 (see Regulation M.A.304 - Data for modifications and repairs) approval for each design of the modification. For the purpose of this paragraph, a modification includes a repair that involves a change to the approved design of the aircraft.

# AMC M.A.710(a)(7) Airworthiness Review

- 1. Examine the records of life-limited components kept to determine whether each life limited part has been correctly identified by part number, serial number and whether the life limit has been exceeded for any of the parts.
- 2. In addition, documents that have been used to substantiate remaining life at installation should be checked to verify that information kept for life-limited components is correct. Examples of such substantiating documents include:
  - a. maintenance records for installation of the parts;
  - b. authorised release certificates for the parts; and
  - c. life-limited component history/log card.

## AMC M.A.710(b) & (c) Airworthiness Review

1. The physical survey could require actions categorised as maintenance, e.g. operational tests, tests of emergency equipment, visual inspections requiring panel opening etc. In this case, after the airworthiness review, a CRS for aircraft should be issued in accordance with DGTA AMO.

When the airworthiness review staff are not appropriately authorised to release such maintenance, M.A.710(b) requires them to be assisted by DGTA AMO certifying staff. However, the function of such certifying staff is limited to performing and releasing the maintenance actions requested by the airworthiness review staff; it is not their function to perform the physical survey of the aircraft. As stated in M.A.710(b), the DGTA staff shall carry out the physical survey of the aircraft, and this survey includes the verification that no inconsistencies can be found between the aircraft and the documented review of records.

- 2. The physical survey of the aircraft may include verifications to be carried out during flight.
- 3. The CAMO should develop procedures for the airworthiness review staff to produce a compliance report that confirms the physical survey has been carried out and found satisfactory.
- 4. To ensure compliance, the physical survey of the aircraft may include relevant sample checks of items.
- 5. As DGTA decides to conduct entirely the airworthiness review process for CoA Renewal, the airworthiness review staff may not required in CAMO.

#### GM M.A.710(d) Airworthiness Review

When an airworthiness review is anticipated by up to 90 days, the expression "without loss of continuity of the airworthiness review pattern" means that the new expiration date is set up one year after the previous expiration date. As a

consequence, when the airworthiness review is anticipated, the validity of the airworthiness review certificate is longer than one year (up to 90 days longer).

If for service reasons an airworthiness review is anticipated by more than 90 days, the next airworthiness review is due 12 months from this earlier anticipated date.

#### 28. M.A.711 PRIVILEGES OF THE ORGANISATION

# GM M.A.711(a)(1) Privileges of the organisation (MY)

All Continuing Airworthiness Tasks are under the responsibility of the CAMO even if they interact with AMO and AEO as defined in TAMM Regulations 2, 3, 4 and 5.

# AMC M.A.711(a)(3) Privileges of the organisation (MY)

- 1. The CAMO may subcontract certain continuing airworthiness management tasks to subcontractors. The subcontractor performs the continuing airworthiness management tasks as an integrated part of the CAMO continuing airworthiness management system, under the CAMO quality system if the subcontractor is not DGTA approved, and according to TAO-M approval certificate if approved.
- 2. The CAMO remains responsible for the satisfactory performance of the continuing airworthiness management tasks, separate from any contract that may be drawn up.
- 3. As such, the CAMO should supervise the activity of its subcontractor and ensure that the latter meets the requirements of part (G + I):
  - a. through direct involvement in monitoring, and/or
  - b. taking into account the recommendations of the subcontractor.
- 4. Appendix III to AMC M.A.711(a)(3) Priviliges of the organisation.

Table 1 – List of Subcontracting Tasks states special terms of Limited Tasks (L) and None-Limited Task (NL). Limited task (L) means tasks that are subcontracted to a service provider with limited responsibilities. None-Limited (NL) tasks mean tasks that are subcontracted to a service provider with None-Limited responsibilities. Thus, the DGTA shall give an approval for the CAMO to subcontract those tasks which, in usual case, are the responsibility of the CAMO itself. The limited tasks (L) and the none-limited tasks (NL) which may be the subject of an extension of the prerogative granted to the CAMO by the DGTA are identified in Table 1.

5. CAMO controls associated with subcontracted continuing airworthiness management tasks should be specified in the associated contract and conform to the CAMO policy and procedures defined in the CAME. When such tasks are

subcontracted, the continuing airworthiness management system is deemed to be extended to the subcontractor.

- 6. The CAMO should limit the number of sub-contractors per fleet type and ensure that adequate coordination controls are in place and that the responsibilities of each sub-contractor are clearly defined in the relevant contracts.
- 7. The subcontract should not authorize the subcontractor to subcontract elements of continuing airworthiness management tasks to other organizations.
- 8. Not applicable.
- Not applicable.
- 10. Appendix III to AMC M.A.711(a)(3) Privileges of the organisation provides additional information on the subcontracting of continuing airworthiness management tasks.

# GM M.A.711(a)(3) Privileges of the organisation (MY)

CAME shall clearly identify the continuing airworthiness management tasks to be carried out by another organisation as defined in this regulation.

#### 29. M.A.712 QUALITY SYSTEM

#### AMC M.A.712(a) Quality system

- 1. Procedures should be held current such that they reflect best practice within the CAMO. It is the responsibility of all CAMO staff to report any difficulties with the procedures via their CAMO's internal occurrence reporting mechanisms.
- 2. All procedures, and changes to the procedures, should be verified and validated before use where practicable.
- 3. The feedback part of the system should address who is required to rectify any non-compliance in each particular case and the procedure to be followed if rectification is not completed within appropriate timescales. The procedure should include the Accountable Manager specified in M.A.706 Personnel requirements.
- 4. The independent quality audit reports referenced in AMC M.A.712(b) Quality system and SMS should be sent to the relevant department for rectification action giving target rectification dates. Rectification dates should be discussed with such department before the quality department or nominated quality auditor confirms such dates in the report. The relevant department is required to rectify findings and inform the Quality Manager or the quality auditor of such rectification.

5. The Accountable Manager should hold regular meetings with staff to check progress on rectification. In large CAMOs, such meetings may be delegated on a day to day basis to the Quality Manager, subject to the Accountable Manager meeting at least twice per year with the senior staff involved to review the overall performance and receiving at least a half-yearly summary report on findings of non-compliance.

## AMC M.A.712(b) Quality system

- 1. The primary objectives of the quality system are to enable the CAMO to ensure airworthy aircraft and to remain in compliance with the TAO-M requirements.
- 2. An essential element of the quality system is the independent audit.
- 3. The independent audit is an objective process of routine sample checks of all aspects of the CAMO's ability to carry out continuing airworthiness management to the required standards. It includes some on-aircraft sampling as this is the end result of the process.
- 4. The independent audit represents an objective overview of the complete continuing airworthiness management related activities. It is intended to complement the M.A.902 Validity of the CoA Renewal requirement for an airworthiness review to be satisfied that all aircraft managed by the organisation remain airworthy.
- 5. The independent audit should ensure that all aspects of M.A.701 CAMO compliance are checked annually, including all the contracted/tasked activities, and may be carried out as a complete single exercise or subdivided over the annual period in accordance with a scheduled plan. If the continuing airworthiness of more than one aircraft type is managed, the independent audit does not require each procedure to be checked against each aircraft type when it can be shown that the particular procedure is common to more than one aircraft type and the procedure has been checked every year without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other aircraft types until the findings have been rectified after which the independent audit procedure may revert to the annual interval for the particular procedure.

Provided that there are no safety-related findings, the audit periods specified in this AMC may be increased by up to 100% subject to agreement by the DGTA.

- 6. Where the CAMO has more than one approved location, the quality system should describe how these are integrated into the system and include a plan to audit each location every year.
- 7. A report should be raised each time an audit is carried out describing what was checked and the resulting findings against applicable procedures, contracts/taskings and TAO-M requirements.

- 8. The independence of the audit should be established by ensuring that audits are not carried out by personnel responsible for the function, procedure or products being checked.
- 9. A CAMO should establish a quality plan acceptable to the DGTA that shows when and how often the activities required by TAO-M Subpart G CAMO will be audited.

## GM M.A.712(b) Quality system

Monitoring of contracted/tasked M.A.701 - CAMO activities need not involve an independent audit of procedures managed by external organisations. Other methods such as sampling and monitoring the suitability of products may be acceptable to DGTA. The method used to monitor contracted/tasked CAMO activities should be described in the CAME.

# GM M.A.712(c) Quality system (MY)

Other legislative requirements, overriding TAO-M, may require an organisation to keep records for a longer period.

#### 30. M.A.714 RECORD-KEEPING

#### AMC M.A.714 Record-keeping

- 1. The system to retain the continuing airworthiness records should be described in the CAME.
- 2. When a CAMO arranges for a DGTA AMO to retain copies of the M.A.714 continuing airworthiness records on its behalf, the CAMO will nevertheless continue to be responsible for their preservation. If another CAMO assumes responsibility for managing the continuing airworthiness of an aircraft, then the original CAMO is responsible for transferring the records.
- 3. Keeping continuing airworthiness records in a form acceptable to the DGTA means in paper form or on a computer database or a combination of both methods.

'Readable and accessible' is defined in AMC – M.A.305(h) - aircraft continuing airworthiness record system.

- 4. Paper systems should use robust material which can withstand normal handling and filing.
- 5. Computer systems should have at least one backup system which should be updated within 24 hours of any new entry. Each terminal is required to contain program safeguards against the ability of unauthorised personnel to alter the database.

# GM M.A.714(c) Record-keeping (MY)

TAMM Regulation 2 shall be in-force until TAO-21 Sub Part P supersedes it.

# AMC M.A.714(d) Record-keeping (MY)

Records retention period shall be kept from a minimum of 2 years to a period as determined by SAO.

#### 31. M.A.716 CAMO FINDINGS BY THE DGTA

## GM M.A.716 CAMO findings by the DGTA

#### 1. General

- a. Preventive action is the action to eliminate the cause of a potential non-compliance or other undesirable potential situation.
- b. Corrective action is the action to eliminate or mitigate the root cause(s) and prevent recurrence of an existing detected non-compliance, or other undesirable condition or situation. Proper determination of the root cause is crucial for defining effective corrective actions to prevent reoccurrence.
- c. Correction is the action to eliminate a detected non-compliance.

#### 2. Root-cause analysis

- a. It is important that the analysis does not primarily focus on establishing who or what caused the non-compliance but why it was caused. Establishing the root-cause or causes of a non-compliance often requires an overarching view of the events and circumstances that lead to it, to identify all possible systemic and contributing factors (regulatory, human factors, organisational, managerial, cultural, technical, etc.) in addition to the direct factors. A narrow focus on single events or failures, or the use of a simple method such as fault tree, to identify the chain of events that lead to the non-compliance may not properly reflect the complexity of the issue, and, therefore bears the risk that important factors required to be addressed in order to prevent reoccurrence will be ignored.
- b. Such inappropriate or partial root-cause analysis often leads to defining 'quick fixes' addressing the symptoms of the nonconformity only. A peer review of the results of the root-cause analysis may increase its reliability and objectivity.
- c. A system description of the organisation considering organisational structures, processes and their interfaces, procedures, staff, equipment, facilities and the environment in which the organisation operates will support both effective root-cause (reactive) and hazard (proactive) analysis.

# AMC M.A.716(a)(2) CAMO findings by the DGTA

The corrective action plan defined by the CAMO should address the effects of the non- compliance, as well as its root cause.

## SUBPART I AIRCRAFT REVIEW CERTIFICATE (ARC)

#### 34. M.A.901 AIRCRAFT AIRWORTHINESS REVIEW

AMC M.A.901(MY)

Appendix XII lists the Procedure for Renewal of Certificate of Airworthiness (CoA).

#### GM M.A.901 Aircraft airworthiness review

Airworthiness Review Certificate (ARC) will be known as the Certificate of Airworthiness Renewal (CoA Renewal) in the DGTA State Aircraft environment.

The procedure to renew the Certificate of Airworthiness (CoA) changes with TAO-M.

TAMM Regulation 2.9 deals with the Certificate of airworthiness, nevertheless, the new process required in TAO-M requires CAMO to manage the airworthiness review in a new manner that supersedes the process described in TAMM Regulation 2.

## AMC M.A.901(d) Aircraft airworthiness review

The recommendation sent by CAMO (if approved) to the DGTA should contain at least the items described below:

- (a) General information
  - -CAMO information;
  - -Operating Organisation information;
  - -date and place the document review and the aircraft survey were carried out;
  - -period and place the aircraft can be seen if required by the DGTA.
- (b) Aircraft information
  - -registration;
  - -type;

- -manufacturer;
- -serial number;
- -Aircraft Flight Manual reference;
- -weight and centre of gravity data;
- -AMP reference;
- -symmetry check data (if applicable).
- (c) Documents accompanying the recommendation
  - -copy of the Operating Organisation's request for a new CoA Renewal
- (d) Aircraft status

-aircraft total flight hours and cycles or other service life consumption units if applicable;

-list of organisations having carried out continuing airworthiness activities including maintenance tasks on the aircraft and its components since the last CoA Renewed.

# (e) Aircraft survey

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

# (f) Findings

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

#### Statement

A statement signed by the DGTA staff recommending the issue of an CoA Renewal

The statement should confirm that the aircraft in its current configuration complies with the following:

- -Airworthiness Directives up to the latest published issue; and
- -Type Certificate data sheet; and
- -AMP; and

- -component service life limitations; and
- -the valid weight and reflecting the current configuration of the aircraft; and
- -TAMM Reg. 2 and/or 3 for all modifications and repairs, and;
- -the current Aircraft Flight Manual including supplements; and
- -valid symmetry check schedule (if applicable); and
- -operational requirements.

The above items should clearly state the exact reference of the data used in establishing compliance; for instance, the number and issue of the MSTC datasheet used should be stated.

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

# AMC M.A.901(j) Aircraft airworthiness review

Suitable accommodation should include:

- a. an office with normal office equipment such as desks, telephones, photocopying machines etc., whereby the continuing airworthiness records can be reviewed.
- b. a hangar when needed for the physical survey.

The support of personnel appropriately authorised in accordance with DGTA AMO is necessary to assist with depanelling/panelling/functional checks etc.

# 35. M.A.905 FINDINGS FROM AN AIRCRAFT AIRWORTHINESS REVIEW CARRIED OUT BY THE DGTA

GM1 M.A.905 Findings from an aircraft airworthiness review carried out by the DGTA (MY)

In accordance with the new process in place with TAMM Regulation 2 for the Certificate of Airworthiness (CoA) validity, the process to manage the findings highlighted during the airworthiness review is also revised compared to Section 1 Chapter 6 and Part 4 Chap 4 Para 42(b)7 of the TAMM.

AMC M.A.905(a)(1) Aircraft findings by the DGTA

The Operating Organisation should establish an effective system of communication with operating locations to ensure the timely suspension of flight operations of the affected aircraft.

# GM M.A.905(a)(3) Findings from an aircraft airworthiness review carried out by the DGTA

The corrective action plan defined by the Operating Organisation / CAMO should address the effects of the non-compliance, as well as its root cause.

# AMC M.A.905(b) Findings from an aircraft airworthiness review carried out by the DGTA

The Operating Organisation should consider at least the following:

- (a) Probable root cause and contributory factors;
- (b) Applicability of those to other aircraft under its responsibility;
- (c) Other factors that could potentially lead to an unsafe condition(s) in those other aircraft.

# GM M.A.905(a) Aircraft findings by the DGTA

See GM TAO-M M.A.716 for further guidance.

# TECHNICAL AIRWORTHINESS ORDERS PART M CONTINUING AIRWORTHINESS MANAGEMENT PART 3 APPENDICES

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 1

# Appendix I to AMC M.A.302

# CONTENT OF THE AIRCRAFT MAINTENANCE PROGRAMME (AMP)

- 1. **General requirements**
- 1.1 The Aircraft Maintenance Programme (AMP) should contain the following basic information:
- 1.1.1 The type/model and registration number of the aircraft, engines and, where applicable, auxiliary power units and propellers.
- 1.1.2 The name and address of the Operating Organisation(s) and the organisation responsible for producing and amending the AMP.
- 1.1.3 The reference, the date of issue and issue number of the AMP.
- 1.1.4 A statement signed by the CAMO's Accountable Manager or their nominated representative to the effect that the specified aircraft will be maintained to the AMP and that the AMP will be reviewed and updated as required.
- 1.1.5 Contents/list of effective pages and their revision status of the document.
- 1.1.6 Intervals for scheduled maintenance reflect the anticipated utilisation of the aircraft. Such utilisation should be stated and include tolerance. Where utilisation cannot be anticipated, calendar time limits should also be included.
- 1.1.7 Procedures for the extension of established intervals for scheduled maintenance, where applicable and acceptable to the DGTA.
- 1.1.8 Provision to record the date and reference of approved amendments incorporated in the AMP.
- 1.1.9 Details of pre-flight tasks that are accomplished by maintenance staff.
- 1.1.10 The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APU's, propellers, components, accessories, equipment, instruments, electrical and radio apparatus, together with the associated systems and installations should be inspected. This should include the type and degree of inspection required.
- 1.1.11 The periods at which components should be checked, cleaned, lubricated, replenished, adjusted and tested.

- 1.1.12 If applicable, details of ageing aircraft system requirements together with any specified sampling programmes.
- 1.1.13 If applicable, details of specific structural maintenance programmes where issued by the MSTC holder / any organisation recognised by the DGTA, including but not limited to:
  - a. Damage Tolerance based Structural Maintenance Inspection Programmes and Supplemental Structural Inspection Documents (SSID).
  - b. Structural maintenance programmes resulting from the SB review performed by the TC holder.
  - c. Corrosion Prevention and Control Programmes (CPCP).
  - d. Repair Evaluation Guidelines, Repair Assessment Programmes or similar documents.
  - e. Widespread Fatigue Damage.
- 1.1.14 If applicable, details of CDCCLs together with appropriate procedures.
- 1.1.15 If applicable, a statement of the limit of validity in terms of total flight cycles/calendar date/flight hours / other service life consumption units for the structural programme in 1.1.13.
- 1.1.16 The periods at which overhauls and/or replacements by new or overhauled components should be made.
- 1.1.17 A cross-reference to other documents approved by the DGTA which contain the details of maintenance tasks related to mandatory life limitations, Certification Maintenance Requirements (CMR's) and ADs.

**NOTE**: To prevent inadvertent variations to such tasks or intervals these items should not be included in the main portion of the AMP document, or any planning control system, without specific identification of their mandatory status.

- 1.1.18 Details of, or cross-reference to, any required reliability programme or statistical methods of continuous surveillance.
- 1.1.19 A statement that practices and procedures to satisfy the programme should be to the standards specified in the maintenance instructions promulgated by the Malaysian State Type Certificate (MSTC) and Supplementary Type Certificate (STC) holders and any other organisation that publishes such data in accordance with DGTA TAO 21. In the case of approved practices and procedures that differ, the statement should refer to them.
- 1.1.20 Each maintenance task quoted should be defined in a definition section of the AMP.

#### 2. Aircraft Maintenance Plan Basis

2.1 An AMP should normally be based upon the MRB (or equivalent), where applicable, and the MSTC holder MPD or the manufacturer's recommended maintenance programme.

The structure and format of these maintenance recommendations may be re-written to better suit the operation and control of the particular AMP.

- 2.2 For a newly type-certificated aircraft where no previously approved AMP exists, it will be necessary to comprehensively appraise the manufacturer's recommendations (and the MRB / RCM report or equivalent where applicable), together with other airworthiness information, in order to produce a realistic AMP for approval.
- 2.3 For existing aircraft types, it is permissible to make comparisons with AMPs previously approved. It should not be assumed that an AMP approved for one Operating Organisation will automatically be approved for another.

Evaluation should be made of the role, aircraft/fleet utilisation, landing rate, configuration, operating environment, equipment fit and, in particular, the experience of the Operating Organisation/CAMO/other Operating Organisations when assessing an existing AMP.

Where the DGTA is not satisfied that the proposed AMP can be used as is, the DGTA should request appropriate changes such as additional maintenance tasks or reduction of established intervals of scheduled maintenance tasks as necessary.

2.4 Critical Design Configuration Control Limitations (CDCCLs)

If CDCCLs have been identified for the aircraft type by the M(S)TC holder, maintenance instructions should be developed. CDCCLs are characterised by features in an aircraft installation or component that should be retained during modification, change, repair, or scheduled maintenance for the operational life of the aircraft or applicable component or part.

#### 3. **Amendments**

Amendments (revisions) to an approved AMP should be made to reflect changes in the MSTC holder recommendations, modifications, service experience, or as required by the DGTA.

# 4. Permitted variations to maintenance periods

Maintenance periods prescribed by the AMP may only be varied with the approval of the DGTA or through a procedure developed in the AMP and approved by the DGTA.

# 5. Periodic review of AMP contents

Approved AMPs should be subject to periodic review to ensure that they reflect current MSTC holder recommendations, revisions to the MRB/RCM report (or equivalent) if applicable, mandatory requirements and the maintenance needs of the aircraft.

5.2 A review of the detailed requirements should be carried out at least annually for continued validity in the light of operating experience and any changes to assumed utilisation, configuration, role or operating environment.

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 2

Appendix I-a to AMC M.A.302

Analysis Principles for CAMO (When a Reliability Programme has not been developed)

# **AMP EFFECTIVENESS ANALYSIS**

# 1.1 Analysis Principles

The efficiency analysis of AMP is necessary when a reliability program is not developed for the type of aircraft considered per the relevant chapter in CAME (Reliability Program). Thus, CAMO must continuously analyse defects arising during operation and scheduled maintenance.

As such, CAMO has the role, via its technical experts assigned to the fleet department or a CAM service provider working for a CAMO, to carry out an analysis of the data making it possible to assess the effectiveness of the AMP according to specified defined process.

The results of the analysis are used to:

- verify and improve the effectiveness of the AMP by trying to eliminate or reduce the occurrence of repetitive defects and progressive degradations.
- request additional ad hoc analysis (example: ageing study).

Existing SAO Information technology systems such as SPKB can be used to compile statistics correlated with the work of the units responsible for technical expertise or the service provider. The technical experts within DAR or a CAM service provider to draw up technical recommendations to the CAM Responsible manager, which are discussed at least every 12 months during an annual meeting on the effectiveness of the AMP. When the analysis of the effectiveness of the AMP is entrusted to a service provider, the contractor is responsible for organising an annual review according to the terms of the contract.

The principle of continuous analysis is partly based on the analysis of faults encountered during operation and scheduled maintenance. In this context, the maintenance organisations and the CAMO produce useful proposals from their feedback for improving the AMP.

# 1.2 Analysed Data

The analysed data are to be specified in a specified procedure. This analysis can notably be based on the systematic retrieve such as from:

- Aircraft Logbook system via "pilot reports" and "maintenance reports" carried out by the technical offices during the recording control. This control only aims to detect significant technical facts or recurring technical facts that DGTA AMO has not already reported.
- Defects during maintenance checks, either operational/intermediate/depot level maintenance (OLM/ILM/DLM) work packages to be analysed by CAMO. This may include, in particular, additional unscheduled maintenance operations at DLM. These analyses, where possible, are accompanied by an assessment of the content of the checks.
- defect occurrence report via SPKB and repetitive faults, to be analysed with existing tools available.
- consumption statistics for spare parts and consumables and other logistics data.
- delay or cancellation of a mission having a technical origin.
- incident or accident analysis report.
- any other information delivered by subcontractors, suppliers, operational users (operating conditions (evolution of real/theoretical mission profiles, operating conditions, etc.) or maintenance personnel which may have an impact on the maintenance program.
- reliability data available.
- heavy operations in terms of human resources and / or finances.
- deviations and permit to flight authorisations.

All of its data is analysed and presented at the DAR level, taking into account parameters such as aircraft ageing, the frequency and nature of the defects observed to ensure the maintenance's relevance and frequency.

The department of the corresponding fleet, with the support of the technical experts of its technical-logistic section or of the concerned technical team if existing or the CAM service provider in the case of subcontracting tasks, prepares the analysis reports, which will be presented and discussed in an annual review of the effectiveness of the AMP.

# 1.3 Analysis criteria

The evolution of an AMP deadline (the content of the operation or deadline) can only be considered after an in-depth analysis by the corresponding fleet department.

Each maintenance task is analysed individually to determine:

- the maintenance mode considered (fixed frequency, depending on condition, behaviour monitoring).
- the estimated failure mode (fatigue, wear, corrosion, randomness, etc.).
- the effects of the failure on the system.
- the frequency of occurrence.
- the correlation of these occurrences with the failure mode and the effects to estimate criticality.
- the obviousness of the failure for the crew.
- the nature of the findings linked to the successful execution of this task.
- the additional number of usage counter units (flight time, cycle, calendar stop or other).
- any compensatory measures.

# 1.4 AMP effectiveness analysis

The process of analysing the effectiveness of the AMP is, therefore, an ongoing process based on:

- the feedback of information from CAMO production entities to DAR.
- the use and permanent analysis of this information by the CAMO.

The conclusions of the analysis of the effectiveness of the AMP can lead to changes in the frequency of the maintenance tasks of the AMP. For this reason, it may be relevant to include in the annual review of the AMP, a review of the proposals resulting from the analysis of the effectiveness of the AMP.

Suppose the result of the efficiency analysis leads to a need for a change in the AMP, an application to a DAR to be requested via the technical authority if necessary. In this case, the collection and analysis of the findings, which may result, for example, in a new checks interval, make it possible to verify the validity of the hypotheses and to confirm the interest in the new interval. The analysis results are then presented to the authority concerned for possible official approval to be integrated through a revision of the AMP.

Finally, the results of the analysis can also lead to a development process in other fields such as:

- improvement of operating methods (work card, maintenance instruction).
- staff training.

- the modification application.
- improving operational procedures in order to reduce equipment demand.
- improvement of CAMO procedures.
- quality improvement proposals to DGTA AMO, equipment suppliers or designers (aircraft and equipment).

# 1.5 Reliability Program

# 1.5.1 Applicability

Suppose the AMP is based on a methodical analysis of the MSG3 type (Maintenance Steering Group) or mainly on condition monitoring process or the type certificate holder specified in its instructions related to the continuing airworthiness. In that case, the AMP shall contain a reliability program.

The majority of aircraft operated by the SAO/ Commercial industries do not necessarily meet the above criteria and the AMP then contains periodic tasks for a general overhaul of system equipment, the failure of which could endanger the safety of the aircraft.

In the absence of regulatory requirements, the CAMO may nevertheless decide to implement a reliability program for an aircraft fleet or all or part of this equipment. When a reliability program has not been developed, a relevant chapter in CAME need to be written about with this intention, these "AMP effectiveness analysis" applies by default.

The fleet appendices to this CAME specify the aircraft for which a reliability program has been developed and approved through the maintenance program.

# 1.5.2 Operating reliability programs

The data from the reliability program are analysed at least annually during the annual review of the AMP or equivalent meeting (according to the contract terms) in the contractor's presence when this reliability analysis task is entrusted to the industry.

On this occasion, the indicators are reviewed with the DAR results of reliability measures, the associated analysis, and the proposed corrective actions are studied (based on the reports produced by the contractor when the task is subcontracted).

On this occasion, it analyses the opportunity for technical evolution linked to the configuration of the fleet, AMP and operational reliability, etc.

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 3

Appendix I-b to AMC M.A.302:

Sample statement/chapters in CAME (When a Reliability Programme has not been developed)

Part 2 - Procedures For Managing The Maintenance of Airworthiness

# 2.0 Analysis of the effectiveness of the aircraft maintenance program

This paragraph is not applicable to CAMOs with a reliability program. For example, list the data used to analyse the effectiveness of the maintenance program:

- reports of the crews on the Aircraft Logbook system: number / ATA classification/object
- maintenance actions linked to the Aircraft Logbook system: number/ATA classification/object
- Return to base in flight
- consumption of spare parts (aircraft components)
- repetitive problems and faults in scheduled maintenance (number/ATA classification/object)
- technical delays (through statistics)
- technical incidents (through statistics: aircraft and engine)
- corrosion control when a corrosion control and prevention program is defined by the aircraft manufacturer

This paragraph of the CAME shall identify the person responsible for the analysis and the records associated with this activity (summary report and associated decisionmaking, possible meeting minutes)

Decision-making can lead to:

- the amendment of the aircraft maintenance program
- amendment of maintenance and operating procedures
- the implementation of optional modifications

Note: in case of a voluntary application by an operator of the requirements associated with ETOPS operations, refer to AMC 20-6 - EASA edition in force to complete the points relating to the analysis of the reliability program.

# 2.1 Procedure for implementing optional modifications

This paragraph should explain how information about optional changes is handled by the organisation.

On the one hand, it is necessary to designate the person in charge of the evaluation and decisions to apply or not to apply the modifications and, on the other hand, to specify the main criteria on which the decisions are based.

Finally, it involves describing the records associated with this activity (list of Service Bulletin (SB) studied, application / non-application decisions with associated justifications, etc.).

# 2.2 Reliability program

When the CAMO has developed and obtained approval for a reliability program (integrated into the maintenance program), it shall describe in this paragraph how this program is managed, by addressing in particular the following points:

- scope and area of management organisation reliability programs
- specific organisational structures, tasks and responsibilities
- development of reliability data
- analysis of reliability data
- corrective action system (amendment of the maintenance program)
- periodic checks (reliability meetings, the participation of the authority).

This paragraph of the CAME can be divided as follows, if necessary:

- 2.2.1 Cell
- 2.2.2 Motors
- 2.2.3 Equipment

For CAMOs benefiting from the reliability program of another CAMO or a third party, this paragraph shall refer to this program (specifying the area covered).

The procedure shall also specify the exchange of information between the two parties as well as the justifications to be provided to the DAR in the event of changes to the maintenance program (report by the reliability group including the corresponding analysis and, if applicable, the agreement of the technical authority).

A contract shall be established between the two parties to specify in particular the area covered by the reliability monitoring as well as the respective responsibilities of the parties (note that a contract shall also be established if reliability only concerns equipment).

# Part 3.0 - Subcontracting Contract

# 3.1 Effectiveness of the maintenance program and reliability

Once the CAMO develops an AMP and manages an AMP, the CAMO shall state how the CAMO monitors and evaluates the effectiveness of the maintenance program, based on experience in the maintenance and use of aircraft. The data collection and the first evaluation can be subcontracted, the required actions shall be ratified by the CAMO.

When a reliability control is used to establish the effectiveness of the maintenance program, this activity may be subcontracted and shall be specified in the corresponding procedures. The approved CAMO maintenance program and the reliability program shall be referenced. The participation of CAMO personnel in reliability meetings with the subcontractor shall also be specified.

By providing the reliability data, the subcontractor is limited to using the data and documents provided by the CAMO or data coming from the reports of the DGTA AMO organisation subcontracting to the CAMO. Any other source is to be avoided.

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 4

Appendix I-c to AMC M.A.302

# GUIDANCE ON THE DEVELOPMENT OF AIRCRAFT MAINTENANCE PROGRAMME (AMP)[MY]

#### 1.0 **OBJECTIVE**

This guidance manual defines the procedures for developing, reviewing and approving an aircraft maintenance program (AMP) of a continuing airworthiness management organisation (CAMO).

#### 2.0 **SCOPE**

This guidance is intended for the personnel of an approved CAMO or applying for a CAMO approval under part G, whose concerns about the maintenance planning for the aircraft or falling within the scope of approval of this CAMO.

#### 3.0 DEFINITION AND PURPOSE OF AN AMP

# 3.1 **REGULATORY REFERENCES**

The continuing airworthiness tasks described in TAO-M subpart C are based on the existence of an approved AMP compliant with TAO-M M.A.302. The CAMO develops the AMP from the applicable maintenance data and has it approved. The CAMO is responsible for the compliance of the AMP data. The AMP contains processes and procedures for the accountable manager of the CAMO or his delegate with regard to the AMP's compliance with source data and compliance with the approved aircraft maintenance program. The AMP is approved by the DGTA, which may delegate it to other authorities for approval.

## 3.2 **DEFINITIONS**

#### 3.2.1 **AMP**

The AMP consists of the applicable Maintenance Managed Item (MMI) for a complete aircraft. It is a document that combines all the data essential to ensure complete management of preventive, scheduled and other maintenance.

The AMP corresponds to a set of information available at the time of publication of the applicable maintenance data. The AMP is to be revised periodically as there might be a revision in its referenced data. The AMP also lists all scheduled maintenance tasks to be carried out, including their frequency as well as relating to specific tasks.

An AMP is established for an aircraft type and model as defined by its airworthiness

datasheet. Thus, an AMP is a document specific to the CAMO and must be self-sufficient to ascertain Maintenance Managed Item (MMI) for the aircraft, including those for products, parts and approved equipment (including optional ones) subject to limit or scheduled maintenance.

The AMP is derived from:

- recommended maintenance programs defined by the type certificate holder, and:
- documentation specifying maintenance limits and intervals for fitted products, parts and equipment and optional, subject or not to the requirements of continuing airworthiness. The AMP is not a document that defines the maintenance of the equipment removed as such It is not intended for AMO maintenance organisations.

The AMP is in the form of an identified document, managed in the configuration according to specific provisions to the CAMO to be described in the CAME.

#### 3.2.2 Preventive maintenance

Preventive maintenance calls for the maintenance tasks that need to be carried out in a scheduled manner, independently of measures taken in reaction to an occurrence and which therefore are considered corrective action.

Preventive maintenance consists of all of the tasks that maintain the aircraft at a satisfactory level of safety corresponding to the conditions defined by the initial certification, supplemented by additional airworthiness data such as AD, SB, etc. It generally incorporates:

- inspections examinations of various levels aimed at objectively recognising the state of a component.
- specific actions, predetermined or not, conservation actions, as well as corrective actions resulting from inspections.
- replacement of components on a fixed date.
- periodic checks following the application of a repair scheme.

#### 3.3 PURPOSE OF AN AMP

The purpose of the AMP is to provide the CAMO with the necessary and sufficient information to plan the maintenance of the complete aircraft and its options. The AMP allows the DGTA to ensure that the CAMO instructs the necessary maintenance tasks to maintain safe operation of the aircraft.

The CAMO must ensure that the AMP is well understood and implemented well by its staff. Therefore, it must be applicable at all times and by all personnel responsible who operate it.

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NOTE: The AMP can be implemented in an Information Technology/Logistic system.

A CAMO must demonstrate that each aircraft listed within its approval scope is well maintained according to an AMP approved by the DGTA.

In particular, it allows the CAMO to ascertain and orders preventive maintenance, depending on:

- flight time: number of cycles and landings.
- the elapsed calendar time (in particular for aircraft with low flying ratio) in relation to the operating environment (e.g. salt atmosphere, etc.).
- specific counters (accelerometer, etc.).

The AMP must be a summary document:

- provisions covered by the aircraft manufacturer's basic documentation (maintenance manual).
- the prescriptions of the manufacturers of the engines, propellers and equipment installed on the aircraft.
- specific preventive maintenance actions of a repetitive nature introduced by manufacturer's technical directives or resulting from Airworthiness Directives.
- maintenance operations related to the operating mode of the aircraft and its specific conditions of use.
- lessons learned from the experience acquired by the CAMO, in relation to the technical authority and/or the type certificate holder.

#### 3.4 **CONTENT OF AN AMP**

For aircraft configurations implemented by the operator, the AMP specifies all the maintenance limitations and life-limit for the products, parts and equipment fitted, whether or not subject to the requirements of continuing airworthiness. These data must be known and held by the CAMO (M.A.709). The AMP specifies the sources used for its preparation: recommended maintenance programs defined by the type certificate holder, maintenance manual, technical notice, Instructions for Continued Airworthiness (ICA), Component Maintenance Manual (CMM) of the equipment for which the Maintenance Review Board Report (MRBR) refers to the manufacturer's recommendations, etc.

The AMP must also integrate the maintenance requirements linked to particular types of operation. An AMP may also contain applicable but not imperative maintenance data retained by the CAMO such as recommended SB.

An AMP must contain at least:

- the list of aircraft (serial number and/or registration number) entering its approval scope.
- the reference to aircraft type certificates, engines and possibly aircraft propellers, and any additional certificates such as STC.
- the evidence of the appointment of the accountable manager for the CAMO or his delegate.
- the list of references of the source documents, including the list of mandatory directives with repetitive deadlines.

NOTE: The mandatory directives are defined in the Airworthiness Data Sheet and also includes Airworthiness limitations.

- the description of the maintenance policy.
- the description of the different periodic checks, their intervals, and their tolerances.
- the list of periodic checks.
- the list of equipment with systematic maintenance (Hard Time) including the intervals, limits and the reasons for removal.
- the list of special task/servicing and their description.
- the list of approved flights, their description, their conditions of execution and their defect.
- if applicable, the list of specific operations monitored in Extended-range Twinengine Operational Performance Standards (ETOPS), Reduced vertical separation minima or minimum (RVSM).

Any life-limit of product, equipment, sub equipment must appear in the AMP as soon as it can cause the aircraft to be unserviceable.

IMPORTANT: All source documents at the origin of the introduction of maintenance checks and a life-limit in the AMP must be referenced in the AMP, including for optional equipment or equipment not subject to airworthiness requirements, when they are part of an aircraft configuration implemented by the operator.

Note: A Hard Time task is defined as the scheduled removal of an item or a restorative action at some specified maximum age limit to prevent its functional failure.

#### 4.0 PRINCIPLES TO ADOPT FOR APPROVAL OF AN AMP

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# 4.1 GENERAL CONSIDERATION OF AN AMP

The AMP is developed and adapted according to the operation of the concerned type of aircraft: conditions of use, annual flight hours, etc.

If several aircraft standards (applicability by serial number) exist, the AMP must specify this and display the corresponding maintenance details in the body of the AMP (operations specific to a standard).

The AMP must be practical and easy to use; the AMP must be written in English.

The AMP must be precise and unambiguous, the data contained therein should not be allowed to give way to the interpretation of the operator in charge of launching the job orders.

IMPORTANT: the value of the applicable maintenance data must appear explicitly in the AMP.

Maintenance operations linked to modifications or repairs, which introduce airworthiness limitations, must be explicitly listed in the AMP. The source of the maintenance data must be listed next to it.

Access to source documents (application documents or external references) is possible by hypertext links (INTERNET, INTRANET or other SAO Network) provided that:

- the called sources are always cited and referenced in the AMP: identification, evolution index, date of update.
- the deadlines and purpose of the maintenance operations are clearly mentioned in the AMP.

# Examples:

1. The reason for a maintenance task and its due date will part of input data for the AMP.

The reference of the document in which this input data appears is not sufficient in itself.

2. The ADs engaged in the maintenance of the aircraft, fitted products, parts, and equipment are source data from the AMP. These ADs are referenced in the AMP, and the hyperlink to the source documents is accepted. The deadlines and the object of the maintenance task to be carried out within the framework of the application of these AD are the input data and must appear in the AMP.

NOTE: The AMP submitted for approval must be provided in paper or PDF format; in this case, it can integrate files accessible via a function button.

#### 4.2 AMP VS MAINTENANCE DOCUMENTATION

The AMP is not intended to be a catalogue of all maintenance documents or In-Service Support necessary for all the support of the aircraft, its products and equipment. Only documents providing maintenance deadlines are cited as source documents. The description of the maintenance operations must not appear in the AMP; only the object of operations appears.

Furthermore, the AMP cannot be dissociated from its conditions of application:

- monitoring and planning of maintenance operations (Checks, inspection).
- monitoring and planning of removed parts for limits.

The CAMO can subcontract the development of an AMP to a service provider.

#### 5.0 STRUCTURE OF AN AMP

The AMP includes a minimum of seven sections including a header which constitutes a full-fledged section (section 0):

- section 0: Introduction
- section 1: General Instructions
- section 2: Maintenance Checks Interval
- •section 3: Maintenance methods use and storage of components, equipment or assemblies
- section 4: Special maintenance tasks
- section 5: Functional Check Flight
- section 6: Maintenance Tasks Table

An additional section (Section 7) can be added to describe particular instructions from the operating authority that cannot find their place within one of the sections described above. For example, specific maintenance directives which do not fit into the applicable maintenance data or for the description of certain flights which cannot find their place in section 5.

In particular, if necessary, the maintenance program of the considered aircraft must include the specific requirements related to ETOPS (the latest revision of the CMP document).

The specific inspection and/or modification tasks resulting from the CMP revisions must be implemented as quickly as possible.

All specific ETOPS tasks must be identified in the maintenance schedule. In particular, the tasks related to the maintenance of cargo holds (rails, stowage systems, etc.), pressurisation installations (drains, door seals, etc.) must be considered.

This maintenance program must be drawn up while avoiding any risk of generating the

same error following a maintenance task on identical systems.

The specific ETOPS maintenance tasks, associated with the mention "not to exceed" cannot be subject to escalation (following a reliability program) or an exceptional authorisation procedure, nor management of " any tolerances delegated to the operator; otherwise, the device would effectively lose its ETOPS capacity.

- The content of each section is described in Annexe I.
- Annexe II provides a template for the presentation of AMP.

Scheduled maintenance involves MMI removal and replacement when it reaches the stipulated maintenance interval. In this perspective, it is up to the CAMO to specify in the AMP the section in which they will appear. It shall be understood that the content of the maintenance must appear in the AMP.

Note: Configuration, Maintenance, and Procedures (CMP) document mean a document approved by the authority that contains minimum configuration, operating, and maintenance requirements, hardware life-limits, and Master Minimum Equipment List (MMEL) constraints necessary for an aeroplane-engine combination to meet ETOPS type design approval requirements.

#### 6.0 AMP REVISION

The AMP can be affected by several types of events:

- changes in the applicable maintenance data, for example: change in the manufacturer's recommended maintenance program, change in aircraft type documents, etc.
- · changes in maintenance concept.
- changes in regulatory requirements.
- changes due lessons learned.

Changes can be taken into account in different ways: supplements to the AMP, additional maintenance directive, note, etc.

The publication of more restrictive maintenance data approved by the technical authority must be implemented within the deadlines recommended by the latter, or immediately if necessary by the issuance of a CAMO directive, for example. This directive will constitute a change of the AMP, pending its integration into the document during its revision, under the possible cover of indirect approval.

Any changes must be approved in accordance with the procedures described in paragraph 7 of this guide.

The effectiveness of the AMP is measured during its review by the CAMO according to a period defined in the CAME. The required changes in the AMP can be carried out during this review. The AMP will then be revised.

If the CAMO applies a reliability control program, the amendments relating to the application of this program must follow the procedure set out in the specifications manual for a continuing airworthiness management exposition (CAME).

When a revision of the manufacturer's program requires maintenance adjustment, it is up to the CAMO to take all the measures to schedule the tasks in question in the earliest time possible and update the AMP accordingly.

#### 6.1 CHANGE MANAGEMENT

An evolution of the AMP is said to be "major" when it relates to:

- changes in the maintenance concepts used.
- significant changes in the aircraft maintenance cycle: frequencies, nature of checks.
- regulatory changes.
- replacements of source documents for the aircraft maintenance program; this does not concern the evolutions nor the updates of the initial documents.

Any other change in the MPA is said to be "minor".

The approval reference to be mentioned on the cover page of the AMP is the last direct approval reference of the last edition of the document by the DGTA.

The AMP must include a summary of all successive changes made to it, along with the reasons for the changes.

The history of changes and updates must be kept in the document throughout its life. Keeping all these pages allows you to trace the history of modifications. A model of the revision and amendment tracking table is proposed in the appendix.

All changes compared to the last update must be identifiable in the AMP (an additional sheet of a particular colour in the context of an amendment, of a particular colour, vertical line, etc.).

The updating of the AMP is carried out in accordance with the procedure described by the CAME.

A copy of any revised AMP shall be sent to the DGTA.

#### 6.2 **ARCHIVE MANAGEMENT**

Each version of the AMP must be archived and kept for at least two years after the withdrawal of service from the last aircraft of the type concerned (cf. at least thirty-six months M.A. 305 (h)). In the event that the AMP uses references to external sources - notably in sections 3 and 6 - the data contained in these sources must be kept in the same way and always accessible.

#### 7.0 APPROVAL OF AMP

The DGTA approves the AMP after being validated by the Operating Authority. This information existing at the date of publication of the AMP that is taken into account by the DGTA to approve the AMP.

The approval of an AMP by the DGTA is based on a sample examination of the content of the AMP. However, it does not correspond to complete verification of the accuracy of all the data of the AMP (this accuracy is part of the process of definition by the CAMO and validation by the Operating Authority, and therefore it does not guarantee to the Operating Authority that the AMP does not present any non-compliance with the regulations).

On the other hand, the approval of the AMP by the DGTA attests that the non-exhaustive examination which it was carried out, within the limits of its means and taking into account the regulations in force, did not allow it to detect non-conformities likely to compromise safety.

After AMP approval, if the DGTA finds a non-conformity in the context of continuous oversight, audits or airworthiness reviews, it may have to redo a verification of the information of the related AMP. If the DGTA detects during this additional examination of non-conformities, the approval of the AMP may be questioned, and an action plan will be requested if necessary to correct it and bring it into conformity with the fleet concerned.

The approval of an AMP can be done in two ways, direct or indirect.

# 7.1 **DIRECT APPROVAL**

Direct approval concerns:

- initial approval of an AMP.
- any major changes of the AMP.

The DGTA gives direct approval.

In the case of a so-called direct approval, the Operating Authority submit an application for approval together with the AMP to the DGTA in an electronic format. The DGTA will evaluate the application and makes remarks to the Operating Authority that take the form of:

- non-compliance: remark which questions the approval;
- observation: any remark whose content does not fall under non-compliance.

With the approval request, all the data used to develop the AMP or, failing that, ensuring that these are available and easily searchable, in particular concerning access to websites, must be provided/made available to the DGTA.

A transfer matrix making it possible to identify the airworthiness limits not in conformity

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with those approved by the type certificate holder (TCH) and showing the justifying elements of the evolution of these data: approval by the technical authority must also be transmitted to the DGTA.

The DGTA pronounces approval or refusal at the end of this analysis. When the DGTA approves the AMP, a letter is sent to the CAMO, the numbering of this letter serves as the document's approval reference.

For initial approval, the non-conformities or observations noted in the AMP will be transmitted to the Operating Authority for correction. This principle also applies to non-conformities detected in an AMP initially approved by an Operating Authority during the transitional phase.

# 7.2 INDIRECT APPROVAL

In accordance with M.A.708(2)(ii), a privilege of indirect approval may be granted to a CAMO approved TAO-M under part G provided that they have planned to set up a specific procedure that allows it. This procedure shall be described in the CAME.

The DGTA approves this procedure through the CAME approval of the relevant CAMO.

This approval does not involve major changes in the AMP.

#### 8.0 **COMMON FLEET AMP**

When aircraft of the same type are operated by more than one Operating Authority, the term "common fleet" is used. For fleets common to several Operating Authorities, a common AMP can be set up if the following conditions are met:

- the maintenance doctrine for aircraft integrated into the common AMP is identical to the employment authorities.
- the specifics of each Operating Authority are clearly identified.
- the AMs respectively commit to the aircraft for which they are responsible.
- a common procedure for CAM managers is put in place for the drafting and management of the common AMP. The reference of this procedure should be mentioned in the list of reference documents of the AMP and/or CAME.
- a common cover page receives the DGTA approval reference.

An AMP which includes aircraft from a fleet common to several Operating Authorities may, therefore, receive approval from the DGTA subject to compliance with the requirements of this guide, in particular the specifics linked to the various operations.

**Annexe I - Definitions Of The Different Sections** 

#### Section 0

# 0.1 INTRODUCTION (At the top - Identification of the AMP)

The header allows you to quickly and succinctly identify the AMP and its scope from the first pages. The essential elements to know concerning the document must be indicated there.

The header contains several pages, the first of which is the cover page. The cover page should include the following information:

- 0.1.1 Type of product covered by the AMP.
- 0.1.2 Name of the owner of the aircraft or product.
- 0.1.3 Name of the CAMO.
- 0.1.4 Name of the operator.
- 0.1.5 AMP identification number Revision number Date.
- 0.1.6 Validation reference from the Operating Authority.
- 0.1.7 DGTA approval reference.
- 0.1.8 References to type certificates.

Content of the following pages:

- 0.1.9 Table of contents.
- 0.1.10 The list of effective pages in force;
- 0.1.11 The history of changes in AMP see example in Annex II.
- 0.1.12 The list of aircraft concerned:
  - 0.1.12.1 Registrations.
  - 0.1.12.2 Operating Authority (if more than one Operating Authority involved).

## Section 1

# 1.1 General Instructions

This section should include at least the following:

1.1.1 A certificate signed by the Accountable Manager of the CAMO or his delegate stating a statement of commitment to conform to AMP with the source data and also to have the aircraft maintained according to the AMP.

- 1.1.2 Definition of maintenance:
  - 1.1.2.1 terminology.
  - 1.1.2.2 meaning of abbreviations.
  - 1.1.2.3 list of basic documents used for the development of the AMP (name/reference/date of each document including revisions);
- 1.1.3 Maintenance policy:
  - 1.1.3.1 maintenance methods.
  - 1.1.3.2 operating characteristic and countdown of hours.
  - 1.1.3.3 existence of a reliability program.
- 1.1.4 List of mandatory documents not included in the maintenance documentation (concerning preventive and repetitive maintenance) issued by the type certificate holder and the technical authority must be cited in the document.
- 1.1.5 The procedures for implementing the reliability program
- 1.1.5.1 identification of the tasks subject to specific monitoring following the reliability analysis.
- 1.1.5.2 explicit identification of AMP amendments following the implementation of the reliability program (addition or deletion of tasks, escalation or reduction of intervals)
- 1.1.5.3 The description of the organisation of the reliability program is described in the CAME with at least the following points being mentioned:
- 1.1.5.3.1 the area of the program.
- 1.1.5.3.2 responsibilities within the organisation in charge of implementing the program (the "reliability control group").
- 1.1.5.3.3 the reliability report and its recipients.
- 1.1.5.3.4 the frequency of reliability reviews.
- 1.1.5.3.5 the impact of the results of reliability reviews on the maintenance Program.
- 1.1.5.3.6 the request to subcontractors or manufacturers within the framework of the subcontracting of tasks related to the program.

This is particularly important in the case of ETOPS capacity.

#### Section 2

- 2.1 Maintenance checks intervals
- 2.1.1 This section must define the cycles and frequencies of the checks (cf. terminology defined in SECTION 1) as well as the tolerances on the hourly and calendar deadlines and those linked to the number of landings or other specific counters.
- 2.2 Frequency of checks
- 2.2.1 Section 2 must summarise all maintenance checks recommended by the manufacturer or planned by the CAMO as part of its maintenance policy. The list of operations making up these visits must appear in section 6. Engine Ground Run and aircraft weighing are also included in this section.
- 2.2.2 Tolerances on the intervals between maintenance checks:
- 2.2.2.1 When the manufacturer's program introduces a tolerance, it is acceptable as long as the assumptions adopted by the CAMO are within the limits set by the manufacturer's program or by the technical authority.
- 2.2.2.2 In the event of a voluntary application by an operator of the requirements associated with ETOPS operations, refer to AMC 20-6 EASA edition in force to describe the methods of maintenance and storage of the components, equipment concerned. Reference to the ETOPS manual is possible.

#### Section 3

- 3.1 Maintenance, use and storage methods for components, equipment and assemblies
- 3.1.1 This section must include a table defining, for the components and assemblies of the aircraft the accessory, components and equipment the maintenance methods applicable with the indication of the limits (operating limit, life limit, limit aging, expressed in hours, cycles, months, etc.) and the tasks to be performed when these limits are reached (functional test, bay servicing, overhaul, throw away, total repair, non-destructive inspection (NDI) etc.).
- 3.1.2 The table must also indicate the storage limits of the components and assemblies if they exist and impact its airworthiness limitation on aircraft (Usage + Storage).

This section must also deal with equipment, including flight and rescue safety equipment listed in the type certificate, and optional equipment, the configuration of which is authorised.

3.1.3 In the event of a voluntary application by an operator of the requirements associated with ETOPS operations, refer to AMC 20-6 - EASA edition in force to

describe the methods of maintenance and storage of the components, equipment concerned. Reference to the ETOPS manual is possible.

#### Section 4

4.1 Special maintenance checks

This section should list:

4.1.1 events after which a specific inspection must be carried out before returning the aircraft to service, events which are inherently unpredictable.

The resulting maintenance operations cannot therefore be planned.

Examples: lightning strike, hard landing, etc.

4.1.2 certain a periodic operations as subject to specific instructions and not included in the other sections.

Example: maintenance tasks on aircraft in storage.

4.1.3 In the event of a voluntary application by an operator of the requirements associated with ETOPS operations, refer to AMC 20-6 - EASA edition in force to describe the methods of maintenance and storage of the components, equipment concerned.

Reference to the ETOPS manual is possible.

# Section 5

- 5.1 Functional Check Flight (FCF)
- 5.1.1 FCF may be conducted at a set periodicity, post-scheduled maintenance or to confirm the airworthiness of an aircraft after certain fault rectification or replacement of components when checks for proper operation cannot be carried out on the ground.
- 5.1.2 The purpose of this section is to:
- 5.1.2.1 list the different types of control flight: reduced control flight, full check flight.
- 5.1.2.2 list the maintenance operations requiring the completion of a check flight.
- 5.1.2.3 mention the check flight program established by the operator.
- 5.1.3 The source documents called by this section are:
- 5.1.3.1 technical acts of the technical authority.
- 5.1.3.2 manufacturer's documentation.
- 5.1.3.3 or other technical documents (reference the documentation and specify the part used).

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- 5.2 Functional Check Flight (FCF) program:
- 5.2.1 The procedures for carrying out check flights are defined by the operator who draws up the FCF program.
- 5.2.2 The program normally consists of control sheets to be executed, summarising the checks to be carried out in-flight or on the ground. The parameters to be recorded as well as the conditions of operation checks on the ground and in-flight must be consistent with the manufacturer's recommendations or those defined or approved by the technical authority. The check flight program is supplemented by the operator's prescriptions: safety instructions, flight safety, the exclusivity of the check flight on the execution of any other mission, and preparation of the check flight.

In the event of a voluntary application by an operator of the requirements associated with ETOPS operations, refer to AMC 20-6 - EASA edition in force to describe the methods of maintenance and storage of the components, and equipment concerned. Reference to the ETOPS manual is possible.

#### Section 6

- 6.1 Maintenance tasks table
- 6.1.1 This section must include an overview of the maintenance tasks classified according to a breakdown into system and subsystem (specifications S1000D, standard ATA 100) with for each of the tasks the indication of the periodicity according to the checks defined in section 2.
- 6.1.2 The tasks must be sufficiently detailed. They must be identified so that the correspondence between the AMP and the execution documents (work cards, etc.) can be easily and error-free possible.
- 6.1.3 This section must also contain any particular maintenance tasks, such as:
- 6.1.3.1 periodic checks introduced following the application of a repair solution.
- 6.1.3.2 maintenance checks which are specific to the application of a structural verification program.
- 6.1.4 Maintenance operations on the removed equipment must not be included in this table.
- 6.1.5 The reference for the maintenance task will be entered on the work card in case the numbering is different.

Note: when the manufacturer's program defines, in addition to the operations relating to systems and subsystems, inspections by zones and, where appropriate, specific ETOPS operations, these must also be taken into account.

#### ANNEX II EXAMPLE OF AN AMP

See the example of an AMP for SOCATA TBM 700

Please obtain the AMP from relevant desk officer in DGTA-AAMR

#### TECHNICAL AIRWORTHINESS ORDERS

# PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 5

Appendix II to AMC - M.A.201(h)(1) - Responsibilities

# CONTRACTING/TASKING OF CONTINUING AIRWORTHINESS MANAGEMENT TASKS

- 1.0 Contracted / Tasked Continuing Airworthiness Management Activities
- 1.1 To actively control the standards of the sub-contracted/tasked organisation, the Continuing Airworthiness Management Organisation (CAMO) should employ a person or group of persons who are trained and competent in the disciplines associated with M.A Subpart G. As such, they are responsible for determining what maintenance is required, when it has to be performed and by whom and to what standard, to ensure the continued airworthiness of the aircraft being operated.
- 1.2 The CAMO should conduct a pre-contract audit to establish that the contracted/tasked organisation can achieve the standards required by TAO-M M.A. Subpart G in connection with those activities to be contracted/tasked.
- 1.3 The CAMO should ensure that the contracted/tasked organisation has sufficient qualified personnel trained and competent in the activities to be contracted/tasked. In assessing the adequacy of personnel resources, the CAMO should consider the particular needs of those activities to be contracted/tasked while considering the contracted/tasked organisation's existing commitments.
- 1.4 To be appropriately approved to contract/task continuing airworthiness management activities, the CAMO should have procedures for managing these arrangements. The CAME should contain relevant procedures to reflect the CAMO's control of those arrangements made with the contracted/tasked organisation(s).
- 1.5 Contracted/tasked continuing airworthiness management activities should be addressed in a contract/formal tasking document between the CAMO and the contracted/tasked organisation. The contract/formal tasking document should also specify that the contracted/tasked organisation is responsible for informing the CAMO, who is, in turn, responsible for notifying the DGTA of any subsequent changes that affect their ability to support the contract/formal tasking document.
- 1.6 Contracted/tasked organisations should use procedures that determine how the organisation fulfils its responsibility to those contracted/tasked activities. Such procedures may be developed by either the contracted/tasked organisation or the CAMO.
- 1.7 Where the contracted/tasked organisation develops its procedures, these should be compatible with the CAME and the terms of the contract/formal tasking document. The DGTA should accept these as extended procedures of the CAMO and should be

cross-referenced from the CAME. The CAMO should keep one current copy of the contracted/tasked organisation's relevant procedures and be accessible to the DGTA when needed.

NOTE: Should any conflict arise between the contracted/tasked organisation's procedures and those of the CAMO, then the policy and procedures detailed in the CAME will prevail.

- 1.8 The contract/formal tasking document should also specify that the contracted/tasked organisation's procedures may only be amended with the agreement of the CAMO. The CAMO should ensure that these amendments are compatible with their CAME and comply with TAO-M M.A. Subpart G. The CAMO should nominate who will be responsible for continued monitoring and acceptance of the contracted/tasked organisation's procedures and their amendments. The controls used to fulfil this function should be set out in the amendment section of the CAME detailing the level of CAMO involvement.
- 1.9 Whenever any elements of continuing airworthiness management activities are contracted/tasked, the CAMO's personnel should have access to all relevant data to fulfil their responsibilities.

NOTE: The CAMO retains authority to override any recommendation of the contracted/tasked organisation, where necessary, for the continuing airworthiness of the aircraft for which they have responsibility.

- 1.10 The CAMO should ensure that the contracted/tasked organisation continues to have qualified technical expertise and sufficient resources to perform the contracted/tasked activities while in compliance with the relevant procedures. Failure to do so may invalidate the approval of the CAMO's continuing airworthiness management system.
- 1.11 The contract/formal tasking document should provide for DGTA monitoring.
- 1.12 The contract/formal tasking document should address the respective responsibilities to ensure that any findings arising from DGTA monitoring will be closed to the satisfaction of the DGTA.

#### 2.0 Accomplishment

This paragraph describes topics which may be applicable for contract/tasking activities.

#### 2.1 Scope of work

The type of aircraft and their military registrations, engine types and/or components subject to the contract/tasking should be specified.

# 2.2 AMP development and amendment (where applicable-TAO-M M.A.708(b)2 refers)

The CAMO may contract/task the preparation of the draft AMP and any subsequent amendments. However, the CAMO remains responsible for assessing that the draft proposals meet their needs and obtaining DGTA approval; the relevant procedures should specify these responsibilities. The contract/tasking should also stipulate that any data necessary to substantiate the approval of the initial AMP or an amendment to the AMP should be provided for CAMO and/or DGTA agreement upon request.

# 2.3 AMP effectiveness and reliability (where applicable – TAO-M M.A.708(b)2 refers)

The CAMO should have a system to monitor and assess the effectiveness of the AMP, based on maintenance and operational experience. The collection of data and initial assessment may be made by the contracted/tasked organisation; the required actions are to be endorsed by the CAMO.

Where reliability monitoring is used to establish AMP effectiveness, this may be provided by the contracted/tasked organisation and should be specified in the relevant procedures. Reference should be made to the CAMO's AMP and reliability programme. Participation of the CAMO's personnel in reliability meetings with the contracted/tasked organisation should also be specified.

In providing reliability data the contracted/tasked organisation is limited to working with primary data/documents provided by the CAMO or data provided by the Operating Organisation's DGTA AMO(s) or equivalent from which the reports are derived. The pooling of reliability data from other CAMOs/Operating Organisations/DGTA AMO (or equivalent) is permitted if accepted by the DGTA.

# 2.4 Permitted variations to the AMP (where applicable – TAO-M M.A.708(b)2 refers)

The reasons and justification for any proposed variation to scheduled maintenance may be prepared by the contracted/tasked organisation. The proposed variation should be reviewed by the CAMO and accepted or rejected as appropriate. The means by which CAMO acceptance is given should be specified in the relevant CAME procedures. When these proposed variations go outside the limits detailed in the approved data, the CAMO is required to obtain approval from the DGTA.

#### 2.5 Scheduled maintenance

Where the contracted/tasked organisation plans and defines maintenance checks or inspections in accordance with the AMP, the required liaison with the CAMO, including feedback, should be defined.

The planning control functions and required documentation should be specified in the appropriate supporting CAME procedures. These procedures should typically set out the CAMO's level of involvement in each type of check. This will normally involve the CAMO assessing and agreeing to a work specification case-by-case basis for base maintenance checks. For routine line maintenance checks, this may be controlled on a day-to-day basis by the contracted/tasked organisation subject to appropriate liaison

and CAMO controls to ensure timely compliance. This typically may include, but is not limited to:

- Applicable work package, including job cards,
- Scheduled component removal list,
- ADs to be incorporated,
- Modifications to be embodied

The associated procedures should ensure that the CAMO is advised on the accomplishment of such activities in a timely manner.

# 2.6 Quality monitoring

The CAMO's quality system should monitor the adequacy of the performance of the contracted/tasked continuing airworthiness management activities for compliance with the contract/formal tasking document and TAO-M M.A. Subpart G. The terms of the contract/formal tasking document should therefore include a provision allowing the CAMO to perform quality surveillance (including audits) upon the contracted/tasked organisation. The surveillance aims primarily to investigate and review the effectiveness of those contracted/tasked activities and thereby ensure compliance with TAO-M M.A. Subpart G and the contract/formal tasking document. Audit reports may be subject to review when requested by the DGTA.

# 2.7 Access by the DGTA

The contract/formal tasking document should specify that the contracted/tasked organisation should grant access to the DGTA when requested to determine continued compliance with the CAMO's TAO-M M.A. Subpart G approval.

#### 2.8 Maintenance data

The approved maintenance data used for the contract/tasking should be specified, and the organisations responsible for providing such data. The CAMO should ensure such data, including revisions, is readily available to the contracted/tasked organisation that may be required to assess such data. The CAMO should establish a 'fast track' means of ensuring that urgent data is transmitted to the contracted/tasked organisation in a timely manner. Maintenance data may include, but is not necessarily limited to:

- AMP.
- ADs
- Service Bulletins (or national equivalent),
- Major repairs/modification data,
- Aircraft Maintenance Manual,
- Engine overhaul manual,
- Aircraft Illustrated Parts Catalogue,
- Wiring diagrams,
- Troubleshooting manual,

#### 2.9 Airworthiness directives

While the various aspects of AD assessment, planning and follow-up may be accomplished by the contracted/tasked organisation, an embodiment is performed by a DGTA AMO or equivalent. The CAMO is responsible for ensuring the timely embodiment of applicable ADs and is to be provided with notification of compliance. Therefore, the CAMO should have clear policies and procedures on AD embodiment, which will ensure that the CAMO finds the contracted/tasked organisation's proposed means of compliance acceptable.

The policies and procedures should specify:

- What information, e.g. AD publications, continuing airworthiness records, flight hours/cycles, the contracted/tasked organisation need from the CAMO. It is the responsibility of the contracted/tasked organisation to request from the CAMO any additional information that may be felt necessary.
- What information, e.g. AD planning listing, detailed engineering order, the CAMO needs from the contracted/tasked organisation in order to ensure timely compliance with ADs.

To fulfil their above responsibility, CAMOs should ensure they receive current mandatory continued airworthiness information for the aircraft and equipment they operate.

#### 2.10 Service Bulletin /modifications

The contracted/tasked organisation may be required to review and make recommendations on the embodiment of an SB (or national equivalent) and other associated non-mandatory material based on a clear CAMO policy. This should be specified in the contract/formal tasking document.

#### 2.11 Service life limit controls & component control/removal forecast.

Where the contracted/tasked organisation performs planning activities, it should be specified that the contracted/tasked organisation should be in receipt of the current flight time and/or flight cycles and/or landings and/or calendar time, and/or any other approved service life consumption units as applicable, at a frequency to be specified in the contract/formal tasking document. The frequency should be such that it allows the organisation to properly perform the contracted/tasked planning functions. Therefore, there will need to be adequate liaison between the CAMO, the DGTA AMO(s) or equivalent and the contracted/tasked organisation.

Additionally, the contract/formal tasking document should specify how the CAMO will possess all current flight cycles, flight hours, etc., so that the CAMO may assure the timely accomplishment of the required maintenance.

# 2.12 Health monitoring

If the CAMO contracts/tasks health monitoring activities (for example, on-wing engine health monitoring), the contracted/tasked organisation should receive all the relevant information to perform these activities, including any parameter reading deemed

necessary to be supplied by the CAMO for this control. The contract/formal tasking document should also specify what kind of feedback information (such as engine limitation, appropriate technical advice, etc.) the contracted/tasked organisation should provide to the CAMO.

#### 2.13 **Defect control**

Where the CAMO has contracted/tasked the day-to-day control of aircraft technical log deferred defects, this should be specified in the contract/formal tasking document and should be adequately described in the appropriate procedures. The CAMO's MEL/CDL provides the basis for establishing which defects may be deferred and associated limits. The procedures should also define the responsibilities and actions to be taken for defects such as 'Aircraft On Ground' situations, repetitive defects, and damage beyond the MTC holder's limits.

For all other defects identified during maintenance, the information should be brought to the attention of the CAMO who, dependent upon the procedural authority granted by the DGTA, may determine that some defects can be deferred. Therefore, adequate liaison between the CAMO, the contracted/tasked organisation and the DGTA AMO or equivalent should be ensured.

The contracted/tasked organisation should make a positive assessment of potential deferred defects and consider potential hazards arising from the cumulative effect of any combination of defects. The contracted organisation should liaise with the CAMO to gain their agreement following this assessment.

Deferment of MEL/CDL allowable defects/deviations can be accomplished by a DGTA AMO or equivalent in compliance with the relevant aircraft technical log procedures; they are subject to acceptance by the aircraft commander.

#### 2.14 Mandatory occurrence reporting

All incidents and occurrences that fall within the reporting criteria defined in TAO-M M.A.202 and DGTA AMO should be reported as required. The CAMO should ensure adequate liaison exists with the contracted/tasked organisation and the DGTA AMO.

#### 2.15 Continuing airworthiness records

These may be maintained and held by the contracted/tasked organisation on behalf of the CAMO, who remains responsible for the control of the records. However, the CAMO should be provided with the current status of AD compliance and service life-limited components in accordance with agreed procedures. The CAMO should also be provided with unrestricted and timely access to original records as and when needed. Online access to the appropriate information systems is acceptable.

The record-keeping requirements of TAO-M should be satisfied. Access to the records by duly authorised members of the DGTA should be arranged upon request.

#### 2.16 Maintenance check flight procedures

Maintenance check flights are carried out under the control of the Operating Organisation. Maintenance check flight requirements from the contracted/tasked organisation or the DGTA AMO or equivalent should be agreed upon by the Operating Organisation.

#### 2.17 Communication between the CAMO and contracted/tasked organisation

- 2.17.1 To exercise its airworthiness responsibility, the CAMO must receive all relevant reports and maintenance data. The contract/formal tasking document should specify what information should be provided and when.
- 2.17.2 Meetings provide one important cornerstone whereby the CAMO can exercise part of its responsibility for ensuring the airworthiness of the operated aircraft for which it is responsible. The meetings should establish good communications between the CAMO, the contracted/tasked organisation and the DGTA AMO or equivalent. The terms of the contract/formal tasking document should include, whenever appropriate, the provision for a certain number of meetings between involved parties. Details of the types of liaison meetings and associated Terms of Reference for each meeting should be documented. The meetings may include but are not limited to all or a combination of:

#### a – Contract/Tasking review

Before the contract/formal tasking document comes into force, it is essential that the technical personnel of both parties involved in the application of the contract/tasking meet to be sure that every point leads to a common understanding of the duties of both parties.

#### b – Work scope planning meeting

Work scope planning meetings may be organised so that the activities to be performed may be commonly agreed upon.

## c - Technical meeting

Scheduled meetings should be organised to review regularly and agree on actions on technical matters such as ADs, SBs (or national equivalent), future modifications, major defects found during maintenance facility visits, reliability, etc.

#### d – Quality meeting

Quality meetings should be organised to examine matters raised by the CAMO's quality surveillance and the DGTA's monitoring activity and to agree upon necessary corrective actions.

#### e – Reliability meeting

When a reliability programme exists, the contract/formal tasking document should specify the CAMO's and DGTA AMO's or equivalent respective involvement in that programme, including the participation at reliability meetings. Provision to enable DGTA participation in these meetings should also be provided.

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 6

Appendix III to AMC - M.A 711(a)(3)

# SUBCONTRACTING OF CONTINUING AIRWORTHINESS MANAGEMENT TASKS

- 1.0 Sub-Contracted Airworthiness Management Tasks
- 1.1 Not applicable.
- 1.2 Not applicable.
- 1.3 Not applicable.
- 1.4 Not applicable.
- 1.5 The subcontracted continuing airworthiness management activities should be described in a formal contractual document between the CAMO and the subcontractor.
- 1.6 Subcontractors should use procedures defining how they fulfil their duties concerning the subcontracted tasks. Such procedures can be developed either by the subcontractors or by the CAMO.
- 1.7 When the subcontractors develops his procedures, these should be compatible with the CAME and the terms of the contractual document. The CAME should reference these as extended procedures of the CAMO. A copy of the relevant procedures in place within the subcontractor should be kept by the CAMO and be, where applicable, accessible to the DGTA. In the event that differences arise between the subcontractor's procedures and those of the CAMO, the policy and procedures detailed in the CAME shall be referred.
- 1.8 Not applicable.
- 1.9 Whenever continuing airworthiness management tasks are contracted out, CAMO staff should have access to all relevant data in order to fulfil their responsibilities. The CAMO retains, where applicable, the power to cancel any recommendation from the subcontractor concerning the continued airworthiness of the aircraft for which it is responsible.
- 1.10 The CAMO should ensure that the subcontractor has qualified technical expertise and sufficient resources to carry out the subcontracted tasks in accordance with the relevant procedures. Failure to comply with this obligation may cause the CAMO's continuing airworthiness management approval being revoked.
- 1.11 The contractual document should be provided for oversight by the DGTA.

1.12 The contractual document should cover the respective responsibilities of the parties in order to ensure that the completion of corrective actions arising from oversight by the DGTA is carried out in a satisfactory manner.

# 2.0 **GENERAL TERMS**

#### 2.1 **Application Domain**

The type of aircraft and military versions, types of engines and / or elements covered by the subcontract should be specified.

# 2.2 **Efficiency and Reliability of AMP**

To provide reliability data, the subcontractor should limit itself to working with the data provided by the CAMO. The pooling of reliability data from other organisations is permitted if accepted by the DGTA.

#### 2.3 **Scheduled Maintenance**

When the subcontractor plans and defines maintenance checks or inspections in accordance with the AMP, the required coordination with the CAMO, including feedback, should be defined. The process of controls and the required documentation should be specified in the appropriate procedures of the CAME. These procedures should normally indicate the level of participation of the CAMO in each type of control.

## 2.4 Quality Monitoring

The quality system of the CAMO should monitor the adequacy between the execution of the subcontracted continuing airworthiness management tasks, meeting both the terms of the contract and the requirements of the MSAR-M part. M.A. subpart G. The terms of the contract should include a provision allowing the CAMO to exercise quality oversight (including through audits) over the subcontractor. The objective of monitoring is mainly to analyse and judge the effectiveness of the subcontracted activities and thus ensure compliance with the requirements of part MSAR-M M.A. subpart G and the terms of the contract. Audit reports may be reviewed at the request of the DGTA.

# 2.5 Access to Data by the DGTA

The contractual document should specify that the subcontractor grants access to the DGTA when it requests it in order to be able to check the permanent conformity of the CAMO with the TAO-M M.A. approval part G.

## 2.6 **Maintenance Data**

The approved maintenance data used for the purposes of the subcontracted tasks should be specified, along with the parties responsible for providing such data. The CAMO should ensure that such data, including revisions, are readily available to the subcontractor who may be required to assess this data. The CAMO should establish

a systematic approach to ensure that urgent data is transmitted in a timely manner to the contractor. This maintenance data may include (but not limited to):

- the AMP
- the airworthiness directives
- Service Bulletins
- major modification/repair data
- the aircraft maintenance manual
- the engine overhaul manual
- the illustrated parts document
- wiring diagrams
- the troubleshooting manual.

# 2.7 Airworthiness Directives (AD)

The CAMO should have a clear AD policy and procedures, which will ensure that the CAMO can deem the applicable means of compliance proposed by the contractor to be acceptable.

The policy and procedures should specify:

- which kind of information from the CAMO the subcontractor needs (eg ADs, continuing airworthiness records, flight hours/cycles, etc.). It is the responsibility of the subcontractor to request any additional information from the CAMO that may be necessary.
- which kind of information from the subcontractor the CAMO needs (for example, AD planning list, detailed by event order, etc.) to ensure the timely execution of the ADs.

# 2.8 **Service Bulletin/Modifications**

The contractor may be required to review and make recommendations on the application of a SB and other associated non-mandatory document based on a clear CAMO policy. This should be specified in the contract.

# 2.9 <u>Control of service life limits and control of equipment items/forecast of withdrawal.</u>

When the subcontractor performs maintenance operations planning activities, it should be clarified that the latter should be delivered, according to a frequency provided for in the contract, current flight hours and/or flight cycles and/or count of

landings and/or calendar tracking and/or any other approved consumption/ service life tracking information, as applicable. The frequency should be such as to allow the subcontractor to properly carry out the planning activities foreseen in the contract. Also, it requires to ensure an adequate link between the CAMO, the AMO and the subcontractor. In addition, the contractual document should specify how the CAMO will have of all flight cycles, flight hours, etc., in order to be able to monitor the timely completion of the required maintenance.

#### 2.10 **Defect Control**

When the CAMO subcontracts daily monitoring tasks for technical defects reported in an Aircraft Logbook, this should be specified in the contract document and be adequately described in the procedures implemented. The CAMO MEL/CDL is the basis for determining which defects can be reported and the associated timeframes. The subcontractor should analyse the reported faults and take into account the potential risks associated with the accumulation/combination of these faults. Following this assessment, the subcontractor should consult with the CAMO to obtain their agreement.

#### 2.11 Mandatory Occurrence Reports

All events and occurrences which fall under the official reporting criteria in TAO-M M.A.202 and DGTA AMO Reporting, where appropriate, be the subject of a report. The CAMO should ensure adequate liaison with the subcontractor and the accredited DGTA AMO.

#### 2.12 Continuing Airworthiness Recording Detail

Online access to the subcontractor's appropriate information systems is acceptable to justify the control of recording details. The record-keeping requirements of part TAO-M must be met. Upon request, access to the records by authorised members of the DGTA should be possible.

## 2.13 Communication between the CAMO and the Subcontractor

- 2.13.1 To exercise its responsibility for maintaining continuing airworthiness, the CAMO should receive all relevant maintenance reports and data. The contractual document must specify which information must be provided and by which deadline.
- 2.13.2 Meetings constitutes an essential event during which the CAMO can exercise part of its responsibilities as regards the management of the continuing airworthiness of the aircraft for which it is responsible. Meetings should be used to establish good communications between the CAMO, the subcontractor and the DGTA AMO. The terms of the contract should provide for several meetings between the parties concerned if any. The different types of coordination meetings and their purpose should be documented. Meetings may include but are not limited to, all or a combination of:
  - a. <u>Contract/tasks Review</u>. Before the contract coming into force, it is very important that the technical staff of both parties involved in the contract meet to

ensure that every point in the contract written after a common understanding between the two parties of each other's tasks.

- b. <u>Operations Planning Meeting.</u> Operations planning meetings can be organised in such a way that the activities to be carried out are commonly agreed.
- c. <u>Technical Meetings.</u> Scheduled meetings should be held in order to regularly validate the actions to be initiated concerning technical issues such as AD's, SB's, future modifications, major defects reported during maintenance checks in workshops and reliability.
- d. **Quality Meeting.** Quality meetings should be organized in order to analyse the questions raised by the quality monitoring of the CAMO and the surveillance audits of the DGTA and to agree on the corrective measures to implement;
- e. <u>Reliability Review.</u> When there is a reliability program, the contractual document should include the respective participation of the CAMO and the DGTA AMO in this program, including their participation in reliability meetings.

Provisions to allow the participation of the DGTA in these meetings should also be provided.

#### 3.0 **SPECIAL TERMS**

## 3.1 **Limited Tasks**

The Table 1 below specifies the limited tasks (tasks "L" in the table) which may be subcontracted under TAO-M M.A. 711(a)(3) without requiring the extension of the prerogative by the DGTA (see also TAO-M M.A.711(a)(3)(ii).

#### 3.2 None-Limited Tasks

- a. The tasks related to the special conditions for an extension of prerogative by the DGTA (None-Limited tasks) are identified by "NL" in this same Table 1.
- b. For these NL tasks, the associated subcontracting conditions indicated in the table below constitute acceptable means for the extension of the prerogative. Thus, when the contract satisfies the specific subcontracting condition indicated in the table below, the extension of the prerogative for the corresponding "NL" task is granted.

# <u>Table 1 – List of Subcontracting Task</u>

Continuing Airworthiness Management Tasks		Subcontracting Conditions
1 - AMP [TAO-M M.A.302]		
1-1 Develop a maintenance program, including any applicable reliability program [TAO-M M.A.708.b)(2)]		
Prepare a draft aircraft maintenance program (AMP) and subsequent modifications, with data approved by the TC holder or by a technical authority (FAA, EASA, etc.) as well as data from lessons learned.		Provide the CAMO with all the supporting documents necessary to approval of the initial AMP or a revision.
Develop and implement a reliability program, to evaluate the maintenance program (as part of the implementation of a maintenance steering group logic or on condition monitoring of the aircraft - see method 69 MSG-3). Edit reliability reports.	L	Provide for participation in reliability meetings of the subcontractor and representatives of the CAMO
1-2 Monitor a maintenance program, including any applicable reliability program [TAO-M M.A.708(b)(2)]		
Check whether a draft AMP or its subsequent amendments meet the needs, the approved data as well as the work resulting from the AMP effectiveness analysis (or reliability analysis).	NL	
Validate a reliability program.	NL	
1-3 Submit to the Operating Authority for validation and transmission to the DGTA for approval a maintenance program, and its modifications, including any applicable reliability program, except in the case of an amendment of an indirect approval procedure [TAO-M M.A.708(b)(2)]		
Obtain the approval of the competent authority for the AMP and its amendments (DGTA, or even CAMO for minor amendments in the case of DGTA approval of an indirect approval procedure described in the CAME).	NL	

1-4 Provide an analysis of the effectiveness of the approved maintenance program 1 [TAO-M M.A.301(a)(4)]		
Collect data, analyse and propose changes to the AMP according to the periodicity defined by the CAMO. Prepare AMP effectiveness (or reliability) analysis meetings and perform AMP evaluations.	L	Provide for participation of subcontractor and CAMO representatives in effectiveness analysis meetings.
Endorse the proposals for the evolution of the AMP resulting from the effectiveness analysis.	NL	
1-5 Organise an inspection to make the transition with the old aircraft maintenance program (at the change of CAMO, in case the CAMO is not under the operating authority) [TAO-M M.A.201(h)]		
Possibly plan a readjustment visit to make the transition with the old aircraft maintenance program (Study on the transition with the old AMP / Aircraft Status/transition to the new AMP).	NL	
2 - MODIFICATIONS, REPAIRS		
2-1 Manage the approval and accomplishment of modifications [TAO-M M.A.301(a)(6)] [TAO-M M.A.304] [TAO-M M.A.708(b)(3)]		
Ensure that the airworthiness of technical solutions is approved or seek approval.	L	
Decide on whether to apply a modification.  For the SAO, the decision to apply the changes is made through the Configuration Management Authority	NL	
Continuing Airworthiness Management Tasks		Subcontracting conditions
Organise and launch the implementation of modifications.	L	
Maintain the applicable configuration repository	L	
Control the applied configurations, and return the status of the applied configurations on demand.	L	

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2-2 Establish a policy for implementing applicable non-mandatory modifications [TAO-M M.A.301(a)(7)]		
Analyse and make recommendations on the application of a non-mandatory modification.  For the SAO: the policy on modifications is defined by the Configuration	L	
Management Authority		
2-3 Manage the approval and implementation of repairs [TAO-M M.A.301(a)(6)] [TAO-M M.A.304] [TAO-M M.A.708(b)(3)]		
Ensure solutions are approved for airworthiness or seek approval.	L	
Decide the implementation of a repair.	NL	Outsourcing of this responsibility task within the following limits: airworthiness approved repair, having no impact on the maintenance data or the operation of the aircraft.
Organise and launch the repair implementation.	L	
3 - SCHEDULED MAINTENANCE AND PRE-FLIGHT INSPECTIONS		
3-1 Ensure that all maintenance work order is carried out in accordance with the AMP and certified in accordance with DGTA AMO [TAO-M M.A.301(a)(3)] [TAO-M M.A.708(b)(4)]		
Ensure that all maintenance work order is carried out in accordance with the AMP and certified in accordance with DGTA AMO.	NL	Define with the subcontractor a process allowing on a case-by-case basis the control of the performance of base maintenance.
Perform a daily check for routine line maintenance.	L	Establish permanent communication with the subcontractor.
Initiate maintenance checks flight requests if necessary. [TAO-M M.A.301(a)(8)]	L	

3-2 Coordinate scheduled maintenance, application of airworthiness directives, replacement of life-limited parts, and component inspection to ensure work is properly performed [TAO-M M.A.708(b)(8)]		
Coordinate scheduled maintenance, application of airworthiness directives, replacement of life-limited parts, and component inspection to ensure work is properly performed.	L	Define necessary data exchanges and their frequencies (e.g. ADs, continuing airworthiness records, flight hours/cycles, etc.) as well as unrestricted and timely online access to the subcontractor's information systems.
Plan scheduled maintenance visits and inspections according to the approved AMP.	L	
Define the content on a case-by-case basis of maintenance visits and inspections according to the approved AMP.	L	
Approve the content on a case-by-case basis of base maintenance visits.	NL	
Continuing Airworthiness Management Tasks		Subcontracting conditions
3-3 Ensure that the aircraft is maintained by an approved maintenance organization DGTA AMO [TAO-M M.A.708(b)(7)]		
Ensure that the aircraft is maintained by an approved maintenance organization DGTA AMO.	NL	
3-4 Ensure that the weight and balance estimate corresponds to the current condition of the aircraft [TAO-M M.A.708(b)(10)]		
Make sure that the weight and balance estimate corresponds to the current status of the aircraft: weight and balance recorded on the weighing report, impact of a modification or repair applied, weighing at the end of a major inspection, etc.	L	

3-5 In the event of operation outside the limits of the approved flight manual or certificate of airworthiness, or the event of an accident or incident affecting airworthiness, take all appropriate measures to restore airworthiness		
[TAO-M M.A.301(b)(3)] [TAO-M M.A.301(b)(4)]		
Propose and justify the measures to be taken and the control actions to restore airworthiness by seeking, if necessary, the opinion of a design organisation or the technical authority.	L	
Decide on the control measures and actions to be implemented.	NL	
4 - AIRWORTHINESS DATA AND OPERATING INSTRUCTIONS		
4-1 Ensure that any applicable airworthiness directive, any applicable operating instruction having an impact on continuing airworthiness, any applicable requirement relating to the continuing airworthiness management established by the Technical Authority and any applicable measure prescribed by the Operating Authority or Technical Authority in immediate reaction to a safety problem is applied [TAO-M M.A.301(a)(5)] [TAO-M M.A.303] [TAO-M M.A.708(b)(5)]		
Monitor and analyse the airworthiness directives, any document defined as mandatory by the technical authority, the operating instructions impacting the continuing airworthiness and the measures prescribed in response to a safety problem	L	
Plan and initiate the monitoring of airworthiness directives, any document defined as mandatory by the technical authority, operating instructions impacting on continuing airworthiness and measures prescribed in response to a safety problem.	L	
Ensure the completeness of the watching and the implementation within the prescribed deadlines.	NL	

4-2 Establish a policy for implementing non-mandatory visits [TAO-M M.A.301(a)(7)]		
Monitor, analyse non-mandatory airworthiness data and make recommendations on the application of a non-mandatory Manufacturer Technical Documentation (excluding Manufacturer Technical Documentation relating to modifications), based on the policy of the CAMO.	L	
5 – DEFECT MANAGEMENT		
5 – Ensure follow-up until rectification, and correct rectification by a DGTA approved maintenance organization of any defect or damage affecting the safety of operation, taking into account the MEL and CDL insofar as they are available for the considered type of aircraft [TAO-M M.A.301(a)(2)] [TAO-M M.A.304] [TAO-M M.A.708(b)(6)]		
Continuing Airworthiness Management Tasks		Subcontracting conditions
Day-to-day control of deferred defect in the Aircraft Logbook (case provided for in the approved technical documentation)	L	Provide an analysis by the subcontractor of the impact of the defects and the risks associated with the accumulation/combination of these defects.
For damage outside the limits allowed by the approved technical documentation, seek approved temporary or definitive solutions (by an approved design organisation within its approved scope, or failing that by the technical authority) in line with the needs of the operator and propose them to the CAMO.	L	
To postpone the scheduled maintenance deadline, seek approved solutions (agreement from an approved design organization on the appropriate scope, or failing this from the Technical Authority) in line with the operator's needs and propose them at CAMO	L	
Decide on the solution to be implemented to deal with the postponement of the scheduled maintenance deadline, by issuing an additional maintenance directive (e.g. SI,STI) or proposing to the Operating Authority the implementation of another solution under his responsibility.	NL	

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6 - CONTINUING AIRWORTHINESS MANAGEMENT RECORDINGS		
6 - Manage and archive all continuing airworthiness recordings and / or Aircraft Logbook and / or equivalent reports of the operator [MSTAR-M M.A.305] [TAO-M M.A.306] [TAO-M M.A.708(b)(9)] [TAO-M M.A.714]		
Maintain, update and archive continuing airworthiness recordings.	L	Allow unrestricted access to CAMO to the original recording documents of the subcontractor.
Ensure the establishment of an archiving system for continuing airworthiness records (including Aircraft Logbooks) in accordance with the requirements		
7 – AIRWORTHINESS DOCUMENTS		
7-1 Issue an airworthiness review certificate in case the CAMO holds the privilege of Part TAO-M section. A. subpart I [TAO-M M.A.901]		
Perform airworthiness reviews and issue the airworthiness review certificate.	NL	
7-2 Extend the validity of an Airworthiness Review Certificate [TAO-M M.A.901] [TAO-M M.A.711(a)(4)]		
Extend the validity of an Airworthiness Review Certificate.	NL	
7-3 Ensure that any aircraft put into flight has a valid airworthiness document [TAO-M M.A.201(a)(3)]	•	
Ensure that the aircraft has a certificate of registration and a certificate of airworthiness associated with an airworthiness review certificate or permit to fly.		
8 – OCCURRENCE REPORTING	•	

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8 - Report to the type certificate holder, or supplementary type certificate holder, and to the technical authority the occurrence reports [TAO-M M.A.202]		
Write and transmit occurrence reports.	L	
Continuing Airworthiness Management Tasks		Subcontracting conditions
Ensure that any incident or event that meets the criteria defined by parts TAO-M and DGTA AMO is reported to TCH and authorities, in accordance with the requirements established by the technical authority.		
9 – AIRCRAFT TRANSFER		
9 - Provide or ensure the provision, when transferring an aircraft to another operating authority or assigning continuing airworthiness tasks to a CAMO, of all continuing airworthiness records and logbook of the operator [TAO-M M.A.307]		
When transferring an aircraft, provide all continuing airworthiness records and Aircraft Logbooks of the operator.	L	
When transferring an aircraft, ensure the provision of all continuing airworthiness records and Aircraft Logbooks of the operator	NL	

#### TECHNICAL AIRWORTHINESS ORDERS

#### PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 7

# Appendix V to AMC M.A.704: Continuing Airworthiness Management **Exposition (CAME)**

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  - quality audit procedure.
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- Monitoring that all maintenance is carried out by an 2.4

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2.5 Monitoring that all contracted/tasked maintenance is carried

out in accordance with the contract/tasking, including non-TAO-145 maintenance organisations used by the maintenance contractor/tasked organisation.

2.6 Quality audit personnel.

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- 4.2 Review of aircraft records.
- 4.3 Physical survey.
- 4.4 NOT APPLICABLE.
- 4.5 Recommendations to the NMAA for the issue of a CoA Renewal (N/A)
- 4.6 Issuance of a CoA Renewal (N/A)
- 4.7 Airworthiness review records, responsibilities, retention and access.
- 4.8 CoA Renewal (N/A)

#### Part 4B NOT APPLICABLE.

#### **Part 5 Appendices**

- 5.1 Sample documents.
- 5.2 List of airworthiness review staff.
- 5.3 List of contractors/tasked organisations as per AMC TAO-M M.A.201(h)1 and TAO-M M.A.711(a)3.
- 5.4 List of contracted/tasked TAO-M 145 AMOs.
- 5.5 Copy of contracts/taskings for contracted/tasked activities (Appendix II to AMC TAO-M M.A.201(h)1).
- 5.6 Copy of contracts/taskings with TAO-145 AMOs.
- 5.7 List of Operating Organisations to whom the organisation provides the management of the continuing airworthiness of the aircraft as per TAO-M M.A.201(k).
- 5.8 Copy of continuing airworthiness arrangements with Operating Organisations as per AMC TAO-M M.A.201(k).

#### LIST OF EFFECTIVE PAGES

Page	Revision
1	Original
2	Original

Page	Revision
3	Original
4	Original

Page	Revision
5	Original

#### **DISTRIBUTION LIST**

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

Accordingly, the CAME should be distributed to:

- the Operating Organisation's or the CAMO's management personnel and any person at a lower level as necessary; and,
- the TAO-145 contracted/tasked AMO(s); and,
- the NMAA.)

#### **PART 0 GENERAL ORGANISATION**

#### 0.1 Corporate commitment by the Accountable Manager

(The Accountable Manager's CAME statement should embrace the intent of the following paragraph, and this statement may be used without amendment. Any modification to the statement should not alter the intent.)

"This Exposition defines the organisation and procedures upon which the (NMAA - \* see note below) TAO-M M.A. Subpart G continuing airworthiness management approval is based.

These procedures are approved by the undersigned and must be complied with, as applicable, in order to ensure that all the continuing airworthiness tasks of (quote Operating Organisation's name) fleet of aircraft and/or of all aircraft under contract/tasking

in accordance with TAO-M M.A.201(k) with (quote CAMO's name) are carried out on time to an approved standard.

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

It is understood that the (NMAA\*) will approve this organisation whilst the (NMAA\*) is satisfied that the procedures are being followed and the work standard is maintained. It is understood that the (NMAA\*) reserves the right to suspend, limit or revoke the TAO-M

M.A. Subpart G continuing airworthiness management approval of the organisation if the (NMAA\*) has evidence that the procedures are not followed and the standards not upheld."

Signed	
Dated	
Accountable Manager andoosition)	(quote
or and on behalf of	. (quote organisation's

Note: Where it states (NMAA\*), please insert the actual name of the NMAA, for example, MAA, DSAE, etc.

#### General Information

a) Brief description of the organisation

(This paragraph should describe broadly how the whole organisation (i.e. including the Operating Organisation and TAO-145 AMO when other approvals are held) is organised under the management of the Accountable Manager, and should refer to the organisation charts of paragraph 0.4.)

b) Relationship with other organisations

(Insert details of those organisations involved in delivering continuing airworthiness and/or maintenance of the aircraft and its components, including other contracted/tasked organisations.

Details of specific contracts/taskings should be included in Part 3 of the CAME, with a cross-reference to the relevant element included here.)

c) Aircraft managed - Fleet composition

(This paragraph should list the aircraft types/models/series and the serial/registration numbers of all aircraft managed by the CAMO. It should be updated each time an aircraft is removed from, or added to, the list.)

d) Type of operation

(This paragraph should give broad information on the type of military operations such as combat missions, transport (personnel/cargo), Search and Rescue, surveillance, etc.)

#### 0.2 Management personnel

a) Accountable Manager

(This paragraph should address the duties and responsibilities of the Accountable Manager as far as TAO-M M.A. Subpart G is concerned and demonstrate that he/she has corporate authority for ensuring that all continuing airworthiness activities can be resourced and carried out in accordance with TAO-M.)

b) Continuing Airworthiness Manager

(This paragraph should:

- Emphasise that the Continuing Airworthiness Manager is responsible for ensuring that all maintenance is carried out on time to an approved standard.
- Describe the extent of his/her authority as regards his/her TAO-M responsibility for managing the continuing airworthiness of the aircraft for which he/she is responsible.)
- c) Continuing airworthiness coordination

(This paragraph should list the job functions that constitute the "group of persons" as required by TAO-M M.A.706(c) in enough detail to show that all the continuing airworthiness responsibilities as described in TAO-M M are covered by the persons that constitute that group.)

d) Duties and responsibilities

(This paragraph should further develop the duties and responsibilities of:

- the personnel listed in paragraph c): 'Continuing airworthiness coordination'.

- the Quality Manager, as regards the quality monitoring of the maintenance system (which includes the TAO-145 AMO(s)). This should include the links between the Continuing Airworthiness Manager and the Accountable Manager and how independence will be achieved from the activity subject to audit.)

# e) Manpower resources and training policy

# (1) Manpower resources

(This paragraph should give broad figures to show that the number of people dedicated to the performance of the approved continuing airworthiness activity is adequate. It is not necessary to give the detailed number of employees of the whole organisation but only the number of those involved in continuing airworthiness. All posts and/or organisations conducting activity on behalf of the CAMO, including details of the activity being carried out by them, should be included. This could be presented as follows:)

	Full Time	Part Time in equivalent full time
Quality monitoring	AA	aa = AA'
Continuing Airworthiness Management	ВВ	bb = BB'
(Detailed information about the	BB1	bb1 = BB1'
The management group of persons)	BB2	bb2 = BB2'
Other	CC	cc = CC'
Total	TT	tt = TT'
Total Staff	TT + TT'	

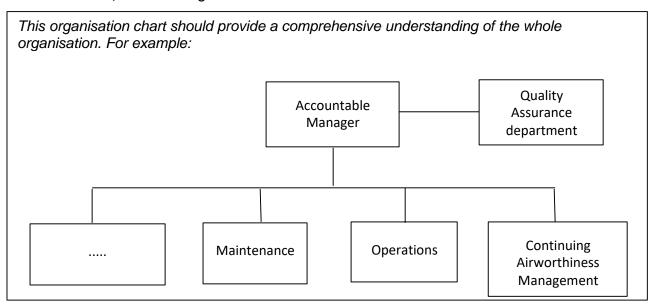
(Note: According to the size and complexity of the organisation, this table may be further developed or simplified)

#### (2) Training policy

(This paragraph should show that the training and qualification standards for the personnel quoted above are consistent with the size and complexity of the organisation. It should also explain how the need for recurrent training is assessed, and how the recording of training and follow-up

# activity is performed) **0.3 Management organisation charts**

# a) General organisation chart



#### b) CAMO chart

This organisation chart should give further details on the continuing airworthiness management system, and should clearly show the independence of the quality monitoring system, including the links between the Quality Assurance department and the other departments (see example below). This organisation chart may be combined with the one above or subdivided as necessary, depending on the size and the complexity of the organisation. For example: Continuing Quality Airworthiness Assurance Manager **Technical Planning** Technical **Technical Technical** airframes engines avionics

# 04 Notification procedure to the NMAA regarding changes to the organisation's activities/approval / location/personnel

(This paragraph should explain on which occasions the CAMO should inform the NMAA prior to incorporating proposed changes; for instance:

The Accountable Manager (or any delegated person such as the Continuing Airworthiness Manager or the Quality Manager) will notify to the NMAA any change concerning:

- (1) the name of the CAMO;
- (2) the location of the CAMO;
- (3) additional locations of the CAMO;
- (4) the Accountable Manager;
- (5) any of the persons specified in paragraph 0.3.c);
- (6) the facilities, procedures, work scope and staff that could affect the approval;
- (7) any change that affects the approval certificate.

Such changes will not be incorporated until they have been assessed and approved by the NMAA.)

#### 0.5 CAME amendment procedure

(This paragraph should explain who is responsible for the amendment of the CAME and its submission to the NMAA for approval. If agreed by the NMAA, this may include the possibility for the CAMO to internally approve minor changes that have no impact on the approval held (TAO-M M.A.704(c) refers). The paragraph should then specify what types of changes are considered as minor and major and what the approval procedures for both cases are.)

At the bottom of each page for List of Effective Pages (LEP) a Date/Name/Signature column for [Prepared by Continuing Airworthiness Manager], for [Reviewed by Quality Manager] and for [Approved by DGTA] shall be available.

#### PART 1 CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES

- 1.1 Utilisation of aircraft continuing airworthiness record system and aircraft technical log and MEL and/or CDL
  - a) Aircraft technical log and continuing airworthiness record system

## (1) General

(The introductory paragraph should explain how the aircraft technical log system and the aircraft continuing airworthiness record system are configured (TAO-M M.A.305 and TAO-M M.A.306 refer.))

#### (2) Instructions for use

(This paragraph should provide instructions for using the aircraft technical log and the aircraft continuing airworthiness record system. It should identify the respective responsibilities of the maintenance personnel and aircrew. Samples of the technical log and/or aircraft continuing airworthiness record system should be included in Part 5 "Appendices" in order to provide enough detailed instructions.)

# (3) Aircraft technical log approval

(This paragraph should identify who is responsible for submitting the template for the aircraft technical log and any subsequent amendment to the NMAA for approval and what is the procedure to be followed.)

#### b) MEL and/or CDL utilisation (if applicable)

Although the decision of whether or not to accept a MEL and/or CDL tolerance remains the responsibility of the aircraft commander, this paragraph should explain in sufficient detail the MEL and/or CDL utilisation procedure. This is because the MEL and CDL are tools that maintenance personnel should be familiar with in order to ensure proper and efficient communication with the aircraft commander in case of a decision to defer defect rectification.

This paragraph does not apply to those types of aircraft that do not have an MEL and/or CDL.)

#### General

(This paragraph should explain broadly what a MEL and/or CDL document is. The information could be extracted from the aircraft flight manual.)

#### (1) MEL/CDL categories

(Where an NMAA or Operating Organisation uses a classification system placing a time constraint on the rectification of MEL/CDL related defects, the general

principles of such a system should be explained. It is essential for the personnel involved in maintenance to be familiar with the classification system for the effective management and rectification of MEL/CDL related deferred defects.)

#### (2) Utilisation

(This paragraph should explain how the maintenance personnel identify a MEL/CDL limitation to the aircraft commander. This should refer to the aircraft technical log procedures.)

# (3) Acceptance by the aircraft commander

(This paragraph should explain how the aircraft commander notify his/her acceptance (or non-acceptance) of the MEL/CDL deferment in the aircraft technical log.)

#### (4) Management of the MEL/CDL time limits

(After a technical limitation is accepted by the aircraft commander, the defect must be rectified within the time limit specified in the MEL/CDL. There should be a system to ensure that the defect will actually be corrected before that time limit. This system could be the aircraft technical log for those CAMOs that use it as a planning document, or a specific follow-up system in other cases, where control of the maintenance time limit is ensured by another means such as data processed planning systems.)

#### (5) MEL/CDL Time Limitation Overrun

(The NMAA may authorise the CAMO to overrun MEL/CDL time limitations under specified conditions. Where applicable, this paragraph should describe the specific duties and responsibilities for controlling these extensions.)

# 1.2 Aircraft Maintenance Programmes (AMPs) - development, amendment and approval

#### a) General

(This introductory paragraph should also include reference to the fact that the purpose of an AMP is to provide maintenance planning instructions necessary for the safe operation of the aircraft.)

#### b) Content

(This paragraph should explain what is/are the format(s) of the AMP(s) used. Appendix I to TAO-M AMC M.A.302(a) and TAO-M M.B.301(b) should be used as a guideline to develop this paragraph.)

# c) Development

#### (1) Sources

(This paragraph should explain what are the sources (MRB report, MPD, Maintenance Manual, etc.) used for the development of the AMP(s).)

#### (2) Responsibilities

(This paragraph should explain who is responsible for the development of the AMP(s).)

#### (3) AMP amendments

(This paragraph should demonstrate that there is a system for ensuring the continuing validity of the AMP. Particularly, it should show how any relevant information is used to update the AMP. This should include, as applicable, MRB report revisions, consequences of modifications, manufacturers and NMAA recommendations, in-service experience, and reliability reports.)

#### (4) Acceptance by the NMAA

(This paragraph should explain who is responsible for the submission of the AMP to the NMAA and what the procedure to follow is. This should in particular address the issue of the NMAA approval for variation to maintenance periods. This may include, if agreed by the NMAA, the possibility for the CAMO to internally approve certain changes. The paragraph should then specify what types of changes can be internally approved and what the approval procedures are.)

# 1.3 Usage and continuing airworthiness records, responsibilities, retention, access

a) Flying hours, flight cycles, landings etc. recording

(The recording of airframe, engine and propeller flying hours and associated flight cycles and/or landings and any other approved service life consumption units. is essential for the planning of maintenance tasks. This paragraph should explain how the

CAMO has access to the current information on airframe, engine and propeller flying hours and associated flight cycles and/or landings and any other approved service life consumption units and how they are processed through the CAMO.)

# b) Records

(This paragraph should give in detail the type of documents that are required to be recorded and what are the recording period requirements for each of them. This can be provided by a table or series of tables that would include the following:

- Type of document (if necessary),
- Name of document,
- Retention period,
- Responsible person for retention,
- Place of retention.)

#### c) Preservation of records

(This paragraph should set out the means provided to protect the records from damage, alteration and theft and that the records remain readable and accessible for the duration of the storage period. Specific procedures should be set out to guarantee that the records will not be altered during the retention period (especially for computer records).)

#### d) Transfer of continuing airworthiness records

(This paragraph should set out the procedure for the transfer of records to another CAMO. In particular, it should specify which records have to be transferred and who is responsible for the coordination (if necessary) of the transfer.)

## 1.4 Accomplishment and control of Airworthiness Directives (ADs)

(This paragraph should demonstrate that there is a comprehensive system for the management of ADs and operational directives with a continuing airworthiness impact. This paragraph may include the following Sub-paragraphs:)

#### a) AD information

(This paragraph should explain what are the sources of the ADs and operational directives with a continuing airworthiness impact and who receives them in the CAMO.)

#### b) AD decision

(This paragraph should explain how and by whom the information in ADs and operational directives with a continuing airworthiness impact is analysed and what kind of information is provided to the contracted/tasked TAO-M 145 AMOs in order to plan and to perform the AD. This should as necessary include a specific procedure for emergency Airworthiness Directives (or equivalent) management)

#### c) AD control

(This paragraph should specify how the CAMO ensures that all the applicable ADs are performed and that they are performed on time. This should include a closed-loop system that allows for the verification that for each new or revised AD and for each aircraft:

- the AD is not applicable or,
- if the AD is applicable:
  - the AD is not yet performed but the time limit is not overdue; or
  - the AD is performed, and any repetitive inspections are identified and performed.

This may be a continuous process or may be based on scheduled reviews.)

#### 1.5 Analysis of the effectiveness of the AMP

(This paragraph should show what tools are used in order to analyse the effectiveness of the AMP, such as:

- pilot reports (including air turn-backs, etc.),
- spares consumption,
- repetitive technical occurrence and defects,
- technical delays analysis (through statistics if relevant),
- technical incidents/accidents analysis (through statistics if relevant),
- etc.

The paragraph should also indicate by whom and how this data

is analysed, what is the decision process to take action and what kind of action could be taken. This may include:

- amendment of the AMP,
- amendment of maintenance or operational procedures,
- etc.)

# 1.6 Non-mandatory modification embodiment policy

(This paragraph should specify how the information on non-mandatory modifications is processed through the CAMO, who is responsible for their assessment against the Operating Organisation's need and operational experience, what are the main criteria for decisions to be made and who takes the decision of implementing (or not) a non-mandatory modification.)

#### 1.7 Major repair and modification standards

(This paragraph should set out a procedure for the assessment of the approval status of any major repair or modification before embodiment. This will include the assessment of the need of an NMAA or TAO- 21 Design Organisation Approval (DOA). It should also identify the type of approval required and the procedure to follow to have a repair or modification approved by the NMAA or by the (Military) Type Certificate Holder (MTCH).)

#### 1.8 Defect reports

a) Analysis

(This paragraph should explain how the defect reports provided by the contracted/tasked TAO-M 145 AMOs are processed by the CAMO. Analysis should be conducted in order to give elements to activities such as AMP evolution and non-mandatory modification policy.)

b) Liaison with MTCH and the NMAA

(Where a defect report shows that such defect is likely to occur to other aircraft, a liaison should be established with the (M)TCH and the NMAA, so that they may take all the necessary action.)

c) Deferred defect policy

(Defects such as cracks and structural defects are not addressed in the MEL and CDL. However, it may be necessary in certain cases to defer the rectification of a defect. This paragraph should establish the procedure to be followed in order to be sure that the deferment of any defect will not lead to any safety concern. This will include appropriate liaison with the (M)TCH.)

#### 1.9 Engineering activity

(Where applicable, this paragraph should identify the scope of the CAMO's engineering activity in terms of approval of modification and repairs. It should set out a procedure for developing and submitting a modification/repair design for approval to the NMAA/MTCH and include reference to the supporting documentation and forms used. It should identify the person in charge of accepting the design before submission to the NMAA/MTCH.

Where the CAMO has a (M)DOA capability under TAO-21, it should be indicated here and the related manuals should be referred to.)

# 1.10 Reliability programmes

(This paragraph should explain the management of any reliability programme(s). It should at least address the following:

- extent and scope of the reliability programmes,
- specific organisational structure, duties and responsibilities,
- establishment of reliability data,
- analysis of the reliability data,
- corrective action system (AMP amendment),
- scheduled reviews (reliability meetings, the participation of the NMAA).)

(This paragraph may, where necessary, be subdivided as follows:

- a) Airframe
- b) Propulsion
- c) Component)

## 1.11 Pre-flight inspections

(This paragraph should show how the scope and definition of the AMC TAO-M M.A.301(a)1 pre-flight inspections (usually performed by the aircrew) are kept consistent with the scope of the maintenance performed by the contracted/tasked TAO-M 145 AMOs. It should show how the evolution of the pre-flight

inspection content and the AMP remains coherent.)

(The following paragraphs are self-explanatory. Although these activities are normally not performed by continuing airworthiness personnel, these paragraphs have been placed here in order to ensure that the related procedures are consistent with the continuing airworthiness activity procedures.)

- a) Preparation of aircraft for flight
- b) Ground handling function
- c) Cargo and Baggage loading
- d) Control of refueling, Quantity/Quality
- e) Control of snow, ice, residues from de-icing or antiicing operations, dust/sand/salt contamination to an approved standard. f)

# 1.12 Aircraft weighing

(This paragraph should state on which occasions an aircraft should be weighed (for instance, after a major modification because of weight and balance, operational requirements, etc.), who performs it, which procedure is used, who calculates the new weight and balance and how the results are processed into the CAMO.)

# 1.13 Maintenance check flight procedures

(The criteria for performing a maintenance check flight are normally included in the AMP. This paragraph should explain how the maintenance check flight procedure is established in order to meet its intended purpose (for instance, after a base maintenance check, after engine or flight control removal or installation, etc.), and the release procedures to authorise such a maintenance check flight.)

#### **PART 2 QUALITY SYSTEM**

# 2.1 Continuing airworthiness quality policy, quality plan and quality audit procedure

a) Continuing airworthiness quality policy

(This paragraph should include a formal Quality Policy statement. This should provide a commitment to what the Quality System is intended to achieve. It should consist of, as a minimum, monitoring compliance with TAO-M and any additional standards

specified by the CAMO.)

# b) Quality plan

(This paragraph should show how the quality plan is established. The quality plan will consist of a quality audit and sampling schedule that should cover all the areas specific to TAO-M in a definite period of time. However, the scheduling process should also be dynamic and allow for special evaluations when trends or concerns are identified. In the case of contracting/tasking of non-approved organisations, this paragraph should also address the planning of the auditing of non-approved organisations at the same frequency as the rest of the CAMO.)

#### c) Quality audit procedure

(The quality audit is a key element of the quality system. Therefore, the quality audit procedure should be sufficiently detailed to address all the steps of an audit, from the preparation to the conclusion, show the audit report format (e.g. by reference to paragraph 5.1 'Sample documents'), and explain the procedures for the distribution of audit reports within the organisation (e.g. involvement of the Quality Manager, Accountable Manager, Continuing Airworthiness Manager, etc.).

# d) Quality audit remedial action procedure

(This paragraph should explain what system is put in place in order to ensure that the root-cause of any findings is identified, corrective actions are implemented on time and that the result of the corrective action meets the intended purpose. For instance, where this system consists of periodical corrective action reviews, instructions should be given on how such reviews should be conducted and what should be evaluated.)

#### 2.2 Monitoring of continuing airworthiness management activities

(This paragraph should set out a procedure to periodically review the activities of the maintenance management personnel and how they fulfil their responsibilities, as defined in Part 0. It should also set out a procedure to periodically review the activities of the contracted/tasked continuing airworthiness management activities (Appendix II to AMC TAO-M M.A.201(h)1 refers).)

## 2.3 Monitoring of the effectiveness of the AMP(s)

(This paragraph should set out a procedure to periodically review that the effectiveness of the AMP(s) is/are actually analysed as defined in Part 1.)

# 2.4 Monitoring that all maintenance is carried out by an appropriate TAO- 145 Approved Maintenance Organisation (AMO)

(This paragraph should set out a procedure to periodically review that the approval of the contracted/tasked TAO - 145 AMOs are relevant for the maintenance being performed on the Operating Organisation's aircraft. This may include feedback information from any contracted/tasked organisation on any actual or contemplated amendment, in order to ensure that the maintenance system remains valid and to anticipate any necessary change in the maintenance agreements.

If necessary, the procedure may be subdivided as follows:

- a) Aircraft maintenance
- b) Engines
- c) Components)

# 2.5 Monitoring that all contracted/tasked maintenance is carried out in accordance with the contract/tasking, including maintenance organisations not approved to TAO - 145 used by the maintenance contractor/tasked organisation

(This paragraph should set out a procedure to periodically review that the CAMO personnel are satisfied that all contracted/tasked maintenance is carried out in accordance with the contract/tasking. This may include a procedure to ensure that the system allows all the personnel involved in the contract/tasking (including the TAO-M 145 AMO personnel and any non-approved organisations they contract/task) to be acquainted with the terms of the contract/tasking and that, for any contract/tasking amendment, relevant information is dispatched in the TAO-M 145 AMO and at their contracted/tasked organisation(s).)

## 2.6 Quality audit personnel

(This paragraph should establish the required training and qualification standards of auditors. Where an individual is not a full-time auditor, it should be emphasized that this person must not be directly involved in the activity he/she audits.)

#### PART 3 CONTRACTED/TASKED MAINTENANCE

#### 3.1 Maintenance contractor/tasked organisation selection procedure

(This paragraph should explain how an TAO-145 AMO is selected by the CAMO. Selection should not be limited to the verification that the TAO-145 AMO is appropriately approved for the type/model/series of aircraft, but also that the TAO-M 145 AMO has the capacity and resources to undertake the required maintenance. This selection procedure should preferably include a contract/tasking review process in order to ensure that:

- the contract/tasking is comprehensive and that no gap or unclear area remains,
- everyone involved in the contract/tasking (both at the CAMO and at the TAO- 145 AMO) agrees with the terms of the contract/tasking and fully understand their responsibility.
- that functional responsibilities of all parties are clearly identified.)

## 3.2 Quality audit of aircraft

(This paragraph should set out the procedure when performing an TAO-M M.A.706(k) quality audit of an aircraft. It should set out the differences between an airworthiness review and a quality audit. This procedure may include:

- compliance with approved procedures;
- contracted/tasked maintenance is carried out in accordance with the contract/tasking;
- continued compliance with TAO-M.

#### PART 4 AIRWORTHINESS REVIEW PROCEDURES (IF APPLICABLE)

#### 4.1 Airworthiness review staff

(This paragraph should establish the working procedures for the assessment of the airworthiness review staff. The assessment addresses experience, qualification, training etc. A description should be given regarding the issuance of authorisations for the airworthiness review staff and how records are kept and maintained.)

#### 4.2 Review of aircraft records

(This paragraph should describe in detail the aircraft records that are required to be reviewed during the airworthiness review. The level of detail that needs to be reviewed and the number of records that need to be reviewed during a sample check should be described.)

# 4.3 Physical survey

(This paragraph should describe how the aircraft physical survey needs to be performed. It should list the topics that need to be reviewed, the physical areas of the aircraft to be inspected, which documents onboard the aircraft that need to be reviewed, etc.)

# 4.4 Not Applicable

# 4.5 Recommendations to the NMAA for the issue of a CoA Renewal (N/A)

(This paragraph should stipulate the communication procedures with the NMAA in the case of a recommendation for the issuance of a CoA Renewal. In addition, the content of the recommendation should be described.)

# 4.6 Issuance of a CoA Renewal (N/A)

(This paragraph should set out the procedures for the issuance of a CoA Renewal. It should address record keeping, distribution of the CoA Renewal copies etc. This procedure should ensure that only after an airworthiness review that has been properly carried out, a CoA Renewal will be issued.)

#### 4.7 Airworthiness review records, responsibilities, retention and access

(This paragraph should describe how records are kept, the periods of record keeping, location where the records are being stored, access to the records and responsibilities.)

#### 4.8 CoA Renewal

(This paragraph should describe the procedure used to extend a CoA Renewal (TAO-M M.A.901(f) refers). (N/A) It should address record keeping, distribution of CoA Renewal copies etc.)

PART 4B

**NOT** 

**APPLICABLE** 

PART 5

**APPENDICES** 

#### 5.1 Sample documents

(A self-explanatory paragraph)

## 5.2 List of airworthiness review staff (N/A)

(A self-explanatory paragraph)

# 5.3 List of contractors/tasked organisations as per AMC TAO-M M.A.201(h)1 and TAO-M M.A.711(a)3.

(A self-explanatory paragraph. In addition, it should set out that the list should be periodically reviewed.)

#### 5.4 List of contracted/tasked TAO- 145 AMOs

(A self-explanatory paragraph. In addition it should set out that the list should be periodically reviewed.)

# 5.5 Copy of contracts/taskings for contracted/tasked work (Appendix II to AMC TAO-M M.A.201(h)1)

(A self-explanatory paragraph)

# 5.6 Copy of contracts/taskings with TAO-145 AMOs

(A self-explanatory paragraph)

5.7 List of Operating Organisations to whom the CAMO provides the management of the continuing airworthiness of the aircraft as per TAO-M M.A.201(k).

(A self-explanatory paragraph)

5.8 Copy of continuing airworthiness arrangements with Operating Organisations as per AMC TAO-M M.A.201(k).

(A self-explanatory paragraph)

## TECHNICAL AIRWORTHINESS ORDERS

## PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 8

Appendix XI to AMC M.A.708(c)

## CONTRACTED/TASKED MAINTENANCE

## 1.0 Maintenance contracts/tasking

The following paragraphs are not intended to provide a standard maintenance contract/tasking document but to provide a list of the main points that should be addressed, when applicable, in a maintenance contract/tasking between an Operating Organisation/CAMO and a TAO - 145 AMO. The following paragraphs only address technical matters and exclude costs, delay, warranty, etc.

When maintenance is contracted/tasked to more than one TAO-145 AMO (for example, aircraft base maintenance to X and engine maintenance to Y), attention should be paid to the consistency of the different maintenance contracts/taskings.

A maintenance contract/tasking is not normally intended to provide appropriate detailed work instruction to the personnel (and is not normally distributed as such). Accordingly, there should be established organisational responsibility, procedures and routines in the CAMO and TAO-145 AMO to take care of these functions satisfactorily so that any person involved is informed about his/her responsibility and the procedures which apply. These procedures and routines can be included/appended to the CAME and the TAO-145 AMO's MOE or be located in separate procedures. Procedures and routines should always reflect the conditions of the contract/tasking.

NOTE: In the case where an Operating Organisation contracts/tasks a TAO-145 AMO through a CAMO (in accordance with TAO-M M.A.201(h)2 and TAO-M M.A.201(k)), it is important that all organisations fully understand their responsibilities for the continuing airworthiness of the aircraft operated. The text in this Appendix should be modified accordingly to ensure that the allocation of responsibilities is clearly detailed.

## 2.0 Aircraft/Engine maintenance

The following subparagraphs may be adapted to a maintenance contract/tasking that applies to aircraft base maintenance, aircraft line maintenance and engine maintenance.

Aircraft maintenance also includes the maintenance of the engines and APU while they are installed on the aircraft.

## 2.1 Scope of work

The type of maintenance to be performed by the TAO-145 AMO should be specified unambiguously. In the case of line and/or base maintenance, the contract/tasking should specify the aircraft type and include the aircrafts' registrations.

In case of engine maintenance, the contract/tasking should specify the engine type.

# 2.2 Locations identified for the performance of maintenance / Certificates held

The place(s) where base, line or engine maintenance, as applicable, will be performed should be specified. The approval certificate held by the TAO-145 AMO at the place(s) where the maintenance will be performed should be referred to in the contract/tasking. If necessary, the contract/tasking may address the possibility of performing maintenance at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance.

# 2.3 TAO-145 AMO contracting/tasking with approved/non-approved organisations

The maintenance contract/tasking should specify under which conditions the TAO-145 AMO may contract tasks to a third party (whether this third party is DGTA approved or not). At least the contract/tasking should make reference to AMO Regulations. In addition, the CAMO may require the AMO to obtain the Operating Organisation's agreement before contracting to a third party. Access should be given to the Operating Organisation/CAMO to any information (especially the quality monitoring information) about the TAO-145 AMO's contractors involved in the contract/tasking.

## 2.4 Aircraft Maintenance Programme

The AMP under which the maintenance has to be performed should be specified.

## 2.5 Quality monitoring

The terms of the contract/tasking should include a provision allowing the CAMO to perform quality surveillance (including audits) upon the TAO-145 AMO. The maintenance contract/tasking should specify how the results of the quality surveillance are taken into account by the TAO-145 AMO (see also paragraph 2.22. 'Meetings').

## 2.6 **DGTA involvement**

To be added later if required.

## 2.7 Airworthiness data

The airworthiness data used for the purpose of this contract/tasking should be specified. This may include, but not be limited to:

- AMP,

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- Airworthiness Directives,
- operational directives with a continuing airworthiness impact,
- Service Bulletins (or national equivalent),
- major repairs/modification data,
- Aircraft Maintenance Manual,
- aircraft Illustrated Parts Catalogue,
- wiring diagrams,
- troubleshooting manual,
- Minimum Equipment List (if applicable),
- Configuration Deviation List (if applicable)
- operators manual,
- Aircraft Flight Manual,
- engine maintenance manual,
- engine overhaul manual.

## 2.8 **Incoming Conditions**

The contract/tasking should specify in which condition the Operating Organisation should send the aircraft to the TAO-145 AMO. For larger maintenance activities, it may be beneficial that a work scope planning meeting be organised so that the tasks to be performed may be commonly agreed (see also paragraph 2.23: 'Meetings').

## 2.9 Airworthiness Directives and Service Bulletin/Modifications

The contract/tasking should specify what information the CAMO is responsible to provide to the TAO-145 AMO, such as the due date of the Airworthiness Directives (ADs), the selected means of compliance, the decision to embody Service Bulletins (SBs) or modifications, etc. In addition, the type of information the CAMO will need in return to complete the control of ADs and modification status should be specified.

## 2.10 Hours and Cycles control

Hours and cycles control is the responsibility of the CAMO, but there may be cases where the TAO-145 AMO should receive the current flight hours and cycles on a regular basis so that it may update the records for its own planning functions (see also paragraph 2.22: 'Exchange of information').

## 2.11 Service life-limited components

Service life-limited components control is the responsibility of the CAMO.

The TAO-145 AMO will have to provide the CAMO with all the necessary information about the service life-limited components removal/installation so that the CAMO may update its records (see also paragraph 2.22 'Exchange of information').

## 2.12 Supply of parts

The contract/tasking should specify whether a particular type of material or component is supplied by the Operating Organisation/CAMO or by the contracted/tasked TAO-145 AMO, which type of component is pooled, etc. The contract/tasking document should clearly state that it is the TAO-145 AMO's responsibility to be satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for installation. The TAO-145 AMO should not 'blindly' accept whatever is supplied by the Operating Organisation/CAMO.

## 2.13 Pooled parts at line stations

If applicable, the contract/tasking should specify how the subject of pooled parts at line stations should be addressed.

## 2.14 Scheduled maintenance

When planning scheduled maintenance, the support documentation to be given to the TAO-145 AMO should be specified. This may include, but not be limited to:

- applicable work package, including job cards;
- scheduled component removal list;
- modifications to be incorporated.

When the TAO-145 AMO determines, for any reason, to defer a maintenance task, it has to be formally agreed with the CAMO. If the deferment goes beyond an approved limit, see paragraph 2.17: 'Deviation from the maintenance schedule'. This should be addressed, where applicable, in the maintenance contract/tasking document.

## 2.15 Unscheduled maintenance/Defect rectification

The contract/tasking should specify to which level the TAO-145 AMO may rectify a defect without reference to the Operating Organisation/CAMO. As a minimum, the acceptance and incorporation of major repairs should be addressed. The deferment of any defect rectification should be submitted to the CAMO and, if applicable, to the DGTA.

## 2.16 **Deferred maintenance**

In addition, for aircraft line and base maintenance, the use of the MEL and CDL (if applicable) or deferred defect process at AMC M.A.301(a)2 should be addressed.

#### 2.17 Deviation from the maintenance schedule

Deviations have to be granted by the CAMO in accordance with a procedure approved by the DGTA. The contract/tasking should specify the support the TAO-145 AMO may provide to the CAMO in order to substantiate a request for deviation from the maintenance schedule.

## 2.18 Maintenance check flight

If a maintenance check flight is required after aircraft maintenance, it should be performed in accordance with the procedures established in the CAME.

## 2.19 Engine Test

The contract/tasking should specify the acceptability criterion and whether a representative of the Operating Organisation/CAMO should witness an engine undergoing test.

## 2.20 Release to service documentation

The release to service has to be performed by the TAO-145 AMO in accordance with its MOE procedures. The contract/tasking should, however, specify which aircraft documentation should be used (e.g. Aircraft technical log,) and the documentation the TAO-145 AMO should provide to the CAMO upon delivery of the aircraft. This may include, but not limited to:

- Certificate of Release to Service mandatory,
- maintenance check flight report,
- list of modifications embodied,
- list of repairs,
- list of ADs incorporated,
- engine test report.
- maintenance visit report.

## 2.21 Maintenance recording

The Operating Organisation/CAMO may contract/task the TAO-145 AMO to retain some of the maintenance records required by TAO-M Subpart C. It should be ensured that every requirement of TAO-M Subpart C is fulfilled by either the Operating Organisation/CAMO or the TAO-145 AMO. In such a case, free and quick access to the above-mentioned records should be given by the TAO-145 AMO to the Operating Organisation/CAMO.

## 2.22 Exchange of information

Each time exchange of information between the Operating Organisation/CAMO and the TAO-145 AMO is necessary, the contract/tasking should specify what information should be provided and when (i.e. on what occasion or at what frequency), how by whom and to whom it has to be transmitted.

## 2.23 Meetings

To ensure that a good communication system exists between the Operating Organisation/CAMO and the TAO-145 AMO, the terms of the maintenance contract/tasking should include the provision for a certain number of meetings to be held between all parties.

## 2.23.1 Contract/tasking review

Before the contract/tasking is applicable, it is very important for the technical personnel of all parties that are involved in the application of the contract/tasking to meet, in order to be sure that every point leads to a common understanding of the duties of all parties.

## 2.23.2 Work scope planning meeting

Work scope planning meetings may be organised so that the tasks to be performed may be commonly agreed.

## 2.23.3 Technical meeting

Scheduled meetings may be organised in order to review on a regular basis technical matters such as ADs, SBs (or national equivalent), future modifications, major defects found during maintenance check, reliability, etc.

## 2.23.4 Quality meeting

Quality meetings may be organised in order to examine matters raised by the CAMO's TAO-M M.A.712 quality surveillance and to agree upon necessary corrective actions.

## 2.23.5 Reliability meeting

When a reliability programme exists (TAO-M M.A.302(f) refers), the contract/tasking should specify the CAMO's and the TAO-145 AMO's respective involvement in that programme, including the participation in reliability meetings.

## **TECHNICAL AIRWORTHINESS ORDERS**

## PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 3 CHAPTER 9

Appendix XII To AMC M.A.901 - Aircraft Airworthiness Review (MY)

## Renewal of Certificate of Airworthiness (CoA)

## INTRODUCTION

- 1. This appendix provides guidelines to the State Aircraft Operators (SAO) and organisations having state-registered aircraft on the processes and procedures associated with the Renewal of Certificate of Airworthiness (CoA).
- 2. DGTA will continue the practice of renewing the CoA in the same CoA certificate issued. However, TAO-M M.A.901 calls for issuing a separate Airworthiness Review Certificate (ARC) after a successful airworthiness review. Hence in TAO-M, the Airworthiness Review Certificate (ARC) will be known as CoA renewal in the DGTA environment.
- 3. However, all the processes and procedures in renewing the CoA will follow the regulation stated in TAO-M SubPart I ARC.

## REFERENCE

4. TAO M – M.A.901 and M.A.902

## SUPERSEDE

5. This instruction supersedes TAAC-E-003 Revision 2.

## APPROVING AUTHORITY

- 6. Board of State Technical Airworthiness CoA (BoSTA -CoA) is the approving authority for CoA renewal.
- 7. Renewal of CoA will be issued by the BoSTA for one year and shall be subjected to an annual review by the BoSTA -CoA.

## PROCEDURE FOR RENEWAL OF COA

- 8. The following requirements must be satisfied before CoA Renewal can be considered for renewal by the BoSTA:
  - a. The DAR/applicant shall submit a CoA application form (TAO- M Form 15d) to DGTA at least 30 days before the CoA review date.
  - b. The DAR/applicant shall make the aircraft and aircraft maintenance

and airworthiness documents available for DGTA audit (refer to Appendix XII and TAO M Form 15c for checklist).

c. The DAR/applicant shall *give* a formal presentation to the BoSTA - CoA for approval. The presentation shall include information pertaining to the aircraft and in a format as per this appendix.

# PRESENTATION GUIDELINE FOR RENEWAL OF CERTIFICATE OF AIRWORTHINESS (CoA)

- 1. The content of the presentation for CoA renewal shall include but not limited to the following information:
- a. **Objective**.
- b. Aircraft Status.

Tail No	Status	AF Hours	Date U/S	Nature of U/S	Remarks

## c. Maintenance Policy.

Type of	Interval		Level of	Vonuo	Servicing by
servicing	Hours	Calendar	Maintenance	Venue	Servicing by
			OLM/ILM/DL M		Sqn / MRO

## d. **Publication**.

OEM Ref	SAO Ref`	SAO Ref` Title	Amendme	Remarks	
OLIVI Nei	INI Rei SAO Rei		Amdt No	Date	Remarks

**\*Note:** Provide proof that the publication is updated, i.e. Contract-Subscription of publication.

## e. Tools and Support Equipment.

Description		State U/S	Remarks	
	Total	S	U/S	
TPME				
AGSE				

- \*Note: 1. Provide list of unserviceable equipment and its alternative equipment.
  - 2. Provide a statement to confirm the adequacy of TPME and AGSE to perform aircraft maintenance and will not affect aircraft airworthiness.

## f. Maintenance Support Network (Local and Oversea Contractors).

IIVIAIITIEHAHEE	Maintenance Scope & Level	 Contract Expiry Date

## g. Logistic Support (Spares supply).

Organisation	Scope of Supply	Contract Expiry Date

## h. Aircraft Weight & Balance.

Tail No	Weight (Unit)	CG (Unit)	Moment (Unit)	Date Due

\*Note: Provide CG range.

## i. Aircraft Structure Integrity (ASI).

- a. ASIMP Reference, Revision / Amendment number and date.
- b. Fatigue Index (FI) or equivalent (where applicable).
- c. Other relevant information.

## m. Service Bulletin / STI / SI Status.

SB/STI/ SI No	Title	Date of Issuance	Interval	Status of Incorporation to Aircraft	Remarks

## n. Modification Status.

Mod No	Title	Date of Issuance	CCB Approval Date	Outstanding	Remarks

## o. Maintenance Concession.

Description	Authorisation Refence & Date	Demand Details & EDD	Remarks

# p. Corrective action response to the finding(s) and observation(s) during DGTA verification audit.

Finding(s) / Observation(s)	Corrective Action

## q. Recommendation.

# TECHNICAL AIRWORTHINESS ORDERS PART M CONTINUING AIRWORTHINESS MANAGEMENT

PART 4

**FORMS** 



## **Directorate General Technical Airworthiness**

## **Application for TAO-M Subpart G Approval**

## Guidance

These guidelines are designed to assist you to complete the TAO-M Form 2 for TAO-M M.A Subpart G applications under Malaysian State Technical Airworthiness Regulation - Continuing Airworthiness Management.

## **IMPORTANT**

It is the applicant's responsibility to apply for DGTA approval only if they have a requirement for the approval and can demonstrate compliance with all the relevant regulatory requirements.

Please carefully read this document and any relevant Acceptable Means of Compliance or Guidance Material issued by DGTA. This information is available on the DGTA website and will assist with the application process.

## About this form and application process

## **Application Process**

Completing this application form is the first step in the application process. Once received, DGTA will review your application including all supporting documentation provided.

Applicants are to complete and sign the application form and submit to the DGTA with a cover letter.

**NOTE:** DGTA may not consider an application or cease to consider it further while the applicant has not complied with all TAO-M requirements.

## **TAO-M Form 2**

This TAO-M Form 2 is the official DGTA form to apply for TAO-M Part M.A Subpart G approval under TAO. This form is considered part of an application pack and should be submitted with the appropriate evidence to support the application.

## Withdrawal of Application

An application can be withdrawn in writing at any time.

## Q1. Applicant DGTA Reference Number

If your organisation has been previously issued with a DGTA Reference Number, please provide this number with this application. If a Reference Number has not been issued, please leave this field blank and a reference number will be issued upon registration of this Form 2 by DGTA staff.

#### Q2. Applicant data

Legal name of the company as it appears on the Business Registration or similar legal document. Please include confirmation of the legal status of your organisation and enclose a copy of your Certificate of Incorporation with this application. Not applicable for State Aircraft Operator.

## Q3. Reference

If your organisation has a TAO-M M.A Subpart G Certificate, please provide this number reference number, please provide this number with this application. If a reference number has not been issued, please leave this field blank and a reference number will be issued once your organisation has been approved by DGTA.

## Q4. Facility Address/s

For TAO-M M.A Subpart G applications, there is no requirement to complete Q4.1 providing your organisation address is the same as that identified in Q2. TAO-145 applicants may use Annex A or Annex B for additional facility/site locations. For TAO-M M.A Subpart G applications, there is no requirement to complete Q4.2.

#### Q5. Contacts

Please provide details of the Accountable Manager, the Continuing Airworthiness Manager and the Quality Manager. Accountable Manager is not required to complete a DGTA nominated post holder application.

## Q6. Application

Provide information on the scope of this application – e.g.: Change of Quality Manager, Addition of Line Maintenance Station.

#### Q7. Staff Numbers

Detail the total number of staff employed by the organisation in order to comply with TAO-145/TAO-M M.A Subpart G and the total number of contracted staff associated with the proposed approval.

Enter "not applicable" in Base and Line Maintenance boxes if this TAO-M Form 2 is for a TAO-M M.A Subpart G application/approval.

## Q8. Scope of Approval TAO-145 Applicants

**NOTE:** TAO-145 applicants are to complete sections 8 (as applicable) for details of the scope of work for which they are seeking approval

Each TAO-145 applicant must provide a reference to each aircraft platform Component Capability List.

## Q9. Scope of Approval TAO-M M.A Subpart G Applicants

**NOTE:** TAO-M M.A Subpart G applicants are to complete section 9 (as applicable) for details of the scope of work for which they are seeking approval.

Complete all applicable fields to the requested scope of approval.

#### Q10. Sub-contractors

TAO-M M.A Subpart G applicants are to complete sections 10 (as applicable) for details of Sub-contractors performing CAMO functions the applicant. If additional space is required, please attach details to this application form.

This field is "NOT Applicable" to TAO-145 applications.

## Q11. Other Approvals

Please list all other applicable approvals the applicant holds with any NAA/NMAA.

#### Q12. Checklist

In order to ensure all required information is provided to DGTA with this TAO-M Form 2 application, please review and confirm your application contains the required documents.

## Q13. Declaration

The Accountable Manager / Quality Manager upon signing the TAO-M Form 2 application declares the information provided is true and correct and all documentation required by DGTA to process this application is provided.

#### Q14. DGTA USE ONLY

## **Privacy Policy**

DGTA requires the provision of information as listed in this form. All such information received will be treated as confidential and will not be disclosed to any third parties unless that disclosure is required or authorised by law. DGTA will safeguard personal information however, please be aware that DGTA policy is to publish approvals on its website.

## **Form Submission**

Submit the application form to DGTA with a covering letter and other documents stipulated in the M.A 702.

## **Application**

1. Ap	1. Applicant's Cert. No.: (If previously issued)			eviously issued)	
2. Ap	plicant Data	1			
2.1	Registered		Э	Organisation Name	
	and Addres	SS		Street No. and Name	
				City	
				State	Post Code
				Country	
				ou therefore please inc	organisation which may be either a natural person, a legal entity or clude with this application confirmation of the legal status of your of Incorporation.
2.2 Postal Address	Street No. and Name				
	(if different from above)	City			
				State	Post Code
				Country	
2.3	Contact Pe	rson		Title/Rank	
			Full Name		
				Position Title	
				Phone	
				Email	
3. Re	ference				
TAO-	145				
TAO-	M M.A Sub	part (	3		
4. Ad	dress of site	e(s) re	equiri	ng approval	
4.1 Ba	ase, Engine a ional facility/sites refe	and C	ompoi ex A.	nent Maintenance Site	(s)
4.1	Facility/Site	1		Street No and Name	
		Yes	No	City	
	Additional Sites Refer to Annex A	Tes		State	Post code
				Country	
4.2 Line Maintenance Site(s) For additional facility/sites refer to Annex B			ite(s)		
4.2	Facility/Site	1		Street No and Name	
		V	NI-	City	
	Additional Sites Refer to Annex B	Yes	No 🔲	State	Post code
		_	—	Country	

5. Co	ntacts			
5.1 Accountable Manager Title			Name	
		Position	Phone	
		Email		
5.2	Quality Manager	Title	Name	
		Position	Phone	
		Email		
5.3	Organisation E-mail			
6. Ap	plication			
6.1 A <sub>l</sub>	pplication for:		TAO-145 Approval	TAO-M M.A Subpart G Approval
6.2	Application Type		☐ Initial	
			Revision of Initial Application	Application for Change
			Organisation Name  Address	data Nominated Persons
			Rating(s) Contact	detail(s)
			Notification for Surrender	<u> </u>
6.3	Reason for Applicat	ion:		
Scope	of TAO-145/TAO-M M.A Su	bpart G Approva	al relevant to this application:	
7. Nu	mber of Staff			
			Employees  Enter N/A if the application or the scope already held does not include Base/Line Maintenance activity	Contractors Enter N/A in the case no contracted staff are working at this site
Princip	al Place of Business			
Base N	Maintenance Site(s)			
Line M	aintenance Site(s)			
TOTAL	_			

_	- -	D-M M.A Subpart G Approva		oliootion			
	<u>*</u>	in this table in case of TAO-1 the scope of work, only the parts of the			ange shall be c	ompleted.	
Rating		Model		Airc		Approved Maintenance Program Reference	
A1							
4.0							
A2							
A3							
A4							
A4							
10 Suk	n contracted organic	ations working under this a	nnrov	val		A attack.	
Enter N/A in	case of TAO-145 applications. Add	/ delete lines as required	pprov	'aı		Activity	
	Address						
	/ Address / Address						
		s held by the applicant					
NAA / M		Scope	NAA	\ / MAA		Scope	
	omission Checklist						
		ving information is included as	part c	1		Agragament Expedition (CAME)	
	aintenance Organisation  I relevant plans/procedur	res referenced in the MOE	井	Continuing Airworthiness Management Exposition (CAME)  All relevant plans / procedures referenced in the CAME			
	ompliance Checklist/Cros		措	Component Capability List (TAO-145 only)			
	Form 4 Submitted Other specify:					<u> </u>	

13. Applicant's Declaration (To be completed by the Accountable Manager for Initial Approv	/al, and / or the Quality Manager, for subsequent approvals)	
Declaration		
I declare that the information provi	ided on this form is true and correct.	
I understand and accept that for D documentation to DGTA.	DGTA to proceed with this application, I ha	ave supplied all supporting
Date	Name / Position	Signature
14. DGTA USE ONLY		
14.1 Record Objective ID:		
14.2 Organisation Approval application	1:	
Application Approved	Application Requires Resubmit	Application NOT Approved
14.3 Additional Comments:		
Date	Name / Position	Signature

## **Annex A to TAO-M Form 2**

ACIL	ITY SITE/S	4.1 Base, Engine and Component Ma	aintenance Additional Site(s)
.1.1	Facility/Site 1	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 2	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 3	Street No and Name	
		City	
		State	Post code
		Country	·
	Facility/Site 4	Street No and Name	
		City	
		State	Post code
		Country	,
ŀ	Facility/Site 5	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 6	Street No and Name	
		City	
		State	Post code
		Country	1
	Facility/Site 7	Street No and Name	
		City	
		State	Post code
		Country	1
	Facility/Site 8	Street No and Name	
		City	
		State	Post code
		Country	1
	Facility/Site 9	Street No and Name	
	,	City	
		State	Post code
		Country	

## **Annex B to TAO-M Form 2**

FACIL	ITY SITE/S	4.2 Line Maintenance	Additional Site(s)
4.2.1	Facility/Site 1	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 2	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 3	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 4	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 5	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 6	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 7	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 8	Street No and Name	
		City	
		State	Post code
		Country	
	Facility/Site 9	Street No and Name	
		City	
		State	Post code
		Country	

## Guidance

These guidelines are designed to assist you to complete the TAO-M Form 4 for the acceptance of nominated personnel under an approved exposition and the Malaysian State Technical Airworthiness Regulation - Continuing Airworthiness Management.

IMPORTANT

It is the applicant's responsibility to apply for DGTA approval only if they have a requirement for the approval and can demonstrate compliance with all the relevant regulatory requirements.

Please carefully read this document and any relevant Acceptable Means of Compliance or Guidance Material issued by DGTA and available on the DGTA website to assist with the application process.

## About this form and the application process

## **APPLICATION PROCESS**

Completing this application form is the first step in the application process. After receiving a completed application form, DGTA will review your application and all supporting documents provided.

Applicants are to complete and sign the application form and submit to the DGTA with a cover letter.

**NOTE**: DGTA may not consider an application or cease to consider it further if the applicant has not complied with all DGTA requirements.

#### TAO-M FORM 4

This TAO-M Form 4 is the official DGTA form for the nomination and acceptance of key personnel. This form is considered part of an application pack and should be submitted with the appropriate evidence to support the application. One (1) TAO-M Form 4 form must be completed for **each** nominated position.

This form, once filled out correctly, along with all satisfactory documentation and evidence required to support the application, addresses the requirements of the DGTA.

#### Withdrawal of Application

An application can be withdrawn in writing at any time.

## Q1. Details of Management Personnel

The applicant is to select **ONE** approval type

## Q2. Position

The nominated person is required to select the position for which they require a Form 4 application. The "Additional Information" field should be completed for personnel applying for deputy or nominated positions. Other pertinent information can also be added in this field. Do not forget to enter the planned With Effect date for the position.

#### **Directorate General Technical Airworthiness**

## **Acceptance of Nominated Management Personnel**

#### Q3. Nominated Person

#### 3.1. Details of Nominated Person

The nominated person must provide their full legal name. This is the name that would appear on, for example, a passport or birth certificate. The nominated person must provide their current business address and contact details.

## Q4. Organisation's Details

The nominated person is required to provide the name of the legal entity with which they are associated.

#### Q5. Qualifications

The nominated person is required to provide details and supporting documentation of their qualifications relevant to the position for which they will hold within the organisation. Information on qualifications can be provided in a separate document (i.e. Curriculum Vitae) attached to this form. Examples of qualifications are: university degrees, professional training courses from verifiable sources and internal training courses. Please refer to the qualification requirement for the position applied for within the appropriate DGTA, e.g. refer to TAO-M M.A.706 for Continuing Airworthiness Manager qualification requirements.

## Q6. Experience

The nominated person is required to provide details and supporting documentation of their experience relevant to the position for which they will hold within the organisation. Additional information may be provided as an attachment to the application. Please refer to the experience requirement for the position applied for within the appropriate DGTA, e.g.: refer to TAO-M M.A.706 for Continuing Airworthiness Manager experience requirements.

#### Post Holder's Declaration

By signing the declaration, the nominated person is indicating to DGTA that they have:

- 1. Read the guidelines;
- 2. Completed the application in full; and
- 3. Accepted the terms and conditions for processing the application.

The application must be signed by the nominated person listed in item 3.

## **Privacy Policy**

DGTA requires the provision of information as listed in this form. All such information received will be treated as confidential and will not be disclosed to any third parties unless that disclosure is required or authorised by law. DGTA will safeguard personal information, however, please be aware that DGTA policy is to publish approvals on its website.

### **Form Submission**

Applicants are to complete and sign the application form and submit to the DGTA with a cover letter.

The applicant is to ensure either the supporting TAO-M Form (e.g. Form 2) for the change has been supplied in accordance with DGTA requirements, if required or has obtained approval from their sponsoring State Aircraft Operator.

**NOTE:** If there is insufficient space in any of the fields, please attach additional information to this form.

**Application** 

Competent authority: Directorate General Technical Airworthiness (DGTA)									
1. De	1. Details of Management Position required to be accepted as specified in:								
2. Pc	2. Position within the Organisation:								
Addi	Additional Information								
2 D	siness Contact Details								
o. Du	siness Contact Details	<b>S.</b>							
Plan	ned With Effect Date								
3.1	Position within the Org	ganisation							
3.2	Title/Name								
	Address								
	Suburb			State	Post Code				
	Country								
	Work Phone								
	Mobile								
	Email								
4. Or	ganisation								
4.1	Name								
5. Qı	ualifications relevant	to the item (2)	position:	(Attach Supportin	ng Documentation)				

## **Acceptance of Nominated Management Personnel**

6. Work experience releva	nt to the it	em (2) position:		(Attach Su	pporting Documentation)
7. Post Holder Declaration	1				
(To be completed by Applicant)  Declaration					
I declare that the information provi	ded on this form	is true and correct.	I have obtained approv		soring approved DGTA
I understand and accept that for D	GTA to proceed	with this application	<ul><li>Organisation, as attach</li><li>I understand that for Description</li></ul>		vith this application, the supporting
I have supplied all supporting docu					supplied IAW DGTA requirements.
Date		Name/P	Position		Signature:
8. DGTA USE ONLY				•	
8.1 Record Objective ID:					
8.2 Auditor Assessment:					
I have assessed this applica	ition agains	t the requirements of t	the DGTA and reco	mmend this	application as
Accepted	Acce	pted with Conditions	Resubmit F	Required	☐ Not Accepted
If Accepted; Planned With E	ffect Date:				
Assessment Comments:					
D 1					0: 1
Date		Name/P	osition		Signature
8.3 DGTA Acceptance/Reje					
Accepted	L Acce	oted with Conditions	Resubmit R	Required	☐ Not Accepted
Conditions (If Applicable)					
				1	
Date		Name/P	Position		Signature
שמוכ		i inalle/F	USILIUII	1	JIGHALUIT



# DIRECTORATE GENERAL TECHNICAL AIRWORTHINESS

TAO-M Form 15

## **Airworthiness Review Report**

## Report

						Roport
Name of CAMO:						
Your Reference:		F	Report Nu	ımber		
<b>Section 1. Inspection Details</b>						
1.1 Inspection Completed by	Name/ Rank					
	Service Number					
	Contact Number					
	Email Contact					
1.2 Holder of the Aircraft	SAO/ SRAO					
	Squadron/'s					
	Contact Number					
	Email Contact					
1.3 Continuing Airworthiness	SAO / SRAO				Since	
Management is performed by	CAMO Approval No.					
	Contact Number					
	Email Contact					
1.4 Location and date of the inspection	on survey				Date	
1.5 SA CoA Valid until (N/A for initial)						
Section 2. Details of the Aircr	aft					
2.1 Registration						
2.2 Manufacturer						
2.3 Serial Number				2.4 Airfr	rame hr	
2.5 Aircraft Flight Manual				2.6 Rev	rision	
2.7 Current revision of the AMP						
2.8 Power Plant, Propeller and Rotor NOTE: Physical verification of Part Number				ed		
(N/A fields not required)	#1 Engine	#2 Engine		3 Engine	•	#4 Engine
Engine Part Number						
Engine Serial Number						
Engine Hours						
(N/A if no Propeller fitted)	#1 Propeller	#2 Propeller	#3	Propelle	er	#4 Propeller
Propeller Part Number						
Propeller Serial Number						
Propeller Hours						

Rotary Wing Aircraft Only							
	#1 Blade	#2 Blade	#3 Blade	#4 Blade	#5 Blade	#6 Blade	
Main Rotor Blade Part Number							
Main Rotor Blade Serial Number							
Main Rotor Blade Hours							
Tail Rotor Blade Part Number							
Tail Rotor Blade Serial Number							
Tail Rotor Blade Hours							

Section 3. Information in Relation to the Review							
3.1 Inspection relates to:	CoA Renewal	Complete <u>all</u> sections					

## **Section 4. Aircraft Management**

Reference	TAO M Requirement	Comments / evidence reference	COM	COMPLIANCE			
4.1 Reference M.A. 901(c) (2) AMC (i)  During the last 12 months, has the aircraft been continuously managed by a TAO M CAMO?		Yes	No	Initial	Date		
4.2 Reference M.A. 901(c) (2)	During the last 12 months, did all		Yes	No	Initial	Date	
AMC (ii)	maintenance performed conform to the requirements of a controlled environment?						

## Section 5. AMP

Reference	TAO M Requirement	Comments / evidence reference				
5.1 Reference AMC M A 302(f)(3)	AMC M.A.302(f)(3) effectiveness and validation of the Aircraft		Yes	No	Initial	Date
and M.A.302(g)						
5.2 Reference M.A.302(d)  Is the approved AMP updated with revisions of the source documents'	Is the approved AMP updated with the latest		Yes	No	Initial	Date
	revisions of the source documents.					
5.3 Reference M.A.302(b)	Is the AMP approved by the authority or		Yes	No	Initial	Date
W.A.302(b)	through an indirect approval procedure?					

## **Section 6. Documentation**

Reference	TAO M Requirement	Comments / evidence reference				
6.1 Reference M.A.710(a)1	Airframe, engine and propeller flying hours and associated flight cycles and/or landings		Yes	No	Initial	Date
and any other airworthiness data as requi by the NMAA, have been properly recorde						
6.2 Reference M.A.710(a)2	Is the flight manual applicable to the aircraft configuration and does it reflect the latest		Yes	No	Initial	Date
r	revision status?					
6.3 Reference M.A.710(a)3	Has all the maintenance due on the aircraft according to the Aircraft Maintenance Program, (AMP) been carried out?		Yes	No	Initial	Date

## **Airworthiness Review Report**

Reference	TAO M Requirement	Comments / evidence reference				
6.4 Reference M.A.710(a)4	Have all known defects been corrected or, when applicable, deferred in a controlled manner?		Yes	No	Initial	Date
6.5 Reference M.A.710(a)5	Have all applicable Airworthiness Directives (ADs) been applied and properly registered?		Yes	No	Initial	Date
6.6 Reference M.A.710(a)6	Have all modifications and repairs that are applied to the aircraft been registered and are in compliance with TAO M M.A.304?		Yes	No	Initial	Date
6.7 Reference M.A.710(a)7	Have all installed Service Life Limited components been properly identified, registered and have not exceeded their approved service life limit?		Yes	No	Initial	Date
6.8 Reference M.A.710(a)8	Has all maintenance been released according to DGTA M.A. Subpart H?		Yes	No	Initial	Date
6.9 Reference M.A.710(a)9	Does the current weight and balance statement reflect the current configuration of the aircraft and is it still valid?		Yes	No	Initial	Date
6.10 Reference M.A.710(a)10	Does the aircraft comply with the latest revision of the type design approved by the NMAA/(M)TCH?		Yes	No	Initial	Date
6.11 Reference M.A.710(a)12	Where required, does the current symmetry report reflects the configuration of the aircraft and is it valid	N/A	Yes	No	Initial	Date

## **Section 7. Physical Survey**

NOTE 1: The physical survey should only be carried out once all findings and corrective action and/or deferrals identified from responses to Sections 4 to 6 have been appropriately actioned.

NOTE 2: The physical survey <u>must</u> only be conducted with TAO Part 145 approved personnel present. TAO Part 145 maintenance procedures must be followed when accessing any part of the aircraft.

NOTE 3: Refer to Annex B for the State Aircraft Airworthiness Review Physical Survey Check Sheet prior to completing Section 7.

Reference	TAO M Requirement	Comments / evidence reference				
7.1 Reference M.A.710(c)1	Are the required markings and placards properly installed?		Yes	No	Initial	Date
7.2 Reference M.A.710(c)2	Does the aircraft comply with its aircraft flight manual and/or any other manuals required by the NMAA?		Yes	No	Initial	Date
7.3 Reference M.A.710(c)3	Does the aircraft configuration comply with the approved data?		Yes	No	Initial	Date
7.4 Reference M.A.710(c)4	During the physical survey of the aircraft, there were no defects found that could not have been reasonably expected to be addressed.		Yes	No	Initial	Date
7.5 Reference M.A.710(c)5	There are no inconsistencies between the aircraft and the documented review of records that were checked in Section 6?		Yes	No	Initial	Date

# DIRECTORATE GENERAL TECHNICAL AIRWORTHINESS Airworthiness Review Report

Section 8. State	ment								
8.1a <b>Airworthiness</b> The questions of section are:			All answered positively		Not all answered positively				
NOTE:If question 8.1a cannot be answered positively but the aircraft is still considered to be airworthy, support the recommendation below in the remarks field									
8.2 Remarks:									
NOTE: <u>TAO M M.A 901(k</u>	<u>):</u> A CoA cannot b	e issued or renewe	d if there is evidenc	e or reason to believ	e that the aircraft is	not airworthy.			
With regards to what with TAO - M.	is stated above	, I declare that th	ne Airworthiness I	Review has been	performed in con	npliance			
8.3 It is advised	То	issue / renew the Co	οΑ		NOT to issue / rene	w the CoA			
8.4 Name and Rank									
8.5 Title and Signature Auditor / Lead Auditor									
Detail reference to or copies of all evidence sighted during this review			·						



## DIRECTORATE GENERAL TECHNICAL AIRWORTHINESS

TAO-M Form 15c

## **Airworthiness Review Findings**

Annex A

Annex A. Airworthiness Review Findings and Corrective Actions											
Detail all findings and corrective action and / or deferrals (See Sections 4 to 7)											
Item No.	De	escription / Leve	el of Finding		F	Recommende	d Action			Remark	
								T			
						Extra pages fo	or findings	Yes		No	

## **Airworthiness Review Physical Survey Check Sheet**

Annex B

- **NOTE 1:** The physical Inspection should only be carried out once all findings and corrective action and/or deferrals identified from responses to Sections 4 to 6 have been appropriately actioned.
- **NOTE 2:** The physical survey <u>must</u> only be conducted with TAO Part 145 approved personnel present. TAO Part 145 maintenance procedures must be followed when accessing any part of the aircraft.
- NOTE 3: Record all identified discrepancies during the physical survey in Annex A.
- **NOTE 4:** the items listed are the minimum required to satisfy the physical survey of the aircraft. Additional or targeted items may also be reviewed and detailed.

items may als	so be reviewed and detailed.										
	ndition of the aircraft for obvious damage, lear ral condition of the paint.	N/A	Yes	No	Initial	Date					
2. The Malaysiar	n nationality and registration markings are pro	N/A	Yes	No	Initial	Date					
angle of attack s	elage skin is smooth and unobstructed arour ensors. Check that the area around the stationediately around the area		N/A	Yes	No	Initial	Date				
	r/passenger/emergency exit doors operating d) are present and legible	instruction, (including the exit	N/A	Yes	No	Initial	Date				
5. The operating	instructions for cargo/access doors/panels a	are present and legible	N/A	Yes	No	Initial	Date				
	sessing tracked items, every attempt to it of items reviewed	dentify different items across	the fleet o	of aircraft	should b	e made to	allow a				
6. Record the Part Number and Serial Number of tracked parts as fitted to the aircraft in the list below:				Yes	No	Initial	Date				
	One cabin / cockpit tracked part: One landing gear tracked					One airframe tracked part					
Description:							-				
Part Number:											
Serial Number:											
7. Where fitted, check the condition, service life location and quantity of the cockpit safety equipment is in accordance with the aircraft emergency equipment check sheets. (note: a 100% check of all crew safety equipment required)				Yes	No	Initial	Date				
	ory placards are present and legible		N/A	Yes	No	Initial	Date				
accordance with	ndition, service life location and quantity of the the aircraft emergency equipment check she of passenger and 100% crew safety equipment	eets.	N/A	Yes	No	Initial	Date				
10. Check gener	N/A	Yes	No	Initial	Date						
11. List any addi		Yes	No	Initial	Date						
_											
				1	l .	1	I				



## Directorate General Technical Airworthiness

## APPLICATION FOR RENEWAL OF CERTIFICATE OF AIRWORTHINESS(COA)

1. AIRCRAFT DETAILS												
Registration No.	М				-							
Aircraft Type												
Manufacturer Serial No.												
Airframe hours												
Aircraft Weight			CofG / Range			1			Next D	ue		
Last Scheduled Svcg.				Но	urs				Date			
Next Scheduled Svcg.				Но	urs	Da				Date		
Date of Last Flight Test												
Date of Last Flown												
	1 <sup>st</sup> Line (Serviceabl	e)										
Almorett Obstance	1 <sup>st</sup> Line (Unserviceal	ble)		Natu	Nature of 'U/S':			Date 'U/S':		Estimate 'S':		
Aircraft Status: (Fill in where appropriate)			Type of Scheduled Maint.:			.:	Date 'U/S':		Est. ready for FCF:		FCF:	
	2 <sup>nd</sup> / 3 <sup>rd</sup> Line		Others (Please state): Date					Date 'U	e 'U/S': Es		eady for f	FCF:
Any Major Structural Repair (since last CoA renewal)	YES / NO	*			Oc	curren	ce:			Date (	of occurre	ence:
No. of outstanding Service Bulletins												
No. of Maintenance Concessions												
No. of Maintenance Interval Extensions												

Revision 1

2. DECLARATION		
All design changes, repairs, and are properly recorded.	deviations and concessions since last CoA renewal have been	assessed for approval
YES / NO *		
If No, please state details and re	eason:	
	pest of my knowledge the particulars entered on this application and conforms to the Type Design.	are accurate and the
Signature	Date	
Name of DAR / Applicant		
3. DGTA USE ONLY		
Remarks by DGTA Auditor		
Name of Auditor	Date	