



**Civil Aviation
Requirements**

MCAR-Part 147

Approved Maintenance Training Organization

Second Edition 2018

**Department of Civil Aviation
Ministry of Transport and Communications, Myanmar**

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PREFACE

This requirement has been prepared for the use and guidance to get Approval for Maintenance Training Organization from Myanmar DCA.

MCAR 147 establishes measure to be taken and facts to be provided to get approval for Maintenance Training Organization. It also specifies the conditions to be met by the Organization that involved in Training of Civil Aircraft Maintenance Personnel.

It is emphasized that the Organization intended to get Myanmar Approved Maintenance Training Organization shall need to apply all the requirements specified in this part.

This requirements has been issued by the Director General, under authority conferred by Section 5-A (c) of the Myanmar Aircraft Act (1934).

Enquires on the contents of this requirement should be addressed to__

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Amendment Record List

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First Edition	00	January 2010	Saw Maung Kan
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MCAR 147.1 General

- (a) This Part prescribes the requirements to be met by organizations seeking approval to conduct approved training / examination of certifying staff as specified in MCAR-66.
- (b) Approved basic training is required by MCAR-66 para 66.2.1.5(a) and to qualify for the maximum reduction in total maintenance experience specified in MCAR-66.
- (c) To qualify for the paragraph (b) approved basic training the organization shall be approved by the Director-General in accordance with MCAR-147 Subparts B and C.
- (d) An organization may be approved by the Director-General in accordance with MCAR-147 Subpart B and D to carry out the aircraft type training specified in MCAR-66 and EASA Part -66.
- (e) the organization having their principle place of business located in foreign country must have been previously approved by the authority of such country.
- (f) The following acronyms are used in this Part_
 - (i) AMTO – Approved Maintenance Training Organization
 - (ii) DCA – Department of Civil Aviation (Myanmar)
 - (iii) MCAR – Myanmar Civil Aviation Requirements
 - (iv) MTOE – Maintenance Training Organization Exposition

PART A GENERAL

MCAR 147.5 Effectivity

- (a) MCAR-147 is effective from the date of issue.
- (b) MCAR-147 approval may be issued by the Director-General to any training organization if he is satisfied that the organization is in compliance with MCAR147.

MCAR 147.10 Applicability

This MCAR-147 establishes the requirements to be met by organizations seeking approval to conduct:

- (a) training and examination as specified in MCAR-66.
- (b) training and examination for qualifying certifying staff of MCAR-145 organizations holding Class C ratings.

MCAR 147.15 Application

An application for the issue, variation or renewal of a MCAR-147 maintenance training organization approval shall be made on CA form 199 and submitted with a copy of the maintenance training organization exposition described in MCAR 147.140 or any amendment thereto.

- Note:(i) The potential AMTO certificate holder must submit its application for Training Organization Approval completed by the accountable manager to the DCA prior to 90 days before tentative date of opening (*as a minimum*).
- (ii) An AMTO certificate holder must submit its request for renewal no later than 90 days before the current certificate expires.
 - (iii) An AMTO certificate holder must submit its request for amendment at least 90 days in advance.

MCAR 147.20 Definitions

For the purpose of this Part, the following definitions shall apply, -

- (a) '*Accountable Manager*' means the manager who has corporate authority for ensuring that training can be finance and carried out to the standards required by the DCA.
- (b) '*Approved Basic Training Course*' means a defined course of maintenance training designed to give a level of knowledge and some experience to a student such that it justifies the reduction in maintenance experience permitted by MCAR-66.
- (c) '*Assessors*' are persons authorized by the maintenance training organization to conduct practical training assessment.
- (d) '*Director-General*' means the Director-General of Department of Civil Aviation, Myanmar.
- (e) '*Examiners*' are persons authorized by the maintenance training organization to conduct theoretical knowledge examination.
- (f) '*Instructors*' are persons authorized by the maintenance training organization to conduct theoretical instruction and/or practical training.
- (g) '*Quality system*' means the documented organizational procedures and policies; internal audit of those policies and procedures; management review and recommendation for quality improvement.
- (h) '*Organization*' means an organization registered as a legal entity. Such an organization may conduct business from more than one address and may hold more than one approval issued by the respective states.
- (i) '*Terms of Reference*' means the scope of work that a person is responsible for and authorized to carry out on behalf of the MCAR-147 approved maintenance training organization.

PART B - ORGANISATIONAL REQUIREMENTS

MCAR 147.100 Facility Requirements

- (a) The size and structure of facilities shall ensure protection from the prevailing weather elements and proper operation of all planned training and examination on any particular day.
- (b) Fully enclosed appropriate accommodation separate from other facilities shall be provided for the instruction of theory and the conduct of knowledge examinations.
 - (i) The maximum number of students undergoing knowledge training during any training course shall not exceed 28.
 - (ii) The size of accommodation for examination purposes shall be such that no student can read the paperwork or computer screen of any other student from his or her position during examinations.
- (c) The paragraph (b) accommodation environment, shall be maintained such that students are able to concentrate on their studies or examination as appropriate, without undue distraction or discomfort.
- (d) In the case of a basic training course, basic training workshops and/or maintenance facilities separate from training classrooms shall be provided for practical instruction appropriate to the planned training course. If however, the MCAR-147 approved maintenance training organization is unable to provide such facilities, arrangements may be made with another organization to provide such workshops and/or maintenance facilities, in which case, a written agreement shall be made with such organization specifying the conditions of access and use thereof. The DCA shall require access to any such contracted organization and the written agreement shall specify this access.
- (e) In the case of an aircraft type/ task training course access shall be provided to appropriate facilities containing examples of the aircraft type as specified in MCAR 147.115(d).
- (f) The maximum number of students undergoing practical training during any training course shall not exceed 15 per supervisor or assessor.
- (g) Office accommodation shall be provided for instructors, knowledge examiners and practical assessors of a standard to ensure that they can prepare for their duties without undue distraction or discomfort.
- (h) Secure storage facilities shall be provided for examination papers and training records. The storage environment shall be such that documents remain in good condition for the retention period as specified in MCAR 147.125. The storage facilities and office accommodation may be combined, subject to adequate security.
- (i) A library shall be provided containing all technical material appropriate to the scope and level of training undertaken.

MCAR 147.105 Personnel Requirements

- (a) The MCAR-147 approved maintenance training organization shall appoint an accountable manager who has corporate authority for ensuring that all training commitments can be financed and carried out to the standard required by MCAR-147.
- (b) A senior person or group of persons, whose responsibilities include ensuring that the maintenance training organization is in compliance with MCAR-147, shall be nominated. Such person(s) shall be responsible to the accountable manager. The senior person or one person from the group of persons may also be the accountable manager subject to meeting the requirements for the accountable manager as defined in paragraph (a).
- (c) The accountable manager shall nominate a senior person with responsibility for monitoring the internal quality system specified in MCAR 147.130. Such senior person must have direct access to the accountable manager to ensure that the accountable manager is kept properly informed on quality, standard and compliance matters.
- (d) The MCAR-147 approved maintenance training organization shall comply or contract sufficient staff to plan /perform knowledge and practical training, conduct knowledge examinations and practical assessments in accordance with the approval.
- (e) By derogation to paragraph (d), when another organization is used to provide practical training and assessments, such other organization's staff may be nominated to carry out practical training and assessments.

- (f) Any person may carry out any combination of the roles of instructor, examiner and assessor, subject to compliance with paragraph (g).
- (g) The experience and qualifications of instructors, knowledge examiners and practical assessors shall be established to a standard acceptable to DCA and must be appropriate to the course(s) being conducted.
- (h) The knowledge examiners and practical assessors shall be specified in the maintenance training organization exposition for the acceptance of such staff.
- (i) Instructors and knowledge examiners shall undergo recurrent training at least every 24 months relevant to current technology, practical skills, human factors and the latest training techniques appropriate to the knowledge being trained or examined.

MCAR 147.110 Records of Instructors, Examiners and Assessors

- (a) The MCAR-147 approved maintenance training organization shall maintain a record of all instructors, knowledge examiners and practical assessors. These records shall reflect the experience and qualification, training history and any subsequent training undertaken.
- (b) Terms of Reference shall be drawn up for all instructors, knowledge examiners and practical assessors. Any limitation of the scope of authority of the individual, particularly those staff designated in MCAR 147.105(g), must be clearly indicated. Such persons must be provided with a copy of their Terms of Reference.

MCAR 147.115 Instructional Equipment

- (a) Each classroom shall have appropriate presentation equipment of a standard that ensures students can easily read presentation text/ drawings/ diagrams and figures from any position in the classroom. Presentation equipment shall include representative synthetic training devices to assist students in their understanding of the particular subject matter where such devices are considered beneficial for such purposes.
- (b) The basic training workshops and/ or maintenance facilities as specified in MCAR147.100 (d) must have all tools and equipment necessary to perform the approved scope of training.
- (c) The basic training workshops and/ or maintenance facilities as specified in MCAR147.100 (d) must have an appropriate selection of aircraft, engines, aircraft parts and avionics equipment.
- (d) The aircraft type training organization as specified in MCAR147.100 (e) must have access to the appropriate aircraft type. Synthetic training devices may be used when such synthetic training devices ensure adequate training standards.

MCAR 147.120 Maintenance Training Material

- (a) Maintenance training course material shall be provided to the student and cover as applicable:
 - (i) the basic knowledge syllabus specified in MCAR-66 for the relevant aircraft maintenance licence category or sub-category and,
 - (ii) the type course content required by MCAR-66 for the relevant aircraft type and aircraft maintenance licence category or sub-category.
- (b) Students shall have access to examples of maintenance documentation and technical information of the library as specified in MCAR 147.100(i).

MCAR 147.125 Records

- (a) The MCAR-147 approved maintenance training organization shall keep all student training, examination and assessment records for at least five years following completion of the particular student's course.
- (b) Details of each approved course shall be kept for at least five years following the cessation of the course.

MCAR 147.130 Training Procedures and Quality system

- (a) The MCAR-147 approved maintenance training organization shall establish procedures acceptable to the DCA to ensure proper training standards and compliance with all relevant requirements in MCAR-147.
- (b) The MCAR-147 approved maintenance training organization shall establish a quality system including:
 - (i) an independent audit function to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures, and

- (ii) a feedback system of the audit findings to the person(s) and ultimately to the accountable manager referred to in MCAR 147.105(a) to ensure, as necessary, timely implementation of corrective and repetitive action.

MCAR 147.135 Examinations

- (a) The maintenance training organization shall establish procedures to ensure appropriate control of access and security of all questions.
- (b) Any student found during a knowledge examination to be cheating or in possession of material pertaining to the examination subject other than the examination papers and associated authorized documentation shall be disqualified from taking the examination and may not take any examination for at least 12 months after the date of the incident. The DCA shall be informed of any such incident together with the details of any enquiry within one calendar month.
- (c) Any examiner found during a knowledge examination to be providing question answers to any student being examined shall be disqualified from acting as an examiner and the examination declared void. The DCA shall be informed of any such occurrence within (7) days and provided with details of any enquiry within one calendar month.

MCAR 147.140 Maintenance Training Organization Expositions

- (a) The MCAR-147 approved maintenance training organisation shall provide an exposition for use by the organization describing the organisation and its procedures and containing the following information:
 - (i) a statement signed by the accountable manager confirming that the maintenance training organisation exposition and any associated manuals defines the maintenance training organisation's compliance with MCAR-147 and shall be complied with at all times.
 - (ii) the title(s) and name(s) of the person(s) nominated in accordance with MCAR 147.105(b).
 - (iii) the duties and responsibilities of the person(s) specified in subparagraph(a)(2), including matters on which they may deal directly with the DCA on behalf of the maintenance training organization.
 - (iv) a maintenance training organization chart showing associated chains of responsibility of the person(s) specified in sub-paragraph (a)(ii).
 - (v) a list of the training instructors, knowledge examiners and practical assessors.
 - (vi) a general description of the training and examination facilities located at each address specified in the MCAR 147 approval certificate, and if appropriate any other location, as required by MCAR 147.145 (b).
 - (vii) a list of the maintenance training courses which form the extent of the approval.
 - (viii) the maintenance training organization exposition amendment procedure.
 - (ix) the maintenance training organization procedures, as required by MCAR 147.130(a) & (b).
 - (x) the maintenance training organization control procedure, and internal quality assurance system as required by MCAR 147.145(c), when authorized to conduct training, examination and assessments in locations different from those specified in MCAR 147.145(b).
 - (xi) a list of the locations pursuant to MCAR 147.145(b).
 - (xii) a list of organizations, if appropriate, as specified in MCAR 147.145(d).
- (b) The maintenance training organization exposition and any subsequent amendments shall be approved by the DCA.
- (c) Notwithstanding paragraph (b) minor amendments to the maintenance training organization exposition may be approved through an exposition procedure.

MCAR 147.145 Privileges of Approved Maintenance Training Organization

- (a) The MCAR-147 approved maintenance training organization may carry out the following as permitted by and in accordance with the maintenance training organization exposition:
 - (i) basic training courses to the MCAR-66 syllabus, or part thereof.
 - (ii) aircraft type/ task training courses in accordance with MCAR-66.

- (iii) the issue of certificates in following successful completion of the approved basic or aircraft type training courses and examinations specified in subparagraph (a)(i) and (a)(ii) as applicable in accordance with the manner described in Appendix B form.
- (b) Training, knowledge examinations and practical assessments may only be carried out at the locations identified in the MCAR-147 approval certificate and/or at any location specified in the maintenance training organization exposition.
- (c) By derogation to paragraph (b), the MCAR-147 approved maintenance training organization may only conduct training, knowledge examinations and practical assessments in locations different from the paragraph (b) locations in accordance with a control procedure specified in the maintenance training organization exposition. Such locations need not be listed in the maintenance training organization exposition.
- (d) (i) The MCAR-147 approved maintenance training organization may subcontract the conduct of basic theoretical training, type training and related examinations to a non maintenance training organization only when under the control of the MCAR147 approved maintenance training organization quality system.
 - (ii) The subcontracting of basic theoretical training and examination is limited to Module 1,2,3,4.
 - (iii) The subcontracting of type training and examination is limited to power-plant and avionics systems.
- (e) An organization may not be approved to conduct only examinations unless approved to conduct training.

MCAR 147.150 Changes to the Approved Maintenance Training Organization

- (a) The MCAR-147 approved maintenance training organization shall notify the DCA of any proposed changes to the organization that affect the approval before any such change takes place, in order to enable the DCA to determine continued compliance with MCAR-147 and to amend if necessary the MCAR-147 approval certificate.
- (b) The DCA may prescribe the conditions under which the MCAR-147 approved maintenance training organization may operate during such changes unless the DCA determines that the MCAR-147 approval must be suspended.
- (c) Failure to inform the DCA of such changes may result in suspension or revocation of the MCAR-147 approval certificate backdated to the actual date of the changes.

MCAR 147.155 Continued Validity

Unless the approval has previously been surrendered, superseded, suspended, revoked or expired by virtue of exceeding any expiry date that may be specified in the approval certificate, the continued validity of the approval is dependent upon:

- (a) MCAR-147 approved maintenance training organization remaining in compliance with MCAR-147, any other conditions specified by DCA;
- (b) the DCA being granted access to the MCAR-147 approved maintenance training organization to determine continued compliance with MCAR-147; and
- (c) the payment of any charges prescribed by the Director-General.

MCAR 147.160 Findings

- (a) Level 1 finding; is one or more of the following:
 - (i) any significant non-compliance with the examination process which would invalidate the examination(s),
 - (ii) lack of an accountable manager,
 - (iii) a significant non-compliance with the training process.
- (b) Level 2 finding; is any non-compliance with the training process other than level 1 finding.
- (c) After receipt of notification of findings, the holder of the MCAR-147 approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the DCA within a period agreed by the DCA.

PART C - THE APPROVED BASIC TRAINING COURSE

MCAR 147.200 The Approved Basic Training Course

- (a) Unless otherwise agreed with the DCA by a procedure in the maintenance training organization exposition, each new basic training course must have prior approved by the DCA.
- (b) The approved basic training course shall consist of knowledge training, knowledge examination, practical training and a practical assessment where applicable.
Note: Basic Knowledge Examinations are conducted by the DCA. Basic knowledge examinations conducted by maintenance training organizations will be deemed to be preparatory examinations and are not considered equivalent to the MCAR-66 Basic Knowledge Examinations conducted by the DCA.
- (c) The knowledge training element shall cover the subject matter for a category or sub-category A, B1 or B2 aircraft maintenance licence as specified in MCAR-66.
- (d) The knowledge examination element shall cover a representative cross section of subject matter from the paragraph (c) training element.
- (e) The practical training element shall cover the practical use of common tooling / equipment, the disassembly/assembly of a representative selection of aircraft parts and the participation in representative maintenance activities being carried out relevant to the particular MCAR-66 complete module.
- (f) The practical assessment element shall cover the practical training and determine whether the student is competent at using tools and equipment and working in accordance with maintenance manuals.
- (g) The duration of basic training courses shall not be less than as specified in Appendix 'A'
- (h) The duration of conversion courses between (sub) categories shall be determined through an assessment of the basic training syllabus and the related practical training needs.
- (i) A minimum attendance policy shall be established by the maintenance training organization.

Note : As a minimum standard, students who have missed more than 15 percent of the course through absences shall be deemed not to have completed the course.

MCAR 147.205 Basic Knowledge Examinations

Basic knowledge examinations shall:

- (a) be in accordance with the standard defined in MTOE.
- (b) be conducted without the use of training notes.
- (c) cover a representative cross section of subjects from the particular module of training completed in accordance with MCAR-66.

MCAR 147.210 Basic Practical Assessments

- (a) Basic practical assessments shall be carried out during the basic maintenance training course by the nominated practical assessors at the completion of each visit period to the practical workshops / maintenance facility.
- (b) The student shall achieve an assessed pass with respect to MCAR 147.200(e).

PART D - AIRCRAFT TYPE / TASK TRAINING**MCAR 147.300 Aircraft Type / Task Training**

MCAR-147 approved maintenance training organization shall be approved or accepted by the Manufacturer to carry out aircraft type and /or task training subject to compliance with the standard specified.

MCAR 147.305 Aircraft type Examinations and Task Assessments

MCAR-147 Approved Maintenance Training Organization, approved in accordance with MCAR 147.300 to conduct aircraft type training shall conduct the aircraft type examinations or aircraft task assessments specified by the authority of the state of Manufacturer subject to compliance with the aircraft type and /or task standard specified.

PART E -ACCEPTABLE MEANS OF COMPLIANCE (AMC)

1. GENERAL

- 1.1 This section contains Acceptable Means of Compliance (AMC) that has been included in the MCAR-147 to assist the MCAR-147 approved maintenance training organization in meeting the necessary requirements.
- 1.2 Where a particular MCAR paragraph does not have an Acceptable Means of Compliance, it is considered that no supplementary material is required.
- 1.3 In addition, Advisory Circulars issued by the Authority may contain further Acceptable Means of Compliance.

2. PRESENTATION

- 2.1 The Acceptable Means of Compliance are presented in full-page width on loose pages, each page being identified by the date of issue or the change number under which it is amended or re-issued.
- 2.2 A numbering system has been used in which the Acceptable Means of Compliance uses the same number as the paragraph in MCAR to which it refers. The number is preceded by the letters AMC to distinguish the material from the MCAR itself.
- 2.3 The acronym AMC also indicate the nature of the material and for this purpose is defined as follows:

Acceptable Means of Compliance (AMC) illustrate a means, or several alternative means, but not necessarily the only possible means by which a requirement can be met. It should however, be noted that where a new AMC is developed, any such AMC (which may be additional to an existing AMC) may be amended into the document or issued as a separate Advisory Circular.

AMC 147.100(i) Facility requirements

1. For approved basic maintenance training courses this means holding and ensuring reasonable access to copies of the Air Navigation Order, relevant Myanmar Civil Aviation Requirements, notices and circulars issued by the Authority, examples of typical aircraft maintenance manuals, service bulletins, airworthiness directives, aircraft and component records, release documentation procedures manuals and aircraft maintenance programmes.
2. Except for the Air Navigation Order, relevant Myanmar Civil Aviation Requirements, and notices and circulars issued by the Authority, the remainder of the documentation should represent typical examples for both large and small aircraft and cover both aeroplanes and helicopters as appropriate. Avionic documentation should cover a representative range of available equipment. All documentation should be reviewed and updated on a regular basis.

AMC 147.105 Personnel requirements

1. The larger maintenance training organization (an organization with the capacity to provide training for 50 students or more) should appoint a training manager with the responsibility of managing the training organization on a day to day basis. Such person could also be the accountable manager. In addition, the organization should appoint a quality manager with the responsibility of managing the internal quality assurance system as specified in paragraph MCAR-147.130(b) and an examination manager with the responsibility of managing the relevant MCAR-147 Subpart C or Subpart D examination system. Such person(s) may also be an instructor and/or examiner.
2. The smaller maintenance training organization (an organization with the capacity to provide training for less than 50 students) may combine any or all of the sub-paragraph (1) positions subject to the Authority verifying and being satisfied that all functions can be properly carried out in combination.
3. When the organization is also approved against other parts of the Myanmar Civil Aviation Requirements which contain some similar functions then such functions may be combined.

AMC 147.105(f) Personnel requirements

Any person currently accepted by the Authority prior to MCAR-147 coming into force may continue to be accepted in accordance with MCAR-147.105(f).

AMC 147.105(h) Personnel requirements

At least 35 hours of updating training should be provided but may be adjusted to the scope of training of the maintenance training organization and the particular instructor/examiner.

AMC 147.110(a) Records of instructors, examiners and assessors

The following minimum information as applicable should be kept on record in respect of each instructor, knowledge examiner and practical assessor:

- (a) Name
- (b) Date of Birth

- (c) Experience
- (d) Qualifications
- (e) Training History (before entry)
- (f) Subsequent Training
- (g) Scope of activity
- (h) Date of employment/contract

2. The record may be kept in any format but should be under the control of the maintenance training organization's quality system.
3. Persons authorized to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorized manner or that such confidential records become accessible to unauthorized persons.
4. The Authority is an authorized person when investigating the records system for initial and continued approval or when the Authority has cause to doubt the competence of a particular person.

AMC 147.115(c) and (d) Instructional equipment

1. *An appropriate selection of aircraft parts* means appropriate in relation to the particular subject module or sub-module of MCAR-66 being instructed. For example the turbine engine module should require the provision of sufficient parts from different types of turbine engine to show what such parts look like, what the critical areas are from a maintenance viewpoint and to enable disassembly/assembly exercises to be completed.
2. *Appropriate aircraft, engines, aircraft parts and avionic equipment* means appropriate in relation to the particular subject module or sub-module of MCAR-66 being instructed. For example category B2 avionic training should require amongst other equipment, access to at least one type of installed autopilot and flight director system such that maintenance and system functioning can be observed and therefore more fully understood by the student in the working environment.
3. "Access" may be interpreted to mean, in conjunction with the facilities requirement of MCAR-147.100(d), that there may be an agreement with a maintenance organization approved under MCAR-145 to access such parts, equipment, engines or aircraft.

AMC 147.120(a) Maintenance training material

Training course notes, diagrams and any other instructional material should be accurate. Where an amendment service is not provided a written warning to this effect should be given.

AMC 147.125(b) Records

Details of the approved course should at least include the following information:

- Name of course
- Course control number and revision status
- Course objectives
- Name of instructors
- Reference material
- Syllabus, including any practical training session, if applicable
- Course duration including number of training hours for each topic
- Course timetable detailing the topics to be covered for each day of the course
- Format of examination
- Signature(s) of senior person responsible for the development of the course

AMC 147.130(b) Training procedures and internal quality assurance system

1. The independent audit procedure should ensure that all aspects of MCAR-147 compliance be checked at least once in every 12 months by trained auditing personnel and may be carried out as a complete single exercise or subdivided over a 12-month period in accordance with a scheduled plan.
2. The internal quality assurance system should also include:
procedures to ensure quality indicators, such as personnel and customer feedback and examination pass rates are monitored to identify existing problems or potential causes of problems within the system and;
 - (a) management review procedures to measure the effectiveness of any corrective action taken and to ensure the continuing effectiveness of internal quality assurance system in satisfying the requirements of MCAR-147
 - (b) management review procedures to measure the effectiveness of any corrective action taken and to ensure the continuing effectiveness of internal quality assurance system in satisfying the requirements of MCAR-147
3. In a small maintenance training organization the independent audit function may be contracted to another maintenance training organization approved under MCAR-147 or a competent person acceptable to the Authority. Where the small training organization chooses to contract the audit function it is conditional on the audit being carried out twice in every 12 month period with one such audit being unannounced.
4. Where the maintenance training organization is also approved under another part of the Myanmar Civil Aviation Requirements requiring a quality system, then such quality systems may be combined.
5. When training or examination is carried out under the sub-contract control system:
 - (a) a pre audit procedure should be established for the MCAR-147 approved maintenance training
 - (b) a renewal audit of the subcontractor should be performed at least once every 12 months to ensure continuous compliance with the MCAR-147.
 - (c) the sub-contract control procedure should record audits of the subcontractor and to have a corrective action follow-up plan.
6. The independence of the audit system should be established by always ensuring that audits are carried out by personnel not responsible for the function or procedure being checked.

AMC 147.135 Examinations

1. Examinations may be computer or hard copy based or a combination of both.
2. The actual questions to be used in a particular examination should be determined by the examination

AMC 147.140 Maintenance Training Organization Exposition

1. A recommended format of the exposition is included in Appendix 2.
2. When the maintenance training organization is approved in accordance with any other part of the Myanmar Civil Aviation Requirements which also requires an exposition, the exposition required by the other Myanmar Civil Aviation Requirements may form the basis of the maintenance training organization exposition in a combined document, as long as the other exposition contains the information required by MCAR-147.140 and a cross reference index is included based on Appendix 2.
3. Maintenance training organizations located outside Singapore approved by another authority under the regulations of that authority may use a common exposition provided that all MCAR-147 requirements are met. Differences between the MCAR-147 requirements and the requirements of the other authority/authorities should be identified and indicated. The common exposition should have an index based on Appendix 2 showing where those parts pertaining to the MCAR-147 are covered.
4. When training or examination is carried out under the sub-contract control system the maintenance training organization exposition should contain a specific procedure on the control of sub-contractors as per Appendix 2 item 2.18 plus a list of sub-contractors as required by MCAR-147.140(a)(12) and detailed in Appendix 2 item 1.7.
5. The Authority may approve a delegated exposition approval system for all changes other than those affecting the approval.

AMC 147.145(d) Privileges of the maintenance training organization

1. When training or examination is carried out under the sub-contract control system it means that for the duration of such training or examination, the MCAR-147 approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the sub-contractor's facilities, personnel and procedures involved with the MCAR-147 approved maintenance training organization's students should meet requirements of MCAR-147 for the duration of that training or examination and it remains the MCAR-147 organization's responsibility to ensure such requirements are satisfied.
2. The maintenance training organization approved under MCAR-147 is not required to have complete facilities and personnel for training that it needs to subcontract but it should have its own expertise to determine that the sub-contractor meets the MCAR-147 standards. Particular attention should be given to ensuring that the training that is delivered also meets the requirements of MCAR-66 and the aircraft technologies as appropriate.
3. The contract between the maintenance training organisation approved under MCAR-147 and the sub-contractor should contain:
4. (a) a provision for the Authority to have right of access to the sub-contractor;
(b) a provision for the sub-contractor to inform the MCAR-147 approved maintenance training organization of any change that may affect its MCAR-147 approval, before any such change takes place.

AMC 147.200 The approved basic training course

For the purpose of this paragraph, a training hour means 60 minutes' training, without pauses.

AMC 147.200(b) The approved basic training course

Each licence category or subcategory basic training course may be subdivided into modules or sub-modules of knowledge and may be intermixed with the practical training elements subject to the required time elements of MCAR-147.200(f) to (g) inclusive being satisfied.

AMC 147.200(d) The approved basic training course

1. Where the maintenance training organization approved under MCAR-147 contracts the practical training element either totally or in part to another organization in accordance with MCAR-147.100(d), the contracting organization should ensure that the practical training elements are properly carried out.
2. At least 30% of the practical training element should be carried in an actual maintenance working environment.

AMC 147.200(h) The approved basic training course

Typical conversion durations are given below:

MCAR-66 Licence Category/Subcategory Currently Held	Basic Training Course to Qualify for MCAR-66 Licence Category/Subcategory	Minimum Duration	
A1	B1.1 or B2	1,600 hours	60%-70% knowledge training
A1	B1.1 and B2	2,200 hours	60%-70% knowledge training
B1.1	B2	600 hours	80%-85% knowledge training
B2	B1.1	600 hours	80%-85% knowledge training
B1.2	B1.1	400 hours	50%-60% knowledge training
Any 'A' subcategory	Any other 'A' subcategory	70 hours	30%-40% knowledge training

AMC 147.210(a) Basic practical assessment

Where the maintenance training organization approved under MCAR-147 contracts the practical training element either totally or in part to another organization in accordance with MCAR-147.100(d) and chooses to nominate practical assessors from the contracted organization, the contracting organization should ensure that the basic practical assessments are carried out.

AMC 147.210(b) Basic practical assessment

An assessed pass for each student should be granted when the practical assessor is satisfied that the student meets the criteria of MCAR-147.200(e). This means that the student has demonstrated the capability to use relevant tools/equipment/test equipment as specified by the tool/equipment/test equipment manufacturer and the use of maintenance manuals in that the student can carry out the required inspection/testing without missing any defects, can readily identify the location of components and is capable of correct removal/fitment/adjustment of such components. The student is only required to carry out enough inspection/testing and component removal/fitment/adjustments to prove capability. The student should also show an appreciation of the need to ensure clean working conditions and the observance of safety precautions for the student and the product. In addition, the student should demonstrate a responsible attitude in respect to flight safety and airworthiness of the aircraft.

AMC 147.300 Aircraft type/task training

1. Aircraft type training may be sub-divided in airframe type training, powerplant type training, or avionic systems type training. A maintenance training organization approved under MCAR-147 may be approved to conduct airframe type training only, powerplant type training only or avionics systems type training only.
2. Airframe type training means type training including all relevant aircraft structure and systems excluding the powerplant.
3. Powerplant type training means type training on the bare engine, including the build-up to a quick engine change unit.
4. The interface of the engine/airframe systems should be addressed by either airframe or powerplant type training.
5. Avionic systems type training means type training on avionics systems covered by but not necessarily limited to ATA (Air Transport Association) chapters 22, 23, 25, 27, 31, 33, 34, 45, 46, 73 and 77 or equivalent.

APPENDIX 1

BASIC COURSE DURATION

Basic Course to qualify for MCAR-66 Licence Category/Sub-category	Duration (in hours)	Theoretical training ratio (in percentage)
A1	800	30 – 35
A2	650	30 – 35
A3	800	30 – 35
A4	800	30 – 35
B1.1	2,400	50 – 60
B1.2	2,400	50 – 60
B1.3	2,400	50 – 60
B1.4	2,400	50 – 60
B2	2,400	50 – 60

APPENDIX 2

RECOMMENDED FORMAT OF A MAINTENANCE TRAINING ORGANISATION EXPOSITION

Maintenance training organization exposition (MTOE)

1. The following subject headings form the basis of the MTOE required by MCAR-147.140.
2. Whilst this format is recommended it is not mandatory to assemble the MTOE in this manner as long as a cross reference index is included in the MTOE as an appendix and the Part 1 items remain in Part 1.
3. Part 2, 3 and 4 material may be produced as separate detailed manuals subject to the main exposition containing the part 2, 3 and 4 fundamental principles and policy on each item. It is then permitted to delegate the approval of these separate manuals to the senior person but this fact and the procedure should be specified in paragraph 1.10.
4. Where an organization is approved in accordance with any other parts of the Myanmar Civil Aviation Requirements which require an exposition it is acceptable to combine the exposition requirements by merging the Part 1 items and adding the parts 2, 3 and 4. When this method is used it is essential to include the cross reference index of Part 4 item 4.3.

PART 1 – MANAGEMENT

- 1.1 Corporate commitment by accountable manager
- 1.2 Management personnel
- 1.3 Duties and responsibilities of management personnel, instructors, knowledge examiners and practical assessor
- 1.4 Management personnel organization chart
- 1.5 List of instructional and examination staff
Note: A separate document may be referenced
- 1.6 List of approved addresses
- 1.7 List of sub-contractors as per 147.145(d)
- 1.8 General description of facilities at paragraph 1.6 addresses
- 1.9 Specific list of courses approved by the competent authority
- 1.10 Notification procedures regarding changes to organization
- 1.11 Exposition and associated manuals amendment procedure

PART 2 – TRAINING AND EXAMINATION PROCEDURES

- 2.1 Organization of courses
- 2.2 Preparation of course material
- 2.3 Preparation of classrooms and equipment
- 2.4 Preparation of workshops/maintenance facilities and equipment
- 2.5 Conduct of basic knowledge & practical training
- 2.6 Records of training carried out
- 2.7 Storage of training records
- 2.8 Training at locations not listed in paragraph 1.6
- 2.9 Organization of examinations
- 2.10 Security and preparation of examination material
- 2.10 Preparation of examination rooms
- 2.11 Conduct of examinations
- 2.12 Conduct of basic practical assessments
- 2.13 Marking and record of examinations
- 2.14 Storage of examination records
- 2.15 Examinations at locations not listed in paragraph 1.6
- 2.16 Preparation, control & issue of basic training course certificates
- 2.17 Control of sub-contractors

PART 3 – TRAINING SYSTEM QUALITY PROCEDURES

- 3.1 Audit of training
- 3.2 Audit of examinations
- 3.3 Analysis of examination results
- 3.4 Audit and analysis remedial action
- 3.5 Accountable manager annual review
- 3.6 Qualifying the instructors
- 3.7 Qualifying the examiners
- 3.8 Records of qualified instructors & examiners

PART 4 – APPENDICES

- 4.1 Example of documents and forms used
- 4.2 Syllabus of each training course
- 4.3 Cross reference Index - if applicable

APPENDIX 3**TYPICAL EXAMPLE OF AN APPROVED COURSE CERTIFICATE****Approved course certificate**

- 1 A typical approved course certificate should include at least the following information:
 - i) Serial number of the certificate
 - ii) Name and approval number of the maintenance training organization
 - iii) Name of the course and course reference number
 - iv) Duration of the course in days
 - v) Name of the student
 - vi) Signature of the authorized person(s) issuing the certificate

- 2 The approved course certificate should contain the following statement:

CERTIFICATE OF RECOGNITION

(MTO APPROVAL REFERENCE NUMBER)

This certificate of recognition is issued to-

(NAME OF STUDENT)

(DATE AND PLACE OF BIRTH)

By-

(COMPANY NAME AND ADDRESS)

(MTO APPROVAL REFERENCE NUMBER)

A maintenance training organization approved to provide training and conduct examinations within its approval schedule.

This certificate confirms that the above named person either successfully passed the theoretical* and/or practical* elements of the above type training course stated below and the related examinations.

(AIRCRAFT TYPE TRAINING COURSE)*

(START AND END DATES)

(SPECIFY THEORETICAL ELEMENTS AND/OR PRACTICAL ELEMENTS)

OR

(AIRCRAFT TYPE EXAMINATION)*

(END DATE)

SIGNED -----

DATE -----

COMPANY NAME -----

* Delete which is not applicable