

CAR-147

APPROVED MAINTENANCE TRAINING ORGANISATIONS (general layout)

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FOREWORD

(a) CAR 147 has been issued by the Civil Aviation Affairs of Oman (hereinafter called the AUTHORITY) under the provisions of the Civil Aviation Law of the Sultanate of Oman.

(b) CAR 147 establishes the requirements for CAR-147 approved maintenance training organisations

(c) Amendments to the text in CAR 147 are issued as amendment pages containing revised paragraphs. New, amended and corrected text will be enclosed within brackets until a subsequent 'Change' is issued

(d) The editing practices used in this document are as follows:

- (1) 'Shall' is used to indicate a mandatory requirement and may appear in CARs.
- (2) 'Should' is used to indicate a recommendation
- (3) 'May' is used to indicate discretion by the AUTHORITY the industry or the applicant, as appropriate.
- (4) 'Will' indicates a mandatory requirement and is used to advise of action incumbent on the AUTHORITY

(e) Section 2 of the CAR 147 contains Acceptable Means of Compliance, Advisory Circulars and Guidance Material that has been agreed for inclusion in CAR147.

Where a particular CAR paragraph does not have an Acceptable Means of Compliance or Guidance Material, it is considered that no supplementary material is required.

A numbering system has been used in which the Acceptable Means of Compliance Advisory Circulars and Interpretative/Explanatory Material uses the same number as the CAR paragraph to which it refers. The number is introduced by the letters AMC or GM to distinguish the material from the CAR itself.

The acronyms AMC, and GM also indicate the nature of the material and for this purpose the two types of material are 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.
- Guidance Material (GM) are non-requirements that are provided as interpretations, explanations and/or acceptable means of compliance.

NOTE: The use of the male gender implies the female gender and vice versa

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SUBPART A - GENERAL**CAR- 147.1 General**

Organisations involved in the training of certifying staff shall be approved in accordance with this Part.
Organisations involved in the training of certifying staff shall be approved to;

- (a) conduct recognised basic training courses; and/or
- (b) conduct recognised type rating courses; and
- (c) conduct examinations; and
- (d) issue training certificates.

CAR- 147.05 Scope

This section establishes the requirements to be met by organisations seeking approval to conduct training and examination as specified in CAR- 66.

CAR- 147.10 General

A training organisation shall be an organisation or part of an organisation registered as a legal entity.

CAR- 147.15 Application

An application for an approval or for the amendment of an existing approval shall be made on a form and in a manner established by the Authority.

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SUBPART B - ORGANISATIONAL REQUIREMENTS**CAR- 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.
 - 1. The maximum number of students undergoing knowledge training during any training course shall not exceed 28.
 - 2. 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/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 organisation is unable to provide such facilities, arrangements may be made with another organisation to provide such workshops and/or maintenance facilities, in which case a written agreement shall be made with such organisation specifying the conditions of access and use thereof. The Authority shall require access to any such contracted organisation 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 aircraft type as specified in CAR- 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 CAR- 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.

CAR- 147.105 Personnel requirements

- (a) The organisation 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 this CAR-
- (b) A person or group of persons, whose responsibilities include ensuring that the maintenance training organisation is in compliance the requirements of this CAR-, shall be nominated. Such person(s) must 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 maintenance training organisation shall contract sufficient staff to plan/perform knowledge and practical training, conduct knowledge examinations and practical assessments in accordance with the approval.
- (d) By derogation to paragraph (c), when another organisation is used to provide practical training and assessments, such other organisation's staff may be nominated to carry out practical training and assessments.
- (e) Any person may carry out any combination of the roles of instructor, examiner and assessor, subject to compliance with paragraph (f).
- (f) The experience and qualifications of instructors, knowledge examiners and practical assessors shall be established as an officially recognised standard.
- (g) The knowledge examiners and practical assessors shall be specified in the organisation exposition for the acceptance of such staff.
- (h) Instructors and knowledge examiners shall undergo updating 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.

CAR- 147.110 Records of instructors, examiners and assessors

- (a) The organisation 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.

CAR- 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 CAR- 147.100(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 CAR- 147.100(d) must have an appropriate selection of aircraft, engines, aircraft parts and avionic equipment.
- (d) The aircraft type training organisation as specified in CAR- 147.100(e) must have access to the appropriate aircraft type. Synthetic training devices may be used when such synthetic training devices ensure adequate training standards.

CAR- 147.120 Maintenance training material

- (a) Maintenance training course material shall be provided to the student and cover as applicable:
 - 1. the basic knowledge syllabus specified in CAR- 66 for the relevant aircraft maintenance licence category or subcategory, and

2. the type course content required by CAR- 66 for the relevant aircraft type and aircraft maintenance licence category or subcategory.
- (b) Students shall have access to examples of maintenance documentation and technical information of the library as specified in CAR- 147.100(i).

CAR- 147.125 Records

The organisation shall keep all student training, examination and assessment records for at least five years following completion of the particular student's course.

CAR- 147.130 Training procedures and quality system

- (a) The organisation shall establish procedures acceptable to the Authority to ensure proper training standards and compliance with all relevant requirements in this CAR-
- (b) The organisation shall establish a quality system including:
1. an independent audit function to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures, and
 2. a feedback system of audit findings to the person(s) and ultimately to the accountable manager referred to in CAR- 147.105(a) to ensure, as necessary, corrective action.

CAR- 147.135 Examinations

- (a) The examination staff shall ensure the 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 authorised 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 Authority 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 Authority must be informed of any such occurrence within one calendar month.

CAR- 147.140 Maintenance training organisation exposition

- (a) The organisation shall provide an exposition for use by the organisation describing the organisation and its procedures and containing the following information:
1. a statement signed by the accountable manager confirming that the maintenance training organisation exposition and any associated manuals define the maintenance training organisation's compliance with this CAR- and shall be complied with at all times.
 2. the title(s) and name(s) of the person(s) nominated in accordance with CAR- 147.105(b).
 3. the duties and responsibilities of the person(s) specified in subparagraph 2, including matters on which they may deal directly with the Authority on behalf of the maintenance training organisation.

4. a maintenance training organisation chart showing associated chains of responsibility of the person(s) specified in paragraph (a)(2).
 5. a list of the training instructors, knowledge examiners and practical assessors.
 6. a general description of the training and examination facilities located at each address specified in the maintenance training organisation's approval certificate, and if appropriate any other location, as required by CAR- 147.145(b).
 7. a list of the maintenance training courses which form the extent of the approval.
 8. the maintenance training organisation's exposition amendment procedure.
 9. the maintenance training organisation's procedures, as required by CAR- 147.130(a).
 10. the maintenance training organisation's control procedure, as required by CAR- 147.145(c), when authorised to conduct training, examination and assessments in locations different from those specified in CAR- 147.145(b).
 11. a list of the locations pursuant to CAR- 147.145(b).
 12. a list of organisations, if appropriate, as specified in CAR- 147.145(d).
- (b) The maintenance training organisation's exposition and any subsequent amendments shall be approved by the Authority.
- (c) Notwithstanding paragraph (b) minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval).

CAR- 147.145 Privileges of the maintenance training organisation

- (a) The maintenance training organisation may carry out the following as permitted by and in accordance with the maintenance training organisation exposition:
1. basic training courses to the CAR- 66 syllabus, or part thereof.
 2. aircraft type/task training courses in accordance with CAR- 66.
 3. the examinations on behalf of the Authority, including the examination of students who did not attend the basic or aircraft type training course at the maintenance training organisation.
 4. the issue of certificates in accordance with Appendix III following successful completion of the approved basic or aircraft type training courses and examinations specified in subparagraphs (a)(1), (a)(2) and (a)(3), as applicable.
- (b) Training, knowledge examinations and practical assessments may only be carried out at the locations identified in the approval certificate and/or at any location specified in the maintenance training organisation exposition.
- (c) By derogation to paragraph (b), the maintenance training organisation 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 organisation exposition. Such locations need not be listed in the maintenance training organisation exposition.
- (d) 1. The maintenance training organisation may subcontract the conduct of basic theoretical training, type training and related examinations to a non maintenance training organisation only when under the control of the maintenance training organisation quality system.

2. The subcontracting of basic theoretical training and examination is limited to CAR- 66, Appendix I, Modules 1, 2, 3, 4, 5, 6, 8, 9 and 10.
 3. The subcontracting of type training and examination is limited to power plant and avionic systems.
- (e) An organisation may not be approved to conduct only examinations unless approved to conduct training.

CAR- 147.150 Changes to the maintenance training organisation

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

CAR- 147.155 Continued validity

- (a) An approval shall be issued for an unlimited duration. It shall remain valid subject to:
 1. the organisation remaining in compliance with this CAR-, in accordance with the provisions related to the handling of findings; and
 2. the Authority being granted access to the organisation to determine continued compliance with this CAR-; and
 3. the certificate not being surrendered or revoked.
- (b) Upon surrender or revocation, the approval shall be returned to the Authority.

CAR- 147.160 Findings

- (a) A level 1 finding is one or more of the following:
 1. any significant non-compliance with the examination process which would invalidate the examination(s),
 2. failure to give the Authority access to the organisation's facilities during normal operating hours after two written requests,
 3. the lack of an accountable manager,
 4. a significant non-compliance with the training process.
- (b) A level 2 finding is any non-compliance with the training process other than level 1 findings.

- (d) After receipt of notification of findings, the holder of the maintenance training organisation approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the Authority within a period agreed with this Authority.

SUBPART C - THE APPROVED BASIC TRAINING COURSE**CAR- 147.200 The approved basic training course**

- (a) The approved basic training course shall consist of knowledge training, knowledge examination, practical training and a practical assessment.
- (b) The knowledge training element shall cover the subject matter for a category or subcategory A, B1 or B2 aircraft maintenance licence as specified in CAR- 66.
- (c) The knowledge examination element shall cover a representative cross section of subject matter from the paragraph (b) training element.
- (d) 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 CAR- 66 complete module.
- (e) 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.
- (f) The duration of basic training courses shall be in accordance with CAR- 147 Appendix I.
- (g) 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.

CAR- 147.205 Basic knowledge examinations

Basic knowledge examinations shall:

- (a) be in accordance with the standard defined in CAR- 66.
- (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 CAR- 66.

CAR- 147.210 Basic practical assessment

- (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 CAR- 147.200(e).

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SUBPART D - AIRCRAFT TYPE/TASK TRAINING**CAR- 147.300 Aircraft type/task training**

A maintenance training organisation shall be approved to carry out CAR- 66 aircraft type and/or task training subject to compliance with the standard specified in CAR- 66.45.

CAR- 147.305 Aircraft type examinations and task assessments

A maintenance training organisation approved in accordance with CAR- 147.300 to conduct aircraft type training shall conduct the aircraft type examinations or aircraft task assessments specified in CAR- 66 subject to compliance with the aircraft type and/or task standard specified in CAR- 66.45.

APPENDIX I to CAR 147

BASIC TRAINING COURSE DURATION

1. The minimum duration of a complete basic training course shall be as follows:

| Basic course | Duration (in hours) | Theoretical training ratio (in %) |
|---------------------|----------------------------|--|
| A1 | 800 | 30 to 35 |
| A2 | 650 | 30 to 35 |
| A3 | 800 | 30 to 35 |
| A4 | 800 | 30 to 35 |
| B1.1 | 2400 | 50 to 60 |
| B1.2 | 2000 | 50 to 60 |
| B1.3 | 2400 | 50 to 60 |
| B1.4 | 2400 | 50 to 60 |
| B2 | 2400 | 50 to 60 |
| B3 | 1000 | 50 to 60 |

ACCEPTABLE MEANS OF COMPLIANCE**AMC CAR- 147.100(i) Facility requirements**

1. For approved basic maintenance training courses this means holding and ensuring reasonable access to copies of all Parts and national aviation legislation, examples of typical aircraft maintenance manuals and service bulletins, airworthiness directives, aircraft and component records, release documentation, procedures manuals and aircraft maintenance programmes.
2. Except for the Parts and national aviation regulations, 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 CAR- 147.105 Personnel requirements

1. The larger maintenance training organisation (an organisation with the capacity to provide training for 50 students or more) should appoint a training manager with the responsibility of managing the training organisation on a day to day basis. Such person could also be the accountable manager. In addition, the organisation should appoint a quality manager with the responsibility of managing the quality system as specified in paragraph CAR- 147.130(b) and an examination manager with the responsibility of managing the relevant CAR- 147 Subpart C or Subpart D examination system. Such person(s) may also be an instructor and/or examiner.
2. The smaller maintenance training organisation (an organisation 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 organisation is also approved against other CAR-s which contain some similar functions then such functions may be combined.

AMC CAR- 147.105(b)&(g) Personnel requirements

With the exception of the accountable manager, an A/W Form 4 should be completed for each person nominated to hold a position required by CAR- 147.105(b). An example of an A/W Form 4 is included in Appendix 2.

AMC CAR- 147.105(f) Personnel requirements

Any person currently accepted by the Authority in accordance with national aviation regulations in force prior to CAR- 147 coming into force may continue to be accepted in accordance with CAR- 147.35(f)

AMC CAR- 147.105(h) Personnel requirements

Updating training should normally be of 35 hours duration but may be adjusted to the scope of training of the organisation and particular instructor/examiner.

AMC CAR- 147.110 Records of instructors, examiners and assessors

1. The following minimum information relevant to the scope of activity should be kept on record in respect of each instructor, knowledge examiner and practical assessor:

- (a) Name
 - (b) Date of Birth
 - (c) Personnel Number
 - (d) Experience
 - (e) Qualifications
 - (f) Training history (before entry)
 - (g) Subsequent Training
 - (h) Scope of activity
 - (i) Starting date of employment/contract
 - (j) If appropriate – ending date of employment/contract.
2. The record may be kept in any format but should be under the control of the organisations quality system.
 3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.
 4. The Authority is an authorised person when investigating the records system for initial and continued approval or when the competent authority has cause to doubt the competence of a particular person.

AMC CAR- 147.115(c) Instructional equipment

1. An appropriate selection of aircraft parts means appropriate in relation to the particular subject module or sub-module of CAR- 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 CAR- 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 CAR- 147.100(d), that there may be an agreement with a maintenance organisation approved under CAR- 147 to access such parts, etc.

AMC CAR- 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 CAR- 147.130(b) Training procedures and quality system

1. The independent audit procedure should ensure that all aspects of CAR- 147 compliance should be checked at least once in every 12 months and may be carried out as one complete single exercise or subdivided over a 12-month period in accordance with a scheduled plan.
2. In a small maintenance training organisation the independent audit function may be contracted to another maintenance training organisation approved under CAR- 147 or a competent person acceptable to the Authority. Where the small training organisation 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.
3. Where the maintenance training organisation is also approved to another CAR- requiring a quality system, then such quality systems may be combined.
4. When training or examination is carried out under the sub-contract control system:
 - (i) a pre audit procedure should be established whereby the CAR- 147 approved maintenance training organisation' should audit a prospective sub-contractor to determine whether the services of the sub-contractor meet the intent of CAR- 147.
 - (ii) a renewal audit of the subcontractor should be performed at least once every 12 months to ensure continuous compliance with the CAR- 147 standard.
 - (iii) the sub-contract control procedure should record audits of the subcontractor and to have a corrective action follow-up plan.
5. 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 CAR- 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 staff.

AMC CAR- 147.140 Maintenance training organisation exposition

1. A recommended format of the exposition is included in AMC Appendix 1.
2. When the maintenance training organisation is approved in accordance with any other CAR- which also requires an exposition, the exposition required by the other CAR- may form the basis of the maintenance training organisation exposition in a combined document., as long as the other exposition contains the information required by CAR- 147.140 and a cross reference index is included based upon AMC Appendix I.
3. When training or examination is carried out under the sub-contract control system the maintenance training organisation exposition should contain a specific procedure on the control of sub-contractors as per AMC Appendix 1 item 2.18 plus a list of sub-contractors as required by CAR- 147.140 (a)12 and detailed in AMC Appendix I item 1.7.
4. The Authority may approve a delegated exposition approval system for all changes other than those affecting the approval.

AMC CAR- 147.145(d) Privileges of the maintenance training organisation

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 CAR- 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 CAR- 147 approved maintenance training organisation's students should meet requirements of CAR- 147 for the duration of that training or examination and it remains the CAR- 147 organisation's responsibility to ensure such requirements are satisfied.
2. The maintenance training organisation approved under CAR- 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 CAR- 147 standards. Particular attention should be given to ensuring that the training that is delivered also meets the requirements of CAR- 66 and the aircraft technologies as appropriate.
3. The contract between the maintenance training organisation approved under CAR- 147 and the sub-contractor should contain:
 - a provision for the Agency and the Authority to have right of access to the sub-contractor;
 - a provision for the sub-contractor to inform the CAR- 147 approved maintenance training organisation of any change that may affect its CAR- 147 approval, before any such change takes place.

AMC CAR- 147.200 The approved basic training course

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

AMC CAR- 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 CAR- 147.200 (f) to (k) inclusive being satisfied.

AMC CAR- 147.200(d) The approved basic training course

1. Where the maintenance training organisation approved under CAR- 147 contracts the practical training element either totally or in part to another organisation in accordance with CAR- 147.100(d), the organisation in question 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.
- 3.

AMC CAR- 147.200(g) The approved basic training course

Typical conversion durations are given below:

- (a) The approved basic training course to qualify for conversion from holding an CAR- 66 aircraft maintenance licence in subcategory A1 to subcategory B1.1 or B2 should not be less than 1600 hours and for conversion from holding an CAR- 66 aircraft maintenance licence in subcategory A1 to subcategory B1.1 combined with B2 should not be less than 2200 hours. The course should include between 60% and 70% knowledge training.

- (b) The approved basic training course to qualify for conversion from holding an CAR- 66 aircraft maintenance licence in subcategory B1.1 to B2 or category B2 to B1.1 should not be less than 600 hours, and should include between 80% and 85% knowledge training.
- (c) The approved basic training course to qualify for conversion from holding an CAR- 66 aircraft maintenance licence in subcategory B1.2 to subcategory B1.1 should not be less than 400 hours, and should include between 50% and 60% knowledge training.
- (d) The approved basic training course to qualify for conversion from holding an CAR- 66 aircraft maintenance licence in one subcategory A to another subcategory A should not be less than 70 hours, and should include between 30% and 40% knowledge training.

AMC CAR- 147.205**Basic knowledge examinations**

The Authority may accept that the maintenance training organisation approved under CAR- 147 can conduct examination of students who did not attend an approved basic course at the organisation in question.

AMC CAR- 147.210(a)**Basic practical assessment**

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

AMC CAR- 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 CAR- 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 CAR- 147.300**Aircraft type/task training**

1. Aircraft type training may be sub-divided in airframe type training, power plant type training, or avionic systems type training. A maintenance training organisation approved under CAR- 147 may be approved to conduct airframe type training only, power plant type training only or avionics systems type training.
2. Airframe type training means type training including all relevant aircraft structure and systems excluding the power plant.
3. Power plant 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 power plant 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 I**MAINTENANCE TRAINING ORGANISATION EXPOSITION (MTOE)**

2. The following subject headings form the basis of the MTOE required by CAR-147.65.
3. 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.
4. 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.
5. Where an organisation is approved in accordance with any other CAR-s, 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 organisation 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 CAR- 147.145(d)
- 1.8. General description of facilities at paragraph 1.6 addresses
- 1.9. Specific list of courses approved by the Authority
- 1.10. Notification procedures regarding changes to organisation
- 1.11. Exposition and associated manuals amendment procedure

PART 2 – TRAINING AND EXAMINATION PROCEDURES

- 2.1. Organisation 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. Organisation of examinations
- 2.10. Security and preparation of examination material
- 2.11. Preparation of examination rooms
- 2.12. Conduct of examinations
- 2.13. Conduct of basic practical assessments
- 2.14. Marking and record of examinations
- 2.15. Storage of examination records
- 2.16. Examinations at locations not listed in paragraph 1.6
- 2.17. Preparation, control & issue of basic training course certificates
- 2.18. 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

GUIDANCE MATERIAL**GM to CAR- 147.10 General**

Such an organisation may conduct business from more than one address and may hold more than one CAR-approval.

GM to CAR- 147.100(i) Facility requirements

Where the organisation has an existing library of regulations, manuals and documentation required by another CAR- it is not necessary to duplicate such a facility subject to student access being under controlled supervision.

GM to CAR- 147.105 (c) Personnel requirements

The maintenance training organisation should have a nucleus of permanently employed staff to undertake the minimum amount of maintenance training proposed but may contract, on a part-time basis, instructors for subjects which are only taught on an occasional basis.

GM to CAR- 147.105 (f) Personnel requirements

It is recommended that potential instructors be trained in instructional techniques.

GM to CAR- 147.105(g) Personnel requirements

Examiners should demonstrate a clear understanding of the examination standard required by Part-66 and have a responsible attitude to the conduct of examinations such that the highest integrity is ensured.

GM to CAR- 147.105(h) Personnel requirements

1. Records should show for each instructor/examiner when the updating training was scheduled and when it took place.
2. The updating training may be subdivided during the 24 months into more than one element and may include such activities as attendance at relevant lectures and symposiums.

GM to CAR- 147.110 Records of instructors, examiners and assessors

Instructors, knowledge examiners and practical assessors should be provided with a copy of their terms of reference.

GM to CAR- 147.115(a) Instructional equipment

1. Synthetic training devices are working models of a particular system or component and include computer simulations.
2. A synthetic training device is considered beneficial for complex systems and fault diagnostic purposes.

GM to CAR- 147.130 (b) Training procedures and quality system

1. The primary objective of the quality system is to enable the training organisation to satisfy itself that it can deliver properly trained students and that the organisation remains in compliance with CAR- 147.
2. The independent audit is a process of routine sample checks of all aspects of the training organisation's ability to carry out all training and examinations to the required standards. It represents an overview of the complete training system and does not replace the need for instructors to ensure that they carry out training to the required standard.
3. A report should be raised each time an audit is carried out describing what was checked and any resulting findings. The report should be sent to the affected department(s) for rectification action giving target rectification dates. Possible rectification dates may be discussed with the affected department(s) before the quality department confirms such dates on the report. The affected department(s) should rectify any findings and inform the quality department of such rectification.
4. A large training organisation (an organisation with the capacity to provide training for 50 students or more)]should have a dedicated quality audit group whose sole function is to conduct audits, raise finding reports and follow up to ensure that findings are being rectified. For the small training organisation (an organisation with the capacity to provide training for less than 50 students) it is acceptable to use competent personnel from one section/department not responsible for the function or procedure to check the section/department that is responsible subject to the overall planning and implementation being under the control of the quality manager.
5. The management control and follow up system should not be contracted to outside persons. The principal function is to ensure that all findings resulting from the independent audit are corrected in a timely manner and to enable the accountable manager to remain properly informed of the state of compliance. Apart from rectification of findings the accountable manager should hold routine meetings to check progress on rectification except that in the large training organisation such meetings may be delegated on a day to day basis to the quality manager as long as the accountable manager meets at least once per year with the senior staff involved to review the overall performance.

GM to CAR- 147.135 Examinations

The Authority will determine when or if the disqualified examiner may be reinstated.

GM to CAR- 147.145 (d) Privileges of the maintenance training organisation

1. The pre audit procedure should focus on establishing compliance with the training and examination standards set out in CAR- 147 and CAR- 66.
2. The fundamental reason for allowing a maintenance training organisation approved under CAR- 147 to sub-contract certain basic theoretical training courses is to permit the approval of maintenance training organisations which may not have the capacity to conduct training courses on all CAR- 66 modules.
3. The reason for allowing the subcontracting of training modules 1 to 6 and 8 to 10 only is, most of the related subjects can generally also be taught by training organisations not specialised in aircraft maintenance and the practical training element as specified in CAR- 147.200 does not apply to them. On the contrary training modules 7 and 11 to 17 are specific to aircraft maintenance and include the practical training element as specified in CAR- 147.200. The intent of the "limited subcontracting" option as specified in CAR- 147.145 is to grant CAR- 147 approvals only to those organisations having themselves at least the capacity to teach on aircraft maintenance specific matters.