

**Jordan Civil Aviation Regulatory Commission**

# Guidance Procedure: AWS 47

**Type rating training Course Approval other than those conducted by a Part-147 approved maintenance training organization.**

Prepared by

Engr Bilal Nazzal  
Chief Maintenance Training Organizations  
Date: 15/02/2015 Signature:

Reviewed by

Dr. Mohammad Al-Husban  
Director Airworthiness Standards  
Date: 15/02/2015 Signature:

Approved by

Capt. Jawdat Al-Bqeen  
Deputy Chief Commissioner/CEO  
Date: 16/02/2015 Signature:



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## Abbreviations

<b>CARC</b>	Civil Aviation Regulatory Commission
<b>CEO</b>	Chief Executive Officer
<b>JCAR</b>	Jordan Civil Aviation Regulations
<b>AWSD</b>	Airworthiness Standards Department
<b>MTO</b>	Maintenance Training Organization
<b>MTOE</b>	Maintenance Training Organization Exposition
<b>AM</b>	Accountable Manager
<b>TM</b>	Training Manager



## 1. Scope

The purpose of this guidance procedure is to outline the requirements for approval of type training courses other than those conducted by a Part-147 approved maintenance training organization. According to Appendix III of Part-66.45 (b) specifies that Part-66 Category B1, B2 and C certifying staff are required to hold an appropriate aircraft type rated Part-66 aircraft maintenance licence prior to the grant of a Part-145 certification authorization on a specific type. Part-66.45 (c) additionally specifies that ratings will be granted following satisfactory completion of the relevant category B1, B2 or C aircraft type training approved by the CARC or by an appropriately approved Part-147 maintenance training organization.

All aircraft type training courses, other than those carried out by a Part-147 training organization approved to conduct type training, must be approved by CARC and the approval application will be processed in accordance with this procedural guide lines.

The approved type-training course includes theoretical course elements/examinations acceptable to CARC.

However the type rating endorsement on the Part-66 licence also requires the performance of practical training/assessment elements acceptable to the CARC as well. The practical training/assessment element may either be part of the approved type training course or be performed directly by the Part-145 approved maintenance organization. Type training courses will be approved in accordance with Part-66 Appendix III.

## 2. Reference

- JCAR Part 66, Appendix III Aircraft Type Training and Examination Standard-On the Job Training, General (a)(i) and (b)(i).

## 3. Application

Applications for approval of aircraft type training courses, other than those to be conducted by a Part-147 approved training school, should be made to the Airworthiness Standards Department by using CARC Form 18-0340. A copy of the course syllabus should accompany the application form. The processing of an application, including auditing of the course although a timely process takes effort and time to complete and consequently organizations requiring approval of type training courses should make the application well in advance of the anticipated start-up date.

Details about on CARC's Regulation including fees and charges can be found on the CARC website ([www.carc.gov.jo](http://www.carc.gov.jo)).

This user guide is designed to be used by:

- Part-145 and Part MF - To assist them in seeking approval of aircraft type training courses.
- CARC - As guidance procedure to outline the requirements for approval of type training courses other than those conducted by a Part-147 approved maintenance training organization.; and it is the responsibility of the organization to ensure compliance with the regulation.



#### **4. Training provisions and environment**

The experience and qualifications of the person in charge of the training course and his/her deputy shall be such as to ensure that the training will be conducted in a satisfactory manner. The number, qualifications and experience of the course instructors, examiners and practical assessors, shall be appropriate to the intended course.

Facilities provided are to be adequate to ensure protection from the prevailing weather and of overall size to cope with all planned training and examinations on any particular day.

They should be fully enclosed and isolated from other facilities for theory and examinations purposes. They should be maintained at a light, noise and temperature/humidity level such that students are able to concentrate on their studies or examinations without undue distraction or discomfort.

Access should be provided to appropriate facilities containing examples of the aircraft and/or engine type. Adequate office accommodation should be provided for the instructor(s), examiner(s) and practical assessor(s). Adequate storage facilities should be available for examination papers and training records. The students should have access to a library containing all current technical material appropriate to the training course.

#### **5. Course Syllabus**

The course will normally be divided into a mechanical course for airframe and engine and an avionics course. Limited avionics training will be included in the mechanical course. The electrical system will be included in both categories.

The type training will include and fully justify training corresponding to the levels specified in Part- 66 Appendix III.

The training should give adequate detailed theoretical knowledge of the aircraft, its main parts, systems (all existing systems in accordance Part-66 Appendix III paragraph 2.1 where applicable) equipment, interior and applicable components. Relevant in-service problems, service bulletins and instructions should also be covered, including training in the systems in use for technical manuals and maintenance procedures. Knowledge is also required of relevant inspections and limitations as applicable to the effects of environmental factors such as cold and hot climates, wind moisture etc.

#### **6. Theoretical knowledge examinations**

Knowledge examinations may be conducted at the end of each distinct phase of training or at the end of the entire course. The examinations must be conducted using multi-choice questions as outlined in Part-66 Appendix III paragraph 3.

On completion of the course the student should be able to:

Demonstrate by knowledge examination a detailed understanding of applicable systems (in accordance with ATA 100), their operation and maintenance.

Ensure safe certification of line maintenance , inspections and routine work according to the maintenance manuals and other relevant instructions and tasks as appropriate for the type of aircraft, for example trouble-shooting, repairs, adjustments, replacements, rigging and functional checks such as engine runs, etc, if required.

Correctly use all technical literature and documentation for the aircraft.

Examination questions in use shall be sufficient to give full coverage of the phase or section of the syllabus and shall be appropriate to the end of course standard.

The number of questions is determined by the duration of the course and must comprise as a rule, a minimum of one question for each hour of instruction, subject to a minimum of two questions Syllabus subject.



The course provider must compile three question papers for each examination. One paper will be chosen on the day of the examination by the examiner, other than the course instructor. Where the course provider does not provide an examiner the examination papers must be selected on the day of the examination by the contracting Part-145 organization's Quality Manager or his/her nominated deputy.

## **7. Practical training**

Practical training should be performed in accordance with Part-66 Appendix III paragraph 2.2 and shall include hands on training in maintenance of the aircraft, rigging, adjustments, replacement of line replaceable units, trouble-shooting, rectification of minor defects and functional tests of systems.

The practical training should comprise of a period of 4 months for certifying staff with no recent recorded previous practical experience of aircraft of comparable construction and systems, including the engines, but this can be reduced to a minimum of two weeks for certifying staff with such previous experience.

A program of structured on-the-job training (OJT) may be prepared to satisfy this practical training requirement.

Practical training may be carried out at any Part-145 approved maintenance organization or at the manufacturers or a combination of both but such training will form part of the particular aircraft type training either approved directly by CARC or approved via the Part-147 requirement.

The training shall include practical hands-on training and theoretical training as appropriate for each task nominated. Satisfactory completion may be demonstrated by an examination and/or workplace assessment.

An authorized instructor must conduct the training and an authorized practical assessor must conduct the practical assessment. Qualifications and experience standards for the instructors and practical assessors must be established.

## **8. Practical assessment**

Practical assessments should be conducted in accordance with AMC 66.45(d) paragraph 6. An assessed pass for each student should be granted when the practical assessor is satisfied that the student has demonstrated the capability to use the relevant tools/equipment/test equipment as specified by the tool/equipment/test equipment manufacturer and the use of maintenance manuals as specified by the Type Certificate holder in that the student can carry out the required maintenance/inspection/testing without missing any defects, can readily identify the location of components and is capable of correct removal/fitment/adjustment of such components, as applicable.

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 of flight safety and airworthiness of the aircraft.

## **9. Conduct of course**

Lecture notes, diagrams and other instructional material shall be substantially accurate at the time they are handed out. Where an amendment service is not provided a written warning must be given to this effect.



## **10. Organization quality integration**

The contracting Part-145 approved maintenance organization must conduct adequate audits of the training course and the examinations to ensure that the course is conducted in accordance with the requirements of Part-66. Any findings that affect the standards of the training course must be notified to CARC. Adequate records of the audits must be maintained.

## **11. Course records**

Records of course attendance and examination results shall be kept in a safe location for at least five years following completion of the course.

## **12. Course certificates**

Certificates should be awarded to the successful students on completion of the course. The certificate details must be agreed by CARC and should include the following;

- Certificate number
- Name plus the location and date of birth of the student.
- Name of the course provider (Organization or other contracted provider under Organization's Quality System).
- The airframe/engine combination, whether the engine is included in the course or not (this is important for Part-66 type rating purposes as the type rating refers to an airframe/engine combination).
- Part-66 Category, i.e. A, B1 or B2, if applicable.
- Subjects i.e. airframe/engine/electrical /avionic.
- Clear indication of the standard and level of the course i.e. in accordance with Part-66.Appendix III.
- Duration of the course including the start and end dates.
- Specific elements of the course to which the certificate relates i.e. knowledge only, practical training only or knowledge and practical training,
- Other relevant details particular to the course such as APU type(s).

## **13. Approval**

CARC will approve the course by letter that will contain any specific conditions or additional provisions if necessary.

## **14. Example of Application Form (CARC Form 18-0340)**

(See next page)





## APPLICATION FOR THE APPROVAL OF A TYPE TRAINING COURSE

This application form is only applicable for type training courses that are not conducted by a Part 147 Training Organization.

Application for direct approval of type training courses by CARC is **only** granted when evident that training cannot be provided by approved Part 147 organization. It is recommended that CARC is contacted to confirm eligibility of intended application.

Note: This form is only an application and will not be used as a formal approval letter.

<b>Organization name/applicant</b>		
<b>Address</b>		
<b>Telephone number</b>	<b>E-mail</b>	
<b>Company contact person name</b>		
<b>Telephone number</b>	<b>E-mail</b>	
<b>Part 145, Part MF or Part MG reference number – if applicable</b>	<b>Course location</b>	
<b>Type of course requested (Aircraft type and engine installed)</b>	<b>Part 66 Categories covered by course</b> <input type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> C	<b>Course reference</b>

### Guidance and information

Use this form for application for direct CARC approval of theoretical and/or practical element of type training courses. Approval must also be sought for Manufacturer's or other contracted out courses where they are not Part 147 approved. Note that it may be necessary in these circumstances to seek approval for addition training in case that Part 66 syllabus is not fully covered. The course shall meet requirements of Part 66.45 and Part 66 Appendix III.

This form should be completed by the operator or maintenance organization seeking the approval. The approval will be invested in and be specific to the operator or maintenance organization, not the course provider (in case of theoretical training), and will either a single, one off course or defined series of the same course within a defined limit by CARC. The course user will be required to have carried out an assessment of the course against the criteria set out below and the standards in Part 66 Appendix III.

Where elements of training for the type rating are conducted separately, for example airframe and engine, or the course is split between different providers, the elements will be subject to separate approval but the applicant organization must ensure that the training as a whole covers the full scope of the type rating sought.

The following aspects of the training shall be described by the organization providing the training:

- A detailed syllabus including Training Need Analysis shall be submitted showing subjects instructed by ATA chapters, level of training delivered, duration in hrs per subject and number of questions and level per subject. All courses should meet the specifications of Part 66 Appendix III.
- The teaching methods and instructional equipment
- The material and documentation provided to the student. Complete applicable parts of completeness/compliance of training material.
- The qualification of instructor, examiners and/or assessors, as applicable (Qualification of these personnel need to meet the requirements of Part 147.105(f). CARC has established criteria for qualification requirements of these personnel and is listed in Appendix I in MTOE Checklist and Guidance on CARC website).
- The examination and/or assessment procedure, as applicable. Further guidance about the assessment and the designated assessors is given in Appendix III to AMC to Part 66.
- The documentation and records to be provided to the student to justify the satisfactory completion of the training course and related examination/assessment. This should include not only a certificate of completion but enough documentation and records to justify that the content and duration approved has been met and that the examination/assessment has been successfully passed



- In case of practical training, description on how recovery of aircraft is controlled after aircraft has been used for training

#### Facilities

The facilities provided for theoretical/practical instruction, as applicable shall as minimum meet the following requirements:

- Provide protection from the prevailing weather elements and proper operation of planned training
- Be fully enclosed and separate from other facilities ,for theory and examinations
- Be equipped with appropriate instructional and presentation equipment that ensures students can easily read presentation text/drawing/diagrams and figures from any position in the classroom.
- The maximum number of students undergoing knowledge training shall not exceed 25
- The size of the accommodation for examination shall be such that no student can read the paperwork or computer screen of any other student from his/her position during examinations.
- The accommodation environment shall be maintained such that students are able to concentrate on their studies or examination as appropriate, without undue distraction or discomfort
- Office accommodation shall be provided for instructors, examiners and practical assessors to ensure that they can prepare for their duties without undue distraction or discomfort.
- Secure facilities shall be provided for examination papers and training records.
- Students shall be provided access to area (library) containing all current technical material appropriate to the training course.

#### Personnel requirements (See above)

The roles may be combined for the assessor and the instructor for the practical elements of the type rating training provided that the objectives associated to each role are clearly understood and that the competence and qualification criteria are met for both functions. Whenever possible it is recommended to split the roles (two different persons) in order to avoid conflicts of interests.

#### Type Rating Training

The content of the theoretical and/or practical training (as applicable ) shall:

- Address the different parts of the aircraft, which are representative of the structure, the system/components installed including the cabin
- Include training on the use of technical manuals, maintenance procedures and the interface with the operation of aircraft

Therefore it shall be based on the following elements:

- Type design including type design variants, new technology and techniques.
- Feedback from in-service difficulties, occurrence reporting, etc.
- Significant applicable airworthiness directives and service bulletins
- Known human factor issues associated with the particular aircraft type
- Use of common and specific documentation, (when applicable, such as MMEL, AMM, MPD, TSM, FRM, FIM, SRM, WD, AFM, tool handbook), and other documentation that the technician is expected to use including philosophy of the troubleshooting, etc.
- Use of special tooling and test equipment and specific maintenance practices including critical safety items and safety precautions
- Knowledge of the maintenance on-board reporting systems and ETOPS maintenance conditions where applicable
- Significant and critical tasks/aspects from the MMEL, CDL, Fuel Tank Safety (FTS), Airworthiness Limitation Items (ALI) including Critical Design Configuration control Limitation (CDCCL), CMR and all ICA documentation such as MRB, MPD, SRM, AMM etc., when applicable.
- Maintenance actions and procedures to be followed as a consequence of specific certification requirements, such as, but not limited to, RVSM, (Reduced Vertical Separation Minimum), NVIS (Night Vision Imaging Systems), etc.
- Knowledge of relevant inspections and limitation as applicable to the effects of environmental factors or operational procedures such as cold and hot climates, wind, moisture, sand de-icing/anti-icing, etc.

The type training does not necessarily need to include all possible customer options corresponding to the type rating described in the Appendix I to AMC to Part 66.

Limited avionic system training should be included in the category B1 type training as the B1 privileges include work on avionic systems requiring simple tests to prove their serviceability.

Electrical systems should be included in both categories of B1 and B2 type training.

Additional aspects required for practical element if applicable:

- Practical training may be performed either following or integrated with the theoretical elements (if applicable). However, it should not be performed before theoretical training.
- Trainees shall be provided with schedule or plan indicating the list of tasks to be performed under instruction or supervision. The record of the tasks completed should be entered into a logbook which should be designed such that



each task or group of tasks may be countersigned by the designated assessor. The logbook format and its use should be clearly defined and submitted to CARC with this application.

- The standard of Part 66 shall be followed in order to meet the objectives and content of practical element including the practical element assessment standard. (see further Part 66 Appendix III, para 3.2 and 4.2)

#### Training Certificate

On successful completion of the course, a Training Certificate shall be issued for each student by the training provider clearly stating the scope of the training. Unique approval reference given by CARC shall be entered on training certificate. Aircraft type training which has been approved by CARC will be recognized for that part of the requirement to add a type rating to a Part 66 AML

An example of training certificate for the course containing relevant information regarding the course shall be submitted with the application. Refer to Part 147 Appendix III regarding content as applicable.

#### Investigation (audit) by CARC

The investigation of the course will include audit by CARC of facilities, instructional equipment, etc. and will be carried out before approval is issued and during training. In case findings are raised following audit, they need to be confirmed closed before approval is issued or training certificate issued as applicable as well as payment of applicable fees. (*Details about on CARC's Regulation including fees and charges can be found on the CARC website (www.carc.gov.jo)*).

#### Attached documents submitted with application:

- Detailed training syllabus, including Training Need Analysis.
- Description of facilities used and instructional equipment available.
- Examination and/or assessment procedure, as applicable.
- copy of training course material provided to students
- Copy of examination questions
- Copy of documented assessment of instructor, examiner and assessor. CV's including proof of qualification (copy of diplomas, licences etc.) including nomination of practical assessor if applicable, need to be attached.
- List of current technical documentation that will be available to students
- Example of logbook containing the list of tasks to be performed under supervision.
- Example of Training Certificate issued to students upon completion of course including list of other documents provided to the student to justify the satisfactory completion of the training course and related examination/assessment, as applicable.
- List of students attending the course

Date \_\_\_\_\_ Applicant name in block capital \_\_\_\_\_ Applicant Signature \_\_\_\_\_

#### For CARC use only

Inspector Name \_\_\_\_\_

Date received \_\_\_\_\_

Person receiving

Date of completion \_\_\_\_\_

Person completing

