

EASA ANNEX IV (PART-147)

The missing elements to aircraft maintenance engineer training.

The reason why there is a shortage of aircraft maintenance engineers, the missing regulatory elements.

The following are the regulations NOT adopted by CASA when they adopted the EASA AME licencing system. Because these important trade training standards associated with the AME basic training standards have not been adopted, applicable basic training courses have not been made available in the NVET system.

The only way that Australia's technical training organisations can provide the appropriate training and qualification is for government to adopt the missing EASR training standards into the NVET system.

It will remove CASA's duplication of the approval processes applied by ASQA of RTOs.

- Duplication of approvals of training establishments adds unnecessary costs
- ASQA requirements and CASR are different.
- CASA is not a basic trade educational approval authority.

A benefit would be that many foreign nations in the Asia-Pacific-Region that have also adopted the EASA Part 66 AME licences would once again recognise ASQA approved RTOs presenting these aircraft maintenance engineers basic trade courses. Harmonised instead of being unique.

Many EU nations have applied CBT to these courses, especially the trade-training modules specified in CASR Part 66. Modules 1-17, except module 10, are all trade-based modules with a combination of knowledge and practical training standards.

WHY IS GOVERNMENT DUPLICATING REGULATORY CONTROL OF BASIC TRADE/LICENCING TRAINING? ASQA NOT CASA

AMROBA has added comments in red for clarity

NB: The following EASR regulation exempts State (Australia) RTOs from being approved by CASA – Removes Duplicate Approvals for Basic Training. Never adopted by CASA to empower ASQA – public service empire creator. In AMROBA's opinion, it is department's responsibility to allocate responsibility to which government department and/or agency.

EASR 147.B.25 Exemptions

Regulation (EU) 2019/1383

(a) **The competent authority [DITRDCA] may exempt a State education department school from:**

1. being an (CASA approved) organisation as specified in point 147.A.10.
2. having an accountable manager, subject to the limitation that the department appoint a senior person to manage the training organisation and such person has a budget sufficient to operate the organisation to the standard of this Annex (Part-147).

AMROBA: This exemption should have been adopted and applied by DITRDCA when CASA decided to adopt the EASA AME licencing system. The "**competent authority for this regulation in Australia is DITRDCA**" who should have held DEWR MISA/ASQA responsible for providing training packages and courses in line with the following AME basic course training standards specified by EASA.

AMROBA: The following missing EASA regulations must be the basic criteria to provide the trade training for apprentices and tradespersons that is needed to address the shortage of AMEs and LAMEs

EASA Part 147, SUBPART C — APPROVED BASIC TRAINING COURSE

AMROBA: *This Section should have always been the NVET systems responsibility to provide. It is basic trade training to support each of the licences issued by CASA.*

DEWR/MISA are quite capable of producing to these training standards, however adopted.

Adopt regulations with brackets { } – the rest are basically already covered by current NVET regulations and standards.

147.A.200 The [NVET] approved basic [AME] training course

Regulation (EU) No 1321/2014

- (a) The [NVET] approved [competency based] 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 aircraft maintenance licence as specified in Annex III (Part-66).
- (c) The knowledge examination element shall cover a representative cross section of subject matter from the point (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 Part-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 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.

AMROBA: *Basic trade training is part of the NVET system.*

AMC 147.A.200(b) The approved basic training course

ED Decision 2015/029/R

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 147.A.200(f) and (g) being satisfied.

AMROBA: *The current Aeroplane NVET training courses meet the requirements of airlines.*

AMC 147.A.200(d) The approved basic training course

ED Decision 2015/029/R

1. Where the [ASQA approved] maintenance training organisation ~~approved under Part-147~~ contracts the practical training element either totally or in part to another organisation in accordance with 147.A.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 out in an actual maintenance working environment.

CBT standards system [Employers/apprentices/trainees standard process]

AMC 147.A.200(f) The approved basic training course

ED Decision 2015/029/R

1. In order to follow pedagogical and human factors principles, the maximum number of training hours per day for the theoretical training should not be more than 6 hours. A training hour means 60 minutes of tuition excluding any breaks, examination, revision, preparation, and aircraft visit. In exceptional cases, the competent authority may allow deviation from this standard when it is properly justified that the proposed number of hours follows pedagogical and human factors principles. These principles are especially important in those cases where:

EASA Part 147 Training Requirements Not Adopted or Implemented

- Theoretical and practical training are performed at the same time;
- Training and normal maintenance duty/apprenticeship are performed at the same time.

2. The **minimum participation time for the trainee to meet the objectives of the course should not be less than 90 % of the tuition hours**. Additional training may be provided by the training organisation in order to meet the minimum participation time. If the minimum participation defined for the course is not met, a certificate of recognition should not be issued.

AMROBA: All of this is covered under Australia's CBT system.

AMC 147.A.200(g) The [NVET] approved basic training course

ED Decision 2020/002/R

Typical conversion durations are given below:

- The approved basic training course to qualify for conversion from holding a [Part-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 a Part-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.
- The approved basic training course to qualify for conversion from holding a Part-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.
- The approved basic training course to qualify for conversion from holding a Part-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.
- The approved basic training course to qualify for conversion from holding a Part-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.
- The approved basic training course to qualify for conversion from holding a Part-66 aircraft maintenance licence in any subcategory A to category B2L (with any system rating) should not be less than **800 hours** and should include between 60 and 70 % of knowledge training.

AMROBA: Current CBT standards except specified training hours.

147.A.205 Basic knowledge examinations

Regulation (EU) No 1321/2014

Basic knowledge examinations shall:

- be in accordance with the standard defined in [Annex III \(Part-66\)](#). [CBT]
- be conducted without the use of training notes.
cover a representative cross section of subjects from the particular module of training completed in accordance with [Annex III \(Part-66\)](#).

AMROBA: Competency based need 70% knowledge to satisfy licencing pathway, trade is based on being competent.

AMC 147.A.205 Basic knowledge examinations

ED Decision 2015/029/R

The competent authority [DEWR] may accept that the maintenance training organisation approved under [Part-147](#) can conduct examination of students who did not attend a NVET ~~an approved basic course~~ at the organisation in question.

AMROBA: These aspects are already covered in Australia's CBT system.

147.A.210 Basic practical assessment

Regulation (EU) No 1321/2014

- 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.
- The student shall achieve an assessed pass with respect to point [147.A.200\(e\)](#).

EASA Part 147 Training Requirements Not Adopted or Implemented

AMROBA: These aspects are already covered in Australia's CBT system

AMC 147.A.210(a) Basic practical assessment

ED Decision 2015/029/R

Where the maintenance training organisation approved by ASQA under Part 147 contracts the practical training element either totally or in part to another organisation in accordance with 147.A.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.

AMROBA: These aspects are already covered in Australia's CBT system.

AMC 147.A.210(b) Basic practical assessment

ED Decision 2015/029/R

An assessed pass for each student should be granted when the practical assessor is satisfied that the student meets the criteria of 147.A.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.

Appendix III to AMC to Part-66 provides criteria for the competence assessment performed by the designated assessors (and their qualifications).

AMROBA: These aspects are already covered in Australia's CBT system

Appendix I – Basic training course duration

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

(this chart must be adopted)

<u>Basic Course</u>	<u>Duration (in hours)</u>	<u>Theoretical Training Ratio (in %)</u>
<u>A1</u>	<u>800</u>	<u>30–35</u>
<u>A2</u>	<u>650</u>	<u>30–35</u>
<u>A3</u>	<u>800</u>	<u>30–35</u>
<u>A4</u>	<u>800</u>	<u>30–35</u>
<u>B1.1 (AQF V)</u>	<u>2 400</u>	<u>50–60</u>
<u>B1.2 (AQF IV)</u>	<u>2 000</u>	<u>50–60</u>
<u>B1.3 (AQF IV)</u>	<u>2 400</u>	<u>50–60</u>
<u>B1.4 (AQF IV)</u>	<u>2 400</u>	<u>50–60</u>
<u>B2 (AQF IV)</u>	<u>2 400</u>	<u>50–60</u>
<u>B2L</u>	<u>1 500 (*)</u>	<u>50–60</u>
<u>B3</u>	<u>1 000</u>	<u>50–60</u>

(*) This number of hours shall be increased as follows, depending on the additional system ratings selected:

<u>System Rating</u>	<u>Duration (in hours)</u>	<u>Theoretical Training Ratio (in %)</u>
<u>COM/NAV</u>	<u>90</u>	<u>50–60</u>
<u>INSTRUMENTS</u>	<u>55</u>	
<u>AUTOFLIGHT</u>	<u>80</u>	
<u>SURVEILLANCE</u>	<u>40</u>	
<u>AIRFRAME SYSTEMS</u>	<u>100</u>	

**Not yet adopted by CASA – Modular avionics training.
Urgently Needed**