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NEWSLETTER

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1. The major reason why aviation is in such a mess.

Ask any person participating in aviation today for a single reason why aviation is in such a mess. The answer is always the same – impractical regulations and standards that are unique to Australia. Aviation is global – why do we differ?

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Unique requirements that are not harmonised are restricting aviation.

2. CASR Part 66 – The Missing Links to Skills.

The lack of skills is different to the lack of qualifications. EASR Part 66 is very different to CASR Part 66. There are missing EASR provisions that, if adapted, would address the skills issues; provide a better classification for a specific aircraft rating; separate skills and practical training; detail a knowledge training program, etc., etc.

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Allied trades practical skills, plus self education of knowledge elements plus knowledge examinations.

3. EASA Modular LAME Training System Revealed.

Europe modularisation of the EASR Part 66 knowledge training implemented a totally acceptable system that would meet the needs of the MRO industry, airlines to general aviation. CASR Part 66 adopted EASA's B1.1, B1.2, B1.3, B1.4 and B2 licences, but 5 streams of training already modularised never adopted by CASA.

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Modularisation of AME trade training pathways will provide the knowledge for each licence.

4. GA AME Group Rating Proposal repeating Part 66 errors

The proposal to amend CASA Part 66 to implement GA “group” ratings will implement the same problem that Part 66 introduced. The MEA Aeroskills package needs complete re-packaging so training establishments provide training to match the “group” rating. The “mechatronics” and Part 66 MEA Aeroskills are not training packages created to support Part 66 licences. Reject Now

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There is no actual training course that is available to provide the knowledge applicable for each licence and/or rating

1. The Major Reason why Aviation is in such a Mess.

Ask any person participating in aviation today for a single reason why aviation is in such a mess. The answer is always the same – impractical regulations and standards that are unique to Australia. Aviation is global – there is no case for unique requirements.

NOTHING WILL CHANGE UNTIL CASA CHANGE THEIR DRAFTING INSTRUCTIONS TO OPC ON HOW REGULATIONS ARE TO BE DRAFTED.

WE ARE FURTHER AWAY FROM HARMONISATION TODAY THAN AT ANY TIME DURING REGULATORY REFORM THAT STARTED PRE 1990.

Until CASA change their instructions to OPC (Office of Parliamentary Counsel) who write the regulations, the same style will continue to be produced. OPC has stated that they can write performance based regulations but CASA's instructions do not allow this to happen.

The failure of government public servants to promulgate minimum global harmonised regulations and standards for aviation services and activities is still continuing under the CASA Board.

Harmonisation has become a total delusion – general aviation only exists in a similar structure in North America, except we don't have the rural population of rural America.

This 28 year process has cost government and industry millions of wasted dollars and has achieved the worst outcome possible in the history of civil aviation in Australia. Nobody can look at the latest regulations, standards and proposed regulations and standards and state they are clear and concise. Aviation regulatory reform outcomes over nearly 3 decades has seen a decline in the use of private aircraft plus a loss of commercial air services to rural Australia.

Save money – buy NZ regulatory system.

Why is government (CASA) continuing to waste money? The most cost effective method to overcome regulatory reform is to buy the New Zealand system with some minor changes to meet Australian demographics, as it has been done in PNG and many other countries in the Pacific Rim. It will save millions in the future.

It is what the majority of submissions to the ASRR report suggested. The ASRR highlighted the need to have harmonised requirements, especially in this region.

The ASRR recommendations are fast disappearing into the past without implementation like past inquiries and judicial recommendations.

If an aircraft operation or maintenance organisation wrote their documentation in the almost unfathomable manner as regulations, standards & advisory promulgated by CASA, then they would be classified as an unsafe operator or organisation and be shut down.

It is time the hard truth of what has been created be recognised and be declared another failure in regulatory reform.

Regulatory reform is supposed to bring benefits to the community.

Since reform started back in the late 1980s this industry has seen very little benefits from any reform. It is time for a new approach if aviation and rural communities are to see any benefits.

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2. CASR Part 66 – The Missing Links to Skills.

Was it inexperience or incompetence when CASA decided to adopt selected provisions of EASR Part 66? AMROBA contends that it is both and fixing the problem it created will take courageous leadership from both CASA's Board and CASA's CEO to direct changes to fix the deficiencies from that decision and previous regulatory lapses. **It can be fixed.**

What is in EASR Part 66 and not in CASR Part 66?

A. EASR Part 66 specifies a [**modular**] training program, not just educational “levels of attainment standards” based on ATA Chapters. That program enables the knowledge to be achieved for each of CASR Part 66 five AME licences. EASA did not start transitioning to the Part 66 licences UNTIL they had promulgated the training program. EASA had the “*cart before the horse*”.

- a. The current MEA Aeroskills training packages does not have five training pathways, nor is it modularised as specified in EASR Part 66 – never has.
- b. Adaption of the EASR modular training program into AQF qualifications will provide a workable system in Australia to underpin the CASR Part 66 AME B1.1, B1.2, B1.3, B1.4 and B2 licences, even for GA.

EASR 66.A.25 Basic knowledge requirements

- (a) An applicant for an aircraft maintenance licence, or the addition of a category or subcategory to such a licence, shall **demonstrate by examination** a level of knowledge in the appropriate subject modules in accordance with the Appendix I to Annex III (Part- 66). The examination shall be conducted either by a training organisation appropriately approved in accordance with Annex IV (Part- 147) or by the competent authority.
- (b) The training courses and examinations shall be passed within 10 years prior to the application for an aircraft maintenance licence or the addition of a category or subcategory to such aircraft maintenance licence. Should this not be the case, examination credits may however be obtained in accordance with point (c).
- (c) The applicant may apply to the competent authority for full or partial examination credit to the basic knowledge requirements for:
 1. basic knowledge examinations that do not meet the requirement described in point (b) above; and
 2. any other technical qualification considered by the competent authority to be equivalent to the knowledge standard of Annex III (Part-66).Credits shall be granted in accordance with Subpart E of Section B of this Annex (Part-66).
- (d) Credits expire 10 years after they were granted to the applicant by the competent authority. The applicant may apply for new credits after expiration.

B. EASA separated knowledge and practical skills, as recommended in ICAO guidance material. They have separate regulatory provisions for experience and knowledge that were totally ignored but would have improved the practical skills and knowledge APPLICABLE to each licence. This industry needs competent practical skills that can be attained with greater flexibility provided under EASR Part 66.

EASR Part 66 specifies **experience** standards separate from knowledge:

- (a) An applicant for an aircraft maintenance licence shall have acquired:
 1. for category A, subcategories **B1.2 and B1.4**:
 - (i) **3 years of practical maintenance experience on operating aircraft**, if the applicant has no previous relevant technical training; **or**
 - (ii) **2 years of practical maintenance experience on operating aircraft** and **completion of training considered relevant by the competent authority as a skilled worker**, in a technical trade; **or**
 - (iii) **1 year of practical maintenance experience on operating aircraft** and **completion of a basic training course approved** in accordance with Annex IV (Part-147);
 2. for category **B2** and subcategories **B1.1 and B1.3**:

- (i) 5 years of practical maintenance experience on operating aircraft if the applicant has no previous relevant technical training; or
- (ii) 3 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or
- (iii) 2 years of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Annex IV (Part-147);

Note: Recognition of allied trades as was once done under CAR31.

What this provision provides is the basis of achieving practical skills. This ranges from a formal training program like an apprenticeship, to complete on-the-job experience that can be reduced if holding similar skills from an allied trade.

C. EASA also specifies a (**modular**) training program with separate training pathways for each of the five AME licences and a 10 year span in which to pass all modules of the training program for each individual pathway. The EASA training system provides clarity for a person who holds one licence, to see which additional module(s) they need to pass to gain another licence.

Item 2 of this Newsletter explains the EASA modular training system needed in Australia.

D. An apprenticeship training program based on providing the applicable practical skills, specified in ICAO guidance, would give this industry the skills it is demanding. In addition, retaining the log of experience to be assessed by CASA, same as EASA, based on meeting regulatory specified experience that is more flexible in Europe, is essential for the future confidence in the AME licencing system.

- a. Greater flexibility to allow applicants for an AME licence to gain experience and knowledge at lower costs to the participant and employer.
- b. Brings back the flexibility of the past.

E. EASR Part 66 includes 3 “groups” of an AME licence that were not adopted. These “groups” basically define which aircraft needs a specific aircraft licence, others that need a manufacturer’s group rating and a (GA) group licence for single piston engine aircraft. Very different to the 5700Kg split implemented by CASA. A more cost effective approach.

Group 1

- a. *Aeroplanes with maximum certified operating altitude exceeding FL290;*
- b. *Aircraft equipped with fly-by-wire systems;*
- c. *Complex motor-powered aircraft; and*
- d. *Multiple engine helicopter.*

Group 2

- 2 a: *single turbo-propeller engine aeroplanes*
- 2 b: *single turbine engine helicopters*
- 2 c: *single piston engine helicopters.*

Group 3 (basic GA mechanical)

Aircraft are endorsed with appropriate aircraft type rating (if complex) or full group rating for piston engine aeroplanes other than Group 1.

*The **Group 3** rating shall be subject to the following limitations, which shall be endorsed on the licence:*

- *pressurised aeroplanes*
- *metal structure aeroplanes*

- *composite structure aeroplanes*
- *wooden structure aeroplanes*
- *aeroplanes with metal tubing structure covered with fabric.*

Harmonisation was not considered when GA “group” ratings consultation started.

New “Group” ratings could replace the EASR “limitations”.

F. EASR provides some clarity about the responsibility and privileges of the LAME that need to be adapted in the interest of safety. Over the years, LAMEs have basically two very important privileges that lacks clarity in CASRs.

EASR 145.A.30(h) 1. in the case of base maintenance of large aircraft, have appropriate aircraft type rated certifying staff qualified as category C in accordance with Part-66 and point 145.A.35. In addition the organisation shall have sufficient aircraft type rated staff qualified as category B1, B2 as appropriate in accordance with Part-66 and point 145.A.35 to support the category C certifying staff. B1 and B2 support staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service.

[“stage” inspections: airworthiness conformity inspections]

EASR 66.A.20 Privileges

(a) The following privileges shall apply:

2. A category B1 aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B1 support staff following:

- maintenance performed on aircraft structure, powerplant and mechanical and electrical systems,
- work on avionic systems requiring only simple tests to prove their serviceability and not requiring troubleshooting.

Category B1 includes the corresponding A subcategory.

3. A category B2 aircraft maintenance licence shall permit the holder:

(i) to issue certificates of release to service and to act as B2 support staff for following:

- maintenance performed on avionic and electrical systems, and
- electrical and avionics tasks within powerplant and mechanical systems, requiring only simple tests to prove their serviceability; and

(ii) to issue certificates of release to service following minor scheduled line maintenance and simple defect rectification within the limits of tasks specifically endorsed on the certification authorisation referred to in point 145.A.35 of Annex II (Part-145). This certification privilege shall be restricted to work that the licence holder has personally performed in the maintenance organisation which issued the certification authorisation and limited to the ratings already endorsed in the B2 licence.

The category B2 licence does not include any A subcategory.

CASR Part 66 needs to state that a LAME can perform and certify the completion of maintenance, **perform airworthiness conformity inspections** and issue a maintenance release (release to service) iaw ICAO Annex 1, 4.2.2.1 that states: “*the privileges of the holder of an aircraft maintenance [engineer] licence shall be to certify the aircraft or parts of the aircraft as airworthy after an authorised repair, modification or installation of an engine, accessory, instrument, and/or item of equipment, and to sign a maintenance release following inspection, maintenance operation and/or routine servicing.*”

The above are some of the reasons why the current system fails to provide skills.

1. School leavers do not have the practical skills of past generations. To attain basic practical skills for aviation, similar trades and many manufacturing industries, the government needs a bridging training package delivered by a technical training facility (school or tertiary facility e.g. TAFE) prior to employment.

2. All skills attained and the resultant Australian education qualification must be based on international training standards so the Australian academic qualifications are acceptable in this global industry. Education Department should be responsible for complying with these provisions of the Chicago Convention.
3. CASA approved competency standards created by the Skill Councils fail to provide aviation specific practical skills and knowledge skills equivalent to international training standards. The current flawed CASA competency standards should be replaced by ICAO AME training standards. Every training establishment that has seen the ICAO training standards agreed they could create a training package directly from the ICAO training standards.
4. Current mechatronic competency standards are not acceptable for licensing purposes by CASA – what a blunder by CASA and their oversight.
5. Under Australia’s demographics, training establishments need to provide practical skills but should also use webinar training for the knowledge training.
6. The practical skills need to be live-in full time ab-initio training but the knowledge training can be provided by webinar training that is recorded so remote students can review prior to passing an examination in each subject. Like remote degree training, the provision of training on-line has been a feature of the EASA system.

British training establishments, amongst many others in Europe now provide these module training for many other countries that adopted the EASA system.

Throughout Europe, and in other countries that have adopted the EASR Part 66, the same modular training is provided with the same level of educational attainment.

If CASA had adopted the missing provisions of EASR Part 66, and, most importantly the modular training programs that created courses, we would not be in the mess we are today.

Australianising the modules into the AQF education system would have prepared Australia for the future.

Time for CASA to act.

AMROBA will support positively.

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3. EASA Modular LAME Training System Revealed?

Neither the MSA Aeroskills training packages, including the “mechatronic” package, specify a training course for each of the five AME licences, let alone the proposed “group” ratings. On the other hand, EASR Part 66 determined that the training program is presented in a structured manner that meets the ICAO AME guidance, which also creates a number of training modules for each licence pathway. We still do not have these training pathways to each licence.

In AMROBA’s opinion, the implementation of a CASR Part 66 training program based on the EASR Part 66 training must be implemented as soon as possible.

It will then take the Education Department’s Industry Reference Committee to develop and implement the syllabi of the EASR Part 66 training program.

Adapting the EASR modules will satisfy both air transport and general aviation’s needs. For example, an applicant may receive a credit for module 1 – mathematics and module 2 – physics based on schooling and/or other training undertaken.

Module 10 should be mandatory for LAMEs but not for an AME. Trade training should cover modules 1-9 plus the 2 or 3 modules needed for a particular skills.

EASR specifies the subject elements of each module, the number of questions that the examination contains. The EASR Part 66 system meets ICAO AME guidelines better than the current CASR Part 66 & MoS.

Moving to the EASR Part 66 modularisation of knowledge training will enable the MEA Aeroskills training packages to be created to support each module based on the EASR syllabi.

There is no need to be different. EASR Part 66 produced this amount of detail for one reason, it ensures that each State implements the same knowledge training.

There is a very good case, in Australia, for the Federal Government to adopt innovation, and create a centre of excellence controlling and providing all examinations electronically. Only three EASR modules require written essays to answer questions.

The table below is the basis of the modular EASR Part 66 knowledge system for each of the five AME licences. The number of examination questions and depth of the module subject elements vary depending on which of the five licences is being applied for.

An important difference in Module 10 and CASA’s old AA examination is Module 10 is more like the FAA Inspection Authorisation Guide.

For an AME qualification under the AQF system, module 10 is not required to meet trade qualifications.

Therefore by using the module approach, trade training can cover all modules applicable to a licence to work in that sector. To obtain a licence in that stream, all the qualified tradesperson has to do is module 10.

To broaden the AME skills in other sectors, additional subjects within common modules plus licence stream module(s) would need to be passed.

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EASA Part 66 Appendix 1 – 2. Modularisation						
Qualification on basic subjects for each aircraft maintenance licence category or subcategory should be in accordance with the following matrix, where applicable subjects are indicated by an 'X':						
Module	Subject	A or B1 aeroplane with:		A or B1 helicopter with:		B2
		Turbine engine(s)	Piston engine(s)	Turbine engine(s)	Piston engine(s)	Avionics
1	Mathematic	X	X	X	X	X
2	Physics	X	X	X	X	X
3	Electrical Fundamentals	X	X	X	X	X
4	Electronic Fundamentals	X	X	X	X	X
5	Digital Techniques, Electronic Instrument Systems	X	X	X	X	X
6	Materials and Hardware	X	X	X	X	X
7	Maintenance Practices	X	X	X	X	X
8	Basic Aerodynamics	X	X	X	X	X
9	Human Factors	X	X	X	X	X
10	Aviation Legislation	X	X	X	X	X
11A	Turbine Aeroplane Aerodynamics, Structures and Systems	X				
11B	Turbine Aeroplane Aerodynamics, Structures and Systems		X			
12	Helicopter Aerodynamics, Structures and Systems			X	X	
13	Aircraft Aerodynamics, Structures and Systems (avionics)					X
14	Propulsion (avionics)					X
15	Gas Turbine Engine	X		X		
16	Piston Engine		X		X	
17	Propeller	X	X			

For example, **module 3** – Electrical Fundamentals requires 50 multi-choice Qs for both the B1 & B2 but **module 4** – Electronics Fundamentals requires 20 multi-choice Qs for the B1 and 40 multi-choice Qs for the B2 avionic LAME.

Within each module is a list of all subjects, the educational level of attainment applicable to each subject, the number of examination questions, written or multi-choice, time duration of study and examination and 75% pass mark.

The depth of the module subject matter is clearly spelt out in the EASR training program – this is where reference to the ATA levels of attainment are used.

We have 1/3 of a training system.

Even the older MEA Aeroskills training packages did not support the GA licencing system.

The hard work has been done by EASA, it only needs to be adapted to Australia AQF levels and produced in a modular training program and then it can be implemented. It just needs a courageous CASA Board and CEO to support this change.

Skills & Experience	Adapting EASR to CASR				
	B1.1	B1.2	B1.3	B1.4	B2
Practical	5 years but can be reduced	3 years but can be reduced	5 years but can be reduced.	3 years but can be reduced	5 years but can be reduced
Knowledge	M1-10, 11A, 15 & 17 (opt)	M1-10, 11B, 16 & 17	M1-10, 12 & 15	M1010, 12 & 16	M1-10, 13 & 14
Experience	5 years but can be reduced	3 years but can be reduced	5 years but can be reduced.	3 years but can be reduced	5 years but can be reduced

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4. GA AME Group Rating Proposal repeating Part 66 errors

Warning: Put on hold this project until there are MEA Aeroskills training packages to support each Group Rating. If not, we create the same mess as Part 66.

Australia needs an AQF qualification specific to each licence and rating.

When CASA rushed Part 66 into place it did not usher in the EASR training program that supports these five licences. Once again, AMROBA and others have worked extremely hard to identify an Australian “group” licence system BUT, now we have realised EASR Part 66 works because EASA also demanded a national modularised AME training system supporting each licence. We recommend that they hold off amending Part 66 MoS UNTIL there are clear MEA Aeroskills training pathways.

For once, let’s get the horse before the cart.

It is time to modularise the training system similar to EASR Part 66 as above. With separation of practical skills and knowledge it will remove the debacle of competency units as developed by MSA and approved by CASA. What we can have is an apprenticeship system that provides the practical skills and the training establishments also providing knowledge training on-line.

To identify a group licence outcome the knowledge training package will need to be developed under the Aviation Industry Reference Committee to provide an outcome to meet the group knowledge levels that have to be converted into sub-sets of a training course.

However, if the “missing provisions” are adapted into CASR Part 66, we may get a far improved on-line training and examination system.

It is time for industry to stop rule changes until the training infrastructure is built.

Considering the amount of hard work put in by some industry representatives to work out the “Group” ratings, it will cause massive confusion unless the training packages are developed prior to the Part 66/MoS being amended.

Adopting the missing elements from EASR Part 66 and adding the Australian Groups is needed to return skills and knowledge to the AME training system

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