AMROBA®inc
AVIATION MAINTENANCE REPAIR & OVERHAUL BUSINESS ASSOCIATION, INC
ADVOCATE OF THE AVIATION MRO INDUSTRY

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2019 and then 2020

The [aviation] world trade barriers are shrinking and the borders are becoming blurred. If you do not harmonise requirements, practices and regulations within your region, then your business is isolated from trade in the region; and, as we have experienced in pilot training and general aviation, the industry basic core and foundations that provide qualified persons to support commercial aviation will diminish. Industries across Australia are being restricted by government red tape and a lowering skill base. Can 2019 turn this around?

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Regulatory reform that does not address these issues will not benefit Australian aviation. The core has to be made viable so the commercial sectors can provide career paths.

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The 2020 Role of Engineering Organisations

Without maintenance businesses, we don't have apprentices. Without apprentices we do not have normal development of replacement and growth of maintenance staff. It is a known problem that we have an aging workforce and any proposed regulatory change must be cognisant of this issue. Will CASA's latest GA/AW maintenance proposal address this issue or will their proposal make it worse? Also, without design and manufacturing availabilities, MRO is unsustainable.

Regulatory changes must not compromise Safety.

Every regulatory change should reduce red tape without a resultant reduction in safety.

Currently the engineering disciplines of design, maintenance and manufacturing are in a state of uncertainty due to the strain of knowing the current regulatory engineering systems, under CASA independent reviews, that do not appear to be harmonised.

For instance, look at the following CASA projects:

1. CASR Part 21 re-alignment with FAR Part 21, except Subpart J & M
   - Supported
   - Benefits design organisations, manufacturers and STC, APMA, ATSO holders.
   - Subpart J to align with EASA 21 Subpart J – supported.
   - Subpart M retains the independent designer like FAR Part 183
2. Adopt FARs for GA/AWK maintenance
   - Supported – maintenance rules only
   - Exclude adoption of FAR personnel standards (See Part 66 review)
     a. Personnel covered by CASR Part 66 review
     b. Part 66 add second ICAO Annex 1 LAME privilege
     c. Certify aircraft as airworthy post mods, repairs etc.
   - Exclude non-FAA approved AMOs (See Part 145 review}
     a. Part 145 review is correct place to review.
     b. Part 145 has to look at greater flexibility.
3. CASR Part 66 review
   - Supported
   - Must adopt 2018 EAR Part 66/147 revision
   - 2018 re adds a B3, B2L, B group rating & added category L ratings for sport aviation
   - Basically, a return to a previous system that worked.
4. CASR Part145 review
   - Supported
   - Must consider what works for Australia not adopt.
   - Successful systems have been used in the past and should be included.

Australia had airline and GA maintenance organisations where the GA organisation held a CASA approval based on "*direct supervision*" of maintenance. Direct supervision was defined as "the supervisor observes and checks the work being performed to ensure it is being performed properly". This applied to GA AMOs.

Maintenance organisation approvals were based on scope of LAME licence/ratings.

ANO 104 stated QC was required by manufacturers, component maintenance and airline maintenance but not GA aircraft maintenance. ANO 104 appendix 1 (GA), Appendix 2 (Airline) stated what had to be complied with.

Issue: Why can't CASR Part 145 have multi divisions based on the EASR Part 66 2018 revision that now includes AME licence group ratings?

Using a multi-level Part 145 approval based on the licencing groups from EASR Part 66, 2018 revision would encourage small business.

Took me a while to digest this chart sent to me but, once you align class B aircraft with the EASR Part 66 LAME groups 2C and 3, and class B aircraft with groups 2a and 2b, it makes sense. Group 1, specific aircraft ratings, come under top level SMS.

New sector for aircraft up to 2000Kg adopting EASR Part 66 B3 licence basic AMO. Progressively add different licences/ratings/groups and obtain a Part 145 higher capability authorisations from CASA.

Over the years we have had various systems all worked.			
ANO 104	**CAR 30**		**CASR Part 145**
Direct Supervision	Class B	Class A	SMS
No manual Appendix standards	Quality control	QC +Procedures manual	Add SMS

Transition to Part 145 with numerous divisions within the Part

CASR Part 145, separate divisions based on AME licence			
Division 1 - DS	**Division** 2 - QC	**Division** 3 - PCM	**Division** 4 - SMS
EASR Part 66 B3 licence Aircraft below 2000Kg	EASR Part 66 B1 Group **2c** and Group **3** Aircraft Rating	EASR Part 66 B1 Group **2a** & **2b** Aircraft Rating	EASR Part 66 B1 Group **1** Aircraft Rating

EASR Part 66, 2018 revision, Group Ratings – AMO may meet more than one Division

1	**Aircraft with Part 66 aircraft type ratings**	
2	**2a**	single turboprop engine aeroplanes & turbojet and multiple-turboprop aeroplanes deemed low complexity by CASA
	2b	single turbine engine helicopter & multiple-turbine engine helicopters deemed low complexity by CASA
	2c	single piston engine helicopters & multiple piston engine helicopters deemed low complexity by CASA
3	Piston engine aeroplanes other than those in Group 1.	
4	Sailplanes, powered sailplanes, balloons and airships, other than those in Group 1	

This is a return to AMO approvals based on scope of AME licence/rating.

It worked

There is but one standard applied in aircraft maintenance. Maintenance of an aircraft/component is done to the same standard irrespective which sector the aircraft is operated in.

The US FAR System for GA/AWK

How can CASA propose part of another regulatory system without adopting all of the supporting systems so safety is not compromised? They made that mistake when they adopted half of EASR Part 66/147. They also made that mistake when they adopted EASA Part 21, subpart J.

The FBO AMO system, approved and unapproved, is supported by many other pieces of legislation including the FAA's Airport Division, Airport Acts, etc. etc.

We need to adopt FAR maintenance regulations, not personnel standards. Part 66 will need an amendment to include both ICAO Annex 1 LAME privileges. Return the ICAO privilege to "certify as airworthy" and we can have the same effect as the bureaucratic Inspection Authorisation in the FARs.

What works in the US will not work safely in Australia but the US, not just the FARs, maintenance industry principles should be adopted.

- To adopt the US maintenance system, amendments to Airport Acts and Regulations would be needed to provide CASA with the same regulatory control and oversight capabilities that are administered by the FAA's Flight Standards and Airports Division. Also the whole Part 6, the VET training system would need to be replaced if FAA personnel standards were adopted. Totally impracticable proposal.
- To just adopt the FAA Flight Standards Regulations does not provide CASA with the same regulatory controls or oversight capabilities as the FAA of unapproved independent LAMEs and Maintenance Organisation.
- The US Criminal Code that applies to airworthiness and maintenance responsibility is much harsher than what applies in Australia.

Those who don't learn, or can't remember the past, are doomed to repeat it.

AMROBA does not support the concept that non-CASA approved AMOs can overhaul aircraft engines or perform major modifications or repairs, as defined by FAR Part 43, on aircraft. This proposal is not safety based on past experience in Australia.

There is no need to adopt a system with a completely different legal environment that exists in the US compared to Australia. CASA also has past experience with independent LAMEs performing maintenance badly – safety was affected.

That was in an environment where far more experience existed and there was 3-year annual inspections. There were rogues that damaged the reputation of the GA maintenance industry.

The interaction of engineering organisations/individuals

Underpinning all segments of the aviation engineering segments is the design organisation/individual. Without the support from the design sector, the AMO industry cannot perform major modifications or repairs. Like the US, the independent approved designer (CASR Part 21M) is essential for field repairs, especially in GA/AWK.

Independent LAMEs should be able to be directly employed by Aero Clubs, Private owners, Flying schools, Aerial work operators, Part 135, 121 etc. operators as long as the employer provides all equipment, tooling, data and facility, as required by Part 145, to perform maintenance. Safety is not then compromised.

No independent LAME, non-approved AMO should be permitted to split a crankcase, past experience meant low safety standards and no oversight by CASA.

USA Airport Operator Responsibilities

The following is an atypical US airport operator's lessee standard, '**accepted'** by the **FAA's Airport Division**, that apply to all maintenance organisations an airport operator authorises to run a business on their airport. The onus is on the airport operator to oversee the lessee. The FAA Airport Division provides oversight of the airport operator and lessees, not the Flight Standards Division. We do not have this infrastructure in Australia to adopt the same safety levels.

CATEGORY F. AIRFRAME AND/OR POWER PLANT REPAIR

*Any Lessee desiring to engage in **airframe and/or power plant repair service** must provide as a minimum the following:*

1. ***LAND***
   ***Basic Requirement**: The leasehold shall contain an adequate space for all building and temporary parking of aircraft.*
2. ***BUILDINGS***
   ***Basic Requirement**: Lease or construct a building sufficient to provide shop and hangar space meeting local and state industrial code requirements plus adequate office space. Provide public use telephone.*
3. ***PERSONNEL***
   ***Basic Requirement**: **One person** currently **certified by FAA** with ratings appropriate for work being performed who may hold an airframe and/or powerplant rating.*
4. ***HOURS OF OPERATION***
   ***Basic Requirement**: The normal operating hours will be at the Lessee's discretion, but he should be reasonably available to the public.*
5. ***EQUIPMENT***
   ***Basic Requirement**: Sufficient equipment, tools, supplies and availability of parts to perform maintenance in accordance with manufacturers recommendations or equivalent.*
6. ***INSURANCE COVERAGE**.*
   Comprehensive Public Liability and Property Damage
   Bodily injury $100,000 each person
   $300,000 each accident
   Property damage $100,000 each accident
   Hangar Keepers Liability
   (coverage depends on type and number of aircraft serviced at any one time)
7. *Airframe and/or power plant repair FBO cannot be located in a T-hangar. T-hangars are designated for the storage of aircraft and aircraft-related items only.*
8. *Under FAA Order 5190.61, the T-Hangar Tenant is allowed to perform maintenance on the aircraft within/on the leased premises with its own*

equipment, employees, and/or agents. This maintenance must not be done, however, in a manner that is unsafe, unsightly, or detrimental to the efficient use of the airport facilities by others.

CATEGORY H. RADIO, INSTRUMENT, OR PROPELLER REPAIR SERVICE

Lessees desiring to provide a radio, instrument or propeller repair service must hold an FAA repair station certificate and ratings for same and provide as a minimum the following:

*1. **LAND***
***Basic Requirement**: The leasehold shall contain adequate land for building.*
*2. **BUILDINGS***
***Basic Requirement**: Construct or lease a building providing properly lighted, air conditioned and heated space to house office, rest room facilities and minimum shop and hangar space **as required for FAA repair shop certification**. Public use telephone.*
*3. **PERSONNEL***
***Basic Requirement**: one **FAA certified repairman** qualified in accordance with the terms of the Repair Station Certificate.*
*4. **HOURS OF OPERATION***
***Basic Requirement**: The normal operating hours will be at the Lessee's discretion, but he should be reasonably available to the public.*
*5. **INSURANCE COVERAGE***
Hangar Keepers Liability
Products Liability
(as determined by Lessee, and approved by Airport Authority)
Comprehensive Public Liability and Property Damage
Bodily injury $100,000 each person
$300,000 each accident
Property damage $100,000 each accident
*6. **Radio, instrument, or propeller repair service FBO cannot be located** in a T-hangar. T-hangars are designated for the storage of aircraft and aircraft-related items only.*

Reducing our AMOs will add to industry woes.

Reducing the number of AMOs is not conducive to addressing another major issue that is the ageing workforce.

To encourage small businesses to employ apprentices means we need to be confident that permanent jobs will be available for the apprentice once obtaining their trade qualifications and CASA licences.

Liability and insurance responsibilities apply as much to this industry and any other in Australia. Will independent LAMEs be compelled to hold applicable insurance by CASA as is applied in the USA?

CASA could overcome some of the issues this FAR adoption will create by adopting the EASR Part 66 latest revision and implement both the B3 licence and L ratings. It would bring about much improvements in the AME licencing systems.

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Apprentices are key to future growth.

When a trade struggles to attract apprentices and/or the number of apprentices continue to decrease, the trade itself is haemorrhaging. For this trade to rebuild, the trade training modules need to be totally reviewed so the VET trade training system can rebuild training standards, and course duration, to harmonise with the EASR Parts 66/147 standards.

When will the VET trade training system provide the modular training system to support the aviation industry so employers have confidence that the trade skills will support the knowledge training to also pass the module 10 training package specified in CASR Part 66?

Our apprentice system needs an overhaul outside CASA interference. We don't have the population to limit a mechanical trade into 4 different training streams. Are proposed regulatory changes based on no VET qualifications?

CASR Part 66 has set the modules that underpin trade qualifications.

> ICAO Annex Part 1 states: The competence of maintenance personnel shall be established in accordance with a procedure and to a level acceptable to the State granting the approval. The person signing a maintenance release shall be qualified in accordance with Annex 1.

Government responsibility for this Annex rests with CASA. CASR Part 66 specifies training modules that underpin the trade standards and adds a licencing module for aircraft maintenance engineers. However, trade qualifications for staff working in CASA approved component organisations are not specified.

We have certainly changed since the days when DCA issued workshop licences.

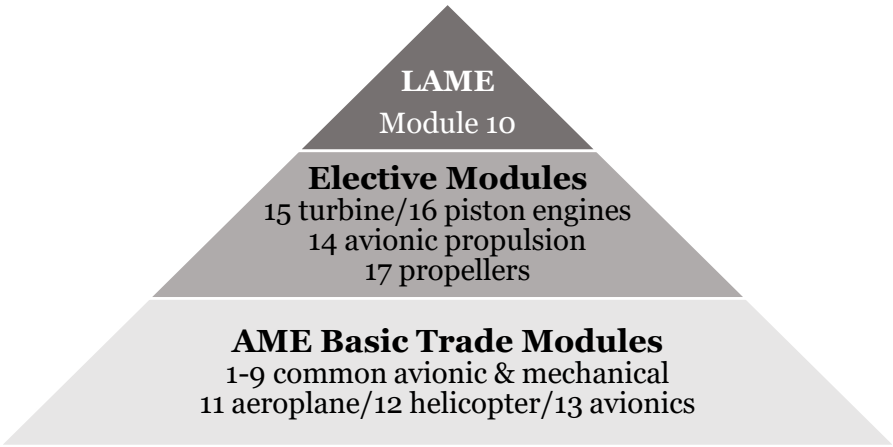
Australia's lack of maintenance career pathways

Regulations currently set standards for AME licencing personnel but CASA does not promulgate standards for other maintenance personnel.

The easiest assumption is that CASA does not identify the competence of maintenance personnel, only licensing competencies. An assumption is that AME trade qualifications and licencing specific training modules have been intermixed, thus spoiling past excellent trade training standards.

Avionic, engine and propeller workshop personnel competencies are not identified as they are, for example, in New Zealand.

Basic avionic, engine and propeller workshop trade pathways can be extracted from the competency standards applied to AME training.



However, this has not yet been achieved in Australia even though this anomaly was identified over two decades ago. There are no VET education qualifications for avionic, engine and propeller workshops.

Workshop personnel, like aircraft specific licence training, usually need additional component manufacturer training to achieve the competence internationally accepted.

When will CASA and the Education Department address this issue?

Combining the basic training modules and adding the appropriate elective modules will provide the tradesperson with the competence desired by employers. The qualification issued under the VET system must identify the training modules and which elective modules have been included during training.

Global aviation course terminology is based on job classification. "AME" & "LAME".

The **aircraft maintenance engineer** (**AME)** regulatory modular training packages are needed to provide domestic & global aviation recognition. This change in education course terminology will enable Australian VET qualifications to be recognised both domestically and internationally thus assisting VET education providers to offer AME training both domestically and internationally. Australian VET RTOs should be actively involved in the education of the Asia/Pacific aviation maintenance training market.

EASA designed their training packages so a person can obtain the knowledge and practical experience for each module individually. The person would need to complete all identified modules within ten years when applying for an AME licence. This is not available under the current VET training system.

The question is, CASA has established the level acceptable to the State but a whole of government approach has not adopted a procedure to implement the competence levels specified in aviation regulations.

RTOs are the right group with the expertise to repackage MEA competencies into the regulatory specified 17 training modules.

The current training packages are not providing aviation businesses with the standard for skills or qualifications to meet what is required in the maintenance repair overall (MRO) system. They are not compatible with the skills required by legislation and they are not being packaged in the legislative required modular system based on international standards.

From an employer and employee point of view, CASA and government have not implemented the VET training requirements that they introduced in 2010.

How can CASA and government continue to back a system that they introduced without the support of the VET system, comparable to Europe, needed to properly implement it?

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Regional Harmonisation – Trade

Aviation engineering is more diverse than many understand. On one side we have defence aerospace and aviation businesses, not subject to the civil aviation regulatory system, that have greater freedom obtaining contracts internationally than those subject to complying with Australia aviation legislation. Those subject to aviation legislation depends on Government/CASA obtaining Bi-lateral Agreements with each country that Australian businesses want to trade with.

Which part of government is tasked to obtain these Bi-lateral agreements?

Australian approved design, maintenance, manufacturing and training business are restricted from global aviation markets because CASA and/or Infrastructure do not have a legislative function to negotiate aviation FTAs with other nations.

Aviation FTAs are known as Bilateral Aviation Safety Agreements/ Implementation Procedures and/or Technical Agreements.

When negotiated, they must benefit Australian aviation engineering design, maintenance, manufacturing and training businesses to compete in global markets.

Regional Agreements – ASEAN countries.

Without doubt, the greatest possibility of competing engineering disciplines is with Asia Pacific countries. This is our region and impediments to trade must be removed. Within ASEAN countries, there is a lot of mutual acceptance that our businesses need access to their markets.

The BASA/IP with the USA/FAA is an example of what is required with the rest of the Asia Pacific countries. However, the US BASA/IP has to be expanded to include aircraft/component maintenance as was being negotiated a couple of decades ago.

We need government personnel dedicated to achieving these agreements to enable Australian businesses to trade freely in our region of the world.

The effect each agreement is achieved with another nation must also reflect on the other agreements with other countries. E.g. Would a design and/or manufacturing agreement with an ASEAN country affect the current BASA/IP with the US?

These agreements require a dedicated competent team of experts from Infrastructure and CASA and also the Department of Foreign Affairs.

In addition, the Department of Industry, Innovation and Science, Austrade, etc all get involved either before or after. However, for CASA to focus on international agreements, it needs their Act changed so they can be resourced to achieve these agreements.

Entry into Asia/Pacific markets of our engineering services and products is also dependent on the 'completeness' of the Australian regulatory system in comparison to that promoted by ICAO as implemented and adopted in this region, mainly the USA. If there is too much deviation from ICAO's SARPs it will decrease Australia's international standing — Australia's international credibility would decline, resulting in more difficult trading conditions for engineering organisations, and higher costs of compliance.

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