

2021 – YEAR IN REVIEW

What a tumultuous year in aviation with all segments affected by Covid restrictions.

In addition, the industry was/is still subject to government inquiries and other reviews whilst aviation is still unable to reach its potential because of regulatory imposts.

Australian aviation was in continual growth and compliance with ICAO standards and practices until DCA was absorbed by DoT and then Infrastructure, etc. Moving the regulator's HO to Canberra & then, in 1988, the Civil Aviation Authority was created.

When Parliament approved the transition of aviation regulatory development from the Air Navigation Act to the Civil Aviation Act without stating that civil aviation regulations "**will carry out and give effect**" to the Convention's Annexes and Practices, as stated in the Air Navigation Act, regulatory development has not continued to meet these international standards and practices. CASA developed regulations are restricted to those standards and practices associated with safety. Safety is taken as preventing accidents and incidents.

This is why CASA developed regulations do not harmonise globally as they are politically required to focus on safety not to **carry out and give effect** to the Standards and Practices.

AMROBA contends that the safer aviation systems are those that *carry out and give effect* to the Convention's Annexes Standards and practices.

Canada, a similar regulatory system, states that "Canada is committed to implementing the international standards developed by the Organization and continues to support and actively participate in ICAO's initiatives. This demonstrates an ongoing commitment to the enhancement and continuous improvement of the safety, security, efficiency, and environmental sustainability of Canada's civil aviation system. Canada recognizes the benefits of ICAO's State Safety Program (SSP) to harmonize with global civil aviation standards which demonstrate to our stakeholders (i.e., ICAO member States, the aviation industry, and the travelling public) our commitment to the continued evolution of our civil aviation safety program".

Canada has, and has had for some time, Bilateral Agreements and Implementation Procedures with the USA/FAA & EU/EASA. When can Australia expect these trading agreements so our engineering sectors can trade within the USA and other Pacific Rim Countries? It is well overdue considering previous politicians stated regulatory change will open up foreign aviation markets. Reality – nothing has been achieved.

Until Section 98 of the Civil Aviation Act is changed, the political direction does not change. For instance, the Minister may direct the CASA Board to adopt a certain policy BUT, unless Section 98 of the Act is changed to implement the directions now given in a Statement of Expectations by the DPM, then nothing much will permanently change.

Content

1. Engineering Maintenance Issues.....	2
• Global Market	2
• Domestic Market	3
• Recommendation:	4
2. Engineering Maintenance Personnel Issues	5
• Recommendation:	5
3. Engineering Global Design Issues.....	6
• Government Global Participation Action.....	6
• Recommendation:	6
4. Engineering Manufacturing Issues	7
• Recommendation:	7
LAME eBook Support	7

1. Engineering Maintenance Issues

There are two major issues for maintenance organisations and that is participating and surviving in a domestic and/or global aviation maintenance market.

• **Global Market**

Global recognition, especially in the Asia/Pacific Rim Region, of Australia's MRO businesses capabilities so they can trade in their own right still has not been achieved. The industry raised this issue with government well before the CAA was created in 1988. It is still the issue because, like aircraft and parts designers and manufacturers, there is no Government Department or Agency responsible to negotiate a "free trade aviation maintenance services agreement" between Australia/CASA and Foreign Nations/NAAs to recognise Australia's maintenance services capabilities in their own rights. Many companies trade, or want to trade globally.

If an Australian aviation maintenance business wants to trade in other countries, the Australian business has to apply to the foreign country & its NAA to obtain their approval because the foreign NAA does not recognise the Australian/CASA regulatory system.

Moving from a domestic market mentality to a global market mentality is required by government, departments and agencies. This means, adopting the Convention's Annexes Standards and Practices to align with the major regulatory systems of North America and Pacific Rim countries. The Pacific Rim major countries include NZ, PNG, Canada, & the United States.

- **Australia**
- Fiji
- Kiribati
- Marshall Islands, Micronesia
- Nauru, **New Zealand**
- Palau, **Papua New Guinea**
- Samoa, Solomon Islands
- Tonga, Tuvalu
- Vanuatu
- **Canada**
- Mexico
- **United States**
- Costa Rica
- El Salvador
- Guatemala
- Honduras
- Nicaragua
- Chile, Colombia
- Ecuador
- Peru
- **China**
- **Indonesia**
- **Japan**
- **Malaysia**
- North Korea
- **Philippines**
- Russia
- **Singapore,**
- **South Korea**
- Taiwan
- Vietnam
- American Samoa
- Christmas Island, Cocos Islands, Cook Islands
- Easter Island
- French Polynesia
- Guam
- New Caledonia, Niue, Norfolk Island, Northern Mariana Islands
- Pitcairn Islands
- Tokelau
- Wallis and Futuna

There are many countries in this region where markets can be developed and operators from some of these countries and others operate to Australia. If the government had Australia/Foreign countries aviation maintenance agreements, CASA Approved Maintenance Organisations (AMO) would be able to provide maintenance services to these operators.

- Maintenance services capabilities should be both Base and Line maintenance capability.

Government has to provide the regulatory framework so Australian AMOs can provide maintenance services to countries in our Region.

This does not mean that the government has to apply harmonised global administration requirements to the local commercial, private and recreational markets. The US FARs have mastered this requirement. The majority of CASA registered GA aircraft are US manufactured.

Many Australian Component Maintenance AMOs provided maintenance services to many of the Pacific Rim countries prior to the creation of the CAA. Some still provide the service because they have many years' experience working within the Pacific global market, others trying to penetrate these markets are concerned the costs outweigh the income/profit capability.

In many of these countries, they accept the FAA's 8130, Authorised Release Certificate, the Canadian certificate but not the Australian Form 1, Authorised Release Certificate.

• **Domestic Market**

CASR Part 43 is about to be applied to Australia that will introduce a basic change that is not being publicly discussed. The US Part 43, from where it is based, separates the “inspection” functions from the “maintenance” functions. The FAA “inspection” is based on the Annex 8 ‘system of continual inspection’ to ensure the certification standards continue to apply to the aircraft. This is achieved by applying the LAME privilege to “certify as airworthy part, or the aircraft after mods, etc’ to maintain certification standards.

Inspections associated with maintaining the serviceability of the aircraft remain part of the aircraft’s maintenance program carried out by the A&P mechanic.

Introducing this change without providing the FAA training to obtain these “inspection” skills from the A&P mechanic training standards is a weakness with the proposal. Obtaining these skills, understanding design standards, are not included in the CASA proposal.

Once again, like Part 66, regulatory change without implementing foundation training standards from this proposal places considerable pressure on employers that have WHS & Fair Work requirements to provide appropriate training.

AMOs are important for future development of an ongoing maintenance workforce which is important to provide employment for apprentices and tradespersons to sustain the aircraft and aircraft component maintenance sectors future.

- Is the CASR Part 43, 42, 145 system to be based on the FAR requirements or EASRs?
- EASRs have different levels of AMOs and LAMEs to the CASR Parts.
- FAA has a different approach to maintenance for Part 21 operators & others.

The partial adoption from both regulatory system is creating a confusing system that saps the confidence of owners of many CAR 30 AMOs and GA LAMEs.

	Part M Light Org	Part-CAO Org	Part 145 Org
EASA AMOs	<ul style="list-style-type: none"> • not classified as complex motor-powered aircraft • Aeroplanes of 2730 kg maximum take-of mass (MTOM) or less • Rotorcrafts with a 1200 kg MTOM or less, certified with a maximum of 4 occupants • Other EL2 aircrafts 	The maintenance and continuing-airworthiness management of aircraft and components for installation thereon when such aircraft are not classified as complex motor-powered aircraft and are not listed in an air operator certificate of an air carrier	The maintenance of aircraft and/or components of large aircraft and Commercial Air Transport and components fitted to the above listed aircraft.
FAA	Independent A&P Mechanic and an A&P mechanic with an FAA issued Inspection Authorisation. (normally work for a State registered business to provide insurance coverage	<p>Not FAA approved SASO/FBO</p> <ul style="list-style-type: none"> • Commercially provided maintenance (registered) organisation employing an A&P mechanic to supervise and certify maintenance. • ‘FBO’ has no regulatory standards • Organisation must comply with Part 43 standards and practices. 	<p>Part 145</p> <p>Engaged in the maintenance, inspection, and alteration of aircraft and aircraft products.</p> <p>1. Airframe 2. Powerplant 3. Propeller 4. Radio 5. Instrument 6. Accessory</p>

The FAA system is not operational based, it is product based as was Australia’s ANR 35 system.

Later, CAR 30 created Class A and B aircraft classification not used anywhere in the world.

ICAO States: Annex 8, chapter 6.2.3. f. “*scope of approval, in **relation to aircraft, component and/or specialised maintenance, and to the type of aircraft and components covered by the approval**”.* i.e. Product focused, another reason to support the FAA approach.

Initial product certification of a product and **continuing airworthiness** of a product.

If CASA had remained committed to “*carrying out and giving effect*” to the Convention’s Annexes Standards and Practices, our system would not be as uncertain as it is today.

The Annexes' maintenance Standards and Practices are based on product maintenance.

With the adoption of FAR Part 43, will CASA model CASR Part 145 review on FAR Part 145, or will they continue to model it on the EASR Part 145, plus "Part CAO" and "Part M Light"?

The problem is CASR Part 42 applies the EASA approach and CASR Part 43 applies the FAA approach. Maintenance will need work under two systems that is not conducive to safety.

- If civil aviation regulatory development was based on red tape reduction, you would think that CASA would take the FAA approach;
- If civil aviation regulatory development is based on ex-military experience, as has been obvious for a while, you would think CASA would retain the EASA approach.

The problem is that CASA has basically adopted EASA Commercial Air Transport standards only and applied them to all aviation levels. Industry wants the FAR approach for maintenance.

Deficiency of current Civil Aviation Act & Regulations

When the Civil Aviation Regulations were made in 1988, internally it was recognised by CASA's field management that the regulations did not address component maintenance nor did it properly cover aircraft and parts manufacturing. Regulations were totally focused on the "Classification of Operations". These deficiencies still exist today.

The engineering fields of design, maintenance and manufacturing have never been given the right regulatory head of power to enable the development of permanent engineering sectors.

Part 21 was introduced to address some of the deficiencies. Now outdated.

Part 43 needs to be adopted to address component maintenance deficiencies.

AMO Future Maintenance Dilemma

Today, many CAR 30 maintenance organisations are moving to Part 145 approval. However, to continue to maintain other than Part 42 aircraft, the organisations have to include in the Part 145 Organisation Exposition, all the requirements it had in the CAR 30 manual to maintain aircraft operating under the CARs.

This is because maintenance is being based on operational standards of the aircraft not product maintenance. The actual maintenance performed does not change under the CASRs or CARs.

The same model aircraft could be operated under CASR Part 42 or the CARs so it requires different administrative procedures in the Part 145 Exposition to cover those operating under Part 42 and CARs.

Having a system half based on one major system that doesn't harmonise with the other half based on another major regulatory system has, and will continue to create confusion. Confusion in aviation is an underlying risk to safety.

CASR Part 42 introduced added administration and red tape supposedly for airline operations that has added costs and split the maintenance sectors. Even the Act definitions are different.

aeronautical product means any aircraft, aircraft engine, propeller, or subassembly, appliance, material, part, or component to be installed thereon;

- Australia's definition does not include "aircraft" as an aeronautical product

- **Recommendation:**

The Minister make legislative change to make the Department of Foreign Affairs & Trade to engage with other nations to implement technical agreements for recognition of Australia's civil aviation maintenance services capability.

Result: A permanent aircraft and component maintenance industry in Australia servicing operators within Australia and globally, enabling Australia to create jobs.

[Back to the Top](#)

2. Engineering Maintenance Personnel Issues

Australia has never made the Federal Department of Education responsible to provide aviation maintenance tradespersons, that meet the ICAO aircraft maintenance engineer's knowledge and practical skills training standards. The Convention's Annex 6 states the "*competence of maintenance personnel is the responsibility of the Contracting State*".

Annex 1 provides the Annex 1 recommended Aircraft Maintenance Engineer (AME) Training Manual specifying the global training standards for tradespersons.

Australia should have ICAO registered AME training schools capable of servicing the Asia/Pacific Rim Nations.

DCA, and up till late 1980s promulgated the then ICAO Airframe, Engine, Electrical, Instrument & Radio training standards. Each State Education Department used this document to provide avionics and mechanical pathways to provide globally recognised tradespersons.

The ICAO document has been updated and ICAO also provides competency based training standards for the larger aircraft AME training standards.

Why haven't governments over the years made the Education Department responsible?

CASA introduced different AME licences over a decade ago (CASR Part 66) but Education still hasn't included the modular education training standards into the NVET system.

Adopting the ICAO underpinning trade standards that comply with the ICAO AME training standards, would provide the trades skills needed to apply for a licence.

Maintenance organisation employers need tradespersons with transportable academic skill qualifications to work on aeroplanes, helicopters or in aviation manufacturing sector.

The NVET training should also enable the tradesperson to obtain AME licences from CASA.

This has been an issue for decades because governments' haven't assigned Education to be responsible for the trade training standards that would provide globally acceptable trade skills.

To enable civil aviation to grow from a domestic workforce to a global workforce we need Education to take responsibility to train to these international AME training standards.

Updating the NVET system to global standards would also open Australia's AME training RTOs to attract students from the Asia/Pacific Rim countries.

There is a regional shortage of AME training schools in this Asia/Pacific Rim Region.

Staged Approach Required

With CASA bringing back Licence Module Examinations to obtain Part 66 licences, there is a desperate need for a general aviation AME training course that supports the B1.2 aeroplane licence and a B1.3/4 helicopter training stream, in the VET RTO system. These courses should be provided through the Education's RTO system, not CASA 147 MTOs.

If Education takes control, the basic modules on maths, physics, etc. can be part of the current education system taught by secondary schools and/or TAFE training system.

Specialised services such as NDT, Welding, Aircraft Engine Overhaul modules can be provided through the Education RTO system.

- **Recommendation:**

The Minister make legislative change to make the Department of Education for maintenance personnel training to world standards and the Department of Foreign Affairs & Trade to engage with other nations to implement technical agreements for recognition of Australia's civil aviation maintenance personnel training capability.

Result: A permanent maintenance personnel training industry in Australia creating jobs.

[Back to the Top](#)

3. Engineering Global Design Issues

The basic problem in Australia's civil aviation regulatory system is the lack of global recognition of Australia's civil aviation regulatory system, expertise and capability. Aircraft repairs, modifications, CASA approvals certificates and international documentation that the adoption of FAR Part 21 introduced in CASR Part 21, **are simply not accepted by major civil aviation Authorities**. CASR Part 21 government certificates and documents have not been recognised in any treaty or technical agreement with other nations, especially in the Pacific Rim region.

Example: *Recently, a B737 that had an Australian STC'd sat phone fitted for about a decade, was sold to a company in the EU. The sat phone had to be removed because Australia's design capability is not recognised by EASA.*

CASR Part 21 was introduced in 1998 with an assurance this adoption will assist with the recognition of Australian civil aviation design standards by other countries. However, Governments, since 1998, did not empower the Foreign Affairs and Trade Departments to pursue such technical agreements of recognition. In the last 23 years, no government empowered these Departments to obtain global recognition of our aircraft design organisations and individuals so they could trade globally thus increasing highly technical jobs within Australia and trade capability with other nations.

Civil Aviation aircraft/parts designers regulatory operate within, and to global design standards, processes and procedures which our regulatory system must support without differences. The government, in 1988, made the right decision in adopting the USA processes and procedures to achieve this. Time to complete the process of recognition.

An ageing fleet of aircraft on the CASA civil aviation register needs civil aviation design professionals to keep these aircraft airworthy as parts become harder to purchase. It is why the aviation regulatory system adopted FAR Part 21 in the belief that Australian approved PMA parts would be available globally for fitment to USA certificated aircraft, and other nations, registered in Australia.

The civil aviation regulations were made but the other actions that government department and agencies need to take to obtain global recognition has never been completed.

- **Government Global Participation Action**

Civil Aviation "design", the critical factor behind civil aviation aircraft and parts manufacturing and repairs in Australia for the domestic and global aviation market, has to be recognised in their own right by other trading nations.

Our professional civil aviation designers should be the main stay engineering support for the Asia Pacific Rim countries.

The quality of the global civil aviation engineering system requires governments to obtain technical agreements of recognition of their country's engineering design capability by other nations to provide the capability to apply global civil aviation design standards to aircraft and products being repaired or manufactured in Australia. Our aviation repair and manufacturing industry needs CASA approved engineering designers to be fully inside the top level of aircraft and parts certification countries.



- **Recommendation:**

The Minister make legislative change to make the Department of Foreign Affairs & Trade to engage with other nations to implement technical agreements for recognition of Australia's civil aviation aircraft and parts design capability.

Result: A permanent aircraft and parts manufacturing industry in Australia creating jobs.

[Back to the Top](#)

4. Engineering Manufacturing Issues

The potential for Australia's civil aviation manufacturing capabilities have been up and down for years due to the inconsistency of policies by governments. Over the years there has been many success stories but the benefits of adopting FAR Part 21 - 35 has not yet been achieved mainly because CASR Part 21 hasn't been updated with FAR Part 21 changes.

Fact, manufacturing for the Australian aviation market is not sustainable. Our manufacturing of aircraft, replacement parts and modification packages included in Australian Supplemental Type Certificates, need the support of the Departments of Foreign Affairs and Trade to enable sales and on-going life support to open trade capabilities in foreign nations.

Due to the lack of government department(s) support and international acceptance and recognition of the Australian civil regulatory system and documents/certificates, many Australian manufacturers have moved off-shore. They have told government that Australia's aviation regulatory system, approved businesses and government certificates and documents are not globally accepted. Factual evidence of a failed regulatory system.

This is a total loss of high tech academia and entrepreneurs that are needed to support manufacturing of aircraft and/or parts.

Latest Proposal: *"The global market for the Albatross G-111T is enormous and it holds a monopoly in its class. It doesn't compete with larger passenger aircraft, instead it compliments them which is why it's the perfect platform to build in Australia and rekindle our sovereign aircraft manufacturing capability."*



Before this Proposal, others have also made proposals to manufacture in Australia and to participate in the global civil aviation market.

This not only needs regulatory changes, but also cultural change within government departments to open up trading capabilities in many foreign countries. This lack of government commitment to sustain trading capabilities has always affected past projects.

Australia has a proven track record they can build world class products and provide life time support. What we don't have is a government and regulatory system that maintain global standards and agreements with trading nations.

- **Recommendation:**

The Minister make legislative change to make the Department of Foreign Affairs & Trade to engage with other nations to implement technical agreements for recognition of Australia's civil aviation aircraft and parts manufacturing capability ongoing to provide life support for products.

Result: A permanent aircraft and parts manufacturing industry in Australia creating jobs.

[Back to the Top](#)

LAME eBook Support

AMROBA has obtained a special rate for the Emperious eBook.

Members using it have given it a tick in assisting getting a licence.

"I used the eBook and it provided excellent visual and knowledge that enabled me to pass the first 3 CASA examinations that I have sat."

The 'Emperious' eBook matches the system of learning that young employees have grown up with within schools.

<https://youtu.be/03t18Bq3Ibo>

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[Back to the Top](#)