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ADVOCATE OF THE AVIATION MRO INDUSTRY

Newsletter Date 10/11/2011

Open Sky Policy

Volume 8, Issue 7

Ever since our governments adopted and continue to support an 'open skies' policy in the interest of providing the travelling public with cheaper air fares, Australian international airlines have been put on notice regarding costs.

'New generation' aircraft also introduced less maintenance requirements and future new aircraft will only enter a hangar for 'base' maintenance every 10 — 15 years.

Add to that, the government's new aircraft maintenance regulations that did not adopt the benefits of the EASA aircraft 'base maintenance' requirements; but introduced unique maintenance personnel licensing and skilling standards that impose higher costs.

Once Australian international airlines had to compete globally under the government 'open skies policy' then it has to be accepted that 'base maintenance' costs could only be reduced by having 'base maintenance' done in countries that had adopted the EASA or FAA regulations (including maintenance personnel skilling standards) but have a lower wage structure.

People mainly travel based on 'costs' not any alliance to what were national airlines.

Free trade markets actually mean that our wage structure will eventually need to be adjusted to meet similar wage structures in other countries. This only works where countries have similar wage structure standards.

Manufacturing in Australia has been subject to these pressures for years—manufacturers move off-shore to lower costs and those that are left in Australia struggle because they cannot lower wages similar to those in competing countries.

To keep 'base maintenance' costs on a par with their competitors, Australian MRO businesses have to either lower wages, which is not acceptable in Australia, or accept that base maintenance will be done off-shore.

From an airline position, off-shore base maintenance lowers costs significantly.

Our industry has already seen airlines increase utilisation of off-shore MROs for component maintenance.

Australian aviation MROs cannot compete in a global aircraft base maintenance market unless it has a level playing field.

Asian countries have adopted EASA maintenance regulations, not only did so without change but they also adopted the EASA skill training standards and licensing system.

Government open skies and free market policies means our members need to compete in a global environment where the mean man-hour rate puts us at a distinct disadvantage.

What we need is a government that was as smart as in 1998 to repeal the new maintenance regulations and adopt the EASR airline regulations.

Better still, adopt the CAA(NZ) regulations in toto as NZ were successful a decade ago in rewriting their regulations to adopt EASR for airlines and FAR for non-airline.

Maybe it is time for an Australasian CAA since we have a Single Aviation Market between Australia & NZ — one proviso, we would need to use NZ aviation regulations.

The government was smart in 1998 when it adopted the US FAR Part 21 with minimal word changes that has assisted Australian aircraft parts manufacturers to gain access to the US aviation market.

Sadly, Australian aircraft MRO businesses have been shut out of many World markets, especially in the Asia/Pacific region.

Australia's sad global industrial reputation also has an impact on businesses obtaining contracts in the global aviation market.

'Damage' or 'Identical Check'—CAR 42W?

The adjacent chart basically explains CAR 42W. The initial fitting of a new or maintained part released to service needs the person fitting the part to verify that it is identical to the part being removed. That is on the right side of the chart.

A part removed from an aircraft or engine and fitted to another aircraft or engine has to be inspected for damage.

In the second case, the identical check was done when the part was originally fitted; so an inspection for damage is needed to ensure serviceability.

It is crucial that all are conscious of the need to understand 'traceability'. When a replacement part is fitted from another aircraft or engine it is traceable. That aircraft or engine maintenance records will confirm when the identical part was fitted.

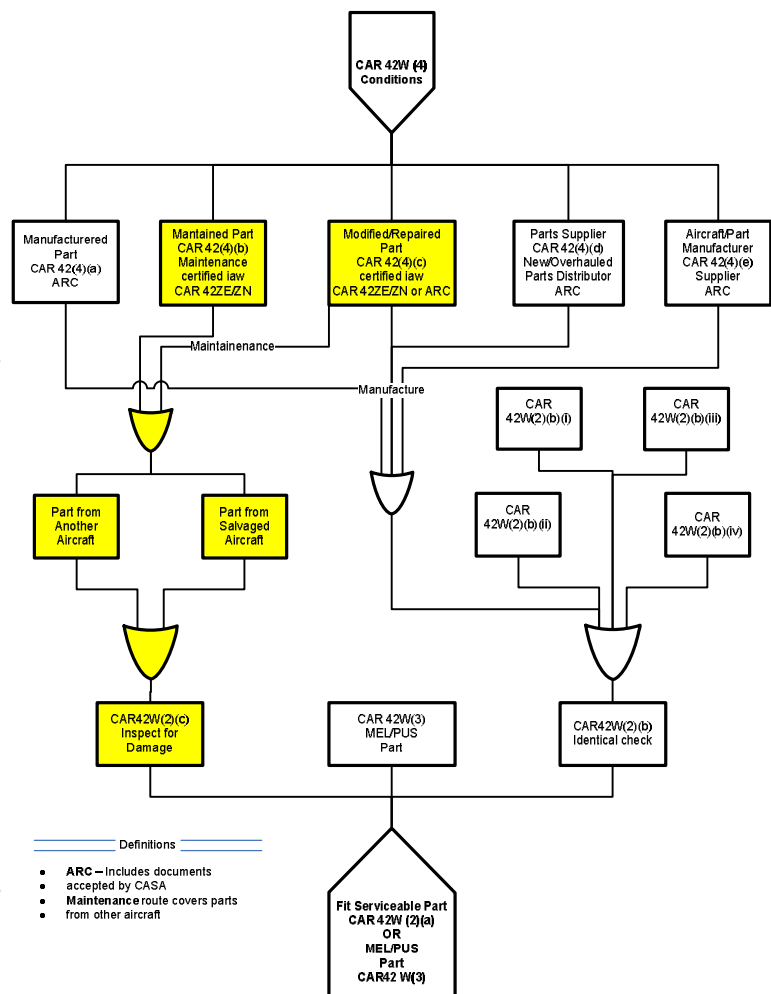
Identical parts are available from manufacturer's and approved AMOs who release the part back into service post maintenance.

Distributers (suppliers) are middle men and only act as a go between so they are compelled to pass on aviation documentation verifying authenticity.

Can the documentation demonstrate traceability to the manufacturer, approved AMO or another aircraft, engine or component maintenance records?

Parts Replacement Flowchart

CAR 42W – Installation & use of components in aircraft
Using parts from other aircraft that may also be modified or repaired



Increasing Aircraft Low Utilisation

CASA should take on a major project to identify why private owners are not using their aircraft more. If yearly utilisation drops below 100 hours in the US, they create a project to find out why.

In Australia, private VH aircraft utilisation is below 30 hours but we do not see any government project to find out why.

The lack of flying also impacts on each State's tourism and regional growth.

What can be done to encourage private owners and other persons to use aircraft as a form of transport.

Cost and convenience is what attracted passengers and owners in the first place.

If the government had a true parallel pathway for small aircraft, there would be many more light aircraft on the CASA register.

It is now obvious the NZ got the regulatory development right as their GA is expanding.

The government could improve regulatory development by removing the trend to write unique rules that have been proven not to harmonise with whichever regulatory system they use as a model.

CASR part 21 process was correct. Adopting the NZ regulations for the non airline sector, including operational and maintenance regulations, will almost guarantee an increase in private flying.

Every aerodrome in Australia is an asset for the local community but government regulations are slowly strangling their use.

What we would like to know is what should we put to government to improve GA access to your local airport? Some airports are taking positive action but we need community solutions so more aircraft access your area.

The Safety Myths

One of the problems facing the aviation industry is the lingering myth of perfection or 'we are better maintainers' than other maintenance workers in other countries.

Fact: 75% of accidents/incidents are a result of human factors.

No matter which database that you review, human factor errors have been identified as contributing to accidents/incidents.

Myth 1: Small planes are inherently more dangerous than larger ones.

Truth: The metric between size and safety is a tough one to shake, and it's wrong. Groan about noise, vibration, or elbow room if you want, and it's true that smaller planes are better at transmitting the ripples and lurches of flight from airframe to flesh, but there's almost nothing about size, strictly speaking, that correlates one way or the other to the chances of crashing.

Myth 2: Small planes are quaint and ill-equipped.

Truth: A modern turboprop can wear a price tag of \$15 million; a spiffy new regional jet (RJ) more than twice that amount. Money is going toward the same high-tech avionics and cockpit advances you'll find in many a wide-body aircraft. Even smaller aircraft are having glass cockpits fitted to provide a safer system.

Myth 3: Pilots of these planes are young and inexperienced.

Truth: Some are, some aren't, and experience here is a relative thing. It is part of our industry economics — hiring trends and rates of

attrition — that determine aggregate experience levels.

In any case, all crews are trained to the same high standards and logbook totals aren't always a good indicator of skills.

Myth 4: Ageing aircraft are unsafe

What most people can't image is that you can find hundreds of fifty years or even older planes in pristine, like-new condition. This is the result of aviation regulation that all not perfectly functioning parts, especially wear-and-tear items, must be replaced at specific intervals. e.g. most small plane engines must be replaced or totally overhauled between one and two thousand running hours. In addition, small aircraft are superior when an aircraft has a full power loss. Large aircraft will land at a much higher ground speed than a smaller aircraft that can land at speeds much slower therefore reducing risk to passengers.

Myth 5: Maintenance personnel skill levels are harmonised globally.

Though some progress has been made, there is growing evidence that Australia is no longer an industry leader in maintenance personnel skill development. The majority of countries are "adopting" either the US A&P system or the European AME system.

Safe maintenance relies on the capability of training providers to provide a workforce with skills at least equivalent to EASA/FAA.

Without increased classroom hours that includes increases in practical training, we are fast slipping behind countries in this region.

New Aircraft Types

Evektor is an EASA approved manufacturer in the Czech Republic.

The EV-55 Outback is a twin-engine turboprop utility airplane designed for transportation of 9 to 14 passengers or cargo up to 1824 kg. It is powered by efficient Pratt & Whitney Canada engines of the PT6A series and reaches the maximum cruising speed of 220 kts.

The aircraft is priced at \$1.7 million and is expected to sell as an alternative to turboprop singles such as the Cessna Caravan.

Australia needs an aircraft to replace the Piper Chieftains' and it will be interesting to watch other manufacturers such as Australia's own



Gippsland proposed single engine G10 in 2013 or the twin turbo engine G18.

Off-shore &/or Out-sourcing

The future of aircraft and component maintenance is forever changing. The changes that will come about in the next decade will be bigger than we have had in the past. Regulatory changes will not keep abreast of these changes. In fact, many recent regulatory changes have taken us back to the past.

Recent events has shown that we cannot live in the past and expect our businesses to compete with businesses that have a much larger market base. The Asian nations have adopted either the EASA or FAA system to gain access to larger global markets.

Growth in domestic passenger operations is concentrating more movements to less regional locations as the small operator is being economically squeezed out of contention.

Rank	Country	Revenue (\$US B)
1	USA	\$204.0
2	France	\$50.4
3	UK	\$32.7
4	Germany	\$32.1
5	Canada	\$22.3
6	Japan	\$14.1
7	China	\$12.0
8	Russia	\$10.0
9	Italy	\$9.9
10	Brazil	\$7.6
11	Spain	\$6.1
12	Singapore	\$4.3
13	India	\$4.0
14	Netherlands	\$3.4
15	Mexico	\$3.0
	Others	\$34.2
TOTAL		~ \$450

Sources: industry associations, AeroStrategy analysis

Australia's aviation/aerospace revenue is no where near some of the "developing" countries as can be seen by the graph above produced in Canada. We are one of the 'others'.

With the industrial situation not improving in Australia, operators of large aircraft will continue to look for off-shoring of aircraft and component maintenance to provide cheaper airfares to their customers simply because local costs are higher than other nations.

However, when wages increase in these countries, will the work return to Australia and will we have the experience left to take on aircraft and component maintenance that is currently going off-shore.

Domestic outsourcing is another issue and in some cases it can be justified. At least, outsourced work to other Australians keeps work in Australia.

A large employer who out-sources is simply looking at ways to cut costs—when this cannot be done through 'productivity' improvements internally, employers will assess cost improvements if they outsource.

In most cases, it is to save money to encourage increase of air travel by contracting the outsourced provider to provide a maintenance service cheaper than doing it in-house.

It is a "sad day" when unions and a major airline cannot negotiate differences.

The worse the image of the aviation industry gets the harder it is to get investors back involved with aviation.

The MRO industry, especially component maintenance, must become aware of the challenges that off-shore MRO facilities can provide to aircraft operators.

The whole MRO industry should ask the government to dump CASA's regulatory development and replace it with "adopted" regulations from EASA for the airlines, and simply adopt NZ aviation regulations for the rest.



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The Aircraft Maintenance Engineers/Technician Creed

Worth Remembering

"UPON MY HONOR I swear that I shall hold in sacred trust the rights and privileges conferred upon me as a qualified aircraft maintenance engineer/technician. Knowing full well that the safety and lives of others are dependent upon my skill and judgment, I shall never knowingly subject others to risks which I would not be willing to assume for myself, or for those dear to me.

IN DISCHARGING this trust, I pledge myself never to undertake work or approve work which I feel to be beyond the limits of my knowledge nor shall I allow any non qualified superior to persuade me to approve aircraft or equipment as airworthy against my better judgment, nor shall I permit my judgment to be influenced by money or other personal gain, nor shall I pass as airworthy aircraft or equipment about which I am in doubt either as a result of direct inspection or uncertainty regarding the ability of others who have worked on it to accomplish their work satisfactorily.

I REALIZE the grave responsibility which is mine as a qualified aircraft maintenance engineer/technician, to exercise my judgment on the airworthiness of aircraft and equipment. I, therefore, pledge unyielding adherence to these precepts for the advancement of aviation and for the dignity of my vocation."