

A M R O B A

General Aviation Revitalisation Government Decision - #2

The first paper in this series addressed the need for independent flight instructors as a cornerstone of general aviation. Another missing cornerstone needed to support the revitalisation of general aviation is **independent licensed aircraft maintenance engineers** (LAME) working from fixed and/or mobile bases. The decision in 1992 to prevent the independent licensed aircraft maintenance engineer from issuing and signing a 'maintenance release' unless working for an approved maintenance organisation was, in hindsight, an economic decision for general aviation. This decision also created a unique Australian interpretation of a '*maintenance release*'.

If the ICAO definition of '*maintenance release*' had been kept then signing in a document (Logbook, Flight & Technical Log, etc) certifying the aircraft is cleared to return to service was the '*maintenance release*'. i.e. a certification clearing a defect on the CASA Maintenance Release Document is an ICAO maintenance release.

ICAO Maintenance release: A document [e.g. *Logbook/Flight & Technical Records*] **which contains** a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organization's procedures manual **or under an equivalent system.** (The FAA system is iaw FAR Part 43 same as NZ)

The CARs state a ***maintenance release*** means a maintenance release in force under regulation 43. CAR43 empowers CASA to raise directions in an Instrument relating to maintenance releases. CAR, Division 9, specifies a very unique '*maintenance release*' which is really the CASA Flight & Technical Log used in GA. It is not harmonised with ICAO, North America and Europe, so a major change is needed ASAP.

Another decision taken in 1992 was to apply European standards to approved general aviation maintenance organisations contrary to the process that had been introduced and nurtured under the Department of Civil Aviation (DCA). DCA had virtually implemented the FAA system except they issued a certificate so they had a register of LAMEs at fixed locations, or mobile facilities. It also enabled DCA surveys to verify the LAME was complying with the Orders. Most approved general aviation facilities were:

- i) individual LAMEs or 'specialists' at fixed locations; or
- ii) individual LAMEs with mobile facilities; and
- iii) individual LAMEs with trading names; or
- iv) individual LAMEs with registered business names.

In other words, the vast majority were individual LAMEs at fixed locations and a few LAMEs with mobile facilities. They had to comply with legislative requirements mainly contained in Orders in a similar manner as the US & NZ general aviation systems operate today without the need for CASA issuing organisation certificates.

Both the US & NZ general aviation is vibrant while the Australian experiment to raise GA to airline levels has failed badly. The US independent "LAME" at fixed locations must be a registered business – that is all that is required for GA maintenance, not a CASA approval of the maintenance organisation.

This airline approach to GA must be abandoned so GA can survive.

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The lack of flight instructors and independent LAMEs in general aviation is impacting on the growth of general aviation thus placing fiscal and resource pressures in local communities that have an airport and aircraft operators. Lack of GA aircraft operating throughout regional Australia has economically affected many regional communities.

Both these decisions drove many aircraft owners into the recreational sector where there is no such regulatory burden – the experiment to make GA similar to airline standards was another reason why the non VH aircraft sector experienced such spectacular growth during this period.

DCA, who had GA aircraft maintenance operating efficiently, **documented the privileges to be exercised by a LAME** to include:

- i) certification of safety for flight of an aircraft*
- ii) certification of a document for issue or renewal of a certificate of airworthiness*
- iii) approval of subsequent flight tests*
- iv) certification for the issue of a maintenance release*
- v) certification of work carried out under regular maintenance schedules*
- vi) certification after:*
 - a) replacement of components*
 - b) rectification of defects*
 - c) maintenance inspections.*

Note: “Certification” means signing a document confirming the above. The system was based on qualified tradespersons doing the work. The LAME is a qualified tradesperson.

Why were these privileges diminished? They are what is needed in GA today.

These DCA LAME privileges aligned with the ICAO LAME privileges – i.e. signing a maintenance release post completion of maintenance & certification that mods/repairs meet design requirements to maintain the aircraft type certification status – not a privilege to do actual maintenance tasks. The signing of maintenance tasks is done by qualified AME tradespersons/specialists – the LAME can sign for tasks within his/her AME qualifications.

The current **scope** of the GA LAME has been interpreted with emphasis on task demarcation issues rather than based on these ICAO privileges. For instance, the scope of the GA Mechanical (Airframe/Engines + avionic capabilities) LAME and the GA Avionics (Electrical/Instruments/Radio + mechanical capabilities) LAME should, if really needed, be broadened to harmonise with the Canadian mechanical & avionics AME. The Canadian AME has a far better overlap of the mechanical and avionic AME scope. This broader AME scope is what is needed in the non airline sector today. The Canadian changes brought the scope of the mechanical AME closer to the FAA A&P mechanic holding an Inspection Authorisation.

The GA LAME will not return to their past capabilities (scope and privileges) until political support is obtained – CASA is determined to Europeanise the GA LAME. This will undo years of modelling the LAME ratings to meet the needs of GA.

The vast majority of maintenance organisations and LAMEs working in GA have clearly indicated a preference to return to ICAO LAME privileges as promulgated by DCA with broader scope of AME skills similar to the Canadian AME. Most reject the proposed change to align with Europe when most of the GA aircraft maintenance aligns with the FAA A&P mechanic/IA type skills.

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ICAO Annex 6, Part 1 applies to airline operations and requires airlines to have their aircraft maintenance carried out by an (NAA) approved aircraft maintenance organisation that has an organisation manual for the benefit of their employees. However, Annex 6, Parts II & III apply to non airline aeroplane and helicopter operations and both these Parts state that an alternative system may be adopted if the approved AMO system is not used for other than airline operations.

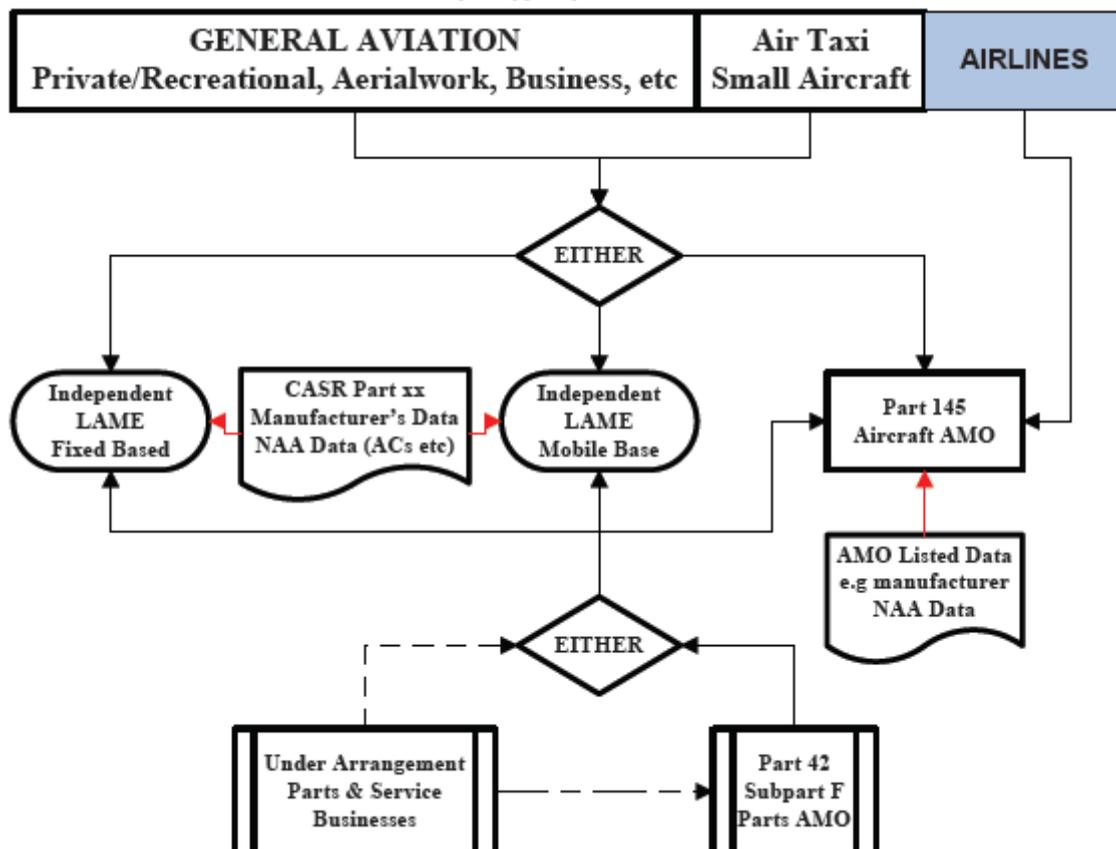
Australia, like the US & NZ, had opted for an alternative system that enabled GA to prosper in this country. Sadly, experiments conducted by CASA & its predecessors since the early 1990s have had the opposite effect on GA.

Successive executive managements of CASA and its predecessors have continued to try and apply Annex 6, Part 1 to **'other than airlines operators & organisations'** with disastrous results for GA. The majority of the changes implemented affected the independent LAME survival as an acceptable viable business.

Australia, unlike any other country, also introduced a globally unique aircraft classification of **class A** and **class B** for the purpose of maintenance control. The FARs have regulatory maintenance standards for GA aircraft that over-ride the manufacturer's requirements that are nearly duplicated in current regulations. These provisions for GA aircraft must be retained.

Once the rules started to deviate from ICAO Standards and Practices, unique Australian requirements were implemented, based more on economic considerations than real safety issues, which ruined many small businesses supporting GA.

The following diagram demonstrates how simple the system can be if ICAO Standards & Practices were implemented similar to US & NZ.



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Irrespective whether an aircraft is used in airline operations or not, the manufacturer promulgated maintenance requirements apply to both sectors and maintenance is done to the one maintenance standard. This standard is usually promulgated by the NAA responsible for the aircraft in GA.

Current Issues

In addition, CASA's predecessor added two regulatory provisions that have had a negative economic impact on general aviation.

Schedule 7:para 1.1 The inspection of an aircraft for the purpose of the issue of a maintenance release.

Schedule 5: para 2.7. Unless otherwise indicated in the table, where the table requires a thing to be inspected, the inspection is to be a thorough check made to determine whether the thing will continue to be airworthy until the next periodic inspection.

Repeal Schedule 7, para 1.1 would enable the independent LAME to exist.

Schedule 5, para 2.7 requirement is unique to Australia. The repeal of paragraph 2.7 will not affect safety as CAR 42V demands the same standard as applied in other aviation countries. This paragraph from Schedule 5 places an indefensible responsibility on a LAME that is impossible for the LAME, or any other person, to give even if the aircraft remained in the total control of the LAME. Nobody can guarantee that an aircraft item inspected will remain airworthy for 12 months. The only thing that a LAME, or any other person performing an inspection, can do is to certify that his/her inspection did not identify any discrepancies at the time of the inspection.

Summary

To expand the independent LAME concept for the non airline sectors, the US system for maintenance of aircraft, at fixed or mobile facilities, should be adopted. The US requires independent LAMEs at fixed airport locations to be a registered business. In addition, the independent LAME may also do maintenance without being a registered business at private locations for aircraft owners. Irrespective whether at a fixed location or not, the independent LAME must have available all applicable data, equipment, tooling, etc that a Part 145 would need for similar maintenance.

Like NZ, the non airline sector will expand once the decisions of the past are reversed and GA aircraft utilisation increases. Even if the legislation was made within 12 months, it could be a decade or more before the GA industry fully recovers.

The most appropriate regulatory structure that would support the non airline sector is to Australianise FAR Part 43 by adding US owner/operator aircraft airworthiness and maintenance requirements from FAR Part 91. Like NZ, Australia would then have the EASA system for airlines and the FAA system for non airline owner/operator.

Proposal: Government must adopt an independent licensed aircraft maintenance engineer system similar to the FAA system as soon as possible. Independent licensed aircraft maintenance engineers at fixed and mobile bases are a foundation stone required for the revitalisation of the general aviation segment.

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