



## Time to Re-Think/Review

Aircraft maintenance engineers (avionics) and (mechanical) have been on the National Skills Needs List (NSLN) indicating a national shortage even though governments have invested \$millions in training programs underpinning the aircraft maintenance trades and licencing. A shortage of aircraft maintenance engineers (AME) and licenced aircraft maintenance engineers (LAME) is a result of more than a decade of training that hasn't removed the shortage.

**So why is there a continued shortage of avionics/mechanical AMEs?**

To continue to provide training that does not reduce and/or remove the shortage of AMEs/LAMEs from the NSLN, is a waste of government and employer funds.

### Do we need a Re-Think?

We once had 5 trade categories (airframe, engine, electrical, instrument & radio) that complicated employment. Multi-skilling created basically two trade streams 'avionics' (E, I & R) and mechanical (A & E). To make licencing work, these streams also cross trained so mechanical had E, I & R privileges and vice-versa. CAR 31 LAME privileges were recognised that multi-skilling was the reason we did not have a shortage.

Is there a case to multi-skill the basic AME by combining the AME(A) and the AME(M)?

For instance, if there was a basic AME qualification combining both avionics and mechanical, then when would a multi-skilled AME need to specialise in either avionics and/or mechanical?

This approach takes credence when we look at basic aircraft that do not have complex avionic or mechanical systems fitted. Basic metal, wood and composite aircraft are not complicated and it makes sense that an avionic/mechanical multi-skilled AME should be able to maintain such aircraft as well as being licenced to certify as airworthy and sign maintenance releases to return the aircraft to service.

The USA has a combined avionic/mechanical qualification system: – airframes/powerplant (A&P) mechanics that includes avionics, NDI, welding, etc. The multi-skilled AME concept has also started to be adopted in Europe where they now have a Part 66 B3 multi-skilled AME/LAME for aircraft up to 2000Kg. Why stop at 2000Kg?

If we were to adopt a multi-skilled (L)AME for general aviation, then is the European limit correct for use in Australia, especially for our remote rural locations? The answer is a resounding NO. CAR 31 allowed a higher limit but needed more multi-skilling.

Maybe the answer is to combine the European B3 and their B2L into a multi-skilled AME/LAME with some additional scope so that one LAME can cover aircraft maintenance, especially in remote rural locations.

### Facing Reality

Let's start with general aviation instead of trying to impose airline systems down onto GA.

**Fact:** The requirement for having both an avionic and mechanical AME is based on past tradition from airlines and not what is efficient or effective, especially for rural and remote locations.

- CAR 31 had a lot of cross-trade privileges.
- The FAA has a multi-skilled AME and EASA has started to adopt a similar approach.

The avionic and mechanical systems currently fitted, including retro fitted to older aircraft, are more reliable and have reduced maintenance while fitted to aircraft. The basic airframe, engine, electrical, instruments and radio maintenance requirements on aircraft, excluding maintenance of components removed from the aircraft, can be carried out by one person. E.g. the FAA A&P mechanic. The EASA Part 66 B3 is an admission by EASA that the FAA system is safe and cost effective to maintain aircraft in this range. Is the EASA limitation right or could it be improved?

Basically, we have 3 levels of aircraft based on complexity of systems. There are those aircraft that are so complex that there is a need for specific aircraft type training to prevent errors. The point where aircraft are deemed complex enough to require type training is not disputed in this paper. Past history identified non-specific aircraft in CAR 31, Groups 19/20. This principle should have been retained.

The three basic levels of aircraft based on the complexity of systems fitted.

Specific	A/C Specific (A)	A/C Specific (M)	Type Training
Non-Specific	Avionic/Integrated Systems	Mechanical Structures/Systems	Complex
Basic	Multi-skilled AME and LAME		Non-Complex

Of course, many will debate whether an aircraft is basic or complex and have differing views but, visit an organisation not working on corporate and other complex aircraft and ask how basic these aircraft are. Most organisations agree that a basic multi-skilled AME & LAME would benefit them.

The concept also has better career pathways because of the multi-skilling applied early in the career.

It would allow a basic AME with a broader basic skills and knowledge to specialise in advanced avionics and/or mechanical for complex aircraft. It would provide improved under-pinning skills for those that did avionic and/or mechanical specific aircraft training.

There is a push in Europe to combine the B1/B2 for airline operations. Maintenance on more modern aircraft is more about component changes based on computer-based trouble shooting systems than adjustments to aircraft components. Europe has also recognised the need for multi-skilling in the non-airline sectors by introducing the Part 66 B3 licence that combines basic avionics and mechanicals.

Our education system is supposed to provide qualified persons capable of being employed in industry. This will only happen when the training meets the needs of the industry and CASA, as the safety regulator, provides a regulatory framework for a safer more efficient and effective system.

Such an approach would also provide for a smarter workforce that is underpinned by a basic multi-skilled tradesperson and a useable CASA licencing system to match.

The biggest hurdles to be overcome to see such a system being developed in Australia is individuals within government instrumentalities and industrial bodies that reject change, even when it would boost employment. Might overcome training that does not match jobs.

Maybe it is just too hard, so adopt the NZ system including AME training. Hold on, what would our education department do with the NZ AME training system.

Feedback: Please email any comments to [amroba@amroba.org.au](mailto:amroba@amroba.org.au)

Time to re-think, you bet.

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