

Maintenance Personnel Skills

CASA has introduced an aircraft maintenance engineer's Licence-Without-Type-Rating (LWTR) for non transport category aircraft, and CASA is issuing this new licence based on achieving an academic qualification instead of obtaining industry experience based on the past aircraft/system 'group' licence rating system.

This new system was implemented post consultation with the non airline sector to consider a B3 AME licence for the non airline sector. Just maybe the B3 concept needs to be re-visited – that will depend on CASA consulting truthfully.

We all know the B1/B2 LAME has not worked well outside the airline industry and we doubt whether it works well within the airline sector so that they increase maintenance at line stations during layovers to take advantage of downtime – a period when the aircraft is not creating revenue. The B1/B2 concept does not provide same scope or flexibility of the FAA A&P that enables increased line maintenance to reduce aircraft downtime overall.

With CASA calling a SCC Maintenance Standards Committee meeting this Wednesday (May) it has opened the debate on future maintenance skill requirements so the following questions should be discussed. In addition, there is an urgent need to skill the current workforce to the EASA standard imposed by new CASA maintenance licensing standards.

1. *Has the EASA changes imposed under CASR Parts 66/147 provided MRO employers with a flexible skilled workforce that is not just limited to an organisation or sector of industry? If not, could an alternative system, NZ, TC or US be used or a return to the CAR 31 system?*
 - a. *Has the adaption of the European Aircraft Maintenance Engineers (AME) training standards been appropriate for the whole aviation MRO standards?*
 - b. *Is the adaption of an AME licensing based on the needs of Europe providing MRO with the capability to support the future MRO capability in Australia?*
2. *Has the industry lost workforce flexibility to more specialised capabilities under the industrial/regulator enforced training pathways?*
 - a. *Does the current licensing system still impart demarcation issues?*
 - b. *Does the NZ LAME, based on the US A&P and IA meet the non airline sector better?*
 - c. *Would adoption of the FAA A&P and IA be a better option?*

All of these questions have been asked by employers over the last five years without satisfactory answers. This paper attempts to provide answers and open up debate on what will be the kinds of maintenance and the skills needed to support future needs, not a workforce based on past requirements.

Australian aviation apprenticeships/traineeships have always been competency-based with an emphasis on what a person can do as a result of their training and experience. However, employers have little confidence in the current system because they can no longer rely on the training establishment to provide all the practical skills. There is now a lot more reliance on practical skills being learnt in employment.

Prior to the introduction of the current VET National Competency Standards, practical competency skills depended on the employer providing the on-the-job component of educating and skilling the apprentice/trainee. The National Competency Standards have assigned assessment of apprentices/trainees to Recognised Training Organisations that may utilise industry "experts" to educate the apprentice/trainee in the practical application of competencies.

There is now doubt that this system is trying to provide the skills needed by employers probably because these RTOs training pathways are approved indirectly by CASA to meet licensing requirements.

Back in the early 1990s, Sir Peter Abeles suggested that a time will come where Australia will adopt the US system of using full time training establishments (FAR Part 147 schools) to provide skilled aircraft maintenance engineers similar to the A&P mechanic used in the US. Maybe it is now time to look at this method. In Europe this is one option for training under their EASR Parts 66/147. Both the US & EU aviation fulltime aviation maintenance personnel training system is a two year course.

The Canadian training program for their mechanical and avionic courses consists of 16 continuous months with short breaks in December and August. According to British Columbia School approximately 50 per cent of the day is spent on theory discussions in a classroom setting, followed by hands-on practical training in the shops and hangar located at BCIT's state of the art Aerospace Technology Campus. The program is designed to follow a national/international set of standards and is approved by Transport Canada (TC) and the Canadian Council for Aviation and Aerospace (CCAA). Successful completion of the diploma program will result in an experience credit of 18 months (of the 48 months) required by TC to obtain an AME M license. Successful graduation from this program may qualify you for national certification from TC and CCAA.

Obviously, their training facilities have state of the art practical training capability within the training establishment – this should be the minimum standard in Australia for Part 147 organisation to harmonise more with EASA, FAA & TC.

The current apprenticeship/traineeship training programs are antiquated and do not meet world's best practice.

Asia, to meet the training standards imposed by FAA/EASA, has implemented full time training to meet their standards so that their aviation maintenance businesses have the necessary recognisable skills to compete in a global aviation market. In the USA, maintenance of aircraft is more a profession than a trade. It is time for us to be more professional and copy world's best practice to give our industry the best skills.

E.G If we quote Emery Riddle in the US *“Every commercial, private, or military aircraft requires the careful attention of professional aviation maintenance specialists. Without the devotion of professional aviation maintenance experts, the air travel system could not exist. The demand for degree'd aircraft maintenance specialists in the aviation/aerospace world has never been greater than it is today. The Airframe & Powerplant Technician certification at Embry-Riddle is a 16-month, FAA-approved program (Part 147 of the Federal Aviation Regulations) combining classroom theory with hands-on experience. You'll get the training you need to qualify for the FAA's Aviation Maintenance Technician certificate with airframe and powerplant ratings. Eight terms focus on the general, airframe, and powerplant requirements of the FAA's regulations. You may also continue your education in one of Embry-Riddle's undergraduate degree programs and receive up to 36 credits for your A&P certification.”*

If we quote Magister in the UK *“Aircraft Maintenance Licence - Certifying Mechanic L3 - Course Length: 2 Years. The syllabus for the Civil Aviation Authority approved EASA Part 66 Certifying Mechanic course is divided between theory and hands-on practical aircraft work. The College will attempt to arrange work experience but the students must try and make their own arrangements Prospective students will have to demonstrate a high standard of ability, prior practical knowledge and enthusiasm to be considered for this demanding course. There is an EASA requirement for at least 90% attendance of total course hours. All students must achieve a mark of 75% on all exams to pass the individual modules. All EASA course hours are recorded and subject to CAA audit. A Part 66 A Licence foundation degree can also be offered as a one year fast track course primarily, but not exclusively, aimed at mature students.”*

If we quote British Columbia Institute of Technology in Canada. *“The program consists of 16 continuous months with short breaks in December and August. Approximately 50 per cent of the day is spent on theory discussions in a classroom setting, followed by hands-on practical training in the shops and hangar located at BCIT's state of the art Aerospace Technology Campus. The program is designed to follow a national/international set of standards and is approved by Transport Canada (TC) and the Canadian Council for Aviation and Aerospace (CCAA). Successful completion of the diploma program will result in an experience credit of 18 months (of the 48 months) required by TC to obtain an AME M license. Successful graduation from this program may qualify you for national certification from TC and CCAA.”*

If we quote the Air Training College in Singapore *“CAAS (Civil Aviation Authority of Singapore) Approved private Aerospace Maintenance Training School in the Republic of Singapore. We run Singapore and Maldives Approved Part 66 Cat "A" and "B" training courses. International students are welcomes. Cat "A" course is one year, full-time. Cat "B" course is a two year, full-time Foundation Degree course conferred by Kingston University of London, and is EASA Part 66 compliant.”*

North America can provide the appropriate training within 16 months based on known educational standards within their country – America or Canada. It is assumed that Europe has added time because of variable educational standards across the states of the EU. Obviously, Australia's apprenticeships/traineeships training system is out of step with how mature aviation regulatory regimes now address the provision of maintenance skills.

Australia has adopted in title the EASA AME licensing system BUT not the training system being used in the mature European countries. The US has had full-time competency training for decades. EASA has a more up-dated training criteria but it still has some deficiencies identified by their non airline maintenance sector. The US A&P system is becoming more reliable on avionic experts than previously. Canada has full-time avionic and mechanical training.

Australia should have the ability to combine the EASA/FAA/TC training syllabi to meet Australia's skill needs for it's future aviation maintenance sector. Full-time training should provide industry with a skilled workforce.

AMROBA recommends full time training must be the basis of this new AME licensing system and the training package must be capable of providing skills acceptable to EASA, TC, FAA and our Asian neighbours. Only when the full time method is implemented in Australia will we obtain global recognition of our aviation maintenance personnel skills.

Full time aircraft maintenance personnel training is world's best practice.