



Aviation 'Airworthy' Providers & Operators

Whenever anyone talks about aviation, it is usually about flying. For an aircraft to be in the air, there is a lot that happens on the ground so it can be airworthy – safe for flight.

When do you hear the stories from those on the ground that provide the aircraft in an “airworthy” condition so pilots can fly confidently knowing the aircraft is safe for flight?

The reliability of the Australian VH registered fleet is good, but could be better, and a lot of it is due to the diligence of persons maintaining aircraft not the regulatory system.

The aviation regulatory system does not require aircraft to be continually certified as airworthy. All aircraft are required to be maintained and to use regulatory approved maintenance data instructions when doing maintenance.

Is maintenance the same as airworthiness? Maintenance is used to keep an aircraft airworthy but are there any “airworthy” inspections required in the regulatory system?

ICAO Annex 6 international minimum standard states:

- a) each aeroplane they operate is maintained in an airworthy condition;
- b) the operational and emergency equipment necessary for an intended flight is serviceable; and
- c) the certificate of airworthiness of each aeroplane they operate remains valid.

***Airworthy.** The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.*

The first basic principle is to maintain the aircraft as airworthy; and, most importantly, certify the continued validity of the certificate of airworthiness.

ICAO Annex – Chapter 3 Certificate of Airworthiness standard states:

- 3.2.3 A Certificate of Airworthiness shall be renewed or shall remain valid that the continuing airworthiness of the aircraft shall be determined by a periodical inspection at appropriate intervals having regard to lapse of time and type of service or, alternatively, by means of a system of inspection, approved by the State that will produce at least an equivalent result.

Unlike EASRs & FARs, this ICAO “Standard” does not exist in our regulatory system. The system of inspection to keep the CoA valid is basic in other systems. It is the basis of FAR Part 43 that includes performance requirements when doing or certifying any maintenance. USA aircraft manufacturers, especially those thousands of aircraft that operate under Part 91, maintenance instructions are written to comply with the Federal Aviation Regulations.

Why don't we adopt the regulatory system that covers most of the non-major airline sectors?

That regulatory system would give our industry the regulatory requirements that were written to keep aircraft maintained in an airworthy condition. i.e. the FARs.

Ken Cannane

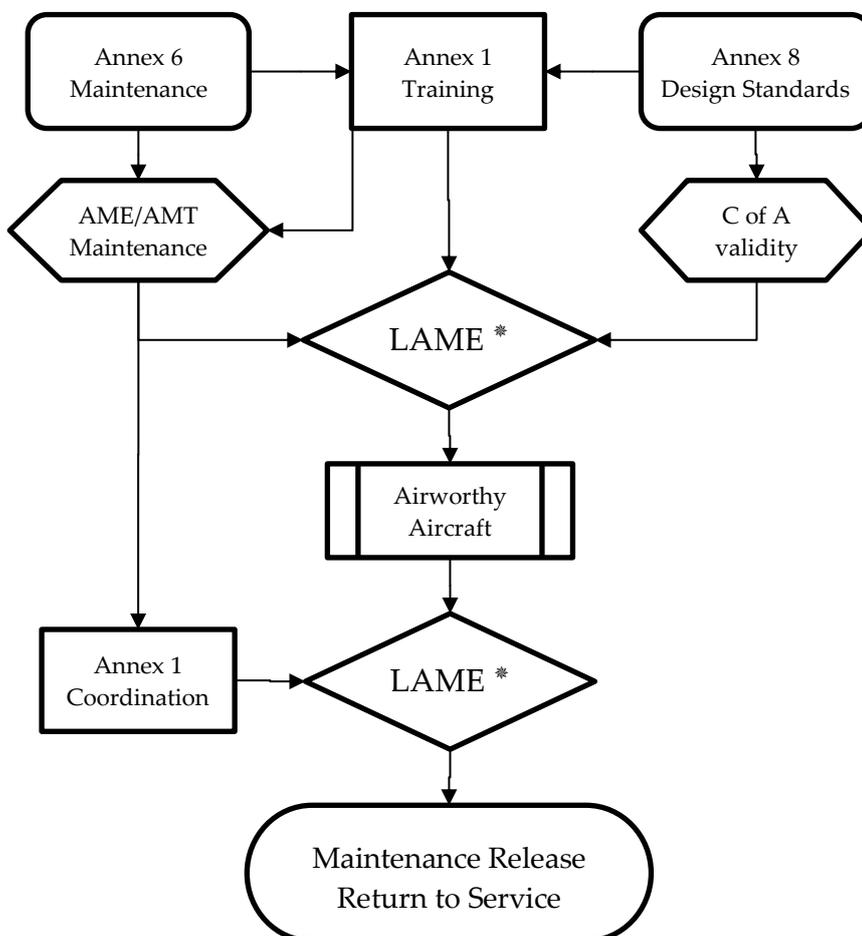
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Airworthy Providers

Within EASRs, B1 & B2 support staff do the same as the FAR A&P/IA does in the FAR system. 'Stage inspections' during maintenance to ensure the maintenance work has conformed to the instructions and the aircraft continues to conform to its design standards. However, EASR haven't worked out GA properly yet, whilst the FARs addressed this ICAO standard years ago by ensuring the IA does the annual inspection and other inspections to determine the aircraft is airworthy. When an indefinite certificate of airworthiness (CofA) is issued the regulatory should have a system of inspection (CofA conformity) that will ensure the CofA remains valid.



* ICAO LAME Privileges (Convention Annex 1, 4.2.2.1)

*: Certify aircraft, or part of an aircraft, as **airworthy (inspection)**

*: Coordinate maintenance & **sign M/R**

Certifying as airworthy is done prior to coordination of all maintenance so a maintenance release can be signed. A maintenance release is only issued when the certificate of airworthiness necessary inspections, refer Annex 1 & 8, have been completed and all maintenance has been completed by AME/AMTs.

All sounds simple but is it in the regulations?

Missing Regulatory (Airworthy) Elements

1. There is no regulatory provision that requires the aircraft to be maintained “airworthy” before flying. Aircraft are not certified as airworthy, first privilege of the ICAO LAME, only to sign the maintenance release when maintenance is completed. This subtle change happened when the CAA was created. The lack of definition of the difference between airworthiness and maintenance in requirements adds to the problems needing to be addressed.
2. The ‘system of inspection’ that was put in place when CASA’s predecessor replaced the periodic renewal of each aircraft’s certificate of airworthiness has all but been removed from regulatory requirements. The only remaining element is in CAR Schedule 6 – “stage inspections”. These inspections should only be done by the LAME but nothing today explains that these are “conformity” inspections.
3. The LAME training that was in place to support the stage inspections and coordination as part of the system of inspection to ensure the validity of the CofA has also been removed. LAME training since the 1990s, when the changes were made, have not included design standards; that means very few LAMEs have the knowledge to certify as airworthy. The AME may not need the design standards knowledge to do maintenance but the LAME does to certify airworthy.

Even if the regulatory system was corrected, it will take till the end of next year before a new training package can be implemented. The outcome from that training program will be 3-4 years before they enter the workforce.

For all LAMEs in the system, CASA could adopt the NZ version of the FAA IA training course and provide bridging courses free of charge.

The simplest method to regain regulatory requirements to address these missing elements is to adopt FAR Part 43 and associated requirements in other FARs (e.g. FAR 91)

Airworthy – Operators

ICAO Annex 6, Parts 1, 2 & 3 all place the same responsibility on the operator, irrespective whether it is a commercial or private operator. The Annex simply states that operator shall have the aircraft maintained in an airworthy condition.

The difference between civil “interpretations” of airworthy and ICAO definition requires the aircraft to meet its design standards (includes all mods and repairs) and be safe for flight.

Commercial operators need to identify who is providing airworthiness (conformity) and maintenance control administration.

Summary

There are so many aspects of the airworthiness, maintenance and operations requirements that have got totally out of sync with ICAO SARPs, harmonisation with other regulatory systems, particularly in the Pacific Rim, the government should stop further “development” by CASA and start a program of adoption of the EASA (major airline) FAR system for the rest just like NZ did in the 1990s.