



## Certificate of Airworthiness Validity

Aviation is a global industry and aircraft registered in one nation can quite easily be sold to a person in another nation. It is why aircraft maintenance records should include the **system of inspection** to maintain the validity of the certificate of airworthiness. To support this global imperative, Annex 8 to the Convention has Standards that each ICAO Contracting State shall adopt the **system of inspection** to maintain the validity of the certificate of airworthiness.

Like many forms of transport, aircraft have a certificate to confirm that it is 'airworthy' based on global standards each nation adopts to maintain the validity of the certificate. Unlike motor transport, global aviation introduced an industry "**system of inspection**" to replace the **periodical inspection** previously carried out by the Department (over 6 decades back) or delegates. The question is, has the regulatory system remained in compliance with the context of this Annex 8 system of inspection standard?

This on-going **system of inspection** was not included in manufacturers of most transport and non-transport category maintenance programs until the MSG3 standard was adopted. Systems of maintenance, approved and non-approved, need to include the Certificate of Airworthiness on-going "**System of Inspection**". Both EASR Part 145 and FAR Part 145 include such a system.

EASA use "Support Staff" and FAA use "Inspectors" to do these inspections.

Where is the Certificate of Airworthiness validation "**system of inspection**" now stated?  
Are Australian LAMEs still trained to perform a "**certificate of airworthiness**" inspection?

### Coordination of maintenance.

This "**system of inspection**" was addressed in Australia by requiring **coordination maintenance certifications** to verify all maintenance had been certified within each licence category, categories and a final coordination certification before signing the maintenance release. Coordination certifications were part of the "**system of inspections**" to maintain the validity of the certificate of airworthiness.

In the USA & Europe AMOs employ: (FAR:) **Inspectors**; (EASR:) **Support Staff**, to perform these CoA continuing validation inspections in accordance with Annex 8 and 1. They are additional inspections to the normal maintenance staff certifications for all maintenance tasks and functions.

Which way are we regulatory headed?

- The US FAR Part 145 "Inspectorate" system?
- The EASR Part 145 "Support Staff" system? or
- Retention of Australia's "Coordination of Maintenance" System?

### Annex 8:

**"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."*

### "Initial Issue": CAA or CAA delegate.

**"3.2.1.** *A Certificate of Airworthiness shall be issued by a Contracting State on the basis of satisfactory evidence that the aircraft complies with the design aspects of the appropriate airworthiness requirements."*

### "Periodical Inspections" LAME.

**"3.2.3.** *A Certificate of Airworthiness shall be renewed or shall remain valid, subject to the laws of the State of Registry, provided that the State of Registry shall require 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."*

Q. Will the review of CASR Part 145 by CASA provide clarity if they intend to make changes?

Australian aircraft maintenance records need to meet international standards to assist owners when they sell their aircraft to another person in a different country. It has been costly in the past to have maintenance recertified to the other countries' standards.

## **"Annex 8 Continuing 'System of Inspection'."**

This system of inspection to maintain the validity of the Certificate of Airworthiness is the regulatory responsibility of licenced aircraft maintenance engineers. When government transferred this responsibility to licenced persons, one of the training criteria for a LAME specified by the Department (DCA Pub 35) was to be able to perform "certificate of airworthiness inspections".

- Is this still included in AME licence training?
- Do LAMEs get training in the design aspects of aircraft airworthiness standards?

## **System of Inspection Global Standards.**

An **inspection** to verify the Certificate of Airworthiness continual validity is different to an inspection for serviceability. This is recognised in Annex 1 Chapter 4 where the privilege of the LAME is specified.

Instead of using government appointed delegates, the responsibility to do on-going Certificate of Airworthiness validity inspections is a LAME responsibility as specified in Annex 1 Chapter 4.

*"4.2.2.1 Subject to compliance with the requirements specified in 4.2.2.2 and 4.2.2.3, the privileges of the holder of an aircraft maintenance **licence shall be to certify the aircraft or parts of the aircraft as airworthy AFTER** an authorised repair, modification or installation of and engine, accessory, instrument, and/or item of equipment, and to sign a maintenance release **FOLLOWING** inspection, maintenance operation and/or routine servicing."*

*"b) provided that the licence holder is familiar with all the relevant information relating to the maintenance **and airworthiness** of the particular aircraft for which the licence holder is signing a maintenance Release, or such airframe, engine, aircraft system or component and aircraft avionic system or component which the licence holder **is signing as airworthy**, and"*

## **IMPORTANT**

The certifications, **after maintenance** is completed, are performed to re-certify that the aircraft, or parts of an aircraft, continue to conform to its approved design and is in a condition for safe operation, thus re-validating the Certificate of Airworthiness.

This is the on-going "**System of Inspection**" that replaces the Annex 8 "**periodical inspection**".

That is, the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements.

For further information, **ICAO Doc 9760, Airworthiness Manual**, provides additional clarity on maintaining the validity of an aircraft's Certificate of Airworthiness.

*"4.6.1.3 Regardless of the period of validity associated with a C of A, **failure to comply with any of the following will invalidate the Certificate of Airworthiness:***

- a) the aircraft **remains in conformity with the type design** approved by the State of Registry. Particular attention should be given to the following:*
  - i) modifications or repairs completed in accordance with procedures and methods approved by the State of Registry (Part III, Chapter 8 and Part IV, Chapter 3 of this manual refer);*
  - ii) replacement components, parts, equipment or material are in accordance with the design requirements and installed in accordance with the prescribed procedures;*
  - iii) all markings and placards included in the approval of the type design by the State of Registry are present;*
  - iv) in addition to the information specified in Annex 8, the aircraft flight manual includes any changes made mandatory by the State of Registry as required by Annex 6, Part I, Chapter 11 or Part III, Section II, Chapter 9, as applicable;*

- v) *if an aircraft is released to service with any airworthiness significant systems, components or equipment unserviceable, it is in compliance with a minimum equipment list approved by the State of the Operator;*
  - vi) *if an aircraft is released to service with any parts missing, it is in compliance with procedures approved by the State of Registry; and*  
**Note.** — *Information of this nature is sometimes included as a configuration deviation list in the aircraft flight manual.*
  - vii) *unrepaired damage is within limits acceptable to the State of Registry (reference could be made to the structural repair manual for the concerned aircraft type to determine acceptable limits);*
- b) *the aircraft **has been maintained in an airworthy condition**, including:*
- i) *it complies with a maintenance programme approved by the State of Registry;*
  - ii) *the aircraft is the subject of a reliability programme, if applicable, including in particular engine trend monitoring, and corrective action has been taken to rectify any adverse trends;*
  - iii) *it complies with any certification maintenance requirements at the prescribed intervals;*
  - iv) *it complies with all modifications or inspections declared mandatory by the State of Registry;*  
**Note.** — *The responsibilities of States of Registry in relation to continuing airworthiness requirements of this nature are contained in Annex 8, Part II, Chapter 4.*
- v) *those parts of the aircraft that are life-limited items declared by the organization responsible for the type design or the State of Registry have not exceeded their approved life limits;*  
**Note.** — *Chapter 5 of an aircraft maintenance manual usually contains information on airworthiness limitations. For some older aircraft types, this information may sometimes be published in the aircraft flight manual or type certificate data sheet.*
- vi) *conformity of the aircraft mass and balance data with the requirements of the State of Registry, including re-weighing, if appropriate, and/or compliance with a system for recording progressive mass and balance change; and*
- vii) *conformity of the aircraft records with the requirements of the State of Registry, which must at a minimum meet the requirements of Annex 6, Part I, Chapters 6, 7 and 8, or Part III, Section II, Chapters 4, 5 and 6, as applicable.”*

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ICAO urges nations to either adopt the FAA or EASA regulatory system. A good reason not to mix is that there are already differences agreement between the FAA and EASA.

## EASA

**1.1.2. Support Staff (S/S).** Support Staff (S/S) means staff authorised by the Part-145 organisation to support the Category “C” certifying staff in managing and releasing the A/C to service after base maintenance activity while not necessarily holding certification privileges. Support Staff shall ensure that all relevant tasks or inspections have been carried out to the required standard before the category C certifying staff issues the certificate of release to service

*(b) an error capturing method is implemented after the performance of any critical maintenance task;*

## FAA

- (a) A certificated repair station must ensure that persons performing **inspections** under the repair station certificate and operations specifications are—
- (1) Thoroughly familiar with the applicable regulations in this chapter and with the inspection methods, techniques, practices, aids, equipment, and tools used to determine the airworthiness of the article on which maintenance, preventive maintenance, or alterations are being performed; and
  - (2) Proficient in using the various types of inspection equipment and visual inspection aids appropriate for the article being inspected.

Basically, there is little difference between both systems – which one will be fully adopted by CASA?

## Consider the Differences between FAA RII and EASA Critical Task Inspection?

Essentially the difference is that RII Inspectors are typically working under the “Quality Control Process” with the power to reject the work and insist on “rework”, whereas the EASA process is less formal (**but equally important**).