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AVIATION MAINTENANCE REPAIR & OVERHAUL BUSINESS ASSOCIATION, INC
ADVOCATE OF THE AVIATION MRO INDUSTRY

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1. FAR A&P Mechanic Inspection Authorisation (IA) FAA IA Guide

ICAO Annex 1 clearly identifies the two privileges of a LAME. Signing a maintenance release after maintenance (coordination) and certifying the aircraft or part of an aircraft as airworthy post major modifications and repairs. Pre the 1990 amendments to the maintenance regulations, the Australian LAME held both these privileges.

Adoption of the FAA Part 43 inspector system for general aviation will introduce many challenges to the modus operandi of general aviation. The FAA IA is based on an experienced A&P mechanic's knowledge, plus an additional examination and a two-year recurring verification to ensure the IA remains current with regulatory changes. Pre-1990, the mechanical LAME held these same ICAO privileges but the Authority removed '*product certification*' knowledge from the training to adopt more of an avionic or mechanical **systems** engineer for both the avionic and mechanical aircraft maintenance engineers. FAR Part 43 implements the ICAO standard to certify an aircraft or part of an aircraft or aircraft system as "*airworthy*" after a major modification or repair has been completed.

Read More

2. FAR Part 43 Repairman – Light Sport Aircraft

Owners wanting to maintain/inspect Experimental & Light Sport Aircraft will welcome this adoption. It will provide for the standards, training and CASA approval of personnel.

Adoption of the FAA Parts 65/91/43 "repairman system" (maintenance/inspection authority) for maintaining and/or inspecting LSA aircraft & ELSA on the VH register will open the door for owner-maintenance. The FAA has produced an advisory circular (AC 65.32A) that provides the information regarding the authorisation of repairmen (light-sport aircraft (LSA)) with maintenance and inspection ratings, the acceptability of training courses, and the continued airworthiness of LSA. No need for CASA to develop standards.

Safety All Around

SLSA. Issued special airworthiness certificate in the light-sport category under § 21.190, an aircraft must meet an industry-developed consensus standard acceptable to the CASA ~~FAA~~, which addresses aircraft design, production, and airworthiness.

ELSA. LSA that are issued an experimental certificate under § 21.191(i) have no established CASA ~~FAA~~ or industry design standards to meet other than those standards identified in the aircraft's operating limitations.

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3. The FAA Emphasis on Who can do Certain Inspections

To understand the FAA system, you need to study the wording of the privileges of the A&P mechanic, plus Airframe rating, plus Engines Rating and Inspection Authorisation privileges. What is different is that the IA must perform these functions themselves. Refer FAA IA Guide: *"The holder of an IA must personally perform the inspection. The regulations do not provide for delegation of this responsibility."*

This is different to the language for the A&P mechanic. The A&P mechanic can perform or supervise maintenance which means he/she may supervise other maintainers.

However, on LSA aircraft the A&P mechanic can do the major modification/repair inspection. It is important that CASA adopt the FARs for GA word for word so GA and AWK can obtain the benefits of the FAR system.

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Adoption of the FAA Part 43 Inspector system for general aviation will introduce many challenges to the modus operandi of general aviation. The FAA IA is based on an experienced A&P mechanic knowledge, plus an additional examination and a two-year recurring on-line test to ensure the IA remains current with regulatory changes. Pre-1990, the mechanical LAME held these same ICAO privileges but the Authority removed product certification knowledge from the training to adopt more of an avionic or mechanical system engineer for both the avionic and mechanical aircraft maintenance engineers. FAR Part 43 implements the ICAO standard to certify an aircraft or part of an aircraft or aircraft system as "airworthy" after the maintenance is completed or after a major modification or repair has been completed.

A LAME with an IA will be needed to perform all "annual inspections".

RENEWAL OF A B1 "INSPECTION AUTHORIZATION"

Renewal Application Paperwork

Application for renewal requires the following:

1. Evidence the applicant still meets the requirements of 14 CFR § 65.91(c)(1) through (4).
2. Completed Federal Aviation Administration (FAA) Form 8610-1, Mechanic's Application for Inspection Authorization, in duplicate. (Refer to appendix 1, figure 1.)
3. Evidence the applicant meets the requirements of 14 CFR § 65.93(a) for both the first and second year **in the form of an activity sheet or log, training certificates, and/or oral test results**, as applicable.

Safety 1st Forum

FAA IA Guide states: "*Meeting the requirements of 14 CFR § 65.93(a) does not mean that the applicant must meet all 5 of the listed requirements. To be eligible for renewal of an IA for a 2-year period, "the applicant must show completion of one of the activities" by March 31 of the first year and completion of one during the second year. For instance, the applicant may show evidence of having "performed at least one annual inspection for each 90 days" during the first year and meet the same requirement for the second year* ***for a total of eight annuals prior to the renewal date to qualify for renewal****. The same logic applies to major repairs and major alterations or training. The number of annual inspections, major repairs, and major alterations performed cannot be mixed to meet a single year's requirement simply because 14 CFR § 65.93(a) does not provide for such combinations. However, the applicant can meet one requirement of 14 CFR § 65.93(a) for the first year and a different requirement for the second year to qualify for renewal".*

NOTE*: An [aircraft] inspection program required under 14 CFR part 91, § 91.409(e) is not acceptable as IA activity."*

Approved Training Renewal Option

Successful completion of an 8-hour refresher course, acceptable to the Administrator, in one of the 12-month periods preceding the renewal application includes the following requirements:

The refresher course must contain subjects directly related to aircraft maintenance, inspection, repairs, and alterations. In addition, some nontechnical subjects, such as human factors or professionalism as they relate to aviation maintenance personnel, may be acceptable. Training must not be used to promote a new or existing product.

*The instructional requirements of § 65.93(a)(4**) may be met by accumulating at least 8 hours of maintenance training each year.***

Each person who intends to use 8 hours of instruction each year to meet § 65.93(a)(4) must, at the time of renewal, provide proof of attendance for instruction received. Acceptable proof of attendance consists of a certificate of training or similar document showing the name of the course, name of attendee, course identification number, expiration date, description of the course content, time in hours, the date, location, and course instructor's name and signature.

*~~All FSDOs and IFOs~~ **[FAA] must accept**, without further showing maintenance, technical training conducted by a manufacturer or its authorized representative on its type-certificated (TC), Supplemental Type Certificate (STC), Technical Standard Order (TSO), or Parts Manufacturer Approval (PMA) product, component, or accessory that is considered acceptable to the Administrator and in compliance with this policy.*

Oral Test Requirement

If an IA holder does not meet the renewal requirements at the end of the first year, the holder must take and pass an oral test administered at their local Flight Standards District Office or International Field Office prior to exercising the privileges of their certificate in the second year.

The oral test given by an aviation safety inspector (ASI) is to ensure that the applicant's knowledge of regulations and standards are current (requires a passing grade of 70 percent). A failure of the oral test will result in nonrenewal of the IA. The ASI administering the oral test will provide the IA with evidence of passing or failing the test in the form of written documentation. The applicant should retain the oral test results.

The holder of an IA cannot approve the data for major repairs or major alterations. He or she may, however, inspect to see that alterations conform to data previously approved by the Administrator (14 CFR part 65, § 65.95).

An interesting scenario is when the IA performs an annual inspection, he/she will provide the RO with a list of the discrepancies.

> "If the aircraft is not approved for return to service after a required inspection, use the procedures specified in 14 CFR part 43, § 43.11. This will permit an owner to assume responsibility for having the discrepancies corrected prior to operating the aircraft."

There is a lot to be learnt about the FAR system, including amending the training standards of the B1 to include the knowledge that the LAME needs to qualify for the IA.

CASA could, with practical adoption, apply the IA skills and knowledge to the mechanical LAME as the LAME held pre-CAA when LAMEs certified aircraft as airworthy and had to skills to return aircraft to service post major modifications and repairs.

This 360-degree change back to LAME responsibilities and privileges that existed in Australia has taken 30 years to complete. Once again, an ICAO compliant LAME.

CASA has to take full responsibility to specify any syllabi change the B1 LAME will need to obtain, e.g. A&P knowledge, and include a new syllabus for IA training. At some stage, the IA training standards need to be added to the VET training system in Australia.

AMROBA strongly recommends that CASA amend **Module 10** so it includes syllabi at multi levels: (i) B licences (current); (ii) IA (new) and lastly (iii) Chief/Engineer (new).

By utilising the ICAO LAME training manual, CASA can easily identify the standards that need to be applied to these 3 distinctive responsibilities.

By having 3 different divisions within Module 10, CASA would have set the safe standards applicable to the responsibility levels of a LAME.

Considering CASA still hasn't obtained whole of government support for the Part 66 modular training system, how long will it be before this training will be included.

CASA modus operandi is to make regulatory change and expect everything to just happen. We can see self-study will be the only option to be an IA. Consult the FAA IA Guide

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2. *FAR Part 43 Repairman – FAA AC 65.32A*

Adoption of the FARs for GA/AWK also introduces a "repairman system" (maintenance/inspection authority) for maintaining and/or inspecting SPL aircraft & ESPL aircraft on the VH register. The FAA has produced an advisory circular (AC 65.32A) that provides the public with information regarding the certification of repairmen (light-sport aircraft (LSA)) with maintenance and inspection ratings, the acceptability of training courses, and the continued airworthiness of LSA. This is important and cost effective for the SPL sector.

SLSA. To be issued an airworthiness certificate in the light-sport category under § 21.190, an aircraft must meet an industry-developed consensus standard acceptable to the CASA ~~FAA~~, which addresses aircraft design, production, and airworthiness.

ELSA. LSA that are issued an **experimental** certificate under § 21.191(i) have no established CASA ~~FAA~~ or industry design standards to meet other than those standards identified in the aircraft's operating limitations.

Basically, LSA and experimental will adopt the FAA controlled owner/maintainer system.

The FAA has identified the training standards, who may provide that training that underpins the granting of the various repairman authorisation.

Types of repairman authorisations provided under FAR Part 65.

- LSA Airplane maintenance.
- LSA Glider maintenance.
- LSA Lighter-than-air: balloon and airship maintenance.
- LSA Powered parachute maintenance.
- LSA Weight-shift-control aircraft maintenance.
- No LSA gyroplane maintenance.

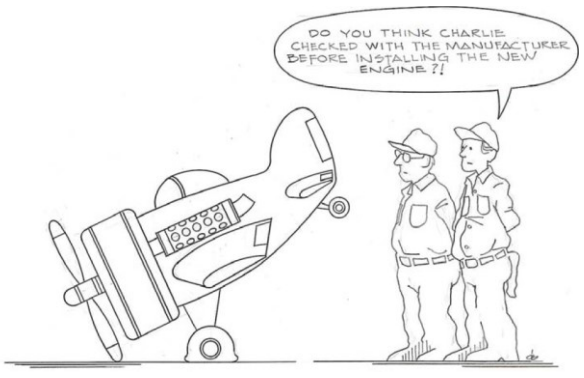
(a) LSA repairman inspection, airplane:
(b) LSA repairman inspection, glider;
(c) LSA repairman inspection, lighter-than-air: balloon and airships;
(d) LSA repairman inspection, powered parachute;
(e) LSA repairman inspection, weight-shift-control;
(f) LSA repairman inspection, gyroplane.

Will CASA include the repairman that covers Powered Parachutes maintenance & inspection and gyroplane inspection; and weight-shift aircraft?

For example, the inspection checklist in FAA AC 90-89, *Amateur-Built Aircraft and Ultralight Flight-Testing Handbook, Appendix 1*, meets the scope and detail of part 43, appendix D and is highly recommended as a guide to develop an inspection checklist for individual makes and models of fixed wing aircraft.

The repairman (LSA) certificate with an inspection rating is valid until the repairman no longer owns or operates the LSA identified on his or her certificate or the certificate is surrendered, suspended, or revoked. The repairman (LSA) certificate with a maintenance rating is valid until the certificate is suspended, surrendered, or revoked.

Performance of Major Repairs and Major Alterations By A Repairman (LSA) With A Maintenance Rating. A repairman may not perform a major repair or major alteration on a product produced under an FAA approval. However, prior to performing a major repair on a product not produced under an FAA approval, the repairman may need to complete additional training acceptable to the FAA and appropriate to the work performed. This



training may consist of additional training in areas such as welding, overhauls, engine gear reduction units, major repairs to structures, or major repairs to fabric.

The FAA has identified the training standards and who may provide that training that underpins the granting of the repairman authorisation.

1. **"Level of Training.** Both the inspection and maintenance rating courses provide instruction at instructional level 3. Appendix A of part 147 identifies level 3 performance as a level where a student can perform the task by demonstrating a high level of skill."

Within the LSA system, to enable TC components to stay "airworthy" the FAA states the repairman maintenance rating is limited to performing maintenance, preventive maintenance, and alteration functions on ELSA and SLSA aircraft. However, these privileges do not extend to the performance of a major repair or major alteration on a product produced under a FAA approval.

AMROBA recommend all GA LAMEs, LSA/ELSA owner/maintainers read FAA AC 65.32A.

If AOPA/SAAA developed these training courses with AMROBA assistance, both AOPA and SAAA could obtain CASA approval to deliver the courses.

§65.107 Repairman certificate (light-sport aircraft): Eligibility, privileges, and limits.

(a) Use the following table to determine your eligibility for a repairman certificate (light-sport aircraft) and appropriate rating:

To be eligible for	You must
(1) A **repairman certificate** (light-sport aircraft)	(i) Be at least 18 years old, (ii) Be able to read, speak, write, and understand English. If for medical reasons you cannot meet one of these requirements, the FAA may place limits on your repairman certificate necessary to safely perform the actions authorized by the certificate and rating,
	(iii) Demonstrate the requisite skill to determine whether a light-sport aircraft is in a condition for safe operation, and
	(iv) Be a citizen of the United States, or a citizen of a foreign country who has been lawfully admitted for permanent residence in the United States.
(2) A **repairman certificate** (light-sport aircraft) with an **inspection** rating	(i) Meet the requirements of paragraph (a)(1) of this section, and (ii) Complete a **16-hour training course** acceptable to the FAA on inspecting the particular class of experimental light-sport aircraft for which you intend to exercise the privileges of this rating.
(3) A **repairman certificate** (light-sport aircraft) with a **maintenance** rating	(i) Meet the requirements of paragraph (a)(1) of this section, and
	(ii) Complete a training course acceptable to the FAA on maintaining the particular class of light-sport aircraft for which you intend to exercise the privileges of this rating. The training course must, at a minimum, provide the following number of hours of instruction:
	(A) For airplane class privileges—**120-hours**,
	(B) For weight-shift control aircraft class privileges—**104 hours**,
	(C) For powered parachute class privileges—**104 hours**,

To be eligible for	You must
	(D) For lighter than air class privileges—**80 hours**,
	(E) For glider class privileges—**80 hours**.

(b) The holder of a repairman certificate (light-sport aircraft) with an inspection rating may perform the annual condition inspection on a light-sport aircraft:

(1) That is owned by the holder;

(2) That has been issued an experimental certificate for operating a light-sport aircraft under §21.191(i) of this chapter; and

(3) That is in the same class of light-sport-aircraft for which the holder has completed the training specified in paragraph (a)(2)(ii) of this section.

Read FAR Part 65 Subpart E for the rest of the privileges.

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3. The FAA Emphasis on Who can do Inspections

To understand the FAA system, you need to study the wording of the privileges of the A&P mechanic, plus Airframe rating, plus Engines Rating and Inspection Authorisation privileges. What is different is that the IA must perform these functions themselves. Refer FAA IA Guide: *"The holder of an IA must personally perform the inspection. The regulations do not provide for delegation of this responsibility."*

This is different to the language for the A&P mechanic. The A&P mechanic can perform or supervise maintenance which means he/she may supervise other maintainers.

However, on SPL aircraft the A&P mechanic can do the major modification/repair inspection. It is important that CASA adopt the FARs for GA word for word so the GA and AWK can obtain the benefits of the FAR system.

The following are copies of the FAR Part 65 relating to A&P and IAs.

65.81 General privileges and limitations.

(a) A certificated mechanic **may perform or supervise** the maintenance, preventive maintenance or alteration of an aircraft or appliance, or a part thereof, for which he is rated (but excluding major repairs to, and major alterations of, propellers, and any repair to, or alteration of, instruments), and may perform additional duties in accordance with §§65.85, 65.87, and 65.95. However, he may not supervise the maintenance, preventive maintenance, or alteration of, or approve and return to service, any aircraft or appliance, or part thereof, for which he is rated unless he has satisfactorily performed the work concerned at an earlier date. If he has not so performed that work at an earlier date, he may show his ability to do it by performing it to the satisfaction of the Administrator or under the direct supervision of a certificated and appropriately rated mechanic, or a certificated repairman, who has had previous experience in the specific operation concerned.

(b) A certificated mechanic may not exercise the privileges of his certificate and rating unless he understands the current instructions of the manufacturer, and the maintenance manuals, for the specific operation concerned.

§65.85 Airframe rating; additional privileges.

(a) Except as provided in paragraph (b) of this section, a certificated mechanic with an airframe rating may approve and return to service an airframe, or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required by part 91 of this chapter on an airframe, or any related part or appliance, and approve and return it to service.

(b) A certificated mechanic with an airframe rating can approve and return to service an airframe, or any related part or appliance, of an aircraft with a special airworthiness certificate in the light-sport category after performing and inspecting a major repair or major alteration for products that are not produced under an FAA approval provided the work was performed in accordance with instructions developed by the manufacturer or a person acceptable to the FAA.

§65.87 Powerplant rating; additional privileges.

(a) Except as provided in paragraph (b) of this section, a certificated mechanic with a powerplant rating may approve and return to service a powerplant or propeller or any related part or appliance, after he has performed, supervised, or inspected its maintenance or alteration (excluding major repairs and major alterations). In addition, he may perform the 100-hour inspection required by part 91 of this chapter on a powerplant or propeller, or any part thereof, and approve and return it to service.

(b) A certificated mechanic with a powerplant rating can approve and return to service a powerplant or propeller, or any related part or appliance, of an aircraft with a special airworthiness certificate in the light-sport category after performing and inspecting a major repair or major alteration for products that are not produced under an FAA approval, provided the work was performed in accordance with instructions developed by the manufacturer or a person acceptable to the FAA.

§65.95 Inspection authorization: Privileges and limitations.

(a) The holder of an inspection authorization may—

(1) Inspect and approve for return to service any aircraft or related part or appliance (except any aircraft maintained in accordance with a continuous airworthiness program under part 121 of this chapter) after a major repair or major alteration to it in accordance with part 43 [New] of this chapter, if the work was done in accordance with technical data approved by the Administrator; and

(2) Perform an annual, or perform or supervise a progressive inspection according to §§43.13 and 43.15 of this chapter.

(b) When he exercises the privileges of an inspection authorization the holder shall keep it available for inspection by the aircraft owner, the mechanic submitting the aircraft, repair, or alteration for approval (if any), and shall present it upon the request of the Administrator or an authorized representative of the National Transportation Safety Board, or of any Federal, State, or local law enforcement officer.

(c) If the holder of an inspection authorization **changes his fixed base of operation**, he may not exercise the privileges of the authorization until he has notified the responsible Flight Standards office or International Field Office for the area in which the new base is located, in writing, of the change.

Aircraft Maintenance Requirements

The new **CASR § 91.409**, yet to be written, based on the FAR specifies the Inspections required for aircraft. It starts by saying "every aircraft must have an annual inspection".

It follows by stating "no person may operate an aircraft carrying any person (other than a crewmember) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection".

It then goes on to state which aircraft are exempt from these provisions.

FAA Part 91, Subpart E, Maintenance Requirements should be referred to when talking about what will be adopted and the effects on registered operators.

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