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FAA MOSAIC Rule

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Will the FAA's MOSAIC Rule be Fully Adopted by CASA?

The FAA is amending rules for the design, manufacture, certification, operation, maintenance, and alteration of **light-sport aircraft**. The FAA has created ***14 CFR Part 22,*** titled "***Design, Production, and Airworthiness Requirements for Non-Type Certificated Aircraft***." using performance standards. This allows manufacturers an alternate, more expedient pathway to certify light aircraft designs that would have previously only been possible under **Part 21**. A 61-knot landing configuration stall speed (V_{S0}) limitation applies to newly certificated LSA developed under Part 22 regulations.

Some of these Part 22 LSAs will not be eligible to be operated by sport pilots. For example, an aircraft with a V_{S0} (landing configuration) stall speed of 60 kcas could have a V_{SI} (clean) stall speed of 65 kcas. The latter speed is well above the 59 kcas V_{SI} limit imposed upon sport pilots by 61.316.

Like Europe, all MOSAIC kinds of aircraft are N registered – this makes a lot of sense when implementing the MOSAIC Rule. It would enable, for example, VH registered aircraft meeting specified performance standards, to be flown by RAAus Recreational Pilots if the aircraft meets specified performance specifications.

Why shouldn't Part 147 Orgs issue CASA Recreational Pilot Licences limited to their LSA category?

Why shouldn't all aircraft registers be combined into the CASA aircraft register with administration of their sectors by the Part 147 Org. Apply Privacy provisions where names and address are not visible.

Recreational aircraft, based on MOSAIC rules, could revive GA and flight training if adopted correctly.

Europe integrated their Part 66 licencing system in the sport aviation fields a few years back when they amended EASR Part 66 and implemented the B3 and Category 'L' certificates.

The FAA's new performance-based specifications state that aircraft with a clean stalling speed (V_{SI}) of 59 knots calibrated airspeed or less, a maximum speed of 250 kcas or less, and four or fewer seats, are now eligible for operation by sport pilots.

If your aircraft was certificated as a standard category type-certificated aircraft, nothing has changed about its certification basis. It is still subject to the same airworthiness and maintenance requirements as before.

> However, if your aircraft fits into the performance-based specification outlined in the MOSAIC final rule, it may now be operated by sport pilots, or by holders of other certificates who are operating under sport pilot privileges.

Transport Cananda issues pilot permits for gyro, ultra lights, recreational, glider and balloons enabling commercial operations in certain circumstances. They also have owner maintainer regulations.

General Outlook – Possibility

Both Europe, Canada and the USA have successful light sport aeroplane sectors, but this latest US MOSAIC rule will bring about economic and commercial growth over the next 2 to 3 years in America. If government and CASA intends to adopt and implement so Australia's GA and sport aviation can benefit from these modern changes, then CASA should use this opportunity to implement the missing FAR Parts and reharmonise those CASR Parts already made.

Engineering Aspects, MOSAIC Aircraft

The new rule, uploaded on AMROBA website, Modernization of Special Airworthiness Certification, 2025, requires detailed GA engineering and maintenance rule changes.

FAA States: "*The rule largely **expands** opportunities for light-sport category aircraft. These expansions may result in safety benefits; there may also be associated design and production costs. FAA does not anticipate more than minimal incremental costs to implement provisions of the rule and does not have data to estimate any cost savings, such as those that could result from operating certain light-sport category aircraft in aerial work for compensation.* Part 22 starts page 530, linked MOSAIC rule above

The first safety argument was that certain changes would improve the safety of the light sport category. FAA noted additional safety enhancing designs and equipment; design airframes that are more rugged for removing the weight restriction on light-sport category aircraft would provide manufacturers opportunities to incorporate the flight-training environment; increase fuel load and aircraft range; allow for greater cabin size to enable greater occupant heights and weights; improve aircraft handling in gusts, turbulence, and crosswinds; and increase the suitability of light-sport category aircraft for other intended operating purposes, including recreation and personal travel.

Secondly, FAA explained that other amendments to the rules applied to light-sport category aircraft would improve safety more broadly within general aviation (GA) by making light-sport category aircraft a more appealing alternative to experimental aircraft that have higher fatal accident rates."

So what does MOSAIC actually change.

1. *Certification of Light-Sport Category Aircraft*
2. Sport Pilot Certification
3. Maintenance and Repairman (Light-Sport)
4. Operations
5. *Experimental Aircraft*
6. *Restricted Category Aircraft*
7. Noise

1, 5 & 6 will require our civil aviation engineering organisations and individuals to become conversant with these processes being applied. Manufacturers will use them so they can sign the Statement on Simplified Flight Controls, Statement on Specified Consensus Standards, Statement of Quality Assurance, Statement of Availability of Documents, etc. if CASA adopts these cost savings processes.

Note: Light-sport category consensus standards will have to be developed and gain FAA acceptance for multi-engine airplanes to be manufactured under this rule.

FAA-accepted consensus standards for the design, production, & airworthiness of light-sport category aircraft will be the means of compliance to the regulatory requirements in Part 22, subpart B.

The FAA recognises the current design and construction consensus standard for light-sport category airplane materials in the international standards ASTM Standard F2245-20 will need to be amended to comply with Part 22. Part 22 starts page 530 of the linked MOSAIC rule above.

(a) Except as provided in paragraph (c) of this section, this part prescribes design, production, and airworthiness requirements for the issue of special airworthiness certificates, and changes to those certificates, for non-type certificated aircraft.
(b) Each person who applies under part 21 of this chapter for such a certificate or change must comply with the applicable requirements in this part.

CASA should be harmonising CASRs with FARs to enable the Light Sport Aircraft to be adopted.

(1) The aircraft was manufactured in a country with which the United States has a Bilateral Airworthiness Agreement concerning airplanes or Bilateral Aviation Safety Agreement with associated Implementation Procedures for Airworthiness concerning airplanes,

Action Needed

Australia needs Government/CASA to start negotiating amendments to the Bilateral Aviation Safety Agreement with the USA to be amended to include these kinds of aircraft so Australian certified Part 22 LSA aircraft meeting the FAR Part 22 standards are covered by the BASA. Return to Index

Maintenance Aspects, MOSAIC Aircraft

The maintenance aspects of the MOSAIC rule start on Page 698 of the linked Rule on page 2.

Europe and Canada have a licencing system that address these new FAA aircraft categories, but the expanded FAA Repairman can provide one part of the change but the B1.2 or B1.4 are not a direct substitute for the A&P mechanic's role. The closest equivalent would be an enhanced EASA B3.

Basically, the MOSAIC approach is to put all these approvals under the repairman certificate (light-sport) with specific aircraft category privileges;

- LS Repairman **I** to do condition inspections on aircraft category specified; and
- LS Repairman **M** to do maintenance on aircraft category specified.

The *Inspection rating* is a weekend course on the specified aircraft (2-day), the *Maintenance rating* is **15 days (120 hrs**). The rule is clearly written to indicate that current FAA approved courses that are hours based are now ***certification standards based*** but will cover the same materials & **do not need to take any longer**.

In 2022, the Mechanic ACS was incorporated by reference into part 65 as the testing standard for issuance of a mechanic certificate under part 65, subpart D. Specifically, § 65.107(d) will adopt the performance-based training course requirement, requiring a person to complete a training course ***accepted by the Administrator*** *that includes content on, at a minimum, the knowledge, risk management, and skill elements for each subject contained in the Aviation Mechanic General, Airframe, and Powerplant Airman Certification Standards (incorporated by reference, see § 65.23), that are appropriate to the category, and class as applicable, of aircraft for which the person intends to exercise the privileges of the rating. Note: CASA hasn't approved any basic AME training course yet.*

These training requirements include:

(1) meeting the general eligibility requirements of the section and

(2) completing a training course acceptable to FAA on maintaining the particular class of light-sport aircraft for which the person intends to exercise the privileges of the rating.

Section 65.107(a)(3)(ii) further set forth prescriptive hourly requirements for different aircraft privileges.

(b) *A certificated mechanic with an airframe rating can* ***approve for 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 major repair or major alteration was authorized by, and performed in accordance with instructions developed by, the manufacturer or a person acceptable to the FAA.*

§ 65.107 Repairman certificate (light-sport): Eligibility and training

(a) Ratings.

(1) Inspection rating

(2) Maintenance rating

(b) Eligibility requirements

(3) Complete a training course

(4) Pass a written test administered

§ 65.109 Repairman certificate (light-sport): Privileges and limitations

Note that the title has been changed to align with the new Part 22 aircraft design standards and replaces the term "class" with "category" throughout § 65.107

Adopting the FAA MOSAIC Repairman Issues

Harmonising Part 21, 43, 66/65, 91 with FARs as close as possible will provide benefits for all sectors.

The FAA, unlike CASA, operate their own training organisations complete with FAA Training Companion Volumes covering all training standards and courses. Australia, like Canada and other Nations, Training Companion Volumes are controlled by the VET sector under the portfolio Department of Employment and Workplace Relations (DEWR).Return to Index

Pilot Aspects, MOSAIC Aircraft

Light Sport Aircraft have been redefined to use completely new standards and to broaden the types of aircraft that a LSA pilot may fly, including basic helicopters. Refer page 670 linked MOSAIC on page 2.

The amendments enable enhancements in safety and performance and increase privileges under a number of sport pilot and light-sport aircraft rules. These enhancements include increasing suitability for flight training, limited aerial work, and personal travel. This final rule expands what aircraft sport pilots may operate.

Aircraft that can be flown as a LS aircraft are based on performance standards not fixed standards. This new approach is based on FAR Part 23 performance based certificated aircraft safety records.

This rule aims to increase the availability of safe, modern, and affordable aircraft for recreational aviation, flight training, and certain aerial work.

The FAA's new performance-based specifications state that aircraft with a clean stalling speed (V_{SI}) of 59 knots calibrated airspeed or less, a maximum speed of 250 kcas or less, and four or fewer seats, are now eligible for operation by sport pilots. A Piper Cherokee can now be flown by a LS pilot or by holders of other certificates who are operating under sport pilot privileges.

Sport pilots will now be able to fly many legacy General Aviation aircraft. However, they are still subject to the limitations of the sport certificate level.

14 CFR Part 22 allows manufacturers an alternate, more expedient pathway to certify light aircraft designs that would have previously only been possible under Part 21. A 61-knot landing configuration stall speed (V_{S0}) limitation applies to newly certificated LSA developed under Part 22 regulations.

Some of these Part 22 LSAs will not be eligible to be operated by sport pilots. For example, an aircraft with a V_{S0} (landing configuration) stall speed of 60 kcas could have a V_{SI} (clean) stall speed of 65 kcas. The latter speed is well above the 59 kcas V_{SI} limit imposed upon sport pilots.

Instead of recreational aircraft being covered by individual authorisations by sector associations, the FAA has, in the interest of improving safety in these sectors, followed the lead of Canada and Europe to approve these training courses.

*Sport Pilot Certificate; **Airplane Category**—Single-Engine **Land Privileges**, Airplane Category—Single- Engine **Sea Privileges**, Rotorcraft Category—Gyroplane Privileges, Glider Category*	***Flight Instructor** Certificate with a Sport Pilot Rating; Airplane Category—Single-Engine Privileges, Rotorcraft Category— Gyroplane Privileges, Glider Category*
*Sport Pilot Certificate; **Rotorcraft Category** – Helicopter Privilege—**Simplified Flight Controls***	***Flight Instructor** Certificate with a Sport Pilot Rating; Rotorcraft Helicopter— Simplified Flight Controls*
*Sport Pilot Certificate; Lighter-Than-Air Category—**Airship** Privileges, Lighter- Than-Air Category—**Balloon** Privileges*	***Flight Instructor** Certificate with a Sport Pilot Rating; Lighter-Than-Air Category—Airship Privileges, Lighter-Than-Air Category—Balloon Privileges*
*Sport Pilot Certificate; Powered Parachute Category—**Land Privileges**, Powered Parachute Category—**Sea Privileges,** Weight-Shift-Control Aircraft Category— **Land Privileges**, Weight-Shift-Control Aircraft Category—**Sea Privileges***	***Flight Instructor** Certificate with a Sport Pilot Rating; Powered Parachute Category Privileges, Weight-Shift-Control Aircraft Category Privileges.*

Furthermore, given the sport pilot training framework, sport pilots should not be solely dependent upon operating light-sport category aircraft but instead may operate any aircraft, regardless of the airworthiness certificate issued, as long as the aircraft meets the design and performance limitations authorized for sport pilots.

Issues to be Overcome

Aligning the Australian sport pilot approvals with, and harmonised with the FAA system, or alternatively with Canada &/or Europe. Will our future system be the same as FAA (Europe/Canada)?

If the FAA MOSAIC Rule is implemented in Australia harmoniously, these aircraft and current aircraft that can be reclassified as light sport will quickly expanding the civil aviation aircraft register.

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FAR SPL Holder § 61.316, what operating limits and endorsement requirements in this subpart must I comply with?

If you hold	And you hold	Then you may operate	And
(1) A medical certificate	(i) A sport pilot certificate,	Any aircraft for which you hold the endorsements required for its category and class	**You must hold** any other endorsements required by this subpart and comply with the limitations in § 61.315.
	(ii) At least a recreational pilot certificate with a category and class rating,	Any aircraft in that category and class,	**You do not have to hold** any of the endorsements required by this subpart, nor do you have to comply with the limitations in § 61.315.
	(iii) recreational pilot certificate but not a rating for the category and class of the aircraft you operate,	That aircraft, only if you hold the endorsements required for § 61.321 for its category and class,	**You must comply** with the limitations in § 61.315, except § 61.315(c)(14) and, if a private pilot or higher, § 61.315(c)(7).
(2) Only a U.S. driver's license	(i) A sport pilot certificate,	Any aircraft for which you hold the endorsements required for its category and class.	**You must hold** any other endorsements required by this subpart and comply with the limitations in § 61.315.
	(ii) At least a recreational pilot certificate with a category and class rating,	Any aircraft in that category and class,	**You do not have** to hold any of the endorsements required by this subpart, but you must comply with the limitations in § 61.315.
	(iii) At least a recreational pilot certificate but not a rating for the category and class of aircraft you operate,	That aircraft, only if you hold the endorsements required in § 61.321 for its category and class,	**You must comply** with the limitations in § 61.315, except § 61.315(c)(14) and, if a private pilot or higher, § 61.315(c)(7).
(3) Neither a medical certificate nor a U.S. driver's license	(i) A sport pilot certificate,	Any glider or balloon for which you hold the endorsements required for its category and class,	**You must also hold** any other endorsements required by this subpart and comply with the limitations in § 61.315.
	(ii) At least a private pilot certificate with a category and class rating for glider or balloon,	Any glider or balloon in that category and class	**You do not have to hold** any of the endorsements required by this subpart, nor do you have to comply with the limitations in § 61.315.
	(iii) At least a private pilot certificate but not a rating for glider or balloon,	Any glider or balloon, only if you hold the endorsements required in § 61.321 for its category and class.	**You must comply with** the limitations in § 61.315, except § 61.315(c)(14) and, if a private pilot or higher, § 61.315(c)(7).

What This Rule Does

(i) adopts more performance-based rules to expand and enable innovation in the classes of aircraft that may be certificated using consensus standards as light-sport category aircraft, including emerging aircraft types;

(ii) removes prescriptive weight limits that hinder incorporation of safety-enhancing designs and equipage;

(iii) increases the maximum stall speed for light-sport category airplanes and gliders;

(iv) enables more capable and robust aircraft for the pilot training environment;

(v) allows for increased capacities for passengers, fuel, and cargo;

(vi) allows electric and other alternative propulsion sources; and

(vii) allows faster, higher-performing aircraft that are, more suitable for personal travel.

FAA Aircraft Classifications				
Part 21 Certification Procedures for Products and Parts				
Part 22 SLA	**Part 23 aeroplane**	**Part 25 transport aeroplane**	**Part 27 helicopter**	**Part 29 transport helicopter**

Part 22 - Design, Production, & Airworthiness Requirements for Non-Type Certificated Aircraft

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