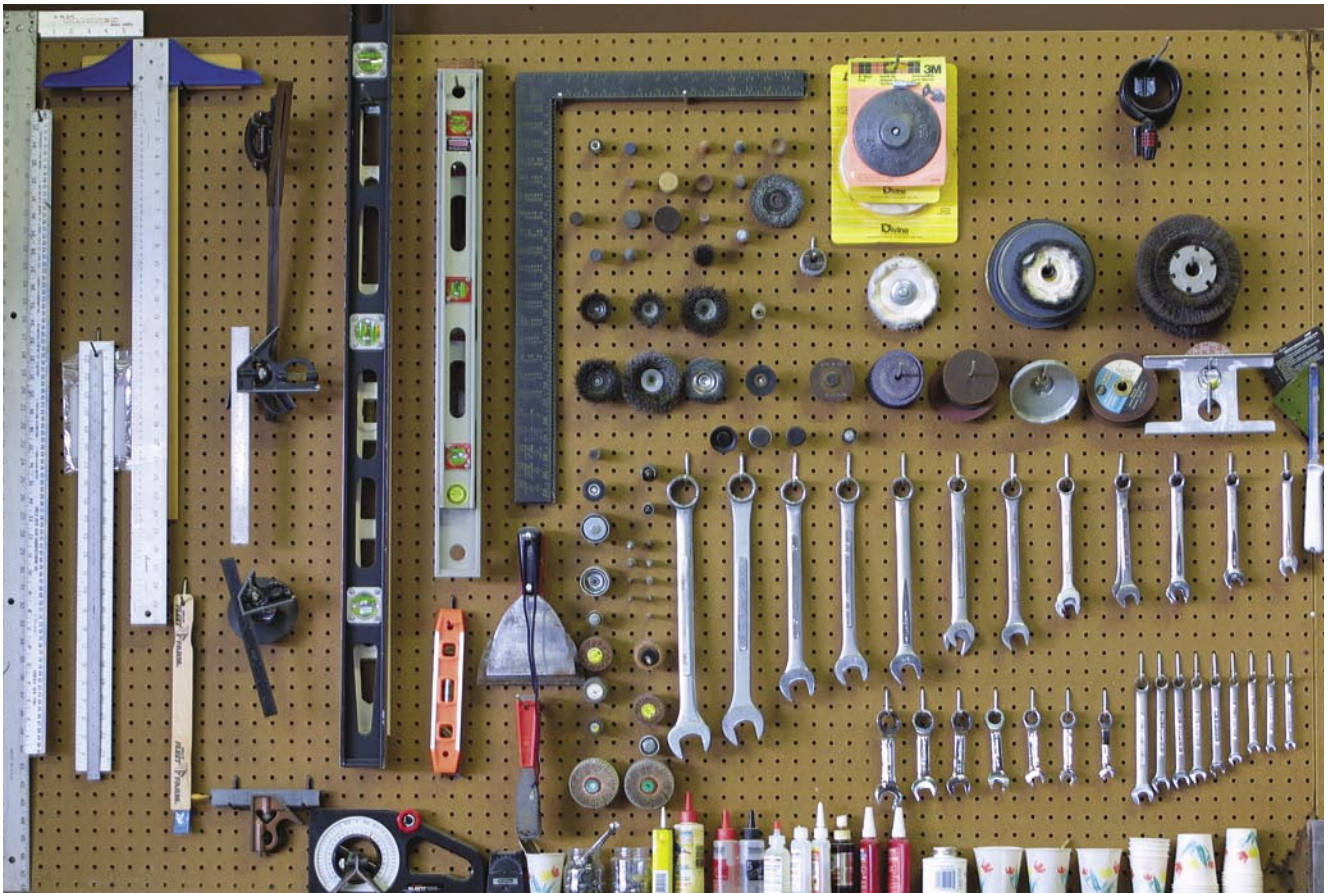


Earl Downs

Sport Pilot-Eligible Aircraft, Maintenance, and Inspections

Have it your way



So you want to fly a sport pilot-eligible aircraft? Choosing the right aircraft is a journey that can be fun and exciting, or it can be surrounded by unexpected surprises and pitfalls. Just as with owning any recreational vehicle, it pays to plan ahead and learn the facts about insurance,

financing, storage, and maintenance before making a decision. It doesn't matter if the aircraft is a fixed-wing airplane, powered parachute, weight-shift trike, glider, or lighter-than-air machine.

With the final sport pilot/light-sport aircraft (SP/LSA) rule, new maintenance and inspection require-

ments were established that apply to new light-sport aircraft (LSA), while the maintenance and inspection requirements of other sport pilot-eligible aircraft remain unchanged. Our focus this month is on how those rules affect the sport pilot-eligible aircraft you might want to fly and/or maintain.

Maintenance divides into two key areas: 1) Who can perform the maintenance, and 2) What are the maintenance and inspection requirements of the aircraft's certification category. This month we'll review the various certificates/ratings issued by FAA for maintenance and inspection and see how they relate to various aircraft types. Next month, we'll dissect maintenance and inspection requirements by aircraft category.

Lastly, you need to consider whether you are interested only in flying or if working on your aircraft is part of what you want to experience. That will affect the certification category of aircraft you choose. To paraphrase that famous fast-food commercial, the SP/LSA rule "lets you have it your way."

Who Can Perform Maintenance?

Federal Aviation Regulation (FAR) Part 43, "Maintenance, Preventive Maintenance, Rebuilding, and Alteration (of Aircraft)," generally covers the maintenance and inspection regulations for all aircraft. However, maintenance regulations do show up in other FARs. Who can perform specific aircraft maintenance depends on the level of maintenance involved and the category in which the aircraft is certificated. As the title of Part 43 suggests, FAA separates these actions into: maintenance, preventive maintenance, rebuilding, and alteration of aircraft. The level of FAA certificate you hold determines what you can do.

FAA Pilot Certificate Holders

Any person who holds an FAA pilot certificate, from sport pilot upward, may perform preventive maintenance on the aircraft he or she owns. It doesn't matter how the aircraft is certificated. There are some restrictions regarding preventive maintenance of aircraft used for commercial operations, but that's not important to us at this point.

What constitutes preventive maintenance? Well, it's not just a generic term; FAA spells out what's included

Preventive Maintenance

As outlined in Appendix A to FAR Part 43, here is a brief listing of some of the things FAA considers preventive maintenance. This is not a complete list; rather it is meant to give you a guide as to FAA's definition of preventive maintenance versus other maintenance.

"... Preventive maintenance is limited to the following work, provided it does not involve complex assembly operations:

- (1) Removal, installation, and repair of landing gear tires.**
- (2) Replacing elastic shock absorber cords on landing gear.**
- (3) Servicing landing gear shock struts by adding oil, air, or both.**
- (4) Servicing landing gear wheel bearings, such as cleaning and greasing.**
- (5) Replacing defective safety wiring or cotter keys.**
- (6) Lubrication not requiring disassembly.**
- (7) Making simple fabric patches not requiring rib stitching or the removal of structural parts or control surfaces.**
- (8) Replenishing hydraulic fluid in the hydraulic reservoir.**
- (9) Refinishing decorative coatings.**
- (10) Applying preservative or protective material.**
- (11) Repairing upholstery and decorative furnishings.**
- (12) Making small simple repairs to fairings, nonstructural cover plates, cowlings....**
- (16) Troubleshooting and repairing broken circuits in landing light wiring circuits....**
- (20) Replacing or cleaning spark plugs and setting of spark plug gap clearance.**
- (21) Replacing any hose connection except hydraulic connections.**
- (22) Replacing prefabricated fuel lines.**
- (23) Cleaning or replacing fuel and oil strainers or filter elements.**
- (24) Replacing and servicing batteries."**

The complete listing of what FAA defines as preventive maintenance can be found at www.faa.gov/regulations. Select FAA Regulation and Rulemaking Process. Then click on Regulatory and Guidance Library, followed by Federal Aviation Regulations. Then choose Current FAR by Part to get to Part 43 and Appendix A.

under that term in FAR 43, Appendix A (c). (See sidebar, "Preventive Maintenance," for more complete details.)

One clarification for our ultralight friends—because ultralights are not registered or certificated, these rules do not apply.

FAA Mechanics

FAA mechanic certificates are issued after extensive FAA-approved training and testing. FAA-certificated mechanics are rated in two areas—airframe and powerplant. It is common for the mechanic to hold both the airframe and powerplant ratings, and we commonly refer to these folks as

A&Ps. However, it is possible for an FAA mechanic to be only airframe or only powerplant rated.

An FAA-certificated mechanic can perform maintenance on all categories of aircraft. Generally, A&P mechanics tend to specialize in certain types of maintenance and/or aircraft, but their latitude to perform maintenance is quite broad.

An A&P can also move to another level of FAA approval. This is not a rating, rather it is called an "inspection authorization." Aircraft that are certificated in the standard airworthiness category—which includes many sport pilot-eligible aircraft such as J-3 Cubs, Aeronca Champs, Taylorcraft,

and Ercoupes—must be inspected annually by an A&P with an inspection authorization. We commonly call these mechanics IAs. Take note of this: while *all* IAs are A&Ps, *not all* A&Ps are IAs.

FAA Repair Station

A repair station certificate is issued to a person who operates a repair facility. It is the entire operation that is approved, not each individual within the operation. Repair station certificates are usually held by operators of large aircraft service centers or operations that specialize in major airframe or powerplant repair and overhaul. Depending upon how the repair station is rated, it may perform maintenance and inspections on different types of aircraft.

Repairman Certificates

The rules covering repairman certificates are covered in FAR 65, Subpart E. In this article, we will only discuss the various repairman certificates that apply to sport pilot-eligible aircraft. (The word “repairman” is not gender specific; it’s simply the term that is used on the FAA certificate and is considered to be inclusive of men and women.)

Repairman for Experimental Amateur-Built Aircraft

Any person who constructs an aircraft that is certificated as experimental amateur-built is eligible to apply for, and receive, a repairman certificate for that specific aircraft. Notice I say “eligible”; the certificate is not automatically issued. The builder of the aircraft must request the repairman certificate at the time the aircraft is inspected for its airworthiness certificate. If a group of individuals constructed the aircraft, only one individual may obtain the repairman certificate.

This certificate allows the holder to perform the annual condition inspection on that particular aircraft, but no other. A repairman certificate is not needed to do maintenance on any experimental amateur-built aircraft.

If you buy a completed aircraft



that is certificated as an experimental amateur-built, you are not eligible to obtain a repairman certificate. The certificate stays with the original builder. In that case, you would be required to hire an A&P or other FAA-rated mechanic to do the annual condition inspection, or negotiate with the holder of the repairman certificate to continue doing the inspection.

Light-Sport Repairman With a Maintenance Rating

This is a new certificate level created by the SP/LSA rule. It allows the holder to perform maintenance (beyond preventive maintenance) and the annual condition inspection on an aircraft certificated either as a special light-sport aircraft (S-LSA) and/or an experimental light-sport aircraft (E-LSA). To obtain this certificate an individual must complete a training course deemed acceptable by the FAA for the particular class of aircraft he or she will maintain. The SP/LSA rule lists those course requirements as:


- Airplanes—120 hours
- Weight-Shift Control Aircraft—104 hours
- Powered Parachutes—104 hours
- Gliders or lighter-than-air craft—80 hours

A light-sport repairman with a maintenance rating may exercise the privileges of this certificate on any aircraft within the *class* of aircraft for which he or she is trained.

Light-Sport Repairman With an Inspection Rating

This is also a new certificate level created by the SP/LSA rule. This repairman may perform the annual condition inspection on an experimental light-sport aircraft (E-LSA). It is issued for one specific aircraft; that is, it is registration-number specific. It allows the owner to inspect his or her own aircraft. To obtain this rating, the aircraft owner must complete a 16-hour FAA acceptable training course specific to the class of aircraft that the individual operates.

More to Come...

That's a review of who can do maintenance and inspection on what aircraft. Next month, we'll look at the maintenance and inspection requirements for the various categories of aircraft that sport pilots can fly, and we'll relate them to these certificates. 

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