



Motorglider Certification and Training

By Stephen Dee

When I got involved in soaring in 1967, motorgliding was considered such an oddity that it was not mentioned in polite company! The prevailing philosophy back then seemed to be that if you wanted to fly an aircraft with an engine, you were encouraged to go fly an airplane, because sailplanes were reserved for the purest form of flight. Forty years later, the purists still exist, but I've heard that nearly 70% of all gliders built today are equipped with some type of engine, whether it be self-launcher or sustainer, so the concept seems to have taken root. The machines have matured with the concept, and we now have a wide variety of motorgliders to choose from, that span the field from trainers to high performance sailplanes. In this article, I will address some of the certification issues, both for motorgliders and pilots, and provide answers to some of the most frequently asked questions I've fielded along the way.

Let's begin by defining a motorglider. First, you need to understand that in FAA terminology, all sailplanes are "gliders," and what we often refer to as "motorgliders" still fall into the Glider aircraft category. Further, the FAA term for a motorglider is a "Powered Glider," as described in Advisory Circular (AC) 21.17-2a. This AC states three requirements to be certificated as a "Powered Glider." First, it may be either Single or Two-place. (no double back seats allowed) Next, it is limited to a maximum Gross Weight of 850 kg. (1874 lbs) Finally, it must have a Weight/Span loading maximum of .62-lbs/square foot. This last requirement is to preclude designs that are essentially lightweight powered airplanes from qualifying as motorgliders. In addition to the AC 21.17-2a requirements, FAR 91.205 lists required engine instrumentation. As a point of note, "pure" gliders have no instrumentation requirements, (because they are not airplanes) other than that included on their individual Type Data Certification Sheets.

Ok, now that we know what a motorglider is, what qualifications does it take to fly one? The first requirement is that you must have a Glider Rating on your Pilot Certificate. Remember, regardless of the type, and whether it is equipped with a fixed, forward mounted engine, such as the Ximango, Grob 109, Dimona, or Katana Extreme, or a retractable engine and propeller such as the DG-400/500/800, or even a combination of both as found in the Stemme S-10, they are all Gliders in the eyes of the FAA.

The next requirement is that you must be trained and qualified for Self-Launching. The FAA recognizes three launch methodologies, and you must be qualified for those that you utilize. They are Ground Launch, (winch, auto tow, bungee) Aero tow, and Self-Launch. With regard to the latter, pilots of "Powered Gliders" must comply with FAR 61.31(j) (1) (iii), which states:

No person may act as pilot in command of a glider—using self-launch procedures, unless that person has satisfactorily accomplished ground and flight training on self-launch procedures and operations, and has received an endorsement from an authorized instructor who certifies in that pilot's logbook that the pilot has been found proficient in self-launch procedures and operations.

Note that regardless of the launch methodology, it must be trained and signed off as a logbook Endorsement, somewhat analogous to the “Tailwheel Endorsement” required for pilots who fly tail dragger airplanes.

To determine exactly what constitutes the training required by FAR 61.31, you must digest AC 61-94. You also need to understand that decrees from the FAA exist at different levels, from Orders, to Regulations, to Advisory Circulars. We pilots are most familiar with Regulations, which are directive in nature, but often incomplete. That's where Advisory Circulars come in, to amplify Regulations, but they are only suggestive and permissive in nature. As the introduction to AC 61-94 indicates: *This AC provides recommendations, but not the only means, that may be used by glider pilots who desire to transition into gliders or sailplanes with Self-Launching capability.* The AC recommends two different syllabi, essentially one for glider pilots that also have SEL ratings, and another for those who do not. As you might imagine, the latter is more extensive. This AC is also the source for describing the qualifications of the CFI who can conduct the training. In short, these include holding a Commercial SEL Rating, be a CFIG, and have a Self-Launch Endorsement. In order to accomplish the items suggested in either syllabus, I conduct one thorough briefing and 3-5 flight hours with my students here in Memphis at Motorgliding USA. Most will complete all the requirements in one good day of training, but I suggest two to make the experience more enjoyable. Note that the hours indicated by the AC are merely suggestions, and that the guidance is a recommendation. However, I would find it difficult to safely train most pilots in much less time than the above. While we're in the midst of AC 61-94, we will also find the famous “Grandfather Clause” that exempts the requirement for a Self-Launch Endorsement based on prior experience. It states that: *A pilot who holds at least a Private Pilot Certificate with a Glider Rating and can show by logbook entry that he/she has had at least 5 hours of PIC experience in a motorglider before Jan 1, 1985, will be considered to have met the guidelines of this AC.*

Even if you qualify by virtue of the Grandfather Clause, your insurance carrier will likely dictate that a Self-Launch Endorsement is required, along with a cockpit check conducted by a Self-Launch Endorsed CFIG in your particular glider.

Now, for some FAQ:

Q: Can I fly a motorglider if I hold a Private Pilot SEL Rating?

A: No—you must have a Glider Rating, and a Self-Launch Endorsement.

Q: What if I promise to never shut off the engine—doesn't that make it an airplane?

A: No—it's still a Glider, and the above remains true.

Q: Do I need a Medical Certificate to fly a motorglider?

A: No-it's a Glider, and Medical Certificates are not required to fly Gliders.

Q: Do I need a Self-Launch Endorsement to fly my Sustainer-equipped glider?

A: No-it cannot Self-Launch, therefore, it's not required. Some other launch method must be used, and you must be trained, qualified, and Endorsed for that method.

Q: Do I need a Self-Launch Endorsement to fly my Experimental Self-Launcher?

A: Yes- the waiver for Experimental Aircraft found in FAR 61.31(k) (iii) does not apply.

Q: Do I need a Self-Launch Endorsement just to fly solo, not carrying passengers?

A: Yes-Training complete and Endorsement in the logbook before solo.

Q: Can I train in a Ximango or Grob 109, and then legally fly my DG-800? They seem quite different, and require considerably different skill sets to operate.

A: Yes! The introduction to AC 61-94 explains the FAA's assumption that since all motorgliders exhibit essentially the same handling characteristics, the training conducted in one type is good for qualifying a pilot for any. Such a conclusion minimizes the considerable differences between most fixed engine trainers and high performance retractable-engine Self-Launchers. My recommendation is to train in the type of motorglider most similar to that you intend to fly.

Q: Can I use my Ximango or Grob 109 tail dragger to update my Tailwheel currency?

A: Nice try-but No. The requirements for currency found in FAR 61.57(a)(1)(ii) specifically require that takeoffs and landings be performed in a tailwheel equipped airplane. (vs. aircraft)

Q: Do I need a Self-Launch Endorsement for my Europa, Moneri, or Sinus that can be certified in multiple categories?

A: Maybe-The key here is the Certificate of Airworthiness. If it says Glider, then yes; if it says Airplane or E-LSA, then no. A small equipment change, such as long wings vs. short wings, or a feathering prop vs. fixed pitch prop, can alter the Certification Category. In all cases, the aircraft Category and Pilot Certification must match.

By this time, I hope you feel more informed about motorglider certification issues. The independence, freedom, and convenience motorgliders offer make it well worth the small additional investment in training required to operate them safely and legally. Feel free to contact the Auxiliary Powered Soaring Association (ASA), an Affiliate of the SSA, for more information.

