The Experimental Glider-Trike Program

John Kemmeries flying his Air Creation trike over Monument Valley.

John Kemmeries flies an Air Creation on floats on Lake Powell. He is accompanied by Kemmeries Aviation office manager, Julie Potter.

Wes Fortney flies the Sawtooth Range, near Stanley, ID. Photo by Bill Fortney.

The November issue of UltraFlight contained an article entitled "The New Glider-Trike: The Best Deal in Aviation." The article described the means by which a trike enthusiast could obtain an FAA pilot's license by training and testing in an experimental motor-glider-trike, with no training required in a traditional airplane or glider.

The response to this article has been tremendous. I have received an extensive number of telephone calls and e-mail from persons who are interested in the experimental glider-trike project.

Unfortunately, the article may not have been explicit enough about the project or the process of obtaining the FAA pilot's license. In many cases, the caller had somehow picked up some misinformation from the article. For example, some believe that if one obtains an FAA glider-trike pilot's license he would then be entitled to take a passenger in an ultralight trike without being an ultralight instructor. Others thought that you can fly an ultralight trike over congested areas as long as you are an FAA rated pilot.

In order to clarify the program, I would like to present a short synopsis of the glider-trike process, privileges, and limitations.

Two-seat ultralight trainers must adhere to FAA specified weight and speed limits, cannot be flown at night or over congested areas, and can only be flown by an ultralight instructor. To a limited extent, a two-seat trainer may also be flown by a student endorsed for solo, under the instructor's direct supervision.

The glider-trike, flown by an FAA licensed pilot, is free of all these two-seat ultralight restrictions. The pilot need not be an instructor. He can carry a passenger, can fly at night (if equipped with lights), can fly over congested areas, and can operate at airports which normally would not allow ultralights. He can also obtain insurance more easily. The glider-trike is not limited to ultralight weight, fuel or speed restrictions.

Is there any advantage that an ultralight trike has over an experimental glider-trike? Yes. An ultralight can be used commercially for flight training. In other words, an ultralight instructor can charge a student for training and may rent his ultralight to the student.

The FAA rules regarding experimental aircraft say that the experimental must have been constructed and must be flown for the pilot's own "recreation and education." Therefore, a person who owns an experimental aircraft may not use the aircraft commercially.

The Experimental Aircraft Association has recently obtained a waiver from the FAA which allows an experimental aircraft to be used for commercial training in limited circumstances. However, the majority of persons who are interested in the glider-trike program would not qualify for the waiver.

Another advantage that an ultralight has over the glider-trike is that the ultralight may be constructed by the manufacturer, a dealer, an aircraft mechanic, or even a friend. However, the pilot who wants to fly an experimental glider-trike must construct the "majority" (at least 51 percent) of the trike himself. The FAA rules pertaining to experimental aircraft require that the buyer personally construct the aircraft in order to qualify for an experimental amateur-built airworthiness certificate.

Other experimental categories exist in addition to amateur-built, such as "market survey" and "exhibition." But there are operating limitations associated with these alternative categories which are not as favorable as amateur-built.

Because trike kits are delivered almost ready-to-fly, no trike kits presently qualify for the FAA approved amateur-built kit list. However, several manufacturers are actively working with the FAA to develop an acceptable kit to qualify for the approved list.

Presently, there are at least six trikes in the amateur-built category, and several in the exhibition. The six amateur-built trikes qualified under the 51 percent rule because special arrangements were made with the manufacturers to have the kits delivered in a less constructed state than normal. However, the trike manufacturers are not inclined to continue to deliver such unconstructed kits on a regular basis.

After someone has gotten his hands on an experimental glider-trike his battle is only half over. He must now obtain an FAA pilot's license in order to fly it. The following steps must be taken:

1. Go to the local FAA office and get a student

pilot license. The good news is that no medical exam is required, and there is no charge for the license.

2. Buy an FAA written exam study guide, and take the FAA written exam. The written exams are taken at exam centers, using a computer, and the cost is about $60. (Note: in bureaucratic language the FAA now refers to the written exam as a "knowledge" exam.)

3. Complete your flight training with an FAA Certified Flight Instructor who is qualified to teach in gliders and trikes. The minimum flight experience to qualify for private pilot glider is 10 hours. Cost is about $1,000 for 10 hours of flight time and ground instruction, if the flight training is done in a glider-trike which is owned by the student. At present the only active glider-trike instructors are yours truly on the West Coast and John Ballantyne on the East Coast.

4. Take an oral exam and a flight check with an FAA glider examiner who is also qualified in trikes. At present the only such examiner is Galen Fisher, of Hemet, California. Cost is about $400.

Hopefully, in the near future the glider-trike program will have FAA approved kits available, and there will be more instructors and examiners throughout the country. At the moment, the program is just getting started, and the options are limited for training and testing.

Here's a summary of the advantages and disadvantages of ultralight trike flying versus experimental glider-trike flying:

Advantage ultralight—Can be built by anyone, needs little instrumentation, and the pilot need not go through the formality of FAA training and testing. The ultralight need not be inspected or approved by an FAA examiner. Instructor can charge for commercial training. Training centers are available throughout the country. No medical exam is required.

Disadvantage ultralight – FAA mandated weight, speed and fuel restrictions. Cannot fly over congested areas or at night. Excluded from many airports due to the administrator's prejudice against ultralight pilots. No financing available, and limited insurance coverage. Only ultralight instructors and students are allowed to fly two-seat ultralights. No "sightseeing" flights. All flights with a second person on board must be "for instruction only." The instructor must be a

member of an FAA recognized ultralight organization. He must pay a yearly fee to maintain his instructor status, and attend periodic requalification seminars.

Advantage experimental glider-trike – No weight, speed or fuel restrictions. Can fly over congested areas, including cities. Can fly at night, if equipped with lights. Not excluded from general aviation airports. Financing and insurance are available. The FAA rated glider pilot may carry a passenger. Sightseeing is allowed. The pilot need not be an instructor, and the passenger need not be a student. The pilot's license is good indefinitely. It does not require periodic renewal as the ultralight instructor's license does. No medical exam is required.

The minimum FAA flight time to both private pilot glider (10 hours) and commercial pilot glider (25 hours) is less than the flight time required to become an ultralight instructor! The minimum flight time for FAA glider instructor is only 25 hours. To qualify for his flight check a glider (or motorglider) student is not required to fly at night, under a "hood" (simulated instrument flight), demonstrate proficiency on the radio or use electronic navigation, or perform any cross-country flights, all of which are required for airplane pilots.

If you already have an FAA airplane pilot's license, the minimum flight time to transition to glider pilot is only three hours, plus a flight check.

The student who takes a flight check in the glider-trike will receive an FAA pilot's certificate which says, "Glider." His logbook will have an endorsement for "self-launch, limited to 'weight-shift'." The pilot need not take another flight check with an FAA examiner to fly traditional three-axis gliders. He needs only to receive training from an FAA flight instructor, and have his logbook endorsed by the instructor stating that the pilot is now competent in traditional gliders.

Disadvantage experimental glider-trike – The applicant must obtain a trike kit which allows him to personally construct 51 percent of the trike. He must build the trike and then submit it to an FAA approved examiner who will issue an experimental airworthiness certificate.

The trike must have more extensive instruments to qualify for experimental than is required for an ultralight. In addition, the builder must submit a

mountain of paperwork, including a Bill of Sale, a registration number, a request for inspection, weight and balance, operations limitations, etc. The cost of a two-seat trike which would qualify for experimental would probably be $18,000 or more.

The glider-trike is more likely to be subject to state taxation, because it registered with the government, whereas an ultralight is not.

The newly certificated experimental aircraft must undergo a "Phase I" flight test, to verify the integrity of the flying machine. During the ten-hour Phase I test, the trike is restricted in its range of flight operations and it must be flown in rural areas only. Aircraft logbook endorsements must be made at the end of Phase I before the glider-trike is relieved of the Phase I restrictions.

The experimental trike cannot be used commercially, except in accordance with a limited waiver issued through the EAA or NAFI (National Association of Flight Instructors). The trike must be flown in accordance with FAR 91 (certified aircraft rules) rather than FAR 103 (ultralight regulations).

To become a glider pilot the applicant must obtain instruction from an FAA instructor and take an FAA written, oral and flight check. As stated earlier, there are currently only two qualified instructors and one examiner.

More glider-trike instructors are greatly needed. If you are interested in becoming an FAA glider-trike instructor, you are guaranteed to have more students than an ultralight instructor, due to the unique demand. In fact, you'll probably have more students than any FAA airplane instructor. This program is ready to explode as soon as a manufacturer is able to place a trike kit on the FAA approved 51 percent kit list, which is expected to occur very soon.

Hopefully, this article is a satisfactory overview of the glider-trike program. For more information you may contact Jon Thornburgh at 800-971-8710, e-mail JonThornburgh@pocketmail.com; or John Ballantyne at 301-898-0125, e-mail johnusua@aol.com. A web site dedicated to the glider-trike project is .

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