



## Getting the Hang of Weight-Shift Flying

Transitioning from fixed-wing aircraft

BY TERRI SIPANTZI, EAA 735810

Since the introduction of the sport pilot rule, a lot of general aviation (GA) pilots have discovered the weight-shift trike. GA pilots transitioning to trikes now account for about 60 percent of weight-shift training hours, and many weight-shift instructors and designated examiners are also fixed-wing pilots.

So, what does it take to become a trike pilot if you already hold a fixed-wing certificate? The answer has two parts:

**1.** FAA requirements—what the FAA says is required. **2.** Practical requirements—what the actual transition typically requires.

The FAA says in FAR 61.321 that you must:

**1.** Receive a logbook endorsement from the weight-shift flight instructor who trained you stating you are ready to pass a proficiency test, and **2.** Receive a second logbook endorsement from a weight-shift instructor (other than the one who trained you) that you passed the proficiency test.

That's it. There are no written tests and no aeronautical experience requirements. No minimum number of training hours, no solo requirements—just training and a test to standards.

Okay, what about the practical requirements. How long does it really take for a fixed-wing pilot to get his weight-shift ticket? The average fixed-wing pilot needs about 10 to 15 hours of training to accomplish the transition, and much of that training time will be learning how to land. In contrast, a student without a pilot certificate will generally take five to 10 hours longer.

Trikes are easy to fly. A fixed-wing pilot can comfortably take off and fly a trike by the end of the second or third lesson.

So why does it take a skilled fixed-wing pilot 10 to 15 hours to become competent in trikes? Because the control inputs are the opposite of what fixed-wing pilots are used to. During takeoff and in cruise flight that isn't as big a deal: On takeoff the trike controls are set to the proper takeoff position and naturally move in the correct direction after liftoff. In flight if the pilot makes a wrong control input he has plenty of time to compensate.

But during landing, when the ground is rushing up and it is time to flare, the fixed-wing pilot wants to pull back on the controls, which will turn the trike into a lawn dart. It takes time to overcome those ingrained instincts. When landing, the pilot's control inputs must be instinctual, so that is where most of the training is concentrated.

Once you get the feel for flying a trike, it will seem the most natural thing in the world. Since the controls are directly attached to the wing, you can feel the forces of flight more keenly than any other type of aircraft. Trikes are the motorcycle of the sky, and like a motorcycle, you "ride" a trike. Give yourself a treat and take a trike for a ride. But be forewarned; it is addictive, and once you start there is no cure.

**Terri Sipantzi** is a weight-shift sport pilot, sport pilot instructor, and sport pilot examiner. He and his wife, Beth, own and operate Precision Windsports Inc. They are located in Lynchburg, Virginia, and specialize in trike sales and training. For more information visit [www.PrecisionWindsports.com](http://www.PrecisionWindsports.com).

In flight, most trike pilots adjust power using the hand throttle. On landing, however, trikers typically switch to the foot throttle as they are busier manipulating the control bar.

A common option on many trikes is a ballistic recovery chute. This is designed to lower an aircraft and its occupants to the ground safely in the event of an emergency.

I added strobe lights to the top and bottom of my trike, wingtip lights, and a front landing light for visibility. I fly as a sport pilot so I am not allowed to fly at night, but I have the lights on whenever I am in the air for visibility.

### TRIKE WINGS

Trike wings come in two basic types—single surface and double surface. A single-surface wing covers only the top surface of the wing frame with fabric. Single-surface wings have light handling characteristics when it comes to control, and the stall and landing speed is low at 25 to 30 mph. Single-surface wings are appropriate for those looking for slow cruising speeds and short takeoff and landing distances. These wings do not handle turbulence as well as double-surface wings.

A double-surface wing envelops the wing's frame in fabric. Double-surface wings fly faster and handle turbulence quite well.

The design of the wing will determine how fast the trike will fly, much more so than the horsepower of the engine. The wingspan of most wings is 32 to 34 feet.

New to the trike wing lineup are the "topless" or strutted wings. As the name implies these wings use struts instead of cables for support, thereby eliminating the king post that supports the flying wires above and below the wing (hence the name "topless").

Now that you know some of the basics, if you are curious about the flying experience, find a trike pilot in your area and go for a ride. Anyone with a valid sport pilot certificate and an airworthiness certificate for the trike should be legal. Most sport pilot instructors will give you an hour demo flight and let you fly the plane to get the feel of it. The first time you leave the ground in a trike is a thrill you won't forget! **EAA**



Control bar effect on pitch and airspeed.

Ever since he first jumped into the back seat of a trike for a demo flight while on vacation in Hawaii, **Kevin Szalapski**, EAA 792226, has loved flying trikes. He holds a sport pilot certificate with more than 300 hours logged.