

# Honolulu Soaring

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### GOING SOLO

#### First Solo

When you make your first solo flight, the glider's flight characteristics and handling may seem different. Some students hardly notice any difference. Other students feel as though they are flying a different plane, one they've never flown before. Whatever the degree of difference, it is caused by a change in weight and balance. When your instructor steps out of the plane for your first solo flight, the total weight will decrease, and the center of gravity will move aft. Lighter pilots notice the biggest change. The total weight of the glider is less than it would be with a heavier pilot in the front seat, and the center of gravity moves further aft. Whether the change in flight characteristics seems small or large, you will be better prepared by simply knowing what to expect and discussing it with your flight instructor.

1. The glider will takeoff much sooner. Since the glider weighs less, it won't take as long for the wings to generate enough lift to takeoff.
2. The glider will climb higher above the tow plane after lift off. During any takeoff, as the tow plane accelerates during the takeoff roll, there's more and more air flowing over the glider's wings, creating more and more lift as speed increases. When the wings create enough lift, the glider lifts off. When you go solo, the glider's wings create the same amount of lift; but with less weight to support, the glider is lifted higher. It may seem as though the glider leaps into the air.
3. You might porpoise. In fact, almost everyone does a small porpoise on his or her first solo takeoff. Here's what happens. Startled by the sudden lift off and climb, the student adds forward stick to correct, but over controls and descends to rapidly. About to re-contact the ground, the student adds back stick to correct, but over controls again, pulling the glider too high. That's a pilot induced porpoise (PIO). So, if the glider gets too high after lift off, the solution is to be smooth on the flight controls: smoothly add forward pressure on the stick. Don't get in a hurry; take your time.
4. On your first solo flight, you might think the glider is bouncing around more than usual. You are probably right. Because the glider has less weight, it has less inertia so any gusts or turbulence move it more. Just fly the plane.
5. You could unexpectedly find yourself low on final. On final approach, the glider will not glide as far. This idea sounds far fetched, but it's true. Even though you might think that with less weight, the glider would go further, it will not. The reason is that the glider weighs less; therefore, its momentum is less. Since momentum is velocity times weight, decreasing weight also decreases momentum. As an example, consider the stopping distance of a car and a semi-truck. Of course, the car will stop in a shorter distance: it has less weight to stop. In the same way, a lightly loaded glider will fly a shorter final than will a heavily loaded glider.

On your first solo flight, if you open the spoilers because that's about where you usually open them, you will make yourself low. If you open the spoilers a certain amount because that's about how much you usually open, you will make yourself low. You can avoid trouble by using an aim point, just like

your instructor taught you. Then you can easily tell when and how much to open the spoilers, whether you're high, low or about right. Nevertheless, until you are accustomed to landing solo, you could fly a slightly higher final approach, just to be sure. Shorten the downwind leg slightly; delay opening spoilers; open less spoilers initially, or combine the three methods. Also, you could plan on landing slightly further down the runway, perhaps using the fourth arrow for your aim point, instead of the third. That would give you a higher final. But don't try any of this without the approval of your flight instructor.

6. When you get out of the glider, you can't just step right out. You have to hold the nose down as you climb out. Otherwise, the glider's nose will pop up and the tail will slam down. When you're out of the glider, slowly raise the nose so that you gently lower the tail to the ground. Don't forget to close and lock the canopy.

Almost everyone is nervous about his or her first solo flight. Remember, you are ready to go solo; otherwise, your instructor wouldn't let you go. You know how to fly the plane, so just fly it. Keep in mind that different is dumb and dangerous! Don't do anything different from the way you practiced it with your flight instructor.

## **Subsequent Solo Flights**

All your solo flights are "supervised solo" – supervised by your flight instructor or another flight instructor on the airfield. Your flight instructor may wish to fly with you before you solo. If the flying conditions are different from those during your training, you will need to fly with an instructor before going solo. As you gain more experience, you will be allowed to solo without first flying with an instructor. However, you must talk to a flight instructor and get a briefing on the day's conditions before going solo.

Before soloing, you must read the "Operating Procedures" and sign the agreement form. You must follow the operating procedures. Also, you must abide by restrictions or limitations placed on your solo endorsement. Your solo endorsement is valid for a maximum of 90 days. But, your instructor may not have endorsed you to solo for the maximum period of 90 days. When your endorsement expires, you must fly with an instructor and get another logbook endorsement before making solo flights.

You must abide by any verbal restrictions given to you by your flight instructor, for example, how far you can fly away from the runway and minimum altitudes at prominent landmarks.

Don't come to the airfield without your logbook, student pilot license, and government issued photo ID. Without these documents, you won't be allowed to fly solo.

### **Don't leave the ground without:**

- ✓ Student pilot certificate and government-issued photo ID.
- ✓ Preflight inspection.
- ✓ Weight and balance check.
- ✓ Cleaning the canopy.
- ✓ Securing the back seat cushions with both the seat and shoulder straps, and making sure the cushions do not block stick movement.
- ✓ Checking the wind sock for surface wind speed and direction.
- ✓ Checking cloud movement for wind speed and direction aloft.
- ✓ Thinking about rope breaks:

What pattern speed will I use for landing? What airspeed to use if the rope breaks below pattern altitude (pattern speed).

Is the wind too fast for a 180° turn to a downwind landing?

At 200 feet, will I have enough runway length to land straight ahead, at 300 feet?

If the wind is light and I have to make a 180° turn and land downwind, which way will I turn? (Into the wind.)

✓ Pre-takeoff checklist.

When it's time to land, do your pre-landing checklist and try to have it completed before you enter the pattern; once in the pattern you can concentrate on flying the pattern and landing. After doing the checklist, it's a good time to consider the crosswind direction so you'll know what kind of wind drift to expect and how to correct for it, instead of having to figure it out in the pattern or on final approach. If you have to slip on final, you'll know which wing to lower.