

■ FOUNDATIONS OF FLIGHT | ONE-ARMED CANOPY FLIGHT

Brought to you by Niklas Daniel and Brianne Thompson of AXIS Flight School at Skydive Arizona in Eloy. Photo by Niklas Daniel. Information about AXIS' coaching and instructional services is available at [axisflightschool.com](http://axisflightschool.com).



There may come a time when you wish to make an adjustment to your equipment after you have unstowed your brakes. Whether it's routine or an emergency, having the ability and know-how to fly your parachute with one hand may be of great value. However, you should isolate this skill and practice it before relying on it when it counts.

When exploring this set of exercises, consider performing them during a hop-and-pop to give yourself clear airspace. Also, you should be comfortable with and proficient at flying the parachute you use for the drill. To stay on task, frequently re-assess and evaluate the traffic around you, your altitude and your relative position over the ground. If you wear a hand-mounted altimeter, take care not to get it caught on your toggles. Discontinue all drills at or above 2,500 feet AGL.

**Performance Objectives**

- Explore your parachute in a new and fun way to build skill, insight and versatility.
- Gain the ability to continue operating your parachute system after an arm or shoulder injury.
- Gain the ability to adjust equipment (cameras, jumpsuit, zippers, harness, etc.) after performing your canopy controllability check.
- Learn how to maintain control of your parachute if you need to disconnect your reserve static line below your decision altitude (e.g., for a water landing or other situation-specific event).

**Execution**

Once you are under canopy and have performed a controllability check, bring your hands to approximately the quarter-brakes position. While the canopy is braked, pass a toggle of your choosing in front of your body to the opposite hand while keeping the fingers of your receiving hand perpendicular to your spine. Ensure that both toggles rest firmly at the blade of your hand, then make a fist to secure them both. The arm of your empty hand can come to rest at your side, or you can hold on to your chest strap if you prefer. When you are done with the discovery drills, return to flying your parachute with one toggle in each hand by reversing the order of the instructions above.



Operation Enduring Warrior student Jonathan Lopez lands using one arm. A video of his landing is available here: [blog.niklasdaniel.com/2018/07/30/congratulations-jonathan/](http://blog.niklasdaniel.com/2018/07/30/congratulations-jonathan/).

Learn to fly the parachute in this manner with both your left and right hand.

**Caution:** Orienting your fingers toward the canopy may result in the toggles releasing from your hands. In that event, you can locate the toggle at the guide ring of the rear riser.

Jumpers with arm or hand amputations and jumpers who injure their arms on a jump need to unstow their toggles with one hand. This is a complex task that requires further instruction than that contained in this article.

**Discovery Drills**

When both toggles are in one hand, the canopy will be in brakes as you perform each maneuver. Even if you raise your hand as much as possible, the trailing edge of the canopy is still being pulled down. (For more on braked canopy flight, see "Foundations of Flight—Braked Canopy Flight," July 2015 *Parachutist*).

**Heading Control:** Execute 180-degree turns to the left and right. Pull both toggles to your right to navigate left and vice versa. It will be more difficult to turn in the direction of the hand that holds both toggles, as you are not able to pull both toggles as far across your body. (If you have to fly a landing pattern, realize that a left-hand landing pattern will be easier to navigate if you're flying with your right hand

and vice versa.) For more responsive handling, shift your weight in the direction you wish to go. Once facing your desired heading, you may have to compensate for built-up inertia by counter-steering the initial input.

**Practice Flares:** Simulate a landing by flaring the parachute. This will require more strength than a typical flare, as one arm is doing all the work. Remember to push your hand downward during the flare rather than pulling. The goal is to keep the wing level during the flare. To accomplish this, move your hand in a straight line close to your body, passing your hand between your eyes, past your sternum and belly button to between your thighs.

You should practice this drill above 2,500 feet. Do not attempt to execute a real landing with one hand.

**Pro Tip**

When landing, sticking your arm out in the direction that you are falling can help level out the canopy.

*The authors intend this article to be an educational guideline. It is not a substitute for professional instruction.*