

## FOUNDATIONS OF FLIGHT | BRAKED CANOPY FLIGHT

**AXIS**  
Flight School



Brought to you by AXIS Flight School Instructors Brianne Thompson and Niklas Daniel at Skydive Arizona in Eloy. Photos by Niklas Daniel.

Jumpers with inconsistent landings tend to spend very little time in slow-flight modes. They rarely apply half (or even quarter) brakes, which is the equivalent of always driving a car at full throttle. But flying in brakes—which slows a pilot's descent rate and forward speed, conserving altitude over time—is a useful skill.

### Purpose

- ▶ Increase pilot's awareness of a canopy's control range
- ▶ Increase pilot's awareness of a canopy's bank angle and angle of attack
- ▶ Increase pilot's landing proficiency
- ▶ Improve long-spot navigation with a tailwind (when pilot is upwind of the target)
- ▶ Gain mobility and increase ability to ease congestion through vertical separation in the landing pattern
- ▶ Improve safety of emergency maneuvers near the ground (for obstacle avoidance or to force wing out of a low turn)

### Execution

Descending at a slower rate promotes cognitive ease, which allows the pilot to process incoming information with less stress. However, slow-flight modes are less responsive to inputs, and those inputs have to be very deliberate. Full mastery of your canopy will come only by frequently practicing in slow-flight modes in addition to fast-flight modes.

Practice all canopy skills in clear airspace with enough horizontal and vertical separation from other jumpers to ensure collision avoidance. Although jumpers will commonly use these skills in the landing pattern, when practicing, all drills should cease before entering it.



### Level Flight

Soft landings require a smooth transition from fast to slow flight with a full flare before touchdown.

Experiment with soft (slow and steady) and sharp (fast and abrupt) inputs using both toggles to increase the wing's angle of attack (raise the nose of the wing in relation to the tail). Note how the lifting power and G forces produced feel in each instance.

### Turning

The goal is to cause the parachute to yaw (turn on the z axis) with minimal roll (tilt on the x axis), while preventing the canopy from surging forward ... in other words, change heading while losing minimal altitude.

Pull your toggles down to just below the bottom of your rib cage and hold this for six seconds so the canopy reaches a steady state. Once in the new flight mode, experiment by:

1. Lowering one toggle to turn in one direction (flat turn)
2. Raising one toggle to turn in the opposite direction (negative turn)
3. Combining both 1 and 2 in a scissor motion (scissor turn)

4. Shifting your body weight from side to side with no additional toggle input (harness turn)

Gradually progress from making 90-degree to 180-degree turns. (If you can make a 180-degree turn in either direction, you can theoretically avoid any obstacle). Once you are facing in the desired direction, bring your toggles back to the starting position. Your body will act as a counterweight and will have built up some inertia during the heading change, so you may need to apply opposite input *before* you reach your desired heading.

### Helpful Hints

In order to gain new skills and form positive habits, a pilot must dedicate time and effort to performing these discovery drills to commit them to muscle memory. If traffic, altitude and the position over the ground permit, each jumper should take advantage of his holding area to work on his canopy skills, including experimenting with slow-flight modes. Do not be in a rush to get down. Learn to enjoy your canopy ride as much as you do your freefall maneuvers.