

■ FOUNDATIONS OF FLIGHT | BACK-FLY BACKWARD DRIVE

Brought to you by Niklas Daniel and Brianne Thompson of AXIS Flight School at Skydive Arizona in Eloy. Photo by David Cherry. Information about AXIS' coaching and instructional services is available at axisflightschool.com.



Goals

Increase your mobility and air awareness

Prerequisites

Before attempting horizontal movement while back flying, you should first be proficient at the basic back-fly neutral body-posture (see "Foundations of Flight—Basic Back-Fly Position," July 2012 *Parachutist*) and heading control (see "Foundations of Flight—Back-Fly Turns [Heading Changes]" April 2016 *Parachutist*).

Orient yourself perpendicularly to the aircraft's line of flight as soon as possible after exiting and before engaging in any horizontal movement. You can accomplish this by looking back up at the airplane immediately after exit to use it as a reference. Since you will not be able to use any landmarks on the ground to maintain your heading, align yourself with the airplane so that your body's longitudinal axis is parallel with the aircraft's wings.

Use a wrist-mounted altimeter, since a chest-mounted altimeter is unlikely to read correctly while you are on your back, and wear an audible altimeter as an additional reminder.

In the back-fly orientation, backward drive consists of driving in the direction of the feet. This is counterintuitive, since we generally see the world right-side up and would normally interpret this as a forward drive. To help your perception, keep your head in alignment with your spine so that the back of your head is exposed to the relative wind. Then, try to present the crown of your head to the relative wind. This more clearly defines the forward direction and is a great way to prepare for flying in the head-down orientation, since you become accustomed to seeing the world upside down.

Execution

Exit either on your belly and use a half barrel roll to get to your back (see "Foundations of Flight—The Barrel Roll," April 2011 *Parachutist*) or use the back-fly floater exit ("Foundations of Flight—Back-Fly Floater Exit," April 2015 *Parachutist*) to get started. Once you have gotten your bearings and established your flight path, initiate a small drive backward (in the direction of your feet) by using your arms and legs.

By bending your legs (heels toward butt) and pulling your knees toward your torso, you are removing drag on your lower body. This, coupled with straightening your arms above your head (increasing the surface area of your upper body), will cause your torso to tilt slightly. Inhale deeply and produce a proud chest. You should feel the relative wind start to push you in the direction of your legs. Resist the urge to look through your legs, as bringing your chin toward your chest may result in your upper back rounding.

Helpful Hints

The pelvis plays a vital role in maintaining stability and making this maneuver successful. As you pull your legs in, rotate your pelvis anteriorly (think of stretching your abdominal muscles). Incidentally, this motion is an important step in learning to transition to and maintain the head-up position.

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