

## FOUNDATIONS OF FLIGHT | BACK-FLY TURNS (HEADING CHANGES)

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

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### Prerequisites

- ▶ Ability to transition from back to belly using a half-barrel roll
- ▶ Proficiency in the neutral back-fly position (see July 2012 *Parachutist*, "Foundations of Flight—Basic Back-Fly Position")

### Execution

You can start your skydive by exiting on your belly and transitioning to your back with a half-barrel roll (see April 2011 *Parachutist*, "Foundations of Flight—The Barrel Roll"), or you can perform a back-fly floater exit (see April 2015 *Parachutist*, "Foundations of Flight—Back-Fly Floater Exit"). Stay altitude aware. You will be falling more quickly than you would be if you were on your belly, and you will not be looking at the ground. Check your altitude between each maneuver, and do not sacrifice altitude for stability at pull time.

Jumpers can induce heading changes in several ways. Here are two basic ways, which isolate upper and lower body movements. After gaining proficiency at both, you can combine them.

#### Upper Body

Unlike turning in the belly orientation, in which you tilt your torso slightly on the roll axis to deflect the oncoming relative wind, on your back you will use your forearms as deflecting surfaces while your torso remains still. Maintain a neutral position with your torso and use your forearms as rudders by keeping them bent 90 degrees at the elbow. By introducing the front side of your arm and palm of your hand into the wind, you will deflect the wind in such a way that you will turn in the direction of that elbow. Your upper body will orbit around your legs.

#### Lower Body

While in the neutral position, your feet should remain below the level of your

knees in order to get a better "grip" on the air. At no point should your feet touch. When you are ready to turn, expose the inside of your shin (on the side toward which you want to travel) to the relative wind. This may be easier to do by bringing your knees closer together. You can extend your other leg, with the outside exposed to the wind, for balance and added power. In this scenario, your lower body will orbit around your torso.

#### Helpful Hint

To combine upper- and lower-body movements for a heading change, make sure you get your limbs aligned correctly with this simple trick: Think of touching your heel with your hand. When combining the techniques, you will turn at a much faster rate. Therefore, you'll need to counter the turn by using the same techniques in the opposite direction to stop.

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