

## FOUNDATIONS OF FLIGHT | HEAD-UP BREAKOFF

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



Once you reach breakoff altitude, your primary objective is to create a lot of horizontal distance from other jumpers in order to deploy your parachute safely. It may be difficult to know the location of every person on your jump, which is why it is your responsibility to clear your airspace while moving away. Avoiding collisions in freefall, during deployment and under canopy is paramount.

There are two methods to break off properly from a head-up jump—a basic method for those who do not know how to fly head down and an advanced method for those who do. As with any skill that utilizes a combination of fundamental maneuvers, you should isolate each portion of the breakoff sequence and practice it during a solo jump or with a coach.

### Prerequisites

- Maintain a neutral body posture while in the head-up orientation (see “Foundations of Flight—Head-Up Neutral Position,” February 2015 *Parachutist*)
- Proficient at neutral back-fly and back-fly forward drive (see “Foundations of Flight—Basic Back-fly Position” and “Back-Fly Forward Drive,” July 2012 and August 2017 *Parachutists*)
- Able to control heading while back tracking (see “Foundations of Flight—Back Tracking,” February 2013 *Parachutist*)
- Able to transition between back and belly tracking using a half barrel roll
- Able to perform a high-lift track
- For method 2, able to perform a head-up to head-down shelf transition (see “Foundations of Flight—Head-Up to Head-Down Shelf Transition,” October 2017 *Parachutist*) and head-down breakoff (see “Foundations of Flight—Head-Down Breakoff,” June 2012 *Parachutist*).

### Performance Objectives

- Smooth fall-rate changes (avoiding corking) while transitioning from head-up to back tracking
- Effectively track off from a sit-fly jump with multiple flyers.

### Execution

Start by visually locating the center of the formation or group, then square off with

this point (see “Foundations of Flight—Sit-Fly Turns (Arm Mechanics),” May 2018 *Parachutist*). At this point, you should be able to see most of the other jumpers. However, be sure to take a quick glance down and then up, as some jumpers may be off level.

### Method 1



Start transitioning to your back while keeping your feet close to your butt. The goal is to end up horizontally oriented and not over rotate, which can cause you to dive. (This happens frequently when jumpers get in a rush and extend their legs too early. Keep a proud chest and engage your arms.)

Once you are on your back, smoothly initiate a drive toward your head, smoothly morphing your body into a full back track. During this time, visually clear the airspace above you. When ready, execute a half barrel roll to transition to your belly. If your flying

skills permit, try to transition into a high-lift track without pitching head low. At this point, you can visually clear the space below and in front of you. If you need to perform an evasive maneuver, do it smoothly and deliberately. If another jumper is tracking in a similar direction as you, veer away from them while maintaining forward drive.

### Method 2



Using a back-flip transition to head down allows you to maintain a fall rate similar to that of a head-up flyer. Before you initiate forward drive, look to confirm that no one is in front of you. If there is, change your heading to get on a path to clear airspace. Initiate forward drive on your head, then smoothly transition into a full, high-lift back track. Clear the airspace above you, then smoothly execute a half barrel roll onto your belly.

### Helpful Hints

If this is a new skill for you, do not jump with large groups. Refine your technique by jumping with a coach. In the tunnel you can work on head-up to back-fly transitions, ensuring that the maneuver is smooth and does not resemble someone pulling a rug out from under your feet.

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