

FOUNDATIONS OF FLIGHT | BACK-FLY FALL-RATE CHANGES



Neutral position



Fast fall



Slow fall

AXIS
Flight School



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.

Prerequisites

Ability to:

- ▶ Perform belly-to-back and back-to-belly half-barrel rolls
- ▶ Back-fly in the neutral position (see July 2012 *Parachutist*, "Foundations of Flight—Back-Fly Neutral Position")
- ▶ Control heading in the back-fly position

Purpose

There are many reasons for learning to control fall rate while on your back, but one of the most common is the need to maintain level during a sit-fly jump when a partner loses his balance and "corks" (falls to a horizontal orientation and floats). By back-flying at a slower fall rate, you will be able to minimize the vertical distance and perhaps be able to salvage what is left of your working time. Likewise, the person who has lost

his balance will be able to minimize the distance between you by maintaining a faster fall rate while on his back.

Execution

Stay altitude aware! Even though your body is horizontally aligned with the relative wind in this exercise, you'll generally fall more quickly when on your back than when on your belly. Attempt each maneuver for five seconds, and follow each repetition with an altitude check.

Start in a comfortable back-fly position oriented perpendicularly to the aircraft's line of flight. Imagine an arched shape traveling between your left and right knees through your tailbone. You should be aware of the relative wind on the outside of your thighs. For subtle level changes, open and close your legs to manipulate the size of the arch produced by your legs and hips. For larger changes, you can also manipulate a secondary arch located across the shoulder blades between the elbows. As you widen your arms to travel more slowly, produce a proud chest. As you bring your elbows together to travel more quickly, sink your chest (exhale). You will have an easier time keeping your body level by moving your knees and elbows in tandem.

Fast fall rate (down)

Bringing your knees closer together will decrease the cross-sectional area

your body presents to the relative wind, which will cause you to fall more quickly. You will move down in relation to another jumper (or closer to the net in the tunnel). To increase your fall rate further, cave your chest by exhaling and rounding your back. Visualize bringing your elbows closer together right above your sternum.

Slow fall rate (up)

Separating your knees will increase the cross-sectional area your body presents to the relative wind, which will cause you to fall more slowly (float). You will move up in relation to another jumper (or closer to the top of the tunnel). To further decrease your fall rate, expand your chest by inhaling, producing a proud chest. Visualize taking your elbows away from one another with your biceps aligned.

Helpful Hint

For a very aggressive fall-rate change, stretch all four limbs to get as wide as possible (forming a large X shape with your glutes engaged). Although this is an effective way to float, you may find it difficult to maintain a heading without constant monitoring and adjustment.

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