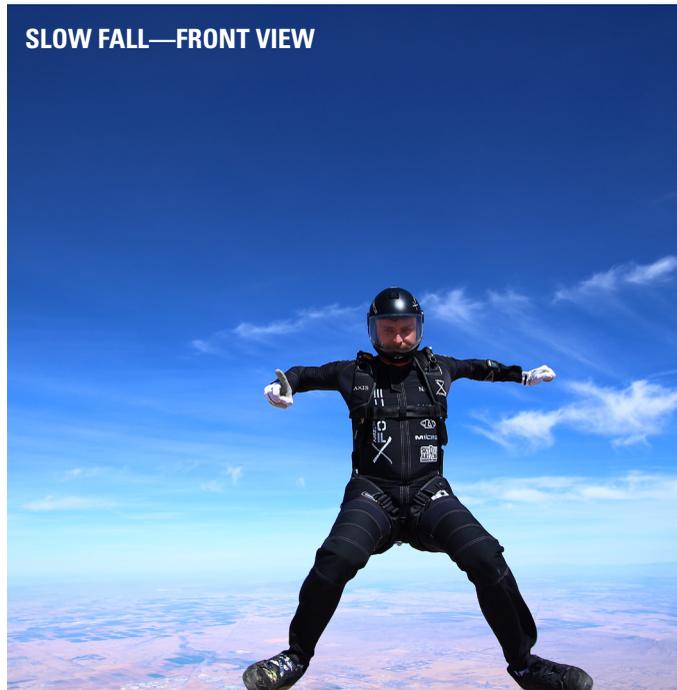
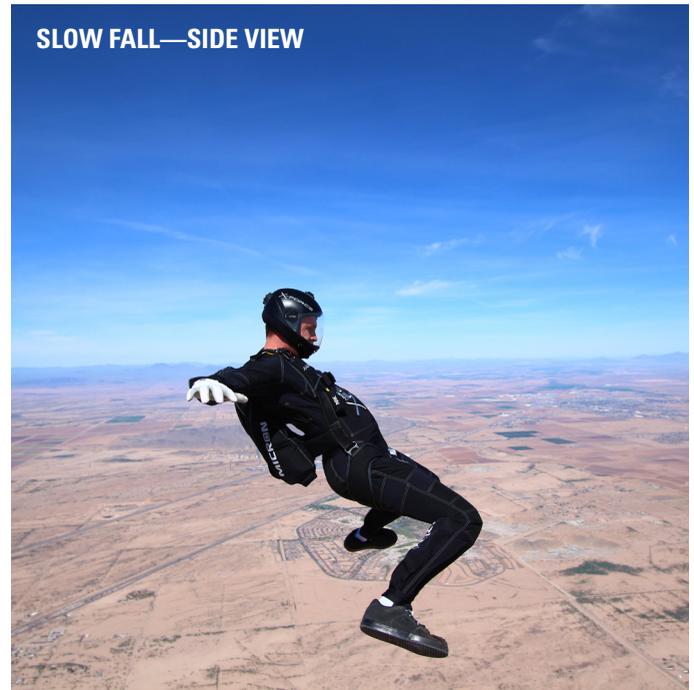


■ FOUNDATIONS OF FLIGHT | SIT-FLY FALL-RATE CHANGES (LEG MECHANICS)

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 are available at axisflightschool.com.



SLOW FALL—FRONT VIEW



SLOW FALL—SIDE VIEW

Purpose

- Increase ability to chase and fly relative to others
- Learn an important skill for taking and maintaining grips

There are many ways of flying head-up (see “Foundations of Flight—Head-Up Variations,” December 2012 *Parachutist*) or vertically oriented, and a flyer can take advantage of the various postures and their resultant terminal velocities (fall rates). Think of each posture having its own unique cruising speed. Here, we explore the leg configurations and options for the most common head-up posture: the sit.

Prerequisites

Ability to:

- Perform back-fly to head-up transitions in case of loss of balance (see “Foundations of Flight—Back-Fly to Sit-Fly Transition,” June 2013 *Parachutist*)
- Hold a solid head-up neutral position (see “Foundations of Flight—Head-Up Neutral Position,” February 2015 *Parachutist*)
- Control heading

Execution

After exiting, turn perpendicularly to the aircraft’s line of flight and come to rest in a comfortable, neutral sit-fly posture. Stay altitude aware by checking your altitude between each maneuver or every five seconds.

Slow Fall

To slow down and “fly up” (relative to another flyer), you must increase your body’s cross-sectional area to the relative wind. To properly increase the surface area of your legs, keep your knees about shoulder width apart and lower than your hips. Allow your feet to move outward and expose your insteps and the insides of your ankles to the relative wind. This will present the inside surfaces of your shins to the wind, which causes more drag. If your flexibility permits it, you can fall very slowly even with your knees touching. You should feel as if your feet are flying away from one another.

- A common misconception is that widening your stance will provide a larger base of support and thus more drag. In fact, when oriented vertically, this does not change the airflow past your legs. This movement will

cause your hip flexors to lock up and create a backward drive (see “Foundations of Flight—Backward Movement in a Sit,” September 2015 *Parachutist*).

Fast Fall

By orienting your lower legs to be parallel with the relative wind, you can effectively decrease drag and “fly down” (relative to another jumper). It is also important to relax your arms, and you may want to raise your elbows slightly to see a more obvious change.

Helpful Hints

Make sure that the pressure on your legs is symmetrical. If one leg has more drag than the other, it may cause an unwanted turn or roll. For the greatest mobility, you must learn to fly with the insides of your legs (think inseam).

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