

FOUNDATIONS OF FLIGHT | HEAD-DOWN FALL-RATE CHANGES IN THE SHELF POSITION

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.



Goals

- Increase ability to reach a formation and fly relative to others
- Increase ability to take and maintain grips

There are many ways of flying head down (see “Foundations of Flight—Head-Down Variations,” March 2013 *Parachutist*). Flyers can use the various terminal velocities (fall rates) of these positions to their advantage. Think of each position as having its own cruising speed. This article explores the leg configurations and fall-rate options for the head-down shelf.

Prerequisites

- Ability to fly solidly in the neutral head-down shelf position
- Ability to control heading (see “Foundations of Flight—Head-Down Turns,” September 2013 *Parachutist*)

Execution

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

If you imagine an arch that spans from knee to knee through the tailbone of a flyer, you will see that the leg mechanics for floating and sinking in the shelf position are related to back-flying (see “Foundations of Flight—Back-Fly Fall-Rate Changes,” August 2015 *Parachutist*).

Slow Fall

To slow down or “fly up” (relative to another flyer), you must increase how much of your body’s cross sectional area you present to the relative wind. Widening your legs will increase the drag on the outsides of your thighs and slow down your fall rate. Be careful not to widen your knees too much, as your hip flexors may lock up, causing

you to drive forward or fall to your back when your knees travel forward.

Fast Fall

Bringing your knees closer together will minimize the drag on your legs and you will start to speed up or “fly down” (relative to another jumper). Making your knees touch may be excessive but can also be a great balance drill.

Helpful Hints

Keep your feet flexed (opposite of toes pointed) and press your heels and calves into the wind. Keep your feet from touching by actively keeping your shins in parallel alignment to one another during both fast- and slow-fall-rate adjustments.

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