

FOUNDATIONS OF FLIGHT | SIT-FLY TURNS (ARM MECHANICS)

Brought to you by Niklas Daniel and Brienne 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.



Arm turn in a sit (front view)



For comparison: advanced arm turn on the belly



Right turn while looking right

Prerequisites

Ability to:

- Perform advanced arm turns (mantis position) on your belly (see “Foundations of Flight—Advanced Belly Turns,” March 2014 *Parachutist*)
- Hold a solid, neutral back-fly position (see “Foundations of Flight—Basic Back-Fly,” July 2012 *Parachutist*)
- Perform back-fly to sit-fly transition (see “Foundations of Flight— Back-Fly to Sit-Fly Transition,” June 2013 *Parachutist*)
- Hold a solid, neutral head-up position (see “Foundations of Flight—Head-Up Neutral Position,” February 2015 *Parachutist*)

In addition, it is very beneficial to be able to turn your head left and right without losing balance before attempting this drill. To practice this, get in a head-up position and focus on maintaining heading while isolating your head movements from your torso. Imagine balancing a book on your head while looking at landmarks near the horizon.

Execution

The arm motions required to perform a heading change while upright are similar to those used to make an advanced arm turn (mantis position) on your belly, as the relative wind strikes your flight surfaces from the same angle. The main difference is that the position of the arms relative to the torso is wider (to prevent your legs from burbling your arms).

The elbows remain in a static position relative to the shoulders as you move your hands and forearms up and down in opposite directions. As the forearms pivot around the elbows, you will create a noticeable pressure difference. You'll deflect the relative wind in such a way that your body will turn in the direction of your high hand. As you turn, attempt to look over your shoulder, not under your armpit, which will help keep your spine straight.

You can apply these arm motions to a variety of head-up postures (see “Foundations of Flight—Head-Up Variations,” December 2012 *Parachutist*).

Helpful Hints

Do not attempt to turn with your upper body by banking your arms as if you were in the belly “boxman” position. This will result in your body rolling on its side, similar to a cartwheel. Instead, keep your spine straight and use your forearms like rudders. If the combined motion of both arms is too difficult at first, try the move using only one arm, but anticipate a very slow response.

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