

# Foundations of Flight

## Back-Flip Transition From Sit to Head-Down Daffy

Brought to you by Niklas Daniel of AXIS Flight School at Skydive Arizona in Eloy. Photos by Iveta Muravyeva.

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When transitioning from a head-up to a head-down position, most vertical formation skydiving competitors transition over their backs instead of performing cartwheels. Though the end result is the same, the back flip has more dynamic range, is more aerodynamic and is easier to control than a cartwheel. Therefore, this article will focus on the back-flip method of transitioning.

### Purpose

To learn to fly your body in multiple orientations and to expand your range of transition maneuvers.

### Prerequisites

- ▶ Ability to fly in a comfortable and efficient neutral sit-fly position.
- ▶ Ability to fly in the head-down daffy (one leg forward, one leg back) position.

### Set-Up

In a comfortable, neutral sit-fly position, face perpendicular to the line of flight. Make note of your heading and pick a reference point.

### Execution

Start by raising both arms up until you feel the airflow on the back of your arms. (Envision reaching your arms toward the sky and rounding your upper back and shoulder blades.) Your arms will remain in this orientation through the entire transition. Then, cave in your chest by exhaling. (Imagine moving your sternum toward your spine.) At this stage, your upper body will no longer produce any lift.

Continue to look at your reference point through your legs as you fall to your back. Keep your chin tucked in, and allow

the airflow to roll over the back of your head. Allow your legs to fly upward, and keep your knees bent so you don't create too much lift (you'll feel the lift you do produce on the back of your calves). Make sure to keep your legs symmetrical and your knees about shoulder-width apart.

As your upper body continues to sink, make sure your shoulders stay away from your ears (in other words, don't shrug). The leg that is to become your forward one in the daffy should continue to stay bent 90 degrees at the knee. The heel of your back leg needs to remain above the same leg's knee level. As you end the move, it's time for your head to uncurl from the tucked position, and you should begin to focus on flying on the crown of the head.

### Helpful Hints

When performing this maneuver, you'll end up facing 180 degrees away from your original heading. Once proficient with this transition, you can remedy this by turning 90 degrees from your target, performing the transition and then turning 90 degrees back to your target (all while keeping your eyes on the target). This may seem like a lengthy process; however, with practice this method will prove to be very fast and effective.

Avoid throwing your head back in an effort to see where you are going. This will only increase the lifting power of your upper body and will hinder the transition.

Pay close attention to your legs. Do not punch your legs out into the daffy position initially. Doing so will cause you to feel as if you're stuck on your back, since you'll no longer have sufficient lift to become vertical. 



To view the instructional video, use the QR code to the left or visit the Foundations of Flight page at [parachutistonline.com](http://parachutistonline.com).