



04 Belly-Flying Up and Down (Fall Rate)

Pre-requisites

In order to learn upward and downward movement while belly-flying, you first need to be able to belly-fly in a neutral body position, hold that position stable, remain on heading, and control any unwanted forward or backward movement.

Objectives

The primary objective is to be able to safely and successfully demonstrate upward and downward movements (slow fall rate and fast fall rate) while belly-flying, remaining stable, on heading and in the center of the wind tunnel throughout.

Preparation

You will start in the center of the wind tunnel, off the net, facing in a direction that does not point you toward a doorway or put a doorway behind you; this will keep you from hitting the doors during this maneuver. When signaled by your coach, you'll first begin an upward movement.

As you gain altitude in the flight chamber the speed of the airflow will gradually decrease at a specific height. Once you reach the peak of the upward movement where you can no longer gain more altitude, you will then start a downward movement and return to the initial altitude where you started. You should be stable and under control throughout both of these movements. Make sure that you use the skills you've already learned to maintain the correct heading and avoid flying yourself forward or backward toward the tunnel wall.



Technique and drills

Upward (Slow Fall)

Beginning in your neutral position, first flatten out your torso so that from your shoulders through your hips to your knees is flat.

As your torso is adjusting and creating lift, you will need to extend your arms away from your torso, keeping them flat and avoiding the tendency to press down on to the airflow.

Slightly extending your legs to balance out the lift between your upper and lower body will help your upward movement and will also help manage any unwanted backward movement. Note - extending your legs too much will mostly create a forward movement toward the wall. A delicate balance of leg movement is required.

Manage your heading by making slight upper body movements to counteract any unwanted heading changes during the maneuver.

To stop upward movement, you can return to a neutral belly-flying position, or if necessary, you can adjust to a downward (fast falling) position to help you stop the movement faster.

If you are performing this maneuver using the “Mantis” belly-flying position, the elements above will work very similarly except for the following: as you flatten out your torso, you will need to spread your elbows wide, placing your arms flat to the airflow before you extend your arms.



Basic - slow fall

Downward (Fast Fall)

You may start this maneuver from either a neutral position or from your upward movement position.

First, your torso will need to be arched, slightly more than what is required for your neutral position.

It's important when arching your body that your hips are the lowest point of your position.

Your arms, if extended, will bend past the neutral position bringing your wrists closer to your shoulders, lowering your elbows down reducing the surface area presented to the wind.

Your legs will bend either back to neutral or slightly more depending on what is necessary to avoid moving forward or backward.

Make sure you keep your chin up for this skill, which will help to reduce your surface area, helping the downward movement.

When you have reached your desired altitude inside the tunnel, you can return to a neutral belly-flying position, or if necessary, you can adjust to an upward (slow falling) position to help you stop the movement faster.



Basic - fast fall

Post-Flight Questions/ Suggestions

- How did your performance match the initial objectives?
- Were you able to maintain stability throughout while moving up and down?
- What did you feel comfortable with and what can you improve on during the next session?
- Were you able to move and stop at a predetermined altitude consistently?

What Skill Level Is Next?

Once you can successfully move up and down with control, then you should begin to learn belly-flying side slides. Continue to advance your up and down skills so that you can move to any altitude and stop and remain at that altitude. You may want to consider flying together with your coach; you can practice by trying to match your coach's rate and movement as he or she moves up and down.

