

VERTICAL

Journey



The Art of New Age Skydiving

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Sitting on Air:

Upright Body Position

The Pulling Position

As students we were taught to 'Arch'. This basic body position was developed at the dawn of our sport. The purpose was purely utilitarian: Put the blue side up and the green side down such that the parachute typically worn on the back could be deployed safely. Granted a belly-to-earth attitude is the safest way to open your parachute.

But jumping from over ten thousand feet as we do, why be in such an all-fired hurry to prepare for pull-time? That's like eating in the bathroom! Yes, pulling is inevitable...but why spend your entire skydive preparing for its end?

Enter: The 'Chair

Similar in function to the flat-fliers' 'box' position, free-fliers use a body position we call the 'Chair'. The function of this body position is to provide a vertical 'home base'. The position places the free-flier in a completely upright attitude, allowing us a normal visual field, unlike the (initially) confusing inverted perspective to be discussed later in the book. The Chair position also allows easy alterations of heading, fall-rate, and horizontal movement. The Chair has a tremendous versatility of fall-rate, making it easy to fly relative to almost any other body position.

The Chair consists of four main elements:

One: Feet pressed down, flat against the relative wind.

Two: Knees bent at (about) a 90 degree angle.

Three: Arms held straight out to the sides, slightly behind you.

Four: Back completely upright.

Keep in mind that this is the 'textbook' Chair position. Your individual flying technique may be different, and that's cool too, as long as it works. There are no real rules in free-flying, otherwise it wouldn't be *free*.

Lower Body

The most common error in novice sit-fliers is falling butt-first, with their feet out in front of them. This is not sit-flying, and you can't maneuver terribly well from this position. Your lower legs need to be parallel to the wind in order to fall straight down with zero movement.

Previous Right:
Brian and Jim frolicking
over Sebastian.

Your feet must be directly beneath your knees, flat against the wind flow. Pretend you are riding an invisible surfboard. Fly your feet! The term 'Sit Flying' is descriptive of how the position looks, a better term for how it *feels* would be: 'Foot-Flying.'

As flat-fliers must concentrate their energy and attention towards their navel to perform a perfect center-axis turn, sit-fliers must think of their feet. Passing through the fluid we call 'air', the location of greatest resistance is at the point of the arrow. For a free-flier in an upright attitude, this point is the feet. One must concentrate intently on the position of the feet, and in doing so, project your energy downwards. The force of air pushing up must be countered by an equal and opposite force pushing down. Such a balancing of forces creates a new status quo, a new stability.



Let us use a model. Think of how your hand feels when it is 'flown' outside the car window. Don't be embarrassed, everybody does it. When your hand is flat to the wind, the movements are slow and easy. This is the equivalent of flat-flying. When your hand is pointed into the wind, however, any little change will result in a drastic movement or force. This is the kind of volatile air we are dealing with when we skydive vertically. We are following the path of least resistance through the air, and thus we need to make only minor corrections to alter our flight path.

*Sunset sit-fly over
Malone, New York.*

The 'leading edge' of an object that is vertically oriented to the wind can be referred to as the 'reactive surface'. When we are freefalling upright, this reactive surface is our feet. We must focus a high percentage of our attention and energy towards our feet and lower legs, making any changes in their orientation to the wind subtle and deliberate. This is unarguably one of the most important concepts to grasp in vertical skydiving,

Feel your feet! Push down against the air as if you were standing on the ground. Getting control of your feet is essential to learning this new and fantastic way to fly. They'll want to wobble and wander in the wind, like a salmon swimming upstream, so keep them steady and don't over-correct.

You will find out rather quickly that a lower leg that is not exactly parallel to the wind-flow will promptly cause a dizzying spin. It is therefore vitally essential to have a crystal-clear mental picture of exactly where we are pushing our feet; where we are projecting our energy. The air wants to move you, like it or not. It's a bit like powersteering. Place your hands firmly on the wheel and drive. If you don't steer, the air will do it for you.

*Brian and Jim hangin' out at
Sebastian, Florida*



“Not to decide, is to decide.”

The trick to controlling unnecessary motion in free-flying lies in ‘neutralizing the reactive surface’.

This means finding the ‘neutral’ position of your leading edge, your feet in this case, and keeping this area of your body ‘quiet’. The nose of an airplane is not used for steering for a reason. The leading edge is too reactive to use for minor heading corrections. Therefore it is best for you to keep this area mostly neutral, especially in relative work situations.

Another important issue with regard to foot-position concerns the width of your stance. It is generally easier to sit on a chair that has a wide stable base, rather than a single point on which to balance. Therefore you will probably find it easier to sit with your feet about shoulder-width apart. There’s nothing wrong with flying with your feet together, or even crossed. Be aware, however, that this is a slightly less stable position, one that requires a bit more attention to maintain.

The final topic concerning your feet is footwear. Yes, your shoes affect your flying. As stated, the leading edge in any aerodynamic system is critical. A sharp, ‘shallow entry’ significantly decreases the resistance or ‘drag’, forming a more aerodynamically-sound vehicle. Now, our goal in vertical flying is not so much speed as control. Big shoes with loads of drag will throw you all over the sky, dulling your control. It’s like playing the piano with ski gloves on: it can be done, but it is markedly harder. Go for footwear that is ‘aerodynamic’. Wrestling or karate shoes work nicely, barefoot is even better. Sport sandals tend to be hard to fly, but some sit-fliers swear by them. Find what works for you.

Upper Body

The standard position of the arms in a zero-movement Chair position is more or less straight out to the sides and slightly behind you. Your hands should be slightly above your shoulders forming a 100 to 120 degree angle from your torso. The exact position will vary from person to person, as individual fall-rates and flying styles differ. This is a neutral position, that allows for quick, easy access to all of the available flight modes. Like a cat ready to spring on its prey, we are completely balanced, and thus prepared to quickly make any maneuver we choose. Start balanced, in the middle of all your flight modes, and you are ready for anything.

A major function of arm position is fall-rate control. If you relax your arm muscles, the relative wind will push them up to an acute angle, allowing your fall-rate to increase. Likewise, pushing down against the wind will slow your airspeed. When you are in a relative-work situation, try to use your arms as the primary fall rate adjuster to close any vertical distance. The movements will be slow and smooth, making it less likely for you to take anybody out.



The second function of your arms is heading control. We will discuss the various methods of turning in the chapter on 'Movement Techniques'. For now, remember that if you are pushing down equally with both arms, your upper body will not start an uncontrolled spin. Set them symmetrically out to the sides and hold them still.

Your hands are also an important part of the equation. Pressing your palms and fingers against the wind will slow your airspeed, but also can make you a bit more unstable. Likewise, angling your hands upwards, like the 'winglets' of a 747 will make you more stable. If you are finding that the ride is a bit more rock-n-roll than you expected, let a little air go, it may settle things out for you. Don't fight the air, it is your friend.

Although a dual-wing sit-suit makes your upper-body work a great deal easier, it is not entirely necessary. Sit-flying can easily be done using tight lower clothing and a loose-fitting top. There are those that really dig old-fashioned 'balloon suits'. For precision relative-work, however, I have found the dual-wing technology to be a big help. You don't need booties to do traditional four-way, but there is a reason why all of the top teams use them. Your hands are an important deflective surface, and drag out at the 'wingtips' certainly comes as a welcome flying aid. Webbed 'duck-gloves' can really help in fall-rate and can be used in conjunction with any of the elements described above. They can be a real hassle under canopy, though.

Don't get too hung-up on attire. Sitting can be done with regular skydiving jumpsuits, or none at all if you choose. It's your body that does the flying, not the suit.

Opposite:

Brian drives over to a friend over Vermont Skydiving Adventures.

Brian and Jim fly a 'toe-tip' dock over the Florida inter-coastal; Sebastian.

