

FOUNDATIONS OF FLIGHT

HARNESS POSITION AND INPUTS

Brought to you by Niklas Daniel and Brianne Thompson of AXIS Flight School at Skydive Arizona in Eloy. Images by Niklas Daniel. More skydiving educational content and professional coaching services are available at axisflightschool.com.

Rapid improvements in canopy flight occur as jumpers learn to incorporate their lower bodies, just as in freefall. Newbies tend to manipulate their parachutes using only their arms, but incorporating correct hip and leg mechanics allows for a more coordinated and comfortable way of moving. To be most effective, the canopy pilot should have properly fitting gear and be correctly positioned in the harness.

POSITION

For a jumper's legs to maintain maximum range of motion in freefall, the leg straps are positioned high on the thighs close to the crotch. This is especially important while freeflying in the head-up orientation, which is why many jumpers implement a freefly mod (a bungee cord that connects the leg straps across the butt). Under canopy, however, this high position of the straps can cause discomfort and prevent access to harness inputs. Improving this situation requires repositioning the leg straps after deployment but before completing your canopy-control check (which would cause you to bring your toggles down to your leg straps and possibly result in a stall). However, you should still visually inspect your canopy to ensure it is flying straight and level and remember to complete your canopy-control check prior to your decision altitude.

After deploying your canopy and visually checking it, steer toward clear airspace using your rear risers. You can then tend to house-keeping items like collapsing your slider and making the appropriate harness adjustments. With the toggles still stowed on the rear risers, raise your right knee and grab the right leg strap with one or both hands near your butt. Then shift the webbing forward toward the right knee. The leg strap should end up around top of the thigh just below the butt. Repeat on the left leg.

Your jumpsuit grippers may get in the way, but it is important to keep the leg straps tight. Do not touch your leg strap buckles to loosen your leg straps to reposition them. The goal is to be in a seated position in the harness with your knees in front of your hips rather than to be hanging from the crotch with your knees below your hips.

INPUTS

The purpose of shifting weight in the harness is to either create a turn or cancel one out (such as during a crosswind landing). This allows for a canopy pilot to stay on course without having



Brianne Thompson makes an aggressive left turn with the combined application of harness and rear-riser inputs under a 107-square-foot Performance Designs Sabre3 canopy.

to sacrifice airspeed with unnecessary inputs of the toggles. Jumpers can also use weight shift during deployment for heading control. Though the canopy will be less responsive to this than using the toggles or risers, jumpers should learn to coordinate their turns for a proactive piloting method. Aerodynamically, harness inputs produce the cleanest turns possible since, when applied correctly, both the front and rear riser of the same side come down, causing a chord-wise (nose to tail) crease in the canopy. This produces less drag than a toggle or riser turn.

EXECUTION

While in level flight, imagine a vertical line that connects the tip of your nose with your belly button. To start a harness turn to the right, cant this line with your nose toward the right. This will help unload the left leg strap and place more weight on the right leg strap. You can

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exaggerate this movement by lifting your left knee up and then positioning it across your body slightly. In addition, you can experiment with leaning your torso forward or backward. While raising a leg can help produce a turn, it is more about learning to rotate and shift the pelvis in such a way that the hip rings of the harness are offset vertically.

To see how effective your harness turns are, try this skill-building exercise well above your decision altitude: Release and place your toggles at the guide rings of the rear risers. With your hands by your sides, try to create a heading change without using your arms. Remember to clear your airspace before turning.

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