

The Canopy Toolbox

“Left Turn, Right Turn, Flare”

Let's consider what physical tools we are given from an early stage to land a parachute safely. When we really stop and think, all we have ever been taught is: left turn, right turn, and flare. Is this really an adequate amount of tools to land the canopies of today in every situation we encounter, safely and softly?

Yet with almost every progression system, this is all the information we are given. Ultimately one of these three options is chosen in the wrong situation. If you jump for long enough you will encounter a situation that selecting one of these three tools is the wrong decision and will lead to injury or death. To drive a car you need a lot more information and inputs than just being able to turn the car left, right and stop!

My Toolbox

Today we must look at flying modern canopies differently. We must ask ourselves:-

- Do we have the skills to fly this parachute in every situation?
- What are the tools of flying the modern parachutes of today?
- How many inputs do I currently have and understand?



Basic Tools

Tool 1: Slow Flight

In every situation our defence mechanism under the parachute is to slow down. If we slow down we control our descent rate, give our brains time to kick into action, and maintain altitude to make decisive inputs. What is the definition of slowing down? Deep toggle input, close to but not at the stall point, allows us (for a period of time) to slow both our forward speed as much as possible and maintain as much altitude as possible. How long can we fly like this before we start to lose lift again and where is our hand position?

NB: When trying to fly slowly you will be close to your point of stall, so learn where this is first. Practice at a safe altitude.

Tools 2, 3, 4: Minimum Loss Turns

What type of turn loses the least amount of altitude?

A flat turn is defined as flying slowly with toggles and raising one toggle to turn in the opposite direction. Try several different toggle inputs to find out what hand position gives you the quickest turn with the minimum height loss.

A deep braked turn is defined as flying slowly with toggles and pulling one side down to turn in this direction. Again, try several different toggle inputs to find out what hand position gives you the quickest turn with the minimum height loss.

A combination turn, reducing altitude loss further whilst flying slowly, is defined as slow flight and a harness turn. To do this turn, fly slowly using deep toggles and experiment raising one knee to turn in the opposite direction.

NB: With all Minimum Loss Turns you are flying close to the point of stall, so learn where this is first. Practice these techniques at altitude.

Tools 5, 6, 7: Flares

How slowly can you fly and still have enough flare to land? Having a **flare from deep toggles** is essential for those situations where you have to avoid traffic when you are too close to the ground to return to full flight. Or perhaps that nightmare off-landing where you have to slowly sink the canopy into a tight landing area. To practice this flare, pull down evenly on the steering toggles and count **five** (((Brian - this did say 'fly')) seconds to ensure the forward speed of the canopy is reduced. Now try and flare the canopy further with the toggles. How slowly can you fly and still have enough flare to land?

Can you flare during a turn? A **banked toggle flare** might be necessary during a landing flare to avoid an obstacle. To practice, initiate a 360° turn on toggles up high, noting your heading. As you come around to approximately 270°, initiate a flare but complete your turn during the flare to finish on your original heading.

What happens if you lose a toggle or a steering line? A **rear riser flare** is an essential tool to have to ensure we can still land the canopy without injury. Practice up high how the rear risers flare the canopy. By doing this you can find the flare range of the rear risers and the point of stall with the rear risers.

Understand the **progressive flare**. The progressive flare moves away from the 'student' and 'staged' flare which are mechanical. Students are taught to wait until a certain height from the ground and then to mechanically pull down evenly on the steering toggles. The progressive flare moves people on to understanding why the canopy is flared for landing. We flare the canopy to convert the energy of 'airspeed' into the energy 'lift'. To understand this flare, practice up high and find out your hand position of the first point at which you start to get lift. Then work out the hand position where you no longer get any lift (this can either be the point of stall or where you arms are fully extended in the flare). Now you have your flare range. Up high, practice feeling this exchange of speed for lift by working through the flare range, stopping every time you have the feeling of lift.

Safety First!

If attempting any of these drills, experiment above a good hard deck altitude (minimum 2,500 feet). Ensure you check Traffic, Altitude, Position (TAP) before you make any manoeuvre.

These basic tools are all about slowing the airspeed of the canopy down and creating lift. Before looking at any input to increase speed, be sure your toolbox contains all inputs to slow your canopy down, maintain altitude and obtain lift. Slow Flight is our 'foetal' position. This is the tool to select in nearly every type of pressured circumstance to allow time for our brains to catch up, manage any problems and make the correct decisions.

Building Your Toolbox

Whenever we progress on to further canopy objectives such as high performance landings, flying through gates or competitions, we need to ensure we have a good selection of repeatable inputs. Examples of more advanced inputs are: front risers, rear risers, harness turns and combination turns. Any person can grab and pull down on a front riser and dive a canopy towards the ground but what techniques do you have available if it all goes wrong? Using set-up points and understanding exactly how much height is needed for any input are the absolute minimum in order to perform speed inducing approaches.

High Repetition

High repetition builds technical understanding, altitude information, muscle memory and confidence. Ensure that you can move around all of your control inputs smoothly and quickly and that you can choose the correct input for the correct situation. Just because you have used a technique once does not necessarily mean you are comfortable with it and would be able to select it in a pressured situation.

Develop Your Toolbox

Understand this: if the only inputs you have at your disposal are "left turn, right turn, flare", you are at risk! You must develop the tools you have available, even if you are a very cautious pilot under the most conservative canopy. Ask questions from instructors you trust. Do not accept restrictions on the number of techniques you have available to use. This, in turn, restricts the amount of tools you have at your disposal to make the correct decision in a difficult situation. Develop your understanding, muscle memory and confidence by repeating these techniques in canopy-specific dives above a safe hard deck altitude.

Brian Vacher
info@safeflightschool.com



Brian Vacher

