

ACCELERATED FREEFALL COURSE

A.F.F.



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1. Introduction

1.1 *Your skydiving course*

Thank you for choosing us in introducing you to the awesome sport of skydiving. The effective and specific contents of this course, guaranteed by the professionalism of our instructors and the constant update of both the methods and the gear makes this the most widely used course in the world.

The A.F.F. program is tailored to each student so that it allows a specific and complete preparation, with particular attention to achieving goals through effective training.

1.2 *The method*

With the A.F.F. method you will be accompanied by two instructors in freefall. You will jump from a minimum altitude of 4000mt,(13120 ft) from which you'll have roughly one minute of freefall before opening your parachute. This will allow you, through the 7 levels in which the course is structured to rapidly learn how to control your body, be aware of altitude and performance exercise under the assistance of your instructors in freefall.

You'll also be prepared to handle your canopy flight, so that after your parachute opens you'll be able to safely return and land on the ground.

Each of your jumps will be recorded by your instructors in freefall, and the video will be used as a learning tool to perfect your technique and improve jump after jump.



Freefall jump priorities:

- Pull your parachute
- Pull at the correct altitude
- Pull in a stable position

1. The parachute

A parachute is essentially 3 components, plus auxiliary devices:

- Harness/container
- Main canopy
- Reserve canopy
- Auxiliary devices

The **harness** is made up of strong webbing straps that keeps the skydiver contained (much like a climbing harness) and the container attached to him.

The **container** is the “back” part of the parachute, and it holds both the main and the reserve canopy, that can be operated independently by two different [handles](#).

The **main canopy** is housed in the bottom part of the container and it is the one normally used during skydives. It is a steerable ram-air canopy, which flies using very much the same principles of an airplane.

It is made up on nylon fibers, and it's connected to the harness via the quick release “[3 rings](#)” system.

The **reserve canopy** is housed on the top part of the container and is firmly attached to the harness (cannot be detached). It is inspected, certified and packed every 180 days by a specialized technician known as a “rigger”, regardless if the canopy has been used or not.

Auxiliary devices are all those parts that can be detached from the parachute without cutting or un-stitching, such as [handles](#), [pilot chutes](#), [deployment bag](#) and [safety devices](#).

2.1 Container/harness



The **main handle** is located on the bottom right of the container, it's a simple plastic cylinder attached to the **pilot chute**.

The **pilot chute** is packed inside a pocket at the bottom of the container, called B.O.C. pouch. Once it is thrown into the air stream it inflates, pulling the **main pin** and then the **deployment bag** out of the container, initiating the **main canopy** opening sequence.

The **3 rings** quick release system connects the **main canopy** to the harness, and it allows us to cut it away in the event of a malfunction. The main canopy needs to be cut away before deploying the **reserve canopy**, otherwise the two canopies might entangle with one another. The 3 rings system is a force de-multiplier, so that we can cutaway the main canopy no matter the load it is under.

The **cutaway handle** is a red sausage-like handle located on the right side of the parachute, and pulling it will initiate the **3 rings** release sequence.



The **reserve handle** is a metal D-handle located on the left side of the parachute. It is connected to the reserve pin, so when pulled this handle will initiate the **reserve canopy** opening sequence.

2.2 *The main and reserve canopies*



Minus some small difference, as you can see the main (left) and reserve (right) canopies are pretty much the same, as far as how they look and how they are controlled. They both have control toggles that are easily accessible on the rear risers. So when you'll learn how to fly a main, you'll also be learning how to fly a reserve. However these canopies are very different in their purpose and deployment sequence.

2.3 *Backup devices*

On your parachute you will have two safety backup devices mounted on it, that will act as kind of guardian angels. One is called **RSL**, the other one is the **AAD**.

RSL (Reserve Static Line)

The **RSL** is a device that connects one of your main risers to the reserve pin, via a carabiner type shackle and a small piece of webbing tape. It's purpose is to open the reserve container once the main canopy has been cutaway.

When needed, the **RSL** can be deactivated simply by detaching the carabiner shackle from the riser.



AAD (Automatic activation devices)

AADs are small computers fitted inside the container, whose job is to open the reserve container in the event of an unconscious skydiver. These computers calculate your altitude and speed and will activate if you pass a certain safety threshold, basically if you are too close to the ground and still in freefall.

The two most widely used **AAD** brands are **Cypres** and **Vigil**.

The device operates with a control unit (black box), a cutter (cylindrical piece) and a user interface LCD screen with a button. AAD's are turned on on the ground and the computer will go through a series of self-checks and it will then calibrate the altitude at which it has been turned on.



Once it is ready to be operated, the LCD screen will read a "0" for the Cypres brand, or it will read "Student" for the Vigil.





BE AWARE

THE PRESENCE OF THESE DEVICES, ABSOLUTELY DOES NOT
SUBSTITUTES THE CORRECT EXECUTION OF THE
EMERGENCY PROCEDURE, WHICH IMPOSES PULLING THE
RESERVE HANDLE NO MATTER WHAT. THESE DEVICES ARE
ONLY BACKUPS TO ENHANCE SAFETY, THEY ARE
ELECTRICAL AND MECHANICAL AND AS SUCH THEY CAN FAIL.
YOU SHOULD NEVER RELY ON THEM.

2. Clothing and accessories

Helmet: to protect ourselves from hits during the exit, freefall or landing.

Radio: we'll use it to communicate with you during your canopy descent, giving you support and directions. However like any devices it can fail, therefore you shouldn't rely on it.

Goggles: to protect your eyes during freefall and allow you to see.

Jumpsuit: it will have special grips so that your instructors can easily grab you during the jump.

Altimeter: Mounted on the back of your left palm, it will constantly indicate the distance from the ground where you took off.

3. How does a parachute opens

When you pull your main handle, and toss it into the airstream, the small pilot chute will grab air, inflate and act as a dynamic anchor for the deployment sequence.

As you keep free falling, the inflated pilot chute will pull the pin out, the main container will open and the deployment bag (**D-bag**) will come out. The lines will start to stretch and once all of the lines are stretched in the air the canopy will come out of the bag. It will catch air and start to inflate, and this is when your freefall speed will start to decrease and you'll transition from an horizontal position to a vertical position. As the canopy inflates you will feel the **opening shock**. The **slider** will slow down the inflation opening to make it more comfortable, as the canopy opens it will slide down the lines until it'll stop at the risers. Once this sequence is complete you'll be able to grab hold of the toggles and start flying your canopy.



4. Airplane procedures



REMEMBER
**NEVER BOARD THE AIRPLANE WITHOUT
HAVING HAD YOUR EQUIPMENT FULLY CHECKED**

You'll always have to arrive at the loading area with your rig and all your equipment correctly donned. You'll also always be accompanied and supervised by a DL (direttore di lancio) whom you'll speak to regarding airplane seating and all other matters.

The usual procedures are these:

- Always approach the airplane door from behind, away from the propeller even if it's not spinning.
- Keep your helmet on and fastened until 300mt.(985 ft)
- Use the 15 minutes of the airplane climb to focus, visualize and get prepared for your jump.
- Check your rig and equipment again a couple minutes before the door opens.
- Always follow your instructor's directions.
- **Always be mindful and protect all the handles of your parachute when you are seated or moving in the airplane,** in order to avoid any accidental deployments.

5. Airplane emergency procedures

Skydiving airplanes are usually not big and spacious, plus they're always packed to the maximum.

You must always take great care in how you move in the airplane as to protect yours and others' handles, in order to avoid any accidental deployments.

ACCIDENTAL OPENING INSIDE AN AIRPLANE

DOOR CLOSED: If your d-bag or canopy has accidentally opened inside the airplane, quickly get a hold of it and right away and alert your instructor or the DL. You will land with the airplane.

DOOR OPENED: If your pilot chute, d-bag or canopy accidentally opens while the door is open, QUICKLY grab it to avoid it getting out of the airplane and QUICKLY alert your instructor or DL. The door MUST get closed quickly.

If any part of your parachute opens and manages to leave the airplane door, YOU MUST FOLLOW IT AND JUMP OUT RAPIDLY. You won't have any chance to grab it so you must follow it immediately.

If you happen to be hanging from the airplane, disconnect the RSL, cutaway your main parachute and open your reserve.

6.1 Airplane emergencies

Even though airplane are thoroughly checked and prepped, they might fail. It is a very rare occasion, nonetheless we must be prepared for it.

In the event of an airplane emergency the pilot will make the decision on what to do, and it will relate that decision to the instructor or the DL.

During an airplane emergency, listen to your instructor, he will tell you what to do.

Based on the altitude, it will be one of four procedures.

UNDER 300MT (985 ft)

The entire load will land with the airplane. Keep your helmet on and fastened and assume a safety position (like what you see in airline safety videos) and prepare for a hard landing.

300 TO 900MT (2950 ft)

Bail on your reserve.

Your instructor will tell you to bail on reserve, position yourself on the door with your left hand on the reserve handle, jump out as soon as your instructor tells you to do so.

BEFORE PULLING THE RESERVE HANDLE COUNT 1001 - 1002 - 1003 in order to create enough separation from the airplane.

Look for an appropriate landing area as soon as you are under canopy.

900 TO 1700MT (5580 ft)

Bail on your main.

Procedure is basically the same as bailing on your reserve, however when positioning on the door you will put your right hand on the main handle, count 1001 - 1002 - 1003 and then deploy your main parachute.

Look for an appropriate landing area as soon as you are under canopy.

1700MT (5580 ft) AND UP

The jump will proceed “as planned”, adjusting the exercises depending on the actual exit altitude.

Look for an appropriate landing area as soon as you are under canopy.

In the event of an aircraft emergency it's bound to be really loud in the cabin, so keep calm and silent in order to facilitate communications between pilot and instructors. Follow your instructor with your eyes so as to be aware of their instructions at all times.

YOUR DUTIES IN THE AIRPLANE:

- PROTECT AT ALL TIMES ALL YOUR HANDLES AND BE AWARE OF OTHER'S**
- BE VERY MINDFUL OF YOUR MOVEMENTS**
- ALWAYS LOOK AT YOUR INSTRUCTORS**

6. Your first jump

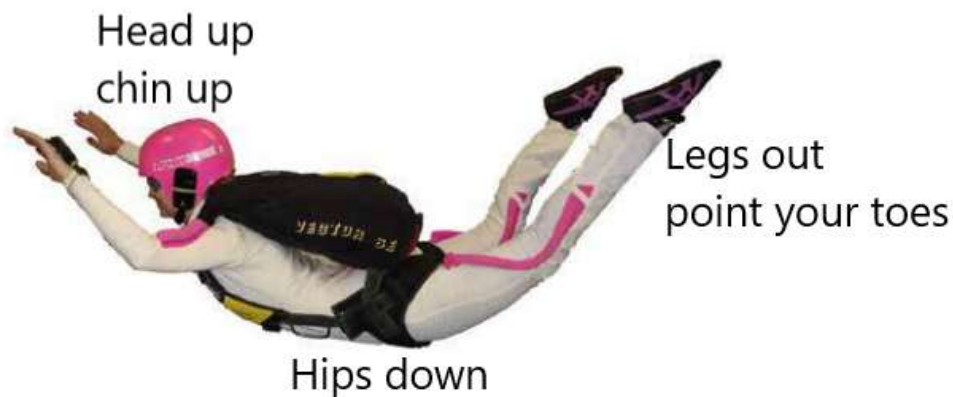
7.1 Exit sequence

Once it's your turn to jump, your instructors will tell you to position yourself on the door just as you practiced on the ground. Move closer to the center of the door, carefully sliding on the bench. Position yourself on the center of the door, with the right foot on the step, and the left knee on the edge of the door. Extend your arms and head out, breathe, and when you're ready start your exit sequence.

Look to the instructor on your left and ask "OK?", wait for his "OK". Look to the instructor on your right and ask "OK?", wait for his "OK".

Then as you say it loudly go on with your exit count "UP, DOWN, ARCH" simultaneously moving your arms up, down and up again as you push your chin up, hips out and point your toes. **ARCH!!**

7.2 Freefall position



The correct position "Arch" for a stable freefall is made up of:

- Hips pushed down
- Head up and chin up
- Look to the horizon
- Arms squared at 90 degree angle
- Legs at shoulder width
- Legs out and toes pointed outward
- There should be no muscular tension in your body

7.3 ***Stability***

The foundation of a stable position is symmetry, awareness and relaxation in all parts of your body. All the forces acting on your body during freefall have to be in complete equilibrium.

7.4 ***The first 5 seconds***

Once the airplane door will open, you'll experience sensory overload, adrenaline, tunnel vision and your body will go in fight or flight mode. It is paramount to keep breathing and to consciously remain calm and aware.

As soon as you leave the airplane you will be engulfed by the air, and these first seconds are the most important to gain stability. Keep your head up, look at the horizon and exhale deeply in order to help yourself obtain a stable position - Arch -

7.5 ***First jump exercises***

Altitude awareness: Once you are out of the airplane and stable, consciously look at the altimeter on your left hand, read the altitude and communicate it to your left instructor, wait for his "OK" then do the same with your right instructor.

Practice pulls: You will have to perform three practice pulls, you will check your altitude, then bring your right arm around and to your back to find and grab the pilot chute handle, while your left arm comes in front of your forehead to balance your position in order to maintain stability. Once you have grabbed and felt the pilot chute handle, let go of it and return to your neutral Arch/box position.

Alti check: All throughout the jump you will have to maintain altitude awareness, by looking at your altimeter before every maneuver. Once you reach 2000mt(6560 ft) focus on your altimeter and get ready for deployment.

Deployment: At 1700mt (5580 ft), you will start your deployment sequence by first enhancing your Arch, then waving off and reaching for your main handle just like you did in your practice pulls. Throw your pilot chute at a 45 degree angle away from your body, go back to your Arch/box position and start your opening count 1001 - 1002 - 1003 - 1004 -1005.

7.Freefall signals

During the freefall yout instructors won't be able to talk to you, so they will communicate using hand signals. There are two categories of signals, [safety](#) and [correction](#).

8.1 *Safety signals*



PULL!!!

This signal means open your main parachute now! Whether it is pointing up, down, left or right, a pointing index finger means pull now, and it could be presented to you at any point during your skydive.



ALTI CHECK

This simply means check your altitude.



RELEASE YOUR PILOT CHUTE

This is a rare signal, however if you see it it means you are holding on to your pilot chute (which you should never do), and you must release it immediately.

8.2 *Correction signals*



ARCH MORE

This means your hips are flat, so you should push them down more.



STRAIGHTEN YOUR LEGS AND POINT YOUR TOES

The instructors are asking you to extend your legs more and to point your toes outward.



BEND YOUR LEGS

This is another rare signal, if your legs are too straight you will receive this signal, which means bend your legs slightly.



RELAX

You're too stiff!!

Breathe out and RELAX both your mind and your body.



CHECK ARMS

Your arms should be squared at a 90 degree angle, more or less in line with your shoulders. When you see this signal, look at your arms and correct accordingly.



PRACTICE PULL

This means perform one practice pull.



OKAY!!

This means you're doing great, keep at it rockstar!!

8.3 *Freefall emergencies*

LOSS OF STABILITY

Whenever you lose stability at any point during your freefall, the response is always to relax and Arch. Chin up, hips down and point your toes.

LOSS OF ONE INSTRUCTOR

If you lose one instructor at any point during your freefall, you can continue your jump as long as you still have one instructor with you.

LOSS OF BOTH INSTRUCTORS

If you lose both of your instructors, start counting to 5 - 1001 - 1002 - 1003 - 1004 - 1005.

If at least one instructor hasn't come back within 5 seconds **PULL YOUR PARACHUTE in whatever position you are in (stable or not)**. Otherwise continue the skydive with one of both the instructors.

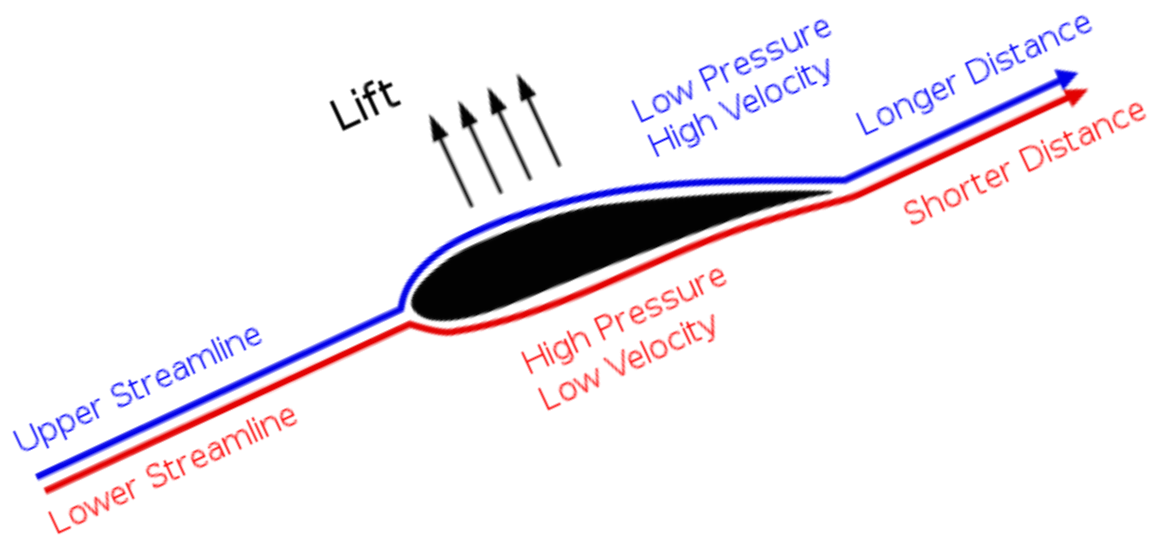
After your AFF level 2 this "5 seconds rule" will change, but we'll brief you on it when the time comes.

ALTIMETER BROKEN/LOST

If at any point during the freefall your altimeter flies off, breaks or is frozen signaling one altitude, **OPEN YOUR PARACHUTE IMMEDIATELY**.

8. How does a canopy work

Canopies are shaped to make air move faster over the top of the wing, called top skin, and slower on the bottom, called bottom skin. This happens because the wing cuts through the air creating two different streams. When air moves faster, the pressure of the air decreases. So the pressure on the top of the wing is less than the pressure on the bottom of the wing. The difference in pressure creates a force on the wing that lifts the wing allowing it to fly - or glide, in our case.



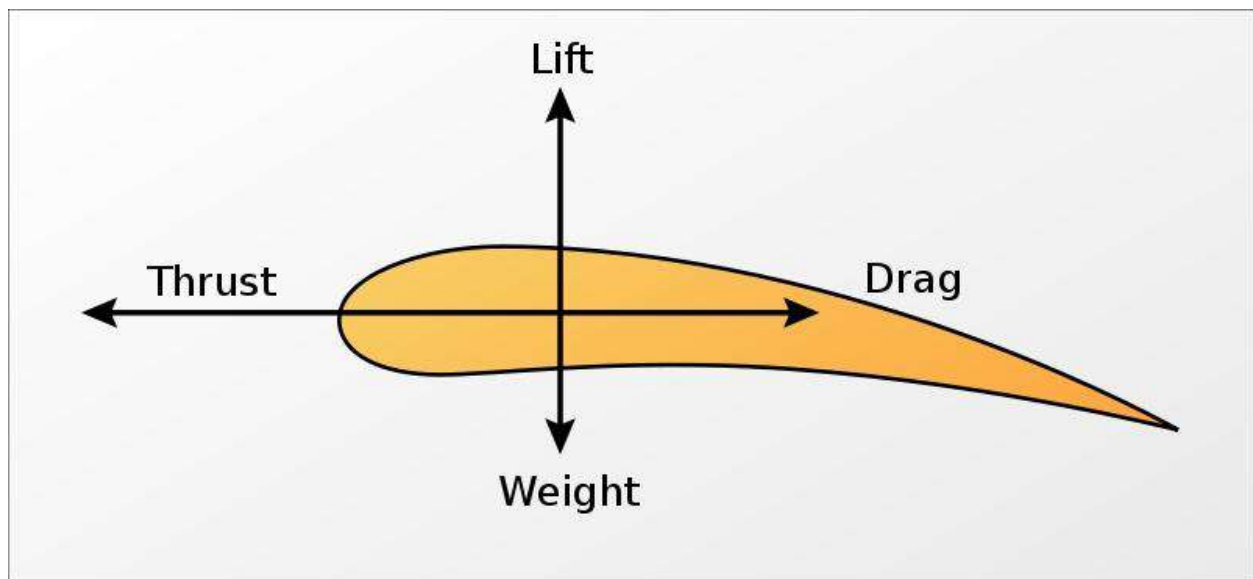
9.1 *Forces acting on the canopy*

LIFT: The force created on the top of the wing by the pressure difference between top skin and bottom skin.

THRUST/POWER: The force in front of the wing making it go “forward”. In our case this is generated by the slightly downward pitch of all skydiving canopies.

WEIGHT: The force pulling us down towards earth. This would be our own weight, and, in skydiving canopies we actually are the “engine”. So the more we are heavy the faster the canopy will fly.

DRAG: the aerodynamic drag generated by flying through the air which slows us down by “pulling us back”.



9.2 *Maneuvering the canopy*

Full flight: The canopy with toggles unstowed and hands up high, will fly at a stable speed of 30-40 km/h horizontal speed, and about 4-5 m/s vertical speed. These are average parameter for full flight.

Half brakes: By pulling down the toggles at their halfway point you'll reduce both your horizontal and vertical speed, to about 15-20 km/h and 2-4 m/s.

Maximum brakes: This is achieved by simultaneously pulling the toggles all the way down to full arm extension. Keeping the toggles braked at 70/80% will allow us to almost nullify our horizontal speed and still keep a stable flight path, almost totally vertical.

Stall: Keeping the toggles down past the maximum braking point will result in a stall, in which the canopy loses all its lift and it's flying capabilities and it stops flying. It will feel like falling backward and the canopy might collapse or inadvertently turn. Even though the student canopies you'll use have a very very deep stall point that you probably will never reach, it's still good to know how to get out of a stall.

Slowly and simultaneously let up both of your toggles, until you gradually feel the canopy starting to fly again.



BEWARE

NEVER INDUCE A STALL BELOW 600MT
COMPLETELY OR ABRUPTLY RELEASING THE TOGGLES
MIGHT CAUSE THE CANOPY TO TWIST RAPIDLY

In the event of a stall during landing, never let up the toggles above your shoulder (50% of the braking power)

Maximum speed turns: When the canopy is flying at full speed it is very reactive to inputs, and by pulling down on one toggle while leaving the other one up you'll execute a maximum speed turn.

The canopy will bank towards one side and dive as it is turning, losing quite an amount of altitude. The more the toggle is pushed down, the harder the turn.

Spiraling: It's essentially the same as a maximum speed turn, however a spiral is kept for 360 degrees or more. This turn will exponentially pick up speed as you spin and the altitude loss will be significant.



BEWARE

DO NOT SPIRAL BELOW 600MT (1970 ft)
ALWAYS CHECK YOUR AIRSPACE FOR OTHER CANOPIES
BEFORE COMMENCING THIS MANEUVER

Flat turn: This is performed by pulling both your toggles to your shoulder (50% braking), and then pulling just one down even more. This will make the canopy turn without it diving, allowing you to turn with minimal altitude loss.

9. From opening to landing

You can divide your canopy flight plan in three phases:

- Canopy & controllability check
- Holding area
- Landing pattern

10.1 **Canopy & controllability check (from opening to 750mt (2460 ft))**

By 1700mt (5580 ft) you will have started your opening sequence, throwing your pilot chute and counting from 1001 to 1005. These 5 seconds are enough for the canopy to fully open. Once that has happened you'll have to:

- Check the canopy - Is it square and stable?
- Bring your hands to the rear risers, look at the yellow control toggles and grab them.
- Pull both of them down all the way to unstow them.
- Check your airspace - no other canopies in your vicinity.
- Look at your altimeter.
- Perform the **maneuverability check**, to make sure you can safely land with your canopy.
- Identify your landing area. If you're not sure look at the canopies below you, they'll be heading towards it.

MANEUVERABILITY CHECK

- The canopy must fly straight with the toggles untouched.
 - If you pull the left toggle the canopy must turn left.
 - If you pull the right toggle the canopy must turn right.
 - If you pull both the toggles the canopy must slow down.

10.2 *Holding area (from 700 to 350mt) (2295 ft to 1150 ft)*

At this altitude you will be able to see the windsock, determine the wind direction and therefore choose in which direction to land. Usually we land against the wind, E.G. facing it.

Mentally prepare and visualize your landing pattern, and keep yourself in your holdin area (upwind of where you want to land) and as you descent make your way to your pattern entry point at 300mt.

When planning your landing pattern remember the priorities:

LANDING PRIORITIES

1. WING LEVELED (CANOPY MUST BE PARALLEL TO THE GROUND)
2. AWAY FROM ANY OBSTACLE.
3. POSSIBLY AGAINST THE WIND.

10.3 *Landing pattern (300mt (985 ft) to surface)*

The landing pattern is a universal procedure used by skydivers, airplanes and everyone who shares the sky.

It's made up of three phases (legs) divided by two 90 degree turns in the same direction. A "left hand pattern" means you'll turn left twice, "right hand pattern" means you'll turn right twice.

Here in Fano the usual pattern is a left hand pattern.

The three legs are called, in order, "**Downwind**", "**Crosswind**" (or base) and "**Final**"

Downwind: It's the leg that starts from 300mt (985 ft), running with the wind until 200mt, (656 ft) where you'll execute a 90 degree turn to your crosswind.

Crosswind: From 200mt (656 ft) you'll fly with the wind on your side, until 100mt (330 ft) where you will turn into your final.

Final: This is the last leg where you will align yourself with the windsock and face the wind on your face.



BELOW 100mt (330ft) AVOID HARSH
MANEUVERS AND TURNS GREATER THAN
90 DEGREES

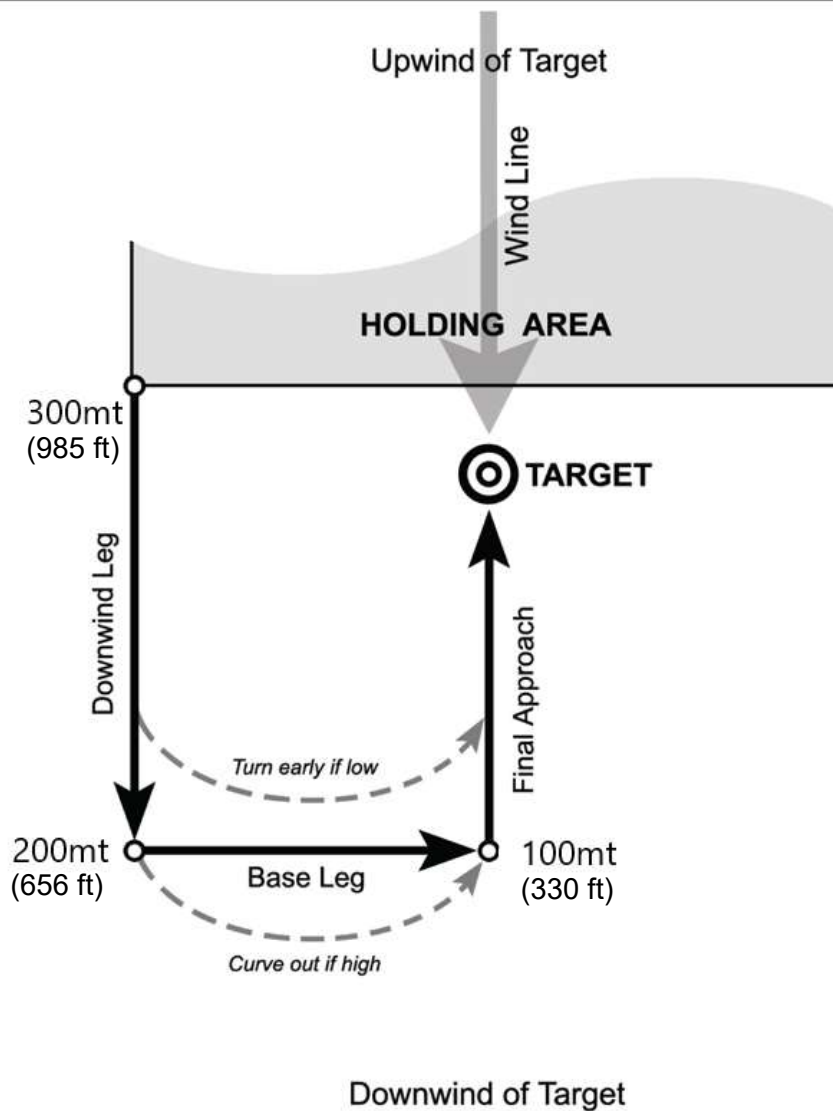
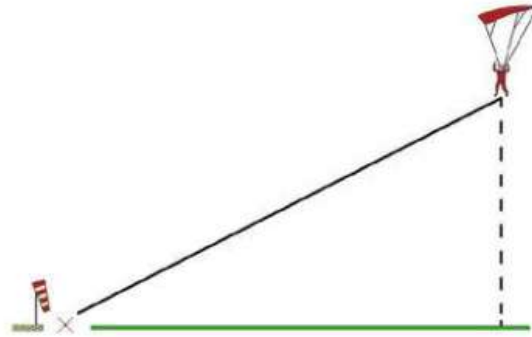


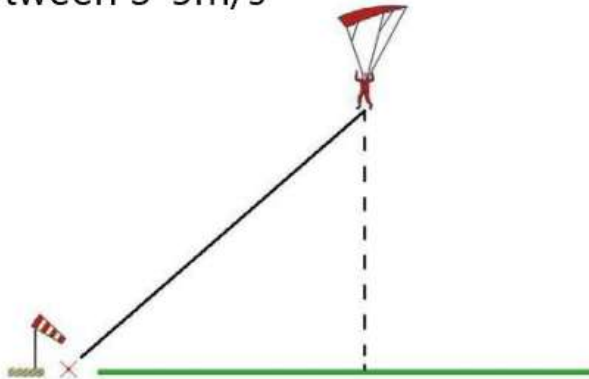
Illustration 4-A.2. Detailed landing pattern diagram, including adjustments that can be made to base leg if too high or low.

Canopy descent angles with different winds

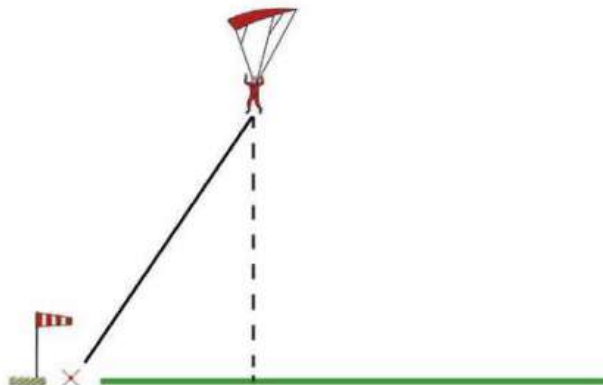
Less than 3m/s wind speed



Between 3-5m/s



Over 7 m/s

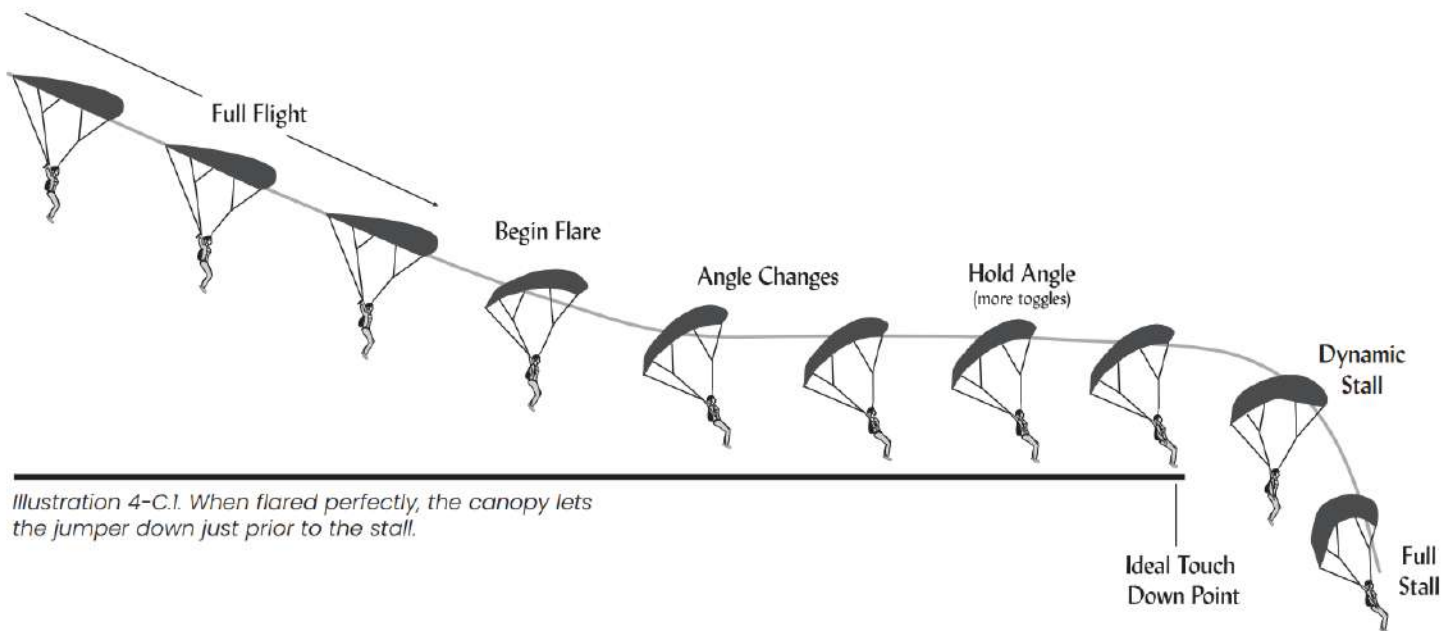


10.4 The flare

The flare, which is what we call braking with our parachute, will first reduce your vertical speed and then your horizontal speed. At the end of the flare both your vertical and horizontal speed will be close to zero.

From full flight (toggles all the way up), at an height of around 3-4 meters (10-13 ft) you will start your flare.

Do this by simultaneously pulling down both toggles to your neck/shoulder height, and then all the way down until your arms are fully stretched towards the ground.



11. Canopy flight consideration

Remember that once under canopy you won't be alone. Keep in mind these next "rules" in order to remain safe in the sky

- The canopy below you always has the right of way. Keep this in mind and keep the vertical separation
- IF you are on a frontal collision (head-on) with another canopy, **ALWAYS TURN RIGHT**, this is an aeronautical rule that everyone follows.
- If you happen to be under canopy and inside a cloud, the procedure is to go on half brakes (pull them down to your shoulders), and then pull the right one down even more so to induce a flat turn to the right. This way you won't fly too far from the DropZone. Be mindful that inside clouds the risk of collisions is higher.
- **ALWAYS LOOK BEFORE TURNING**. Just like when driving, you look first, making sure there is no one else, and then you turn. If you happen to find yourself in a canopy collision, flare as much as you can and open wide your arms and legs. You must try to not get entangled with the other jumper's lines. If the two of you are stuck together, you must establish communication in order to coordinate on what to do. The lower jumper will detach the RSL, cutaway, create enough vertical separation and then open his reserve.
- **NEVER CUTAWAY BELOW 450mt.(1480 ft)** If it's necessary to deploy your reserve below that altitude, to do so **without cutting away** your main.

ALWAY BE MINDFUL AND WATCH OUT FOR TRAFFIC

12. Dangerous landings

At some point or another, every skydiver has a hard landing.

To decrease the risk of an injury, prepare yourself for a [rollover](#). The idea is to dissipate the energy of the fall on the soft tissue of our bodies, not our bones.

As you are coming in, flare all the way and keep your arms, elbows and hands close to your body, and your thighs, knees and feet together. Bend your knees a little bit. When you touch the ground, rotate your torso to expose the outside of your thigh to the ground, then keep rotating using your buttocks to touch the ground, and finally rotate on your back until the opposite shoulder touches the ground.

It is very important that you do not reach forward with your hands or your knees!

The danger of a landing can be reduced by performing a rollover and by following these procedures:

Trees

- Land possibly against the wind and flaring just before the collision
- Legs together to absorb the impact
- Protect your face and neck with your arms and hands
- Get ready for a hard landing
- If you remain stuck dangling above the ground, do not cutaway! Wait for someone to come help you, even if you think you're just a couple of centimeters off the ground

Water

- Land possibly close to a boat
- In a timely manner, undo your chest strap and detach your RSL
- **Perform a normal flare, possibly against the wind, just as if you were landing on land.**
- Feet together and legs slightly bend for a possible hard landing
- Once you've landed cutaway your main and swim out of your harness, possibly swimming in the opposite direction of your canopy.
- If you are far from shore, remain close to your equipment, it will be easier to locate you.

Power lines

- These will be one of the major hazards when you are landing out of the Drop Zone, as they are quite hard to see from above, and they tend to pop out at the last moment. Besides the mechanical hazard there is also the electrical ones. A good tip to locate them is to look for power poles and to draw a line between them.
- Try to avoid them by landing [parallel](#) to them, **regardless of the wind direction**.

If you can't avoid them:

- Feet together and legs slightly bent
- Try to NOT touch the wires
- Prepare for a hard landing (**rollover**)
- If you remain stuck dangling, DO NOT CUTAWAY and wait for the help of qualified personnel (Fire rescue, emergency services)

Other obstacles: Constructions, cars, people, roofs:

- Always prevent this by avoiding the obstacle, but remember that you must [always land with your wing leveled](#)
- Prepare for a hard landing (**rollover**)
- If it's a vertical obstacle flare with your feet and legs together forward to absorb the impact. Remember to flare all the way.
- If you land on a rooftop get rid of your main canopy as soon as possible (**remember to detach your RSL first**), in order to avoid being dragged off the roof.

LANDING OUTSIDE THE DROP ZONE

If you can't land on your intended area, you must choose a new landing zone by 600mt. (1970 ft) Choose an area that is **WIDE** and **CLEAR OF ANY OBSTACLES**, and simply move your landing pattern over that area. Don't worry about how far it is, someone will come pick you up. Better to make this decision up high, rather than be forced to land in a small dangerous area because you couldn't make it back.

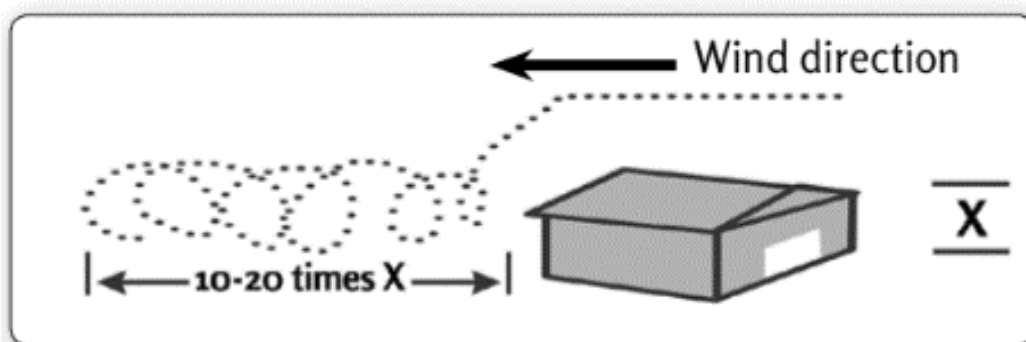
High wind

If the wind is so strong that you are flying backwards, look behind you and try to stay clear of any obstacles. Once you'll have landed the canopy might be dragging you. If this happens let go of one toggle, pull the other one all the way down as you run towards and around the canopy.

If the dragging is unmanageable, detach your RSL and cutaway your main canopy.

Turbulence

Turbulence happens when wind hits an object, and it creates a turbulent area behind that object, that can be 10 to 20 times the height of that object.



Turbulence will push your canopy off heading, and it can make your canopy drop very close to the ground.

Always avoid landing in an area of turbulence, but if you can't FLY WITH YOUR TOGGLES ALL THE WAY UP, in full flight, and be spring loaded to flare all the way down as the canopy might drop you.

Conclusions

You are the pilot of your canopy, and you must take full ownership of that. Plan your canopy flight plane before each jump, look at the wind direction and be aware of other canopies in the sky.

Remember that the number one priority is to land with your wing leveled!

If you have to land running with the wind so be it, if you have to land on an obstacle so be it. Just remember to keep your canopy parallel to the ground and remember to always flare.

13. Malfunctions

A malfunction happens when the parachute either cannot be opened, does not open all the way or does not open properly. During a malfunction you might have to check if your canopy is stable and steerable, basically if you can land it safely.

There are two categories of malfunction:

- 1) High speed (still in freefall)
- 2) Low speed (under some sort of canopy)

WHAT DETERMINES THE DIFFERENCE BETWEEN
HIGH SPEED MALFUNCTION
AND
LOW SPEED MALFUNCTION
IS THE:
OPENING SHOCK

IN BOTH HIGH SPEED AND LOW SPEED THE EMERGENCY PROCEDURE IS THE SAME.

CUT AWAY YOUR MAIN PARACHUTE, THEN DEPLOY YOUR RESERVE.

13.1 The emergency procedure

1) Look at your cutaway handle, and grab it with your right hand



2) Look at your reserve handle, and grab it with your left hand putting the thumb inside



3) Peel outwards and then pull down your cutaway handle.
TO FULL ARM EXTENSION



4) Make sure you've pulled all the way by raising your right arm up and out.



5) Let go of the cutaway handle, and with your right hand double the grip on the reserve handle



6) Pull the reserve handle down all the way with both hands



13.2 ***TOTAL malfunctions***

NOTHING OUT

- You are unable to find your main handle
- The main handle is too hard to pull/stuck

PILOT CHUTE IN TOW

- The pilot chute is out in the air above you, however it's stuck and can't open the main tray.



**In these cases the procedure is still the same!
Cutaway your main and deploy your reserve.**

13.3 ***PARTIAL malfunctions***

In these cases, something has come out of your container, but the parachute or some parts of it have not opened or not opened correctly. Your freefall speed might be reduced and you might have a little more time to deal with your problem. Nonetheless you should act fast and keep your altitude in check.

BAG LOCK

The d-bag has come out but the canopy cannot come out of it, so you're stuck with the lines extended and the d-bag trailing above your head.



STREAMER

Your canopy has come out of its d-bag and the lines are fully stretched, however it does not manage to inflate and fully open



HORSESHOE

There's two scenarios for this to happen

- During the freefall, your main tray has opened and the d-bag together with some line has come out of the container and above you. The pilot chute is still in the pouch. In this case try to locate the pilot chute once (if you can) and toss it out. Otherwise proceed with your emergency procedures.
- The pilot chute, bridle or any other part of the parachute has entangled with a part of your body and is preventing a normal opening.



LINE OVER

During the opening phase, one or more lines has managed to pass over the top of the canopy, therefore choking it and making it unstable.

In some cases you can fix this by Energetically pulling down all the way both your toggles

If after **2 attempts** or, if the problem persists, you **MUST perform your emergency procedure by 750mt(2460 ft).**



TENSION KNOT

During opening, some lines might develop tension knots that can prevent your canopy from fully opening.

In some cases you can fix this by Energetically pulling down all the way both your toggles

If after **2 attempts** or, if the problem persists, you **MUST perform your emergency procedure by 750mt. (2460 ft).**



BROKEN LINES

During your visual canopy check you might see one or more lines broken. If this happens, proceed with your maneuverability check and determine if you can land that canopy or not. If you can't, execute your Emergency Procedures. This decision **MUST** happen **before 750mt.(2460 ft.)**



BROKEN OR UNSTOWED TOGGLE

If after opening your canopy starts spinning in one direction, you might have a broken or unstowed toggles. To fix this, grab and pull down both toggles. this way you'll unstow the other one as well. If after this you realize that one is broken (not connected to the control lines) you will have to fly the canopy by pulling down on the **rear risers** instead of the toggles, practicing the flare at altitude. Get ready for a harder landing and a rollover.

BROKEN/RIPPED CANOPY

If you see that your canopy is broken or has a rip in it, you will have to perform a maneuverability check and decide if that canopy is safe to land. If it's not, execute your Emergency Procedures. This decision **MUST be made by 750mt (2460 ft)**



1) Check your canopy

2) If you have altitude, try to fix the problem
no more than two times

3) Execute your usual Emergency Procedure by cutting away your main and deploying your reserve

14. Minor problems

PILOT CHUTE IN BURBLE

It might happen that if you don't throw your pilot chute with sufficient energy away from your body, it could remain stuck behind your back in your "burble" (an area of turbulent air behind you).

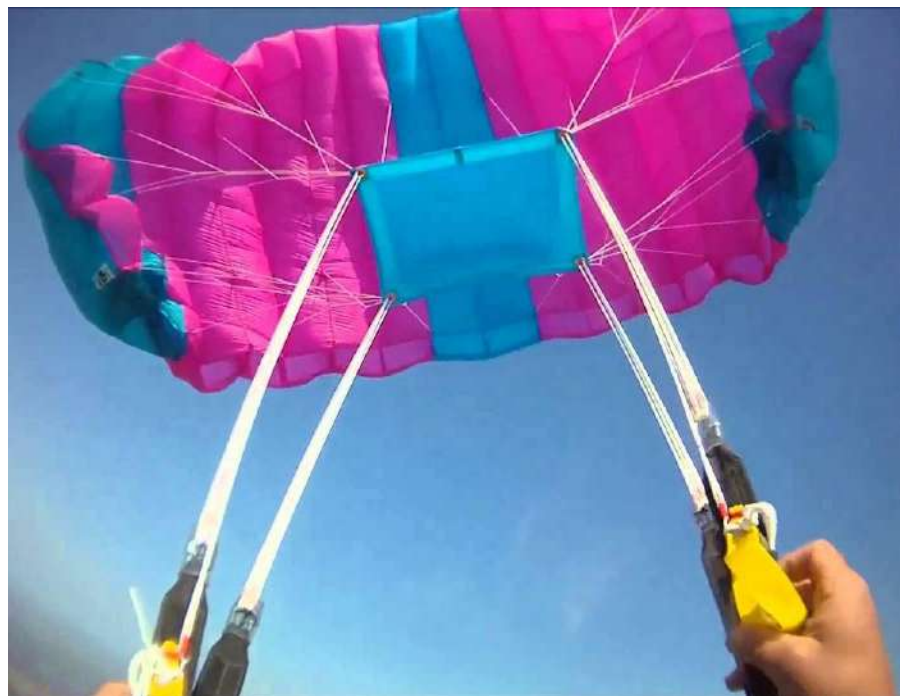
If you do not feel an opening shock during your opening count, tilt your head to watch behind you and check the pilot chute. This will also allow more air to flow behind you, in most cases freeing your pilot chute from your burble.

HIGH SLIDER

With big student canopies it can happen that during opening the slider won't come down to your risers, but it will remain high, more or less at half the length of the lines.

If this happens, grab both toggles, pull them down all the way for 2 seconds and then let them up.

You might have to do this twice or three times to have the slider come down.



END CELL CLOSURE

With big student canopies another thing that might happen is that the end cells (far right and far left of the canopy) might not fully inflate. The fix to this is similar to the **high slider**. Grab both of the toggle, and pump them up and down a couple of times. This will push air in, out and inside the canopy to fully inflate it.



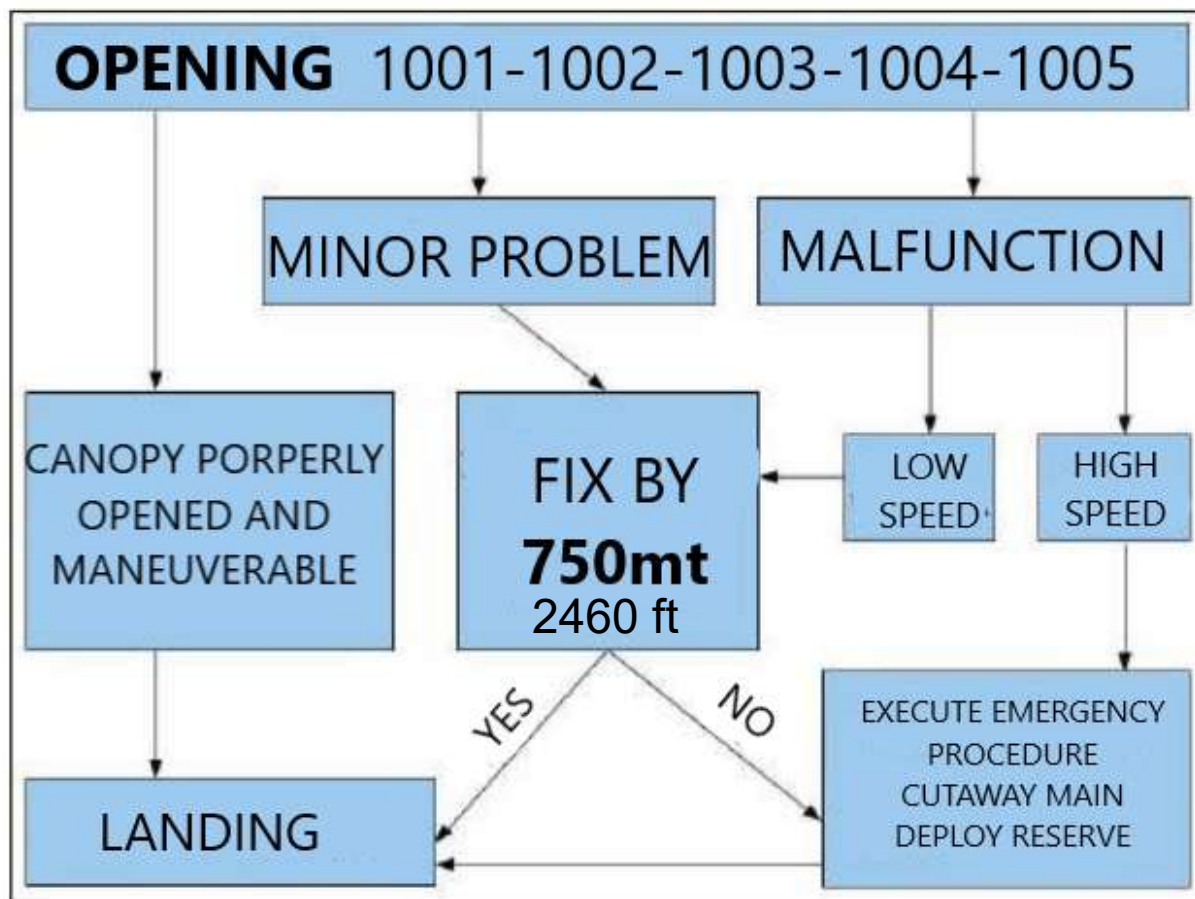
LINE TWISTS

Usually caused by a bad opening body position, the line might twist halfway. Almost always with your student canopies, the wing will be fully opened, stable and it will fly straight. If this happens, counter the twist by using your legs to spin in the other direction, just as you did on a swing as a kid. If you can't get rid of the twists you'll have to **cutaway** by 750mt.(2460 ft)



PILOT CHUTE IN FRONT OF THE CELLS OR AROUND LINES

During the opening sequence your pilot chute might end up in front and below your parachute, or around your lines. To try and free it, grab both toggles, pull them down all the way for 2 seconds and then let them up. You can try this twice or three times, but if you're not successful you'll have to perform a **MANEUVERABILITY CHECK**, and if you decide you cannot land that canopy you must execute your emergency procedure by **750mt.(2460 ft)**



15. Two canopies out

The three main causes for two canopies out are:

- Low opening
- Poor or totally absent gear check
- Mistake in the execution of emergency procedure.

Abide and respect your opening altitudes, meticulous and precise check of the gear both in the ground and in the airplane, and period review of emergency procedures are the best tool to prevent two canopies out.

ONE CANOPY PROPERLY OPEN AND THE PILOT CHUTE OF THE OTHER TRAILING BEHIND

In this case keep your canopy braked at 50% and fly like this for executing the least possible amount of maneuver, as to avoid the pilot chute picking up speed and employing the other canopy.

BIPLANE

The two canopies will position themselves one in front of the other, in a stable configuration, try to touch them as little as possible. Very very slowly and gently, if you have to steer use the toggles of the canopy in front. Flaring could worsen the situation so do not flare. Having two canopies above your head will ensure a somewhat slow landing. Be prepared for a rollover. In this formation, do not cutaway.



SIDE BY SIDE

The canopies will position themselves side by side. This is not as stable as a biplane so it will require a lot of smoothness in the maneuvers. Do not unstow the toggles.

Maneuver only if you have to using the outboard rear risers. Only if altitude allows you and **if you are absolutely certain** that the risers of the two canopies are facing away from each other, disconnect the RSL only if you have time and cutaway the main canopy.



DOWNPLANE

The canopies will face opposite to each other, flying towards the ground, greatly increasing your descent speed. It is not possible to land in this configuration, so, disconnect the RSL only if you have time, and cutaway your main canopy.



MAIN AND RESERVE ENTANGLEMENT

During the opening both the canopies have entangled with each other. Try to recover the least inflated of the two, so that the other may sustain you as much as possible. Nonetheless, get ready to make the best rollover in skydiving history!

CORRECTLY OPENED MAIN PARACHUTE



17. Safety/emergency altitudes review

IN THE PLANE

Perform as many exercise as you can based on the altitude. As soon as you open quickly look for an appropriate landing area

Exit and open your main parachute. As soon as you are under canopy look for an appropriate landing area

Exit and open your reserve. As soon as you are under canopy look for an appropriate landing area.

Stay in the airplane. Helmet on and assume the safety position

IN THE JUMP

In case of problems during freefall, you can try to solve them until 1700mt. **(5580 ft)**
If you lose altitude awareness **PULL!!**

Opening altitude. Check your canopy, execute your maneuverability check and decide if it's safe. If you have a problem try to fix it and if you can't cutaway your main and deploy your reserve

DECISION ALTITUDE

Do I keep my main or cutaway and deploy my reserve

Low altitude. You can cutaway but only if really necessary

Not enough altitude to cutaway. If you need to, deploy your reserve directly

AAD activation altitude

4300mt.
(14100 ft)

1700mt.
(5580 ft)

900 mt.
(2950 ft)

750 mt.
(2460 ft)

600 mt.
(1970 ft)

450 mt.
(1480 ft)

300 mt.
(985 ft)

225 mt.
(740 ft)

0 mt.

18. Recommendations on how to use this manual

The information contained in this manual is purely expositive, and it should not substitute adequate training taught under the supervision of a qualified skydiving instructor. The contents are simply reading foundations that must be expanded during the ground part of the skydiving course, priori to the jumps.

Every action undertaken after reading this manual entails the full comprehension of such and the total assumption of responsibility of action against yourself or others. It is up to the reader to make sure of the complete comprehension and exactness of the information hereby contained.

“FANO SKY TEAM S.S.D a.r.l ” denies any responsibility from the improper use of this manual.

Insurance

The mandatory base insurance is only for RCT(Responsabilità civile verso terzi), and does not cover damage done to self. It is however possible to subscribe to accident policy with the same insurance companies.