

## Steering with the back risers (01)

Keeping hold of the brake lines grasp the back risers above the clasps and slowly pull one side down 15 to 20 centimetres. At the same time move your weight to assist with the turn.

Always pull on only one side and when you feel the loss of air in the canopy (it flies backwards) immediately release the riser so that the canopy can return to its position.

Steering with the back risers is very difficult and tiring and must be carried out with feeling.

## Wingovers / swinging sideways over the long axis (02)

While flying straight ahead the left and right steering loops are pulled alternately to approximately hip level. A rhythm must be found, that is, you pull one side to the hips, the canopy gets curved/angled to turn up to the culminating point. On swinging back the inner steering loop is released and when the pilot swings through the lowest point the other steering loop is pulled to the hips etc. By shifting weight the swinging can be increased.

It is necessary to increase slowly and with feeling -> practice makes perfect.

**Attention:** Canopies with higher surface areas tend to decrease the load on /undercut the inner edge, that is, the canopy gets more upper air and tends towards large-area infolding with twisting = increased air resistance and steep spirals are the result, therefore immediately reverse steer and stabilise.

## Exam program (03)

Double circle in 20 seconds

- Double circle to the right within 20 seconds on a predetermined axis (in Emmetten the main street in the village)
- If possible always begin by flying into the wind, such that the wind is used to help turn.
- To determine the axis precisely, choose a reference point in the distance eg. a mountain peak, a building, etc.

Figure-8 in 30 seconds

- One circle to the left then one to the right (a figure-8) within 30 seconds, again using a predetermined axis. Stabilise briefly between the circles (1-2 secs).

## Positive and negative steering (04)

- **Positive steering** is when the canopy is braked at full speed on one or the other side and thereby gets a tilt on the vertical axis. At greater heights it swings back effortlessly when the steering line is released.
- **Negative steering** is used during starts, landings and in thermal currents.  
**Starting position:** both steering loops are at approx. shoulder height (20%): To steer one of the steering lines is pulled and the other is released for the same distance, such that the canopy turns very flatly. If necessary the inner or outer side can be pulled or released more or less.  
**Stability** is achieved by returning both steering loops to the starting position.

## “Big ears” (05)

- For canopies with divided A-risers: Do not release the brake loops. Pull down the outer A-riser, to which the outer line(s) is/are attached, until the canopy folds in on the outer ends.
- For canopies with a help-system (e.g. Advance): While holding the brakes in your hand, raise the help-system as far as possible and then pull the individual lines clearly downwards with it.
- For all other canopies: Turn the palms of your hands outwards and slide them between the **outside first and second A-lines** so that you can pull these down to shoulder height (do not pull down on the risers). This can possibly also be done with two lines (ask the instructor).
- Steer by shifting your weight. Do not spiral (extreme load on material).
- **Reopen by simply releasing** and, if necessary, pumping gently on the brake lines to a maximum of chest height.

## Lateral fold-ins (06)

Without releasing the brake loops pull either the **left or right A-risers** (with divided risers pull both risers on the one side) abruptly in the **direction of the navel** and;-  
**Variation 1:** immediately release.

**Variation 2:** hold and gently steer with the opposite brake.

**Variation 3:** hold and steer out after letting the canopy turn downwards 45 to 90 degrees.

**Unfold by releasing the belt**, if necessary also pumping or braking (according to canopy type)

**Large lateral fold-in** by holding the outer B-lines and the A-risers and pulling abruptly. Remainder as above.

Always pull abruptly otherwise the canopy accelerates due to the undercutting and hefty reactions can occur such as with the acceleration system (foot accelerator). Always grasp the lines above the anchor points due to the danger of sliding down.

All variations can be done with weight shifting.

## Front fold-in (07)

- Without letting go of the brake loops pull down **all of the A-risers** rapidly and firmly to approximately should height and immediately release them.
- The entire front portion will fold under and the canopy will swing backwards.
- **No reaction** is necessary! In no case should the brakes be applied (Wing collapse /Danger of a full stall)!
- In rare cases it can happen that the canopy stalls. In this case pull the A-risers lightly (approx. 10 cm) downwards until the canopy begins to fly forwards again.
- Always grasp above the line attachments.

## Spiral dives (08)

- Spiral dives are generated by **simultaneous clear weight shifting and pulling** on one of the steering lines. After turning 180° the inside steering line can be pulled a couple of centimetres more.
- As soon as the canopy begins to “bite” into the curve, steer out before a spiral begins.
- **Steering out = releasing** (by pulling) on the inner side of the curve; as soon as the canopy wants to “pull out” of the curve, pull again clearly on the same side (pulling further -> retards the circle). On immediate slow release the canopy will turn about a half turn further. **If the turning does not stop, short measured counter steering (brake on outside of turn) is necessary!**

## B-Stall (09)

- **Before** starting the B-stall check that the **airspace under you** is clear.
- Do not release the brake loops. **Start** by pulling down the B-attachments simultaneously and in a measured way to **max. shoulder height**.
- Hold the manoeuvre for at least 3 second to allow the canopy to stabilise in the new position.
- **Release** by rapidly elevating the B-risers. Leave your hands up so that the canopy can return to its flight. If the canopy stalls it is necessary to pull the A-risers (10 cm) or push them forwards.
- A **stall** is when the canopy does not fly. You cannot feel any more flight wind. Get out of it by the method described above.
- Always keep an eye on the canopy and the ground as you lose height greatly and rapidly!

## Stable change of direction (10)

- To be done with positive steering (from 0% braking)
- The aim of the exercise is swing-free stabilisation of a sharp change of direction.
- First markedly change direction to the left (90°) and immediately stabilise on the axis, then change direction 180° to the other side with repeated stabilisation, then 360° circle, etc.
- In order that the canopy does not swing the brakes have to be applied briefly, then released a little and applied again with feeling, until the canopy reaches the right axis without any swing.

## Ears with accelerator system (11)

- Prepare the speed system (foot accelerator) by securing the bar under your feet but without any pressure on it.
- Do not release the brake loop. Turn your palms outwards and **pull down** 1 or 2 of the outer **A-lines**, or **alternatively with divided A-risers** the outer A-riser.
- **Push the foot accelerator fully down** to its end position (should be reached with extended legs).
- Steer by changing body weight. No spirals (material overload!)
- Release the foot accelerator (bend knees) and then let the ears open, not simultaneously. If necessary, lightly brake if the ears do not open by themselves.

## Front stall (12)

- Without releasing the brake loops grasp all the A-riser attachments and rapidly pull down to approximately shoulder height and hold.
- With strong or further pulling, and according to the type of canopy, the canopy may go into a front rosette. The canopy divides itself in the middle and both sides fold flatly forwards. Important: Keep the halves equal, otherwise the canopy will begin to turn on the long side, airflow increases!
- Release by simply letting go without braking (otherwise danger of stall). Exception: With a front rosette light braking may be necessary.
- Always grasp above the attachment points.

The front stall is a voluntary manoeuvre, as it neither serves to lose height nor occurs in turbulence. It is only playing.

## Landing with ears (13)

- In the flight program repeat the ears manoeuvre beforehand (Nr. 5)
- Plan the approach higher than usual.
- During the counter approach fold in the ears. Turn from then on only using body weight position changes.
- Pay attention to the larger curve radius and increased sink rate.
- Pull down completely as normal. Under some circumstances the ears release during this action.

**This manoeuvre requires a well-practiced landing technique and repeated practice of “ears”!**

## Back wind landing (14)

- If the wind changes direction during the landing approach or is falsely estimated it is possible to land with a back wind.
- In the final approach flight it is essential to fly at **full speed** (released brakes). As an exception pull down both steering lines **completely and with determination** when you are 2 meters above the ground (feet) and hold. The brakes should be pulled down with determination but not speed.
- According to the wind speed it may not be possible to stand when you land. In this case do a landing roll (legs together, roll sideways over your shoulder) or use the airbag.

**This manoeuvre is generally only discussed theoretically. An intentionally carried out back wind landing, except in very low wind conditions, is too dangerous!**

## Landing with the back risers (15)

- During the counter flight: Do not release the brake loops and hold the back risers above the attachments.
- Always only pull one side in a **measured** way. Note the increased turn radius.
- Plan for possible S-turns generously. A braked final approach is not possible (stall danger!).
- The landing is executed by simultaneous pulling down the rear risers, but first when the feet are 30 cm above the ground, otherwise the airflow may stop too soon.
- **If large corrections are needed or otherwise you are uncertain immediately begin to steer with the brakes! Do not take risks!** You must not do a “braked” final approach with the rear risers. There is an increased risk of stalling, after a max of 20 cm pull the airflow ceases!

**This manoeuvre requires a well-practiced landing technique and is reserved for students in an advanced stage of training.**

## Landing on a slope (16)

- Carry out a normal landing sequence (of course on the valley side), planning for possible S-loops, such that the turns end towards the slope. Stand up early enough!
- It is essential to always land along (parallel) to the slope when landing on slopes.
- Always fly into the final landing sequence braking clearly (about 30% braking) and standing up (the landing place is less easy to plan)
- When landing in Gruob (Emmetten) do a normal landing sequence but fly significantly higher. Take your bearing from the landing point about half way up the slope.

Slope landings are mostly exceptional and are carried out when the weather changes (eg. fog, wind) or by “flooding”.

Use the chance to practice a slope landing when we are landing in “Gruob”!

## Accelerated side fold-in (17)

- The accelerator system is pushed; the fold-in is carried out under acceleration. Immediately after the fold-in the accelerator system is released and normal speed is regained.
- Without releasing the brake loops, pull the **left or right A-risers** (by divided A-risers both risers on the same side) abruptly in the **direction of your navel** and:
  - Variation 1:** immediately release.
  - Variation 2:** hold and steer carefully with the opposite brake to maintain flight direction.
  - Variation 3:** hold and let the canopy turn from 45° to 90° then steer back to flight direction.
  - End by releasing** the A-risers, if necessary (according to type of canopy) pump or apply brakes.
- Always grip over the line attachments to avoid the danger of slipping.

**Requirements for this manoeuvre: experience with normal fold-ins, accelerator system mounted.** Learning goal: Experience of a hefty fold-in -> never use the accelerator system close to the ground!