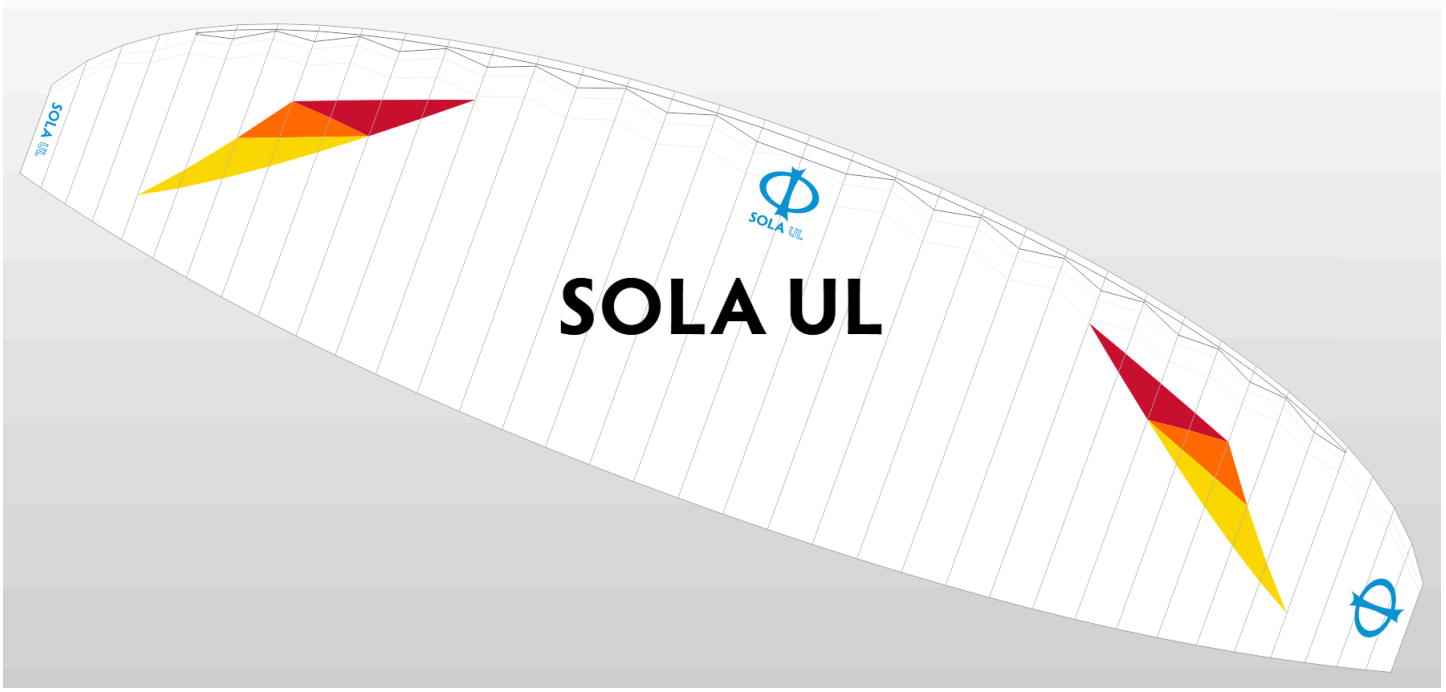
SOLA UL

Manual Version 1.04 dated 22 September 2025



Congratulations!

Congratulations on choosing a PHI SOLA UL! The SOLA UL has its roots in the ultra-safe and forgiving concept of the SOLA, which is perfectly damped around all axes.

These characteristics make it possible to make the wing very small and therefore light without it becoming too demanding for a broad target group.

And that even with a uniquely small surface area, it passes the complete certification, including flight tests, with flying colours.

The unique concept of the SOLA is based on a very stable centre profile and a significantly different "handling range" in the wing tips.

In addition, a number of special technical tricks are used.

In order to redefine the limits, the lightest materials were used: D10 fabric and 0.7 mm Nitinol rods.

The combination of the unique SOLA concept and these materials creates the basis for the SOLA UL's unique position.

This manual contains important information on how to use your paraglider. We therefore recommend that you read the following pages carefully before your first flight. If you have any questions or suggestions, please do not hesitate to contact us atinfo@phi-air.com .

Further information on this and our other products can be found at phi-air.com.

In order to be able to take advantage of all service and warranty benefits, you must register your paraglider on our homepage under SERVICE / REGISTRATION.

PHI

The PHI brand stands for experience, expertise and passion. The PHI team consists of experts and enthusiasts with a wealth of experience. First-class technical professionalism is the standard, constantly pushing the boundaries is the goal.

The PHI SOLA UL

The PHI SOLA UL is an ultralight paraglider with 36 cells and many technical features that take super-light flying to a new level.

Brief technical description

The SOLA UL has 36 cells across the entire wingspan, four of which are closed cells at the stabilo. These form a very dimensionally stable and homogeneous wing. The profiles used combine high performance with very forgiving flight characteristics.

Four line levels on the wing (only three in the centre wing) lead to four risers on each side. The outermost A lines are attached to a separate riser to make it easier to tuck the wing. The suspension system is extremely minimal, which increases clarity and reduces line drag.

The foot pedal acceleration system is attached to the front A-strap.

For better differentiation, all A lines are red at the line lock.

The B lines are natural (yellow).

The stabiliser line on the B riser is orange.

The C/D lines are blue.

All brake lines are orange.

Safety

The SOLA UL is characterised by relatively long control travel to stall for its small size, as well as high self-damping around all axes. Stability in turbulent air is very high. If the glider does collapse, the reaction is manageable and easy to control.

Handling

Although the maximum brake travel is relatively long for its size, the wing depths and thus the control travel are short and the handling is very direct, with low brake pressure, good progression and excellent feedback. The SOLA UL can be flown very sensitively and with comparatively small control inputs in thermals.

Caution!
The very dynamic handling and the very high level of energy tempt you to perform dynamic handling manoeuvres (e.g. barrel rolls). Always make sure you are at a sufficient distance from the ground!

Performance

The PHI SOLA UL offers solid performance in all areas: despite its small surface area, it climbs well, glides well and, thanks to its high airspeed, also glides very well into the wind.

Target group

The SOLA UL is aimed at ambitious hike & fly pilots who want to fly a safe, super-light and small wing that is easy to control in any situation.
Especially in high alpine terrain, even experienced pilots need a wing they can rely on in any situation!

Pilot requirements

The small sizes of the SOLA UL have a D rating. This requires an experienced pilot who is comfortable with high wing loading, high trim speed and relatively short braking distances. Forward thinking and independent action are essential.

Every pilot flying independently must be able to assess whether their skills and equipment are actually up to the flight conditions. Even with equipment offering maximum passive safety, misjudgements can have devastating consequences.

It is solely the pilot's responsibility to avoid such misjudgements by continuing their theoretical and practical training and making decisions carefully and in accordance with their abilities.

It is also the pilot's responsibility to use appropriate protective equipment and to ensure that their equipment is in good working order at all times.

Those who are aware of these principles can enjoy paragliding safely and with pleasure.

General information before use

First flight

Every PHI paraglider must be flown and checked by a PHI dealer before being sold to the customer. This first flight must be recorded on the paraglider's type certificate (in the opening of the middle cells), including the date and pilot.

Registration

In order to be able to take advantage of all service and warranty benefits, you must register your paraglider on the PHI homepage under SERVICE / REGISTRATION.

Scope of delivery

The PHI SOLA UL is supplied with a compressible inner pack sack and repair kit.

Modifications to the paraglider

The specifications upon delivery correspond to those with which the glider was certified. Any unauthorised modifications (e.g. changes to the line lengths, changes to the harness) will result in the loss of certification!

Only the main brake line can be lengthened to a small extent:

There is a mark on the main brake line at the height at which the brake handle is tied. This setting can be adjusted slightly in order to have sufficient braking distance in extreme flight situations and during landing, and to avoid constantly braking the paraglider, especially when accelerated!
It is advisable to seek expert assistance to avoid incorrect settings or knots. An incorrect knot can come undone unexpectedly (making the wing difficult to control), and a control line that is too short can also significantly impair flight performance, resulting in loss of certification.

Suitable harnesses

The choice of harness has a significant influence on the flight behaviour of the SOLA UL. There are harnesses that allow particularly effective weight shifting, but also transmit turbulence to the pilot relatively undamped. Less agile harnesses do not allow extreme weight shifting, but the pilot tilts less to the side in turbulence.

A competent flight school can help with individual advice.

The harness used in the certification tests must comply with a defined geometry in accordance with EN926-2: Distance between the main suspension points = width of the attachment points, see type plate on the Stabilo or technical data table in the appendix.

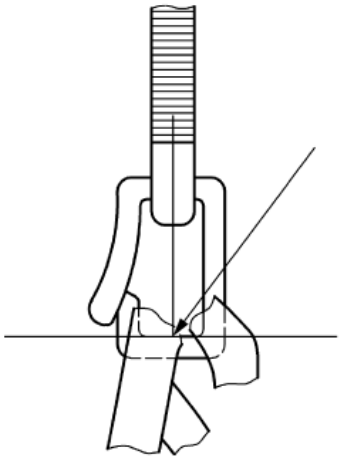


Bild 3 — Oberer Messpunkt am Gurtzeug

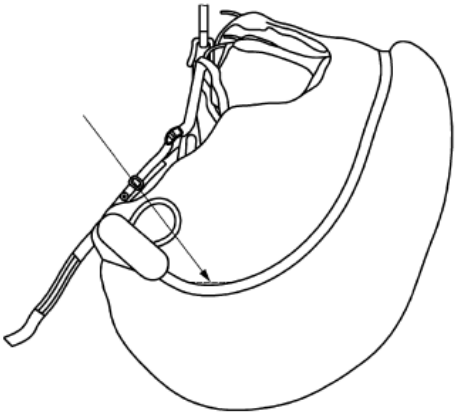


Bild 4 — Unterer Messpunkt am Gurtzeug

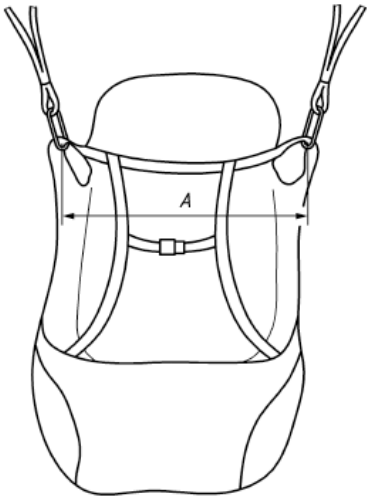


Bild 5 — Breite der Befestigungspunkte des Gurtzeugs

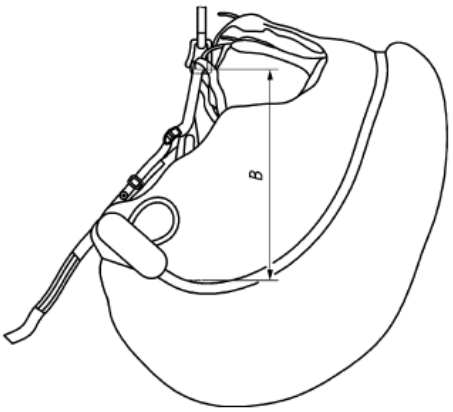


Bild 6 — Höhe der Befestigungspunkte des Gurtzeugs

Tabelle 48 — Gesamtfluggewicht

Gesamtfluggewicht (en: total weight in flight (TWF))	**< 80 kg**	**80 kg bis 100 kg**	**> 100 kg**
Breite (Messung A in Bild 5)	(40 ± 2) cm	(44 ± 2) cm	(48 ± 2) cm
Höhe (Messung B in Bild 6)	(40 ± 1) cm	(42 ± 1) cm	(44 ± 1) cm

Figure key, figures 3–6: upper/lower harness measurement points; A = attachment-point width, B = attachment-point height. Table 48: total weight in flight; width A / height B for <80 kg, 80–100 kg and >100 kg.

Permissible weight range

The SOLA UL has extremely large permissible weight ranges. This refers to the total weight consisting of the pilot, paraglider and harness (and other equipment).

If the SOLA UL is flown in the lower half of the permissible weight range, reduced agility and more subdued flight behaviour can be expected. In strong turbulence, the reduced stability of the canopy becomes noticeable.

When flying the SOLA UL in the upper half of its weight range, the glider's dynamics and stability increase. The trim speed also increases slightly. However, the glider's self-damping, even after collapses, decreases slightly.

Flying with the SOLA UL

It is advisable to make your first flights with a new glider in calm conditions in order to get used to its flight behaviour. A few launches on a practice slope or ground handling are also recommended to get a feel for the glider and its reactions.

Take-off

Before take-off, the pilot must ensure that all equipment is in proper condition. In particular, the wing, harness and rescue system. The type plate must be checked. It must be ensured that the pilot is within the permissible weight range.

Essential launch check:

1. **Buckled up** (leg straps and chest strap on the harness closed, chin strap on the helmet closed)
2. **Hooked** in (harness straps not twisted in the carabiner, accelerator correctly hooked in, carabiner closed)
3. **Lines** (A-lines at the top, all lines sorted, brake line runs freely to the brake roller)
4. **Canopy** (canopy lies in an arc with the leading edge open at the launch site)
5. **Wind and airspace** (wind suitable for launch, airspace clear)

The pilot performs a control check and ensures that the canopy is fully open, with no knots in the lines, above him.
The final decision to launch is only made once all faults have been successfully rectified.
Otherwise, the launch must be aborted immediately for safety reasons!

The SOLA UL is characterised by very easy launch behaviour during both forward and reverse launches. The glider climbs very stably without any tendency to overshoot. Overall, the launch behaviour is very easy and forgiving and requires no further knowledge than the standard techniques for forward and reverse launches taught in flight school.

In general, it is advisable to practise regularly on a practice slope or by ground handling in the wind.

Straight flight

The SOLA UL has the best glide performance at trim speed (with the brakes fully released). In calm air, the glider covers the greatest distance at a given altitude.

In headwinds or descending air masses, you fly with maximum glide when you activate the accelerator. In turbulent air, it is essential to take into account the more dynamic reactions in the event of a collapse when flying at accelerated speed and therefore choose a greater safety distance from the ground.

Caution!
Never activate the accelerator if you are not at a sufficient safety distance from the ground!
The safety height allows the glider to open by itself after a large-scale collapse, or allows the pilot to actively remedy the problem. There should also be sufficient altitude reserve to deploy the rescue device in the event of irreparable problems (tangles).

In strong turbulence, it is advisable to brake slightly on both sides to increase stability and to obtain the feedback via the brakes that is necessary for active flying.

Active flying refers to the constant control and correction of the angle of attack and airspeed in turbulent air.

With a perfected active flying style, most collapses can be prevented before they start. Some of the necessary reactions can also be learned during ground handling, for example by trying to stabilise the glider without looking at the canopy above you.

Turning

A turn is a combination of inner brake, outer brake and weight shift. The trick is to get the balance right. The SOLA UL is characterised by its sensitive handling. Even small control inputs are enough to fly dynamic and precise turns.

The SOLA UL loves modern, dynamic thermal flying. It is advisable not to apply the brake on the outside of the turn and to maintain speed in the circle. The SOLA UL carves very efficiently around the turn and dynamically takes advantage of the lift. Tight and controlled turns, or turns with little pendulum effect, require a lot of practice and should be the goal of every pilot.

Attention!
If the canopy can no longer be controlled using the brake lines, e.g. because the brake lines are tangled due to a faulty launch check, the SOLA UL can also be controlled to a limited extent using the C-straps. In combination with weight shifting, this allows relatively good directional corrections to be made. This technique also allows for a safe landing. The C-straps should only be pulled down slightly to avoid a stall.

Caution!
Pulling the control lines too far or too quickly can cause a stall!
A one-sided stall is clearly indicated: the glider begins to "smear" around the turn: the inner half of the wing remains stationary and becomes soft. In this phase, the inner brake must be released immediately!

Landing

The SOLA UL is relatively easy to land. Due to its high speed and performance, the SOLA UL requires a reasonably long "runway". On the final approach into the wind, let the glider glide with the brakes slightly applied. At a height of approx. 1 m above the ground, increase the angle of attack by applying more brakes and catch the glider. Once the minimum speed has been reached, apply the brakes fully.
In strong headwinds, brake very carefully. Only when the pilot is safely on the ground should they carefully stall the canopy.
Landings with steep turns in the final approach must be avoided at all costs (risk of pendulum effect).

Caution!
A complete stall can result in an extremely rough impact for the pilot, even at a flying height of only two metres. Therefore, the brakes should only be fully applied immediately before touchdown.

Rapid descent manoeuvre

Caution!
All rapid descent manoeuvres should be practised in calm air and at a sufficient safety altitude so that they can be used safely in emergency situations in turbulent air.
The following applies to all extreme flight manoeuvres and descent aids:
- First practise under the guidance of an instructor as part of a training course or safety training.
- Before initiating the manoeuvre, the pilot must ensure that the airspace below him is clear.
- During the manoeuvres, the pilot must constantly check the height above ground.

Ear tucking

Ear tucking is extremely effective and easy to perform with the SOLA UL. To initiate the manoeuvre, grasp the outer A-risers (red, orange) at the top of the screw shackle and pull them down symmetrically. The brake loops remain in your hands (without additional winding). As long as the risers are held down, the outer wings remain folded and the sink rate increases.

If the ears do not fold in completely when initiating the manoeuvre, it is advisable to repeat the initiation, pulling the A-risers more quickly and/or grabbing the outer A-riser above the riser. The more impulsive pull and the greater pull on the outer A-line make it easier to fold in the wing ears.

It is advisable to accelerate the glider in order to increase the sink rate and forward speed. This also compensates for the increase in angle of attack caused by the additional drag of the applied ears.

To exit the manoeuvre, simply pull the A-risers back up and the SOLA UL will exit the manoeuvre automatically.

If the ears do not fill completely on their own, this can be achieved by briefly applying the brakes. It is important to ensure that the brakes are only applied briefly and that they are released again immediately.

B-stall

The B-stall is initiated by pulling down symmetrically (approx. 20 cm) on the B-straps. The initiation forces are relatively high, but decrease with increasing pull. For maximum hold, it is recommended to grab the straps at the upper end, at the line lock.

As soon as the straps are pulled down, the canopy loses its forward momentum and enters a stable stall. The pilot swings slightly in front of the canopy. The further the B-strap is pulled down, the greater the sink rate (up to approx. 9 m/s).

If you pull too far, the glider will slowly begin to rotate around its vertical axis. In this case, move your hands back up until the rotation stops. (Rotation can also be caused by asymmetrical pulling.)

The B-stall is exited by quickly moving the hands upwards again.

The brake is held throughout the entire manoeuvre (without additional winding of the line around the hand). When exiting the stall, make sure that the brake is completely released.

Steep spiral

The steep spiral is the most demanding descent aid and should only be learned at high altitudes, ideally as part of safety training.

The initiation can be divided into two phases:

First, you fly increasingly steep circles with your weight and brakes on the inside. Then comes the moment when the G-forces increase rapidly and the nose of the glider begins to tilt more and more towards the ground until – in the completed steep spiral – the leading edge is almost parallel to the horizon.

The first attempts should be exited well before the full steep spiral is reached in order to practise a pendulum-free exit. This exit is achieved by releasing the inner brake while maintaining a neutral pilot position. To ensure a pendulum-free exit, the inner brake must then be pulled even harder as soon as the glider straightens up significantly or as soon as it reduces its bank angle significantly.

As mentioned above, the actual spiral movement only begins with the transition phase described above or when the glider goes "nose down". At this moment, the pilot is pushed outwards in the harness and should yield to this pressure to avoid a stable spiral movement. (see below) The sink rates can now be varied using the inner and outer brakes.

If the pilot keeps their weight on the outside, simply releasing the inside brake is sufficient and the SOLA UL will steadily slow down the spiral movement. The rest of the recovery is then carried out as described above.

If the pilot shifts their weight significantly inwards, the SOLA UL may continue to spiral even when both brakes are released. In this case, braking on both sides or braking on the outside of the turn will help, as will, of course, shifting the weight outwards.

The sink rates in the spiral can be between 10m/s and 20m/s. The load on the body is over 4g and, depending on physical constitution, can lead to unconsciousness in extreme cases.

It is therefore crucial to approach this manoeuvre slowly in order to actively and confidently master the exit and to get to know how your body reacts to this stress.

Caution!
Due to the high G-force, exiting a stable steep spiral requires an unusually large amount of effort!

Caution!
Due to the high performance and dynamics of the aircraft, if you exit a steep spiral too quickly, you can expect to climb back up again. This can also cause you to get caught in your own wake (rotor)!

Collapse

Side collapse

When flying into strong turbulence, one side of the paraglider may collapse. Specifically, this happens when the angle of attack on this side decreases so much as a result of the turbulence that no lift is generated, causing the lines to be relieved and one side of the glider to collapse.

Such a collapse may only affect a small part of the wingspan and the SOLA UL will not show any significant reaction. In the case of larger collapses affecting 50% or more of the wingspan, the glider will show a clear reaction:

Due to the increased drag of the collapsed wing, the SOLA UL will begin to turn dynamically towards the side of the collapse. At the same time, the glider will pitch forward due to the smaller lifting area and the resulting higher airspeed.

The pilot can prevent this turning and pitching by braking the side that is not collapsed.

This reaction is, of course, essential, especially near the ground, and should be practised by provoking collapses at high altitude, preferably as part of safety training.

If the brake deflection on the open side is too strong, a one-sided stall may occur. (see one-sided stall)

The SOLA UL also reacts to large, accelerated side collapses with a very manageable rolling motion. This reliable reaction of the SOLA UL is the basis for its successful certification with very high wing loads.

Front collapse

The front collapse, often misleadingly referred to as a "front stall", is also a consequence of turbulence. In contrast to a side collapse, in a front collapse the entire leading edge collapses downwards.

The SOLA UL opens the front flap and the side flap automatically.

However, to speed up reopening, we recommend applying slight pressure on both sides.

Stalls

One-sided stall or spin

A canopy spins negatively when the airflow stalls on one half of the wing. The canopy rotates around the vertical axis with the centre of rotation within the wingspan. The inner wing flies backwards.
There are two causes for spinning:
- A brake line is pulled too far and too quickly (e.g. when initiating a steep spiral).
- one side is braked too hard during slow flight (e.g. when flying in thermals)
If an accidentally initiated negative turn is immediately corrected, the SOLA UL will return to normal flight without significant loss of altitude. The brake that has been pulled too far is released until the airflow returns to the inner wing.

Caution!
After a prolonged negative turn, the paraglider may shoot forward on one side. This can result in an impulsive collapse or a tangling.

Full stall

The full stall is a complex manoeuvre, the correct execution of which cannot be fully explained in this manual. Anyone who wants to learn this manoeuvre should do so under the supervision of a pilot who has mastered it perfectly – ideally as part of a safety training course.

The available control range up to the stall depends on the size of the glider! In turbulent air, the stall can occur significantly earlier or significantly later. If you want to make full use of your glider's control range, you need to develop a feel for the stall through many full stalls and one-sided stalls.

Parachutal stall

A parachutal stall is a flight condition without forward speed and with a steep descent. The parachutal stall can be initiated intentionally by the pilot by applying strong symmetrical braking and is, in a sense, the precursor to a full stall.

The SOLA UL automatically initiates a parachutal stall by releasing the brakes completely.

A heavily used canopy with porous fabric and/or trimmed lines (e.g. as a result of many winch launches or steep spirals) can remain in a stable parachutal stall. This can happen, for example, if a B-stall is exited too slowly or after a major front collapse.

The tendency to parachutal stall is further increased by a wet wing or by flying in the rain or in very cold air.

In the event of a stable parachutal stall, you should push the A-lines forward or pull them down, or – even better – use the accelerator. After a slight pendulum movement, the glider will then return to normal flight. In the event of a parachutal stall near the ground, you must consider whether there is still sufficient altitude to swing through. Otherwise, a (hard) landing in a parachutal stall is preferable.

Caution!
If the brakes are applied during a parachutal stall, the glider will go into a full stall!

Tangle

If part of the wing, especially after a collapse or stall, becomes caught in the lines and cannot reopen by itself, this is called a cravat. This situation did not occur in any of our extensive test flights with the SOLA UL, but it cannot be ruled out with certainty on any paraglider.

In the event of a tangling, we recommend the following actions:

1. **Counterbraking:** The glider will want to turn towards the tangled side (as in a flap). If the pilot does not react by counterbraking on the open side, this turning movement can in some cases very quickly turn into a stable steep spiral, which then requires extremely large forces to recover from or may not be possible to recover from at all.
2. **Opening by pumping with the brake:** By pulling the brake firmly on the tangled side, the tangle may be released. While doing so, you must constantly ensure that the glider is stabilised in a straight flight with the other brake.
3. **Pulling on the stabiliser line:** If braking does not help, the tangled line may be released by pulling hard on the stabiliser line. (This is located at the very outside of the B-strap and is orange in colour.)
4. **Collapse on the tangled side:** Some tangles can be released by provoking a collapse on the tangled side.
5. **Full stall:** If you have mastered the full stall, you have an effective method for releasing tangles.
6. **Rescue:** If you lose control of the glider, or if you are not absolutely sure that you have enough altitude to make further attempts to open it, use your reserve parachute without hesitation!

Many pilots hesitate far too long before deploying their reserve parachute, or do not use it at all, even though there would have been enough time to do so. Such accidents usually have devastating consequences. On the other hand, a landing with an open reserve parachute very rarely results in serious injuries!

Therefore, make it a habit to practise deploying your reserve parachute at least mentally by, for example, quickly reaching for the reserve handle during flight, as you would do if you had to use your reserve.

Many clubs and flying schools also offer rescue device throwing courses, e.g. in gyms. The most realistic option is, of course, to practise throwing the rescue device in a real-life situation, e.g. as part of a safety training course.

All of this helps you to not hesitate with the rescue throw in an emergency, or to not "forget" that you have a rescue parachute with you at all in a stressful situation.

Winch launch

The SOLA UL has no special features for winch towing. Care should be taken to climb away from the ground at a flat angle.

We recommend using a tow hook adapter. This is attached to the top of the main carabiner and connects it to the tow hook.

Acceleration system

Installation of the accelerator

Most harnesses have two pulleys on each side, while some (lightweight) harnesses have two simple rings instead. The two accelerator cables supplied are fed from top to bottom through the two pulleys/rings and secured at the bottom to the foot pedal.

It is important to adjust the length correctly. If the setting is too short, there is a risk that the glider will accelerate continuously, which must be avoided at all costs. In addition, it may become more difficult to reach the accelerator pedal.

If the setting is too long, it may no longer be possible to accelerate the glider to its maximum speed.

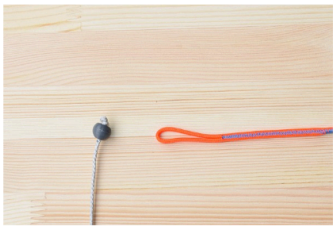
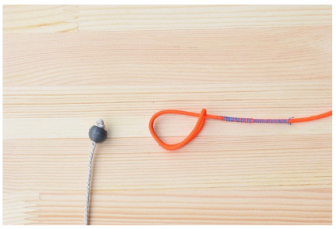
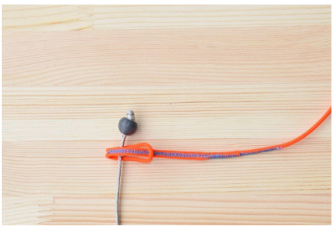
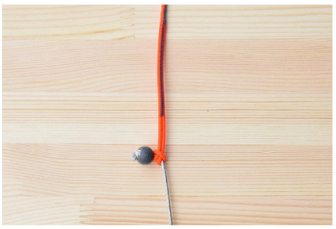
We recommend setting the accelerator slightly too long during initial assembly in order to estimate the dead travel during flight. The accelerator can then be shortened by this dead travel if necessary.

Flying with the accelerator

Before take-off, or when attaching the riser to the main suspension of the harness, the upper end of the accelerator cable must be connected to the accelerator system on the riser. The connection is made using a lark's head / ball or a Brummel hook.

Overview of available risers: https://phi-air.com/de/project/risers/

Assembly of the acceleration system using a lark's head / ball:

In flight, the SOLA UL can now be accelerated using the accelerator pedal, which reduces the angle of attack and increases the flight speed. The increase in speed compared to the trim speed is approximately 10-15 km/h. The accelerator is useful for gliding further against the wind or in sinking air masses, or for making rapid progress during cross-country flying.

Caution:
Braking during accelerated flight not only costs a lot of power, but also increases the susceptibility to collapses (in contrast to unaccelerated flight)!

Changes of direction in accelerated flight can be achieved either by shifting your weight or by accelerating asymmetrically. (If you accelerate more on the left, the glider will fly a right turn).

Geometric data of the accelerator

If the entire available accelerator travel is used, the A-straps are shortened by 15 cm or 17 cm compared to the C-strap, depending on the size: see technical data.

Care and maintenance

General handling instructions

If the paraglider is handled correctly and with care, it will remain in perfect technical condition for many years, even with intensive use. The following instructions should be observed during normal use:

- The paraglider should not be exposed to unnecessary sunlight, for example by leaving it lying in the sun for long periods before take-off or after landing.
- When folding, avoid bending the polyamide rods at the leading edge unnecessarily.
- If the glider is wet or even just damp when folded, it must be dried later in a dry environment.
- When landing or handling the glider on the ground, avoid hitting the ground with the leading edge of the glider with great force, as the tension on certain components can become so great that damage occurs.
- The lines should be protected from dirt and sharp stones. Under no circumstances should you step on the lines on stony ground.
- Moisture combined with dirt can cause the fabric to shrink over time, leading to a loss of trim in the paraglider. Salt water (including sweat) damages the fabric and reduces its strength.

Storage

Ideally, the paraglider should be stored in a dry place away from direct sunlight. Avoid long-term storage at very high temperatures (e.g. in a car in midsummer).

For longer storage, the paraglider should not be compressed too tightly, but rather stored loosely packed in the inner pack sack.

Transport

The paraglider can be packed very tightly for transport. The nylon monofilaments used for the nose stiffener are very resistant to permanent deformation.

If a very small packing volume is required, a compression bag can also be used. To minimise weight as much as possible, make sure that the paraglider is packed dry. The nylon fabric used absorbs water in high humidity and becomes heavier.

If vibrations occur during transport (e.g. on a motorbike), make sure that the fittings (line locks) do not touch the fabric (use a bag for the risers).

Cleaning

Only water and a soft cloth/sponge should be used to clean the canopy (no solvents)!

If sand, dirt or small stones accumulate inside the canopy, these should be removed, as sand in particular can rub against the coating of the fabric and the seams.

Repairs

Repairs should only be carried out by the manufacturer or authorised companies. If you have any questions, please contact PHI directly: (info@phi-air.com)

Exceptions to this are the replacement of lines and the repair of small tears (up to 5 cm, not affecting any seams) or holes in the fabric, which can be repaired with the original PHI adhesive patch. The adhesive patch in the desired colour is available from your flying school or directly from PHI, together with instructions for use.

Check

The general check interval is two years, unless the checker sets the check interval to a shorter period due to a borderline condition.

Commercially used equipment (training gliders, tandems) must be checked annually in all cases. This is also recommended for gliders that are exposed to very high loads, e.g. more than 150 flying hours in two years, or regular acrobatic manoeuvres. We also recommend an annual check if you fly a lot in terrain that puts a lot of strain on the material: in very rocky areas, in salty air, or especially if the glider comes into contact with salt water.
In these cases, it is even more important than usual for pilots to regularly check their gliders for damage themselves.

Each check must be confirmed with the check stamp. Failure to comply will result in the loss of the seal of approval. For further information on maintenance checks, see the check instructions on the PHI homepage (http://www.phi-air.com): Downloads: Check.
These are continuously updated in line with the latest technology, experience and knowledge.

Registration, warranty

In order to be able to take advantage of all service and warranty benefits, you must register your paraglider on our homepage under SERVICE / REGISTRATION.

For further details, see the PHI homepage.

Nature and landscape-friendly behaviour

Finally, we would like to call on everyone to practise our sport in a way that is as respectful of nature and the landscape as possible. In addition to obvious things, such as not leaving any rubbish behind, you should also avoid frightening animals (birds of prey, game) by flying too close to them. Especially in the cold season, this stress can be life-threatening for animals.

Disposal

The plastic materials used in paragliders require proper disposal. Please return disused equipment to PHI: we will dismantle and dispose of it.

PHI

PHI, a brand of Papesh GmbH
Grillparzerstrasse 10
6067 ABSAM
Austria

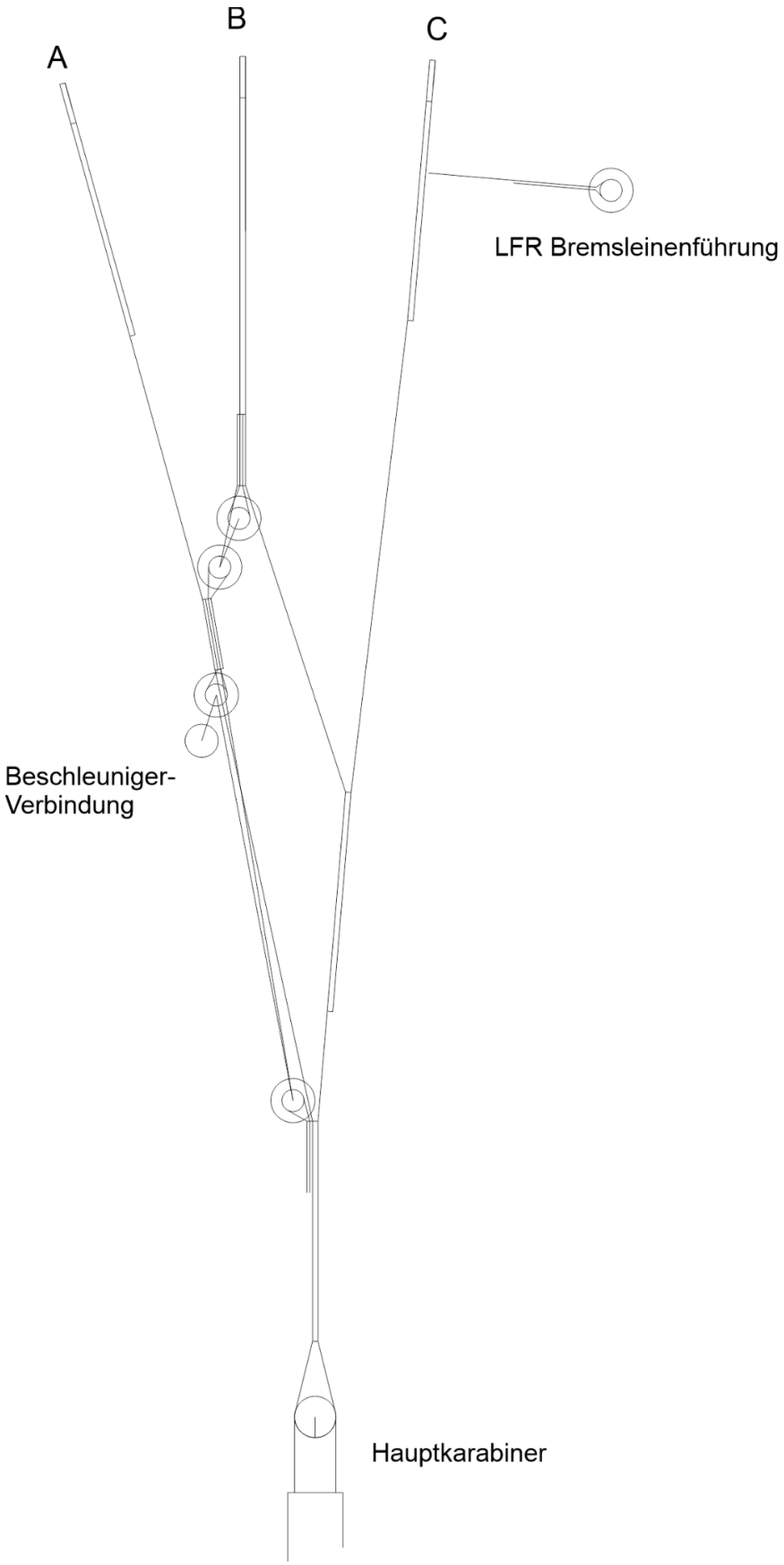
Technical data

SOLA UL					
Size		**12**	**14**	**16**	**19**
Number of cells		36	36	36	36
Projected span	m	6.01	6.49	6.94	7.56
Projected area	m²	10.4	12.15	13.86	16.49
Projected elongation		3.47	3.47	3.47	3.47
Flat span	m	7.51	8.12	8.68	9.46
Flat area	m²	12	14.03	16	19.03
Flat aspect ratio		4.7	4.7	4.7	4.7
Line length	m	4.59	4.96	5.3	5.3
Maximum chord	m	1.99	2.15	2.29	2.5
Minimum chord	m	0.49	0.53	0.56	0.61
Weight	kg	1.39	1.56	1.72	1.95
Certified weight	kg	55–90	55–105	55-90	55-88
Certification (EN/LTF)		D	D	C	A
Max control travel	cm	>35	>35	>45	>60
Distance between main carabiners	cm	44+-2	48+-2	44+-2	44+-2
Extended certified weight range				90-115	88-120
Certification (EN/LTF)				D	C
Max control travel	cm			>35	>50
Distance between main carabiners	cm			48+-2	48+-2
Material		Dokdo D10 / Skytex 27			
Number of risers		R13 (3)			
Riser length	mm	500	500	500	500
Accelerator travel	mm	150	150	150	150

Please note:
The maximum control travel depends on a number of parameters. In practice, it may be less than that specified in this table. The values in this table refer to the test scenario used in the test in accordance with EN 926-2 (in calm air) and are only rough guidelines.
Turbulence, which is omnipresent in practice, has a negative effect on the maximum control travel! The stall occurs earlier!

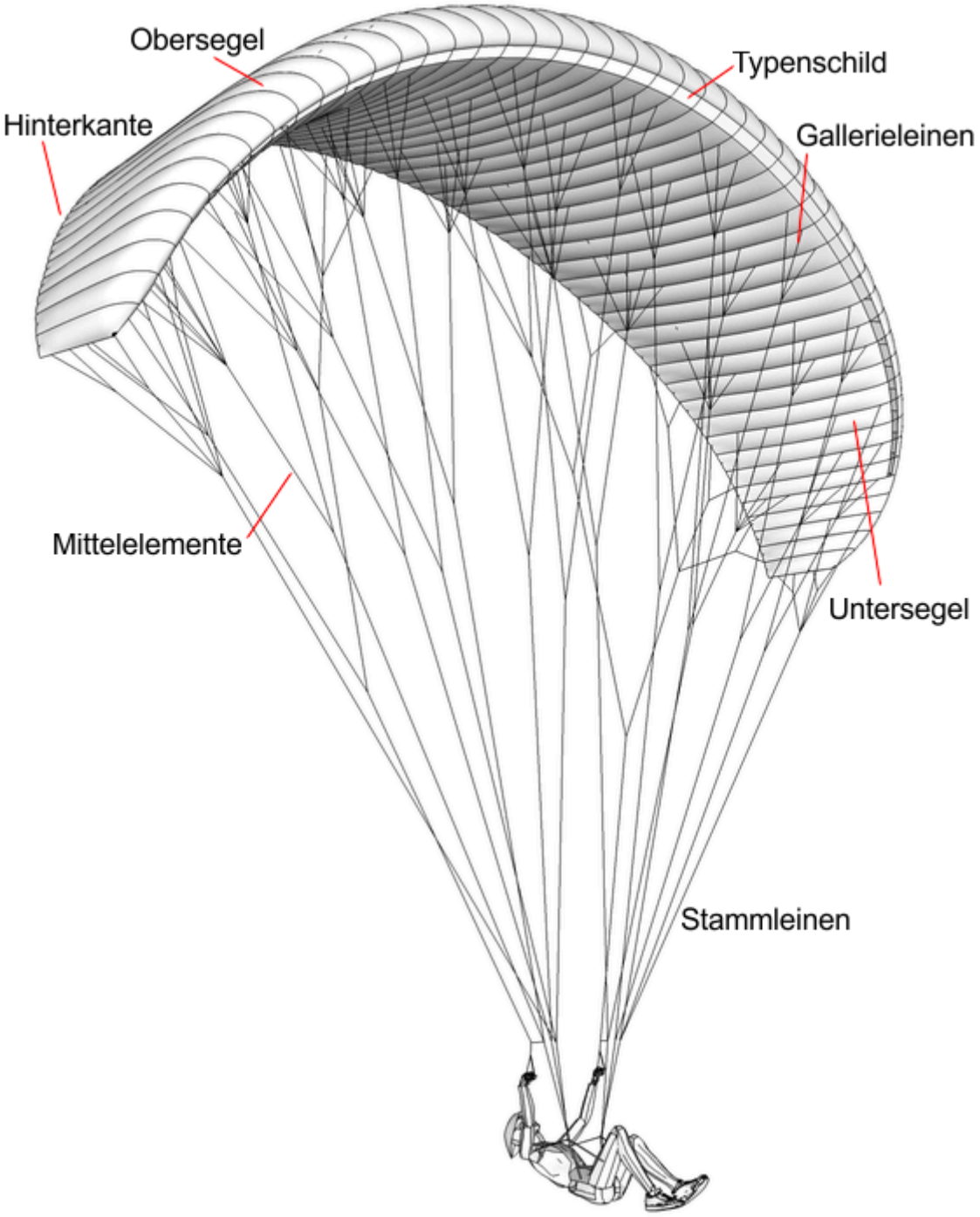
Overview of risers

Figure key: LFR Bremsleinenführung = LFR brake-line guide; Beschleuniger-Verbindung = speed-system connection; Hauptkarabiner = main carabiner.



Overview of the canopy

Figure key: Obersegel = upper surface; Untersegel = lower surface; Hinterkante = trailing edge; Typenschild = identification label; Galerieleinen = upper lines; Mittelelemente = intermediate lines; Stammleinen = main lines.



Line layout diagram:

