Summit X

Operating manual
and service booklet

Serial Number: _____

UP AIRBORNE SENSATIONS since 1972

Version 1.3
Valid from 05/2023
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Table of contents

Important
Where necessary, we point out important facts with the following words and symbols:

WARNING!
These notices draw attention to hazards that can result in injury or death if ignored.

CAUTION!
These notes draw attention to hazards that may cause damage to the paraglider or premature wear.

NOTE
This is a hint or additional information that is considered helpful.

Welcome to UP

Congratulations on the purchase of your new UP Summit X. UP International is known for designing and manufacturing world-class paragliders - paragliders that focus on maximum safety, optimal performance and top quality. UP gliders are designed and developed based on the demands our customers place on UP products. We are therefore open to all suggestions and ideas for improvement from you. Through your suggestions and constructive criticism, you can actively contribute to the continuous development process of our products. We want to be able to provide you with the latest technical innovations for your UP paraglider and information about the latest developments at UP at any time. However, we can only do this if your glider is registered with us after purchase. The product registration also ensures that you will receive preferential treatment in all service matters if, contrary to expectations, any irregularities should occur. You can register your UP Summit X online at:

http://www.up-paragliders.com/de/service/product-registration

If you have any questions, please contact your UP dealer or UP International directly:

UP International GmbH.
Kreuzeckbahnstraße 7
D-8267 Garmisch-Partenkirchen

info@up-paragliders.com

+49 (0)8821 73099-0

Have fun and enjoy your UP Summit X - Your UP International Team

Safety instructions

Please read this manual before your first flight with the UP Summit X. It will help you to become familiar with your new glider. This will help you to become familiar with your new glider. The manual gives you information about all important features and characteristics of the UP Summit X but does not replace a visit to a flight school. Please pay special attention to the following points:

- At the time of delivery this paraglider corresponds to the type tested according to EN 926-1: 2015, EN 926-2:2013+A1:2021 and LTF NFL HG/GS 2-565-20. Any unauthorized modification beyond the permissible adjustment possibilities will result in the invalidation of the operating permit!
- The use of this paraglider is exclusively at your own risk. Any liability of manufacturer and distributor is excluded.

- Each pilot is responsible for his or her own safety and must also ensure that the aircraft in which he or she is flying is checked for airworthiness before each takeoff is reviewed.
- We also assume that the pilot is in possession of the required certificate of competence and complies with the applicable legal regulations.

Behavior compatible with nature and the landscape

Paragliding is a very close to nature and environmentally friendly sport. For this reason, respectful treatment of the environment should be a matter of course for every (paragliding) sportsman. When practicing our sport, we have to make sure that nature and landscape are protected. We therefore ask you not to make noise, not to go off the marked trails and not to leave any garbage behind, in order to be able to preserve the ecological balance of our nature also for our children. Please inform yourself before each flight about the valid nature protection regulations in the respective flight area, or on the planned flight route, in order not to annoy hunters, landscape protection authorities and property owners unnecessarily.

Technical description

The UP Summit X was developed by UP International to meet the special requirements of a safe intermediate performance paraglider with excellent launch characteristics and a remarkable performance spectrum. All materials used, like all UP products, have a high quality standard. To ensure a long service life, they are carefully selected and subjected to extensive testing before use. For further details on the construction and dimensions of the UP Summit X, including the dimensions of the lines, please refer to the type certificate of the certification authority or this manual. Possible technical changes can be found in the appendix to this manual or on our website.

Intended use

According to LTF-HG/GS 2-565-20 the Summit X is to be used as "light air sports equipment" with an empty mass of less than 120 kg in the paraglider division.

LTF and EN classification

The UP Summit X was classified in the final classification in EN 926-2:2013+A1:2021 / EN B (size L, M, SM and S).

Target group and recommended flight experience

Performance-oriented cross-country pilots who have a regular flight experience of several years with a minimum of 50 flight hours per year and a sound knowledge of flight techniques.

Requirements in normal flight

The flight and control behaviour of paragliders in this class requires an advanced, precise and sensitive control technique, due in part to shorter control travel, lower roll and pitch damping and more dynamic turn handling. In addition, a largely automated active flying style.

Requirements in case of malfunctions

The behaviour of the equipment after malfunctions places increased demands on the pilot's skill and speed of reaction. The pilot should have sufficient practical knowledge to avoid and control the most common faults, especially lateral and frontal collapses. If this experience is not sufficiently available, we recommend a briefing on the respective glider type, ideally in a safety training course (SIV).

Fast descent requirements

Flight manoeuvres, such as spiral dive or B-stall, place higher demands on the pilot due to the overall more demanding control behaviour. Good practical knowledge of these manoeuvres should be available. Otherwise, special instruction on the respective glider type is recommended, preferably in a safety training course.

Suitability for the training

The UP Summit X is **not** suitable for training.

Tandem and paramotor certification

The UP Summit X is certified as a solo paraglider. A suspension is only provided for a harness. The UP Summit X does not have paramotor certification. There are no trimmers on the riser.

Recommended weight range

The UP Summit X must be flown within the respective certified take-off weight. This can be found under "Technical data UP Summit X". The weight refers to the take-off weight (pilot's weight plus clothing, glider, harness equipment, etc.). The easiest way to determine your take-off weight is to stand on a scale with your pack including equipment.

UP International offers the UP Summit X in four different sizes, each optimized for the medium weight range. Each size can be flown within the certified weight range without any problems. To help you find the size that best suits your needs, here are a few practical tips.

Pilots who are within the middle weight third of a size are ideal on the road. They should opt for this size. Within this weight range, they can centre the thermals more tightly and fly the Summit X with slightly less momentum. This variant UP recommends especially for pilots from the flatlands.

Pilots who have a choice between two sizes because they are either in the upper third of a smaller size or the lower third of a larger size should proceed as follows:

Experienced LTF/EN B pilots should assess for themselves how they prefer to fly, with a buffer to the top or preferring to be loaded high.

Pilots who prefer a high wing loading will fly the UP Summit X in the upper weight range. This will make your Summit X a bit faster and more dynamic.

The UP Summit X reacts to weight changes with a slight increase or decrease in trim speed, with hardly any effect on glide performance. Therefore, the size can be chosen according to your personal flying style.

Operating limits

For the commissioning of the Summit X, compliance with the operating limits must be ensured for the entire flight duration, including pre- and post-processing. These are exceeded as soon as one of the following points applies:

- Flying with number of seats not corresponding to the certification
- Failure to comply with the respective weight upper and lower limits of the starting weight.
- Temperatures of more than -30° C or more than 50° C, respectively.
- Flying in rain, snowfall, in clouds or fog, or with the canopy wet for any other reason.
- Unauthorized modifications to the canopy, lines or risers.
- Acrobatic flying and flight manoeuvres with more than 90° bank angle
- Wind speeds at the take-off site and expected wind speeds in flight higher than 2/3 of the flyable speed with the take-off weight intended for the flight.
- Turbulent weather conditions that are expected to produce extreme flight conditions outside those tested in the certification.

Technical data of the UP Summit X

Size	S	SM	M	L
Surface area flat [m²]	21,2	23,1	25,1	26,6
Surface area projected [m²]	18,0	19,6	21,3	22,6
Flat span [m]	11,2	11,7	12,1	12,5
Projected span [m]	9,2	9,6	10,0	10,2
Flat aspect ratio	5,9	5,9	5,9	5,9
Projected aspect ratio	4,6	4,6	4,6	4,6
Number of Chambers	55	55	55	55
Total line length incl. Brake [m]	205	217	228	236
Total # of lines incl.Brake	206	206	206	206
Glider weight [kg]	4,2	4,5	4,8	5,1
Takeoff weight [kg] with LTF/EN Category certified	65-85	75-100	85-110	100-125
maximum symmetrical steering travel at maximum weight [cm]	60	60	65	65
Accelerator travel [mm]	146	153	162	162
Number of risers (split A-risers)	3+1	3+1	3+1	3+1
Trimmer	-	-	-	-
LTF/EN Category	B	B	B	B
Description	Intermediate Performance			

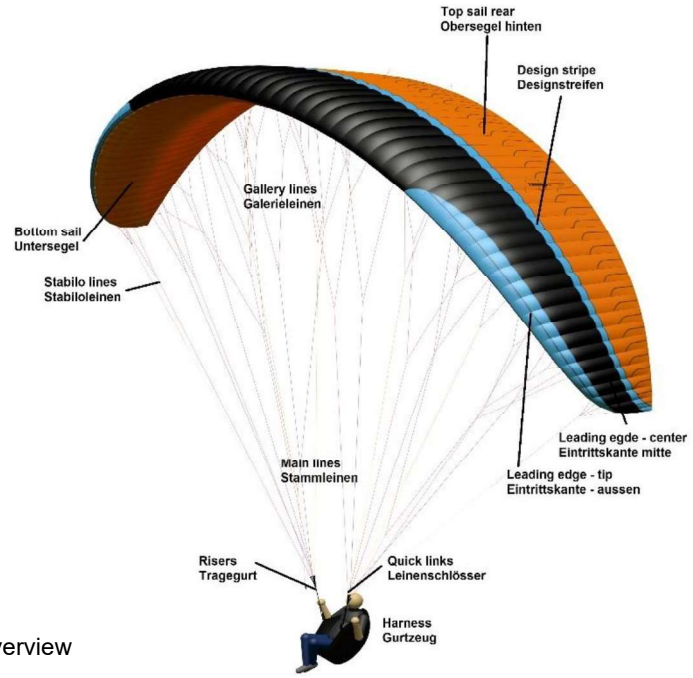


Figure 1: Overview

Construction

The Summit X is the ideal wing for pilots who prefer the performance of a wing in the high-end C-range. The optimal combination of safety and performance is achieved with the Summit X by using our completely revised profile (NGA - new generation air foil) combined with some innovative detail solutions:

Passive safety due to
- Varying angle of attack across the span
- NGA - stable canopy filling pressure even with changes in the angle of attack
- flat projected aspect ratio due to "high-arc" design (strongly curved cap layout)

Performance due to
- High elongation
- Unsheathed lines
- Profile stability due to long rods

Front Section Support / Rear Section Support

The Front Section Support, FSS, developed by UP and meanwhile copied by numerous companies, is used in a modified form in the Summit X. The FSS is a flexible plastic rod in the nose radius instead of the Mylars. Unlike conventional Mylar, these plastic rods exhibit virtually no aging tendency. Therefore, even after many flights, the UP Summit X still has the same good launch characteristics as when it was first launched. In addition, the Summit X is reinforced at the top sail by further rods (Rear Section Support -RS).

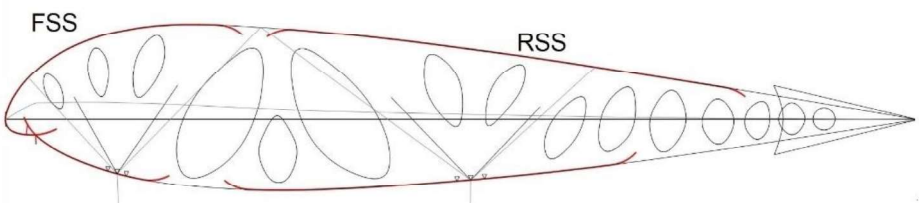


Figure 2: FSS and RSS

Sail material

The sail fabric of the UP Summit X is a particularly stretch-resistant, high-strength polyamide high tenacity cloth with a special impregnation for improved UV resistance. After extensive test series and practical trials, we decided to use the sailcloth of the company Porcher Marine from France:

- Leading edge: "Skytex 42 Everlast" (42 g/m²)
- Topsail front /design stripes: "Skytex 38 Universal (38 g/m²)
- Topsail rear/ lower sail: Dominico D20 (29 g/m)^2
- Ribs and horizonal bands: Skytex 40 (cloth weight 40 g/m²)
- Secondary ribs: Dominico D30

This mix of materials allows for the best durability with low canopy weight.

Line material

The UP Summit X uses unsheathed Dyneema® and aramid lines from Edelrid and Liros (brake lines sheathed, Cousin Dyneema).

Line system

The lines of one canopy half are combined into three groups and the brake lines:

A level: AI, AII, AIII
B level: BI,BII, BIII, STI
C level: CI,CII, CIII
Brake lines: BRKI

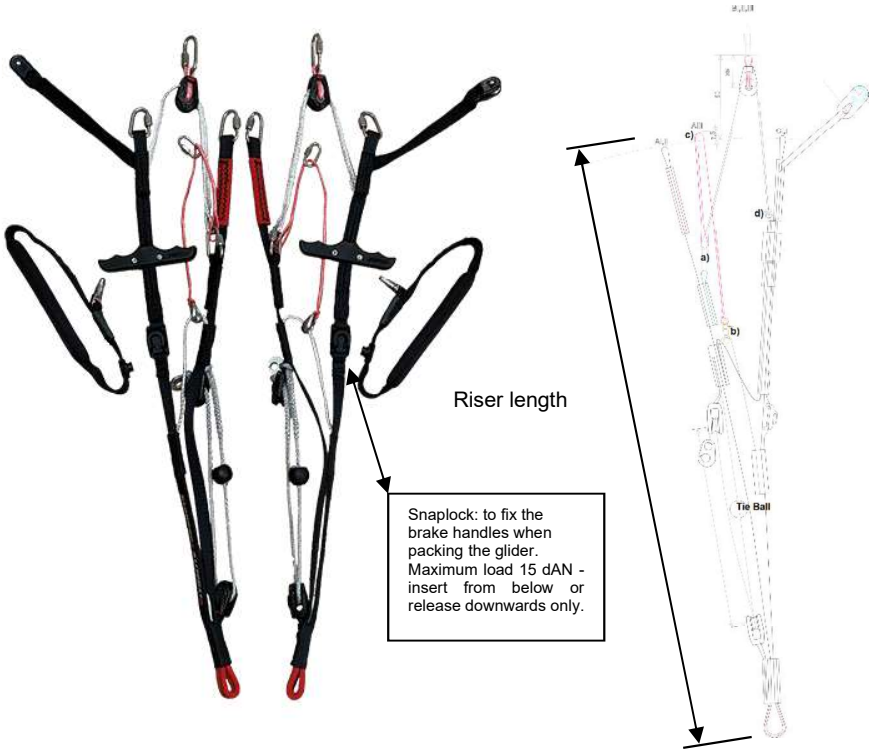
The individual brake lines are each combined at a main brake line. This main brake line is guided through a pulley on the C-riser. It has a marker at the height of which the brake handle is knotted. All the main lines of a level are looped separately into line locks and connected to the risers. Special line collectors are located in the quick links to prevent the lines from slipping.

Carrying straps

The new risers of the Summit X are delivered in different lengths for S, SM and for M, L respectively. This improves the ergonomics of the different sizes and thus facilitates in particular manoeuvres such as launch, ears on, B-stall, etc.. It also optimizes the accelerator travel for different glider sizes. When the speed bar is activated, the length of the A- and B-risers is changed at the same time. The greatest change in angle of attack is achieved when the front upper accelerator roller of the riser meets the lower accelerator roller.
The plastic ball on the accelerator (Tie Ball, see Figure 2) is used to change the accelerator deflection on the riser from 2-fold to 1-fold. At the beginning of acceleration, half the force is required to activate the accelerator. As soon as the ball hits the lower accelerator roller, the lower deflection is blocked and the distance to be covered on the accelerator is halved. This makes it easier to pedal the accelerator when the legs are strongly bent. (see also the section Accelerator/Harness further on).

The AIII riser from Liros DC300 can be replaced independently when it shows signs of wear, see Figure 3. To do this, open the Maillon-Rapide screw link **(position a)** and unloop it from the "Ronstan Shock" **(position b).** Then attach the new AIII riser (1 pair included) to the shock by anchor stitch, pass it back through the AIII/STI line lock **(position c)** and attach it to the screw link **(position b).** Then screw the screw link tight with 0.60 Nm tightening torque.

The BI,II,III line (gray Dyneema line, 1 pair included) must be replaced in the same way: open the line lock **(position a)**, open the anchor stitch on the riser **(position d)** and fasten the new line there with an anchor stitch. Then pass it through the Ronstan pulley and fix it on the line lock **(position a).** Then tighten the screw link with a tightening torque of 0.60 Nm.



Riser length [mm]	S	S accel.	SM	SM accel.	M	M accel.	L	L accel.
A I, II	495	353	510	360	540	378	540	378
A III	502,5	396	517,5	405	547,5	426	547,5	426
B I, II, III, STI	575	504	590	515	620	539	620	539
C I,II, III	497	497	512	512	542	542	542	542
Accelerator travel (pulley on pulley)		146		153		162		162

Figure 3: UP Summit X risers

Accessories

The UP Summit X is delivered with parasleeve, compression strap and repair material. The manual is available as download on the UP homepage. Every UP Summit X is subjected to a precise routine test at the factory and is checked for its construction conformity with the test sample.

Before the first flight

CAUTION! The UP Summit X must be inflated on a flat field before the first flight. The first flight should be carried out by a recognized DHV flying school or an authorized representative before the glider is delivered to the end customer .

Settings

The UP Summit X has been tuned by the test pilots and designers during its development process so that the production product has the optimum trim in terms of safety, handling and flight performance. Due to the high quality standards that UP International applies to all of its products, all line and harness lengths are manufactured with the utmost precision. Each glider is fully measured and catalogued again before delivery. The line length and riser settings of the UP Summit X have a high precision and must not be changed under any circumstances!

WARNING! Any unauthorized modification to the aircraft will void the operating license! Only the adjustment of the brake handle position allows an individual modification.

Positioning of the brake handles

The UP Summit X is delivered from the factory with a brake setting that provides optimal use for most pilots when flying. However, for very tall or short pilots, or when using harnesses with high or low pilot suspension, it may be necessary to change the position of the brake handles.

When shortening the brake setting, special care must be taken to ensure that the UP Summit X is not slowed down in trim flight and accelerated by brake lines that are too short. In addition to a deterioration of performance and take-off characteristics, safety problems can also occur with severely shortened brakes. Therefore, there should always be an "empty travel" of a few centimeters to prevent the glider from braking unintentionally. It should also be noted that the brake already causes a pulling force due to its air resistance. If the brake setting is extended, it must be ensured that in extreme flight situations and during landing the pilot has the possibility to fly the stall point without winding the brakes. Changes in brake travel should always be made in small increments (3 to 4 centimeters) and should be checked on the practice slope.

Make sure that the left and right brake lines are adjusted symmetrically! An individually correctly adjusted brake is the prerequisite for active and fatigue-free flying. If you have questions about body size and the harness in connection with the brake settings, these must always be clarified before a change is made. Please contact a UP dealer or UP International directly for personal advice.

To prevent unintentional loosening of the brake handles, it is essential to ensure that the brake line knot is correctly executed and firmly seated.

Caution! Loose or unsuitable brake line knots can lead to serious accidents due to loosening brake handles by temporarily missing controllability of the paraglider!

Acceleration system

The correct attachment and adjustment of the acceleration system is an important prerequisite for later smooth operation in flight. Therefore, the length should be adjusted individually, and the rope guidance checked before the first take-off.

The connection between the foot accelerator and the riser is made using special Brummel hooks or screw carabiners. The accelerator itself usually consists of one or more steps, two cords and two Brummel hooks. Starting from the treads, the two cords are pulled through the eyelets and pulleys provided.

If problems or questions arise regarding attachment and rope routing, you should contact the respective harness manufacturer.

Suitable harnesses

The UP Summit X can be used with all certified harnesses with a suspension point at about chest height. The lower the suspension point of the harness, the easier it is to control the UP Summit X by shifting your weight.

The recommended carabiner spacing is, depending on the pilot weight:

<50kg: 38cm

50-80kg: 42cm

>80kg: 46cm

The harness should ensure that you can also accelerate the UP Summit X to maximum speed via the speed system pulleys (both Riley pulleys of the riser lie on top of each other).

Furthermore, it should be noted that the relative braking distance changes with the height of the harness suspension. Please note that different harnesses can lead to different extreme flight characteristics (for example, increased risk of twisting with recumbent harnesses). If you have any questions or doubts regarding the use of your harness with the UP Summit X, please contact a UP dealer or UP International directly. We will be happy to advise you.

Harness dimensions at certification

The sample test uses harnesses with the following dimensions:

Total flying weight	**Width**: horizontal distance between the attachment points of the risers (measured from the center lines of the carabiners).	**Height**: normal distance from the attachment points of the risers (measured from the center lines of the carabiners) to the seat board surface.
< 80 kg	40 +/- 2 cm	40 +/- 2 cm
80 - 100 kg	44 +/- 2 cm	42 +/- 2 cm
> 100 kg	48 +/- 2 cm	44 +/- 2 cm

Rescue parachute

Carrying a suitable rescue parachute is not only required by law in most countries, it is absolutely vital for the safe operation of a paraglider. When selecting a rescue parachute, make sure that it is suitable and approved for the intended take-off weight.

The prescribed rescue system must be attached according to the manufacturer's instructions. The reserve bridle is normally passed over the pilot's back and hooked into the loops of the shoulder straps there.

Application area

The UP Summit X has been developed and tested exclusively for use as a paraglider for foot and winch launch. Any use not in accordance with the intended use is not permitted.

Aerobatics

The UP Summit X has not been built and tested for aerobatics. It is not suitable and certified for this purpose.

WARNING! Performing aerobatics with the UP Summit X puts your life in danger. When performing aerobatic manoeuvres, unpredictable flight situations can occur as well as the danger of overstressing the material and pilot!

Flight practice and flight safety

The following two chapters, Flight Practice and Flight Safety, describe basic aspects of paragliding. They serve the completeness of this manual, but should be self-evident for pilots who have decided to fly with a glider like the Summit X.

Flight practice

Preflight check

A careful pre-flight check is required for every aircraft, including the UP Summit X. Please make sure that you perform each check with the same care. Before every take-off, the take-off check (five-point check) is necessary. In order not to forget anything, it is advantageous to always do it in the same order.

1. The paraglider should be laid out in an arc so that when it is pulled up with the centre A-risers (red), the lines in the centre of the glider are tensioned slightly earlier than those at the wing ends. This ensures an easy and directionally stable launch. When deploying, please pay attention to the wind direction so that both halves of the paraglider are symmetrically filled when pulling up against the wind and the canopy does not break out sideways.
2. Carefully sort all the lines and risers. The A-lines deserve special attention. They must run freely and without entanglements from the A-riser to the canopy. It is equally important that the brake lines are free and cannot get caught during take-off. Care must be taken to ensure that no lines run under the canopy. Launching with a line over the wing is extremely dangerous!
3. Make sure that all straps on the harness are closed. This should be checked from bottom to top in a consistent order by grasping the respective buckles. Also check that the helmet is closed, the rescue parachute is hooked in (when using a front container) and the carabiners are secured.
4. Immediately before take-off you must check if the airspace is clear (also behind you).
5. The last step is to check the wind direction. If everything fits, you can start.

The take off phases

The Summit X is characterized by very good take off behaviour. Even a slight pull on the middle A-lines (AI, AII - riser, red) is enough for the canopy to fill evenly and immediately rise above the pilot. The Summit X has no tendency to hang up during the inflation phase.

In the inflation phase the pilot holds the middle A-risers (red) and the brake handles in his hands. A final check of the deployed glider is obligatory. The centre of the Summit X canopy can be seen by the UP logo on the leading edge. Careful deployment of the canopy according to the wind direction and a take-off run in line with the centre of the canopy will facilitate the deployment phase.

The canopy is filled with a consistent and even pull. The arms are held slightly bent in extension of the A-lines. As soon as the pull decreases during inflation - the canopy is above you at this point - look up and make sure that the canopy is fully open above you. Depending on the initial impulse, wind strength and slope, it may be necessary to brake the UP Summit X slightly at the apex.

Any directional corrections with the brakes should only be made when the canopy is already above you, otherwise the glider could fall back again by braking too hard.

The final decision to launch is only made at the end of the control phase. During the acceleration and lift-off phase, you lift off from the ground at an adapted running speed, which can be supported by dosed use of the brakes depending on the take-off terrain. After a pendulum-free take-off and reaching the safety altitude, you take your seat in your harness without letting the brake handles out of your hands. If you cannot get into the upright sitting position without additional help, transfer the brake handles to one hand. With the help of your free hand you now reach the desired sitting position.

Speed control

By means of brake lines

The Summit X has a very high speed range combined with great aerodynamic stability. The respective speed can be adjusted via the brake lines so that the optimum performance and safety can be selected for every flight situation.

The best glide speed in calm air is achieved with the Summit X in unbraked condition. If the brake lines are tightened on both sides by about 10 to 15 centimetres, the glider is in the range of the lowest sink rate. If you increase the tension on the brakes further, the sink rate is no longer reduced, the control forces increase noticeably, and the pilot reaches the minimum speed.

CAUTION! Flying too slowly near stall speed carries the risk of unintended stall or spin, so this speed range must be avoided at all costs.

By means of acceleration system

The UP Summit X is equipped with a very efficient acceleration system that is activated by a foot stretcher. When activated, this accelerator system increases the speed very effectively by about 11 to 13 km/h (11 to 13 mph). The use of the accelerator is very useful in some situations and should be part of the active flying style.

If the speed is increased to the maximum via the leg extension, you can fly faster out of downwind zones, achieve a better glide angle in headwinds or still arrive against the wind. The range of action of the UP Summit X increases considerably when fully accelerated and increases the flyable performance potential noticeably. When using the speed system, it is important to remember that if an extreme flight situation occurs the speed system must be deactivated immediately or is not activated in extreme flight situations. The advantage of using the speed system is that lift fluctuations and a resulting collapse of the glider can be detected by sudden pressure differences at the leg extension. If the pilot senses that the back pressure is suddenly reduced, the speed must be immediately reduced to trim speed in order to avoid possible collapses in advance.

CAUTION! All extreme flight conditions (for example collapses) occur more dynamically at increased speed. Therefore, the acceleration system should be operated little or not at all in case of low ground clearance or very turbulent conditions.

Turning

Weight shifting makes it very easy to fly flat turns with minimal loss of altitude. A combined control technique - weight shifting and pulling the inside brake line - is best suited for flying turns in any situation, with the turn radius determined by metered brake line pull. If it is necessary to turn the UP Summit X in a very tight space, it is recommended to control the pre-braked glider by releasing the outside brake line and pulling the inside brake line sensitively (opposite movement of the brake lines). From about 50 percent one-sided brake line pull, the UP Summit X will take on a distinct lateral tilt and fly a fast and steep turn, which can be extended to a steep spiral (see chapter "Steep Spiral").

C-riser control

When accelerated, the Summit X can also be steered by pulling down the handle on the C-riser. Be careful to pull only until you feel a noticeable increase in brake pressure. If for some reason it is no longer possible to fly the UP Summit X with the brake lines (e.g. loss of the brake handle due to loosening of the attachment knot), then it can also be steered and landed well using the C-risers. The reaction should be well-dosed and sensitive. The stall occurs a little earlier when steering via the rear risers or the C-lines than when steering via the brake lines.

Landing

The UP Summit X is easy to land. From a straight, pendulum-free final approach into the wind, let the glider glide out at normal speed and then, at about one meter above ground level, apply the brakes decisively and quickly. If there is a strong headwind, the brakes should be applied more lightly. Landings out of steep turns and fast turn changes before landing should be avoided because of the associated pendulum movements.

Winch towing

The UP Summit X has no special features for winch towing. In order to ensure safe and accident-free towing, the following points should be observed:

- Unless you are towing on your "home winch", where you know both the winch and the tow area and how to tow, it is necessary to familiarize yourself with the local conditions. Any "guest" at a foreign flying site is sure to be gladly briefed by the local pilots.
- When launching, make sure that the glider is completely above the pilot before giving the launch command. Any directional corrections with the brakes should only be made when the canopy is already above the pilot, otherwise the glider may fall back again due to excessive braking, or the glider may be dragged away while not yet airworthy.
- Under no circumstances should the launch command be given before the glider is completely under control. Strong directional corrections during the launch phase and before reaching the safety altitude are to be avoided.
- Care should be taken to descend at a shallow angle from take-off to safety altitude.

- The UP Summit X must not be towed with a towline tension of more than 90 daN.
- All persons and equipment involved in winch operation must be in possession of the correspondingly prescribed certificates of competence or approvals in order to be able to guarantee safe towing operation. This applies to the pilot, towing equipment, towing pawl and winch operator, as well as all other equipment for which a special certificate of operational capability is required.

Latch attachment for paraglider towing

The optimum pulling point for the towing rope should be as close as possible to the system's centre of gravity. In the case of a paraglider, the ideal pulling point is at the height of the riser hangers or directly on the risers. When using spreader tube pawls, the distance between the pawl and shackle should be sufficiently extended (cord or webbing) and the pawl must be secured with a retaining rubber to prevent it from swinging back. The distance between the risers must not be tightened by using the latch attachment (risk of twist)!

CAUTION! If towing is performed with a chest container, it must be ensured prior to the first launch that the release of the rescue reserve is always unhindered. If this is not the case, only winch tow with a webbing latch.

Flight safety

From the rectangular jump parachute to the low-drag high performance glider, a development has taken place that offers new flying possibilities, but at the same time demands a foresighted and sensitive flying style from the pilot. Every glider, whether beginner or high performance, can collapse in turbulent conditions or if the pilot reacts incorrectly. It is therefore more important to master the paraglider, to have a feeling for the controls and to recognize natural processes.

Today, the pilot has a wide range of different types of UP canopies at his disposal. The main difference within the individual classes lies in the aerodynamic stability of the canopies. Entry-level gliders react less dynamically to disturbances and have a largely forgiving flight behaviour, while high performers allow only a very small margin for pilot error. Choosing the right glider is thus critical to flight safety. The pilot should therefore self-critically review his skill and knowledge level before deciding on a glider.

A safe and effective way to familiarize yourself with your new paraglider is ground training. On a suitable meadow and in light to moderate wind, control impulses can be trained very well, and glider reactions can be observed. Launching can be practiced as well as flight manoeuvres (for example, folding the outer wings or other small disturbances).

Before and during flying, it is important to plan your route in advance. Very few turbulences occur suddenly but have a causal cause. If you think about the weather conditions of the day and the flight area in advance, you can avoid many dangers later.

Flying in thermals and turbulent conditions

In turbulent air the UP Summit X should be flown with a light brake line pull. This will increase the angle of attack and thus canopy stability. When flying in strong thermals or in broken thermals, make sure that the paraglider canopy does not lag behind the pilot. This is prevented by slackening the brake line as the glider enters the upwind area to pick up some speed. Conversely, the paraglider must be slowed down if the canopy gets ahead of the pilot by flying into a downwind area or flying out of the thermal.
Flying faster makes sense for crossing downwind zones. The UP Summit X has a very high stability due to its design. However, an active flying style in turbulent air, as described above, contributes additionally to further safety. Collapsing and deformation of the canopy can be largely prevented by an active flying style of the pilot.

Descent aids

All descent aids should be practiced in calm air and at sufficient altitude to be able to use them effectively in extreme conditions! Basically, there are three different ways to increase the descent rate safely and controllably.

WARNING! All other flight manoeuvres, such as full stalls and negative turns, are to be avoided as descent aids, since you will not achieve higher sink rates and incorrect recovery can have dangerous consequences regardless of the glider type!

Steep spiral

The highest sink rates of over 15 m/s can be achieved with the aid of the steep spiral. However, it is advisable to approach the high sink rates slowly.

The initiation of the spiral dive is easy with the UP Summit X and has already been described in the chapter "Turning Flight". It is important that the transition from turn to spiral dive is flown slowly and steadily. Otherwise, there is a danger of spinning if the brake lines are pulled too abruptly. In this case, the brake must be released immediately so that the glider can pick up speed again.

The bank angle and sink rate are controlled by pulling or releasing the brake line on the inside of the turn. In addition, the canopy can be stabilized at very high sink rates via the brake of the outer wing.

The steep spiral is released in the same way as it is introduced, slowly and steadily. The brake on the inside of the curve is released in a controlled manner. The exit can be supported by lightly braking the outside of the curve. Excessive oscillation can be prevented by controlled and soft counter-braking.

As the sink rate increases, the outer wing of the Summit X deforms. This condition is intentional and improves safety in the spiral dive. The pilot must know that in a steep spiral with large sink rates, high forces act on him and the material.

WARNING! In steep spirals with high sink rates, very large forces can act on the pilot and material. The high centrifugal forces can lead to

unconsciousness of the pilot and consequently to loss of control of the paraglider. This flight condition can have life-threatening consequences! Never fly a spiral dive with your ears attached! There is a danger of overloading the paraglider, pilot and equipment.

B-Stall

The initiation is made from unaccelerated straight flight by pulling down the BI,II, III (grey Dyneema lines) on the pulley about 10 centimetres. The pilot can keep the brakes in his hand during this process. For the first few centimetres, a lot of force is required to pull off the B risers. Once the flow at the top of the airfoil has been largely torn off, the glider enters a stall-like flight condition with no forward speed. By pulling the risers further, the area can be reduced, and the sink rate increased. After about 10 cm the sink rate reaches its maximum. The risers should then not be pulled down further, otherwise the glider may assume an unstable flight attitude or form a front rosette. If the B-risers have nevertheless been pulled down too far, they must be given some slack immediately so that the glider can again assume a stable flight attitude and the B-stall can then be flown further.
If you release the risers at the same time, quickly and without using the brakes, the paraglider picks up speed again independently and goes into stationary gliding flight. It is normal for the canopy to pitch about 30-45 degrees in front of the pilot. The glider must not be braked during this phase! Should the UP Summit X enter a deep stall due to a too slow release of the B-risers, which is normally not the case, it will be terminated by standard recovery (see chapter Deep Stall in the description of extreme flight situations).

WARNING! An incorrectly executed B-stall can lead to dangerous flight conditions! Due to the special design of the Summit X, pilots should only practice this manoeuvre under guidance in a safety training course or generally choose other manoeuvres for rapid descent.

Putting on ears

After preparing the acceleration system, pull down the outermost A-lines (red DC300 Dyneema lines) on both sides of the line lock at the same time by about 20 to 30 centimetres, thus causing the outer wings to fold in. You keep the brake handles together with the pulled down A-lines in your hand. After collapsing the outer wings, the angle of attack of the Summit X should be reduced again using the foot accelerator. The glider remains fully controllable by weight transfer and flies straight with increased sink rate (3-5 m/s depending on the number of collapsed cells and the use of the accelerator system). After releasing the A-risers, the pilot deactivates the acceleration system, and the collapsed cells open independently. Should this not be the case, the flight condition can be actively deflected by alternately and lightly applying the brakes. No extreme flight manoeuvres may be flown in this configuration!
If the UP Summit X is flown in the area of the lower weight limit, the canopy may enter a deep stall if the outer wings are folded in a very large area and the glider is braked. If this happens, which is normally not the case, the deep stall is terminated by standard recovery (see chapter deep stall in the description of extreme flight situations).

Extreme flight maneuvres

Behavior in extreme flight situations

Although the UP Summit X has very high aerodynamic stability, it is possible to get into an extreme flight situation due to turbulence or pilot error. The proven best method in such a case to be able to react calmly and correctly is to attend a safety training course. Here you learn to master extreme flight situations under professional guidance.

Extreme flight manoeuvres should be performed in calm air, sufficient altitude and only during safety training over water under professional guidance. The existing rescue parachute obligation is again expressly pointed out here.

The extreme flight manoeuvres and flight conditions described in the following section can be caused either intentionally, by turbulence, or by pilot error. Any pilot flying in turbulence or making a mistake in the control of his paraglider can get into these flight conditions. All extreme manoeuvres and flight conditions described here are dangerous if performed without adequate knowledge, without sufficient safety altitude, or without proper instruction.

WARNING! Incorrect execution of the flight manoeuvres and flight conditions described here can be life-threatening!

Collapse

Asymmetric collapse

As with all paragliders, stronger turbulence can cause the UP Summit X canopy to collapse. This is normally not critical. The automatic reopening is quick and reliable and can be easily controlled by experienced pilots. If a one-sided collapse occurs with the UP Summit X, the pilot should stabilize and control the direction of flight by adjusted weight shift and dosed brake line pull on the "healthy side". If the glider is braked too much on the intact wing half, there is a danger of spinning (see chapter Spinning).

If the wing end of the collapsed side of the glider threads between the lines after a very large collapse, large hang-ups can occur in extreme cases. (see the following sub-item).

Cravatte

During the extensive test phase of the Summit X, our test pilots could not detect any tendency to tangle. However, if a tangle should occur, the glider must be prevented from turning away IMMEDIATELY, or the rotation must be slowed down. Afterwards you can try to free the tangled end of the wing by pulling on the specially marked stabilizer line (orange). Short braking impulses can also help to release the tangled wingtip.

Other maneuvers to release tangles are the "full stall" or "short negative starting of the wing". However, these measures should only be practiced in a special safety training course.

WARNING! Should you not be able to stop the glider from spinning away, the rescue system must be activated IMMEDIATELY! Otherwise, a very dangerous, uncontrolled spiral dive may occur. This flight condition can have life-threatening consequences - also for third parties!

Front stable

A negative angle of attack caused by turbulence or the pilot pulling down the A-risers on both sides will cause a frontal stall of the leading edge. The UP Summit X normally terminates a front stall quickly and independently. Short, even, light symmetrical braking on both sides can assist the reopening. Excessive braking can lead to a stall.

Types of stalls

A laminar and turbulent boundary layer zone always develops as the air flows around the paraglider. Extremely dangerous flight conditions can occur when the laminar boundary layer detaches, causing virtually the entire flow on the upper side of the wing to break away. This occurs mainly at large angles of attack of the wing. In detail, there are three types of stalls in paragliders.

CAUTION! Spins and full stalls are dangerous and partly incalculable flight maneuvers. They should therefore not be flown intentionally. Rather, it is important to know the beginnings of the stall so that it can be prevented by immediate reaction of the pilot!

Stalled flight

The UP Summit X is not sensitive to deep stall. It will automatically recover from a deep stall caused by pulling the brake lines, the rear risers or a too slow B-stall as soon as the brakes or the rear risers are released. Should the UP Summit X stall due to a special flight situation or configuration (e.g., too low take-off weight), it will be terminated by symmetrically "pushing forward" the A-risers on both sides. Flight exercises in which one intentionally approaches stall should only be performed with sufficient safety altitude and absolutely under professional guidance (safety training). If you think you have entered a stall, you should not brake under any circumstances! Spinning or a full stall could be the consequences.

Fullstall

Flying full stall is only useful for very experienced pilots. This is a complete stall. If the speed falls below the minimum speed, the current breaks off. Pilot and paraglider are accelerated backwards. In this situation, the brakes must not be released under any circumstances, as a stall will cause the canopy to shoot far forward. In extreme cases the glider may accelerate to below the pilot and the pilot may subsequently fall into the canopy. After the backward tipping the canopy forms a rosette where the outer wings start to flapping. These flapping movements are transmitted to the pilot via the brakes. It requires a very high effort to keep the glider in the stalled condition.

Before releasing the full stall, it is essential that the canopy is stabilized. For recovery, both brakes are then released slowly and symmetrically until the glider has pre-filled over its entire span. During this phase the glider will pitch slightly around its transverse axis. If the canopy is then in front of the pilot, the remaining brake travel is released.

With proper symmetrical release, the canopy accelerates forward without collapsing. However, it must always be expected that the canopy may collapse sideways or frontally in case of stronger forward thrust.

The asymmetric recovery of the full stall performed by test pilots only serves to check the glider and, like the full stall, should not be flown intentionally. Due to the dynamic forces that occur here, the reactions of the canopy during recovery are very demanding. An impulsive, large-scale collapse of the canopy is possible.

CAUTION! Reaching the minimum speed is indicated by a noticeable decrease of the driving noise and an increase of the control forces. Up to this point, the glider can be started by simply releasing the brakes.

Spin

The spin (negative curve/vrille) is a one-sided stall and occurs when the pilot applies a brake quickly and completely at high speed. The same effect is caused by asymmetric braking close to the stall. During a spin, the glider spins rapidly. The inner wing flies backwards. To stop the spin, both brakes must be opened. This allows the glider to regain speed. Here the canopy can shoot forward on one side and collapse on the other.

WARNING! Spinning with subsequent one-sided folding of the wing halves can lead to hang-ups!

Wingover

During a wingover, the pilot flies alternating turns with increasing turn pitch until the desired degree of rocking is reached.

CAUTION! Due to its high manoeuvrability, the UP Summit X will reach a high bank after only a few turns. We recommend a slow approach to this flight manoeuvre, as parts of the sail may collapse if the pitch is too high. A bank angle of more than 135 degrees is illegal aerobatics in Germany!

Further references

Rain-induced deep stall

In general, there are two different reasons why a paraglider may stall in the rain:

Case 1: When flying in the rain for a longer period, the canopy weight increases and the centre of gravity and angle of attack shift as a result. This can lead to a stall. The following applies: The more water a glider has already absorbed (for example, older gliders because they lose their water-repellent coating over the years), the less water absorption is necessary to bring the glider into a stall.

Case 2: In very rare cases, when it starts to rain, as many water drops can adhere to the upper sail of a paraglider that almost the entire surface of the glider is covered, but there is no closed water surface. This phenomenon is also known from hang gliding and sailplanes. This droplet formation makes the surface so rough that the flow is detached. The newer a glider is (the drops are absorbed less quickly by the cloth in newer gliders), the more drops adhere to the upper sail, and the larger these drops are, the greater the risk of stall or orbital stall. This phenomenon was reconstructed in practical tests and by means of computer simulation.

For both cases it is true that first the control and braking distances are significantly reduced and then the stall condition is triggered, usually by a change in braking or angle of attack, for example from a gust or a thermal break.

If you are surprised by a rain shower in the air, manoeuvres with strong braking must be avoided at all costs. Also manoeuvres like ears or B-stall should be avoided at all costs! Avoid turbulent areas, accelerate the glider and do not brake it too much during the landing approach.

WARNING! Flying in extremely humid air or in rain should always be avoided. A wet canopy can massively impair flight performance and significantly increase the risk of premature stall.

Advertising and adhesive sail

Every pilot should make sure that there are no changes in the flight characteristics before attaching advertising and adhesive sails. In case of doubt, adhesive sails should not be glued in place.

CAUTION! Sticking large, heavy or unsuitable adhesive sails on the glider (e.g., for advertising purposes) will void the operating license. This will render your paraglider unairworthy.

Overload

Extreme flight manoeuvres such as strong spiral dives as well as acro and freestyle manoeuvres such as SAT or tumbling normally do not pose an acute danger to the structure of the UP Summit X. However, frequent overloading of the material will accelerate the aging process considerably. Gliders that are loaded beyond normal levels with these manoeuvres must be sent for re-testing sooner.

Flying by the sea

If the glider is flown for a long time at the sea or in salty air, this will lead to premature material aging. In this case, the glider should be sent for inspection at an early stage.
Care and cleaning

Care of the paraglider

How quickly a paraglider ages depends on how often and where it is flown, how many UV hours it accumulates and with what care and attention it is treated. Below are some tips on how to best care for, maintain and store your paraglider.

Packing wing

The Summit X, unlike previous models, is equipped with stiffer rods at the leading edge. Therefore, only a cellular packing bag such as the supplied UP Parasleeve should be used for packing. The best thing to do is to watch the video on our homepage on how to best pack the glider in the UP Parasleeve.

Figure 4: UP Parasleeve

Paraglider cloth

To build our paragliders we use a high quality polyamide cloth with a special protection for improved UV resistance and low air permeability. Prolonged UV exposure and normal use will reduce the strength of any paraglider cloth. Therefore, do not leave your paraglider in the sun unnecessarily, unpack it only just before take-off and pack it up again immediately after landing. Even though modern paraglider fabrics are increasingly better protected against the effects of solar radiation, UV radiation is still one of the decisive factors in the aging of the cloth. First the colours fade, then the coating and the fibres begin to age.

During production of the UP Summit X, the coated side of the fabric is placed on the inside. This way the coating, which is crucial for the characteristics of the cloth, is well protected from mechanical damage. When choosing a launch site, however, you should choose a surface that is as free as possible from sharp-edged and protruding objects.

Do not step on the glider. Kicks weakens the fabric, especially on hard and stony ground. At the launch site, also pay attention to the behaviour of spectators, especially children and dogs: Do not hesitate to call attention to the sensitivity of the cloth.

Please make sure that there are no insects in the canopy when packing the paraglider. Some species produce acids during decomposition that can etch holes in the cloth. Locust's bite through the material with their mouthparts, causing holes. They also secrete a dark, highly staining juice. Scare them away before folding. By the way, insects are not particularly attracted to any particular colour - even though this misconception is widespread.

If the paraglider has become damp or wet, it should be dried as quickly as possible in a well-ventilated place (but never in the sun!). If it remains wrapped up damp, this can lead to the formation of mold and - especially in heat - to a decomposition of the fibres!

A brand new glider is often heavily compressed upon delivery. This compression is solely for the first transport. From the first use, the umbrella should not be packed too tightly. Also, one should not sit on a packing bag in which an umbrella is packed.

If the glider has come into contact with salt water, it should be rinsed out thoroughly with fresh water immediately (see chapter Cleaning).

Paraglider lines

The UP Summit X uses extremely high quality Dyneema and Aramid lines.
Please pay attention to the following points when handling your paraglider lines:

- Regularly check the lines for damage
- Make sure that the surface of the lines is not chafed by friction.
- Avoid unnecessary buckling
- Do not knot the brake line unnecessarily at the brake handle. Each knot weakens the line.
- After overloads, such as tree landings, water landings or other extreme situations) all lines must be checked for strength and length and replaced if necessary. Send your glider directly to UP International or a UP Service Centre for inspection.
- If there is any change in the flying behaviour, the lines must be checked for length and rewound or replaced if necessary. Send your glider directly to UP International or a UP Service Centre for inspection.

Storage and transport

Even if your glider was completely dry when you packed it after the last flight of the season, if you are going to store it for a longer period you should take it out of the packing bag if possible and spread the canopy out slightly in a clean, dry place protected from light. If you do not have a suitable space, avoid compressing the paraglider and open the Parasleeve as much as possible for ventilation. The UP stuff bag is also suitable for this purpose. Also make sure that no animals, such as mice or cats, use the glider as a sleeping place during longer storage. No chemical substances

such as fuel should be stored in the immediate vicinity of the material. Gasoline will dissolve the cloth and can severely damage your glider. Store the pack in the trunk as far away as possible from reserve canisters or oil containers. The permanent storage temperature must be between 10° and 25° C with a relative humidity between 50 and 75%.

The UP Summit X should not be exposed to extreme heat (for example in the trunk of a parked car in summer). The heat will force any moisture that may still be present through the cloth, which can damage the coating. Especially when combined with moisture, high temperatures accelerate the hydrolysis process that damages fibres and coating. Also, do not store your glider near radiators or other heat sources. Already from 60° Celsius, heat-related changes of the material occur after a short time.

Cleaning

To clean the UP Summit X, it is best to use lukewarm fresh water and a soft sponge. For more stubborn cases, a mild detergent is recommended, which must then be rinsed carefully and thoroughly. Let your glider dry in a shady and well-ventilated place.

CAUTION! Never use chemicals, brushes or hard sponges to clean the glider. They could damage the coating and strength of the cloth. The sail will become porous and lose tensile strength.

Under no circumstances should a canopy be put in the washing machine: even without detergent, the cloth would be severely damaged by the mechanical stress. Never immerse the canopy in a swimming pool either: The chlorinated water attacks the fabric. If you absolutely must rinse your canopy, for example after a water landing in the sea, spray it inside and out with a gentle stream of water. Frequent rinsing accelerates the aging process**!**

Inspection and repairs

Major repairs and inspections may only be carried out by UP International or a recognized service company. Failure to do so will invalidate the operating permit. See also the Service section at: **www.up-paragliders.com**

UP International not only brings its know-how to the development of paragliders and accessories, but also offers a range of services related to the safety of your *paraglider.* All services must be carried out at an authorized UP service centre according to UP International recommendations. For the warranty to remain valid for new UP gliders, the conditions listed in the "UP International Warranty" section must be met. Current conditions can be found at www.up-paragliders.com in the *Service section.*

Maintenance and minor repairs

Adhesive sail

Small damages like cracks or small holes up to a size of 2 x 2 cm, which can be done without special equipment, may be done by the pilot himself. For this purpose, each glider is supplied with an appropriate adhesive sail. The adhesive sail must protrude at

least 2 cm over the damaged area on all sides. The adhesive sail must be applied on both sides, rounding off the corners can prevent it from coming off.

Airworthiness review

If any of the following conditions occur, the Summit X must be inspected for airworthiness:

- 2 years after the first routine test
- Every other 2 years or earlier if prescribed by the UP Service Centre.
- After 200 operating hours

Of course, we will be happy to carry out the prescribed inspection earlier if you consider it necessary due to extreme use. You will receive the inspection instructions separately from this manual.

CAUTION! If you notice any changes in the flight behaviour of your Summit X, please have it checked immediately by UP or a UP service centre.

Expertise

To ensure that your UP Summit X always offers the highest level of functionality and safety, you should commission UP International with its maintenance and repair. Our service staff has been extensively trained to perform any work on your glider professionally and correctly. In addition, UP International is equipped with all the special tools and equipment needed for fast and flawless repairs.

Airworthiness check

Due to its many years of experience in paragliding, UP International can guarantee a professional airworthiness check. The canopy including the "inner workings", the entire line system, the risers and all connecting parts are checked for damage of any kind. Our service workshop is specially equipped for the exact performance of airworthiness checks. In addition to specially developed suspension devices, calibrated and regularly maintained measuring instruments are used, which are essential for determining airworthiness. Our computer-aided laser measurement of the canopy system is the final step in the measurement process.
In addition to the measured values obtained in this way, the tester's assessment is decisive for the overall evaluation of the paraglider. This requires a high degree of expertise and experience. Individual gliders for which the tester suspects a change in flight characteristics based on the data obtained are re-flown and checked by UP test pilots. This way UP International can always guarantee a high quality in the testing of paragliders. Only through a thorough and professional airworthiness check can the certification requirements be met and the safety of the glider be guaranteed. In your own interest you should therefore only have your UP glider checked by the specialists

of the UP Service Team or a recognized service company. You can find a list of these approved service centers in the *Service* section under *www.up-paragliders.com*

ATTENTION: If your UP paraglider is not serviced and checked by a recognized service company or by UP International GmbH, its operating license will expire!

Original parts

Your UP glider consists of many high-quality components with a long service life. When replacing parts (lines, risers, canvas etc.) only original parts may be used. In addition to maintaining the airworthiness of your glider, this is also very important for your safety. The following spare parts can be ordered through your dealer or directly from UP International GmbH:

- risers complete or their individual components such as Brummel hooks, Snaplock or magnets, line locks, O-rings, brake handles
- Single lines according to line plan
- Cloth material
- Adhesive sail

Delivery service

Before your UP glider left the workshop, all the work done was checked again and carefully tested. In addition, a comprehensive inspection was performed by the UP service team or an approved service facility before the glider was shipped to ensure that your Summit X complies with UP International standards and the type approved device.

Warranty conditions

The conditions and the scope of the UP International warranty are described on the following pages. For further information please contact your UP Service Centre or UP International directly. The UP importer of your country is also available for customer service and warranty questions.

National warranty provisions

In some countries, UP importers/general agents assume special warranties due to national laws and regulations, which differ depending on the country. These national conditions only apply in the country where the glider was delivered. You will receive information about national warranty conditions when you purchase your paraglider.

Warranty in D-A-CH

In Germany, Austria and Switzerland the UP warranty is extended to 36 months if the first 2 year check is done directly at UP International or our Swiss service company (see UP homepage).

International UP Guarantee

The UP International warranty covers material and manufacturing defects and is valid for a period of 2 years from the date of delivery of the new glider. The international UP warranty includes the reimbursement of the costs for necessary spare parts and the working time in connection with the replacement or repair of the defective parts, provided that UP International has recognized a material or manufacturing defect as such.
The UP international warranty does not cover gliders that have been involved in an accident or have been rebuilt or modified. The warranty does not cover parts that need to be replaced due to normal wear and tear.
Furthermore, color changes of the used cloth material and damages caused by solvents and/or salt water as well as due to improper handling of the paraglider and force majeure are excluded from the warranty.

The warranty is valid under the following conditions

- The glider has been used normally and cared for and maintained according to the applicable specifications issued by UP International. This includes, in particular, careful drying, cleaning and storage.
- The glider has only been used within the applicable guidelines. All applicable approval regulations have been complied with.
- All flights performed must be fully verifiable by means of the flight log including the respective flight duration and the flight area.
- Only original UP spare parts were used and rechecks, replacements and/or repairs were carried out exclusively by UP International and duly documented.
- The glider was registered within 14 days from delivery at: http://www.up-paragliders.com/de/service/product-registration
- The warranty is granted only to the first owner of the glider.

UP International does not assume any responsibility or replacement beyond the above obligations. However, a goodwill arrangement is possible.

Re-testing of new devices

According to § 1 para. 5 LuftGerPV, the owner can inspect his equipment himself or commission a third party, such as the manufacturer/importer, with the inspection.

For an independent verification, UP International requires a briefing. The briefing takes place after consultation directly at UP International and is only valid for the

corresponding device sample. The inspection instruction will be handed over to the owner after the instruction.

If the owner checks the device himself or commissions a third party to do so, it must be ensured under all circumstances that the specifications of UP International regarding the inspection are adhered to. In case of an improper or incomplete inspection, the operating license will expire.

Current regulations can be found in the *Service* section under
www.up-paragliders.com

Sending in the UP glider and other UP products

For submissions to us, please use the form that you can download from our website. If you live outside of Germany, please visit our website to find the nearest UP service centre or give us a call.

UP International GmbH.
Kreuzeckbahnstraße 7
D-8267 Garmisch-Partenkirchen

E-mail: info@up-paragliders.com
Phone: +9 (0) 88 21-7 30 99-0
Fax: +9 (0) 88 21-7 30 99-16

Disposal

Despite careful material selection, even the best product has only a limited service life. The plastic material used in a paraglider requires proper disposal. Please have your paraglider disposed of properly. You can also send it back to us for disposal.

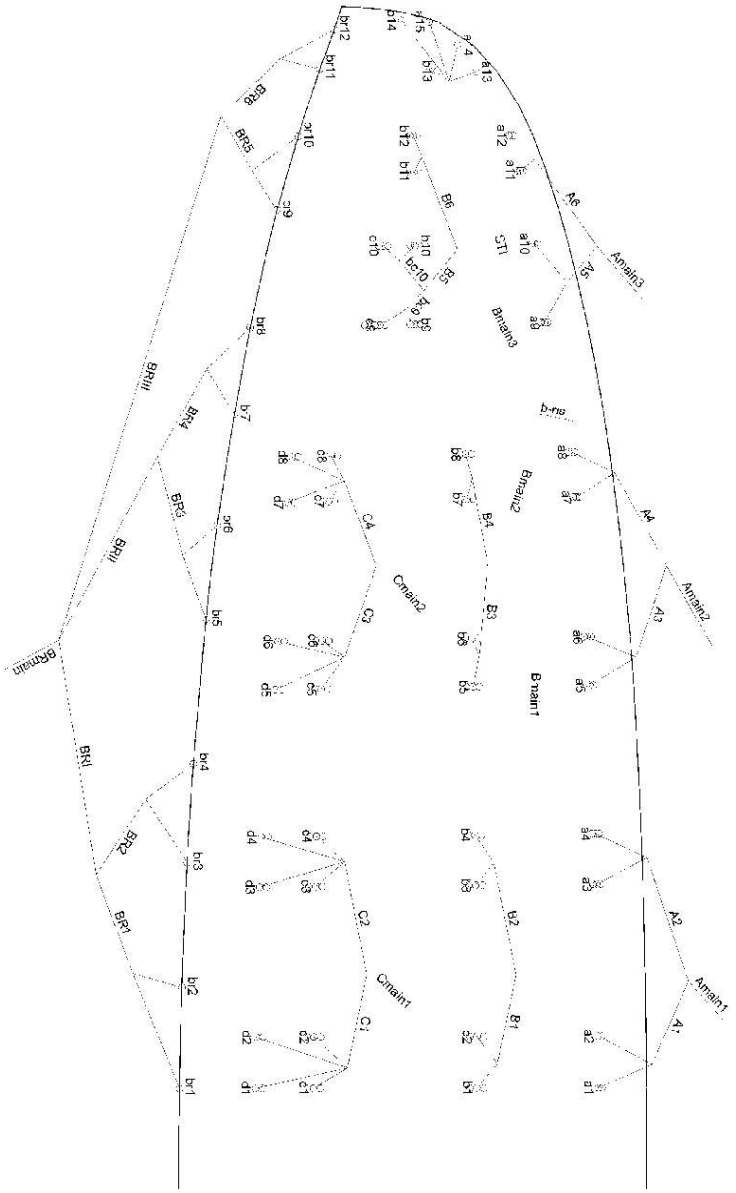
Closing words

UP wishes you a lot of fun and wonderful accident-free flights with your UP Summit X.

See you UP in the sky - Your UP International Team

Appendix

Line map



Total Line lengths

Line	Summit X L	Summit X M	Summit X SM	Summit X S
a1	7608	7359	7062	6785
a2	7559	7310	7015	6743
a3	7522	7280	6984	6707
a4	7527	7284	6987	6721
a5	7483	7233	6943	6650
a6	7425	7176	6888	6604
a7	7345	7094	6816	6525
a8	7335	7087	6808	6520
a9	7148	6915	6631	6361
a10	7048	6815	6539	6274
a11	7003	6774	6501	6232
a12	7008	6774	6502	6245
a13	6878	6648	6381	6121
a14	6837	6608	6341	6082
a15	6846	6628	6359	6108
b1	7486	7242	6945	6684
b2	7438	7194	6900	6644
b3	7405	7165	6876	6606
b4	7411	7168	6879	6618
b5	7374	7130	6846	6556
b6	7317	7072	6791	6510
b7	7244	7003	6725	6445
b8	7244	7001	6723	6448
b9	7119	6888	6604	6346
b10	7031	6805	6526	6269
b11	7008	6775	6504	6232
b12	7011	6780	6508	6244
b13	6870	6636	6370	6111
b14	6928	6699	6433	6173
c1	7617	7370	7070	6808
c2	7552	7308	7009	6752
c3	7534	7291	6997	6724
c4	7563	7320	7025	6761
c5	7539	7285	6995	6706

Line	Summit X L	Summit X M	Summit X SM	Summit X S
c6	7471	7220	6932	6655
c7	7397	7148	6864	6584
c8	7425	7174	6888	6610
c9	7185	6951	6665	6398
c10	7097	6868	6590	6326
d1	7721	7472	7168	6901
d2	7667	7417	7115	6855
d3	7650	7402	7103	6822
d4	7667	7418	7119	6850
d5	7629	7373	7079	6781
d6	7566	7314	7020	6736
d7	7486	7231	6944	6656
d8	7491	7236	6948	6667
br1	7994	7785	7486	7145
br2	7705	7510	7211	6884
br3	7492	7300	7008	6680
br4	7451	7256	6967	6658
br5	7280	7097	6808	6458
br6	7158	6976	6695	6386
br7	7078	6894	6615	6300
br8	7161	6973	6699	6390
br9	7008	6822	6556	6256
br10	7027	6840	6587	6311
br11	7100	6898	6637	6341
br12	7226	7024	6767	6470

Single line lengths Summit X L

Line	Length	Loops	Material	Color	Protection	Loop Maillon
a1	647	130	DC60	Red		
a2	605	130	DC60	Red		
a3	611	130	DC60	Red		
a4	628	130	DC60	Red		
a5	608	130	DC60	Red		
a6	557	130	DC60	Red		
a7	529	130	DC60	Red		
a8	528	130	DC60	Red		
a9	888	130	8000U-070	Red		
a10	792	130	8000U-050	Red		
a11	228	130	8000U-050	Red		
a12	239	130	8000U-050	Red		
a13	748	130	8000U-050	Red		
a14	704	130	8000U-050	Red		
a15	730	130	8000U-050	Red		
A1	2240	200	DC120	Red	+	
A2	2194	200	DC100	Red	+	
A3	2031	200	DC100	Red	+	
A4	1977	200	DC100	Red	+	
A5	1111	130	8000U-090	Red		
A6	1625	130	8000U-050	Red		
Amain1	4157	260	8000U-230	Red		+
Amain2	4266	260	8000U-190	Red		+
Amain3	4590	260	8000U-130	Red		+
b1	620	130	DC60	Red		
b2	576	130	DC60	Red		
b3	577	130	DC60	Red		
b4	596	130	DC60	Red		
b5	582	130	DC60	Red		
b6	533	130	DC60	Red		
b7	504	130	DC60	Red		
b8	508	130	DC60	Red		
b9	315	130	8000U-050	Red		
b10	227	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
b11	205	130	8000U-050	Red		
b12	221	130	8000U-050	Red		
b13	731	130	8000U-050	Red		
b14	796	130	8000U-050	Red		
B1	2152	200	DC120	Red	+	
B2	2109	200	DC100	Red	+	
B3	1955	200	DC100	Red	+	
B4	1912	200	DC100	Red	+	
bc9	547	130	8000U-070	Red		
bc10	547	130	8000U-050	Red		
B6	1625	130	8000U-050	Red		
Bmain1	4075	260	8001-230	Blue		+
Bmain2	4178	260	8001-190	Blue		+
B5	1100	130	8000U-090	Red		
Bmain3	4527	260	8001-130	Blue		+
b-ris	80	130		Red		
c1	494	130	8000U-070	Red		
c2	433	130	8000U-050	Red		
c3	379	130	8000U-050	Red		
c4	421	130	8000U-050	Red		
c5	318	130	8000U-050	Red		
c6	257	130	8000U-050	Red		
c7	276	130	8000U-050	Red		
c8	308	130	8000U-050	Red		
c9	373	130	8000U-050	Red		
c10	286	130	8000U-050	Red		
C1	1560	130	8000U-130	Red	+	
C2	1585	130	8000U-090	Red	+	
C3	1515	130	8000U-090	Red	+	
C4	1420	130	8000U-090	Red	+	
Cmain1	5016	260	8000U-190	Natural		+
Cmain2	5137	260	8000U-190	Natural		+
d1	600	130	8000U-050	Red		
d2	549	130	8000U-050	Red		
d3	496	130	8000U-050	Red		
d4	524	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
d5	408	130	8000U-050	Red		
d6	352	130	8000U-050	Red		
d7	362	130	8000U-050	Red		
d8	372	130	8000U-050	Red		
br1	860	130	Natural	Red		
br2	565	130	Natural	Red		
br3	738	130	Natural	Red		
br4	698	130	Natural	Red		
br5	597	130	Natural	Red		
br6	473	130	Natural	Red		
br7	581	130	Natural	Red		
br8	663	130	Natural	Red		
br9	424	130	Natural	Red		
br10	443	130	Natural	Red		
br11	262	130	Natural	Red		
br12	398	130	Natural	Red		
BR1	1533	130	Natural	Red		
BR2	1147	130	Natural	Red		
BR3	1147	130	Natural	Red		
BR4	960	130	Natural	Red		
BR5	752	130	Natural	Red		
BR6	997	130	Natural	Red		
BRI	2657	130	8000U-090	Red		
BRII	2590	130	8000U-090	Red		
BRIII	2883	130	8000U-070	Red		
BRmain	2828	300	989/1,5	Red		
STI	5472	260	8000U-070	Grey		+

Single line lengths Summit X M

Line	Length	Loops	Material	Color	Protection	Loop Maillon
a1	614	130	DC60	Red		
a2	572	130	DC60	Red		
a3	577	130	DC60	Red		
a4	593	130	DC60	Red		
a5	573	130	DC60	Red		
a6	524	130	DC60	Red		
a7	495	130	DC60	Red		
a8	494	130	DC60	Red		
a9	844	130	8000U-070	Red		
a10	750	130	8000U-050	Red		
a11	204	130	8000U-050	Red		
a12	216	130	8000U-050	Red		
a13	705	130	8000U-050	Red		
a14	662	130	8000U-050	Red		
a15	689	130	8000U-050	Red		
A1	2175	200	DC120	Red	+	
A2	2130	200	DC100	Red	+	
A3	1972	200	DC100	Red	+	
A4	1919	200	DC100	Red	+	
A5	1079	130	8000U-090	Red		
A6	1578	130	8000U-050	Red		
Amain1	4036	260	8000U-230	Red		+
Amain2	4142	260	8000U-190	Red		+
Amain3	4456	260	8000U-130	Red		+
b1	585	130	DC60	Red		
b2	541	130	DC60	Red		
b3	541	130	DC60	Red		
b4	559	130	DC60	Red		
b5	545	130	DC60	Red		
b6	498	130	DC60	Red		
b7	468	130	DC60	Red		
b8	473	130	DC60	Red		
b9	284	130	8000U-050	Red		
b10	200	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
b11	180	130	8000U-050	Red		
b12	197	130	8000U-050	Red		
b13	689	130	8000U-050	Red		
b14	755	130	8000U-050	Red		
B1	2089	200	DC120	Red	+	
B2	2048	200	DC100	Red	+	
B3	1898	200	DC100	Red	+	
B4	1856	200	DC100	Red	+	
bc9	531	130	8000U-070	Red		
bc10	531	130	8000U-050	Red		
B6	1578	130	8000U-050	Red		
Bmain1	3956	260	8001-230	Blue		+
Bmain2	4056	260	8001-190	Blue		+
B5	1068	130	8000U-090	Red		
Bmain3	4395	260	8001-130	Blue		+
b-ris	80	130		Red		
c1	466	130	8000U-070	Red		
c2	406	130	8000U-050	Red		
c3	353	130	8000U-050	Red		
c4	394	130	8000U-050	Red		
c5	294	130	8000U-050	Red		
c6	235	130	8000U-050	Red		
c7	252	130	8000U-050	Red		
c8	284	130	8000U-050	Red		
c9	343	130	8000U-050	Red		
c10	259	130	8000U-050	Red		
C1	1515	130	8000U-130	Red	+	
C2	1539	130	8000U-090	Red	+	
C3	1471	130	8000U-090	Red	+	
C4	1379	130	8000U-090	Red	+	
Cmain1	4870	260	8000U-190	Natural		+
Cmain2	4988	260	8000U-190	Natural		+
d1	569	130	8000U-050	Red		
d2	518	130	8000U-050	Red		
d3	467	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
d4	493	130	8000U-050	Red		
d5	380	130	8000U-050	Red		
d6	327	130	8000U-050	Red		
d7	335	130	8000U-050	Red		
d8	345	130	8000U-050	Red		
br1	831	130	8000U-050	Natural		
br2	548	130	8000U-050	Natural		
br3	715	130	8000U-050	Natural		
br4	677	130	8000U-050	Natural		
br5	575	130	8000U-050	Natural		
br6	454	130	8000U-050	Natural		
br7	557	130	8000U-050	Natural		
br8	638	130	8000U-050	Natural		
br9	404	130	8000U-050	Natural		
br10	423	130	8000U-050	Natural		
br11	246	130	8000U-050	Natural		
br12	378	130	8000U-050	Natural		
BR1	1488	130	8000U-050	Natural		
BR2	1114	130	8000U-050	Natural		
BR3	1114	130	8000U-050	Natural		
BR4	932	130	8000U-050	Natural		
BR5	730	130	8000U-050	Natural		
BR6	968	130	8000U-050	Natural		
BRI	2580	130	8000U-090	Red		
BRII	2515	130	8000U-090	Red		
BRIII	2799	130	8000U-070	Red		
BRmain	2746	300	989/1,5	Red		
STI	5312	260	8000U-070	Grey		+

Single line lengths Summit X SM

Line	Length	Loops	Material	Color	Protection	Loop Maillon
a1	596	130	DC60	Red		
a2	556	130	DC60	Red		
a3	560	130	DC60	Red		
a4	575	130	DC60	Red		
a5	554	130	DC60	Red		
a6	507	130	DC60	Red		
a7	479	130	DC60	Red		
a8	478	130	DC60	Red		
a9	812	130	8000U-070	Red		
a10	721	130	8000U-050	Red		
a11	196	130	8000U-050	Red		
a12	207	130	8000U-050	Red		
a13	674	130	8000U-050	Red		
a14	632	130	8000U-050	Red		
a15	657	130	8000U-050	Red		
A1	2088	200	DC120	Red	+	
A2	2045	200	DC100	Red	+	
A3	1893	200	DC100	Red	+	
A4	1842	200	DC100	Red	+	
A5	1036	130	8000U-090	Red		
A6	1515	130	8000U-050	Red		
Amain1	3874	260	8000U-230	Red		+
Amain2	3976	260	8000U-190	Red		+
Amain3	4278	260	8000U-130	Red		+
b1	565	130	DC60	Red		
b2	523	130	DC60	Red		
b3	523	130	DC60	Red		
b4	539	130	DC60	Red		
b5	525	130	DC60	Red		
b6	479	130	DC60	Red		
b7	450	130	DC60	Red		
b8	454	130	DC60	Red		
b9	272	130	8000U-050	Red		
b10	190	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
b11	171	130	8000U-050	Red		
b12	187	130	8000U-050	Red		
b13	659	130	8000U-050	Red		
b14	722	130	8000U-050	Red		
B1	2005	200	DC120	Red	+	
B2	1966	200	DC100	Red	+	
B3	1822	200	DC100	Red	+	
B4	1782	200	DC100	Red	+	
bc9	510	130	8000U-070	Red		
bc10	510	130	8000U-050	Red		
B6	1515	130	8000U-050	Red		
Bmain1	3797	260	8001-230	Blue		+
Bmain2	3893	260	8001-190	Blue		+
B5	1025	130	8000U-090	Red		
Bmain3	4220	260	8001-130	Blue		+
b-ris	80	130		Red		
c1	455	130	8000U-070	Red		
c2	397	130	8000U-050	Red		
c3	345	130	8000U-050	Red		
c4	384	130	8000U-050	Red		
c5	287	130	8000U-050	Red		
c6	230	130	8000U-050	Red		
c7	246	130	8000U-050	Red		
c8	276	130	8000U-050	Red		
c9	327	130	8000U-050	Red		
c10	247	130	8000U-050	Red		
C1	1454	130	8000U-130	Red	+	
C2	1477	130	8000U-090	Red	+	
C3	1412	130	8000U-090	Red	+	
C4	1324	130	8000U-090	Red	+	
Cmain1	4676	260	8000U-190	Natural		+
Cmain2	4790	260	8000U-130	Natural		+
d1	550	130	8000U-050	Red		
d2	502	130	8000U-050	Red		
d3	451	130	8000U-050	Red		

Line	Length	Loops	Material	Color	Protection	Loop Maillon
d4	476	130	8000U-050	Red		
d5	367	130	8000U-050	Red		
d6	315	130	8000U-050	Red		
d7	323	130	8000U-050	Red		
d8	333	130	8000U-050	Red		
br1	714	130	8000U-050	Natural		
br2	437	130	8000U-050	Natural		
br3	590	130	8000U-050	Natural		
br4	559	130	8000U-050	Natural		
br5	452	130	8000U-050	Natural		
br6	346	130	8000U-050	Natural		
br7	432	130	8000U-050	Natural		
br8	520	130	8000U-050	Natural		
br9	293	130	8000U-050	Natural		
br10	326	130	8000U-050	Natural		
br11	147	130	8000U-050	Natural		
br12	287	130	8000U-050	Natural		
BR1	1428	130	8000U-050	Natural		
BR2	1069	130	8000U-050	Natural		
BR3	1069	130	8000U-050	Natural		
BR4	895	130	8000U-050	Natural		
BR5	701	130	8000U-050	Natural		
BR6	929	130	8000U-050	Natural		
BRI	2477	130	8000U-090	Red		
BRII	2414	130	8000U-090	Red		
BRIII	2687	130	8000U-070	Red		
BRmain	2746	300	989/1,5	Red		
STI	5099	260	8000U-070	Grey		+

Service booklet

Glider and pilot data

Model: **Summit X**

Size: ❒ **S** ❒ SM ❒ M ❒ L

Serial number: _____

Color: _____

Date of purchase: _____

First flight: _____

Dealer stamp and signature

Pilot (1st holder)

First name: _____

Last name: _____

Street: _____

Residence: _____

ZIP CODE: _____

Country: _____

Phone: _____

Fax: _____

Email: _____

Pilot (2nd holder)

First name:_____

Last name:_____

Street: _____

Residence:_____

ZIP CODE:_____

Country:_____

Phone: _____

Fax: _____

Email:_____

Pilot (3rd holder)

First name:_____

Last name:_____

Street: _____

Residence:_____

ZIP CODE:_____

Country:_____

Phone: _____

Fax: _____

Email:_____

Please make sure that your UP service center stamps and signs after each inspection.

Service 1

Executed on _____

Type of service

Order no.
Stamp

Service 2

Executed on _____

Type of service

Order no.
Stamp

Service 3

Executed on _____

Type of service

Order no.
Stamp

Please make sure that your UP service center stamps and signs after each inspection.

Service 4

Executed on _____

Type of service

Order no.
Stamp

Service 5

Executed on _____

Type of service

Order no.
Stamp

Service 6

Executed on _____

Type of service

Order no.
Stamp