KangniX

Operating manual
and service booklet

Seriennummer:_____

Table of contents

Important
Where necessary, we use the following words and symbols to draw attention to important issues:

WARNING!
These instructions draw attention to dangers that can lead to injury or death if ignored.

CAUTION!
These instructions draw attention to dangers that can lead to damage to the paraglider or to premature wear.

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

Welcome to UP

Congratulations on the purchase of your new UP Kangri 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 Kangri 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:

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

Safety instructions

Please read this manual before your first flight with the UP Kangri X. This will help you to familiarize yourself with your new wing more quickly. The manual provides you with information about all the important features and characteristics of the UP Kangri X but is not a substitute for attending a flying school. Please pay particular attention to the following points:

- At the time of delivery, this paraglider corresponds to the type tested in accordance with 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 options will result in the invalidation of the operating license!
- The use of this paraglider is exclusively at your own risk. Any liability on the part of the manufacturer and distributor is excluded.

- Every pilot is responsible for their own safety and must also ensure that the glider they are flying is checked for airworthiness before every take-off.
- We also assume that the pilot is in possession of the required certificate of competence and complies with the applicable legal regulations.

Nature and landscape-friendly behaviour

Paragliding is a very natural and environmentally friendly sport. For this reason, respectful treatment of the environment should be a matter of course for every paraglider. When practicing our sport, care must be taken to protect nature and the landscape. We therefore ask you not to make noise, not to go off the marked hiking trails and not to leave any garbage behind to preserve the ecological balance of our nature for our children. Please inform yourself before each flight about the valid nature conservation regulations in the respective flight area or on the planned flight route in order not to unnecessarily annoy hunters, landscape conservation authorities and landowners.

Technical description

The UP Kangri 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. Like all UP products, all materials used are of a high quality standard. To ensure a long service life, they are carefully selected and subjected to extensive testing before use. Further details of the design and dimensions, including the dimensions of the UP Kangri X lines, can be found on the approval certificate issued by the certification authority or in this manual. Any technical changes can be found in the appendix to this operating manual or on our website.

Intended use

According to LTF-HG/GS 2-565-20, the Kangri X can be used as a "light aircraft" with an empty mass of less than 120 kg in the paraglider category.

LTF and EN classification

The UP Kangri X is classified in the final classification in EN 926-2:2013+A1:2021 / EN B (sizes 21, 23 and 25).

Target group and recommended flying experience

Performance-oriented cross-country pilots who have several years of regular flying experience of at least 50 flying hours per year and a sound knowledge of flying techniques.

Requirements in normal flight

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

Requirements in the event of malfunctions

The behaviour of the glider 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 malfunctions, especially lateral and frontal collapses. If this experience is not sufficient, we recommend instruction on the respective glider type, preferably in a safety training course.

Fast descent requirements

Flight manoeuvres such as spiral dives or B-stalls place higher demands on the pilot due to the overall more demanding control characteristics. Good practical knowledge of these manoeuvres should be available. If this is not the case, special instruction on the respective glider type is recommended, ideally in a safety training course.

Suitability for training

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

Tandem and paramotor license

The UP Kangri X is certified as a solo glider. Suspension is only provided for a harness. The UP Kangri X is not certified for paramotoring. There are no trimmers on the risers.

Recommended weight range

The UP KANGRI X must be flown within the permitted take-off weight. This can be found under "Technical data UP KANGRI X". The weight refers to the take-off weight (pilot weight plus clothing, glider, harness equipment, etc.). The easiest way to determine your take-off weight is to stand on a scale with your rucksack and equipment.

In the upper weight range up to the certified weight limit, the handling of the MERU 2 is more precise and direct. Trim and top speed are slightly higher than in the middle to lower weight range, the manoeuvres and extreme flight characteristics are more dynamic. This weight range is particularly recommended for competitions where speed plays a role. In the medium to lower weight range, the sink rate and brake pressure are lower, and the wing also reacts less dynamically. This weight range is particularly preferable for pilots who fly a lot in flat terrain. On thermally active days, the desired higher take-off weight can be compensated for by carrying ballast.

Operating limits

Compliance with the operating limits must be ensured for the entire duration of the flight, including preparation and post-processing. These are exceeded as soon as one of the following points applies:

- Flying with an incorrect number of seats
- Failure to comply with the respective upper and lower weight limits of the take-off weights
- Temperatures of more than -30° C or more than 50° C
- Flying in rain, snow, clouds, or fog or with a wet canopy for any other reason
- Unauthorized modifications to the canopy, lines, or risers
- Acrobatic flying and manoeuvres with more than 90° bank angle
- Wind speeds at the take-off site and expected wind speeds in flight that are higher than 2/3 of the achievable speed with the take-off weight intended for the flight
- Turbulent weather conditions that are expected to cause extreme flight conditions outside the flight conditions tested in the certification

Technical data of the UP Kangri X

Size	21	23	25
Surface area flat [m²]	21,2	23,1	25,1
Surface area projected [m²]	18,0	19,6	21,3
Flat span [m]	11,2	11,7	12,1
Projected span [m]	9,2	9,6	10,0
Flat aspect ratio	5,9	5,9	5,9
Projected aspect ratio	4,6	4,6	4,6
Number of Chambers	55	55	55
Total line length incl. Brake [m]	205	217	228
Total # of lines incl.Brake	192	192	192
Glider weight [kg]	3,3	3,5	3,8
Takeoff weight [kg] with LTF/EN Category certified	68-85	75-100	85-110
maximum symmetrical steering travel at maximum weight [cm]	60	60	65
Accelerator travel [mm]	146	153	162
Number of risers (split A-risers)	3+1	3+1	3+1
Trimmer	-	-	-
LTF/EN Category	B	B	B
Description	Intermediate Performance		

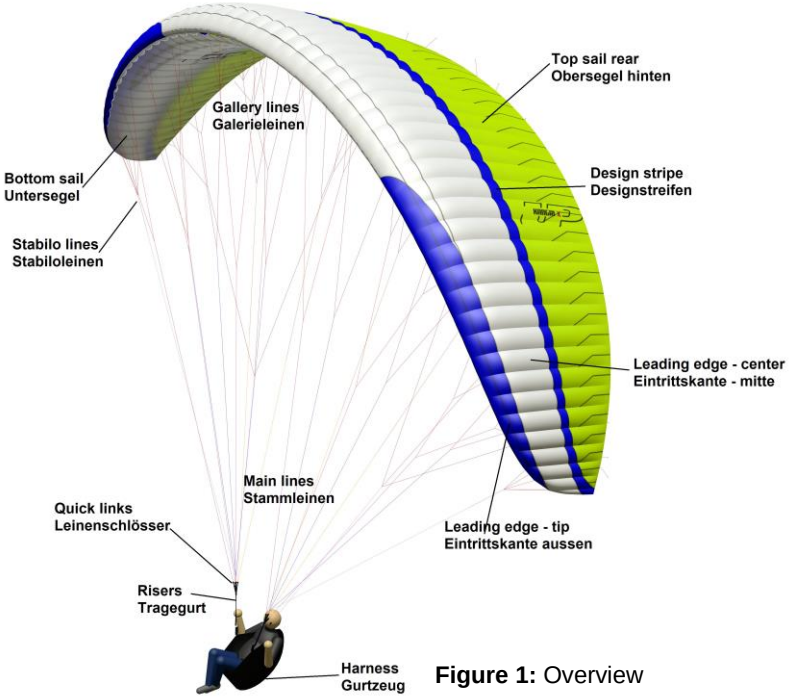


Figure 1: Overview

Construction

The Kangri X is the ideal wing for pilots who prefer the performance of a high-end B-range wing. The optimum combination of safety and performance is achieved with the Kangri X through the use of our completely revised profile (NGA - new generation airfoil) combined with some innovative detail solutions:

Passive safety through
- Different angle of attack over the entire span
- NGA - stable canopy filling pressure even when the angle of attack changes

Performance through
- High aspect ratio
- Uncoated lines
- Profile stability due to long rods

Front Section Support / Rear Section Support

The Front Section Support, FSS, developed by UP and now copied by numerous companies, is used in the Kangri X in a modified form. Instead of the nose reinforcements (Mylars), a flexible plastic rod is used in the nose radius. In contrast to conventional Mylar, these plastic rods have practically no tendency to age. Therefore, even after many flights, the UP Kangri X still has the same good launch characteristics as at the beginning. In addition, the Kangri X is reinforced with additional rods (Rear Section Support -RS) on the upper sail.

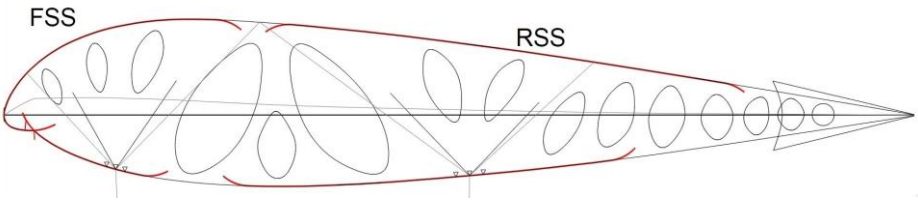


Figure 2: FSS and RSS

Canopy material

Top sail /bottom sail:	Skytex 27 Classic II (29 g/m²) - double-coated
Ribs 2 - 15:	Skytex 32 Hard (32 g/m²)
Ribs 18 - 27, horizontal bands, mini and V-ribs:	Skytex 27 Hard (26 g/m²)

This material mix enables the best durability with a low canopy weight.

Line material

The UP Kangri X uses unsheathed Dyneema® and aramid lines made by Edelrid and Liros (sheathed brake lines, cousin Dyneema).

Line system

The lines of one half of the canopy 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

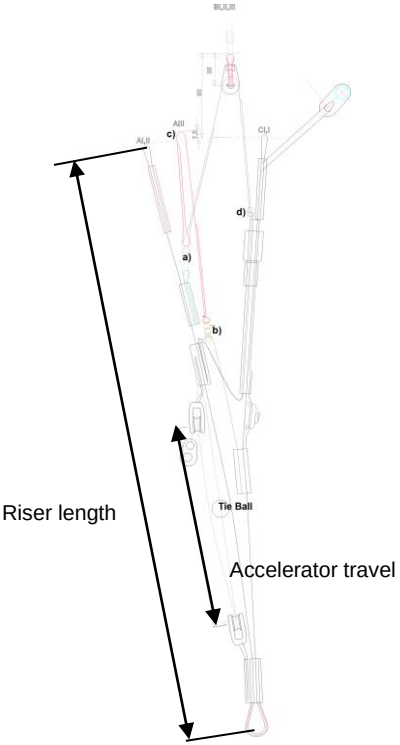
The individual brake lines are each connected to a main brake line. This main brake line is guided through a pulley on the C-riser. There is a mark on it at the height of which the brake handle is knotted. All main lines on one level are looped separately into quick links and connected to the risers. There are special line collectors in the quick links to prevent the lines from slipping.

Risers

The new risers of the Kangri X are supplied in different lengths for S, SM and M, L respectively. This improves the ergonomics of the different sizes and facilitates manoeuvres such as take-off, ear placement, B-stall, etc. in particular. It also optimizes the accelerator travel for different wing sizes. When the speed bar is activated, the length of the A- and B-risers is changed at the same time. The largest change in angle of attack is achieved when the front upper speed bar pulley of the riser meets the lower speed bar pulley.
The plastic ball on the speed bar (tie ball, see Figure 2) is used to switch the speed bar deflection on the riser from 2-fold to 1-fold deflection. At the start of acceleration, half the force is required to activate the speed bar. As soon as the ball hits the lower accelerator pulley, 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 accelerator/harness section below).

The AIII riser made of Liros DC300 can be replaced independently if it shows signs of wear, see Figure 3. One pair is included in the scope of delivery. To do this, open the Maillon-Rapide quick link **(position a)** and unloop it from the "Ronstan Shock" **(position b).** The new AIII riser (1 pair included) is then attached to the shock with an anchor stitch, passed back through the AIII/STI line buckle **(position c)** and attached to the screw link **(position b).** An additional loop must be attached here, which can be opened for trimming if the line shrinks. The screw link must then be tightened with a tightening torque of 0.60 Nm.

To replace the BI,II,III line (gray Dyneema line, 1 pair included), proceed in the same way: open the quick link **(position a)**, open the anchor stitch on the riser **(position d)** and attach the new line there with an anchor stitch. Then feed it through the Ronstan pulley and attach it to the quick link **(position a)**. Then tighten the quick link with a tightening torque of 0.60 Nm.



Riser length [mm]	21	21 accel.	23	23 accel.	25	25 accel.
A I, II	495	349	510	360	540	378
A III	502,5	393	517,5	405	547,5	426
B I, II, III, STI	575	502	590	515	620	539
C I,II, III	497	497	512	512	542	542
Accelerator travel (pulley on pulley)		146		153		162

Figure 3: UP Kangri X risers

Accessories

The UP Kangri X is supplied with CompressSmart and repair material. The manual is available to download from the UP homepage. Every UP KANGRI 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 Kangri X must be inflated on a flat surface before the first flight and a complete pre-flight check must be carried out (visual check for damage, check the line locks). The first flight should be carried out by a flying school or an authorized person before the glider is delivered .

Settings

During its development process, the UP Kangri X was adjusted by the test pilots and designers so that the series product has the optimum trim in terms of safety, handling, and flight performance. Due to the high quality standard that UP International applies to all its products, all line and harness lengths are manufactured with the utmost precision. The line lengths and riser settings of the UP Kangri X are extremely precise and must not be altered under any circumstances!

WARNING! Any unauthorized modification to the glider will invalidate the operating license! Only the adjustment of the brake handle position allows individual modification.

Positioning the brake levers

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

If the brake setting is shortened, particular care must be taken to ensure that the UP Kangri X is not slowed down by brake lines that are too short when trimming and accelerating. In addition to a deterioration in performance and take-off characteristics, safety problems can also occur if the brakes are shortened considerably. There should therefore always be a "free travel" of a few centimetres 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 the pilot is able to reach the stall point without winding the brakes in

extreme flight situations and when landing. Changes to the brake travel should only ever be made in small steps (3 to 4 centimetres) and should be checked on the practice slope. Make sure that the left and right brake lines are set symmetrically! An individually correctly adjusted brake is the prerequisite for active and fatigue-free flying. If you have any questions about your body size and harness in relation to the brake settings, these must always be clarified before making any changes. Please contact a UP dealer or UP International directly for personal advice.

To prevent unintentional release of the brake handles, it is essential to ensure that the brake line knot is correctly designed and securely fastened**.**

Caution! Loose or unsuitable brake line knots can lead to serious accidents due to the brake handles coming loose and the paraglider temporarily becoming uncontrollable!

Acceleration system

Correct attachment and adjustment of the speed system is an important prerequisite for later smooth use in flight. The length should therefore be individually adjusted and the cable routing checked before the first launch.

The connection between the foot accelerator and the riser is made using special Brummel hooks or screw carabiners. The speed bar itself usually consists of one or more steps, two cords and two Brummel hooks. Starting from the steps, 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

All tested and approved harnesses with a suspension point at around chest height are suitable for the UP Kangri X. The lower the suspension point of the harness, the easier it is to steer the UP Kangri X by shifting your weight.

The recommended carabiner distance depends on the pilot's weight:

<50kg: 38cm

50-80kg: 42cm

>80kg: 46cm

The harness should ensure that the UP Kangri X can be accelerated to its maximum speed using the pulleys of the speed system (both Riley pulleys of the riser are on top of each other).

It should also 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 behaviour (e.g. increased risk of twisting with pod harnesses). If you have any questions or doubts regarding the use of your harness with the UP Kangri X, please contact a UP dealer or UP International directly. We will be happy to advise you.

Harness dimensions for certification

Harnesses with the following dimensions are used for the type test:

Total flight weight	**Width**: horizontal distance between the attachment points of the risers (measured from the Centre lines of the carabiners)	**Height**: normal distance from the attachment points of the risers (measured from the Centre 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, but also 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 in accordance with the manufacturer's instructions. The reserve parachute bridle is normally passed over the pilot's back and hooked into the shoulder strap loops.

Field of application

The UP Kangri X has been developed and tested exclusively for use as a paraglider for foot and winch launch. Any use other than the intended use is not permitted.

Aerobatics

The UP Kangri X has not been built and tested for aerobatics. It is not suitable or approved for this purpose.

WARNING! Anyone performing aerobatics with the UP Kangri X is putting their life in danger. Performing aerobatic manoeuvres can result in unpredictable flight situations as well as the risk of overloading 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 to make this manual complete, but should be a matter of course for pilots who have decided to fly with a glider like the Kangri X.

Flight practice

Pre-flight check

A thorough pre-flight check is necessary for every glider, including the UP Kangri X. Please ensure that you carry out each check with the same care. The take-off check (five-point check) is necessary before every take-off. 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 pulling up with the middle A-risers (red), the lines in the middle of the glider are tensioned slightly earlier than those at the wing tips. This ensures an easy and directionally stable take-off. When laying out the canopy, please pay attention to the wind direction so that both halves of the glider are filled symmetrically when pulling up into the wind and the canopy does not break out sideways.
2. Then carefully sort all lines and risers. Particular attention should be paid to the A-lines. They must run freely and without entanglement from the A-riser to the canopy. It is equally important that the brake lines are free and cannot get caught during take-off. Make sure that no lines run under the canopy. A line overthrow during take-off can have serious consequences.
3. Then make sure that all the straps on the harness are fastened. This should be checked from bottom to top in the same order by touching the respective buckles. Also check that the helmet is closed, the reserve parachute is attached (when using a front container) and the carabiners are secured.
4. Immediately before take-off you must check that the airspace is clear (including behind you).
5. The last step is to check the wind direction. If everything fits, you can take off.

Take-off phases

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

During the inflation phase, the pilot holds the middle A-risers (red) and the brake handles in his hands. A final check of the deployed wing is mandatory. The centre of the Kangri X can be identified 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 make the inflation phase easier.

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 on the lines eases - 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 inclination, it may be necessary to break the UP Kangri 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 if the brakes are applied too hard.

The final decision to take off is only made at the end of the control phase. During the acceleration and take-off phase, you take off from the ground at an appropriate speed, which can be supported by controlled use of the brakes depending on the take-off terrain. After a swing-free take-off and reaching the safety altitude, take a seat in your harness without letting go of the brake handles. If you are unable to get into the upright sitting position without additional help, transfer the brake handles to one hand. Use your free hand to get into the desired sitting position.

Speed control

By means of brake lines

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

The Kangri X achieves its best glide speed in calm air when it is unbraked. If the brake lines are pulled up about 10 to 15 centimetres on both sides, the wing will sink as little as possible. If the pull on the brakes is increased further, the sink rate is no longer reduced, the steering forces increase noticeably, and the pilot reaches the minimum speed.

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

By means of an acceleration system

The UP Kangri X is equipped with a very efficient acceleration system that is activated by a foot stretcher. When activated, this speed system increases the speed very effectively by around 11 to 13 km/h. Using the speed system is very useful in some situations and should be part of an active flying style.

If the speed is increased to the maximum via the leg extension, you can fly out of downwind zones faster, achieve a better glide angle in headwinds or still arrive upwind. The action radius of the UP Kangri X increases considerably when fully accelerated and noticeably increases the performance potential that can be achieved. When using the speed system, it is important to ensure that the speed system is deactivated immediately if an extreme flight situation occurs or that it is not activated in extreme flight situations. The advantage of using the speed system is that fluctuations in lift and the resulting collapse of the glider can be detected by sudden differences in pressure on the leg extensions. 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 (e.g. collapses) are more dynamic at higher speeds. For this reason, the speed system should be operated only a little or not at all in low ground clearance or very turbulent conditions.

Turning

By shifting weight, flat turns can be flown very well with minimal loss of altitude. A combined steering technique - weight shift and pulling the brake line inside the turn - is ideal for flying turns in any situation, whereby the radius of the turn is determined by the amount of brake line pulled. If it is necessary to turn the UP Kangri X in a tight space, it is advisable 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 approx. 50 percent brake line pull on one side, the UP Kangri X takes a clear sideways turn and flies a fast and steep turn, which can be extended into a spiral dive (see chapter "Spiral dive").

C-riser control

When accelerated, the Kangri X can also be steered by pulling down the handle on the C-riser. Make sure that you only pull until there is a noticeable increase in brake pressure. If for any reason it is no longer possible to fly the UP Kangri X with the brake lines (e.g. loss of the brake handles due to loosening of the attachment knot), it can also be steered and landed using the C-lines. You should react carefully and sensitively. The stall occurs somewhat earlier when steering via the rear risers or the C-lines than when steering via the brake lines.

The landing

The UP Kangri 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 apply the brakes decisively and quickly at a height of about one meter above the ground. If there is a strong headwind, slow down accordingly. Landings out of steep turns and rapid turn changes before landing should be avoided due to the associated pendulum movements.

Winch towing

The UP Kangri X has no special features for winch towing. To ensure safe and accident-free towing, the following points must be observed:

- Unless you are towing on your "home winch", where you know both the towing winch and the towing area as well as the way of towing, it is necessary to familiarize yourself with the local conditions. Every "guest" at an unfamiliar flying site will certainly be instructed by the local pilots.

- When launching, make sure that the canopy is completely over 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 if the brakes are applied too hard, or the glider may be dragged away when it is not yet ready to fly.
- Under no circumstances should the launch command be given before the glider is fully under control. Strong directional corrections during the take-off phase and before reaching the safety altitude must be avoided.
- Make sure you descend at a flat angle from the start to the safety height.
- The UP Kangri X must not be towed with a towline pull of more than 90 daN.
- All persons and equipment involved in winch operation must be in possession of the relevant prescribed certificates of competence or approvals to ensure safe towing operations. This applies to the pilot, towing device, towing pawl, and winch operator, as well as all other equipment for which a special certificate of operational capability is required.

Attachment for paraglider towing

The optimum towing point for the tow 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 attachments or directly on the risers. When using spreader bar pawls, the pawl/shackle distance should be sufficiently extended (cord or webbing) and the pawl must be secured with a hold-down rubber to prevent it from kicking back. The distance between the risers must not become narrower when using the ratchet attachment (risk of twisting)!

CAUTION! If towing with a chest container, it must be ensured before the first launch that the release of the reserve parachute is always unhindered. If this is not the case, you may only tow with a webbing release.

Flight safety

A development has taken place from the rectangular parachute to the low-drag high performance wing, which offers new flying possibilities, but at the same time demands a forward-looking and sensitive flying style from the pilot. Every wing, whether beginner or high performance, can collapse in turbulent conditions or if the pilot reacts incorrectly. This makes it more important to master the paraglider, have a feel for the controls and recognize natural processes.

Today, pilots can choose from a wide range of different types of UP wings. The main difference within the individual classes lies in the aerodynamic stability of the canopies. Beginner wings react less dynamically to disturbances and have a largely forgiving flight behaviour, while high performance wings only allow a very small margin for pilot error. Choosing the right glider is therefore crucial for flight safety.

Pilots should therefore self-critically check their skills and level of knowledge before deciding on a glider.

Ground training is a safe and effective method of familiarizing yourself with your new paraglider. On a suitable meadow and in light to moderate winds, control impulses can be practiced very well, and glider reactions can be observed. You can also practice launching and flight manoeuvres (e.g. folding the outer wings or other minor malfunctions).

Before and during the flight, it is important to plan your route with foresight. Very little turbulence occurs suddenly but has a causal origin. If you think about the day's weather conditions and the flying area in advance, you can avoid many dangers later.

Flying in thermals and turbulent conditions

In turbulent air, the UP Kangri X should be flown with a light brake line pull. This increases the angle of attack and thus the canopy stability. When flying into strong thermals or torn thermals, make sure that the canopy does not lag behind the pilot. This can be prevented by loosening the brake line when flying into the thermal to pick up some speed. Conversely, the paraglider must be slowed down if the canopy gets in front of the pilot by flying into a downwind area or flying out of a thermal.
Flying faster is useful for crossing downwind zones. The UP Kangri X has a very high stability due to its design. However, an active flying style in turbulent air, as described above, contributes to additional safety. An active flying style by the pilot can largely prevent the canopy from collapsing and deforming.

Descent aids

All descent aids should be practiced in calm air and at a sufficient height to be able to use them effectively in extreme conditions! There are essentially three different ways of safely and controllably increasing your descent speed.

WARNING! All other flight manoeuvres, such as full stalls and negative turns, should be avoided as descent aids, as they do 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 help of the spiral dive. However, it is advisable to approach the high sink rates slowly.

Initiating a spiral dive on the UP Kangri X is simple and has already been described in the chapter "Turning". It is important that the transition from the turn to the spiral dive is flown slowly and steadily. If the brake lines are pulled too abruptly, there is a risk of spinning. In this case, the brakes must be released immediately so that the glider can pick up speed again.

The bank angle and sink rate are controlled by pulling and releasing the brake line on the inside of the turn. The brake on the outer wing can also be used to stabilize the canopy at very high sink rates.

The exit of the spiral dive is performed in the same way as the entry, slowly and steadily. The brake on the inside of the turn is released in a controlled manner. You can support the exit by braking slightly on the outside of the turn. Excessive oscillation can be prevented by controlled and soft counter-braking.

As the sink rate increases, the outer wing of the Kangri X deforms. This condition is intentional and improves safety in the spiral dive.

The pilot must know that high forces act on him and the material during a spiral dive with high sink rates.

WARNING! In spiral dives with high sink rates, very high forces can act on the pilot and material. The high centrifugal forces can cause the pilot to lose consciousness and lose control of the paraglider. This flight condition can have life-threatening consequences!

B-stall

The launch is made from unaccelerated straight flight by pulling the BI, II, III (grey Dyneema lines) down about 10 centimetres on the pulley. The pilot can keep the brakes in his hands. For the first few centimetres, a lot of force is required to pull out the B-risers. Once the airflow at the top of the profile is largely torn away, the glider enters a stall-like flight state without forward motion. By pulling the risers further, the surface area can be reduced, and the sink rate increased. The sink rate reaches its maximum after approx. 10 cm. The risers should then not be pulled down any further, as otherwise the wing may become unstable or form a front rosette. If the B-risers have been pulled down too far, they must be released immediately so that the glider can return to a stable flying position and the B-stall can then be continued.
If you release the risers simultaneously, 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 approx. 30-45 degrees in front of the pilot. The glider must not be braked during this phase! If the UP Kangri X goes into a stall due to the B-risers being released too slowly, which is not normally the case, this is ended by a standard recovery (see the section on stalls 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 Kangri X, pilots should only practice this maneuver under supervision in a safety training course or generally choose other manoeuvres for rapid descent.

Big Ears

After preparing the speed system, the outermost A-lines (red DC300 Dyneema lines) on both sides of the line lock are pulled down simultaneously by approx. 20 to 30 centimetres to collapse the outer wings. Hold the brake handles together with the pulled down A-lines in your hand. After folding in the outer wings, the angle of attack of the Kangri X should be reduced again using the speed bar. The wing remains fully

controllable by shifting your weight and flies straight ahead at an increased sink rate (3-5 m/s depending on the number of folded cells and the use of the speed system). After releasing the A-lines, the pilot deactivates the speed system, and the collapsed cells open automatically. If this is not the case, the flight condition can be actively exited by applying the brakes alternately and gently. No extreme flight manoeuvres may be flown in this configuration!
If the UP Kangri X is flown at the lower weight limit, the canopy can enter a deep stall if the outer wings are folded in over a very large area and the brakes are applied. If this happens, which is not normally the case, the stall is terminated by a standard recovery (see the chapter on stalls in the description of extreme flight attitudes).

Extreme flight manoeuvres

Behaviour in extreme flight situations

Although the UP Kangri X has very high aerodynamic stability, turbulence or pilot error can lead to an extreme flight situation. The best way to react calmly and correctly in such a situation 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, at sufficient altitude and only during safety training over water under professional guidance. We would like to point out once again that a reserve parachute is mandatory.

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 who flies in turbulence or makes a mistake when controlling their paraglider can get into these flight conditions. All extreme flight manoeuvres and flight conditions described here are dangerous if they are performed without adequate knowledge, without sufficient safety altitude, or without appropriate instruction.

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

Collapses

Asymmetrical collapse

The UP KANGRI X belongs to the new generation of paragliders that, as well as having very good performance, also exhibit a high degree of stability. Wing tip collapses can almost always be prevented through active flying. Once an asymmetric collapse has occurred, the pilot aims to maintain flying direction through weight shift and careful application of brake input on the open side. If the open side is braked too much it may stall, and the wing will enter a spin – this is the classical recipe for cascading events (see the spin chapter). In rare instances a wingtip may catch in the lines during asymmetric collapses (see cravats here below).

Cravattes

Our test pilots have found absolutely NO tendency towards cravatting in all the test flights the KANGRI X has been subjected to. But under extraordinary circumstances any paraglider may cravatte, and if this happens the pilot should know how to deal with the situation. The first step is to STOP any rotation, or, if this is not possible, to slow down the rotation as much as possible – a cravatted wing that is left to its own devices may very quickly enter a spiral dive of such vehemence that the pilot cannot stop the rotation anymore. Once the rotation is under control the pilot attempts to free the cravatte by pulling on the Stabilo line, perhaps in combination with pumping action through the brake lines.
If neither of these approaches work, then the experts may decide to try either a full stall or a brief spin on the cravatted side – please note that these measures should ONLY be practised during an SIV training over water.

WARNING: If you are unable to prevent 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 collapse

A negative angle of attack due to turbulence or the pilot pulling down the A-risers on both sides causes a frontal collapse of the leading edge. The UP Kangri X normally ends a frontal stall quickly and automatically. The re-opening can be supported by short, even, light symmetrical braking on both sides. Braking too hard can lead to a stall.

Types of stall

A laminar and turbulent boundary layer zone is always created as the air flows around the paraglider. Extremely dangerous flight conditions can occur if the laminar boundary layer separates, causing practically the entire flow on the upper side of the wing to break off. This mainly occurs at large angles of attack of the wing. There are three different types of stall in paragliders.

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

Deep stall

The UP Kangri X is not sensitive to stalls. It will automatically stop a possible stall caused by pulling the brake lines or the rear risers too hard, or if the B-stall is too slow as soon as the brakes or the rear risers are released. Should the UP Kangri X enter a deep stall due to a particular flight situation or configuration (e.g. too low take-off weight), this can be stopped by symmetrically pushing the A-risers forward on

both sides. Flight exercises in which you intentionally approach a stall should only be carried out with sufficient safety altitude and always under professional guidance (safety training). If you think you have entered a stall, do not brake under any circumstances! This could result in a spin or a full stall.

Fullstall

Wilfully induced full stalls remains the realm of the true experts of our sport. The full stall is when there is no more laminar airflow along the surface of the canopy, and the wing has gone from being a wing to being just a bunch of material at the end of some lines. Once the airspeed has been reduced to below the minimum speed for the canopy the wing will stall. To the pilot it feels like dropping backwards, not unlike the sensation felt when a jester removes your chair from under you when you sit down. In this phase it is important to avoid releasing the brakes again, as this may lead to uncontrollable shooting forward of the canopy. In extreme cases pilots have fallen into the canopy through poorly timed full stall releases.
In the next phase the canopy stabilises somewhat above the pilot again. The wing tips will often tend to try to reinflate quite violently, and it requires considerable force to maintain the wing in the stalled configuration.
It is important to stabilise the wing above the pilots' head before releasing the brake lines. The pilot accomplishes this by slowly releasing the brakes until the wing is all but reinflated across the entire span. In this phase the wing will be moving somewhat along the cross axis. The pilot attempts to release the last bit of brake input as the wing is surged forward – this will cause the wing to resume flight with the least possible diving tendency. Pilots should note that timing the release wrongly may cause the wing to dive quite aggressively and be prepared to catch the dive.
Test pilots have also tested the asymmetric release of full stalls on the KANGRI X. This manoeuvre is ONLY for reference and should not be emulated by owners.

CAUTION! The approach of the minimum speed is recognised through the notable lack of forward speed and thereby wind noise and the extreme increase in brake line tension. Up until the wing starts to fall back the pilot may resume normal flight by simply releasing the brakes.

Spin

The negative spin occurs when one side of the wing is stalled while the other is still flying. This can happen when, if flying very slowly, one brake is pulled quickly to below the seat. When the glider starts to spin, it will turn quickly around the vertical axis, with the stalled side flying backwards. To recover from a spin, simply release the brake on the stalled side. The glider will immediately speed up and, most likely, suffer an asymmetric collapse. Recover as described above. If you suspect that a spin is imminent then immediately release the inside brake. The glider will accelerate smoothly and resume normal flight with little altitude loss.

WARNING! Spins followed by collapses can lead to cravattes!

Wingover

Wingovers are induced by flying alternating turns; each time letting the pendulum effect increase the bank angle.

CAUTION! Due to its high manoeuvrability, the UP Kangri X achieves a high bank angle after just a few turns. We recommend approaching this manoeuvre slowly, as parts of the wing can collapse if the angle of attack is too high.

Further references

Rain-induced deep stall

There are two reasons why flying with a wet wing increases the risk of deep stalling:
First reason: A paraglider flying in heavy rain will soon grow significantly heavier and thereby undergo changes in the centre of gravity and the angle of incidence. This may lead to deep stalls. Note that older wings will absorb more water than newer ones due to the coating on older wings being more permeable – this means that the critical mass may be reached sooner on older wings.
Second reason has to do with the actual rain drops on the top surface – if enough large rain drops form that the entire top surface is covered, but they don't join to either flow off or become a homogeneous mass, the surface may become so rugged that the airflow separates and the wing stalls.
This phenomenon has been observed on hang-gliders and gliders for years, but only recently have we discovered that paragliders may also be affected. It is more likely to happen with new wings where the cloth is still highly hydrophobic, and the drops thus do not penetrate but remain on the surface.
We know from computer simulations and practical tests that this is physically possible, but we also suspect that it occurs very seldom in real life flying.
In both cases the brake line travel becomes very short and even small input may suddenly induce an airflow separation; in some cases, even a gust or a sudden thermal may change the angle of incidence enough to cause the deep stall.
If you find yourself flying in unavoidable rain, we strongly recommend that you avoid any sudden movements or radical brake line input, that you do not pull Big Ears or B-stall, and that you steer clear of turbulence and avoid a deep flare on landing.

WARNING! Avoid flying in very humid air or in rain. A wet canopy may have very unpredictable flying characteristics, one of which is a radically increased risk of deep stall!

Advertising and adhesive sails

Before attaching advertising and adhesive sails, every pilot should make sure that there are no changes to the flight characteristics. If in doubt, adhesive sails should not be attached.

CAUTION! If the glider is covered with large, heavy, or unsuitable adhesive sails (e.g. for advertising purposes), the operating license will expire. This will render your paraglider unairworthy.

Overload

Extreme flight manoeuvres such as steep spiral dives as well as acro and freestyle manoeuvres such as SAT or tumbling do not normally pose an acute risk to the UP Kangri X's structure. However, frequent overloading of the material accelerates the ageing process considerably. Gliders that are subjected to these manoeuvres above the normal level must be sent for inspection sooner.

Flying by the sea

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

Care of the paraglider

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

Packing the paraglider

The Kangri X is equipped with rods on the leading edge and upper sail. For this reason, only a cell pack sack such as the UP CompressSmart supplied should be used for packing. Alternatively, the Kangri X can also be packed in another cell pack sack such as the UP Parasleeve. It is best to watch the video on our homepage on how best to pack the glider in the UP CompressSmart.

Figure 4: UP CompressSmart (scope of delivery)

Paraglider cloth

We use a top grade polyamide fabric to build our paragliders. The fabric has a special protective coating against UV radiation and air permeability. The fabric may suffer if it is exposed to large amounts of UV radiation (i.e. bright sunlight). Do not leave your glider lying in the sun for any longer than absolutely necessary, only unpack and rig right before launching and do yourself the favour of repacking right after landing. Modern paraglider textiles have improved much in terms of UV durability, but UV exposure remains the deciding factor of a paragliders' life expectancy. First the colours start to fade, then the coating and the structural integrity of the synthetic fibres begins to deteriorate. On UP gliders the coated side of the cloth is facing inwards. This means that the coating is subjected to less mechanical abrasion while the porosity-limiting capabilities remain the same.

When choosing an area to lay out the glider before launching, try to find somewhere that is relatively free of stones and sharp rocks. Pay particular attention to the top surface, where it lies on the ground. Never step on your glider – stepping on it will weaken the cloth, especially if the surface beneath it is hard or contains sharp objects. We recommend keeping an eye on spectators on launch. Many, especially children, do not fully appreciate the fragility of the lines and cloth. It is usually easy to explain this to spectators and parents. When folding your wing please make sure that there are no insects caught inside. Many insect species contain acids that could damage the cloth. Grasshoppers may use their sharp mandibles to attempt to gnaw their way out of a folded canopy, making it full of holes in the process. Further they exude a dark and strong colourant that will stain the cloth if grasshoppers are packed inside. Shoo them off before packing. Note that, contrary to popular belief these insects are not attracted to any particular colours.

If the glider gets wet, then dry it as soon as possible, but not in direct sunlight! If you pack your wing away wet it may grow mildew and, if also subjected to heat, the fabric fibres may begin to decompose.

A new wing straight off the shelves is often compressed hard. The compression serves to reduce shipping costs but should not be repeated once the wing has been unpacked and flown for the first time. Also note that, despite it being a comfortable seat, the glider bag should not be used as such.

Should you accidentally put your UP KANGRI X into seawater, rinse it out thoroughly with fresh water and dry it slowly in the shade (see Chapter Cleaning).

Paraglider lines

The UP Kangri X uses extremely high-quality Dyneema and Aramid lines.
Please note the following points when handling your paraglider lines:

- Check the lines regularly for damage
- Make sure that the surface of the lines is not chafed by friction
- Avoid unnecessary bending

- Do not knot the brake line on the brake handle unnecessarily. Every knot weakens the line.
- After overloading (e.g. 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 the flying behaviour changes, the length of the lines must be checked and, if necessary, re-looped or replaced. Send your glider directly to UP International or a UP Service Centre for inspection

Storage and transportation

Even if your glider was completely dry when you packed it after the last flight of the season, you should remove it from the CompressSmart if possible, for longer storage and spread the canopy out slightly in a clean, dry place away from light. If you do not have a suitable space, avoid compressing the paraglider too much and open the CompressSmart as much as possible for ventilation. The UP Stuffbag is also suitable for this. Also make sure that no animals, such as mice or cats, use the glider as a place to sleep during longer periods of storage. No chemical substances such as fuels should be stored in the immediate vicinity of the material. Petrol dissolves the fabric and can cause serious damage to your glider. Store the pack sack 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 of between 50 and 75%.

The UP Kangri X should not be exposed to extreme heat (e.g. in the trunk of a parked car in summer). The heat will force any remaining moisture through the fabric, which can damage the coating. Especially in combination with moisture, high temperatures accelerate the hydrolysis process, which damages the fibres and coating. Do not store your sunshade near radiators or other heat sources. Heat-related changes to the material occur after a short time at temperatures as low as 60° Celsius.

Cleaning

To clean the UP Kangri 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 carefully and thoroughly rinsed out. Then leave your glider to dry in a shady and well-ventilated place.

CAUTION! Never use chemicals, brushes or hard sponges to clean the screen. They could damage the coating and strength of the fabric. This will cause the sail to become porous and lose its tear resistance.

Never put a glider in the washing machine: even without detergent, the mechanical stress would severely damage the fabric. Never immerse the canopy in a swimming pool either: The chlorinated water will attack the fabric. If you absolutely must rinse

your canopy, for example after landing in the sea, spray it inside and out with a gentle jet of water. Frequent rinsing accelerates the ageing 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 license. See also the Service section at: **www.up-paragliders.com**

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

Maintenance and minor repairs

Adhesive sail

Minor damage such as tears or small holes up to a size of 2 x 2 cm, which can be carried out without special equipment, may be carried out by the pilot himself. Each glider is supplied with adhesive tape for this purpose. 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 one of the following conditions occurs, the Kangri X must be checked for airworthiness:

- 2 years after the first flight
- Every 2 years after that, or sooner if prescribed by the UP checking facility during the last check
- after 150 hours of flying

Of course, we are also 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 Kangri X, please have it checked immediately by UP or a UP Service Centre

Professional competence

To ensure that your UP Kangri X always offers maximum functionality and safety, you should entrust its maintenance and repair to UP International. Our service staff are fully trained to carry out any work on your wing professionally and correctly. UP International is also equipped with all the special tools and equipment required for quick and flawless repairs.

Airworthiness check

Thanks 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 to carry out precise airworthiness checks. In addition to specially developed suspension devices, calibrated and regularly maintained measuring equipment is used, which is essential for determining airworthiness. Our computer-aided laser measurement of the line system is the final step in recording the measured values.
In addition to the measured values obtained in this way, the assessment of the tester is decisive for the overall evaluation of the paraglider. This requires a high degree of expertise and experience. Individual wings where the tester suspects a change in flight characteristics based on the data obtained are flown and checked by the UP test pilots. In this way, UP International can always guarantee high quality in the testing of paragliders. Only through a careful and professional airworthiness check can the certification regulations be complied with, and the safety of the glider guaranteed. In your own interest, you should therefore only have your UP glider checked by specialists from the UP Service Team or a recognized service company. You can find a list of these approved service centres in the *Service* section at *www.up-paragliders.com*

Original parts

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

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

Delivery service

Before your UP wing left the workshop, all the work carried out was checked again and carefully tested. In addition, a comprehensive inspection was carried out by the UP service team or a recognized service company before the wing was delivered to ensure that your Kangri X complies with UP International standards and the type-approved device.

Warranty conditions

The conditions and scope of the UP International warranty are described on the following pages. Further information can be obtained from your UP Service Centre or directly from UP International. The UP importer in your country is also available at any time for customer service and warranty queries.

National warranty provisions

In some countries, UP importers/general agents provide special guarantees based on national laws and regulations, which vary from country to country. These national conditions only apply in the country in which the glider was delivered. You will receive information about national warranty conditions when you purchase your paraglider.

Guarantee in D-A-CH

In Germany, Austria and Switzerland, the UP warranty is extended to 36 months if the first 2-year check is carried out directly at UP International or our Swiss service Centre (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 UP International Warranty covers the reimbursement of the cost of necessary spare parts and labor incurred in connection with the replacement or repair of defective parts, provided that UP International has recognized a material or manufacturing defect as such.
The international UP warranty does not cover wings that have been involved in an accident or have been modified or altered. The warranty does not cover parts that have to be replaced due to normal wear and tear.
In addition, changes in the color of the cloth material used and damage caused by solvents and/or salt water as well as improper handling of the paraglider and force majeure are excluded from the warranty.

The guarantee applies under the following conditions

- The glider has been used normally and has been cared for and maintained in accordance with the applicable guidelines issued by UP International. This includes careful drying, cleaning, and storage.
- The glider was only used within the applicable guidelines. All applicable approval regulations have been complied with.
- All flights performed must be fully verifiable based on the flight logbook, including the respective flight duration and the flight area.
- Only UP original spare parts have been used and inspections, replacements and/or repairs have been carried out and properly documented exclusively by UP International.

- The glider was registered within 14 days of delivery at: http://www.up-paragliders.com/de/service/product-registration
- The guarantee is only granted to the first owner of the glider.

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

Inspection of new devices

According to Section 1 (5) LuftGerPV, the owner can inspect his device himself or commission a third party, such as the manufacturer/importer, to carry out the inspection.

UP International requires instruction for an independent inspection. Instruction is given by arrangement directly at UP International and is only valid for the corresponding device sample. The inspection instructions will be handed over to the owner after the instruction.

If the owner inspects his device himself or commissions a third party to carry out the inspection, it must be ensured under all circumstances that the specifications of UP International regarding the inspection are observed. The operating license expires if the inspection is carried out incorrectly or incompletely.

You can find current regulations in the *Service* section under
www.up-paragliders.com

Sending in the UP glider and other UP products

Please use the form that you can download from our website to send us your return. If you live outside Germany, please use our service telephone to find out about the nearest UP Service Centre in your area.

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 only has 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.

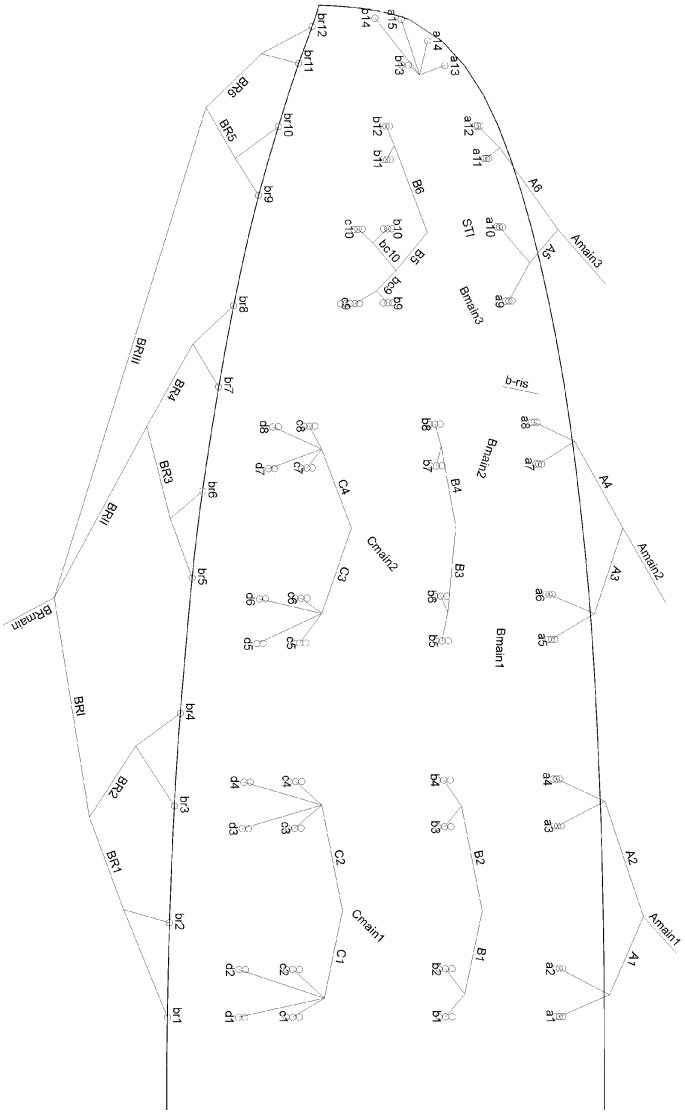
Conclusion

We at UP wish you lots of fun and wonderful, accident-free flights with your UP Kangri X.

See you UP in the sky - Your UP-International team

Appendix

Line plan



Line lengths

Lline	Kangri X 25	Kangri X 23	Kangri X 21
a1	7388	7095	6787
a2	7342	7051	6743
a3	7300	7011	6703
a4	7310	7019	6710
a5	7232	6946	6636
a6	7178	6895	6588
a7	7084	6803	6495
a8	7076	6796	6490
a9	6892	6624	6326
a10	6794	6528	6236
a11	6730	6464	6176
a12	6728	6466	6181
a13	6625	6362	6080
a14	6577	6314	6034
a15	6585	6322	6042
b1	7264	6980	6673
b2	7222	6937	6633
b3	7187	6901	6595
b4	7203	6915	6612
b5	7126	6846	6541
b6	7081	6800	6498
b7	7002	6724	6421
b8	6999	6722	6417
b9	6895	6626	6327
b10	6805	6541	6246
b11	6746	6483	6194
b12	6750	6485	6198
b13	6610	6349	6066
c1	7409	7117	6806
c2	7347	7058	6749
c3	7319	7031	6722
c4	7355	7066	6755
c5	7296	7009	6697

Lline	Kangri X 25	Kangri X 23	Kangri X 21
c6	7238	6950	6642
c7	7154	6870	6564
c8	7181	6894	6587
c9	6970	6698	6397
c10	6883	6616	6321
d1	7509	7216	6902
d2	7460	7164	6851
d3	7427	7135	6823
d4	7450	7154	6841
d5	7395	7102	6788
d6	7340	7046	6734
d7	7240	6952	6642
d8	7245	6957	6646
br1	7807	7489	7170
br2	7505	7205	6907
br3	7284	6989	6701
br4	7204	6911	6624
br5	7054	6766	6481
br6	6915	6632	6354
br7	6810	6530	6253
br8	6878	6592	6314
br9	6684	6406	6129
br10	6681	6403	6127
br11	6714	6439	6159
br12	6849	6565	6283

Single line lengths Kangri X 25

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
a1	631	130	DC100	Red		
a2	586	130	DC60	Red		
a3	592	130	DC60	Red		
a4	604	130	DC60	Red		
a5	583	130	DC60	Red		
a6	532	130	DC60	Red		
a7	510	130	DC60	Red		
a8	503	130	DC60	Red		
a9	832	130	8000U-070	Red		
a10	732	130	8000U-050	Red		
a11	194	130	8000U-050	Red		
a12	196	130	8000U-050	Red		
a13	712	130	8000U-050	Red		
a14	663	130	8000U-050	Red		
a15	670	130	8000U-050	Red		
	0					
A1	2155	200	DC120	Red	+	
A2	2105	200	DC100	Red	+	
A3	1992	200	DC100	Red	+	
A4	1919	200	DC100	Red	+	
A5	1104	130	8000U-090	Red		
A6	1578	130	8000U-050	Red		
	0					
Amain1	4052	260	8000U-230	Red		+
Amain2	4108	260	8000U-190	Red		+
Amain3	4411	260	8000U-130	Red		+
	0					
b1	581	130	DC60	Red		
b2	538	130	DC60	Red		
b3	546	130	DC60	Red		
b4	563	130	DC60	Red		
b5	550	130	DC60	Red		
b6	505	130	DC60	Red		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
b7	489	130	DC60	Red		
b8	486	130	DC60	Red		
b9	285	130	8000U-050	Red		
b10	194	130	8000U-050	Red		
b11	179	130	8000U-050	Red		
b12	181	130	8000U-050	Red		
b13	696	130	8000U-050	Red		
b14	724	130	8000U-050	Red		
	0					
B1	2069	200	DC120	Red	+	
B2	2023	200	DC100	Red	+	
B3	1918	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		
	0					
Bmain1	3982	260	8001-230	Blue		+
Bmain2	4031	260	8001-190	Blue		+
B5	1093	130	8000U-090	Red		
	0					
Bmain3	4359	260	8001-130	Blue		+
	0					
b-ris	80	130		Red		
	0					
c1	475	130	8000U-070	Natural		
c2	413	130	8000U-050	Natural		
c3	363	130	8000U-050	Natural		
c4	401	130	8000U-050	Natural		
c5	294	130	8000U-050	Natural		
c6	234	130	8000U-050	Natural		
c7	264	130	8000U-050	Natural		
c8	293	130	8000U-050	Natural		
c9	356	130	8000U-050	Natural		
c10	269	130	8000U-050	Natural		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
	0					
C1	1495	130	8000U-130	Natural	+	
C2	1518	130	8000U-090	Natural	+	
C3	1491	130	8000U-090	Natural	+	
C4	1379	130	8000U-090	Natural	+	
	0					
Cmain1	4904	260	8000U-190	Natural		+
Cmain2	4972	260	8000U-130	Natural		+
	0					
d1	577	130	8000U-050	Natural		
d2	525	130	8000U-050	Natural		
d3	471	130	8000U-050	Natural		
d4	494	130	8000U-050	Natural		
d5	390	130	8000U-050	Natural		
d6	334	130	8000U-050	Natural		
d7	350	130	8000U-050	Natural		
d8	356	130	8000U-050	Natural		
	0					
br1	787	130	8000U-050	Natural		
br2	485	130	8000U-050	Natural		
br3	617	130	8000U-050	Natural		
br4	536	130	8000U-050	Natural		
br5	566	130	8000U-050	Natural		
br6	427	130	8000U-050	Natural		
br7	451	130	8000U-050	Natural		
br8	520	130	8000U-050	Natural		
br9	388	130	8000U-050	Natural		
br10	384	130	8000U-050	Natural		
br11	210	130	8000U-050	Natural		
br12	342	130	8000U-050	Natural		
BR1	1509	130	8000U-050	Natural		
BR2	1154	130	8000U-050	Natural		
BR3	1134	130	8000U-050	Natural		
BR4	1004	130	8000U-050	Natural		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
BR5	757	130	8000U-050	Natural		
BR6	968	130	8000U-050	Natural		
	0					
BRI	2775	130	8000U-090	Natural		
BRII	2615	130	8000U-090	Natural		
BRIII	2800	130	8000U-070	Natural		
	0					
BRmain	2616	300	989/1,5	Red		
	0					
STI	5285	260	8000U-070	Grey		+

Single line lengths Kangri X 23

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
a1	631	130	DC100	Red		
a2	586	130	DC60	Red		
a3	592	130	DC60	Red		
a4	604	130	DC60	Red		
a5	583	130	DC60	Red		
a6	532	130	DC60	Red		
a7	510	130	DC60	Red		
a8	503	130	DC60	Red		
a9	832	130	8000U-070	Red		
a10	732	130	8000U-050	Red		
a11	194	130	8000U-050	Red		
a12	196	130	8000U-050	Red		
a13	712	130	8000U-050	Red		
a14	663	130	8000U-050	Red		
a15	670	130	8000U-050	Red		
	0					
A1	2155	200	DC120	Red	+	
A2	2105	200	DC100	Red	+	
A3	1992	200	DC100	Red	+	
A4	1919	200	DC100	Red	+	
A5	1104	130	8000U-090	Red		
A6	1578	130	8000U-050	Red		
	0					
Amain1	4052	260	8000U-230	Red		+
Amain2	4108	260	8000U-190	Red		+
Amain3	4411	260	8000U-130	Red		+
	0					
b1	581	130	DC60	Red		
b2	538	130	DC60	Red		
b3	546	130	DC60	Red		
b4	563	130	DC60	Red		
b5	550	130	DC60	Red		
b6	505	130	DC60	Red		
b7	489	130	DC60	Red		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
b8	486	130	DC60	Red		
b9	285	130	8000U-050	Red		
b10	194	130	8000U-050	Red		
b11	179	130	8000U-050	Red		
b12	181	130	8000U-050	Red		
b13	696	130	8000U-050	Red		
b14	724	130	8000U-050	Red		
	0					
B1	2069	200	DC120	Red	+	
B2	2023	200	DC100	Red	+	
B3	1918	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		
	0					
Bmain1	3982	260	8001-230	Blue		+
Bmain2	4031	260	8001-190	Blue		+
B5	1093	130	8000U-090	Red		
	0					
Bmain3	4359	260	8001-130	Blue		+
	0					
b-ris	80	130		Red		
	0					
c1	475	130	8000U-070	Natural		
c2	413	130	8000U-050	Natural		
c3	363	130	8000U-050	Natural		
c4	401	130	8000U-050	Natural		
c5	294	130	8000U-050	Natural		
c6	234	130	8000U-050	Natural		
c7	264	130	8000U-050	Natural		
c8	293	130	8000U-050	Natural		
c9	356	130	8000U-050	Natural		
c10	269	130	8000U-050	Natural		
	0					

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
C1	1495	130	8000U-130	Natural	+	
C2	1518	130	8000U-090	Natural	+	
C3	1491	130	8000U-090	Natural	+	
C4	1379	130	8000U-090	Natural	+	
	0					
Cmain1	4904	260	8000U-190	Natural		+
Cmain2	4972	260	8000U-130	Natural		+
	0					
d1	577	130	8000U-050	Natural		
d2	525	130	8000U-050	Natural		
d3	471	130	8000U-050	Natural		
d4	494	130	8000U-050	Natural		
d5	390	130	8000U-050	Natural		
d6	334	130	8000U-050	Natural		
d7	350	130	8000U-050	Natural		
d8	356	130	8000U-050	Natural		
	0					
br1	787	130	8000U-050	Natural		
br2	485	130	8000U-050	Natural		
br3	617	130	8000U-050	Natural		
br4	536	130	8000U-050	Natural		
br5	566	130	8000U-050	Natural		
br6	427	130	8000U-050	Natural		
br7	451	130	8000U-050	Natural		
br8	520	130	8000U-050	Natural		
br9	388	130	8000U-050	Natural		
br10	384	130	8000U-050	Natural		
br11	210	130	8000U-050	Natural		
br12	342	130	8000U-050	Natural		
	0					
BR1	1509	130	8000U-050	Natural		
BR2	1154	130	8000U-050	Natural		
BR3	1134	130	8000U-050	Natural		
BR4	1004	130	8000U-050	Natural		
BR5	757	130	8000U-050	Natural		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
BR6	968	130	8000U-050	Natural		
	0					
BRI	2775	130	8000U-090	Natural		
BRII	2615	130	8000U-090	Natural		
BRIII	2800	130	8000U-070	Natural		
	0					
BRmain	2616	300	989/1,5	Red		
	0					
STI	5285	260	8000U-070	Grey		+

Single line lengths Kangri X 21

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
a1	576	130	DC100	Red		
a2	535	130	DC60	Red		
a3	538	130	DC60	Red		
a4	549	130	DC60	Red		
a5	527	130	DC60	Red		
a6	480	130	DC60	Red		
a7	458	130	DC60	Red		
a8	452	130	DC60	Red		
a9	750	130	8000U-070	Red		
a10	657	130	8000U-050	Red		
a11	161	130	8000U-050	Red		
a12	164	130	8000U-050	Red		
a13	631	130	8000U-050	Red		
a14	585	130	8000U-050	Red		
a15	593	130	8000U-050	Red		
	0					
A1	1983	200	DC120	Red	+	
A2	1937	200	DC100	Red	+	
A3	1832	200	DC100	Red	+	
A4	1765	200	DC100	Red	+	
A5	1016	130	8000U-090	Red		
A6	1452	130	8000U-050	Red		
	0					
Amain1	3726	260	8000U-230	Red		+
Amain2	3779	260	8000U-190	Red		+
Amain3	4059	260	8000U-130	Red		+
	0					
b1	524	130	DC60	Red		
b2	483	130	DC60	Red		
b3	488	130	DC60	Red		
b4	504	130	DC60	Red		
b5	490	130	DC60	Red		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
b6	446	130	DC60	Red		
b7	429	130	DC60	Red		
b8	432	130	DC60	Red		
b9	240	130	8000U-050	Red		
b10	156	130	8000U-050	Red		
b11	143	130	8000U-050	Red		
b12	146	130	8000U-050	Red		
b13	616	130	8000U-050	Red		
b14	645	130	8000U-050	Red		
	0					
B1	1904	200	DC120	Red	+	
B2	1862	200	DC100	Red	+	
B3	1765	200	DC100	Red	+	
B4	1707	200	DC100	Red	+	
bc9	489	130	8000U-070	Red		
bc10	489	130	8000U-050	Red		
B6	1452	130	8000U-050	Red		
	0					
Bmain1	3661	260	8001-230	Blue		+
Bmain2	3708	260	8001-190	Blue		+
B5	1005	130	8000U-090	Red		
	0					
Bmain3	4011	260	8001-130	Blue		+
	0					
b-ris	80	130		Red		
	0					
c1	434	130	8000U-070	Natural		
c2	376	130	8000U-050	Natural		
c3	328	130	8000U-050	Natural		
c4	362	130	8000U-050	Natural		
c5	262	130	8000U-050	Natural		
c6	208	130	8000U-050	Natural		
c7	232	130	8000U-050	Natural		
c8	259	130	8000U-050	Natural		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
c9	308	130	8000U-050	Natural		
c10	229	130	8000U-050	Natural		
	0					
C1	1375	130	8000U-130	Natural	+	
C2	1397	130	8000U-090	Natural	+	
C3	1371	130	8000U-090	Natural	+	
C4	1269	130	8000U-090	Natural	+	
	0					
Cmain1	4510	260	8000U-190	Natural		+
Cmain2	4574	260	8000U-130	Natural		+
	0					
d1	527	130	8000U-050	Natural		
d2	478	130	8000U-050	Natural		
d3	428	130	8000U-050	Natural		
d4	448	130	8000U-050	Natural		
d5	351	130	8000U-050	Natural		
d6	299	130	8000U-050	Natural		
d7	313	130	8000U-050	Natural		
d8	317	130	8000U-050	Natural		
	0					
br1	712	130	8000U-050	Natural		
br2	445	130	8000U-050	Natural		
br3	563	130	8000U-050	Natural		
br4	488	130	8000U-050	Natural		
br5	508	130	8000U-050	Natural		
br6	379	130	8000U-050	Natural		
br7	399	130	8000U-050	Natural		
br8	462	130	8000U-050	Natural		
br9	335	130	8000U-050	Natural		
br10	334	130	8000U-050	Natural		
br11	170	130	8000U-050	Natural		
br12	293	130	8000U-050	Natural		
	0					
BR1	1388	130	8000U-050	Natural		

Line	Length	Loop length	Material	Color	Protection	Loop on Quicklink
BR2	1062	130	8000U-050	Natural		
BR3	1045	130	8000U-050	Natural		
BR4	924	130	8000U-050	Natural		
BR5	696	130	8000U-050	Natural		
BR6	891	130	8000U-050	Natural		
	0					
BRI	2551	130	8000U-090	Natural		
BRII	2406	130	8000U-090	Natural		
BRIII	2576	130	8000U-070	Natural		
	0					
BRmain	2406	300	989/1,5	Red		
	0					
STI	4866	260	8000U-070	Grey		+

Service booklet

Glider and pilot data

Model: **Kangri X**

Size: ❒ **21** ❒ 23 ❒ 25

Serial number: _____

Color: _____

Purchase date: _____

First flight: _____

Dealer's stamp and signature

Pilot (1st holder)

First name: _____

Surname: _____

Street: _____

Place of residence: _____

ZIP CODE: _____

Country: _____

Phone: _____

Fax: _____

Email: _____

Pilot (2nd holder)

First name:_____

Surname:_____

Street: _____

Place of residence: _____

ZIP CODE:_____

Country:_____

Telephone:_____

Fax: _____

Email:_____

Pilot (3rd holder)

First name:_____

Surname:_____

Street: _____

Place of residence: _____

ZIP CODE:_____

Country:_____

Phone:_____

Fax: _____

Email:_____

Please make sure that your UP Service Centre 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 Centre 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