MERU 2

Operating manual
and service booklet

Seriennummer:_____

AIRBORNE SENSATIONS since 1972

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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 MERU 2. 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 MERU 2 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 MERU 2 - Your UP International Team

Safety instructions

Please read this manual before your first flight with the UP MERU 2 to familiarize yourself with your new wing. The manual provides you with information about all the important features and characteristics of the UP MERU 2 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 aircraft 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) athlete. 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 in order 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 MERU 2 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 line dimensions of the UP MERU 2, can be found in the type 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 MERU 2 is to 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 MERU 2 was classified in the final classification in EN 926-2:2013+A1:2021 / EN D (all sizes).

Target group and recommended flying experience

Pilots with extensive flying experience of at least approx. 100 flying hours per year who want to achieve top performance, for example in cross-country flying.

Requirements in normal flight

The behaviour of the glider after malfunctions places very high demands on the pilot's skill and speed of reaction. Safe control of the glider's behaviour after

malfunctions requires a great deal of practical experience with these flight conditions. If you do not have this experience, we recommend thorough instruction on the UP Meru 2 in a safety training course.

Requirements in the event of malfunctions

The behaviour of the glider after malfunctions places very high demands on the pilot's skill and speed of reaction. Safe control of the glider's behaviour after malfunctions requires a great deal of practical experience with these flight conditions. If you do not have this experience, we recommend thorough instruction on the UP Meru in a safety training course.

Fast descent requirements

The behaviour during flight MERU 2 manoeuvres can be above average in this class, depending on the device. The pilot should therefore have a sound knowledge of these manoeuvres. If this experience is not sufficient, special instruction on the UP Meru in a safety training course is recommended.

Suitability for training

The UP MERU 2 is **not** suitable for training.

Tandem and paramotor license

The UP MERU 2 is certified as a solo glider. Suspension is only provided for a harness. The UP MERU 2 is not certified as a paramotor glider. There are no trimmers on the risers.

Recommended weight range

The UP MERU 2 must be flown within the permitted take-off weight. This can be found under "Technical data UP MERU 2". 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 MERU 2 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 MERU 2

Size	S	SM	M	L
Surface area flat [m²]	21,4	23,3	25,0	26,5
Surface area projected [m²]	18,3	19,9	21,4	22,7
Flat span [m]	12,1	12,7	13,1	13,5
Projected span [m]	9,8	10,2	10,6	10,9
Flat aspect ratio	6,9	6,9	6,9	6,9
Projected aspect ratio	5,2	5,2	5,2	5,2
Number of Chambers	84	84	84	84
Total line length incl. Brake [m]	202	210	218	225
Total # of lines incl.Brake	228	229	230	231
Glider weight [kg]	4,9	5,1	5,4	5,7
Takeoff weight [kg] with LTF/EN Category certified	78-90: D	88-101:D	97-112:D	108-125:D
maximum symmetrical steering travel at maximum weight [cm]	60	65	65	65
Accelerator travel [mm]	140	150	160	160
Number of risers (split A-risers)	3 + 1	3 + 1	3 + 1	3 + 1
Trimmer	no	no	no	no
Description		Performance Competition		

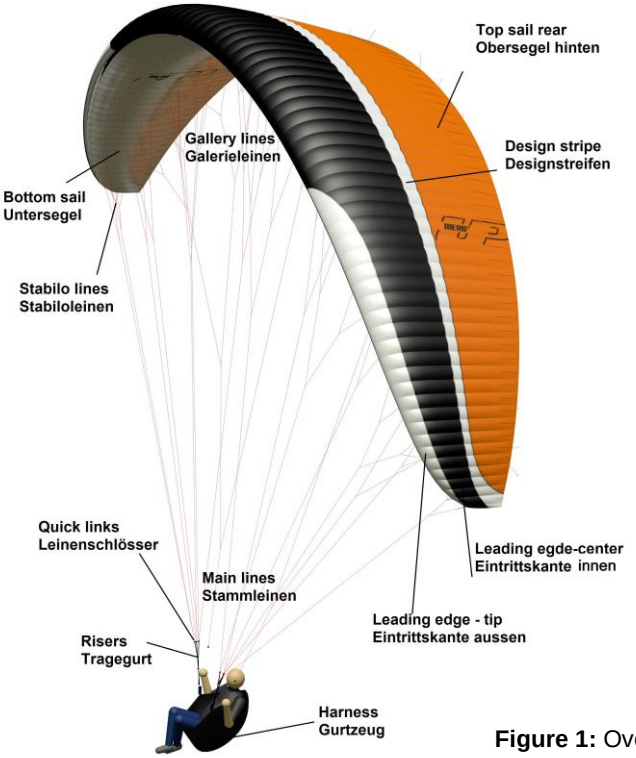


Figure 1: Overview

Construction

- Line diameter optimized for individual glider sizes to reduce the induced drag
- New profile - developed with the help of CFD (computer airflow analysis)
- Double 3D panel shaping & 3D negative panel shaping for optimum profile accuracy of the leading edge
- FSS (Front Section Support) & RSS (Rear Section Support) on the upper and lower sail for high performance and stability in turbulence
- Reduced resistance line attachment points on the canopy
- Miniribs for an aerodynamically optimized trailing edge
- BTS brake reefing system for the best possible thermal properties
- Precise riser concept for varying the angle of attack of the central and side glider sections
- C-handles for efficient control via the C-level

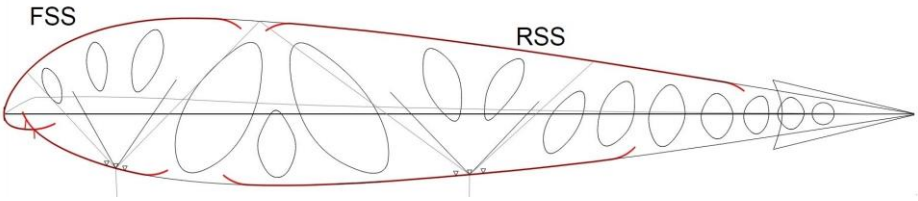


Figure 2: FSS and RSS

Canopy material

Inside leading edge:	Porcher Skytex 42 Everlast (double coated)
Outside leading edge:	Porcher Skytex 38 Universal
Design strips:	Porcher Skytex 38 Universal
Rear topsail:	Porcher Skytex 27 Classic II (double-coated)
Undersail:	Porcher Skytex 27 Classic II (double-coated)
Ribs/straps:	Porcher Skytex 27 Hard / 40 Hard

Line material

The UP MERU 2 uses unsheathed Dyneema® and Aramid lines from Edelrid and Liros (sheathed brake lines, Cousin Dyneema). Each glider size has line diameters optimized for the respective take-off weight to reduce the induced drag.

Line system

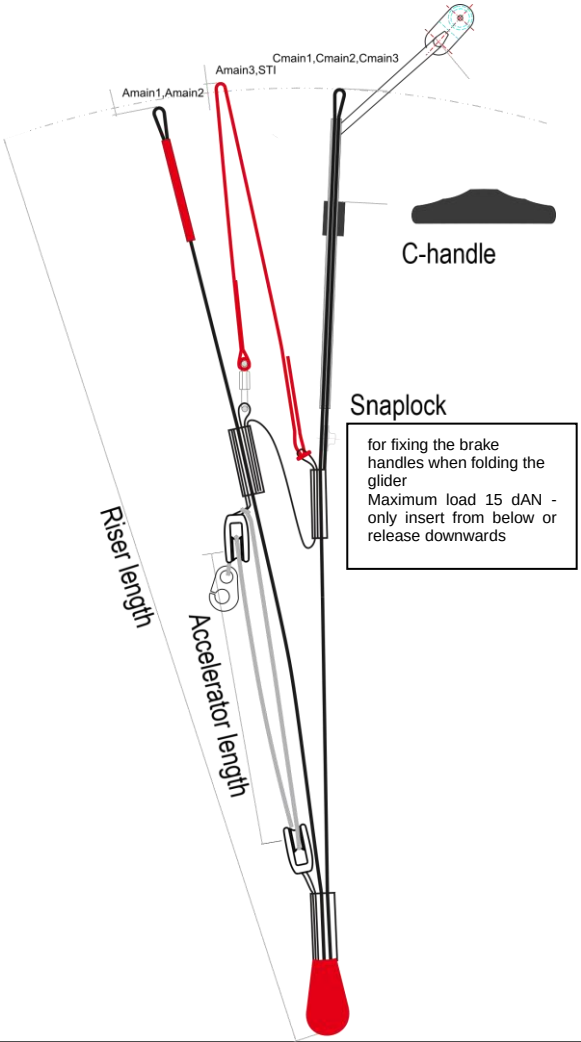
The lines of one half of the canopy are combined into two groups and the brake lines:

A-level: AI, AII, AIII, 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 MERU 2 are supplied in 3 different lengths for S, SM and M/L respectively. This improves the ergonomics of the different sizes and makes MERU 2 manoeuvres such as launching, ear placement, etc. easier. It also optimizes the accelerator travel for different wing sizes. When the speed bar is activated, the length of the A- riser is changed at the same time. The largest change in angle of attack is achieved when the front upper accelerator pulley of the riser meets the lower accelerator pulley.
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 remove it from the riser **(position b).** The new AIII riser (1 pair included) is then attached to the riser with an anchor stitch, passed back through the AIII/STI line buckle and attached to the quick link **(position b).** An additional loop must be attached here, which can be opened for trimming if the line shrinks. The quick link must then be tightened 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	500	366	520	380	540	390	540	390
A III. STI	505	438	525	455	545	470	545	470
C I,II,III	500	500	520	520	540	540	540	540
Accelerator travel	140		150		160		160	

Figure 3: UP MERU 2 risers

Accessories

The UP MERU 2 is supplied with a Parasleeve and repair material. The manual is available to download from the UP homepage. Every UP MERU 2 is subjected to a precise routine test at the factory and checked for conformity with the test sample.

Before the first flight

CAUTION! The UP MERU 2 must be inflated on a flat surface before the first flight and a complete pre-flight check must be carried out (visual inspection 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 MERU 2 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. Each wing is fully measured and cataloged before delivery. The line lengths and riser settings of the UP MERU 2 are extremely precise and must not be altered under any circumstances!

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

Positioning the brake levers

The UP MERU 2 is delivered from the factory with a brake setting that offers optimum 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 MERU 2 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 you have any problems or questions 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 MERU 2. The lower the suspension point of the harness, the easier it is to steer the UP MERU 2 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 MERU 2 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 recumbent harnesses). If you have any questions or doubts regarding the use of your harness with the UP MERU 2, 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 attached to the shoulder strap loops.

Field of application

The UP MERU 2 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 MERU 2 has not been built and tested for aerobatics. It is not suitable or approved for this purpose.

WARNING! Anyone performing aerobatics with the UP MERU 2 is putting their life in danger. Performing aerobatic MERU 2 manoeuvres can result in unpredictable flight attitudes 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 MERU 2.

Flight practice

Pre-flight check

A thorough pre-flight check is required for every aircraft, including the UP MERU 2. 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 note the wind direction so that both halves of the paraglider 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 closed. 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 (also behind you).
5. The last step is to check the wind direction. If everything fits, you can take off.

The start phases

The MERU 2 is characterized by a good launch behaviour, typical for this aspect ratio. 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 MERU 2 has no tendency to hang 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 MERU 2 canopy is indicated 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 canopy is released - 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 brake the UP MERU 2 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 pendulum-free take-off and reaching the safety altitude, take a seat in your harness without letting go of the brake handles. If you cannot get into the upright sitting position without additional help, hand over 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 MERU 2 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 best gliding speed in calm air is achieved with the MERU 2 in the unbraked state. 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 MERU 2 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 more quickly, achieve a better glide angle in headwinds or still arrive upwind. The action radius of the UP MERU 2 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 in extreme flight situations or 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 slightly 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 MERU 2 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 MERU 2 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 MERU 2 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 MERU 2 with the brake lines (e.g. loss of the brake handle 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 MERU 2 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 MERU 2 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 absolutely 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 MERU 2 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 in order 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 suitability 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 MERU 2 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 on.

Flying in thermals and turbulent conditions

In turbulent air, the UP MERU 2 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 MERU 2 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 in order 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 maneuvers, 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 using the spiral dive. However, it is advisable to approach the high sink rates slowly.

Initiating a spiral dive is easy with the UP MERU 2 and has already been described in the chapter "Turning". It is important that the transition from a turn to a 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 MERU 2 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

This maneuver cannot be performed with two-liners due to the lack of a B-level.

Big Ears

After preparing the speed system, the outermost A-lines on both sides 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. After folding in the outer wings, the angle of attack of the Meru 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 MERU 2 manoeuvres may be flown in this configuration!
If the UP Meru 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).
When the ears are initiated via the AIII lines, as tested in the certification, the Meru may exhibit significant "wing flapping". Alternatively, the ears can also be attached using the CIII line. To do this, the speed bar must be activated to 50% after the ears have been initiated.

Extreme flight maneuvers

Behaviour in extreme flight situations

Although the UP MERU 2 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 MERU 2 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 MERU 2 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 MERU 2 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 MERU 2 manoeuvres and flight conditions described here can be life-threatening!

Collapses

Asymmetrical collapse

As with all paragliders, strong turbulence can cause the UP MERU 2 canopy to collapse. This is normally not critical. The UP MERU 2 re-inflates quickly and reliably and can be easily controlled by experienced pilots. If the UP MERU 2 collapses on one side, the pilot should stabilize and control the flight direction by adjusting the weight and applying the brakes on the "healthy side". If the wing is braked too hard on the intact half of the wing, there is a risk of a spin (see chapter Spins).

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

The UP MERU 2 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 MERU 2 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 MERU 2 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 when 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 maneuvers. 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 MERU 2 is not stall-sensitive. It will automatically end a possible stall caused by pulling the brake lines or the rear risers as soon as the brakes or the rear risers are released. Should the UP MERU 2 enter a 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 MERU 2. 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 spin (negative turn/spin) is a one-sided stall and occurs when the pilot applies the brakes quickly and completely at high speed. Asymmetric braking close to the stall has the same effect. The wing turns quickly during a spin. The inner wing flies backwards. To stop the spin, both brakes must be opened. This allows the wing to regain speed. The canopy can shoot forward on one side and collapse sideways.

WARNING! Spins followed by folding the wing halves in on one side 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 MERU 2 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.

C-riser control

When accelerated, the MERU 2 can also be steered by pulling down the C-handle on the rear 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 Meru with the brake lines (e.g. loss of the brake handle 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.

Further information

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 spirals as well as acro and freestyle manoeuvres such as SAT or tumbling do not normally pose an acute risk to the structure of the UP MERU 2. 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 Meru should be folded cell on cell. When using the supplied Parasleeve, care must be taken not to bend the rods at too small a radius. The supplied inflatable protector can be used or a piece of equipment can be placed in between to prevent permanent deformation of the rods. You can find video instructions for the Parasleeve on our homepage. However, unlike the video, the MERU 2 can only be folded once due to the RDD (rods on the bottom sail).

Figure 4: UP Parasleeve with rod protector (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 MERU 2 into seawater, rinse it out thoroughly with fresh water and dry it slowly in the shade (see Chapter Cleaning).

Paraglider lines

The UP MERU 2 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 MERU 2 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 MERU 2, 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 glider. 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. In order 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

Small damages 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.

Symmetry check / Performance check

Due to their design, twin lines are somewhat more sensitive to changes in line length. With your UP MERU 2 you can easily determine whether line lengths have changed due to unavoidable external influences: The middle main lines of the A- and C- level have the same length in pairs. To do this, fix the riser and compare the Amain1/Cmain1 and Amain2/Cmain2 on both sides against each other. Apply about 5 kg of tension to the lines. The respective pairs of main lines should not deviate from each other by more than 10 mm. If the respective C-line has shortened by more than 10 mm compared to the corresponding A-line, the loop on the C-line can be opened. This short check should be carried out after the first 12 flying hours.
The UP MERU 2 must undergo a trim check after the first 25 flying hours. We recommend having this trim check carried out by UP International (Performance Check). If the trim check is to be carried out at another test Centre, make sure that it has the appropriate technical equipment. Current line lengths and tolerances are available on the UP homepage. After this trim check, the above short check should be carried out after every 25 flying hours at the latest, or as soon as changes in flight behaviour are noticeable.

Airworthiness review

If one of the following conditions occurs, the MERU 2 must be checked for airworthiness:

- 1 year after the first flight
- Every additional year or earlier if prescribed by the UP Service Centre

- after 200 flying hours or 100 flights

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 MERU 2, please have it checked immediately by UP or a UP Service Centre

Professional competence

To ensure that your UP MERU 2 offers maximum functionality and safety at all times, you should entrust its maintenance and repair to UP International. Our service staff are fully trained to carry out any work on your glider 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 devices are used, which are 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 the specialists of 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 glider 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 glider was delivered to ensure that your MERU 2 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 guarantee 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, in particular, 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 on the basis of 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 a briefing 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.

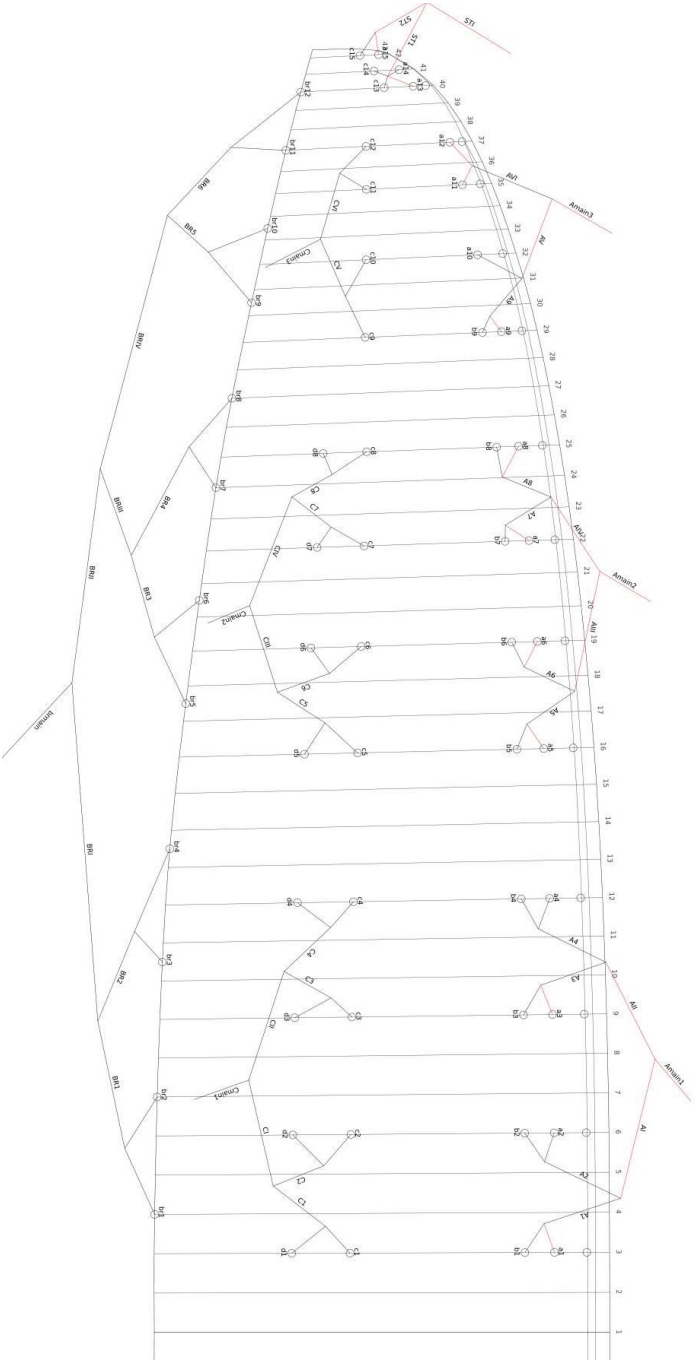
Conclusion

We at UP wish you lots of fun and wonderful, accident-free flights with your UP MERU 2.

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

Appendix

Line plan



Line lengths

Line	MERU 2 L	MERU 2 M	MERU 2 SM	MERU 2 S
a1	8155	7917	7638	7324
a2	8041	7807	7532	7221
a3	8010	7777	7498	7186
a4	8053	7817	7537	7221
a5	7950	7720	7444	7127
a6	7834	7604	7334	7021
a7	7775	7549	7279	6967
a8	7792	7563	7292	6983
a9	7539	7316	7054	6752
a10	7423	7206	6950	6656
a11	7362	7146	6896	6604
a12	7372	7157	6908	6614
a13	7168	6967	6717	6428
a14	7142	6941	6693	6402
a15	7143	6939	6689	6401
b1	8115	7878	7600	7287
b2	8002	7767	7494	7184
b3	7970	7738	7460	7150
b4	8015	7781	7503	7185
b5	7919	7686	7412	7097
b6	7801	7571	7303	6994
b7	7744	7517	7249	6941
b8	7767	7540	7272	6961
b9	7514	7293	7031	6730
b10	7160	6958	6708	6419
b11	7158	6956	6708	6419
b12	7161	6957	6708	6419
c1	8113	7880	7599	7284
c2	8004	7771	7496	7183
c3	7970	7738	7463	7153
c4	8022	7788	7510	7195
c5	7913	7686	7408	7095
c6	7787	7559	7290	6980

Line	MERU 2 L	MERU 2 M	MERU 2 SM	MERU 2 S
c7	7729	7503	7235	6928
c8	7748	7525	7255	6948
c9	7546	7327	7066	6765
c10	7437	7222	6964	6671
c11	7377	7161	6907	6615
c12	7376	7162	6908	6616
d1	8214	7978	7693	7375
d2	8112	7875	7597	7281
d3	8082	7848	7568	7253
d4	8122	7885	7603	7286
d5	8028	7796	7515	7197
d6	7894	7660	7389	7076
d7	7828	7598	7326	7016
d8	7825	7599	7327	7017
br1	8364	8128	7852	7531
br2	8082	7851	7583	7270
br3	7930	7699	7435	7134
br4	7942	7715	7444	7134
br5	7823	7598	7337	7028
br6	7622	7398	7142	6842
br7	7521	7303	7047	6745
br8	7608	7384	7127	6823
br9	7378	7158	6907	6611
br10	7372	7155	6902	6606
br11	7421	7195	6945	6646
br12	7576	7349	7086	6785

Single line lengths MERU 2 L

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
a1	295	130	DC 120	Red			
a2	280	130	DC 100	Red			
a3	260	130	DC 100	Red			
a4	259	130	DC 100	Red			
a5	276	130	DC 100	Red			
a6	263	130	DC 60	Red			
a7	271	130	DC 60	Red			
a8	251	130	DC 60	Red			
a9	307	130	DC 60	Red			
a10	762	130	DC 60	Orange			
a11	551	130	DC 35	Orange			
a12	562	130	DC 35	Orange			
a13	312	130	DC 35	Orange			
a14	283	130	DC 35	Orange			
a15	285	130	DC 35	Orange			
A1	1238	130	DC 201	Red			
A2	1141	130	DC 161	Red		+	
A3	1124	130	DC 161	Red		+	
A4	1167	130	DC 161	Red		+	
A5	937	130	DC 161	Red		+	
A6	834	130	DC 120	Red		+	
A7	767	130	DC 100	Red		+	
A8	804	130	DC 100	Red		+	
A9	574	130	DC 120	Red		+	
AVI	916	130	DC 60	Red		+	
AI	1275	200	DC 200	Red			
AII	1275	200	DC 301	Red	+		
AIII	1173	200	DC 301	Red	+		
AIV	1173	200	DC 161	Red	+		
AV	760	200	DC 161	Red	+		
Amain1	4802	260	DC 300	Red			+
Amain2	5006	260	DC 200	Red			+
Amain3	5342	260	DC 201	Red			+
b1	256	130	DC 120	Red			
b2	239	130	DC 100	Red			
b3	220	130	DC 100	Red			
b4	221	130	DC 100	Red			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
b5	241	130	DC 100	Red			
b6	228	130	DC 60	Red			
b7	239	130	DC 60	Red			
b8	226	130	DC 60	Red			
b9	281	130	DC 60	Red			
c1	761	130	DC 100	Red			
c2	649	130	DC 60	Red			
c3	563	130	DC 60	Red			
c4	614	130	DC 60	Red			
c5	432	130	DC 60	Red			
c6	406	130	DC 60	Red			
c7	414	130	DC 60	Red			
c8	440	130	DC 60	Red			
c9	871	130	DC 60	Red			
c10	765	130	DC 35	Orange			
c11	550	130	DC 35	Orange			
c12	553	130	DC 35	Orange			
c13	301	130	DC 35	Orange			
c14	299	130	DC 35	Orange			
c15	302	130	DC 35	Orange			
C1	929	130	8000U-130	Natural			
C2	928	130	8000U-090	Natural		+	
C3	980	130	8000U-090	Natural		+	
C4	982	130	8000U-090	Natural		+	
C5	897	130	8000U-090	Natural		+	
C6	796	130	8000U-070	Natural		+	
C7	732	130	8000U-070	Natural		+	
C8	727	130	8000U-070	Natural		+	
CV	765	130	8000U-090	Natural		+	
CVI	918	130	8000U-050	Natural	+		
CI	1071	200	8000U-190	Natural			
CII	1071	200	8000U-190	Natural	+		
CIII	1020	200	8000U-130	Natural	+		
CIV	1020	200	8000U-130	Natural	+		
Cmain3	5363	260	8000U-130	Natural	+		+
Cmain1	4802	260	8000U-230	Natural			+
Cmain2	5006	260	8000U-190	Natural			+
d1	863	130	DC 60	Red			
d2	759	130	DC 60	Red			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
d3	679	130	DC 60	Red			
d4	718	130	DC 60	Red			
d5	550	130	DC 60	Red			
d6	516	130	DC 35	Orange			
d7	513	130	DC 35	Orange			
d8	520	130	DC 35	Orange			
br1	1085	130	DC 35	Orange			
br2	802	130	DC 35	Orange			
br3	689	130	DC 35	Orange			
br4	701	130	DC 35	Orange			
br5	692	130	DC 35	Orange			
br6	489	130	DC 35	Orange			
br7	363	130	DC 35	Orange			
br8	453	130	DC 35	Orange			
br9	410	130	DC 35	Orange			
br10	406	130	DC 35	Orange			
br11	417	130	DC 35	Orange			
br12	575	130	DC 35	Orange			
BR1	1326	130	8000U-050	Natural			
BR2	1286	130	8000U-050	Natural			
BR3	1030	130	8000U-050	Natural			
BR4	1058	130	8000U-050	Natural			
BR5	864	130	8000U-050	Natural			
BR6	902	130	8000U-050	Natural			
BRI	4589	130	8000U-090	Natural			
BRIII	2392	130	8000U-090	Natural			
BRIV	2393	130	8000U-070	Natural			
BRII	2346	130	8000U-130	Natural			
brmain	1224	300	989/1,5	Red			
ST1	428	130	DC 35	Orange			
ST2	428	130	DC 35	Orange			
STI	5878	260	8001-050	Blue			

Single line lengths MERU 2 M

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
a1	287	130	DC 120	Red			
a2	272	130	DC 100	Red			
a3	252	130	DC 100	Red			
a4	251	130	DC 100	Red			
a5	269	130	DC 100	Red			
a6	255	130	DC 60	Red			
a7	264	130	DC 60	Red			
a8	244	130	DC 60	Red			
a9	297	130	DC 60	Red			
a10	722	130	DC 60	Orange			
a11	518	130	DC 35	Orange			
a12	532	130	DC 35	Orange			
a13	285	130	DC 35	Orange			
a14	256	130	DC 35	Orange			
a15	258	130	DC 35	Orange			
A1	1188	130	DC 201	Red		+	
A2	1092	130	DC 161	Red		+	
A3	1075	130	DC 161	Red		+	
A4	1116	130	DC 161	Red		+	
A5	893	130	DC 161	Red		+	
A6	792	130	DC 120	Red		+	
A7	727	130	DC 100	Red		+	
A8	763	130	DC 100	Red		+	
A9	537	130	DC 120	Red		+	
AVI	889	130	DC 60	Red			
AI	1238	200	DC 200	Red	+		
AII	1238	200	DC 301	Red	+		
AIII	1139	200	DC 301	Red	+		
AIV	1139	200	DC 161	Red	+		
AV	738	200	DC 161	Red	+		
Amain1	4663	260	DC 300	Red			+
Amain2	4861	260	DC 200	Red			+
Amain3	5186	260	DC 201	Red			+
b1	249	130	DC 120	Red			
b2	232	130	DC 100	Red			
b3	214	130	DC 100	Red			
b4	215	130	DC 100	Red			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
b5	234	130	DC 100	Red			
b6	222	130	DC 60	Red			
b7	232	130	DC 60	Red			
b8	219	130	DC 60	Red			
b9	272	130	DC 60	Red			
c1	740	130	DC 100	Red			
c2	631	130	DC 60	Red			
c3	547	130	DC 60	Red			
c4	597	130	DC 60	Red			
c5	420	130	DC 60	Red			
c6	394	130	DC 35	Orange			
c7	402	130	DC 35	Orange			
c8	428	130	DC 35	Orange			
c9	827	130	DC 35	Orange			
c10	724	130	DC 35	Orange			
c11	516	130	DC 35	Orange			
c12	521	130	DC 35	Orange			
c13	273	130	DC 35	Orange			
c14	273	130	DC 35	Orange			
c15	275	130	DC 35	Orange			
C1	887	130	8000U-090	Natural		+	
C2	886	130	8000U-070	Natural		+	
C3	935	130	8000U-070	Natural		+	
C4	937	130	8000U-070	Natural		+	
C5	853	130	8000U-070	Natural		+	
C6	755	130	8000U-050	Natural		+	
C7	692	130	8000U-050	Natural		+	
C8	688	130	8000U-050	Natural		+	
CV	743	130	8000U-070	Natural	+		
CVI	891	130	8000U-050	Natural			
CI	1040	200	8000U-130	Natural	+		
CII	1040	200	8000U-090	Natural	+		
CIII	990	200	8000U-090	Natural	+		
CIV	990	200	8000U-070	Natural	+		
Cmain3	5207	260	8001-070	Orange			+
Cmain1	4663	260	8001-190	Orange			+
Cmain2	4861	260	8001-135	Orange			+
d1	839	130	DC 35	Orange			
d2	737	130	DC 35	Orange			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
d3	659	130	DC 35	Orange			
d4	697	130	DC 35	Orange			
d5	535	130	DC 35	Orange			
d6	501	130	DC 35	Orange			
d7	498	130	DC 35	Orange			
d8	506	130	DC 35	Orange			
br1	1055	130	DC 35	Orange			
br2	778	130	DC 35	Orange			
br3	667	130	DC 35	Orange			
br4	678	130	DC 35	Orange			
br5	669	130	DC 35	Orange			
br6	470	130	DC 35	Orange			
br7	348	130	DC 35	Orange			
br8	435	130	DC 35	Orange			
br9	392	130	DC 35	Orange			
br10	388	130	DC 35	Orange			
br11	397	130	DC 35	Orange			
br12	551	130	DC 35	Orange			
BR1	1288	130	8000U-050	Natural			
BR2	1249	130	8000U-050	Natural			
BR3	1000	130	8000U-050	Natural			
BR4	1027	130	8000U-050	Natural			
BR5	838	130	8000U-050	Natural			
BR6	875	130	8000U-050	Natural			
BRI	4456	130	8000U-090	Natural			
BRIII	2322	130	8000U-090	Natural			
BRIV	2321	130	8000U-070	Natural			
BRII	2277	130	8000U-130	Natural			
brmain	1188	300	989/1,5	Red			
ST1	416	130	DC 35	Orange			
ST2	416	130	DC 35	Orange			
STI	5706	260	8001-050	Blue			

Single line lengths MERU 2 SM

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
a1	277	130	DC 120	Red			
a2	262	130	DC 100	Red			
a3	243	130	DC 100	Red			
a4	242	130	DC 100	Red			
a5	259	130	DC 100	Red			
a6	246	130	DC 60	Red			
a7	254	130	DC 60	Red			
a8	236	130	DC 60	Red			
a9	286	130	DC 60	Red			
a10	694	130	DC 60	Orange			
a11	498	130	DC 35	Orange			
a12	512	130	DC 35	Orange			
a13	270	130	DC 35	Orange			
a14	242	130	DC 35	Orange			
a15	243	130	DC 35	Orange			
A1	1147	130	DC 120	Red		+	
A2	1054	130	DC 100	Red		+	
A3	1037	130	DC 100	Red		+	
A4	1077	130	DC 100	Red		+	
A5	860	130	DC 100	Red		+	
A6	762	130	DC 100	Red		+	
A7	699	130	DC 100	Red		+	
A8	734	130	DC 100	Red		+	
A9	513	130	DC 100	Red		+	
AVI	858	130	DC 60	Red			
AI	1194	200	DC 301	Red	+		
AII	1194	200	DC 201	Red	+		
AIII	1099	200	DC 201	Red	+		
AIV	1099	200	DC 161	Red	+		
AV	712	200	DC 120	Red	+		
Amain1	4500	260	DC 200	Red			+
Amain2	4691	260	DC 301	Red			+
Amain3	5004	260	DC 161	Red			+
b1	241	130	DC 120	Red			
b2	224	130	DC 100	Red			
b3	206	130	DC 100	Red			
b4	207	130	DC 100	Red			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
b5	226	130	DC 100	Red			
b6	214	130	DC 60	Red			
b7	224	130	DC 60	Orange			
b8	212	130	DC 60	Orange			
b9	262	130	DC 60	Red			
c1	714	130	DC 100	Red			
c2	608	130	DC 60	Red			
c3	528	130	DC 60	Red			
c4	575	130	DC 60	Red			
c5	405	130	DC 60	Red			
c6	380	130	DC 35	Orange			
c7	388	130	DC 35	Orange			
c8	413	130	DC 35	Orange			
c9	795	130	DC 35	Orange			
c10	695	130	DC 35	Orange			
c11	494	130	DC 35	Orange			
c12	499	130	DC 35	Orange			
c13	258	130	DC 35	Orange			
c14	258	130	DC 35	Orange			
c15	260	130	DC 35	Orange			
C1	856	130	8000U-090	Natural		+	
C2	855	130	8000U-050	Natural		+	
C3	902	130	8000U-050	Natural		+	
C4	904	130	8000U-070	Natural		+	
C5	822	130	8000U-070	Natural		+	
C6	727	130	8000U-050	Natural		+	
C7	666	130	8000U-050	Natural		+	
C8	662	130	8000U-050	Natural		+	
CV	717	130	8000U-070	Natural	+		
CVI	860	130	8000U-050	Natural			
CI	1003	200	8000U-130	Natural	+		
CII	1003	200	8000U-090	Natural	+		
CIII	955	200	8000U-090	Natural	+		
CIV	955	200	8000U-070	Natural	+		
Cmain3	5025	260	8001-070	Orange			+
Cmain1	4500	260	8001-190	Orange			+
Cmain2	4691	260	8001-135	Orange			+
d1	809	130	DC 35	Orange			
d2	711	130	DC 35	Orange			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
d3	636	130	DC 35	Orange			
d4	672	130	DC 35	Orange			
d5	516	130	DC 35	Orange			
d6	483	130	DC 35	Orange			
d7	480	130	DC 35	Orange			
d8	488	130	DC 35	Orange			
br1	1020	130	DC 35	Orange			
br2	750	130	DC 35	Orange			
br3	642	130	DC 35	Orange			
br4	651	130	DC 35	Orange			
br5	643	130	DC 35	Orange			
br6	449	130	DC 35	Orange			
br7	330	130	DC 35	Orange			
br8	413	130	DC 35	Orange			
br9	371	130	DC 35	Orange			
br10	367	130	DC 35	Orange			
br11	375	130	DC 35	Orange			
br12	524	130	DC 35	Orange			
BR1	1245	130	8000U-050	Natural			
BR2	1205	130	8000U-050	Natural			
BR3	965	130	8000U-050	Natural			
BR4	990	130	8000U-050	Natural			
BR5	809	130	8000U-050	Natural			
BR6	843	130	8000U-050	Natural			
BRI	4300	130	8000U-090	Natural			
BRIII	2241	130	8000U-090	Natural			
BRIV	2238	130	8000U-070	Natural			
BRII	2198	130	8000U-130	Natural			
brmain	1147	300	989/1,5	Red			
ST1	401	130	DC 35	Orange			
ST2	401	130	DC 35	Orange			
STI	5506	260	8001-050	Blue			

Single line lengths MERU 2 S

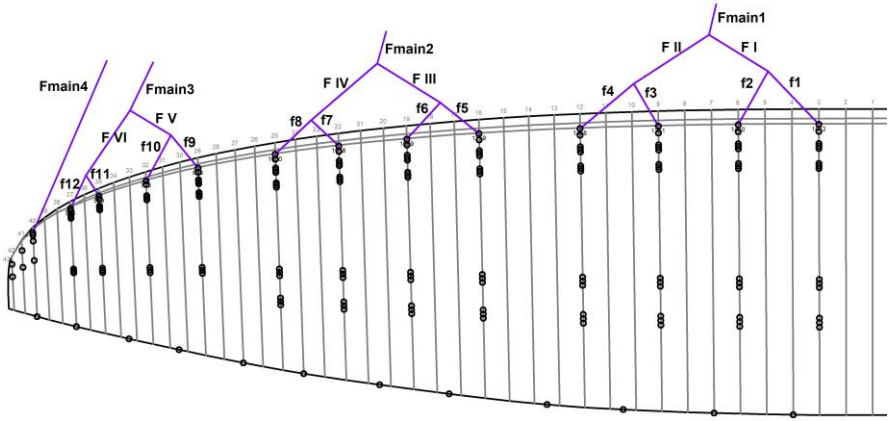
Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
a1	265	130	DC 100	Red			
a2	251	130	DC 60	Red			
a3	233	130	DC 60	Red			
a4	232	130	DC 60	Red			
a5	249	130	DC 100	Red			
a6	236	130	DC 60	Red			
a7	244	130	DC 60	Red			
a8	226	130	DC 60	Red			
a9	273	130	DC 60	Red			
a10	659	130	DC 35	Orange			
a11	472	130	DC 35	Orange			
a12	487	130	DC 35	Orange			
a13	250	130	DC 35	Orange			
a14	223	130	DC 35	Orange			
a15	224	130	DC 35	Orange			
A1	1098	130	DC 120	Red		+	
A2	1009	130	DC 100	Red		+	
A3	992	130	DC 100	Red		+	
A4	1029	130	DC 100	Red		+	
A5	820	130	DC 100	Red		+	
A6	725	130	DC 100	Red		+	
A7	664	130	DC 60	Red		+	
A8	697	130	DC 60	Red		+	
A9	484	130	DC 100	Red		+	
AVI	822	130	DC 60	Red			
AI	1145	200	DC 301	Red	+		
AII	1145	200	DC 201	Red	+		
AIII	1053	200	DC 161	Red	+		
AIV	1053	200	DC 120	Red	+		
AV	682	200	DC 120	Red	+		
Amain1	4314	260	DC 200	Red			+
Amain2	4497	260	DC 301	Red			+
Amain3	4796	260	DC 120	Red			+
b1	231	130	DC 100	Red			
b2	215	130	DC 60	Red			
b3	198	130	DC 60	Red			
b4	198	130	DC 60	Red			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
b5	217	130	DC 60	Red			
b6	205	130	DC 60	Red			
b7	215	130	DC 35	Orange			
b8	203	130	DC 35	Orange			
b9	250	130	DC 60	Red			
c1	685	130	DC 60	Red			
c2	583	130	DC 35	Orange			
c3	506	130	DC 35	Orange			
c4	551	130	DC 35	Orange			
c5	389	130	DC 35	Orange			
c6	364	130	DC 35	Orange			
c7	371	130	DC 35	Orange			
c8	395	130	DC 35	Orange			
c9	756	130	DC 35	Orange			
c10	660	130	DC 35	Orange			
c11	467	130	DC 35	Orange			
c12	471	130	DC 35	Orange			
c13	238	130	DC 35	Orange			
c14	239	130	DC 35	Orange			
c15	240	130	DC 35	Orange			
C1	819	130	8000U-090	Natural		+	
C2	817	130	8000U-050	Natural		+	
C3	862	130	8000U-050	Natural		+	
C4	863	130	8000U-070	Natural		+	
C5	783	130	8000U-070	Natural		+	
C6	692	130	8000U-050	Natural		+	
C7	633	130	8000U-050	Natural		+	
C8	629	130	8000U-050	Natural		+	
CV	687	130	8000U-070	Natural	+		
CVI	824	130	8000U-050	Natural			
CI	962	200	8000U-130	Natural	+		
CII	962	200	8000U-090	Natural	+		
CIII	916	200	8000U-090	Natural	+		
CIV	916	200	8000U-070	Natural	+		
Cmain3	4817	260	8001-070	Orange			+
Cmain1	4314	260	8001-190	Orange			+
Cmain2	4497	260	8001-135	Orange			+
d1	776	130	DC 35	Orange			
d2	682	130	DC 35	Orange			

Line	Length	Loop length	Material	Color	Loop-Reinforcement	Loop reinforce-ment at the top	Loop on Quick link
d3	609	130	DC 35	Orange			
d4	644	130	DC 35	Orange			
d5	495	130	DC 35	Orange			
d6	463	130	DC 35	Orange			
d7	460	130	DC 35	Orange			
d8	467	130	DC 35	Orange			
br1	980	130	DC 35	Orange			
br2	718	130	DC 35	Orange			
br3	613	130	DC 35	Orange			
br4	619	130	DC 35	Orange			
br5	613	130	DC 35	Orange			
br6	424	130	DC 35	Orange			
br7	310	130	DC 35	Orange			
br8	389	130	DC 35	Orange			
br9	347	130	DC 35	Orange			
br10	342	130	DC 35	Orange			
br11	349	130	DC 35	Orange			
br12	492	130	DC 35	Orange			
BR1	1195	130	8000U-050	Natural			
BR2	1155	130	8000U-050	Natural			
BR3	925	130	8000U-050	Natural			
BR4	948	130	8000U-050	Natural			
BR5	776	130	8000U-050	Natural			
BR6	807	130	8000U-050	Natural			
BRI	4121	130	8000U-090	Natural			
BRIII	2148	130	8000U-090	Natural			
BRIV	2143	130	8000U-070	Natural			
BRII	2106	130	8000U-130	Natural			
brmain	1099	300	989/1,5	Red			
ST1	385	130	DC 35	Orange			
ST2	385	130	DC 35	Orange			
STI	5277	260	8001-050	Blue			

Folding lines

If collapse lines are required for safety training, these can be attached to the canopy at the additional line attachment points according to the following line plan. Fmain 1 to Fmain 4 are looped together on the collapse line (Fris), which is then attached to the line lock of the AI,II lines with the lower loop.



Folding lines lengths MERU 2 L

Line	Length	Quantity	Loop length	Material	Color
f1	1589	2	200	8000U-230	Natural
f2	1473	2	200	8000U-230	Natural
f3	1433	2	200	8000U-230	Natural
f4	1471	2	200	8000U-230	Natural
f5	1256	2	200	8000U-230	Natural
f6	1132	2	200	8000U-230	Natural
f7	1069	2	200	8000U-230	Natural
f8	1082	2	200	8000U-230	Natural
f9	920	2	200	8000U-230	Natural
f10	799	2	200	8000U-230	Natural
f11	576	2	200	8000U-230	Natural
f12	570	2	200	8000U-230	Natural
FI	1275	2	200	8000U-230	Natural
FII	1275	2	200	8000U-230	Natural
FIII	1173	2	200	8000U-230	Natural
FIV	1173	2	200	8000U-230	Natural
FV	765	2	200	8000U-230	Natural
FVI	918	2	200	8000U-230	Natural
Fmain1	4794	2	200	8000U-230	Natural
Fmain2	4998	2	200	8000U-230	Natural
Fmain3	5318	2	200	8000U-230	Natural
Fmain4	6616	2	200	8000U-230	Natural
Fris	690	2	300	D-Pro 3mm	Grey

Folding lines lengths MERU 2 M

Line	Length	Quantity	Loop length	Material	Color
f1	1543	2	200	8000U-230	Natural
f2	1430	2	200	8000U-230	Natural
f3	1391	2	200	8000U-230	Natural
f4	1428	2	200	8000U-230	Natural
f5	1219	2	200	8000U-230	Natural
f6	1099	2	200	8000U-230	Natural
f7	1038	2	200	8000U-230	Natural
f8	1050	2	200	8000U-230	Natural
f9	893	2	200	8000U-230	Natural
f10	776	2	200	8000U-230	Natural
f11	559	2	200	8000U-230	Natural
f12	553	2	200	8000U-230	Natural
FI	1238	2	200	8000U-230	Natural
FII	1238	2	200	8000U-230	Natural
FIII	1139	2	200	8000U-230	Natural
FIV	1139	2	200	8000U-230	Natural
FV	743	2	200	8000U-230	Natural
FVI	891	2	200	8000U-230	Natural
Fmain1	4654	2	200	8000U-230	Natural
Fmain2	4852	2	200	8000U-230	Natural
Fmain3	5163	2	200	8000U-230	Natural
Fmain4	6423	2	200	8000U-230	Natural
Fris	670	2	300	D-Pro 3mm	Grey

Folding line lengths MERU 2 SM

Line	Length	Quantity	Loop length	Material	Color
f1	1489	2	200	8000U-230	Natural
f2	1380	2	200	8000U-230	Natural
f3	1342	2	200	8000U-230	Natural
f4	1378	2	200	8000U-230	Natural
f5	1176	2	200	8000U-230	Natural
f6	1061	2	200	8000U-230	Natural
f7	1002	2	200	8000U-230	Natural
f8	1013	2	200	8000U-230	Natural
f9	862	2	200	8000U-230	Natural
f10	749	2	200	8000U-230	Natural
f11	539	2	200	8000U-230	Natural
f12	534	2	200	8000U-230	Natural
FI	1195	2	200	8000U-230	Natural
FII	1195	2	200	8000U-230	Natural
FIII	1099	2	200	8000U-230	Natural
FIV	1099	2	200	8000U-230	Natural
FV	717	2	200	8000U-230	Natural
FVI	860	2	200	8000U-230	Natural
Fmain1	4491	2	200	8000U-230	Natural
Fmain2	4682	2	200	8000U-230	Natural
Fmain3	4982	2	200	8000U-230	Natural
Fmain4	6198	2	200	8000U-230	Natural
Fris	647	2	300	D-Pro 3mm	Grey

Folding lines lengths MERU 2 S

Line	Length	Quantity	Loop length	Material	Color
f1	1427	2	200	8000U-230	Natural
f2	1323	2	200	8000U-230	Natural
f3	1287	2	200	8000U-230	Natural
f4	1321	2	200	8000U-230	Natural
f5	1128	2	200	8000U-230	Natural
f6	1017	2	200	8000U-230	Natural
f7	960	2	200	8000U-230	Natural
f8	971	2	200	8000U-230	Natural
f9	826	2	200	8000U-230	Natural
f10	718	2	200	8000U-230	Natural
f11	517	2	200	8000U-230	Natural
f12	512	2	200	8000U-230	Natural
FI	1145	2	200	8000U-230	Natural
FII	1145	2	200	8000U-230	Natural
FIII	1054	2	200	8000U-230	Natural
FIV	1054	2	200	8000U-230	Natural
FV	687	2	200	8000U-230	Natural
FVI	824	2	200	8000U-230	Natural
Fmain1	4305	2	200	8000U-230	Natural
Fmain2	4488	2	200	8000U-230	Natural
Fmain3	4776	2	200	8000U-230	Natural
Fmain4	5941	2	200	8000U-230	Natural
Fris	620	2	300	D-Pro 3mm	Grey

Service booklet

Shield and pilot data

Model: **MERU 2**

Size: ❒ **S** ❒ SM ❒ M ❒ L

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: _____

Telephone: _____

Fax: _____

Email: _____

Pilot (2nd holder)

First name:_____

Surname:_____

Street: _____

Place of residence: _____

ZIP CODE:_____

Country:_____

Phone:_____

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