PARAGLIDER

Ascent 2

Owner's Manual and Service Booklet

Serial Number: _____

AIRBORNE SENSATIONS

since 1979

Ascent 2

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since 1979

Version 1.0
Valid from 2009
Stand: January 2009

Table of contents

Important

The following symbols are used to draw attention to particular sections:

WARNING!

Failing to comply with instructions given here may lead to injury or death!

BEWARE!

Failing to comply with instructions given here may cause undue wear to, or even damage, your new wing.

NOTICE

This pictogram indicates a tip or some helpful extra knowledge.

Welcome in our team

Congratulations on the purchase of your new UP Ascent 2. UP International is renowned across the globe for designing and building the finest paragliders available – paragliders characterised by maximum safety, performance and quality in every aspect.

Please take a little time to complete and send the reply card found in the back of this manual. This way we can keep you informed of all new products and developments at UP, as well as any technical information about the UP Ascent 2.

We would also be delighted to hear any feedback you have concerning the glider. This is only possible once we have received your product registration, either through completing and sending the attached product registration card, or by doing the same Online via www.up-paragliders.com>service>product registration. Your completed product registration is also needed should any warranty issues arise.

If you have any questions regarding your paraglider or auxiliary equipment please ask your local dealer or feel free to contact us here at UP directly.

Have fun with your new UP Ascent 2!

Your UP International Team

Safety instructions

Paragliding is an extremely demanding sport requiring the highest levels of attention, judgment, maturity, and self-discipline. Due to the inherent risks in flying this or any paraglider, no warranty of any kind can be made against accidents, injury, equipment failure, and/or death. This glider is not covered by product liability insurance. Do not fly it unless you are personally willing to assume all risks inherent in the sport of paragliding and all responsibility for any property damage, injury, or death, which may result from use of this paraglider.

Please read this owner's manual thoroughly before your first flight with the UP Ascent 2 so that you are fully acquainted with your new glider. This manual gives you information on the entire specific and general flying characteristics of the UP Ascent 2, but it does not replace attending a paragliding school. It is important to note the following points:

- at the time of delivery the UP Ascent 2 conforms to German Hang Gliding Association (DHV) and/or AFNOR (SHV and ACPUL) requirements (see certification information later in this manual)
- any changes being made outside the permitted range of adjustment invalidate any and all claims under the warranty
- using this paraglider is exclusively at the risk of the user; the manufacturer or distributor assumes no responsibility for accidents occurring while using it.
- it is assumed that the pilot is in possession of the necessary qualifications and provisions of any relevant laws are observed
- when reselling the wing please make sure you also give this manual to the new owner. The manual is an integrated part of the paraglider and is required for the wing to keep its certification.

Development of paragliders

Admitted; we're proud of our history. No other company in the free flying world can look back on such an expansive history as we can. The UP story started back in 1970 when Pete Brock graduated from the Art Center, a world famous school for design and engineering in Pasadena, California, and promptly created some of the most legendary race cars ever – the Daytona Coupe from General Motors was one – and then went on to become fascinated by the emerging sport of hanggliding – at that time probably the maddest pastime of them all. After founding Ultralite Products he introduces his first wing, the Dragonfly, and soon the new company becomes known under the UP acronym..

Pete Brocks spirit survives to this day in everything we do at UP International – we still have our very own way of seeing things and designing things. This entails building paragliders that are not only as safe as they come, they must also meet the very high standards we set ourselves. Among these are the continued use of the most advanced technology available both in the designing and manufacturing process, but also the

feel, the handling and the performance of the finished product. All this because we're addicted to building wings that will fascinate you. A good paraglider is comprised of a number of interacting factors of which looks, feel, handling and performance are but a few. Only when all these come together in the final product can we claim to have built a wing that is homogenous and pleasurable to fly; and only then we're happy, and ready to introduce our new UP baby to the free flying world.

Our gliders are developed using state-of-the-art CAD software. Our programs allow us to do the initial flight testing in a virtual environment where we can simulate a great many things before even assembling the first prototypes.

Once we're happy with the new prototypes' behaviour in the virtual environment the program generates the templates after which the glider is sewn. When a new prototype arrives from our proto-building experts everyone at UP is excited about the prospects of trying it out in real life. The practical tests may show that further modifications are needed – these may be carried out on the existing wing, or a new prototype is built with the mods already incorporated. In exceptional cases this may continue through several prototypes, for only when we're 100% satisfied do we submit our new wing to testing by the DHV. We owe it to our customers, and to our own history, to be particular about which products earn the UP badge.

Technical description

The UP Ascent 2 was built to fulfil the expectations to a modern, safe and fast Performance Intermediate wing. The launching is excellent and the performance figures impressive.

As with all UP products, the materials used have been carefully chosen for their outstanding quality and strength, to guarantee a long and trouble-free service life.

Further construction details, including line lengths, are included in the certification specification sheets, which form part of this manual. Any technical changes will appear in the appendix.

Certification class

The following recommendations from the DHV safety officer serve to aid the pilot in identifying the right class of wing to fly for their skill level. They are based on years of analysing accident statistics, and on the collective experience of flying schools, flying instructors and SIV instructors.

LTF and EN classification

The UP Ascent 2 has been tested to conform to the LTF 1/ EN „A" glider classes.

Target group and recommended flying experience*

"The UP Pico is recommended for pilots of all levels, from absolute beginners to cross country pilots looking for a wing with a high passive safety margin. On a more general note, pilots flying less than 15-20h / year are always recommended to stay within the DHV 1 category."

Necessary skills for normal flights*

Flying a wing in this class requires insight into the basics of paragliding; launching, steering, landing. For thermal flying it is recommended that the pilot knows and understands active piloting.

Necessary skills for dealing with disturbances*

The UP Ascent 2 is a very forgiving wing to fly, and any behaviour following turbulence-induced disturbance will be within the wings'class. This does not however mean that no skills are required to fly the UP Ascent 2; the pilot must always be trained to fly correctly.

Necessary skills for dealing with rapid descent methods*

Knowing how to perform more demanding flight manoeuvres, like steep spirals, B-line stalls etc. is important in order to be able to go and land quickly in case the conditions deteriorate. If you have not been taught these skills we recommend acquiring them in a controlled environment, like a safety training over water. This will also teach you to get the most out of your UP Ascent 2 in many other regards.

Suitability for training

The UP Ascent is very well suited for training.

Recommended weight range

The UP Ascent 2 should be flown within the stipulated takeoff weight limits, found in the "Technical data" section of this manual. The weights mentioned are total launch values, including glider, pilot, harness, all clothing etc. The easiest way to find your own total launch weight is to jump onto your scales with the complete backpack containing all your kit on your back. UP International manufactures the Ascent 2 in 4 different sizes. If you find yourself having to choose between two not entirely ideal sizes we recommend you let your choice be guided by your personal preference for being either a little light or a little heavy on a wing.

The UP Ascent 2 responds to load changes by flying either marginally faster or slower, depending on whether you in- or decrease the load. The glide ratio in still air is not affected, and the minimum sink rate only insignificantly so.

* recommendations by the DHV safety officer

Technical Data UP Ascent 2

Size	XS	S	M	L
Surface area flat [m²]	23,7	26,6	29,0	31,4
Surface area projected [m²]	20,2	22,6	24,8	26,7
Flat span [m]	11,2	11,9	12,4	12,9
Projected span [m]	8,8	9,3	9,7	10,1
Flat aspect ratio	5,3	5,3	5,3	5,3
Projected aspect ratio	3,8	3,8	3,8	3,8
Chambers/cells	43	43	43	43
Total line length incl. Brake [m]	321	340	356	369
Total # of lines incl.Brake	234	234	234	234
Line dimensions [mm]	1,1 / 1,3 / 1,6			
Glider weight [kg]	5,2	5,5	5,9	6,2
Vtrim/Vmax (km/h)	37/51	37/51	37/51	37/51
Takeoff weight [kg]	60-75	70-90	85-105	100-125
LTF Category	1	1	1	1
EN Category	A	A	A	A
Description	Basic Intermediate			

Construction

The UP Ascent 2 is the logical step forward from the original Ascent. As is the case for the UP models Kantega XC (LFT1-2) and Summit XC (LTF 2) the Ascent is designed using the Hybrid Synergy Airfoil. This airfoil has already been proven during countless hours of stress-free flying by Kantega XC and Summit XC pilots. Compared to the original Ascent the new model has seen dramatic improvements in terms of launch ability, and the top speed has been increased to a remarkable 51km/h!

Illustration 1: CAD-Model of the UP Ascent 2

Most LTF 1 and EN A gliders never really leave the immediate surroundings of the school hill, and for a good reason. On the one hand it is natural for a pilot fresh out of school to approach their newfound passion with caution, on the other hand the reality of the poor-performing wings generally sets in very quickly if a pilot ventures out on a glide into the relative unknown. We think that the greater part of the UP Ascent 2 pilots will also be found in or around the school environment, and we're sure they'll be having loads of fun there, but we also think it must be a reassuring feel to know that should one feel the call of the mountains (steppes...) the glider is technically and performance-wise up for it in every way, without compromising pilot safety in the process. It is a glider that is simply begging to be discovered, a glider that showcases what is possible with the latest advances in paraglider technology.

A new profile

The updated „Hybrid Synergy Airfoil", already used in the UP models Kantega XC and Summit XC, has gone through a slight update in order to be used in the UP Ascent 2
A speed range of 13-51km/h is available for the pilot to use. The launching characterisitics of the wing are faultless – the canopy risers smoothly until zenith, where it remains until the pilot decides to take the few paces necessary for a clean takeoff.

Performance data

During the development of the UP Ascent 2 we have had particular focus on the performance data, for the reasons given above. We wanted the new wing to be a clear step forward in terms of speed and glide performance compared to the predecessor. Our design software bundle, comprised of the design program LT Parafoil and the performance calculating software Paralabs, allows us to accurately calculate performance data right from

the start of the design process, something that in this case is definitely to the benefit of the final product.

Airfoil Stabilizing System

The development of the „ASS“ comes directly from the UP competition models. It has been adapted for use in the Ascent 2, and brings a number of advantages. The synthetic ASS battens replace the usual Mylar reinforcing of the leading edge. Unlike Mylar, the ASS battens are unsusceptible to bending/folding damage, just as they remain stiff throughout the life of the wing. This means that the UP Ascent 2 will retain its good launching characteristics and high performance throughout its entire service life. Should an ASS batten become bent or even break, they are easy to replace on the spot (see chapter ‘Changing ASS battens).

Canopy material

The UP Ascent 2 is constructed from polyamide cloth, which is particularly stretch-resistant and durable, and is specially treated for maximum UV resistance.

After an extensive series of tests and years of practical experience we have found that the best material is a high tenacity polyamide “New Sky-Tex”, from Porcher Marine (France), with the Designation 9092 E85A (top surface front, cloth weight 45 g/m²), 9017 E38A (top rear and bottom surface, cloth weight 40 g/m²) und 9017 E29A (ribs and v-tapes, cloth weight 40 g/m²) This material consistently exhibits excellent air permeability and has a remarkably good colourfastness with the latest PU coating.

Line material

The lines used on the UP Ascent 2 are all sheeted Dyneema lines made by Edelrid. The following diameters are employed: 1.1, 1.3 and 1.6mmt.

A new manufacturing process in which the lines are pre-stretched makes these lines particularly stretch-resistant, and they have little or no tendency to shrink. Their break-load is noticeably higher than that of comparable Aramide lines, and they are completely unsusceptible to bending-cycle damage, unlike Aramide lines.

Line system

The entire line system is formed from individual lines, which are sewn and looped at both ends. The single line levels are connected over a special hoop technology ("handshake") to prevent a weakening of the core and a loss of strength. The lines and stitching are subject to rigorous production controls, to ensure high and consistent manufacturing quality.

The lines of each wing section consist of four groups and the brake lines:

A-Lines: A1-A3
B-Lines: B1-B3
C-Lines: C1-C3 / S1
D-Lines: D1-D2
Brake Lines: BRK

The brake lines are collected at one main control line per side. This control line runs through a pulley attached to the D-Riser and is marked with a black dot at the point where it should loop around the D-ring. The brake is pre-set so that the glider is at 0 degree brake when the toggle is free. Please don’t change the main brake lines without

checking the new length carefully at a suitable training hill before flying!

The line bundles (A, B, C and D) are colour coded for easy identification and handling. All main lines of each level are looped together and attached to „UP Line Links“, which are connected to the risers. The „UP Line Links“ links have special line collectors to prevent lines slipping. After maintenance work the „UP Line Links“ must be closed according to the description in the previous paragraph!

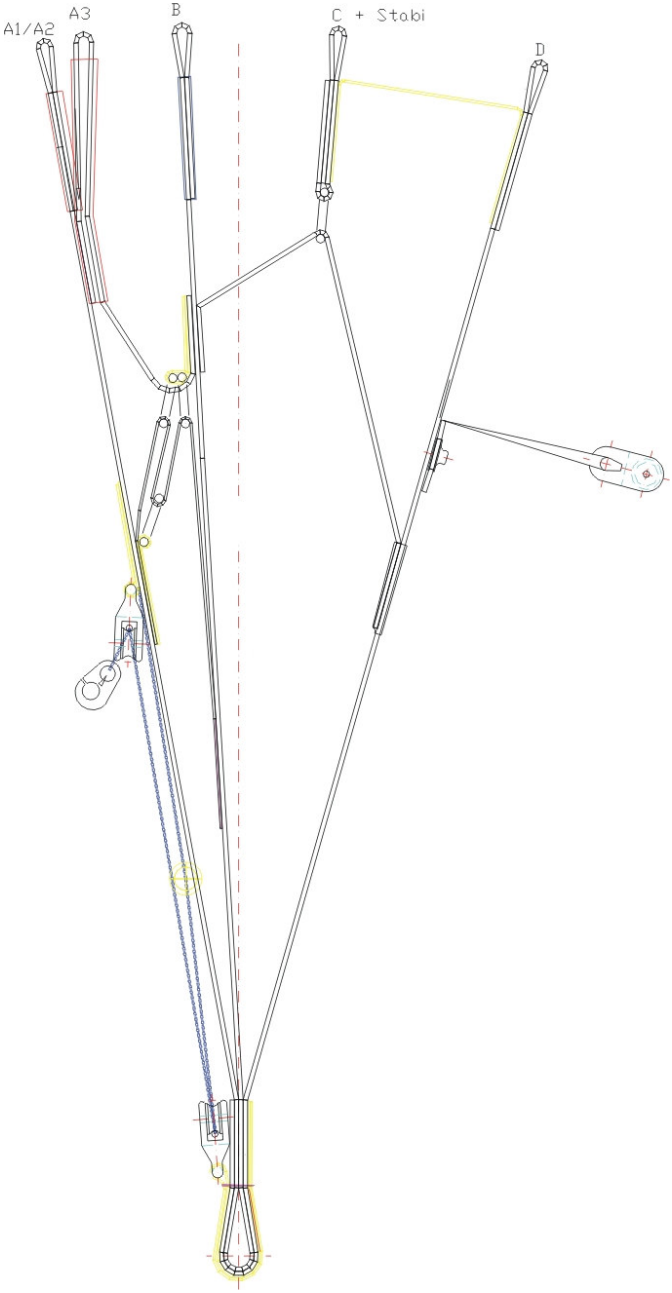
Risers

The A- and B- risers are marked with colours to make the identification easier, both during launch and B-line stalls in the air.

In order to make the pulling of ‘Big-Ears’ as easy as possible the UP ascent 2 has been equipped with an extra, outer A-riser going only to the outer A-lines (see illustration). To pull ‘BigEars’, simply reach up as far as possible on the line attached to this separate riser and pull down.

At trim speed each riser is 570mm long. Pressing the speed bar changes the lengths of the A and B risers, as well as the C-risers. A stopper system ensures that the speed system cannot be applied beyond the limit it was intended for, and to which it was tested by the LTF/EN test pilots.

Maximum speed is reached when the two speedbar pulleys touch each other.


A1/A2
A3
B
C + Stabi
D

UP Backpack

The UP Ascent 2 is delivered with a special paraglider backpack, which fulfils the demands of very high luggage volume and ergonomically optimised comfort.

We have built in an anatomical carrying system that allows an optimised load distribution for maximum comfort. The S shaped shoulder straps allow full adjustment and the detachable chest strap prevents the shoulder straps from slipping off the shoulders.

The load control straps attached to the shoulder straps can be set either loose, to aid ventilation, or tight, for extra stability. They should rise from your collarbone at about a 45° angle.

A hip belt is also incorporated to assist overall comfort. If the hip belt is tightened then the shoulder straps can be released slightly to transfer the load away from the shoulders. The hip belt is fitted with stabilisation straps, which can be tightened to help stability, or loosened for extra freedom of movement. The hip belt is removable for when packing size is critical, or the pack is being transported by air.

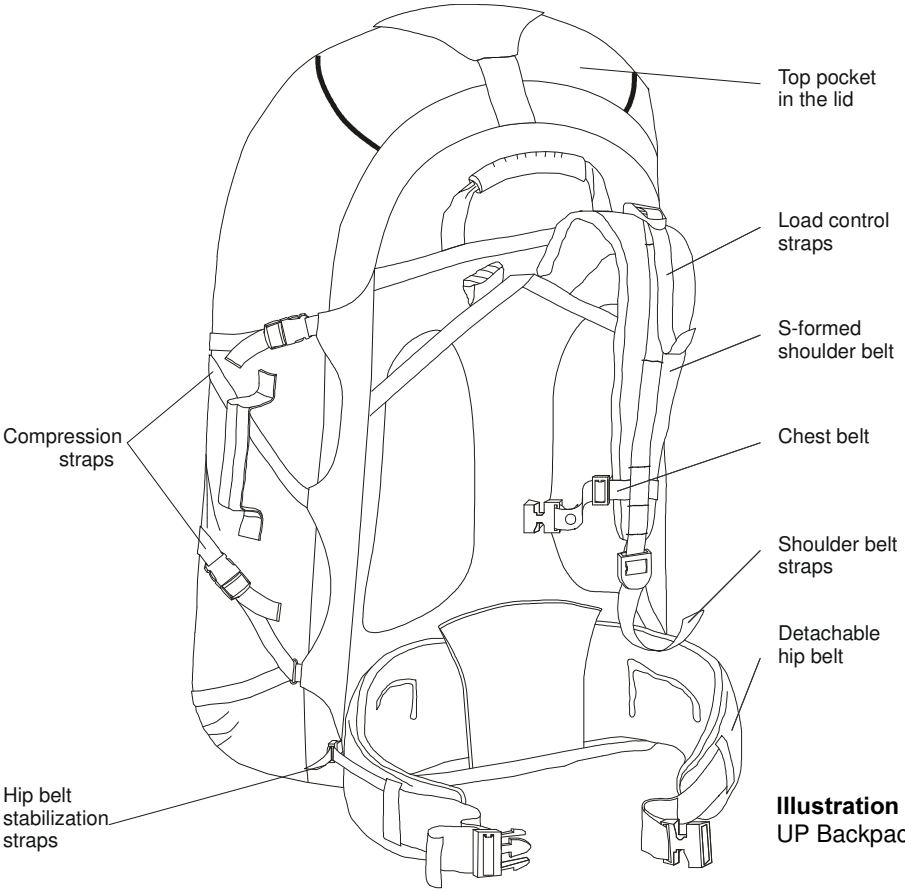


Illustration 3: UP Backpack

It is important, especially when there is a long trek involved, that the backpack is adjusted for maximum comfort. The following advice should be considered when packing.

Adjusting the backpack

When fully loaded, all compression straps should be tightened to secure the load in the pack. All carrying straps should be set fully loose and the pack then put on your back. The hip belt should be fastened and tightened to rest approximately in the middle of the hip. Any slack should be taken out of the shoulder straps, and the chest strap should be done up. The load control straps at the shoulders and hips can now be tightened to achieve the desired stability.

Packing tips

Packing the UP paraglider rucksack correctly will make it a pleasure to carry. A couple of easy tips can help you get it right. Failing to follow these tips will adversely affect you carrying comfort.

The centre of gravity of the load should be as close to the vertical centre axis of the carrier, while also being situated as high on the back as possible. This allows for a vertical posture and minimises the leverage of the load against the natural posture of the carrier. It also helps by reducing the oscillations of the load while walking.

The drawing shows the ideal load distribution in the UP rucksack. Loaded like this the carrying comfort will be optimal. Start by placing the heaviest items close to the shoulder blades, with lighter items over and under this region. The lightest items should be placed the furthest from your back.

Do not fasten any objects to the exterior of the rucksack, as these are unprotected against theft and can also get caught on protruding points when entering or exiting lifts, cars or buses.

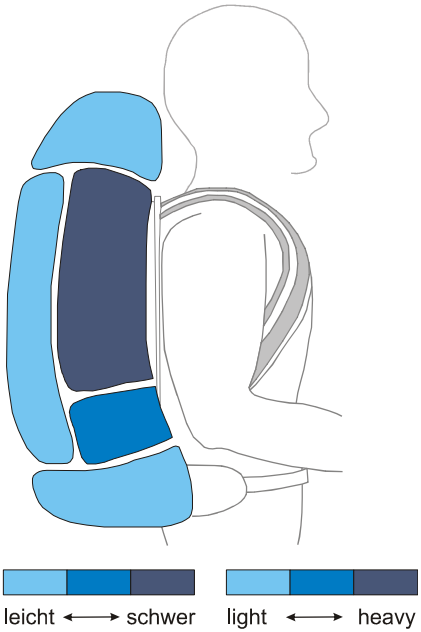


Illustration 4: Ideal load distribution in the UP rucksack

Before the first flight

The UP Ascent 2 is delivered with a speed system, rucksack, compression bag and –strap, repair materials and this manual. The manual may also be downloaded from the UP website. Every Ascent 2 delivered has been minutely checked at the factory, and corresponds exactly to the wing certified by the DHV.

BEWARE! Before the first flight the UP Ascent 2 must be inflated in the wind on a flat surface. An approved UP dealer should carry out the first flight before the wing is handed over to the end customer.

Adjustments

The UP Ascent 2 has undergone an extensive development program and series of flight tests to ensure that the production model exhibits the optimum characteristics with regard to safety, handling and flight performance.

As with all products from UP International, the UP Ascent 2 is manufactured to the highest quality and precision. The line lengths of each glider are individually checked and recorded before dispatch.

Under no circumstances should the lengths of the lines or risers of the UP Ascent 2 be altered in any way.

WARNING! Any changes to line lengths or riser configuration will invalidate certification! The only change allowed is to the length of the lower brake line. This should only be done by an experienced person.

Position of the brakes

The UP Ascent 2 is delivered from the factory with what we feel is the best brake position for most pilots. But tall or short pilots, or those with a harness with non-standard attachment points might feel it necessary to change the position of the brake handles.

If the brakes are to be shortened, it is extremely important to avoid the adjustment affecting the glider's trim speed. There must always be some slack in the brakes when they are fully released. This can be checked with the glider inflated above the pilot's head. There should be a noticeable bow in the brake lines, and the brakes should be having no effect on the shape of the trailing edge.

If the brake lines are to be lengthened, it is important to ensure that the pilot can still stall the canopy (i.e. during extreme manoeuvres or landing) without the need to take wraps.

If you do feel the need to change the brake line lengths, do so a little (3-4cm) at a time, and preferably whilst at an easy training slope. Check especially that both lines are the same length, as any asymmetry will lead to tiring and possible dangerous flying characteristics.

If you have any questions or concerns with reference to the brake line lengths then seek advice from either your UP dealer or directly from UP International.

To tie the brake line onto the brake handle use one of the following knots: The simple fisherman's knot or the Bowline as shown in illustration 5 and 6. These knots guarantee the least amount of line weakening.

BEWARE! Loose or incorrect brake knots can cause serious accidents through loss of the steering of the glider!

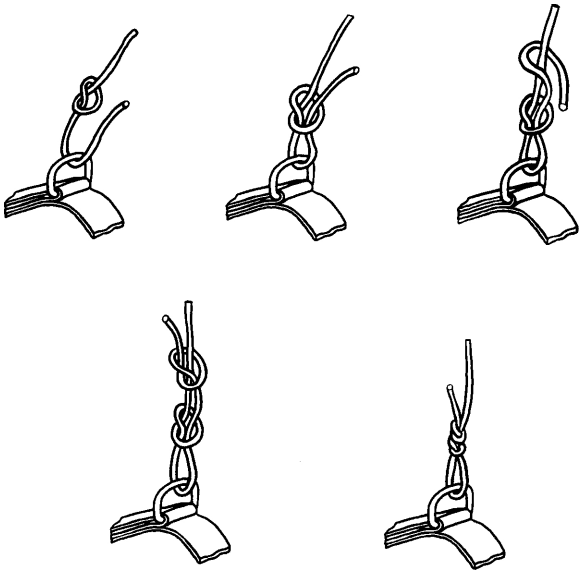
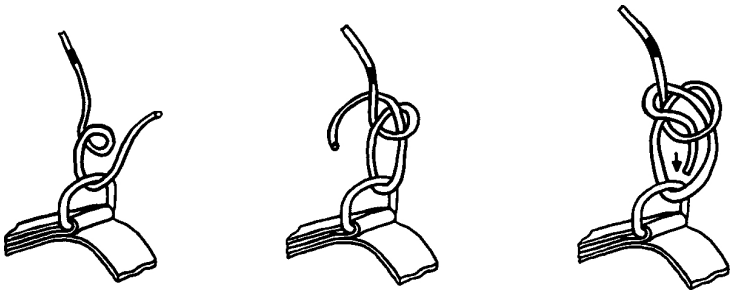


Illustration 5 and 6:
Fishermans- and bowline-knots



Speed system

It is important that the speed system is connected correctly, and the length checked, to ensure smooth operation in flight.

The link between the foot stirrup and the risers consists of two cords and two brummel hooks. The speed stirrup itself is composed of a foot bar and webbing with loops sewn on either end to attach the cords. These cords should be run up through the eyelets and pulleys on the harness to connect with the pulley system on the front of the risers (see Illustration). This illustration refers to the UP harness, but many harnesses are similar. If in any doubt, please ask the harness dealer/manufacturer.

The length of the cords should be set so that, at full leg extension, the pulleys on the risers are just touching each other. Any shorter and the stirrup will be difficult to reach; longer and the top of the speed range will be unavailable.

During take off it is advisable to fix the accelerator stirrup underneath the harness to avoid any danger of tripping over it.

Suitable harnesses

Any harness with hang points near chest height is suitable for use with the UP Ascent 2. The lower the hang point of the harness, the better the pilot can steer by weight shift. A DHV or EN certified harness is recommended.

The harness design should also guarantee that it's possible to accelerate the UP Ascent 2 up to the maximum speed.

Note that the height of the hang point also affects the brake line length. If you have a question about your UP harness, contact your dealer or UP International.

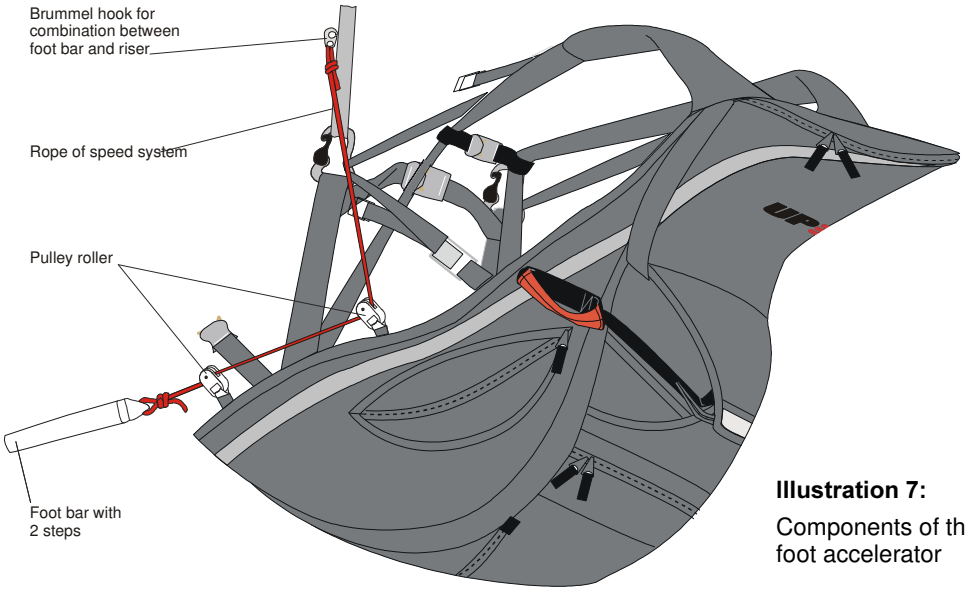


Illustration 7:

Components of the foot accelerator

Rescue system

It is strongly recommended that you have a rescue system (reserve parachute) fitted at all times. In some countries it is mandatory, so check if you plan to travel. Make sure that the reserve system you have is the correct size, and that you are fully conversant with it's use.

For fitting the reserve system, follow the instructions of the harness manufacturer.

Use of the UP Ascent 2

The UP Ascent 2 has been developed and tested solely for foot launched and winch launched paragliding flights. It is not allowed and potentially dangerous to use the glider for any other purpose.

Aerobatics

The UP Ascent 2 has not been developed, constructed and/or tested for aerobatics use.

WARNING! The glider has not been certified for aerobatics. Performing aerobatics with the UP Ascent 2 or any other paraglider can be very dangerous. Doing aerobatics can induce flying configurations well beyond the tested flight envelope, and can lead to total loss of control. Aerobatics can also overload your glider and break it in flight.

Motorised Paragliding

The UP Ascent 2 has not been tested for use with any kind of engine.

If you wish to fly your UP Ascent 2 with a paramotor please get in touch with the manufacturer of the engine unit, with UP International GmbH and with the governing body for ultralight flying in your area, to check on certification of this configuration.

Flight practice

Pre-flight check

Make sure whenever you get your UP Ascent 2 back from somebody else to check the glider very carefully if you are not the only pilot flying it. Ask if there was anything that could have damaged any part of the glider, if the pilot has found any part that needs to be replaced or if they noticed any strange flight behaviour. Make sure you do the same when you lend your glider to somebody else.

A thorough pre-flight inspection should be performed prior to each flight. A careful pre-flight check is a must for any and all airplanes – also the UP Ascent 2. Please apply the same care and attention before EVERY flight!

Before every launch you should carry out the standard 5-point checking procedure. It is a good idea to do the checks following the same sequence every time to minimize the risk of omitting something.

1. Unpack and arrange your glider in a semi-circular manner. This shape ensures that the centre cells inflate before the tips. When unfolding your glider, observe the wind direction and arrange your glider so that it is pointed directly into the wind.
2. The lines must be arranged so that there are no tangles and the A-lines are uppermost. Once the lines are free and untangled, check to make sure that they all go directly from the riser to the glider without going over the top of the wing. Launching with a line over the wing is extremely dangerous! It is also important that the brake lines are free and not tangled.
3. Next check that you have put the harness on correctly, and ensure that both leg straps and the chest strap are closed and adjusted. Also check the rescue system pins and deployment handle.
4. Right before the launch you should check the air space (also behind you).
5. Once again check the wind direction before take-off.

Launching

The take-off characteristics of the UP Ascent 2 are extremely straightforward. Only a gentle forward pressure on the A risers is necessary and the glider will inflate evenly and climb above your head. The glider has no tendency to hang back behind you or to overshoot over your head.

With the A risers and the brakes in your hands, have another look at your unfolded glider. Make sure that you are centrally positioned in the middle of the wing, and that the wing is facing into wind. The middle of the canopy is marked by the UP logo at the leading edge.

Inflate the glider with a steady run and remember to position your arms so that they are a continuation of the A risers. As the glider comes above your head, you should glance up to see that the entire canopy is inflated and flying. The UP Ascent 2 has a low surge tendency, so there is usually no necessity to brake to stop the glider from over-flying you.

Directional control should only be attempted when the glider is above your head. Excessive braking will cause the wing to drop back.

Only after checking that the wing is properly inflated do you apply slight

brake pressure and accelerate rapidly down the hill. After a few steps you will reach flying speed and become airborne.

Speed control

Using the brakes

The UP Ascent 2 has a wide useable speed range, coupled with excellent stability at all speeds. The speed can be set with the brakes to optimise performance in any situation.

Maximum glide speed is achieved with the brakes released completely, whereas minimum sink speed is with approximately 15-20cm of brake applied. Further braking will not improve the sink rate, but the brake pressure increases noticeably as the glider reaches minimum speed.

BEWARE! Flying close to the stall point is very dangerous and should be avoided. At speeds below minimum sink the danger of entering an unintentional stall or spin is increased dramatically.

Using the Speed System

The UP Ascent 2 is supplied with a speed system, which is activated by a foot stirrup. Full application increases the speed by approximately 11 to 13 km/h. In certain circumstances the use of the speed system is extremely effective, and it should be an integral part of your flying.

The speed system should be used when you are flying through sinking air, when trying to achieve best glide in a headwind, or trying to cover the ground as quickly as possible. But it is important to remember that the glider will be more susceptible to collapses at high speeds, so the speed system should not be used in extreme turbulence. If, with the speed system applied, a collapse occurs then it should be released immediately. Some warning of an imminent collapse is afforded by the tension felt in the speed system; should the tension suddenly reduce then the stirrup should be released and the glider returned to normal trim speed.

BEWARE! All extreme flight situations, such as collapses, happen more dramatically at increased speed. Therefore the speed system should not be operated near the ground or in noticeable turbulence.

Turning

The UP Ascent 2 has been developed to meet the demands of intermediate pilots. The brakes have been designed so that the first 15 to 20 centimeter of travel will cause a soft and direct turning, whereas larger movements will give the glider an agile and nimble feel.

Brake input and amount of weight shift induced will define the radius and bank angle on the UP Ascent 2, and will allow it to be controlled with ease. Using weight shift in combination with brake input will result in flat turns with minimum height loss and is in fact always the most efficient control method. The radius of the turn is then controlled with the brake line whereas the bank is controlled through weight shift.

If needed the UP Ascent 2 will turn very tight. To do this, apply some brake input on both sides, then release the outside brake whilst applying further brake on the inside – this will reduce turning radius to a minimum.

When brake input is increased beyond approximately 50% on one side, the UP Ascent 2 begins a fast and steep turn, which can be made into a steep spiral (refer to chapter heading "steep spiral").

Landing

The UP Ascent 2 is easy to land. While pointing into the wind, the pilot should fly the wing fast until approximately one meter above the ground, and then apply both brakes completely. When landing in stronger wind, less brake is required. Landing from steep turns should be avoided due to the risk of an uncontrolled pendulum reaction.

Winch towing

The UP Ascent 2 tows easily. There are no special techniques that need to be employed, but consideration should be given to the following points:

- Especially when you are towing at an unknown field, make sure that you are fully aware of any local conditions and peculiarities. Ask the local pilots if you are at all unsure.
- During the launch, ensure that the glider is completely inflated and over your head before giving the 'start towing' signal. If the glider is not central over your head do not continue with the tow. Any corrections attempted through the brakes during this critical phase may result in the canopy deflating again, or in the tow progressing with a non-flying wing; if tow tension is applied when the glider is not correctly positioned then a 'lock out' or a stall could occur.
- Try to avoid large brake inputs until you are reasonably high. Emphasize weight shift if any course correction is necessary close to the ground.
- Do not try to climb steeply during the first part of the tow. Good airspeed is essential.
- Do not use a towline tension greater than 90 daN at any time during the tow.
- All persons involved with the towing operation should be suitably qualified and experienced. All equipment used should, where necessary, be certified, and a tow permit should be valid for the field being used.

Attaching the towline release system

The optimal attachment point for the towline release is always in the systems' centre of gravity. On a paraglider that means the connection point between the risers and the harness, preferably right onto the lower end of the risers. UP International has developed special tow-release connectors for the UP Ascent 2 to ensure the optimal connection between the pilot and the towline. For safety reasons we suggest that you always use these connectors when towing the UP Ascent 2.

When using towline release systems incorporating distance-tubes between the risers it is important to ensure that the risers are not pulled together by the system (use webbing loops designed for climbing to increase the length of your release system). It is also very important to fit a bungee to the system that will keep it from hitting you in the face in the event of a towline failure.

BEWARE! If you are using a front-mounted reserve system it is very important to verify the unhindered deployment before every flight. In case of doubt please only tow using a textile release system.

Flight safety

The development of high performance paragliders from square parachutes has meant vast improvements in speed, sink rate and handling. But, at the same time, it has also led to a requirement on behalf of the pilot for accurate, sensitive control and an acute anticipation of possible flying conditions. Any glider, whether beginner or competition class, may collapse in turbulent conditions and you must be able to react accordingly.

Today you have a wide choice between different gliders in the UP range. The main difference between the gliders is in the stability that each class offers. Beginner wings react to turbulence less dramatically and are more forgiving when compared to top performance gliders, which have more sensitive, but less forgiving handling. Making the correct decision when choosing a new glider is most important; you should critically examine your flying and your level of knowledge.

A safe and efficient way to get used to your new paraglider is by practicing your ground handling skills. We suggest finding a suitable area, like a playing field, and with light to medium wind it is quite easy to practice inflating the glider and feel the reaction to brake input, b-line stall, collapses etc.

Before takeoff and whilst flying it is very important to anticipate any likely turbulence and fly accordingly. Look well ahead, and as well as looking for areas of likely lift, try and predict, and avoid, areas of sink and rough air. If you do find yourself in turbulence then look for the cause, and adjust your flight plan to avoid other similar places.

Thermals and Turbulence

In turbulent air, the UP Ascent 2 should be flown with a little brake to increase the angle of attack and provide greater stability. While flying in strong or broken thermals, it is important that you concentrate on keeping the wing centrally above your head. Do this by allowing the glider to fly faster while entering a thermal, and by dampening the surge of the canopy while exiting the thermal by braking gently.

Flying fast is useful for getting through sink or when flying into a headwind. The UP Ascent 2 possesses a high inherent stability due to its construction and design, however an active flying style in turbulence will help increase safety by preventing unnecessary collapses and deformation of the canopy.

Getting down fast

All rapid descent manoeuvres should be practiced initially in smooth conditions with plenty of altitude before you need to use them 'for real'. It is important to distinguish between the three techniques, and to know the merits of each.

WARNING! All other manoeuvres, such as full stalls and spins, should be avoided as fast descent techniques. They are not very efficient, and incorrect recovery can have dangerous consequences (as with any paraglider)!

Steep Spiral Dive

A maximum sink rate of over 15 meters per second can be achieved in a steep spiral dive, but it is advisable to build up gradually to these sink rates when you first practice spiralling.

Getting the UP Ascent 2 into a spiral dive is very simple and has already been described in the chapter regarding turning. When entering the spiral it is essential to induce the turn gradually; if you apply the brake too quickly you may enter a spin. If this happens, release the brake immediately and let the glider recover before trying again. Keep a steady tension on the inside brake and observe the increased angle of bank and sink rate. A little brake on the outer wing will help stabilize the glider at a high sink rate.

To recover from a spiral, simply release the inside brake. Do this gradually to prevent an uncontrolled steep climb caused by the excess energy built up during the dive. Be prepared for the glider to climb a little and to damp out the subsequent dive. Be warned that steep spiral dives are equal to high G loading on both you and your glider!

WARNING! Never pull Big Ears in a spiral dive, as it's relatively easy to overload the paraglider, pilot and equipment.

B-Line Stalls

To induce a B-line stall, start from normal, un-accelerated flight. Reach up and take hold of both B risers, still with your hands in the brake loops, and pull down simultaneously by approximately 10 to 15 centimetres. The first few centimetres of travel will be quite hard, but as the glider settles into the stall so the effort becomes less.

The glider will drop back a little as it stalls, and then centralize over your head. With 15 centimetres or so of pull a sink rate of up to 6 meters per second can be achieved. With less pull you will get a decrease in sink rate. The B-risers should not be pulled beyond this point, as it may result in the canopy entering an unstable phase or going into a frontal rosette. Should you inadvertently have pulled too far down on the B-risers, simply release them a little again until the wing is again stable above you, showing the characteristic deep crease along the B-level and being fully stretched out spanwise.

To recover from a B-line stall, let up both B risers simultaneously and quickly. The UP Ascent 2 will dive forwards slightly as it regains forward speed, so be ready to dampen this out. If you release the B risers slowly there is a danger that the glider might enter a deep stall. The glider will almost always recover with no pilot input from a deep stall, but refer to the 'Deep Stall' section for correct recovery.

Big Ears

To pull the ears in, reach up and get hold of the outermost A line on both front risers and pull them down, simultaneously, by about 20-30cm until the tips collapse. Keep these two lines in your hands, to prevent the wing re-inflating.

We suggest keeping the brake toggles in your hands while inducing Big Ears. The glider will remain fully steer-able through weight shifting during the manoeuvre. The sink rates will be around 2 to 3 meters per second. Releasing the two A-lines will normally have the tips re-inflating on their own, otherwise light braking will assist the re-inflation.

Do not perform other manoeuvres whilst using Big Ears, as the structure of the canopy could become overloaded.

Inducing large Big Ears on the UP Ascent 2 when flying near its lower weight limit requires great caution on the amount of brake input used, as it may deep stall in extreme cases. Should this happen use the recovery technique described in the ‘Deep Stall’ section.

Flying outside the normal flight envelope

Behaviour in extreme situations

The UP Ascent 2 is designed to be very aerodynamically stable. However as with all paragliders extreme turbulence or piloting error may induce unwanted behaviour from the canopy. To ensure that you are able to handle these situations correctly we strongly recommend that you attend a safety-training (SIV) clinic, where you can learn to master your wing outside the normal flying envelope under professional guidance.

Safety training manoeuvres should only be practiced in calm air with sufficient altitude, and under the instruction of qualified instructors. We would like to use this occasion to once again remind you to never fly without a reserve parachute!

The manoeuvres and possible flight configurations described in the following may occur following a conscious effort on the part of the pilot, through turbulence or through pilot input error. Any pilot flying in turbulent air or making piloting mistakes may end up experiencing these flight configurations and therefore find themselves in danger, particularly if they are not adequately trained to master them.

WARNING! Mistakes during the execution of the following manoeuvres may seriously compromise the safety of pilot.

Collapsing the paraglider

Asymmetric collapse

Should a large asymmetrical collapse occur during flight, the pilot should try to counter the turn trough careful braking of the open side, and leaning to the open side in the harness. Even if the pilot neglects to do so the Ascent 2 will normally stop the turn on its own. The LTF/EN test pilots could not get the UP Ascent 2 to counter-collapse, and it is probably safe to say that this only happens in very extreme cases, perhaps if the pilot reacts in such a manner that the lines become slack.

The UP Ascent 2 will normally reinflate by itself, but the process can be speeded up by the pilot applying one or two long and firm pulls on the brake line to the collapsed side (no hectic pumping please!). Remember to keep controlling the heading with the brake on the open side.

With large asymmetric collapses it is important to counter steer carefully to avoid stalling the open side. This can lead to the canopy entering a stall before it fully reopens.

Finally it is possible, although highly unlikely, that a wingtip gets caught in the lines following a collapse. Should this happen the pilot should attempt to maintain heading by weightshifting to the opposite side and carefully braking that same side. A big earnest pump with the brake on the afflicted side should clear the “cravatte”. If this fails all UP wings have a separate stabilo line going from the C riser to the stabile – a pull on this line will clear even stubborn cravattes.

Full frontal collapse

A negative angle of attack occurring through turbulence or from simultaneously pulling down both A-risers results in a full frontal collapse of the leading edge of the canopy. The UP Ascent 2 will normally reinflate quickly on its own, but can be assisted through the application of a light double-sided symmetrical brake input.

The stalls

When a paraglider flies through the air a laminar and a turbulent airflow forms around the surface of the wing. When the laminar airflow along the top surface is interrupted, dangerous flight configurations follow – we say that the wing stalls. This is most often the consequence of attempting to fly with too high angle of attack.

In more detail we differ between three different forms of stall.

BEWARE! Spin and full stall are both dangerous and somewhat unpredictable manoeuvres. Do not stall or spin your paraglider on purpose. However it is very important to learn how to recognize the symptoms of a glider about to stall or spin so that you can take correct action to avoid it happening.

Deep Stall

The UP Ascent 2 has no inherent tendency towards deep stall. It will recover from a deep stall brought about by over braking, by pulling on the rear risers, or by releasing the B-risers too slowly after a B-stall, on its own without any pilot input as soon as the brakes or the risers are released.

Should you however find yourself in a deep stall (as described above this could happen through flying too light on the wing and pulling big ears) the situation can be rectified by simultaneously pushing both A-risers forward until the glider resumes normal flight. Avoid applying brake to one side if you think that you are in a deep stall as this could lead to a spin.

Always remember that practicing manoeuvres where you fly close to minimum airspeed must only be carried out under professional supervision and with plenty of altitude.

Full Stall

Full stalling the glider is only really sensible and useful during the landing. When landing the pilot consciously stalls the wing by applying both brakes 100% just before touching down. The canopy falls behind the pilot and empties itself.

When the glider is tested before the release it is put through the same motions, but at greater altitude. First it is slowed down to minimum airspeed, then the airflow along the top of the wing breaks away and the wing falls back, pulling the pilot with it. It is important to not release the brakes again at this moment, as this will have the canopy violently shooting forwards and diving down in front of the pilot. In extreme cases it can dive below the pilot, who could then fall into the sail.

After dropping back into full stall the canopy will form a horseshoe where the tips flutter about quite violently. These movements are transferred to the pilot's arms through the brake lines. Holding the wing in a full stall requires considerable strength!

Before releasing the brakes and allowing the wing to resume level flight it is important to stabilize the stalled wing. This is done by releasing the

brakes slowly until the entire wing is almost completely re-inflated. In this phase the wing will be pitching somewhat over the cross axis. The pilot waits until the wing is in front of him and releases the remaining part of the brake travel. When timed correctly the wing will then resume level flight by surging slightly forward whilst accelerating to normal trim speed. However you must be prepared to dampen the surge and deal with any subsequent collapses occurring because the wing surges too far or doesn't come out of the full stall completely symmetrically.

Test pilots also carry out tests where they release one brake before the other while in full stall. This manoeuvre only serves to test the wings behaviour and should not be flown purposely as this is a situation where all paragliders react very dynamically. It is often followed by very large, dynamic asymmetric collapses that must be dealt with correctly to avoid dangerous situations.

Spin

The negative spin occurs when one side of the wing is stalled whilst 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.

Wingovers

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

BEWARE! The UP Ascent 2 is an agile glider, and it is quite easy to get to an excessively high angle of bank in just a few turns. Practice wingovers gently at first, as there is a chance of quite large collapses at high bank angles.

Also notice that a wingover flown with more than 90 degrees bank angle is classified as illegal aerobatics in some countries!

Emergency Steering

If for some reason the UP Ascent 2 cannot be controlled with the brakes, for example if the brake handle has come off the main brake line, it can be steered and landed with the rear risers. Be aware that, when rear riser steering, the glider is a great deal more responsive to pilot input, and the stall happens very suddenly.

Further references

Rain-induced deep stall

There are two reasons why flying with a wet wing increases the risk of deep stalling:

First reason is that the canopy cloth may absorb water, making it much heavier and moving the centre of gravity around in unpredictable ways, increasing the risk of a stall/deep stall. The more water a wing can absorb the higher the risk, which means that older wings with damaged coating are more prone to these deep stalls than new wings. It should also be noted that a wing already flying close to the edge due to line shrinkage or other factors will deep stall sooner due to water absorption.

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 together to either flow off or become a homogenous mass, the surface will 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 brakeline 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 brakeline input, that you do not pull BigEars 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!

Adhesive logos

Always make sure that your intended logo will not in any way influence the glider behaviour. If in doubt we suggest avoiding the attachment of advertising logos on the wing. UP cannot be held responsible for any mishaps caused by intentional after-sales changes done to the wing.

BEWARE! Attaching heavy adhesive logos made out of unsuited material to the wing may result in the revocation of the glider certification.

Overloading

The UP Ascent 2 is a very strong paraglider, and flying all the usual SIV and acro manoeuvres will not normally pose a structural problem. However, frequent acro training does accelerate the ageing process dramatically, and UP recommends having wings that are often used for acro or SIV-type manoeuvres subjected to checkups at shorter intervals than normally stipulated.

Salt water

If you do most of your flying near the sea, where the air is humid and salty, the wing may age faster. In this case we suggest you have it checked more often than prescribed in this manual.

Environmentally responsible disposal

A paraglider is made from synthetic materials requiring special care during the disposal. Once the gliders' lifespan is over it is the owners' responsibility to ensure that it is disposed of in an environmentally sound manner. At UP International we're happy to take care of this for you, simply return the wing to us and we'll make sure it is disposed of properly.

Nature- and landscape compliant behaviour

As a final word to this section just a brief appeal to all paraglider pilots out there, to practise their sport in a way that doesn't compromise nature or any of nature's many users, in any way. Do not walk outside of marked paths, do not leave anything behind, do not make unnecessary noise and do watch out for sensitive areas and/or species on you path, both on the ground and in the air. Note that alpine launches in particular require extra care and attention on the part of the pilots!

Maintenance and cleaning

Taking care of your paraglider

The wear and tear that your paraglider suffers depends on a number of factors; how frequently it's flown, whereabouts in the world you fly it, how much UV it gets and how well you look after it. Bear in mind the following maintenance points.

Packing your UP Ascent 2

The Ascent 2 design uses no Mylar reinforcements in the leading edge. This means that you can pack it any way you prefer, the leading edges is unsusceptible to packing damage. This doesn't mean that you can't use the Mylar-protecting packing method depicted here below:

Pack the glider in a slightly different way every time, so that it's not always the same bit of material that gets the maximum exposure.

Also, to avoid mechanical abrasion we suggest you lay your wing on the compression sack every time you pack it. This protects the cloth and the coating.

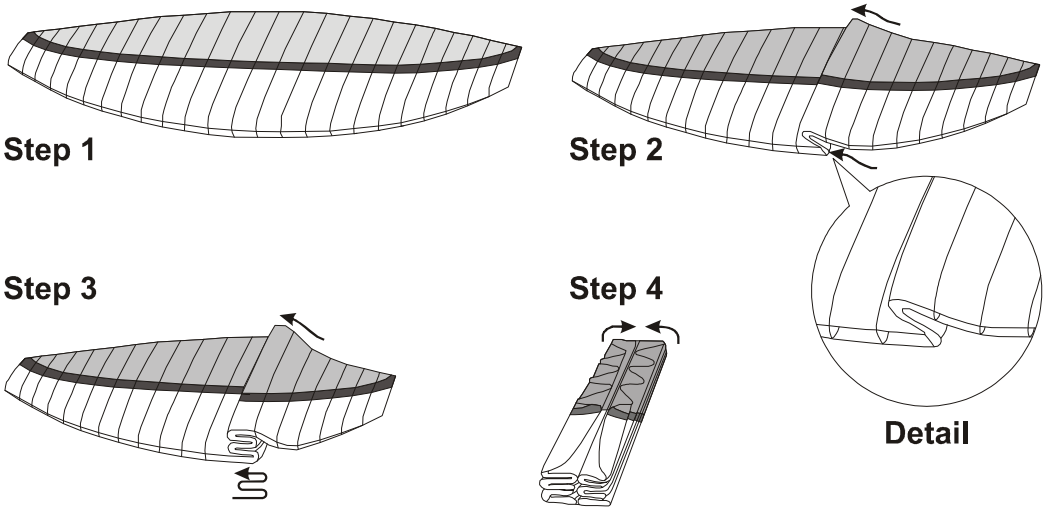


Illustration 8: Packing the UP Ascent 2

There is however a small trick you can use to be good to your new wing, see the following illustrations:

Choose your own method of folding the wing into a narrow sausage.

Then fold the sausage from the trailing edge forward…

… all the way to the leading edge.

Do NOT fold the leading edge under, as shown here above.

The leading edge should be on the outside of the bundle when you are finished – secure the bundle with the compression strap.

Paraglider fabric

We use a top grade polyamide cloth to build our paragliders, which has a special protective coating against UV radiation and air permeability. The cloth will suffer though; if it's exposed to large amounts of UV (i.e. bright sunlight). Do not leave your glider lying in the sun for any longer than is 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. Beside they exude a dark and strong colorant that will stain the cloth if grasshoppers are packed inside. Shoo them off before packing. Note that, contrary to popular belief these particular 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 you wing away wet it may grow mildewy 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 note be repeated once the wing has been unpacked and flown for the first time. Also note that, in spite of it being a comfortable seat, the glider bag should not be used as such.

Should you accidentally put your UP Ascent 2 into seawater rinse it out thoroughly with fresh water and dry it slowly in the shade (see Chapter Cleaning).

Paraglider lines

The UP Ascent 2 employs only the best, sheeted lines made from Dyneema. Please keep the following points in mind:

- The lines should be checked regularly for damage.
- Please take care to avoid abrasion and damage to the lines' protective sheathing
- The lines should not be knotted or bent unnecessarily.
- The main brake line at the handle should not have too many knots. Each knot weakens the line.
- After any line over-stressing (tree landings, water landings and other extreme situations) all lines must

be checked for condition and length and should be replaced where necessary.

BEWARE! If any change in flying characteristics is noticed then the lines should be checked possibly exchanged. Immediately send your wing to UP International or to a UP certified checking facility if you feel that something is wrong!

Storage and transport

A paraglider should always be dry when packed, but this is particularly important after the last flight of the season. But even a completely dry wing should still be stored open in a dry, clean and dark place. If you do not have room for such winter storage we recommend you open all compression straps on the bag as much as possible and leave the bag lid off so that air can circulate around the packed canopy. Make sure no mice or cats make their sleeping quarters in you wing, and keep it well distant from solvents and acids. Petrol and other petrochemicals is especially abrasive for nylon and will dissolve the cloth if allowed near.
The storage temperature should be between 10 and 25 degrees Celsius, and the relative humidity between 50 and 75%.

Do not expose your UP Ascent 2 to extreme heat (storing it the boot of a car parked in the sun). The heat may cause moisture to be pressed through the fabric, thereby damaging the coating. High temperatures in combination with moisture are a particularly volatile mix that will accelerate the hydrolysis process where the fibres and the coating are decomposed.

Cleaning

If you feel it necessary to clean your UP Ascent 2 at any time then use lots of lukewarm water and a soft sponge. More stubborn stains can be cleaned with a weak soap solution, and rinsed thoroughly. Then leave it to dry in a shady but well-ventilated area.

BEWARE! Never use chemical cleaning agents, brushes or hard sponges on the material, as these destroy the coating and affect the strength of the cloth.
The canopy will become porous and will loose structural strength. Never attempt to clean your paraglider in a washing machine. Even without using detergents the simple mechanical abrasion will quickly finish the canopy and render it useless. Also avoid dipping it in a swimming pool; the chlorine will damage the cloth. If you MUST rinse the parachute, f.ex. following a sea water landing, do so with a gentle spray of fresh water. Frequent spraying will accelerate the ageing process.

Replacing ASS battens

Due to the ASS reinforcement system the Ascent 2 leading edge is very robust. Should a reinforcement batten break they are however very easy to replace. Both ends of the pockets have openings to allow easy replacement, see the following illustration series to learn how to do it yourself:

Once you have removed the broken batten the new one must be inserted into the pocket. It makes no difference if you do this from below or from above, but in this example the new one is slotted in from behind:

Before pushing the batten all the way in we recommend covering the end with a bit of tape. This protects the fabric from abrasion damage in case the batten has sharp corners/edges.

Checks and repairs

Paragliding is a wonderful sport; flying as free as a bird in the air, enjoying the peace and tranquillity. But the air is an alien environment that commands respect and a responsible attitude from the pilot. At UP we don't just put our knowledge and experience into the development of paragliders, but also into their maintenance, service and repairs to ensure that you can fly safely at all times.

Repairs or inspections must only be carried out by UP International or a UP approved repair/checking facility.

Maintenance

All care and maintenance must be carried out in accordance with UP recommendations. To ensure that this happens we strongly advise you to only let UP recognised service centres touch your wing – this is also a prerequisite for the UP Warranty to be valid. So there's a lot speaking for letting UP, or a UP affiliate, look after your Ascent 2!

Checking the glider trim – UP Performance Check

In order to ensure that your UP wing is always in prime condition so that you can enjoy safe and rewarding flying for many years to come, we have decided to introduce the UP Performance Check. We recommed carrying out the Performance Check no later than after the first 100h/1 year (whichever occurs first).

The Performance Check is carried out by UP or a UP approved checking facility. The lines are all stretched, then measured and if need be adjusted back to the exact lengths they had when they left the factory. A newly checked glider will, all other things being equal, fly EXACTLY as it did when it was fresh off the shelf – and the check is entered into the service booklet so that both you and any future owners may know that the wing was cared for.
On the UP homepage you may find the little Home User Check manual ready for downloading. It contains further information about the trim of your wing, plus detailed instruction in carrying out a basic check by yourself.

Airworthiness Check

In Germany and Austria all paragliders must be checked according to the following time schedule:

- 2 years after purchase
- Every two years after that, or sooner if prescribed by the UP checking facility during the last check
- After 150 hours, or
- After 100 Flights

These limits have been set by the German Free Flight Federation (DHV) and make no less sense for wings flown outside of Germany/Austria. Contact your local dealer for information about the nearest UP approved checking facility.

We will happily service the glider more often, if you feel that it is necessary.

BEWARE! If any change in flying characteristics is noticed then the lines should be checked possibly exchanged. Immediately send your wing to UP International or to a UP certified checking facility if you feel that something is wrong!

UP Craftsmanship

In order to ensure that your UP Ascent 2 maintains its very high inherent performance and safety we highly recommend that you employ UP, or a UP affiliate, with any repairs or maintenance. Our service staff is trained and skilled, and knows the UP wings better than anyone.

Original spare parts

Your new UP paragliders is composed of many high-class components with a long lifespan. If you need to exchange any of these components, please make sure you use only original spares all around. Aside from ensuring the continued validity of the certification, this will also contribute positively to your personal safety in flight.

Airworthiness check

UP has been in the free flying business for longer than most. Our extensive experience is your guarantee that we can perform the best possible airworthiness checks on your equipment.

During the airworthiness check the canopy is checked inside and out for damage, along with the entire suspension system, the risers and all connections.

Our checking facilities are equipped with state-of-the-art measuring and suspension devices, like carefully calibrated porosity metres, computer based laser-assisted line length verification systems and breaking-load measuring equipment.

Aside from the qualitative measurements the actual look and feel of the glider, as seen by the experienced staff by UP, is a crucial factor when determining the state of a wing. If the person checking the wing is in any doubt about the airworthiness of a particular wing it is handed over to the UP test pilots for a test flight, which will determine the actual state of affairs even better than the best qualitative checking ever can.

All this serves to ensure that gliders checked by UP International still live up to the demands posed by ourselves to our new products, and by the testing authorities – a good incentive for our customers to make sure that their UP wings are always checked by UP, or by a UP approved checking facility!

UP Warranty

Conditions and extent of the UP International Warranty can be found in the following pages. For further information please ask UP International directly, or you local representative. The UP importer in your country is always delighted to clear any questions with you.

National warranty conditions

In some countries the local laws stipulate different warranty rules than those outlined here. Please note that these local rules only apply in the country where you have purchased your wing. Information about local rules and conditions are available from your local dealer.

International UP warranty

Warranty conditions:
The international UP warranty covers material- and workmanship faults and is valid for 24 months from the delivery date.

The UP warranty covers the cost of materials and workmanship on gliders accepted by UP to fall under the warranty. The UP warranty does not cover damage caused by accidents, or by changes made to the glider. Likewise, parts that are damaged due to normal wear and tear are exempt from warranty coverage. Fabric colour changes that do not influence the behaviour or safety of the wing are not covered by the warranty, and neither are faults caused by the exposure to solvents or salt water, or plain incorrect handling of the wing.

For any warranty claim to be accepted the following conditions must be adhered to:

- The paraglider was used under normal circumstances and was maintained according to the instructions given by UP International. Note that these include instruction for the correct packing, storing and cleaning
- The paraglider was only used in accordance with its certification
- A complete logbook showing all flights, with duration and location, must be presented upon request
- Only original UP spares have been used, and only UP, or a UP affiliate service centre, has performed repairs or service jobs on the paraglider
- A complete, correct registration card has been filled in and sent to UP within 14 days of the purchase. Note that you may also register your paraglider with UP via the UP homepage www.up-paragliders.com >service >UP Product registration

UP reserves the right to refuse any claims not honouring one or several of these conditions. However, in some cases an “ex gratia” settlement may be offered.

Checking the UP Ascent2

According to German and Austrian aeronautical legislation (§ 14 Abs. 5 LuftGerP) the owner of a glider can check the airworthiness by his own, or authorise a third person (for example manufacturer/importer) to do this.

To perform your own airworthiness check, UP International must give you a briefing. This briefing could be done after an agreement with UP International and is only valid for the UP Ascent 2. The owner gets the so-called "Nachprüfanweisung" after completing a successful checking at UP International.

Should the owner decide to check the wing by himself, or employ a 3rd party to do so they must make sure that UP's guidelines are adhered to. Failing to do so will void the certification.

DHV and UP International highly recommend that you let the manufacturer/importer or a DHV accepted service company do the check of airworthiness.

Packing and checking of the rescue system

Only by regularly having your rescue parachute repacked can you guarantee its flawless operation! As with the glider, the rescue parachute should be examined every 2 years by either the manufacturer or an Authorised Service Centre. We offer a certified service for re-packing, checking and installing the parachute into your harness. We will also carry out any repairs necessary, all fully guaranteed.

Sending the UP glider and other UP products

The best way to send your paraglider, rescue parachute, harness etc. to our service team is in a stable box via post or UPS. Enclose a note of what requires doing (2 Year Check, repair, repack etc.) and also your daytime contact details. We will return your equipment either by post or UPS. Please indicate preferred method of payment (either bank cheque or C o d)/

Should you require any further information about the services we offer, please contact us at the address and phone number below. We are also able to give you information about your nearest Authorised Service Centre, as well as other manufacturers who are authorised to check and repair UP gliders and equipment.

UP International GmbH
-Abteilung Service-
Kreuzeckbahnstraße 7
D-82467 Garmisch-Partenkirchen

Email: service@up-europe.com
Telefon: +49 (0) 88 21-7 30 99-19
Fax: +49 (0) 88 51-92 92 60-16

UP Homepage

The UP Homepage gives you information about the latest news and products from UP. You will find any technical information and accessories for your UP Ascent 2, as well as many useful things that are necessary for flying.

Beside paragliders, harnesses and flying equipment you will also find the new “Skywear” collection with the latest flying garments and the “News” section, which will keep you updated with all activities around UP.

www.up-paragliders.com

Some final words

With paragliding a fundamental new air sport has emerged; one that makes independent flight possible for almost everybody. The technical simplicity, the mobility of the wing and the ease of learning the basic flight techniques have all combined to make paragliding appear simple and straightforward.

As long as you fly with the necessary respect for the demands and dangers, then these ideals of paragliding will be fulfilled. You should decide for yourself whether conditions are suitable before you proceed with the flight. You should always be aware that any kind of air sport is potentially dangerous if you overstep the natural and physical laws, whether from ignorance or unreasonableness.

“Probably there are only a few sports where success requires, besides physical fitness, understanding the processes in nature to such a high degree - a fact which distinguishes paragliding as sport especially.”* The charm of flying lies in “understanding the processes in nature”, because you have to try again and again to fathom the logic and fly with regard to the decisions you make.

If you want to realise the dream of flying, the dream of free movement in the air, fly not to impress others - fly for the sheer joy of it.

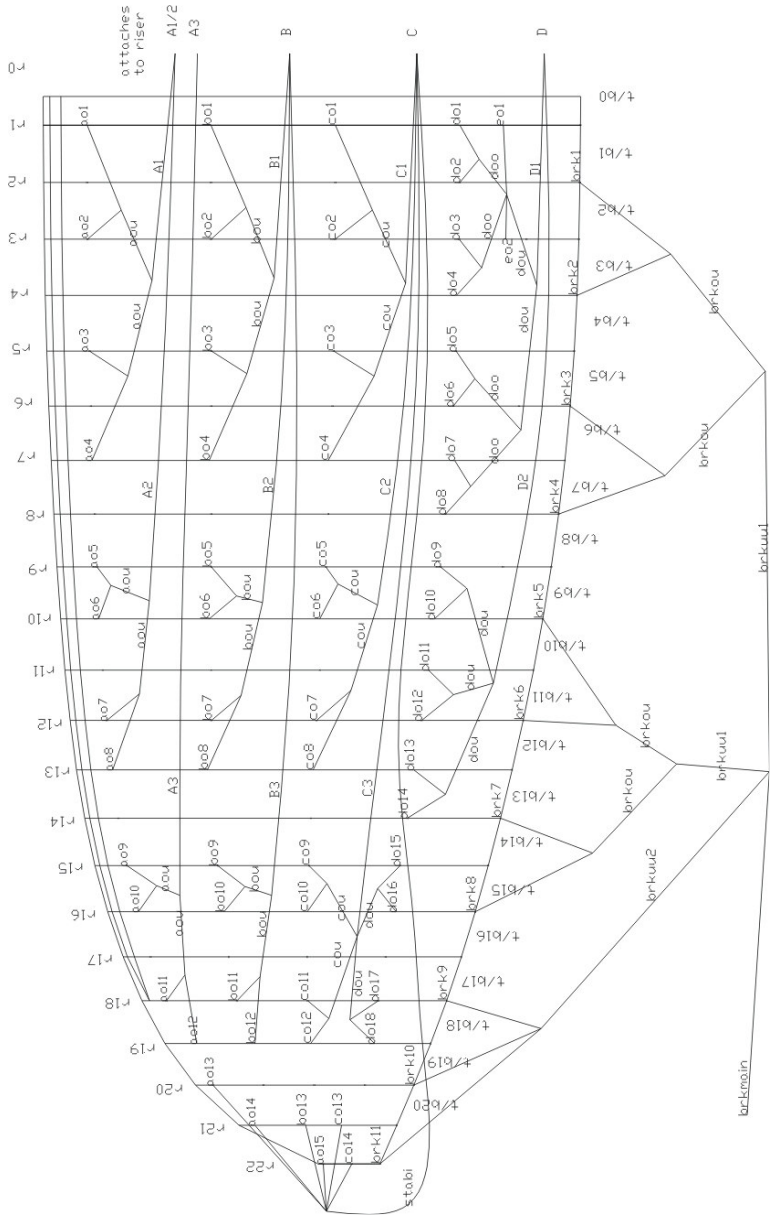
We at UP wish you delightful, beautiful and accident free flying with your UP Ascent 2.

SEE YOU UP IN THE SKY –
UP International

* from Helmut Reichmann from the book "Streckensegelflug"

Attachments

Line plan


attaches to riser
A1/2
A3
B
C
D
A1
B1
C1
D1
A2
B2
C2
D2
A3
B3
C3
stabi
brkmain
brkuw1
brkuw2

Deutscher Hängegleiterverband e.V. im DAeC
DHV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel
Beauftragter der österreichischen Luftfahrtbehörde

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **UP Ascent 2 XS**
2. Hersteller: **UP International GmbH**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **5,13**
2. Zulässiges Startmasse minimal (kg): **60** maximal (kg): **75**
3. Anzahl der Sitze: **1**
4. Klasse: **1 GH**
5. Gurtzeugbeschränkung: **ja GH / GX**
6. Fußbeschleuniger: **ja**
7. Trimmer: **nein**
8. Projizierte Fläche (m^2): **20,15**
9. Windenschlepp: **ja**
10. Tragegurtlängen (mm):

Tragegurt A:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **570-570**	normal: **570**	normal: **570**	normal: **570**
beschleunigt: **370-390**	beschleunigt: **420**	beschleunigt: **495**	beschleunigt: **545**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

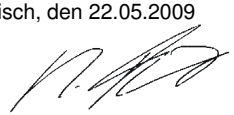
Rib#	A	B	C		Rib#	D	E		Bremse	Rib#
1	6415	6365	6420		1	6550	6620		7330	2
3	6325	6270	6335		2	6480			7105	4
5	6320	6270	6325		3	6430	6505		6975	6
7	6390	6345	6395		4	6445			6925	8
9	6335	6290	6340		5	6430			6825	10
11	6295	6255	6300		6	6430			6710	12
13	6280	6235	6275		7	6455			6640	14
15	6300	6255	6290		8	6525			6630	16
16	6190	6130	6140		9	6440			6490	18
18	6115	6070	6070		10	6405			6390	20
19	6010	5975	5970		11	6345			6325	22
20	5980	5945	5940		12	6345				
21	5830				13	6325				
22	5675	5650	5670		14	6340				
					15	6190				
					16	6110				
					18	5990				
					19	5955				

12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 01.01.2009

Ort, Datum, Stempel und Unterschrift des Herstellers:

Garmisch, den 22.05.2009



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Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Deutscher Hängegleiterverband e.V. im DAeC
DHV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel
Beauftragter der österreichischen Luftfahrtbehörde

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **UP Ascent 2 S**
2. Hersteller: **UP International GmbH**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **5,54**
2. Zulässiges Startmasse minimal (kg): **70** maximal (kg): **90**
3. Anzahl der Sitze: **1**
4. Klasse: **1 GH**
5. Gurtzeugbeschränkung: **ja GH / GX**
6. Fußbeschleuniger: **ja**
7. Trimmer: **nein**
8. Projizierte Fläche (m^2): **22,39**
9. Windenschlepp: **ja**
10. Tragegurtlängen (mm):

Tragegurt A:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **570-570**	normal: **570**	normal: **570**	normal: **570**
beschleunigt: **370-390**	beschleunigt: **420**	beschleunigt: **495**	beschleunigt: **545**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

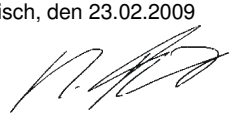
Rib#	A	B	C		Rib#	D	E		Bremse	Rib#
1	6795	6735	6800		1	6935	7010		7755	2
3	6695	6640	6705		2	6865			7515	4
5	6695	6640	6695		3	6810	6890		7375	6
7	6765	6715	6770		4	6825			7325	8
9	6705	6655	6710		5	6810			7220	10
11	6660	6615	6665		6	6810			7095	12
13	6645	6600	6640		7	6835			7025	14
15	6665	6615	6655		8	6915			7015	16
16	6550	6490	6500		9	6820			6865	18
18	6475	6420	6420		10	6780			6760	20
19	6360	6320	6315		11	6715			6690	22
20	6330	6290	6285		12	6715				
21	6175				13	6695				
22	6015	5985	6005		14	6710				
					15	6550				
					16	6465				
					18	6340				
					19	6300				

12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 01.01.2009

Ort, Datum, Stempel und Unterschrift des Herstellers:

Garmisch, den 23.02.2009



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Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Deutscher Hängegleiterverband e.V. im DAeC
HV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel
Beauftragter der österreichischen Luftfahrtbehörde

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **UP Ascent 2 M**
2. Hersteller: **UP International GmbH**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **5,9**
2. Zulässiges Startmasse minimal (kg): **85** maximal (kg): **105**
3. Anzahl der Sitze: **1**
4. Klasse: **1 GH**
5. Gurtzeugbeschränkung: **ja GH / GX**
6. Fußbeschleuniger: **ja**
7. Trimmer: **nein**
8. Projizierte Fläche (m^2): **24,75**
9. Windenschlepp: **ja**
10. Tragegurtlängen (mm):

Tragegurt A:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **570-570**	normal: **570**	normal: **570**	normal: **570**
beschleunigt: **370-390**	beschleunigt: **420**	beschleunigt: **495**	beschleunigt: **545**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

Rib#	A	B	C		Rib#	D	E		Bremse	Rib#
1	7110	7050	7115		1	7260	7335		8115	2
3	7010	6950	7020		2	7185			7865	4
5	7005	6950	7010		3	7130	7210		7720	6
7	7080	7030	7085		4	7145			7665	8
9	7020	6970	7025		5	7130			7555	10
11	6975	6930	6980		6	7130			7425	12
13	6960	6910	6955		7	7155			7350	14
15	6980	6930	6970		8	7235			7340	16
16	6860	6795	6805		9	7140			7180	18
18	6780	6725	6725		10	7100			7070	20
19	6660	6620	6615		11	7030			7000	22
20	6630	6590	6585		12	7035				
21	6465				13	7010				
22	6295	6265	6285		14	7025				
					15	6860				
					16	6770				
					18	6640				
					19	6600				

12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 01.01.2009

Ort, Datum, Stempel und Unterschrift des Herstellers:

Garmisch, den 15.01.2009

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Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Deutscher Hängegleiterverband e.V. im DAeC
HV/OeAeC-Technikreferat
LBA-anerkannte Prüfstelle für Hängegleiter und Gleitsegel
Beauftragter der österreichischen Luftfahrtbehörde

Herstellerangaben zum Luftsportgeräte-Kennblatt

Gleitsegel

I. Musterprüfung

1. Gerätemuster: **UP Ascent 2 L**
2. Hersteller: **UP International GmbH**

II. Merkmale und Betriebsgrenzen

1. Gerätemasse(kg): **6,19**
2. Zulässiges Startmasse minimal (kg): **100** maximal (kg): **125**
3. Anzahl der Sitze: **1**
4. Klasse: **1 GH**
5. Gurtzeugbeschränkung: **ja GH / GX**
6. Fußbeschleuniger: **ja**
7. Trimmer: **nein**
8. Projizierte Fläche (m^2): **26,65**
9. Windenschlepp: **ja**
10. Tragegurtlängen (mm):

Tragegurt A:	Tragegurt B:	Tragegurt C:	Tragegurt D:
normal: **570-570**	normal: **570**	normal: **570**	normal: **570**
beschleunigt: **370-390**	beschleunigt: **420**	beschleunigt: **495**	beschleunigt: **545**

11. Leinenlängen (mm), **von der Kappenmitte beginnend**:

Rib#	A	B	C		Rib#	D	E		Bremse	Rib#
1	7380	7320	7385		1	7535	7615		8115	2
3	7275	7215	7290		2	7460			7865	4
5	7270	7215	7275		3	7400	7485		7720	6
7	7350	7300	7355		4	7415			7665	8
9	7285	7235	7290		5	7400			7555	10
11	7240	7195	7245		6	7400			7425	12
13	7225	7170	7220		7	7430			7350	14
15	7245	7195	7235		8	7510			7340	16
16	7120	7055	7065		9	7410			7180	18
18	7035	6980	6980		10	7370			7070	20
19	6915	6870	6865		11	7295			7000	22
20	6880	6840	6835		12	7300				
21	6710				13	7275				
22	6535	6505	6525		14	7290				
					15	7120				
					16	7025				
					18	6890				
					19	6850				

12. Sonstige Besonderheiten:

III. Betriebsanweisung in der Fassung vom: 01.01.2009

Ort, Datum, Stempel und Unterschrift des Herstellers:

Garmisch, den 23.02.2009

UP International GmbH
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Fax: +49-8821-73099-16
www.up-paragliders.com
info@up-paragliders.com

Bearbeitungsvermerk DHV:
Kennblatt geprüft
am:

von:

Service booklet

Glider- and pilot data

Model: **Ascent 2**

Size: ❒ XS ❒ S ❒ M ❒ L

Serial number:

Colour: _____

Date of purchase:_____

First flight date:_____

Dealer stamp and signature

Pilot (1. owner)

Name:_____

Family name: _____

Street:_____

Town: _____

Postal code: _____

Country: _____

Telephone: _____

Fax: _____

Email: _____

Pilot (2. owner)

Name:_____

Family name: _____

Street:_____

Town: _____

Postal code: _____

Country: _____

Telephone: _____

Fax: _____

Email: _____

Pilot (3. owner)

Name:_____

Family name: _____

Street:_____

Town: _____

Postal code: _____

Country: _____

Telephone: _____

Fax: _____

Email: _____

Please verify that your UP Service Centre has correctly filled in the form!

1st Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

2nd Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

3rd Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

Please verify that your UP Service Centre has correctly filled in the form!

4th Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

5th Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

6th Service

Performed date: _____

Service jobs undertaken:

Assignment Nr.
Stamp

Product registration card

Model: **Ascent 2**

Size: ❒ XS ❒ S ❒ M ❒ L

Serial number: _____

Date of purchase: _____

First flight: _____

Preflown by: _____

Owner

Name: _____

Family name: _____

Address: _____

_____

_____

Telephone: _____

Fax: _____

Email: _____

Dealer stamp and signature

Cut out this card and mail it to UP within 14 days of purchase, or register your new UP Ascent 2 via www.up-paragliders.com>Service>UP>Product Registration

Ultralite Products
International GmbH
Kreuzeckbahnstrasse 7
82467 Garmisch-Partenkirchen
GERMANY

AIRBORNE SENSATIONS

since 1972

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