

ALLEGRO X-alps

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Congratulations!

Thank you for choosing a PHI ALLEGRO light!

The ALLEGRO light is an easy-to-control, dynamic and very light C-class wing.

The ALLEGRO light has the genes and thus the performance and speed of the ALLEGRO.

In addition, it has a reduced suspension: fewer lines: only 2 main lines per half span.

-and a reduced internal structure to minimize weight.

Especially in combination with the new R07 riser, this wing provides a completely new flying experience.

For questions or suggestions, please contact us at info@phi-air.com.

More information about this and our other products can be found at phi-air.com.

In order to be able to use all service and warranty services, you must register your paraglider on our homepage under SERVICE / REGISTRATION.

PHI

The PHI brand stands for experience, competence and passion. The PHI team consists of experts and enthusiasts with a lot of experience. First-class technical professionalism is the base to further push the limits.

The PHI ALLEGRO light

The ALLEGRO light is a C wing with a highly technical design. The dynamic performance achieved in this wing and the high level of passive safety sets new standards. The additional mini ribs in the leading edge double the number of cells in the-critical flow area. Together with the optimized zigzag 3D shaping, a new level of surface quality is achieved.

The ALLEGRO light is located in the lower C area with a designed flat aspect ratio of 6. This follows our strategy of realizing small and easily manageable steps between the individual classes.

The ALLEGRO light impresses with its very advanced lightweight construction.

Technical description

The ALLEGRO light has 72 cells over the entire span, of which 8 cells per side on the wingtip are designed as closed cells. Everything together forms a very dimensionally stable and homogeneous wing. The profiles used combine high performance with a very forgiving flight behavior.

4 line levels on the sail lead to 3 risers on each side. The suspension system is extremely reduced, which increases the ease of use and reduces the line resistance.

The foot operated accelerator system is attached to the foremost A-riser.

For better differentiation, all A-lines are red.

Safety

The ALLEGRO light is characterized by very high stability in turbulent air. If the wing collapses, the reaction is typical within the too high C-class: with not too high dynamics.

The maneuver ratings of C in the EN / LTF tests confirm the large safety margin of this glider.

Handling

The brake travel is short and direct. The brake pressure shows a good progression with excellent feedback. The ALLEGRO light can be turned sensitively and with relatively small control inputs in thermals.



Performance

Due to the additional miniribs in the profile nose, the leading edge remains largely stable even in accelerated flight. Thus, the ALLEGRO light offers a very flat polar curve with an outstanding performance for its class.

Target group

The ALLEGRO light is aimed at pilots who fly regularly and who can cope with the higher demands of a C-class device. Several years of flight experience are a prerequisite for being able to control a C-wing in any situation.

In addition, the ALLEGRO light is aimed at competition pilots who take part in hike and fly events or similar competition formats. Especially in a competition where time counts, you need a device that is easy to use in addition to flight performance.

Pilot requirements

A paraglider with C classification does not place very high demands on the pilot. Nevertheless, independent pilot action is indispensable.

In order to fly the ALLEGRO light safely, the pilot should have already gained experience and completed flights in various conditions.

Each pilot must be able to judge whether his skills and equipment are actually up to the expected flying conditions! Even with equipment with maximum passive safety, a wrong decision can have devastating consequences!

It is solely up to the pilot to avoid such misjudgments by continuing his education in theory and practice, and making his decisions wisely and according to his skills.

It is also up to the pilot to use suitable protective equipment and to ensure the constant function of his equipment.

Only those who are aware of these principles can practice paragliding safely and enjoyably.

Before the first flight

First flight

Each PHI paraglider must be flown in and inspected by a PHI dealer prior to being handed out to the customer. This first flight must be entered together with the date and pilot on the type table sheet of the paraglider (in the intake of the middle cell).

Registration

In order to be able to use all service and guarantee services, you must register your paraglider on the PHI homepage under SERVICE / REGISTRATION.

Scope of delivery

The PHI ALLEGRO light comes with an inner pack sack, packing tape and repair kit.

Modifications to the paraglider

The specifications on delivery match those the wing has been certified with. Any unauthorized modification (such as changing the length of the lines, changing the riser) will likely result in a loss of certification!

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

On the main brake line there is a mark where the brake handle is knotted. This setting can be slightly adapted to have sufficient braking distance available in extreme flight situations and when landing, and on the other hand not to constantly pull the brakes especially in accelerated flight!

It is recommended that you take advantage of expert assistance to avoid wrong settings or wrong knotting techniques. A wrong knot can slip surprisingly, also a too short brake line can significantly affect the flight behavior, resulting in the loss of certification.

Suitable harness

The choice of the harness significantly influences the flight behavior of the ALLEGRO light. There are harnesses that allow very effective weight shifting, but also pass on turbulences relatively undamped to the pilot. Less agile harnesses allow no extreme



weight shift, but the pilot is less shaken by turbulences.
A competent flight school can help with individual expert advice.

Legal weight range

The ALLEGRO light is only approved for operation within a certain weight range. It is the total weight, including pilot, paraglider and harness (and other equipment).

If the ALLEGRO light is flown in the lower half of the legal weight range, reduced agility can be expected. In strong turbulences a lower stability may be noticeable. The reaction on extreme maneuvers is very relaxed.

Flying the ALLEGRO light in the upper half of the weight range increases the dynamics and stability of the glider. The trim speed increases slightly. The dynamics on extreme maneuvers are slightly higher.

In flight with the ALLEGRO light

It is recommended to do the first flights with a new glider in calm conditions to get used to the flight behavior. Also, a few launches on the training hill or ground handling are recommended to get a feel for the wing and its reactions.

Start

The pilot must make sure that all equipment is in good condition before take-off. In particular, the wing, the harness and the rescue system. The type table must be checked. It is important to make sure that you are in the legal weight range.

Necessary start check:

1. **Strapped in** (leg straps and chest strap on the harness closed, chin strap on the helmet closed)
2. **Hooked in correctly** (risers not twisted, hooked in carabiner, accelerator connected correctly, carabiners locked)
3. **Lines** (A-line above, all lines sorted, brake line runs freely to the brake pulley)
4. **Canopy** (canopy is prepared in a bow with open leading edges)
5. **Wind and airspace** (wind direction from the front, airspace free)

The pilot performs the control look up and makes sure that the wing is completely open above him, with no knots in the lines. The final decision to start has to be made only in the case there are no faults.

Otherwise, the start should be stopped immediately for security reasons!

The ALLEGRO light is characterized by a very simple forward as well as reverse start behavior. The glider rises constantly without strong forward shooting. Overall, the starting behavior is very simple and forgiving and requires no further knowledge than the standard forward and reverse launch techniques taught in flight schools.

Generally it is advisable to practice regularly on the training hill or by ground handling in the wind.

Straight flight

The ALLEGRO light has the best glide performance at trim speed (with fully released brakes). In calm air, like this the glider is reaching the greatest distance at a given altitude.

In headwinds or sinking air masses you fly with the best glide when you push the accelerator. In turbulent air you should consider the more dynamic reactions on a collapse in accelerated flight and therefore choose a greater safety altitude to the ground.

Attention!

Never push the accelerator with too little safety altitude over the ground!

The safety height allows the glider to open by itself after a large collapse, or the pilot to actively recover the wing. There should also be enough reserve altitude to use the rescue system, in the case of unsolvable problems.

In strong turbulence, a light brake input on both sides is recommended to increase stability and to get the feedback on the brakes necessary for active flying.

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

With a perfected active flying style you can prevent most collapses. Part of the necessary reactions can also be learned and practiced during ground handling, for example by trying to stabilize the glider without looking at the wing above you.



Turning

A turn is an interaction of inner brake, outer brake and weight shifting. The art is the right dosage. The ALLEGRO light is characterized by a sensitive handling. Small brake inputs are enough to fly precise turns.

The ALLEGRO light loves a modern, dynamic thermal style. It is recommended not to pull too much outer brake and to keep speed turning. The ALLEGRO light "carves" very efficiently around the turn and climbs dynamically. Tight and controlled turns, or swing-free turns, require practice and should be the goal of every pilot.

Attention!

Should it happen that the wing is no longer controllable by the brake lines, e.g. the brake lines are tangled due to a poor starting check, the ALLEGRO light can be controlled to a limited extent via the C-risers. In combination with weight shift, relatively good directional corrections are possible. A safe landing is also possible with this technique. The C-risers should only be pulled down slightly to avoid a stall.

Attention!

If the brake lines are pulled too far or too fast, there is a risk of a stall/spin!

A one-sided stall (negative turn) clearly announces itself: the wing starts to lose inner pressure and shape during the curve. In this phase, the inside brake is to be released immediately!

Landing

The ALLEGRO light is easy to land. In the final approach against the wind you can flare the wing from a slightly braked position. At about 1m above ground level, the angle of attack should be increased by more and more braking. When the minimum speed is reached, the brakes are pulled to the maximum, the wing then allows a soft touch down.

In strong headwinds you can brake less for the flare. Only when the pilot is safely on the ground, he stalls the wing with caution (possibly with the rear risers).

Attention!

Landings with steep turns in the final approach are absolutely to be avoided (due to pendulum dangers)!

A complete stall can result in a very hard impact of the pilot even from just two meters altitude. Therefore, the brakes should be fully pulled only just before touchdown.

Rapid descents

Attention!

All rapid descent maneuvers should be practiced in calm air and with sufficient safety height to safely use them in emergency situations with turbulent air.

For all extreme flying maneuvers and rapid descents:

- first practice under the guidance of a teacher as part of a safety training.
- before initiating maneuvers, the pilot should check that the airspace below/around him/her is clear.
- during the maneuver, the pilot must constantly monitor the altitude above ground.

Big ears / Bunny Ears

Applying big ears is extremely effective and easy to perform with the ALLEGRO light. To initiate, pull the outer A-risers (red/orange) above the top of the shackle, pull both sides symmetrically down. The brake handles remain in the hands (without additional wraps). As long as the risers are held down, the wingtips remain folded and the sink value increases.

If the wingtips do not fold completely at the beginning, it is advisable to repeat the initiation, pulling the A-straps faster and / or grasping the outer A-riser higher up the outside A line. The more impulsive pull and the larger pull path on the outer A-riser facilitates the folding in of the wingtips.

It is recommended to accelerate the wing additionally (after pulling the ears) to increase the sink rate and the forward speed. It also compensates for the increase in angle of attack caused by the added resistance of the applied ears.

To release the maneuver, it is sufficient to release the outer A risers back up again, whereupon the ALLEGRO light independently recovers the wingtips

If the ears do not fill completely by themselves, the filling can be achieved by a short brake input. It is important to ensure that it is only a short and limited brake input, or that the brakes are released immediately.



Bunny ears which are normally initiated by pulling the outer C line are not recommended on the ALLEGRO light, due to the optimized line layout this maneuver is not suitable on this wing.

B-Stall

The B-stall is initiated by symmetrical pulling down (about 20cm) of the B-risers. The resisting forces on the B riser are relatively high, but decrease with an increasing amount of pulling. For maximum effect, it is recommended to grab the risers at the top of the B shackles.

The wing immediately loses its forward speed when the B risers are pulled down and enters a stable stall configuration. The pilot shifts slightly in front of the wing. The further the B-risers are pulled down, the larger the sink rates (up to 9m/s).

If you pull too far, the glider starts to rotate slowly around its vertical axis. In this case, the hands should be raised again until the rotation stops. (A rotation can also be caused by asymmetric pull).

The B-stall is recovered again by quickly moving the hands upwards or releasing the risers completely.

The brakes are held throughout the maneuver (without additional wrapping around the hands). During the recovery, make sure that the brake is fully released.

Deep spiral

The deep spiral is the most demanding fast descent technique and should only be learned at high altitudes, ideally as part of a safety training course.

The initiation can be divided into two phases:

First, you fly a turn by applying one brake and by shifting your weight to the same side, the glider will bank and increase its turning speed. Then the g-forces increase rapidly and the leading edge will lean towards the ground. In a fully developed deep spiral, the leading edge is almost parallel to the ground. The maximum sink rate with the ALLEGRO light can get up to 25m/s and more.

The first attempts to fly a deep spiral should be stopped clearly before reaching a fully developed deep spiral to get used to the fast rotation and to practice the exit without pendulum swinging. The exit should be performed by simply releasing the inner brake with a neutral weight-shift. The ALLEGRO light will then decrease its bank angle and go back to normal flight. To avoid a pendulum movement, the inner brake has to be pulled at the moment the wing wants to reduce its bank rapidly.

The actual spiral movement begins with the leading edge nearly parallel to the horizon. At this moment the harness banks and the pilot is pushed to the outside of the rotation movement. The pilot should allow this movement to avoid a stable spiral situation. (see below). Now the sink values can be varied by inner and outer brake.

If the pilot weight shifts to the outer side, the spiral movement will get slower as soon as the pilot releases the inner brake. The rest of the exit works as explained above.

If the pilot shifts his weight significantly inwards, the ALLEGRO light can continue to spiral when releasing both brakes. In this case apply both sides braking or brake of the outside of the wing and of course shift the weight to the outside.

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

So it is important that you slowly approach this maneuver in order to master the maneuver actively and confidently, and to know the reaction of your body in this demanding situation of high g-forces.

Attention!

Actively exiting a stable deep spiral places an unusually large amount of force on the body due to the high g-load!

Attention!

Due to the high performance and dynamics of the wing you have to expect that the glider rises up some altitude after the release of the deep spiral and hits his own vortex turbulence!

Collapse

Asymmetric collapse

When entering strong turbulence, one side of the paraglider may collapse. Specifically, this happens when on this side of the wing is losing lift by decreased or negative angle of attack. As a result the lines are getting unloaded and the wing collapses.



When such a collapse only affects a small part of the span the ALLEGRO light will show no significant reaction. For larger collapses with more than 50% of the span affected, the glider shows a more dynamic reaction:

Due to the increased drag of the folded wing, the ALLEGRO light will start to turn to the side of the collapse. At the same time, the glider pitches forward as a result of the smaller loaded wing surface and therefore higher wing load and required airspeed.

The pilot can prevent the glider from pitching and turning, by applying brake on the non collapsed side of the wing.

If a collapse occurs close to the ground it is essential to react properly. The proper reaction should be taught at high altitude, ideally under professional guidance (safety training).

If the brake input on the open side is clearly too strong, it can lead to an asymmetric stall (see spin).

Frontal collapse

The front collapse, often misunderstood as a "front stall", is also a consequence of turbulence. In contrast to the asymmetric side collapse, the entire leading edge folds down.

The ALLEGRO light opens after the frontal collapse, as well as the side collapse independently.

To speed up the reopening, we recommend slight double-sided braking.

Stall manoeuvres

Spin

A wing rotates negatively when the airflow detaches on one half of the wing. The canopy turns around the vertical axis with the center of rotation within the span. The inner wing flies backwards.

There are two causes for spinning:

- a brake line is pulled too far and too fast (for example, when starting a spiral dive)
- one side is slowed down too much in slow flight (for example during thermal flying)

If an accidentally initiated negative spin is immediately corrected, the ALLEGRO light goes back to normal flight without any major loss of altitude. The brake that has been pulled too far should be released until the airflow on the inner wing attaches again.

Attention!

After a longer negative spin, the paraglider may shoot on one side. This can result in an impulsive collapse or a cravate.

Fullstall

The Fullstall is a complex maneuver whose correct technique can not be fully explained in this manual. Those who want to learn this maneuver should do so under the supervision of a pilot who masters this maneuver perfectly - the best way is to learn during safety training.

The available brake travel down to the stall point depends on the wing size or loading! In turbulent air, the stall can occur much earlier or significantly later. Those who want to use the full brake travel, must train many full stalls and get a feeling for the partially or fully developed stall.

Parachutal stall

The parachutal stall is a flight condition without forward speed and with a significantly higher sink rate. The parachutal stall can be initiated by the pilot by strong symmetrical braking and is effectively the precursor to a full stall.

The ALLEGRO light automatically exits the parachutal stall by fully releasing the brakes.

A very heavily used wing with a porous cloth and / or with an incorrect correct trim setting (for example, as a result of many winch starts or deep spirals) can stay in a stable parachutal stall. This can happen, e.g. when the B-stall is released slowly, or after a large frontal collapse.

In addition, the tendency to a parachutal stall is higher with a wet glider or by flying in the rain or in very cold air.

In the case of a stable parachutal stall you should push the A-risers forward or pull them down, or - even better - push the accelerator. After a slight pendulum movement, the glider returns to normal flight.

In the case of a parachutal stall close to the ground the pilot has to decide whether the altitude is high enough for a pendulum movement or it is better to prepare himself for a hard landing.



Attention!

When the wing is in a parachutal stall, additional brake input may result in a fullstall!

Cravates

After a big collapse or after a badly executed full stall, a part of the wing might be tangled up in the lines, and won't reopen automatically. This is what you call a cravate. During our extensive test flights with the ALLEGRO light we never experienced a cravate but this situation can not be eliminated with any paraglider.

In case of a cravate we recommend the following actions:

1. **Counter steer:** Probably the wing wants to turn to the side of the cravate. In some cases, the turning happens quickly and will end in a stable deep spiral without the pilot's action. So it is important to react quickly by counter steering.
2. **Opening the cravate by applying the brake on that side with an impulse movement:** Some cravats can be opened with this method. It is important to keep the wing in straight flight by pulling the other brake all the time.
3. **Pulling the stabilo line:** Some cravats can be opened by strongly pulling the stabilo line. (It is the orange line on the B-riser. Have a look at it or grab it every once in a while and you will be able to react quicker in a moment of danger.)
4. **Induce a collapse on the side with the cravate.** Sometimes this helps to get rid of the cravate.
5. **Full stall:** Many cravats can be opened by using the Full Stall. But of course you have to have solid experience with this maneuver to be able to use it properly.
6. **Reserve:** If you lose control or if you are not absolutely sure that you have enough height for further attempts to recover, immediately use your reserve!

Many pilots wait way too long before using their reserve. Some don't use the reserve at all if they lose control of their glider. We strongly recommend to at least mentally practice the use of the reserve from time to time: Grab the handle of the reserve in flight, like you would do it in case of an emergency. Many clubs or schools offer to throw the rescue, for example in a gym. The most realistic way of training is to use the reserve in real flight. Many SIV Clinics offer that as part of their training.

Please use these possibilities: There are already too many pilots, who almost forgot that they have a reserve they could use, which is a very bad precondition to use it without hesitating in a dangerous moment.

Winch launch

The ALLEGRO light is very easy to launch on the winch. You should start to climb at a flat angle.

We recommend the use of a towing adapter. This is connected on top of the main carabiner and connects it with the tow release.

Speed system

Mounting of the speed system

Most harnesses have two pulleys on each side, some (light) harnesses instead have two simple rings. The two accelerator cables supplied with the harness are guided from top to bottom through the two pulleys / rings and fixed on the speed bar.

Important is the correct adjustment of the length. If you set it too short, the glider might fly accelerated all the time, which definitely has to be avoided. If you set it too long, you might not be able to use the full accelerator travel.

We recommend that you set the accelerator slightly too long during the first assembly to estimate the free travel in flight. You can then shorten the accelerator if necessary by this free travel.

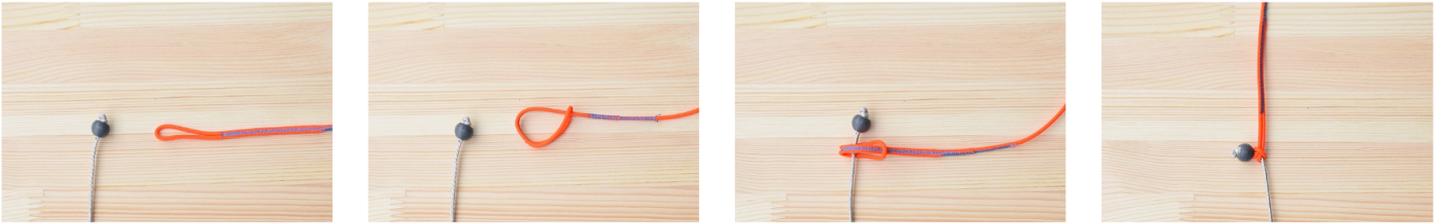
Using the accelerator in flight

Before take off, when hooking the risers into the main carabiners, be sure to connect the speed system rope with the speed system on the risers: connect the "brummel hooks" or the ball / loop system.

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

Connection with ball and loop:





In flight, the ALLEGRO light can now be accelerated by pushing the speed bar, which results in a reduction of the angle of attack and as a consequence an increase in airspeed. The speed increase compared to trim speed is about 15 - 17km/h.

The use of the accelerator is useful to penetrate against the wind or to make more distance during XC flights.

Attention:

Braking during the accelerated flight not only costs a lot of gliding performance, but as well increases instability and may lead to collapses! Always release the speed bar first, then pull the brakes!

To turn, simply shift weight, or push the speed bar asymmetrically. (If you push the right side further, the wing will perform a left turn.)

Geometry data of the accelerator

If the entire available accelerator travel is used, the A-risers shorten by 18cm or 20cm compared to the C-risers, depending on size: see technical data.

Flying with the R07 riser: usage of the C handle:

The ALLEGRO light can optionally be equipped with the new R07 riser. This offers an ergonomically optimized position of the C handle.

In this arrangement, the change in the angle of attack can be operated very effortlessly in every flight position.
-not only in straight flight!

The riser is very spartan and clearly designed.

By using the highest quality ball bearing rollers, it runs very easily.

The development goal was very pleasant operation and good length constancy.

The central Edelrid 8001U-800 line can be easily replaced by a competent person.





Attention:

If the C handle is pulled down too far, you will stall the wing!

The C-Handle is not a substitute for the brake line!

This technique is primarily intended to adapt the accelerator travel or to correct the direction when the accelerator is pushed.

Service and maintenance

General advice

With proper and careful handling of the paraglider, it will remain in perfect technical condition for many years even when used intensively. Please note the following:

Don't expose your glider to unnecessary UV radiation – for example by leaving it on the landing site unpacked.

When folding, you should not bend the polyamide rods at the leading edge more as necessary.

If you pack the glider when it is wet or damp, it has to be dried later. Don't leave it packed in a wet condition!

When you practice ground handling, avoid crashing the glider hard on the ground with the leading edge, as this might lead to damage.

Avoid unnecessary dirt or sharp stones touching the lines and the cloth. Don't step on the lines if they are laying on a stony surface!

Humidity combined with dirt can lead to shrinking of the lines and then to the wrong trimming on your glider. Salt water (sweat) may damage the lines in the long run.

Storage

Ideal storage is light-protected, in a dry place. Permanent storage at very high temperatures (for example in the car during midsummer) should be avoided.

For longer storage, the paraglider should not be compressed.



Transport

For transport, the paraglider can be compressed very tightly. The nylon monofilaments used for nose stiffening are very insensitive to permanent deformation.

If a very small pack volume is required, a compression bag can also be used. To minimize the weight, make sure that the paraglider is packed dry. The nylon cloth absorbs water at high humidity and gets heavier.

If vibrations occur during transport (eg: motorcycle), make sure that the fittings (shackles) do not touch the sail cloth (use the riser bags).

Cleaning

To clean the wing, only use water and a cleaning cloth. Never use any solvents!

If there is sand, dirt or small stones inside the canopy, you should remove them because they will damage the coating of the cloth and the seams in the long run.

Repair

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

Exceptions are the replacement of lines as well as the repair of small tears (up to 5 cm, which do not affect seams) or holes in the cloth, which can be repaired with the original PHI repair set. A small set of sticking cloth is supplied with the wing.

Check

The general check interval is two years, unless the checker sets the check interval to a shorter time because of a heavily used wing.

Commercially used equipment (school gliders, tandems) must always be checked every year. This is also recommended for gliders under heavy load, e.g. with more than 150 flight hours in two years, or with regularly flown acro maneuvers. We also recommend an annual check if there is a lot of flying in terrain that puts strain on the materials: in rocky areas, in salty air, or especially after salt water contact.

In these cases the pilot should regularly check his glider for damage.

Each check must be confirmed by the check-stamp. In case of non-compliance, the quality seal expires. For further information on the maintenance check, see the check-in instructions on the PHI homepage (<http://www.phi-air.com>): Downloads: Check.

This is constantly updated according to the state of the art, experience and knowledge.

Registration, warranty

In order to be able to use all service and warranty, you must register your paraglider on our homepage under [SERVICE / REGISTRATION](#).

Further details see [PHI Homepage](#).

Environment friendly behavior

Finally, we would like to call on you to operate our sport as nature and landscape friendly as possible. In addition to self-evident things, such as not leaving garbage, you should also avoid scaring animals by flying too near. Especially in the cold season, this stress can be life-threatening for animals.

Disposal

The plastic materials used in a paraglider require proper disposal. Please return your used wing to PHI: it will be disassembled and disposed of by us.



PHI

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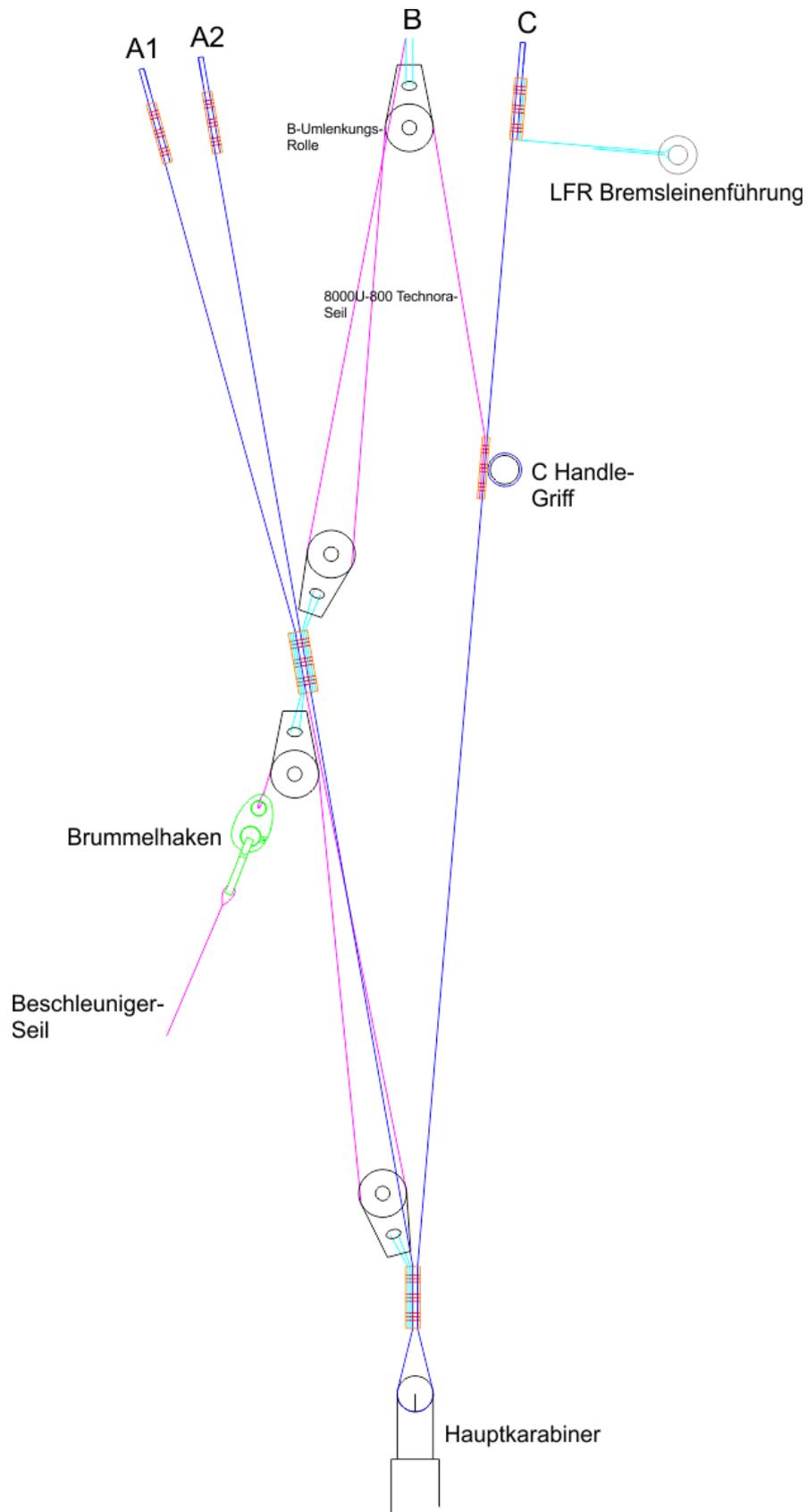


Technical Data

ALLEGRO light							
name		XS	S	M	ML	L	XL
size		17	19	20	21	22	24
number of cells		72	72	72	72	72	72
projected span	m	8,81	9,14	9,49	9,73	9,96	10,4
projected area	m ²	17,49	18,91	20,4	21,4	22,44	24,48
projected aspect ratio		4,43	4,42	4,42	4,42	4,42	4,42
flat span	m	11,09	11,55	12	12,29	12,58	13,14
flat area	m ²	20,4	22,11	23,85	25,02	26,23	28,62
flat aspect ratio		6,03	6,03	6,03	6,03	6,03	6,03
line length	m	6,78	6,96	7,23	7,4	7,58	7,92
total line length	m	235	238,5	252,5	258,7	264,8	276,7
maximum chord	m	2,29	2,39	2,48	2,54	2,6	2,72
minimum chord	m	0,51	0,53	0,55	0,56	0,58	0,6
weight	kg	3	3,35	3,57	3,7	3,85	4,15
certified weight range	kg	50-75	65-85	75-95	83-103	90-110	105-130
certification (EN/LTF)		C	C	C	C	C	C
material		Porcher Skytex 27 double coated					
risers		R07 (3+1)					
riser length	mm	570	570	600	600	600	600
speedway	mm	150	150	180	180	180	180



Overview risers

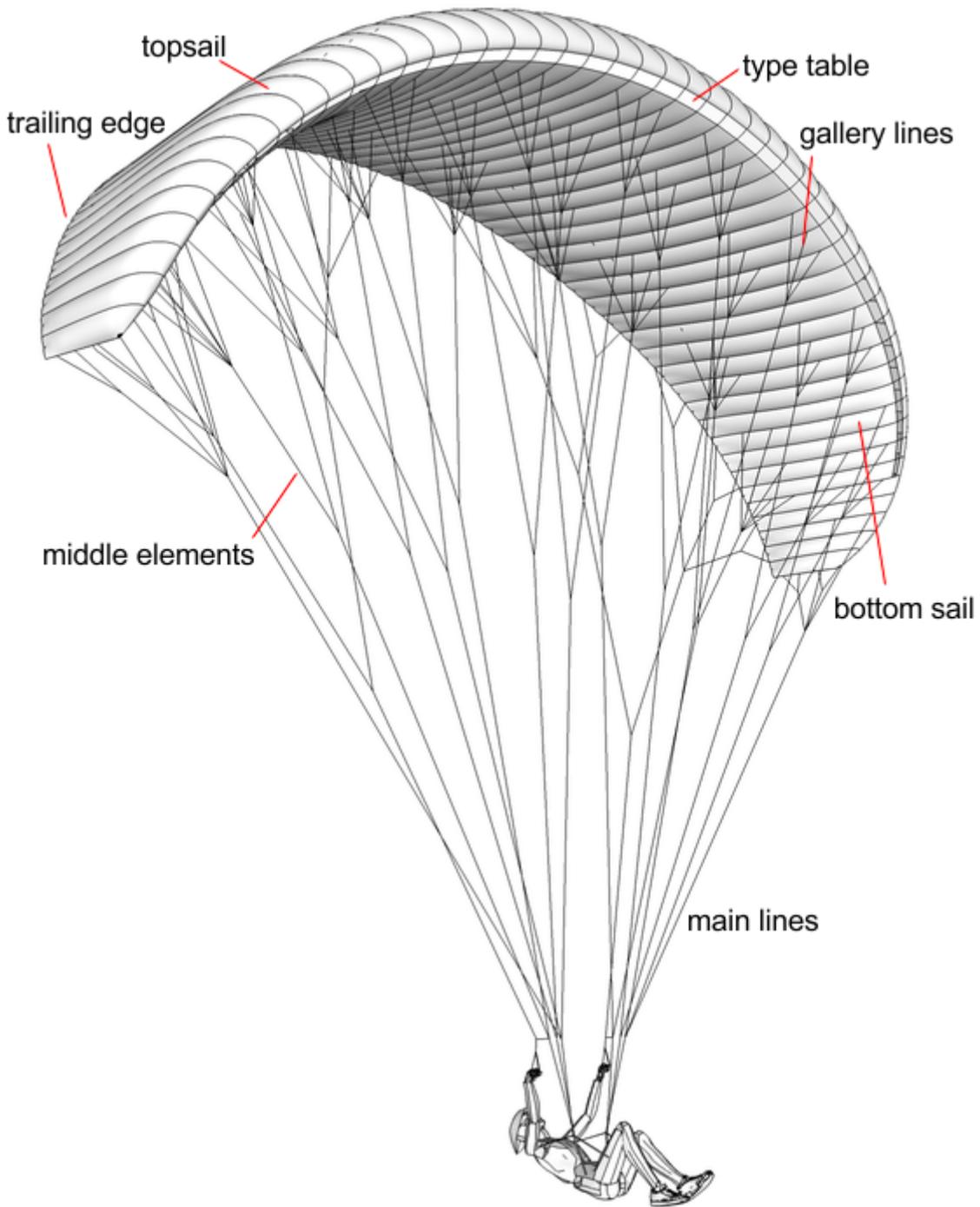




Riser R07



Overview wing



Lineplan

ALLEGRO X-als

