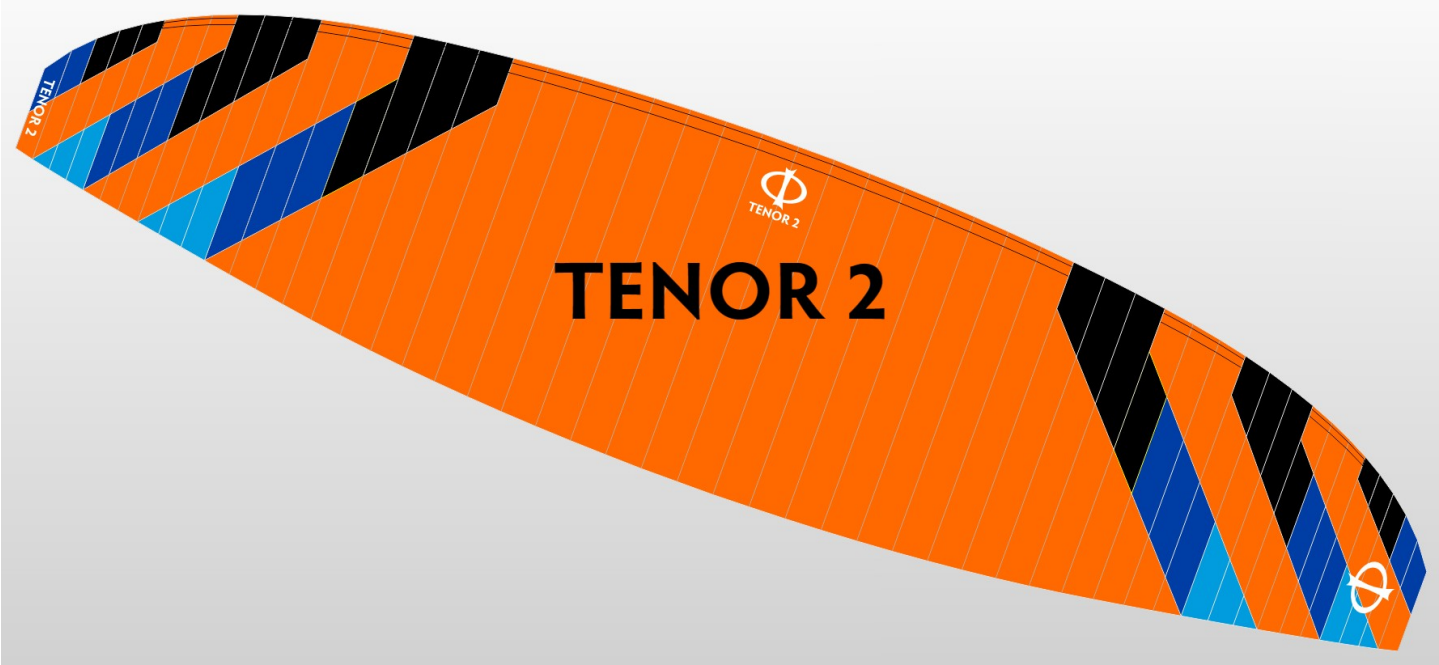
TENOR 2

Manual Version 1.01 of 14.07.2024



Congratulations!

Thanks you for choosing a PHI TENOR 2!

The TENOR 2 combines a high level of passive safety with the ability to use a very wide range of speeds. This predestines this wing for relaxed cross-country flights. The TENOR 2 is a fast, dynamic high performer for a very large target group.

This manual contains important information for handling your paraglider. We therefore recommend that you read the following pages carefully before your first flight. For questions or suggestions, please contact us at info@phi-air.com
More information about this and our other products can be found at www.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 TENOR

The TENOR 2 is a Mid-B wing with a very high technical effort. The resulting dynamic performance and the high degree of passive safety set standards. The additional miniribs in the leading edge double the number of cells in the flow-critical area. Together with the optimized zig-zag 3D shaping, a new level of surface quality is realized.

Technical description

The TENOR 2 has 50 cells across the entire span, of which five cells each on the Stabilo are designed as closed cells. This build up forms a very form stable and homogeneous wing. The profiles used combine high performance with a very forgiving flight behavior.

4 levels of lines on the sail lead to 4 risers on each side. The outermost A lines hang on a separate riser for easy big ears.

Overview of the available risers: https://phi-air.com/de/project/risers/

The suspension system is extremely reduced, which increases clarity and reduces line drag.

On the front A riser, the speed system is attached.

For better distinction, all A-lines on the maillon rapide (or softlinks) are covered and red.

Then depending on the risers, generally:

The B-lines are green.

The stabiloleine on the B-riser red (orange).

The C-lines blue.

The brake lines yellow.

Safety

The TENOR 2 is characterized by extremely long brake travels til stall and a very large damping around all axes. The stability in turbulent air is very high. If the wing collapses, the reaction is typical B-class: with no dynamics.

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

Handling

Although the maximum braking travel is very long, the control inputs are short and direct, the brake pressure is low with good progression and excellent feedback. The TENOR 2 can be moved very sensitively and with comparatively small control inputs in thermals.

Performance

Due to the additional miniribs in the profile nose, the leading edge remains largely stable even in fast flight. Thus, the TENOR 2 offers a very flat polar with an outstanding performance for its class.

Target group

The TENOR 2 is aimed at a very broad group of pilots who want to leave the mountain and go for a cross country flight. The wide speed window makes it possible for the pilot to make good progress against the wind to fly closed tasks.

The high level of performance in an accelerated state in moving air predestines the TENOR 2 for ambitious pilots who do not want to do without maximum safety.

Pilot requirements

A paraglider with B classification does not place high demands on the pilot. Nevertheless, self-evident action is indispensable.

In order to fly the TENOR 2 safely, the pilot should have already gained some experience and completed flights in various conditions.

Each pilot must be able to judge whether his skills and equipment are actually up to the to expect 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 handout 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 MAESTRO 2 light usually comes in a concertina bag with a quick repair kit.

Modifications to the paraglider

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

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

On the main brake line 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 the wrong setting or wrong knot technique. A wrong knot can slip surprisingly (the wing is only very limited steerable), as well as 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 TENOR. 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.

The harness used for the approval tests must correspond to a defined geometry in accordance with EN926-2:

Distance between the main suspension points = width of the attachment points see type plate on the stabilizer or technical data table in the appendix.

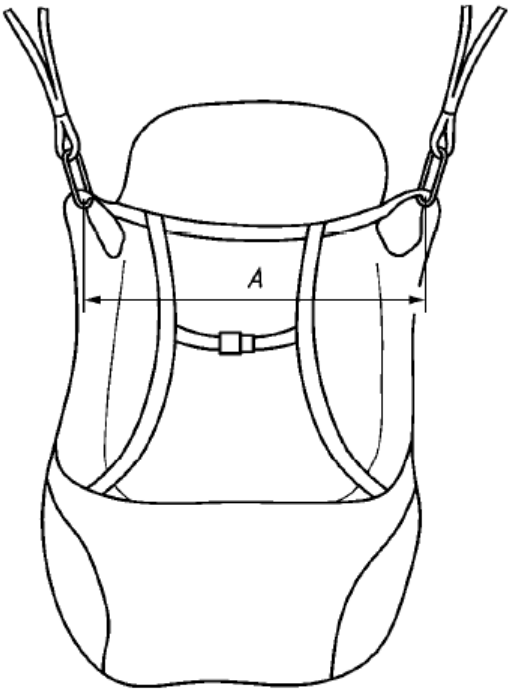


Figure 5 — Width of harness attachment points

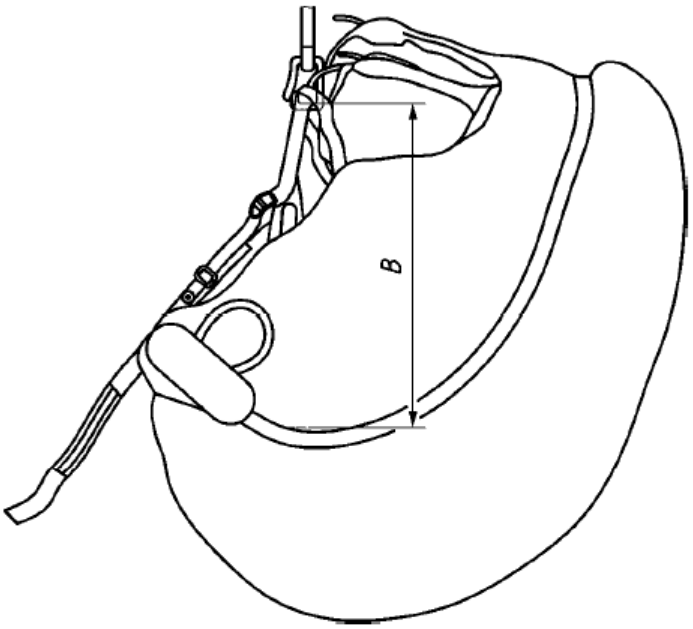


Figure 6 — Height of harness attachment points

Table 48 — Total weight in flight

TWF (total weight in flight)	< 80 kg	80 kg-100 kg	> 100 kg
Width (Measurement A on Figure 5)	(40 ± 2) cm	(44 ± 2) cm	(48 ± 2) cm
Height (Measurement B on Figure 6)	(40 ± 1) cm	(42 ± 1) cm	(44 ± 1) cm

Legal weight range

The TENOR 2 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 TENOR 2 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 TENOR 2 in the upper half of the weight range increases the dynamics and stability of the glider. The trim speed increases increases slightly. The dynamic on extreme maneuvers is slightly higher.

Extended weight range

As the TENOR 2 has a very large safety margin, we have decided to offer an extended weight range. This makes it possible to fly the TENOR 2 with more wing loading and still remain within the certification range. A pilot can use this option on days with strong thermals with additional ballast, in strong winds when gliding or if he generally likes to fly a highly loaded wing to have more speed, more dynamic energy and more fun.

For normal thermal flying, it is recommended to stay within the standard weight range.

In flight with the TENOR

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 on** (leg straps and chest strap on the harness closed, chin strap on the helmet closed)
2. **Hanged 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 TENOR 2 is characterized by a very simple forward as well as reverse start behaviour. 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 the flight school.

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

Straight on flight

The TENOR 2 has the best glide performance at trim speed (with fully released brakes). In calm air, the glider is reaching the greatest distance at a given altitude.

In headwinds or sinking air masses you fly with maximum 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 to 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 of 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 that 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.

Flying turns

A curve is an interaction of inner brake, outer brake and weight shifting. The art is the right dosage. The TENOR 2 is characterized by a sensitive handling. Small brake inputs are enough to fly precise turns.

The TENOR 2 loves the modern, dynamic thermal flight. It is recommended not to pull the curve outer brake and to keep speed and dynamic while turning. The TENOR 2 "carves" very efficiently around the curve and climbs dynamically. Tight and controlled turns, or swing-free curve changes, 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 involved due to a faulty start check, so the TENOR 2 can be controlled to a limited extent via the C-risers. In combinations 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!

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 TENOR 2 is easy to land. In the final approach against the wind you let flare the wing slightly braked. In 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 max, the wing shows a soft touch down. In strong headwinds you brake very little. 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 (pendulum danger)!

A complete stall can result in a very rude impact of the pilot even at 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 in sufficient safety heights 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 ascertains that the airspace below him is clear.

- during the maneuver, the pilot must constantly control the altitude above ground.

Big ears

Applying big ears is extremely effective and easy to perform with the TENOR. To initiate the outer A-risers (red, orange) are grabbed at the top of the screw shackle, and pulled symmetrically down. The brake handles remain in the hand (without additional wrapping). As long as the risers are held down, the wingtips remain folded and the sink value increases.

The superlight riser does not have a separate A2 riser line. The outer A line should be gripped as high as possible and pulled down. Before pulling, it is advisable to briefly check that you have the correct lines in your hands.

If 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 above the shackle. 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 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 (or the outer A line) back up again, whereupon the TENOR 2 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.

Attention!

The big ears maneuver increases the drag on the canopy. This increases the angle of attack! In order to compensate for the increase in the angle of attack and to avoid a stall, it is strongly recommended to use the accelerator. When braking (pumping) to open the ears again (after releasing the speed bar), care must be taken not to stall the wing.

B-Stall

The B-stall is initiated by symmetrical pulling down (about 20cm) of the B-risers. The introduction forces are relatively high, but decrease with increasing amount of pulling. For maximum effect, it is recommended to grab the risers at the top of the screw shackle / softlink.

The wing immediately loses its forward speed when the B risers are pulled down and enters a stable stall. 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 move the hands upwards. The brake is held throughout the maneuver (without additional wrapping around the hand). During the rcovery, make sure that the brake is fully released.

Deep spiral

The deep spiral is the most demanding fast descent 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 up 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 TENOR 2 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 quick 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 TENOR 2 will then decrease its bank angle and go back to normal flight. To avoid a pendulum movement, the inner brake has to be pulled in 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 the 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 TENOR 2 can continue to spiral when releasing both brakes. In this case apply both sides braking or braking of the outside of the curve and of course shift of 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 diversion actively and confidently, and to know the reaction of the body in this demanding situation of high g-forces.

Attention!
Active exiting a stable deep spiral requires an unusually large amount of body force 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 is collapsing.

Such a collapse can only affect a small part of the span and the TENOR 2 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 TENOR 2 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 needed airspeed.

The pilot can prevent the glider from pitching and turning, by applying the 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 TENOR 2 opens the frontal collapse, as well as the side collapse independently.

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

Stall manoeuvres

Spin

A wing rotates negatively when the airflow detaches on one wing half. 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 introducing the spiral dive)

- one side is slowed down too much in slow flight (for example during thermal flying)

If an accidentally initiated negative curve is discharged immediately, the TENOR 2 goes into normal flight without any major loss of altitude. The brake that has been pulled too far is withdrawn until the airflow on the inner wing attaches again.

Attention!
After a longer negative curve, 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 during a safety training.

The available brake travel down to the stall point depends on the wing size! In turbulent air, the stall can occur much earlier or significantly later. Who wants 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 significant 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 TENOR 2 automatically exits the parachutal stall by fully releasing the brakes.

A very heavily used wing with a porous cloth and / or with a not anymore correct trim (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 closed 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 TENOR 2 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 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 as well 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 manoeuvre 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 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 TENOR 2 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 thee risers into the main carabiners, be sure to connect the speed system rope with the speed system on the risers: connect the "brummel hooks".

In flight, the TENOR 2 can now be accelerated by pushing the speed pedal, which results in reduction of the angle of attack and as a consequence an increase of the airspeed. The speed increase compared to trim speed is about 13 - 15km/h.

The use of the accelerator is useful to penetrate against the wind or to make more distance in a certain time 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 step from 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.)

Geometric data of the accelerator

If the entire available accelerator travel is used, the A-risers shorten by 15cm or 17cm compared to the C-risers, depending on size: see technical data.

Service and maintenance

General advice

With proper and careful handling of the paraglider, this 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 just 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 thereby to the wrong trim on your glider. Salt water (sweat) may damage the lines in the long run.

Storage

Ideal is a light-protected, dry storage of the paraglider. Permanent storage at very high temperature (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 (line locks) 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 cracks (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 a plenty of strain on the material: in rocky areas, in salty air, or especially in salt water contact.
In these cases it is even more than usual for the pilot to 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 behaviour

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 to leave garbage, you should also avoid to scare animals by flying nearby. 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 by us.

PHI

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AT-6067 ABSAM

Austria

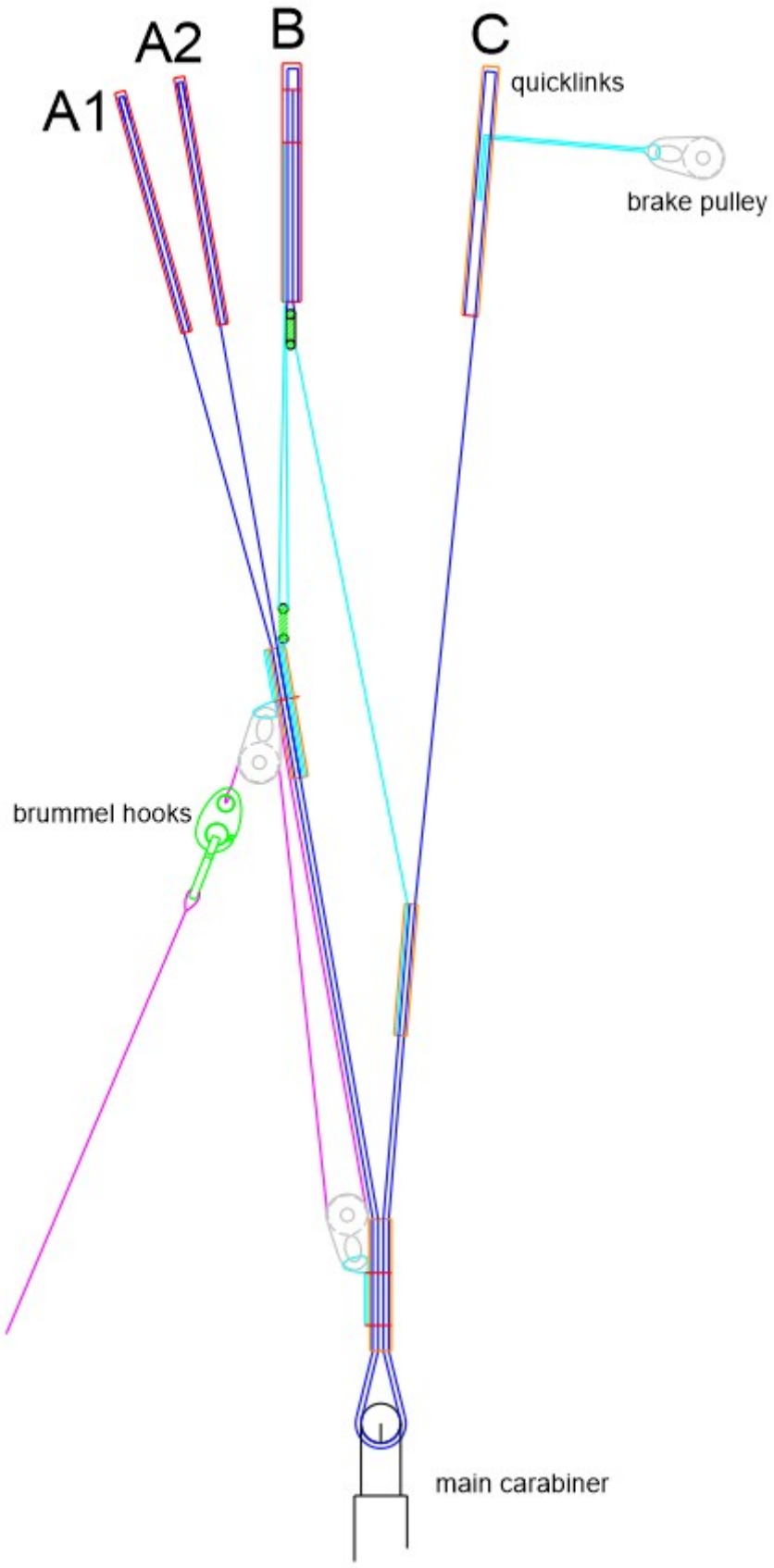
Technical Data

TENOR 2							
size		**17**	**19**	**21**	**22**	**23**	**25**
number of cells		50	50	50	50	50	50
projected span	m	8,09	8,53	8,96	9,17	9,37	9,76
projected area	m^2	17,54	19,53	21,53	22,54	23,54	25,54
projected aspect ratio		3,73	3,73	3,73	3,73	3,73	3,73
flat span	m	10,30	10,87	11,41	11,68	11,93	12,43
flat area	m^2	20,65	22,98	25,34	26.53	27,7	30,05
flat aspect ratio		5,14	5,14	5,14	5,14	5,14	5,14
line length	m	6,14	6,48	6,80	6,96	7,11	7,41
maximum chord	m	2,49	2,63	2,76	2,83	2,89	3,01
minimum chord	m	0,59	0,62	0,66	0,67	0,69	0,71
weight	kg	3,85	4,2	4,5	4,65	4,8	5,2
standard weight range	kg	50-75	65-85	75-95	83-103	90-110	105-130
extended weight range	kg		85-95	95-105	103-113	110-120	130-140
certified weight range	kg	50-75	65-95	75-105	83-113	90-120	105-140
certification (EN/LTF)		B	B	B	B	B	B
ext. weight range motor	kg	50-130	65-130	75-150	90-150	90-150	105-150
certification DGAC		i.A.	i.A.	i.A.	i.A.	i.A.	i.A.
material		MJ 30D, 20D, Skytex 40					
risers		R01 (3+1)					
riser length	mm	500	500	540	540	540	540
speedway	mm	130	150	175	175	175	175
Max control path	cm	>55	>60	>60	>65	>65	>65
Main carabiner distance	cm	40+-2	44+-2	44+-2	48+-2	48+-2	48+-2

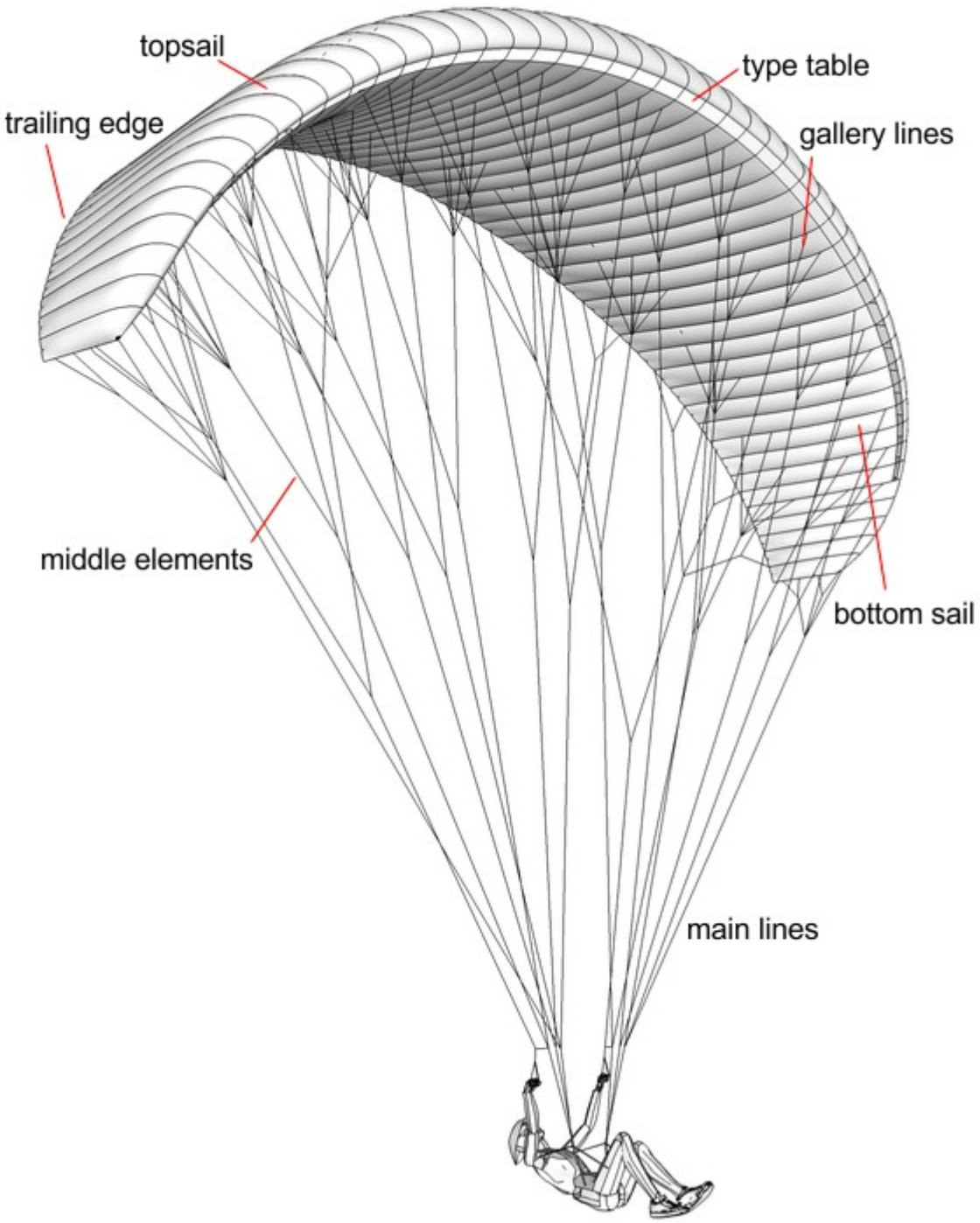
Attantion:
The maximum control travel depends on a number of parameters. In practice it can be lower than indicated in this table. The values in this table refer to the test scenario as part of the test according to EN 926-2 (in calm air) and are only rough guide values.

Turbulence, which is omnipresent in practice, has a negative effect on the maximum control travel! The stall occurs earlier!

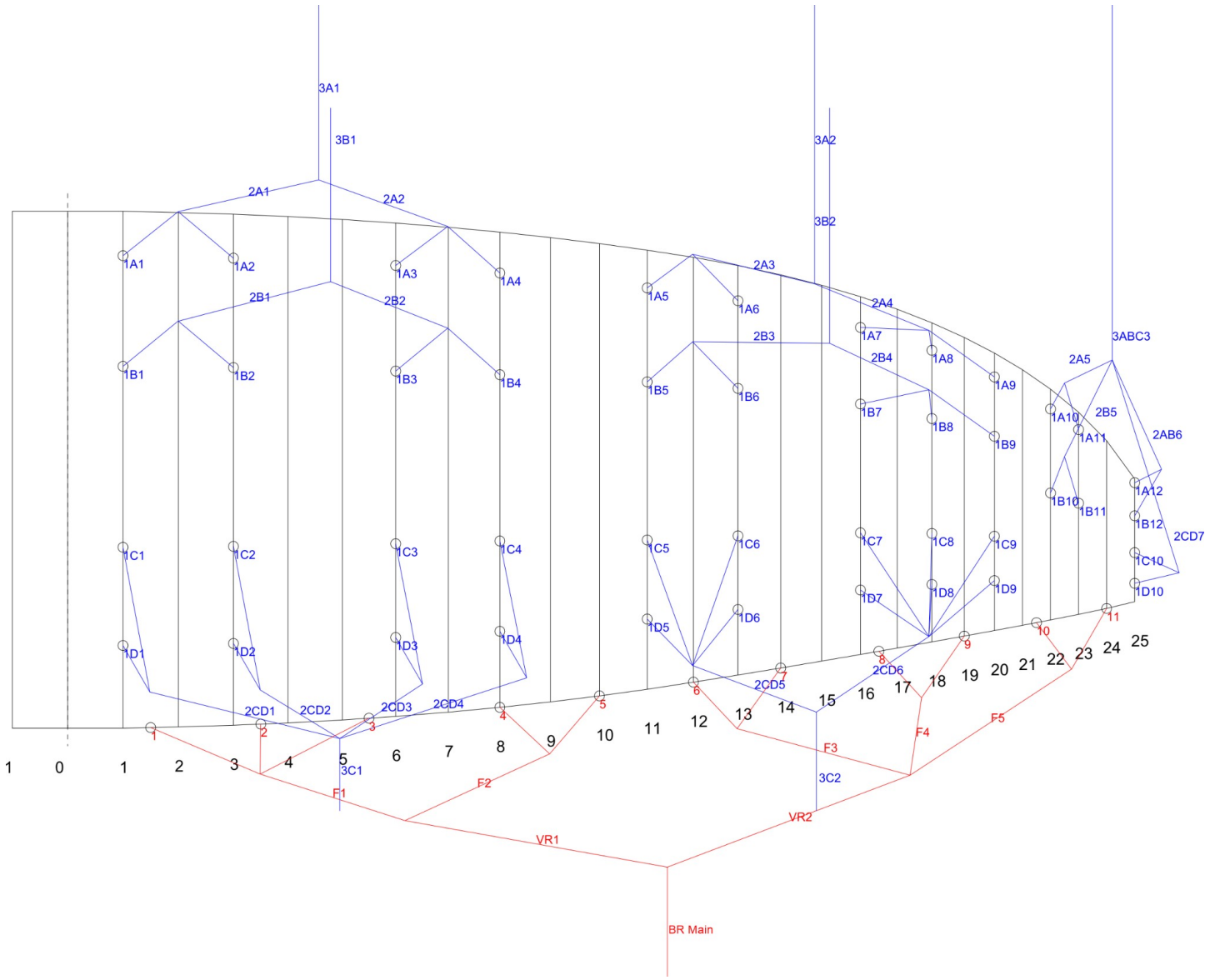
Overview risers



Overview wing



Leineplan


3A1
3B1
3A2
3B2
3ABC3
2A1
2A2
2A3
2A4
2A5
2AB6
2B1
2B2
2B3
2B4
2B5
2CD7
1A1
1A2
1A3
1A4
1A5
1A6
1A7
1A8
1A9
1A10
1A11
1A12
1B1
1B2
1B3
1B4
1B5
1B6
1B7
1B8
1B9
1B10
1B11
1B12
1C1
1C2
1C3
1C4
1C5
1C6
1C7
1C8
1C9
1C10
1D1
1D2
1D3
1D4
1D5
1D6
1D7
1D8
1D9
1D10
2CD1
2CD2
2CD3
2CD4
2CD5
2CD6
3C1
3C2
F1
F2
F3
F4
F5
VR1
VR2
BR Main
1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25