



BiGOLDEN4

User Manual

Please read this manual carefully and keep its instructions in mind while using your BiGolden4 paraglider

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1. INTRODUCTION

Congratulations on buying your new GRADIENT BiGolden4! We believe that you will be very enthusiastic about its performance and flight characteristics and we are sure you will be fully satisfied with your new tandem paraglider. The BiGolden3 was introduced to the market at the start of 2014 and is still one of the best tandem gliders on the market. It took a rather long time to make a better tandem glider than the BiGolden3, but we are very happy we can say we have been successful!

The BiGolden4 is faster, more compact, has better handling and more performance. The canopy is designed from a well-proven combination of different materials: all Porcher Skytex premium quality. Reinforcements are made with nylon rods, which helps for better inflation and a clean leading edge. Line drag is reduced by using well-proven Liros PPSL and DC Dyneema lines. In combination with Edelrid Magix Pro Aramid lines the result is an optimal balance of strength, durability and drag.

We are sure the BiGolden4 is a beautiful tandem glider with very nice handling; a truly worthy successor to the BiGolden3.

The BiGolden4 is certified EN-B/LTF-B and is meant for a large group of pilots: from hobby cross-country pilots to professional tandem pilots. Anyone in fact who wants exceptional safety and easy take-off and landing characteristics.

This manual will help you become familiar with your new paraglider and also provides information that will allow you to get the best from your glider and keep it in good condition. If you have any further questions after reading this booklet, please do not hesitate to contact our company or any authorised dealer and we will gladly answer all your questions.

When you have become familiar with your new BiGolden4 we would welcome any feedback that you might have.

2. YOUR PARAGLIDER

2.1. Technical description

BiGolden4's ground plan has a slender, elliptical shape with a slight positive contortion of the leading edge and the new shaping of wing tips to minimize the induced drag. This means that the ears of the canopy are slightly swept back when inflated. This modern design has number of advantages. We have used knowledge and technology which has been gained through the development of predecessors BiGolden3 and high-performance gliders such as Nevada2, Aspen6 and Avax-XC5, all of which have excellent performance and climbing agility. We have optimized everything for the maximum performance and stability at the whole speed range.

The glider's aerofoils has been specially developed to provide the maximum stability throughout the whole speed range. The leading edge is reinforced with integrated nylon stiffeners. This ensures optimal inflation of the wing and helps to keep the shape of the leading edge perfectly clean even at the maximum speed.

For perfect force distribution from the lines to the canopy we used the arches with nylon stiffeners in the B, C and D attachment points.

This glider has a unique **VO system** which is an improved shape of the cell openings for better inflation of the wing and for a more smooth air flow between the canopy and surroundings. Small rectangular cell openings for sufficient pressurization during all flight modes and deep V-openings for easy inflation and leading the air flow to the bottom surface of the canopy. The combination of two cell openings shapes significantly reduces the aerodynamic drag during flights in turbulent conditions and keeps the air pressure within the canopy more consistent, especially in rough air.

Thanks to the **VO system** the nose part of profile has a smooth shape. The smooth shape of the canopy delivers the aerodynamic cleanness and small aerodynamic drag. Different and complicated types of the leading edge have a bigger aerodynamic drag.

The layout of the line attachment points improves stability at the maximum speed – an essential feature of modern gliders. This layout also delivers a great endurance of the canopy. The shock and load tests of BiGolden4 demonstrate its qualities.

The well-proven four and a half rows and three-level line concept with three main lines per side is used. The suspension system has been created from the highest quality lines (Edelrid and Liros). Main lines are covered. The middle and top-level lines with progressively different diameters are made from special, very strong uncovered lines. Uncovered lines have the advantage of splice loops, giving maximum overall endurance, durability and the lowest possible aerodynamic drag.

The sophisticated combination of Dyneema and Aramid lines with different behaviour of shrinking characteristics maintains the right geometry of the suspension system for a long time.

The main C and D lines are connected to the karabiners through loops, allowing easier adjustment when your glider is serviced.

BiGolden4 comes with a well-proven four-riser speed-system with split A-riser, and trimmers with a working range of 80mm, which gives great maximum speed. The risers are equipped with a big-ears system, allowing the pilot to execute the big-ears manoeuvre without the necessity of holding it by hand.

Small, simple details make this glider complete. Gradient has paid attention to details too, including: clearing holes on the wing tips, split A-riser, mini and micro attachment points on the wing tips and trailing edge and a new rucksack, an inner bag and a riser bag.

2.2. Technical data

BiGolden4	Units	37	42
Flat Area	[m ²]	36,50	40.50
Projected area	[m ²]	30,90	34.28
Span	[m]	13,92	14.65
Projected span	[m]	10,99	11.57
Aspect ratio	[1]	5,31	5.31
Projected aspect ratio	[1]	3,91	3.91
Max. chord	[m]	3,17	3.34
Min. chord	[m]	1,01	1.06
Number of cells		59	59
Line consumption ¹	[m]	414.34	439.15
Weight of the glider	[kg]	6.6	6.9
Take-off weight range	[kg]	100-190	120-225
Certification EN/LTF		B	B

¹ - Line consumption is the sum of lengths of all lines including brake lines.

Length of the riser:

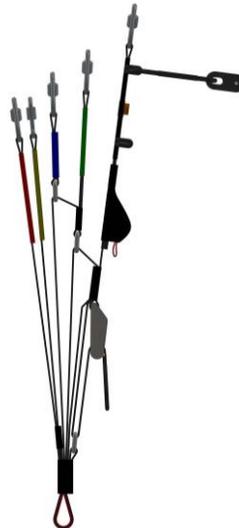
BiGolden4 37, 42	Units	A ₁ +A ₂	B	C	D
Basic position	[mm]	350	350	350	350
Fully accelerated	[mm]	350	370	390	430

Risers are equipped with trimmers.

Length tolerance of risers is +/-5mm.



Basic position of risers



Fully accelerated position of risers



2.3. Materials

Canopy	
Upper sail - leading edge	Porcher Marine 9017 Skytex, E44 Everlast, 42 g/m ²
Upper sail - rear parts	Porcher Marine 9017 Skytex 38, E25 Universal, 38 g/m ²
Bottom sail	Porcher Marine 70032 Skytex 32, E3W Universal, 32 g/m ²
Ribs supported	Porcher Marine 9017 Skytex 40, E29 Hard, 40 g/m ²
Ribs, Diagonals	Porcher Marine 70032 Skytex 32, E4D Hard, 32 g/m ²
Reinforcements	Porcher Marine 6098 Laminated Skytex Film, 120 g/m ²
Reinforcements	Porcher Marine 6391 SR-170, 165 g/m ²
Reinforcements	Nylon Rod Ø2,00 mm, Ø2,50 mm
Suspension lines	
Lines-top level	Liros Dyneema DC 100, Ø0.70 mm
Lines-top level	Liros Dyneema DC 120, Ø0.80 mm
Lines-top level	Edelrid Aramid 8000/U-070, Ø0.70 mm
Lines-top level	Edelrid Aramid 8000/U-090, Ø0.80 mm
Lines-middle level	Edelrid Aramid 8000/U-130, Ø1.00 mm
Lines-middle level	Edelrid Aramid 8000/U-190, Ø1.20 mm
Lines-middle level	Edelrid Aramid 8000/U-230, Ø1.30 mm
Lines-bottom level	Liros Dyneema PPSL 191, Ø1.20 mm
Lines-bottom level	Liros Dyneema PPSL 200, Ø1.42 mm
Lines-bottom level	Liros Dyneema PPSL 275, Ø1.90 mm
Lines-bottom level	Liros Dyneema PPSL 350, Ø2.25 mm
Brake lines	
Lines-top level	Edelrid Dyneema 7850-080, Ø1.00 mm
Lines-middle level	Edelrid Aramid 7343-140, Ø1.30 mm
Lines-bottom level	Edelrid Dyneema A-10/N-300-024, Ø2.50 mm
Risers	
Webbing	Mouka Tisnov PAD, 15 mm, 25 mm
Pulleys Brakes	Riley RM 302
Carabiners	Maillon Rapide MRSI03.5 S12, Maillon Rapide MRDI04.0

Altered materials for Light version

Canopy	
Upper sail - leading edge	Porcher Marine 70032 Skytex 32, E4G Everlast, 36 g/m ²
Upper sail - rear parts	Porcher Marine 70032 Skytex 32, E3W Universal, 32 g/m ²
Bottom sail	Porcher Marine 70000 Skytex 27, E3H Classic II, 27 g/m ²
Ribs	Porcher Marine 9017 Skytex 40, E29 Hard, 40 g/m ²
Ribs	Porcher Marine 70032 Skytex 32, E4D Hard, 32 g/m ²
Ribs	Porcher Marine 70000 Skytex 27, E91 Hard, 27 g/m ²
Diagonals	Porcher Marine 70032 Skytex 32, E4D Hard, 32 g/m ²
Risers	
Low friction ring - Brakes	Antal R07.05

3. CERTIFICATION

The BiGolden4 has passed European certification EN/LTF in category B in both sizes 37 and 42. The certificate of each BiGolden4 is found on the rib in the middle of canopy.

WARNING: The BiGolden4 paraglider is only built for hill or tow launching. It is not built to withstand jumping from a plane, balloon, building or for any jumps where there is a belated opening of the canopy. Use of subsidiary motor (eg paramotoring) has not been tested by the manufacturer or by any other testing body.

4. ADJUSTING YOUR GLIDER

Before it reaches the customer every BiGolden4, goes through a final check and test-flight to verify that its characteristics and measurements correspond to the manufacturer's specifications. You may only make adjustments to brake-line lengths of your BiGolden4 – and only then in keeping with the recommendations of this manual.

Other adjustments or changes to your BiGolden4 lead to a loss of guarantee, airworthiness and validity of the certification. Do not endanger yourself and other pilots by amateur modification. If you have any suggestions for improvements let us know and our test-pilots will try out your ideas.

4.1. Brake line adjustment

The BiGolden4 risers have adjustable positions for the guide pulleys for the main control lines to suit each pilot's physical build, harness hang-points, and style of flying. Standard pulleys are placed in the top position, which fits most cases – see picture.

CAUTION: *If you change the position of the guide pulley then it is necessary to change the position of the brake handle by about the same length as the distance between the loops for the hanging guide pulleys.*

When you receive your new BiGolden4 the main brake lines are adjusted to the length set during the certification test. This length should suit most pilots and is indicated on the main control line (R0.0). It is of course possible to adjust the brake-line length to suit each pilot's physical build, height of harness hang points, or style of flying. We recommend that **you act wisely when adjusting brake-line length and change the length in small, successive steps.**

If you need to adjust brakes back to the basic position and the marks on the main brake lines are vague, use the following lengths for relevant size (length is valid for upper position of brake guide pulley):

BiGolden4 37: 303cm
BiGolden4 42: 322cm

Brake lines that are too short may:

- Lead to fatigue from flying with your hands in an unnatural position.
- Impede recovery from certain unstable manoeuvres.
- Certainly reduce speed range of your glider.

Brake lines that are too long may:

- Hamper pilot's control during launch.
- Reduce control in extreme flying situations.
- Make it difficult to execute a good flare while landing.

Each brake line should be tied securely to its control handle. Use knots which will guarantee this, for example, Double Dragon.

5. OPERATION IN FLIGHT

This manual is intended as a guide to the characteristic features of your new BiGolden4 paraglider. Under no circumstances should it be used as a 'learn-to-fly' manual for paragliding or as a substitute for a paragliding training course.

5.1. Standard flight

5.1.1. Pre-flight check

Pre-flight check is essential part of getting ready to fly and that's why you should pay special attention to it. Check the canopy and the lines for damage, clear the lines of any tangles, check the riser maillons, trimmers and don't forget to check your harness and your reserve parachute.

Before launch spread the canopy out into a slight arc and check that:

- all cell openings are free
- no lines are looped around or under the canopy
- no lines are tangled or have a knot in them
- any twigs, grass or other objects are not entangled in the lines or in the canopy
- the risers are not twisted



Upper position of brake guide pulley



Lower position of brake guide pulley



- the brake lines run freely through the pulleys
- the knots on the brake handles are secure
- the karabiners on the risers are tightened
- Trimmers on both side of risers are equally adjusted.

5.1.2. Launch

Launching BiGolden4 is straightforward, either by front launch or by reverse launch. A dynamic pull of the front risers (A-risers, coloured red and yellow) will bring the canopy simply and easily above the pilot's head. The canopy inflates from the centre equally and smoothly. The BiGolden4 has no tendency to outrun the pilot and quickly stabilises above the pilot. Don't forget to visually check the canopy and the lines before taking off. Take off can be made easier by a light pull on the brakes.

For takeoff it is recommended to set the trimmer to basic position for nil or weak wind condition. For stronger wind conditions it is recommended to release the trimmers 1cm to 3cm above basic position.

NOTICE: The BiGolden4 requires no modification or particular manoeuvre for launching by winch.

5.1.3. Flight

When the trimmers are adjusted to the **Basic position** and brakes are loose, the BiGolden4 is trimmed to fly at **best glide angle**.

The **best sink rate** is produced with **trimmers in Basic position** (pulled down) and both control lines drawn down evenly to about 10%-15% of their range.

When **the trimmers are fully open**, the BiGolden4 is trimmed to **fly at maximum speed**.

CAUTION: When the trimmers are fully open, the brake handles are in a higher position than in unaccelerated flight.

Maximum speed is one of the strong points of Gradient paragliders and the BiGolden4 is no exception. Not only does the glider have a very high maximum speed, but unlike some other paragliders, the full speed range is useable. Don't forget that any collapse at full speed will be more severe than the same event experienced at normal trim speed. Always keep both hands on the controls when flying fast in turbulence. Use the speed system very carefully, or not at all at low altitude.

Flying in turbulent conditions

When flying through severe turbulence, stabilise the canopy with simultaneously applying a little brake to both sides. Flying with a little brake applied will also help to prevent deflations and give you more feedback about the air is doing and how the glider is reacting. Responding correctly to the paraglider's movement by means of the brakes and weight shift is known as 'active flying'. A pilot demonstrating good active-flying skills will significantly reduce both the number and severity of collapses he or she experiences.

Turning

BiGolden4 is very comfortable and pleasant in turns. Handling characteristics are responsive and accurate and demand no special habits or non-standard procedures. When developing BiGolden4 special attention was devoted to the brake pressure. The result is that brake travel and pressure have been optimised. Brake pressure is reassuringly progressive. In flight, brakes are firm but responsive and precise and allow perfect communication with the canopy. In an emergency (e.g. a broken brake line) the glider can be steered with the rear risers or by weight shift.

5.1.4. Landing

Landing with BiGolden4 is very simple and shouldn't cause any problem. On your first flights you may be surprised at how well it glides. Take account of this when making your landing approach! Into wind, at about one metre above the ground pull the brakes down all the way. In nil-wind conditions, or if forced to make an emergency landing downwind, you may prefer to take a wrap around each control line to enable a more dynamic flare.

5.2. Fast descent

Sooner or later every pilot will need to descend quickly. It might be because of a sudden and unexpected change in the weather, reaching cloud base and not wishing to enter cloud, or simply because you need to finish your flight



Basic position of trim



Fully open trim

quickly. Additionally, if landing is thermic, it is often very difficult to land without using a rapid-descent method. There are three main methods for achieving a rapid descent and they are: Big Ears, B-Line Stall and Spiral Dive.

Practise these manoeuvres under the supervision of an instructor and with a reserve parachute. Never compromise your and passenger safety.

5.2.1. Big Ears

This is the easiest technique for a rapid descent. Depending on how much of the wing tip you deflate, 3 m/s to 6 m/s sink rate can be achieved.

BiGolden4 has the cleat on the D-riser which makes it possible to fix the outer A-lines so they can be held in for an extended period. With big ears applied, the BiGolden4 can be steered using the brakes. Before using the cleats it is necessary to uncover the neoprene safety covers by pulling the red webbing on it up. After the big ears manoeuvre, put the neoprene cover down to avoid catching any lines.

NOTICE: *The outside A-line is divided in two pieces (A0.3 and A1.3) due to fast and easy repair if the cover of line is damaged. Line A0.3 is Edelrid 7850-200, length after sewing is 50,0cm (valid for size 37 and 42).*

Initiation: Grab the outer A-lines or outer split A-risers on both sides as high as possible and pull them down smoothly. Hold them firmly. The effective area of the glider is reduced equally on both sides of the wing. The size of the deflated area depends on how deeply the lines are pulled down (or on the number of lines pulled – one or two outer lines on both sides). Be sure to pull both sides equally.

Recovery: Under normal circumstances BiGolden4 will open automatically when the A-lines are released. Opening may be accelerated by gently pumping the brakes (repeated symmetrical braking on both sides).

NOTICE: *The bigger sink rate of the glider increases the angle of attack. By opening trimmers, this effect is compensated.*

5.2.2. B-Line Stall

B-line stall can be used on BiGolden4. This is an effective rapid descent technique. Depending on how far the B-risers are pulled down, the sink rate is between 6m/s and 10m/s.

Initiation: Grab the B-risers at the top and smoothly pull them down until the canopy shows a spanwise crease where the B-lines attach to the sail. Your sink rate will increase considerably while your forward speed will decrease practically to zero. Don't be startled when the airflow over the top surface is interrupted and the glider enters a parachutal stall without moving forward. It will soon stabilise above your head.

Recovery: On releasing the B-risers BiGolden4 automatically returns to normal flight without staying in deep stall or shooting in front of the pilot. Let go of the risers smoothly and symmetrically.

CAUTION: *Do everything symmetrically and at the same time. If the B-risers are released unevenly the canopy can enter a turn. If the risers are released slowly and very unevenly you could enter a spin.*

5.2.3. Spiral Dive

The Spiral Dive is the most effective way of making a fast descent. Every pilot should be able to perform a spiral dive and one day you may need to. In a Spiral Dive always stay aware of your altitude, which decreases very rapidly. The sink rate reached in a Spiral Dive can be more than 20m/s. During the manoeuvre the pilot and glider will experience strong centrifugal forces. Forces of greater than 3G are possible – a great strain on the pilot as well as the glider.

Initiation: Smoothly pull on one brake so that the glider goes from a normal 360-degree turn into a steep turn and from there into a spiral dive. The transition into a spiral dive can be made easier by weight shifting to the inner side of the turn. Keep an eye on the tension of the brakes all the time: reduced tension signals an overload of the glider and danger of falling into a negative spin.

Recovery: BiGolden4 recovers from a Spiral Dive automatically as soon as the brakes are released. Release them smoothly and always finish a Spiral Dive with safe altitude!

CAUTION: *When exiting the Spiral Dive make sure your position in the harness is neutral. Recovery from a Spiral Dive can be delayed if you are weight shifting to the inner side of the turn.*



Safety Neoprene cover down



Safety Neoprene cover up



5.3. SIV manoeuvres

No matter what category of canopy you fly or what level of certification it has, in turbulence or in strong thermals you may experience all kinds of collapses. BiGolden4 behaves comfortably in these situations. Indeed not only does the glider deal with extreme flight situations automatically, but it also offers – for its category – an above-average degree of safety. Even so, you must follow all safety rules when practising SIV. Always pay attention to your altitude.

Before performing any SIV manoeuvre remember:

- **All SIV manoeuvres with tandem, e.g. full stalls and spins, are more challenging because of much higher energy and forces in the brake lines than for single glider!**
- **Acrobatic style of flying is not recommended for BiGolden4.**
- Practise throwing your reserve on the ground, in a simulator, so that reserve deployment is efficient and automatic.
- Rapid altitude loss and considerable rotational forces may develop during unstable manoeuvres. Take account of these factors when throwing your reserve.

5.3.1. Asymmetric Collapse – one side of the canopy collapses

Initiation: Grab the outer A-line on one side and pull it down smoothly. The wing tip will collapse to form a characteristic Big Ear. The size of the ear depends on the depth to which the lines are pulled. You can stop any turn tendency by applying the opposite brake and by weight shifting onto the inflated side of the canopy.

Recovery: Under normal conditions BiGolden4 will reinflate spontaneously when the pulled lines are released. Inflation time and loss of altitude can be reduced by suitable piloting. To stop any tendency to turn off course pull the brake on the inflated side (be careful not to overreact and stall the inflated side) and weight shift to that side. If the collapse remains then reinflate the collapsed side by 'pumping' the brake on the collapsed side.

CAUTION: *It is very important to execute this manoeuvre very carefully. Due to the high compactness of the leading edge and collapse resistance it is quite difficult to find a right degree of pulling of A-risers down. This applies particularly to the asymmetric collapse of 75% at full speed!*

5.3.2. Full Frontal Collapse

Initiation: Grab both A-risers at the top and pull them down fluently until the leading edge collapses.

Recovery: Recovery time depends on how much of the canopy has collapsed. In normal conditions BiGolden4 will recover into normal flight automatically as soon as the front risers are released. **Applying the brakes on both sides simultaneously can help reopen the paraglider.**

CAUTION: *It is very important to execute this manoeuvre very carefully. Due to the high compactness of the leading edge it is quite difficult to find a right degree of pulling of A-risers down. If you pull them down too quickly, a massive collapse could happen!*

5.3.3. Deep stall

Initiation: Pull both brakes smoothly until the sink rate increases markedly and the forward speed reaches almost zero. The pull on the brakes should be controlled so that the canopy stays inflated and doesn't fall back into a full stall.

Recovery: BiGolden4 cannot stay in deep stall flight, so after the brakes are released the glider automatically returns to normal flight. If you need to, you can accelerate recovery by pulling hard on both brakes, followed by a fast release. Or you can pull lightly on the A-risers.

CAUTION: *If you pull too hard on the A-risers you may experience a full frontal collapse.*

5.3.4. Full stall

Initiation: Wind the control lines once or twice around your hands and pull both of them down smoothly. Hold them down until the canopy falls behind the pilot and deforms into a characteristic crescent shape. Hold your hands firmly (press them underneath the seat) and be careful that you do not release the brakes prematurely or asymmetrically.

Recovery: BiGolden4 recovers from a full stall automatically once the brakes are smoothly released. During correct recovery from a full stall BiGolden4 shows no extreme tendencies such as diving in front of the pilot. If the brakes are released prematurely or too quickly there is a possible tendency for the glider to dive ahead of the pilot. This can be corrected by adequate simultaneous braking on both-sides.

CAUTION: *When exiting a Full Stall, if the brakes are released asymmetrically the glider may suffer a massive asymmetrical collapse followed by a tendency to enter a spin.*

5.3.5. Spin

Initiation: Slow down by braking to nearly minimum speed. Then pull a brake on one side all the way down while simultaneously releasing the brake on the other side. Because the stalled side falls back, the canopy suffers airflow disruption over one half of the wing which results in a spin and a rapid loss of altitude.

Recovery: Under normal circumstances BiGolden4 is capable of recovering from a spin automatically when the brakes are released.

Caution: *In general, when there is a very fast or a long-lasting rotation and when the brakes are released too quickly, the canopy may shoot in front of the pilot followed by a massive asymmetrical collapse.*

Warning: *Whenever a paraglider is not in normal flight and airflow is disrupted there is always a rapid increase in sink rate and therefore a substantial loss of altitude.*

Remember: When practising SIV the wrong manoeuvre at the wrong time may change a fairly easy situation into a dangerous problem. You are also exposing your glider to forces that may damage it. Practise SIV manoeuvres only under the supervision of an instructor and with a reserve parachute.

6. MAINTAINING YOUR GLIDER

If you handle your glider with care and store it in a suitable place it can last you a very long time. On the other hand, neglecting maintenance, bad storage and the use of unsuitable cleaning products can reduce the lifespan of your glider significantly or may even make it dangerous.

You must keep to these rules:

- Choose a suitable area for your launches. Lines caught on roots or rocks lead to unnecessary strain on the attachment tabs during inflation. Snagging the lines may rip the canopy tissue or damage lines.
- When landing, **never let the canopy fall on its leading edge** in front of the pilot. The effect of these forceful collisions and the sudden pressure increase can severely damage the air-resistant coating of the canopy as well as weaken the ribs and seams.
- Protect the canopy from unnecessary strain. Inconsiderate handling of your glider – pulling it over grass, soil, sand or rocks – will significantly reduce its lifetime and increase porosity.
- When preparing the paraglider for a launch or when ground handling, be sure not to step on any of the lines or the canopy.
- Don't tie any unnecessary knots in the lines. Packing methods where special knots are made in the lines as used on parachutes and reserve parachutes are not suitable for packing the lines used on paragliders.
- Protect your canopy and lines from unnecessary exposure to sunlight. UV-rays can damage many parts of a paraglider.
- Try **not to pack your glider when wet**. If it's unavoidable then dry it as soon as possible but away from direct sunlight. **Be careful to avoid storing your canopy wet** - this is the most common reason for cloth degradation, and is easily preventable.
- Don't let your glider come into contact with seawater. If it does, rinse the lines, canopy and risers with fresh water and dry before storing.
- After flight or when storing always use the inner protection sack.
- When storing or during transport make sure your glider isn't exposed to temperatures higher than 50 degrees Celsius.
- Never let the paraglider come into contact with chemicals. Clean the glider with clean lukewarm water only.
- When packing the glider we recommend concertina folding the reinforced leading edge to avoid damaging the plastic reinforcements.
- For long-term storage don't pack the glider too tightly. Store it in a cold, dry and well-ventilated room.
- After tree- or water-landings always examine the glider carefully. If you suspect that the flight features of your paraglider have changed, contact an authorised Gradient supplier as soon as possible.

7. CHECKING YOUR GLIDER

After 200 flying hours or two years your BiGolden4 must be thoroughly checked and tested by the manufacturer or by a Gradient authorised service centre. This check is primarily focused on:

- measuring of porosity
- measuring of tear strength of fabric
- sewing of panels, attachment points, cell openings, etc.
- condition of lines and risers
- line strength
- geometry of the suspension system



All data are recorded in the test report. On the basis of the real wing's condition, authorized technician will define the next check interval: under normal circumstances it is two years.

8. REPAIRING YOUR GLIDER

Only small repairs, that don't change the airworthiness of the paraglider, may be done by the user. These include: fixing small tears (but not seams) up to 10 cm; changing damaged lines; and changing rubber line-fixation rings on the small karabiners.

When repairing your paraglider on your own keep to the following rules:

- When repairing the sail use a self-adhesive patch specified for this purpose. Every BiGolden4 comes with a small amount of self-adhesive material which is enough for small repairs.
- The only admissible repairs done on lines are those where the damaged lines are changed for new ones. Lines must be exclusively supplied by Gradient; an authorised dealer or authorised service centre. When ordering new lines use the codes in the attached line diagram. Use the code 'BiG4' and size of the glider, followed by the line code.
E.g. the outside main line in row A for a BiGolden4 42 is: 'BiG4 42 A1.3'.
- An exception to this is an emergency repair of brake line while out flying. For this purpose Gradient encloses a spare line with every BiGolden4 with a prepared loop on one end. To get the right length adjust it according to the same line on the opposite side of the canopy. As soon as you can, change the line for an original one from your authorised Gradient service centre.
- After changing any line a thorough pre-flight check must be done. Don't hesitate to ask your instructor or an experienced colleague for help. If you're not sure, entrust the job to either the manufacturer or an authorised Gradient dealer.

If you have to replace any of the line-tidy rings (a spare rings are supplied with each BiGolden4) check that the lines haven't been swapped accidentally and that they are returned to the small carabiner in the correct order.

9. ENJOY YOUR FLYING

Even though BiGolden4 has outstanding performance and stability it must be understood that even the safest paraglider is an aircraft and that all air sports can be relatively dangerous.

Remember that not only your safety but your passenger's too lies in your hands.

Never underestimate weather conditions. And never forget that you are flying for pleasure and not to become a 'fallen hero'. Remember this and the fun that only free-flying can bring will be yours.

We believe that your sensible attitude and the flight characteristics of your BiGolden4 will combine to ensure you have many hours of fantastic flying.

For all our gliders we use Porcher materials which are made under environmental laws of the EU and all the coating is environmentally friendly.

When your glider gets to the end of its life we recommend to use Porcher recycling Program to dispose it.

GRADIENT wishes you many fabulous flights and happy landings.



Lukáš Pohl

R&D team - designer



Ondřej Dupal

R&D team - director

10. CUSTOMER CARE

Please contact your nearest Gradient dealer for any questions concerning your Gradient equipment.

You can find the list of all Gradient dealers on our website.

<http://www.gradient.cx/en/Agencies>

For all other questions or requests please email us at: gradient@gradient.cx

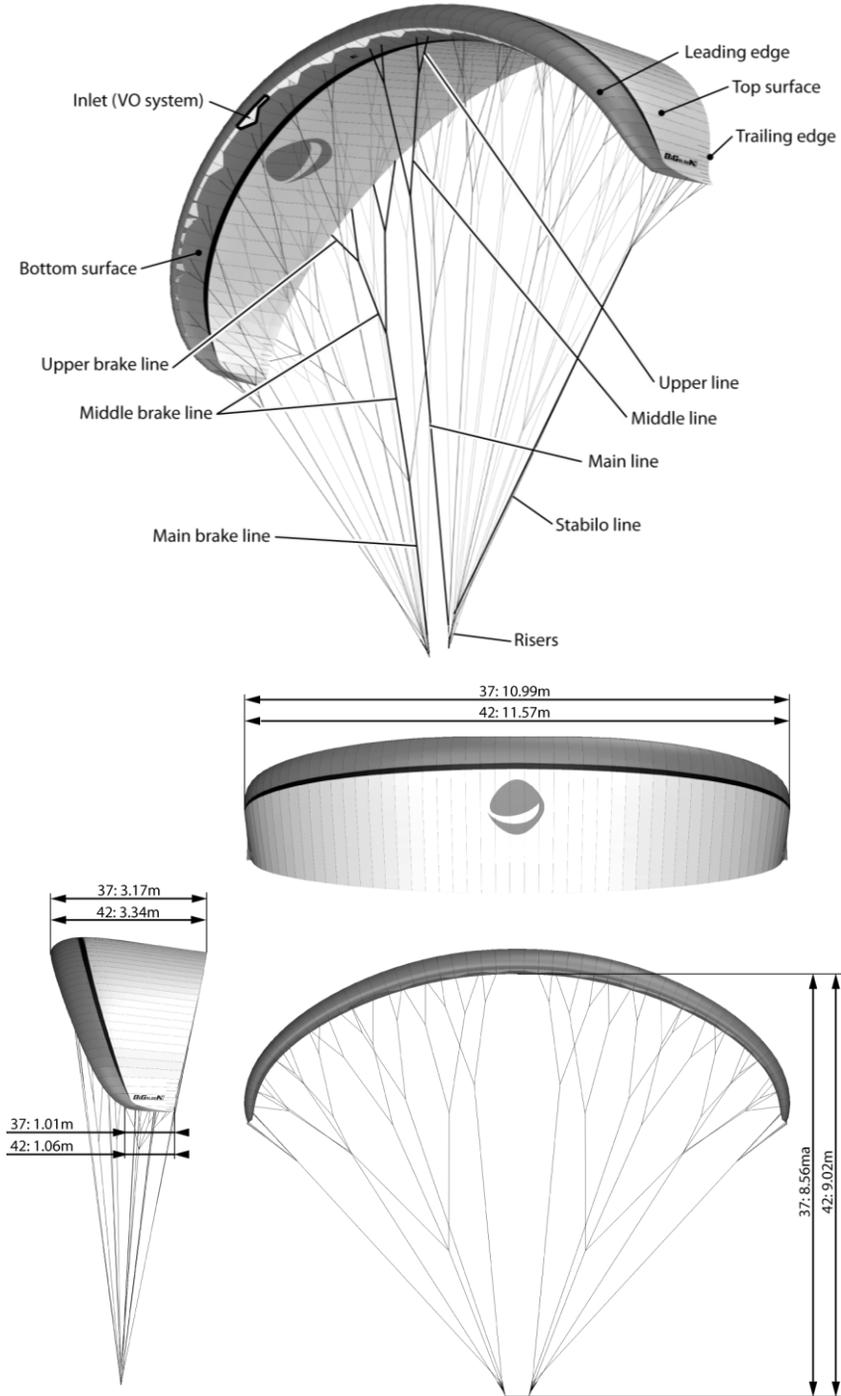
Our production and development centre is located in the Czech Republic.

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11. DIAGRAM & DIMENSIONS



12. LINE PLAN

