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MAGIC 2 OWNER'S MANUAL

Solo paraglider | EN / LTF A

Welcome

Welcome to Bruce Goldsmith Design! BGD is a world leader in the design and production of paragliders. For many years Bruce Goldsmith and his team have been developing products with world-beating performance for pilots who want the best. We apply our competitive knowledge to design top quality products that combine the highest performance with the safe handling our customers value and respect. BGD pilots appreciate our quality and reliability. BGD's world-class status is based on the skills and expertise we have developed in combining aerodynamic design with cloth and materials technology. All BGD products are developed and made with the same skill and attention to good design that are synonymous with the ultimate performance and precision required by paragliders.

Congratulations on your purchase of the MAGIC 2!

The MAGIC 2 is safe and fun EN/LTF-A paraglider with good performance. Designed as a pilot's first paraglider, it has maximum passive safety and will look after new pilots as they learn to soar and thermal then progress to cross-country flying.

This manual contains information and advice about your paraglider. For further information or parts, please contact your nearest BGD dealer (click the 'location' symbol [on the website](#)), or BGD directly.

Introduction

Limitations

The MAGIC 2 is a very easy and safe paraglider to fly. It is suitable for all levels of pilots, and can be used for training (under the correct supervision). It is a solo paraglider, and is not designed for flying tandem. We have not yet tested the suitability of the MAGIC 2 for towing and it is not certified for paramotor use.

Size	XS	S	M	ML	L
Free flying	A	A	A	A	A
Towing	Not yet tested				
Paramotor	Not yet certified				

For your safety, do not:

1. Fly outside the certified weight range
2. Change the length of risers or lines in order to adjust trim speed
3. Fly in rain or snow
4. Tow with a pull of more than 200kg
5. Perform spiral dives with big ears or asymmetric collapses. The high G loading on fewer lines could overload

and break the lines.

Test flight and Warranty

All information about the BGD warranty can be found on the Warranty page of our website. In order to benefit from it, you must complete the warranty registration form on www.flybgd.com (find it in the Help menu).

It is your dealer's responsibility to test fly the paraglider before you receive it, to check the trim settings are correct. The warranty may be void if the test flight has not been completed by the dealer.

Weight Range

Each wing size is certified for a certain weight range. The weight refers to the 'overall take-off weight'. This means the weight of the pilot, the glider, the harness and all other equipment carried in flight.

We recommend flying in the middle of the weight range. If it is flown in the lower half of the permitted take-off weight range, you can expect slightly reduced agility and a somewhat dampened flight behavior. In strong turbulence, the canopy will be less stable.

If you fly the wing in the upper half of the take-off weight range, the dynamics and stability of the wing increase and the trim speed also increases slightly. On the other hand, the glider's own damping, even after collapses, decreases slightly.

Modifications

Any modifications to your glider, e.g. changing the line lengths or the speed system, can cause a loss of airworthiness and certification. We recommend that you contact your dealer or BGD directly before making any kind of modifications.

Brake line lengths

The length of the brake lines is set at the factory so that the trailing edge is not deformed at all when brakes are not applied. There should be around 7cm slack in the brake lines, before they take effect on the canopy. It should not be necessary to shorten the brake lines. However, it is possible that shrinkage can occur. If necessary, the brake lines can be lengthened by adjusting the knots.

Harness Dimensions

The paraglider was tested with a 'GH' (without diagonal bracing) type harness. The GH category includes weight-shift harnesses as well as ABS style (semi-stable) harnesses. The harness complies with the EN standard harness dimensions, which are:

- Seat board width: 42cm.

The horizontal distance between the attachment points of the paraglider risers (measured from the centre-line of the karabiners) must be:

- 38cm for pilots under 50kg
- 42cm for pilots from 50-80kg
- 46cm for pilots above 80kg

Preparation / Pre-Flight Checks

Connecting the speedbar

The MAGIC 2 comes with accelerator risers and can be flown with or without a speedbar attached. The speedbar should be connected and adjusted following the instructions in your harness manual to ensure correct routing of the lines.

To adjust the speedbar to the correct length, sit in your harness and ask an assistant to hold the risers up in their in-flight position. The speedbar length can be adjusted, by moving the knots, so that the bar sits just beneath your harness seat. You should be able to hook your heels into the bar, and to attain full bar extension (the two pulleys touching) when you fully extend your legs. Once you have set the bar up in this way on the ground, a test flight in calm air can be useful to fine-tune the length, ensuring it is even on both sides.

Preparation on launch

Select a suitable take-off area determined by wind and terrain, clear of any obstacles that may catch in the lines or damage the canopy. Take your paraglider to the top of the take-off area, and allow the canopy to unroll itself down the hill if on a slope. This should leave the paraglider with the bottom surface facing upwards, the openings at the downwind/uphill end of the take-off area, and the harness at the trailing edge at the upwind side.

Unroll the canopy to each side so that the leading edge openings form a semi-circular shape, with the trailing edge drawn together to form an arc. The harness should be drawn away from the canopy until the suspension lines are just tight.

Pre-flight inspection

Your paraglider is simple to inspect and maintain but a pre-flight procedure is mandatory on all aircraft. The following pre-flight inspection procedure should be carried out before each flight.

1. Whilst opening the paraglider check the outside of the canopy for any tears where it could have been caught on a sharp object or even damaged whilst in its bag. Visually inspect the risers for any signs of damage.
2. Check the lines for signs of damage, twists or knots. Divide the suspension lines into groups, each group coming from one riser. By starting from the harness and running towards the canopy remove any tangles or twists in the lines. Partially inflating the canopy in the wind will help to sort out the lines.
3. Ensure the brakes are clear and free to move. Check the knot which attaches the brake handles to the brake lines. Avoid having too many knots, as there is a risk the knots could become stuck in the brake pulleys. Both brakes should be the same length and this can be checked by having an assistant hold the upper end of the brake lines together whilst you hold the brake handles. The brake lines should be just slack with the wing inflated when the brakes are not applied.
4. Always check the buckles and attachments on the harness. Ensure the two main attachment maillons/karabiners from the harness to the main risers, and the individual shackles which attach the risers to the lines, are tightly done up.
5. Before getting in to the harness you should be wearing a good helmet. Check the parachute container is correctly closed and the handle is secure. Put on the harness ensuring all the buckles are fastened and that it is well adjusted for comfort.

Your paraglider is now ready for flight

Flight Characteristics

This manual is not intended as an instruction manual on how to fly your paraglider. You should be a qualified pilot, but the following comments describe how to get the best from your wing.

Launch

The MAGIC 2 is easy to inflate in light or stronger winds and will quickly rise overhead to the flying position.

It can be launched easily using either forward (best for light winds) or reverse (best for stronger winds) launch techniques.

Forward Launch

Stand facing into wind with your back to the canopy and all the A-lines taut behind you, then take one or two steps back (do not walk all the way back to the canopy). Take an A-riser in each hand (the A-risers are marked with red cloth to make them easier to find) and begin your launch run pulling gently and smoothly on the A-risers. As soon as the canopy starts to rise off the ground stop pulling so hard on the A-risers but put pressure on all the risers evenly through the harness. Maintaining gentle pressure on the A-risers helps in very calm conditions. Have your hands ready to slow up the canopy with the brakes if it starts to accelerate past you.

Reverse Launch

In winds over 10km/h it is recommended to do a reverse launch and inflate the canopy whilst facing it, using the A-risers. Releasing pressure on the A-risers when it is at about 45° will help to stop it overshooting. The stronger the wind and the greater the pressure on the A-risers, the more quickly the canopy will rise. In stronger winds taking a step towards the glider as it rises can take some of the energy out of the glider and it will be less likely to overshoot.

Straight Flight

Your paraglider will fly smoothly in a straight line without any input. At the maximum in-flight weight, without the accelerator it will fly at approximately the trim speed shown in the Specifications table.

Turning

Your wing does not require a strong-handed approach to manoeuvring. For a fast turn smoothly apply the brake on the side to which the turn is intended. The speed with which the brake is applied is very important. If a brake is applied fairly quickly the canopy will do a faster banking turn, but care must be taken not to bank too severely. To attain a more efficient turn at minimum sink, apply some brake to the outside wing to slow the turn and prevent excessive banking. The glider flies very well like this, but care must be taken not to over-apply the brakes, as this could result in a spin. The wing will turn far more efficiently if you weight-shift into the turn in the harness. Remember that violent brake application is dangerous and should be avoided.

Active piloting

The objective of active piloting is to get the glider to fly smoothly through the air with a stable position above your head, and controlled angle of incidence. Active piloting means flying in empathy with your paraglider, guiding it through the air and being aware of feedback from the wing. If the air is smooth the feedback can be minimal but in turbulence feedback is continuous and needs to be constantly checked.

In order to get the best performance from your wing, it is best to control it through small brake inputs and weightshift rather than constantly being present on the brakes. A small brake movement early is more efficient than a big input later. The more you let the glider fly at trim speed, the better performance you will get out of it.

Your paraglider is resistant to collapse without any pilot action, but flying actively will increase the safety margin. Active piloting can make your flying experience safer and more enjoyable, and it becomes instinctive in good pilots.

Thermalling

To attain the best climb rate your wing should be thermalled using a mild turn, as described above, keeping banking to a minimum. In strong thermals a tighter banking turn can be used to stay closer to the thermal's core. Remember that weight-shifting in the harness will make the turn more efficient and reduce the amount of brake required.

Care must be taken not to apply so much brake as to stall. This is easy to avoid as the brake pressure increases greatly as you approach the stall point. Only fly near the stall point if you have enough height to recover (at least 100m).

Speed System

Launching and general flying is normally done without using the accelerator. A pilot flying at the maximum in-flight weight should be able to reach the top speed noted in the specifications table when using the accelerator system.

Full speed is achieved when the two pulleys on each A-riser touch. Do not go beyond this point by using excessive force to attempt to make the glider go faster as this may result in the glider collapsing.

When you come off the bar it is also important to do so smoothly and progressively, to manage the pitch. It is possible for paragliders to front-collapse if the bar is released too quickly.

We recommend you only fly in conditions where you can progress into wind with no speed-bar applied, so that you have the extra airspeed in reserve should you need it.

IMPORTANT:

1. Practise using the speed system in normal flying and get fully used to using half bar before you use the full speedbar travel.

2. The speed increase is achieved by reducing the angle of attack, which means the canopy has slightly more collapse tendency. Take care when flying fast in rough or turbulent conditions as deflations are more likely to occur at speed.
3. Remember that your glide deteriorates at higher speeds.
Best glide is achieved when the risers are level and the brakes are off, or with a little accelerator applied (up to 25% speed).

The component parts of the speed system should be regularly checked for signs of wear, and to ensure the system works smoothly.

Rapid descent procedures

Big Ears

The wingtips of your paraglider can be folded in to increase its sink rate. The Big Ear facility allows you to descend quickly without substantially reducing the forward speed of your glider. (B-line stalls also allow for fast descent, but they result in greatly reduced forward speed).

To engage Big Ears, lean forward in the harness and grasp the outer A-lines, or the maillons of the 'Baby-A' risers, keeping hold of both brake handles if possible. Pull the outer A-lines or Baby-A risers out and down at least 30cm so as to collapse the tips of the glider. It is very important that the other A-lines are not affected when you do this as pulling these could cause the leading edge to collapse. Steering with Big Ears in is possible by weight-shifting. When you let go of the outer A-lines or the Baby A risers, the Big Ears will come out on their own. A pump on the brakes can speed this up if necessary.

Before using Big Ears in earnest you should practise with plenty of ground clearance in case a leading-edge collapse occurs. Always keep hold of both brakes in order to retain control. Putting your hands through the brake handles so they remain on your wrists is a good method of doing this.

B-Line Stall

This is a fast descent method and is a useful emergency procedure. With both hands through the brake handles, take hold of the top of the B-risers, one in each hand, and pull them down by 10-15cm. This will stall the canopy and its forward speed will drop to zero. Make sure you have plenty of ground clearance because the descent rate can be over 10m/sec.

To increase the descent rate pull harder on the B-risers. When you release the B-risers the canopy will automatically start flying again, normally within two seconds. Sometimes the canopy will turn gently when it exits from the B-line stall. It is normally better to release the B-risers fairly quickly rather than slowly, as the latter may result in the canopy entering deep stall. Always release the risers symmetrically, as an asymmetric release from a B-line stall may result in the glider entering a spin.

B-line stalls are useful if you need to lose a lot of height quickly, perhaps to escape from a thunderstorm. They should not be performed with less than 100m of ground clearance (see also also Chapter 5).

Spiral Dive

A normal turn can be converted into a spiral dive by continuing to apply one brake. The bank angle and speed of the turn will increase as the spiral is entered. Be careful to enter the spiral gradually and with control, as too quick a brake application can cause a spin or a high G spiral.

Spiral dives are one of the most dangerous manoeuvres in paragliding and the high G-force and quick loss of altitude can easily catch pilots out. A mistake in judging these factors can lead to a very serious accident, so spirals must be treated with great respect. Pilots are advised to practise spiral dives under close supervision or during an SIV course.

To pull out of a steep spiral dive, release the applied brake gradually and/or apply opposite brake gradually. A sharp release of the brake can cause the glider to surge and dive as the wing converts speed to lift. Always be ready to damp out any dive with the brakes. Also be ready to encounter turbulence when you exit from a spiral because you may fly through your own wake, which can cause a collapse.

Do not perform spiral dives with big ears or asymmetric collapses. The high G loading on fewer lines could overload and break the lines.

CAUTION: Spiral dives can cause loss of orientation or black-out and they take some time to exit from. This manoeuvre must be exited in time, and with sufficient height.

Landing

Landing is very straightforward. When landing in light winds, flare in the normal way from an altitude of around 2m. It may sometimes help to take wraps on the brakes to make the flare more effective.

Strong-wind landings require a different technique. If you use the brakes to flare in a strong wind the wing tends to convert this energy to height, which can be a problem. The best method is to take hold of the rear-risers at the maillons just before landing, and collapse the canopy using these when you have landed. The glider will collapse very quickly using this method.

After landing, the B-risers can also be used to collapse the canopy, although it is more difficult to control the collapsed canopy on the ground with the B-risers.

Recovery Techniques

Stalls

Stalls are dangerous and should not be practised in the course of normal flying. Stalls are caused by flying too slowly. Airspeed is lost as brake pressure increases and as the canopy approaches the stall point it will start to descend vertically and finally begin to collapse. Should this occur it is important that the pilot releases the brakes at the correct moment. The brakes should never be released when the wing has fallen behind the pilot; the brakes should be released fairly slowly, to prevent the forward dive of the canopy from being too strong. A pre-release of the brakes and the reconstruction of the full span is recommended to avoid the tips getting cravatted during the recovery. Pilots are advised never to attempt this manoeuvre unless under SIV instruction. This manual is not intended to give instruction in this or any other area.

Deep Stall (or Parachutal Stall)

Your paraglider has been designed so that it will not easily remain in a deep stall. However, if it is incorrectly rigged or its flying characteristics have been adversely affected by some other cause, it is possible that it could enter deep stall. In the interests of safety all pilots should be aware of this problem, and know how to recover from it. The most common way to enter deep stall is from a flying too slowly, from a B-line stall or even from big ears. When in deep stall the pilot will notice the following:

1. Very low airspeed.
2. Almost-vertical descent (like a round canopy), typically around 5m/s.
3. The paraglider appears quite well inflated but does not have full internal pressure. It looks and feels a bit limp.

Recovery from deep stall is quite simple: The normal method is to simply initiate a mild turn. As the canopy starts to turn it will automatically revert to normal flight, but it is very important not to turn too fast as this could induce a spin.

The second method is to pull gently on the A-risers. This helps the airflow to re-attach to the leading edge, but be careful not to pull down too hard as this will induce a front collapse.

If the deep stall is particularly stubborn and the previous methods do not work then a full stall will solve the problem. To do this apply both brakes fairly quickly, as if to do a strong stall, then immediately release both brakes and damp out the forward surge in the normal way. The canopy will swing behind you then automatically reinflate and surge forward in front of you before returning to normal flight. It is the surge forward that exits the canopy from deep stall.

Spins

Spins are dangerous and should not be practised in the course of normal flying. Spins occur when the pilot tries to turn too fast. In a spin the pilot, lines and canopy basically stay vertical and rotate around a vertical axis. Your glider will resist spinning, but if a spin is inadvertently induced you should release the brake pressure but always be ready to damp out any dive as the glider exits the spin. Failure to damp the dive on exiting the spin may result in an asymmetric deflation.

Symmetric Front Collapse

It is possible that turbulence can cause the front of the wing to symmetrically collapse, though active piloting can largely prevent this from occurring. During the early stages of a front collapse the pilot should apply the brakes symmetrically on both sides for a maximum of one second. This will push the air from the back of the canopy towards the front, stopping the collapse from becoming deep. Make sure the brakes are fully released during the later stages of the collapse, or this may induce a full stall. The glider will normally recover on its own as long as the pilot keeps the brakes up. If the glider does not recover on its own it may be necessary to make a second pump on the brakes.

A pilot can reproduce the effect during an SIV course by taking hold of both the A-risers and pulling down sharply on them, then immediately releasing. Make sure that you pull all four A-risers at the same time, two risers in each hand (make sure to include the baby-A risers). The glider will automatically recover on its own from this situation in around

three seconds. During this recovery period it is advisable not to apply the brakes as this could stall the wing.

Asymmetric Collapse

If the canopy collapses on one side due to turbulence, you should first of all control the direction of flight by countering on the opposite brake. Most collapses will immediately reinflate on their own and you will hardly have time to react before the wing reinflates automatically. The act of controlling the direction will tend to reinflate the wing. However, with more persistent collapses it may be necessary to pump the brake on the collapsed side using a long, smooth and firm action. Normally one or two pumps of around 80cm will be sufficient. Each pump should be applied in about one second and smoothly released. In severe cases it can be more effective to pump both brakes together to get the canopy to reinflate. Be careful not to stall the wing completely if this technique is used.

Releasing a trapped tip (cravat)

Following a severe deflation it is possible for a wingtip to become trapped in the glider's lines (cravat). If this occurs then first try the standard method of recovery from a tip deflation as described in Asymmetric Front Collapse above. If the canopy still does not recover then pull the rear risers to help the canopy to reinflate. Pulling the stabilo line is also a good way to remove cravats, but remember to control your flight direction as your number-one priority. If you are very low then it is much more important to steer the canopy into a safe landing place or even throw your reserve.

NOTE: Test pilots have tested the glider well beyond the normal flight envelope, but these tests are carried out in a very precise manner by trained test pilots with a back-up parachute, and over water. Stalls and spins on any paragliders are dangerous manoeuvres and are not recommended.

Loss of brakes

In the unlikely event of a brake line snapping in flight or a handle becoming detached, the glider can be flown by gently pulling the rear risers for directional control.

Packing & Maintenance

Packing

Your paraglider can either be packed in the classic way or the Concertina method can be used. Concertina packing helps to prolong the life of the paraglider, therefore BGD recommends using a Concertina packing bag.

With an inner pack

Sort the lines and place them on the spread-out canopy. Fold the paraglider canopy in sections from the stabilo towards the centre. Then roll/fold the two halves together from the trailing edge towards the leading edge and push the air remaining out of the canopy. Take care not to fold or bend the plastic reinforcements in the leading edge.

With a Concertina pack sack

Place the paraglider in a bundle on the concertina bag. Fold the trailing edge first, cell-to-cell, and secure it in the concertina pack sack with the strap. Take care not to drag the leading edge over the ground during this process. Then fold the leading edge cell-to-cell, so that all the plastics are next to each other. Turn the glider on its side and close the second strap of the Concertina Bag around the glider. Now squeeze the rest of the air out of the canopy and close the zip. Finally, fold the bag into three pieces so that the leading edge plastics, are not bent.

Storage and Care

If you have to pack your canopy away wet, do not leave it like that for more than a few hours. Dry it out as soon as possible, but do not use direct heat sources as it is inflammable!

We recommended storing your glider loosely packed, in a dry place out of direct sunlight. Avoid extremes of temperature - do not leave it for long periods in a hot car in summer, or let it freeze, particularly if it is damp.

Your paraglider is made from high quality nylon which is treated against weakening from ultraviolet radiation.

However, UV exposure will still weaken the fabric, and prolonged exposure to harsh sunlight can severely compromise the safety of your glider. Once you have finished flying, put your wing away. Do not leave it in strong sunshine unnecessarily.

Never drag or slide the glider over concrete or other hard surface as this can cause abrasion damage to the sail.

Do not treat your canopy with chemical cleaners or solvents. If you must wash the fabric, use warm water and a little soap. If your canopy gets wet in sea water, wash it with warm fresh water and carefully dry it.

Small Repairs

Small tears (up to around 10cm) in the top or bottom surface (not normally the ribs) of a canopy can be repaired with a patch of self-adhesive ripstop nylon, providing they are not in high-stress areas. If you have any doubt about the airworthiness of your glider please contact your dealer or BGD directly.

Lines



Left : loops on the maillons; right: loops released

Releasing loops on the rear lines

All BGD gliders are rigged from new with loops on the maillons of the C lines (and D lines if any) plus the stabi line. The loops can be released to compensate for any shrinkage of the back lines as the glider gets older.

BGD recommends releasing the loops after 100 hours or one year, whichever comes first, or earlier if the pilot feels the glider does not come up as easily on launch.

When the first line check is done, normally at 2 years, the loops

should already have been released, and this should be verified and fine-tuned by the check centre.

Mounting Replacement Lines

If you need to replace lines on your glider, we recommended that a professional should mount the new lines. The airworthiness of your glider, and your safety, depends on it being done correctly.

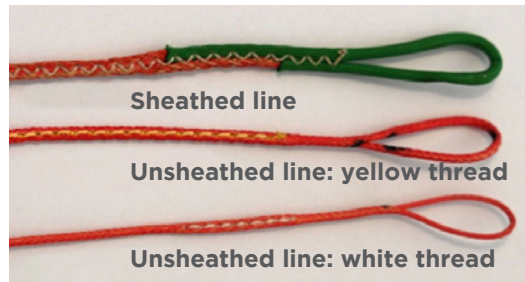
You can identify the line(s) you need to replace from the line layout diagram for your wing. Download the latest version here: <https://tinyurl.com/BGDlines>

Replacement lines can be ordered from the Accessories section of www.flybgd.com. Check that the lines you have received correspond with the line plan and that it matches your glider.

The quickest way to remove the old lines is to cut them off. However, don't cut the old lines off if you have not received the new ones or you may end up not being able to fly! Sometimes only a part lineset is needed (eg excluding top lines or brakes) so take care not to cut any lines that need to be retained.

Correct alignment of lines

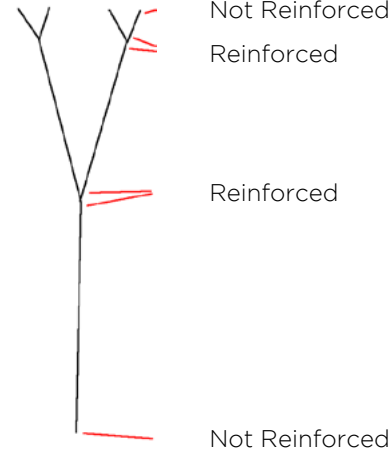
It is important that the lines are mounted the correct way up.



Sheathed lines have no internal reinforcing. They can be mounted either way up

Microlines have internal reinforcing at one end, which is marked with yellow thread.

The non-reinforced end of a microline is marked with white thread.



On unsheathed lines, the reinforced end (yellow thread) is the line junction end. The non-reinforced end attaches to the glider attachment point or maillon.

Alignment of attachment points

Lines should be placed symmetrically on the tab, except where the tab is inclined. The A tabs are inclined backwards on all BGD gliders to align with the direction of pull of the line. So when assembling the lines, the A tab should be angled back, and the B, C and D tabs should be perpendicular to the undersurface of the wing.

Larksfoot attachments

All lines are connected to other lines or to tabs with lark's foot junctions. Make sure that these are joined correctly with interlocked junctions and not looped junctions.



Interlocked junction - correct



Looped junction - incorrect



Interlocked junction - correct



Looped junction - incorrect

After rigging the wing, always do a full dimensional check of the lines, and inflate it to ensure that everything is correct before flying.

Servicing / Inspection

It is important to have your glider regularly serviced. Your wing should have a thorough check / inspection every 24 months or every 150 flight hours, whichever occurs first. This check must be made by the manufacturer, importer, distributor or other authorised persons.

Please print out the service pages from this manual, fill in the number of flights and hours flown in the Service Record, and send together with your glider when it goes for inspection or servicing. The manufacturer will only accept responsibility for lines and repairs which we have produced and fitted or repaired by an approved service centre.

Environmental protection and recycling

Our sport takes place in the natural environment, and we should do everything to preserve our environment. A glider is basically made of nylon, synthetic fibres and metal. At the end of your paraglider's life, please remove all metal parts and put the different materials in an appropriate waste/recycling plant.

Technical Data

Materials

The MAGIC 2 is made from the following quality materials:

Top surface	Porcher Skytex 38g/m ²
Bottom surface	Porcher Eazyfly 40g/m ²
Internal structure	Porcher Skytex hard finish 40g/m ²
Nose reinforcing	2mm high modulus PA6.6 wire
Risers	2:0mm Kevlar / nylon webbing
Pulleys	Riley / Sprenger
Top lines	Liros PPSL / DSL, Liros DC
Middle lines	Liros PPSL / DSL
Lower lines	Liros PPSL / TSL
Brakes	Liros DSL

Spare parts can be obtained directly from BGD or through our network of registered BGD repair shops. Click the 'location' icon at www.flybgd.com

Specifications

	XS	S	M	ML	L
Linear scaling factor	0.96	1.00	1.04	1.08	1.12
Projected area (m ²)	18.2	19.7	21.3	23.0	24.7
Flat area (m ²)	21	23	25	27	29
Glider weight (kg)	4.2	4.5	4.8	5.1	5.4
Total line length (m)	228	247	267	288	310
Height (m)	6.2	6.4	6.7	6.9	7.2
Number of main lines	3/4/3	3/4/3	3/4/3	3/4/3	3/4/3
Cells	38	38	38	38	38
Flat aspect ratio	4.9	4.9	4.9	4.9	4.9
Projected aspect ratio	3.5	3.5	3.5	3.5	3.5
Root chord (m)	2.7	2.8	2.9	3.0	3.1
Flat span (m)	10.2	10.6	11.0	11.5	12.0
Projected span (m)	7.9	8.3	8.6	9.0	9.3
Weight range (kg)	50 - 70	60 - 80	75 - 95	88 - 108	100 - 125
Ideal weight range (kg)	55 - 70	68 - 80	80 - 95	95 - 108	108 - 125
Trim speed (km/h)	37	37	37	37	37
Top speed (km/h)	50	50	50	50	50
Min. sink (m/s)	0.9	0.9	0.9	1.0	1.0
Best glide	9.1	9.2	9.3	9.4	9.5
Certification	EN+LTF: A	EN+LTF: A	EN+LTF: A	EN+LTF: A	EN+LTF: A

Overview of Glider Parts



Risers



The riser set does not have trimmers, or any other adjustable or removable device.

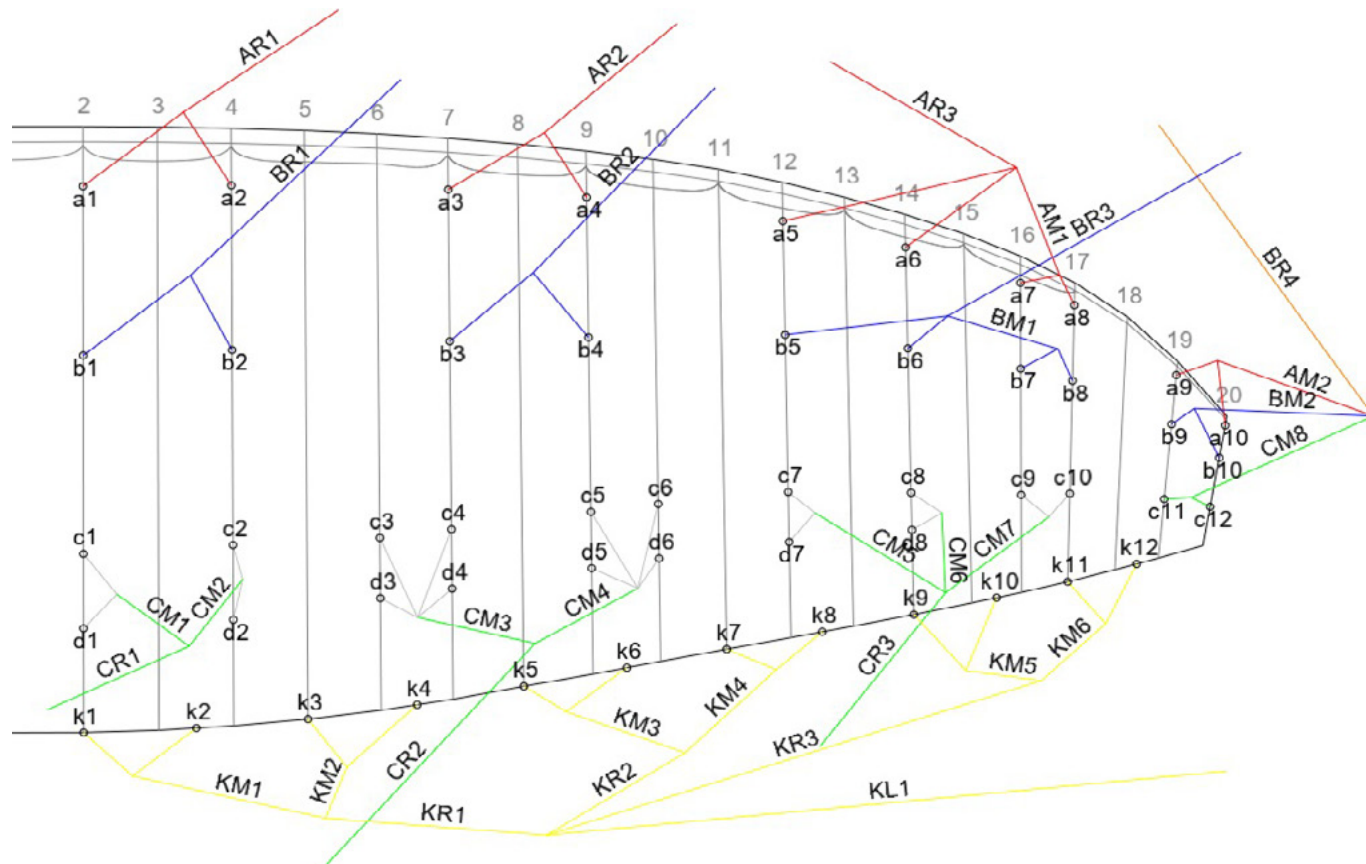
Brake and Accelerator Travel

Size	Riser length (mm)*	Accelerator travel (mm)	Brake range (cm)**
XS	460	120	65
S	500	140	70
M	500	140	75
ML	500	140	80
L	500	140	85

*Actual riser lengths may differ by not more than 5mm

** Maximum symmetrical control travel at maximum weight in flight

Line Plan



Line Lengths

All measures are in mm, with 50N line tension, the tension being slowly and gradually applied before taking the measurement.

The lengths are measured from the lower surface of the canopy and include the risers.

As part of the EN certification process, the test team check the lengths of the suspension lines, control lines and risers given in the manual against the sample glider, after the test flights have been carried out. The difference in line lengths between the manual and the sample may be no more than 10mm. The measured lengths are in the appendix.

Size XS

	A	B	C	D	K
1	6093	6015	6103	6231	6536
2	6077	5992	6077	6196	6333
3	6084	5994	6094	6179	6198
4	6093	6001	6075	6151	6176
5	6074	6004	6065	6140	6060
6	5984	5917	6077	6142	5935
7	5887	5850	6059	6132	5903
8	5847	5834	5947	6002	5946
9	5540	5547	5876		5846
10	5431	5472	5857		5739
11			5691		5696
12			5602		5720

A	B	C	D	K					
a1	2479	b1	2322	c1	725	d1	853	k1	659
a2	2463	b2	2299	c2	740	d2	859	k2	456
a3	2288	b3	1996	c3	1028	d3	1113	k3	593
a4	2297	b4	2003	c4	1009	d4	1085	k4	571
a5	2486	b5	1979	c5	964	d5	1039	k5	589
a6	2396	b6	1892	c6	976	d6	1041	k6	464
a7	397	b7	335	c7	435	d7	508	k7	479
a8	357	b8	319	c8	320	d8	375	k8	522
a9	387	b9	381	c9	374			k9	465
a10	278	b10	306	c10	355			k10	358
AR1	3125	BR1	3200	c11	450			k11	337
AR2	3307	BR2	3504	c12	361			k12	361
AM1	1909	BM1	1496	CM1	1629			KM1	1331
AM2	348	BM2	359	CM2	1588			KM2	1059
AR3	3099	BR3	3531	CM3	1958			KM3	1067
		BR4	4327	CM4	1993			KM4	1020
				CM5	1554			KM5	594
				CM6	1557			KM6	572
				CM7	1432			KR1	2622
				CM8	433			KR2	2480
				CR1	3269			KR3	2863
				CR2	2628			KL1	1931
				CR3	3590				

Bridle check ▲
Single line lengths ►

Size S

	A	B	C	D	K
1	6394	6312	6419	6536	6847
2	6379	6290	6394	6503	6634
3	6387	6295	6395	6483	6493
4	6398	6304	6376	6454	6471
5	6374	6302	6366	6443	6349
6	6281	6210	6380	6445	6219
7	6164	6133	6360	6434	6186
8	6122	6116	6243	6298	6231
9	5813	5820	6169		6126
10	5687	5732	6148		6014
11			5965		5970
12			5868		5996

A	B	C	D	K					
a1	2593	b1	2428	c1	618	d1	737	k1	692
a2	2578	b2	2406	c2	634	d2	745	k2	479
a3	2393	b3	2087	c3	1076	d3	1166	k3	621
a4	2404	b4	2096	c4	1057	d4	1137	k4	599
a5	2601	b5	2072	c5	1009	d5	1088	k5	617
a6	2508	b6	1980	c6	1023	d6	1090	k6	487
a7	416	b7	351	c7	456	d7	532	k7	502
a8	374	b8	334	c8	336	d8	393	k8	547
a9	417	b9	407	c9	393			k9	487
a10	291	b10	319	c10	372			k10	375
AR1	3292	BR1	3371	c11	472			k11	353
AR2	3485	BR2	3694	c12	375			k12	379
AM1	1982	BM1	1558	CM1	1849			KM1	1392
AM2	358	BM2	373	CM2	1808			KM2	1109
AR3	3269	BR3	3721	CM3	2048			KM3	1116
		BR4	4540	CM4	2086			KM4	1068
				CM5	1626			KM5	621
				CM6	1629			KM6	599
				CM7	1498			KR1	2743
				CM8	452			KR2	2596
				CR1	3455			KR3	2998
				CR2	2776			KL1	2002
				CR3	3783				

Bridle check ▲
Single line lengths ►

Size M

	A	B	C	D	K
1	6686	6598	6698	6837	7181
2	6672	6577	6672	6802	6959
3	6679	6582	6693	6788	6813
4	6692	6592	6673	6757	6791
5	6673	6597	6665	6747	6666
6	6577	6503	6680	6749	6531
7	6471	6429	6660	6739	6496
8	6427	6412	6538	6597	6544
9	6092	6101	6461		6436
10	5973	6018	6440		6319
11			6256		6274
12			6159		6301

A	B	C	D	K					
a1	2704	b1	2532	c1	792	d1	931	k1	722
a2	2690	b2	2511	c2	808	d2	938	k2	500
a3	2494	b3	2176	c3	1122	d3	1217	k3	647
a4	2507	b4	2186	c4	1102	d4	1186	k4	625
a5	2711	b5	2160	c5	1053	d5	1135	k5	644
a6	2615	b6	2066	c6	1068	d6	1137	k6	509
a7	434	b7	366	c7	476	d7	555	k7	523
a8	390	b8	349	c8	351	d8	410	k8	571
a9	423	b9	418	c9	411			k9	509
a10	304	b10	335	c10	390			k10	392
AR1	3453	BR1	3533	c11	492			k11	369
AR2	3656	BR2	3872	c12	395			k12	396
AM1	2082	BM1	1632	CM1	1776			KM1	1450
AM2	379	BM2	391	CM2	1734			KM2	1157
AR3	3433	BR3	3903	CM3	2134			KM3	1163
		BR4	4772	CM4	2175			KM4	1114
				CM5	1696			KM5	647
				CM6	1699			KM6	625
				CM7	1562			KR1	2858
				CM8	471			KR2	2708
				CR1	3610			KR3	3129
				CR2	2917			KL1	2158
				CR3	3968				

Bridle check ▲
Single line lengths ►

Size ML

	A	B	C	D	K
1	6944	6851	6959	7103	7481
2	6929	6830	6932	7067	7252
3	6940	6840	6956	7054	7102
4	6954	6851	6935	7023	7079
5	6936	6857	6928	7014	6949
6	6837	6757	6943	7016	6809
7	6726	6682	6923	7006	6773
8	6681	6664	6796	6858	6823
9	6333	6342	6716		6712
10	6209	6255	6695		6592
11			6504		6545
12			6402		6573

A	B	C	D	K					
a1	2809	b1	2630	c1	824	d1	968	k1	750
a2	2794	b2	2609	c2	840	d2	975	k2	521
a3	2591	b3	2261	c3	1167	d3	1265	k3	673
a4	2605	b4	2272	c4	1146	d4	1234	k4	650
a5	2817	b5	2246	c5	1095	d5	1181	k5	670
a6	2718	b6	2146	c6	1110	d6	1183	k6	530
a7	451	b7	381	c7	495	d7	578	k7	544
a8	406	b8	363	c8	365	d8	427	k8	594
a9	440	b9	435	c9	427			k9	529
a10	316	b10	348	c10	406			k10	409
AR1	3606	BR1	3688	c11	512			k11	384
AR2	3820	BR2	4045	c12	410			k12	412
AM1	2163	BM1	1696	CM1	1845			KM1	1506
AM2	394	BM2	406	CM2	1802			KM2	1204
AR3	3590	BR3	4077	CM3	2217			KM3	1208
		BR4	4981	CM4	2261			KM4	1158
				CM5	1762			KM5	672
				CM6	1765			KM6	650
				CM7	1623			KR1	2968
				CM8	490			KR2	2814
				CR1	3770			KR3	3254
				CR2	3052			KL1	2264
				CR3	4146				

Bridle check ▲
Single line lengths ►

Size L

	A	B	C	D	K
1	7194	7097	7209	7360	7771
2	7180	7077	7184	7325	7534
3	7192	7086	7209	7311	7381
4	7206	7100	7189	7279	7358
5	7188	7106	7181	7270	7223
6	7086	7003	7197	7273	7078
7	6971	6925	7176	7263	7041
8	6924	6907	7045	7109	7093
9	6565	6574	6961	0	6979
10	6436	6484	6939	0	6854
11	0	0	6741	0	6806
12	0	0	6636	0	6836

A	B	C	D	K					
a1	2910	b1	2725	c1	854	d1	1005	k1	778
a2	2896	b2	2705	c2	871	d2	1012	k2	541
a3	2685	b3	2342	c3	1209	d3	1311	k3	699
a4	2699	b4	2356	c4	1189	d4	1279	k4	676
a5	2919	b5	2328	c5	1135	d5	1224	k5	695
a6	2817	b6	2225	c6	1151	d6	1227	k6	550
a7	468	b7	395	c7	513	d7	600	k7	564
a8	421	b8	377	c8	379	d8	443	k8	616
a9	457	b9	451	c9	443			k9	549
a10	328	b10	361	c10	421			k10	424
AR1	3755	BR1	3839	c11	531			k11	398
AR2	3978	BR2	4210	c12	426			k12	428
AM1	2241	BM1	1758	CM1	1911			KM1	1560
AM2	408	BM2	421	CM2	1869			KM2	1249
AR3	3740	BR3	4244	CM3	2297			KM3	1252
		BR4	5182	CM4	2343			KM4	1201
				CM5	1826			KM5	696
				CM6	1829			KM6	674
				CM7	1681			KR1	3074
				CM8	507			KR2	2917
				CR1	3924			KR3	3375
				CR2	3183			KL1	2366
				CR3	4317				

Bridle check ▲
Single line lengths ►

Service Record

Service No 1

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Service No 2

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Service No 3

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Service No 4

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Service No 5

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Service No 6

Date	<input type="text"/>	Stamp / signature
No of flights	<input type="text"/>	
Type of service	<input type="text"/>	
	<input type="text"/>	

Owner Record

Pilot No 1

First name

Last name

Address Line 1

Address Line 2

Postcode

Country

Phone

Email

Owner Record

Pilot No 2

First name

Last name

Address line 1

Address line 1

Postcode

Country

Phone

Email

Closing Words

Your paraglider is an advanced, stable glider that promises many hours of safe and enjoyable flying, provided you treat it with care and always respect the potential dangers of aviation.

Please always remember that flying can be dangerous and your safety depends on you. With careful treatment your wing should last for many years. It has been tested to current international airworthiness standards, and these represent the current knowledge concerning the safety of a paraglider. However, there are still many unknowns, for example the effective lifespan of the current generation of gliders and how much material material ageing is acceptable without affecting the airworthiness. There are natural forces that can seriously threaten your safety, regardless of the quality of construction or the condition of your glider. Your security is ultimately your responsibility. We strongly recommend that you fly carefully, adapt to the weather conditions and keep your safety in mind.

Flying in a club or a school with experienced pilots is highly recommended.

We recommend that you fly with a standard harness with back protection and a reserve parachute. Always use good equipment and an approved helmet.

See you in the sky!

BGD GmbH
Am Gewerbepark 11, 9413 St. Gertraud, Austria
Tel: +43 (0) 4352 20477
e-mail: sales@flybgd.com
www.flybgd.com