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# ADAM 2 OWNER'S MANUAL

Solo paraglider | EN / LTF A

## 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 BGD ADAM 2**

The ADAM 2 is a beginners' paraglider, suitable for training in schools. In order to ensure your wing retains its original flight characteristics, it should be properly looked after. Please read this manual from the first to the last chapter to ensure you get the best out of your wing.

Do not hesitate to contact your nearest BGD dealer if you need any advice or information about your paraglider, or any replacement parts.

# Introduction

## Limitations

The ADAM 2 is suitable for beginners. It is a solo paraglider, and is not suitable for tandem use.

It is suitable for towing. Both pilot and winch operator should have the necessary training and qualifications for towing, and the tow system should be certified for paraglider use.

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

This paraglider must not:

1. Be flown outside the certified weight range
2. Have its trim speed adjusted by changing the length of risers or lines
3. Be flown in rain or snow
4. Be towed with a tow-line tension in excess of 200kg

## Warranty

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 the website](#).

It is your dealer's responsibility to test fly the paraglider before you receive it, to check the trim settings are correct.

Please check that this has been completed. 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 generally recommend pilots to fly in the middle of the weight range.

If you mainly fly in weak conditions you might wish to fly towards the lower end of the weight range to benefit from a better sink rate. In the lower half of the weight range the turning agility will be lower and the glider will be more damped. In strong turbulence the wing will have a greater tendency to deform or collapse with a lower wing loading. If you prefer dynamic flight characteristics, want more speed or often fly in strong conditions you might choose to fly higher in the weight range. If you fly in the upper half of the weight range agility and speed will be higher and you will have greater stability in turbulence, but there will be reduced self-damping in turns and after collapses.

## Modifications

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

Your 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 EN standard harness dimensions are a seat board width of 42cm.

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

38cm for pilots under 50kg

42cm for pilots from 50-80kg

46cm for pilots above 80kg

# Preparation and Pre-flight Checks

## Setting up the speed bar

The ADAM 2 has accelerator risers, with Brummel hooks to attach the speed bar. The glider can be flown with or without a speed bar attached. The speed bar should be connected and adjusted following the instructions in your harness manual to ensure correct routing of the lines.

To adjust the speed bar lines to the correct length, sit in your harness and ask a helper to hold the risers up in their in-flight position. The speed bar line 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 push your legs out. 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.

## On launch

1. 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.
2. 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.
3. Unroll the canopy to each side so that the leading edge openings form a semicircular 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 checks

Your paraglider is designed to be simple to inspect and maintain but a thorough 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 have been 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 book 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.

## Take-off

The wing is easy to inflate in light or stronger winds and will quickly rise overhead to the flying position. It will launch easily using either the forward launch technique (best for light winds) or reverse launch (best for stronger winds).

### 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). The middle A-risers are marked A. The outer A-risers, which are used for big-ears, are marked A'. Take the middle A risers, one in each hand, and step forward to begin your launch run, applying pressure smoothly on the A-risers. As soon as the canopy starts to rise off the ground, stop applying pressure to the A-risers, but apply pressure on all the risers evenly through the harness. In very light conditions, maintaining gentle pressure on the A-risers can be helpful. Be ready to gently brake the canopy 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 weightshift 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 weightshifting 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 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 speed bar before you use full bar.

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 dyneema line that connects the speed system in the risers is designed to have a small amount of slack in it, in order to obtain the correct riser lengths when accelerated. The amount of slack in this line varies with wing size and determines the B riser length when fully accelerated. The length of this line can be adjusted where it is looped on the maillon of the B-riser. It can also be replaced if necessary.

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 30 cm 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 may come out on their own. If not, a pump on the brakes is all that is 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.

### **B-Line Stall**

This is a fast descent method and is a useful emergency procedure. Keeping hold of 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, usually 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 100 m of ground clearance.

### **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.

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

and break the lines.

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.

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

## Landing

Landing is very straightforward. When landing in light winds, flare in the normal way from an altitude of around 2 m. 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.

### 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 this situation. 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 5 m/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 accidentally.

During the early stages of a front collapse the pilot should apply brake 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 Front Collapse

Your paraglider is very resistant to deflations; however 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 normal 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, strong, smooth and firm action. Normally one or two pumps of around 80 cm 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 of all use 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 such 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.

# Maintenance

## Storage

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

It is recommended to store 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, and avoid letting 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 canopy. Therefore once you have finished flying, put your wing away. Do not leave it laying in strong sunshine unnecessarily.

Never drag or slide the top surface of 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 water and carefully dry it.

## Small Repairs

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

## Lines

### Releasing loops on the rear lines



*Left: loops on maillons; Right: loops released.*

### 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>

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 are there so that they can be released to compensate for any shrinkage of the back lines as the glider gets older.

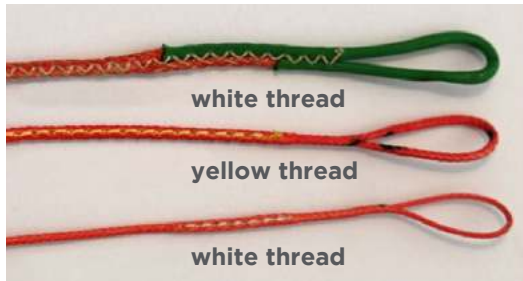
BGD recommends releasing the loops after 100 hours or one year, whichever comes first, or earlier if the pilot feels the glider does not come up as easily on launch.

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.

Replacement lines can be ordered from the Accessories section of [www.flybgd.com](http://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

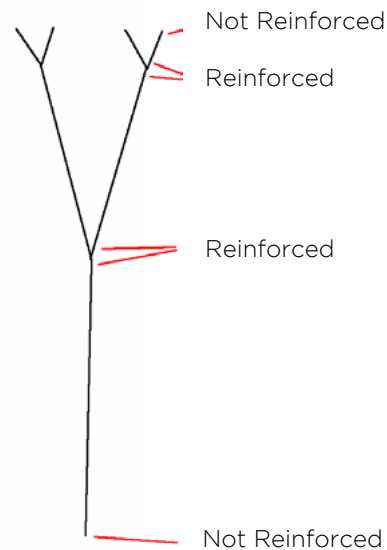


It is important that the lines are mounted the correct way up.

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

Yellow thread marks the reinforced end of a microline

White thread marks the non-reinforced end of a microline.



Unsheathed lines have an internal reinforcement at one end, marked with a yellow thread. This is the line junction end. The non-reinforced end is marked with a white thread and must be attached to the glider attachment point or maillon. Sheathed lines have no additional reinforcement and can be mounted in both directions.

### 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 it 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.



Interlocked junction - correct



Looped junction - incorrect



Interlocked junction - correct



Looped junction - incorrect

### Attaching the lines

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



BGD maillons have black plastic inserts to prevent them from accidentally coming undone and the lines from falling out. Always ensure that they are correctly installed after rigging the glider. If they are lost, use a line lock insert to hold the link closed. New inserts can be ordered from [www.flybgd.com](http://www.flybgd.com).

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 ADAM 2 is made from the following quality materials:

### Sail

Top surface	Dominico D30
Bottom surface	Porcher Eazyfly 40g/m <sup>2</sup>
All ribs, TE mini ribs and diagonal ribs	Porcher Skytex 40 g/m <sup>2</sup> hard
CS straps	Porcher Skytex 40 g/m <sup>2</sup> hard
Nose reinforcing	Plastic wire

### Risers

Webbing	Rivori 12 mm nylon black
Maillons	Maillon Rapide 3.5D Delta shackles + inserts
Pulleys	Sprenger, Ronstan P18

### Lines

Top lines	Liros PPSL (sheathed)
Middle lines	Liros PPSL (sheathed)
Lower lines	Liros PPSL (sheathed)
Brakes	Liros DSL
Brake line KL1	Liros DSL350

Spare parts can be obtained directly from BGD or through our network of registered BGD repair shops.

For a full list check [www.flybgd.com](http://www.flybgd.com)

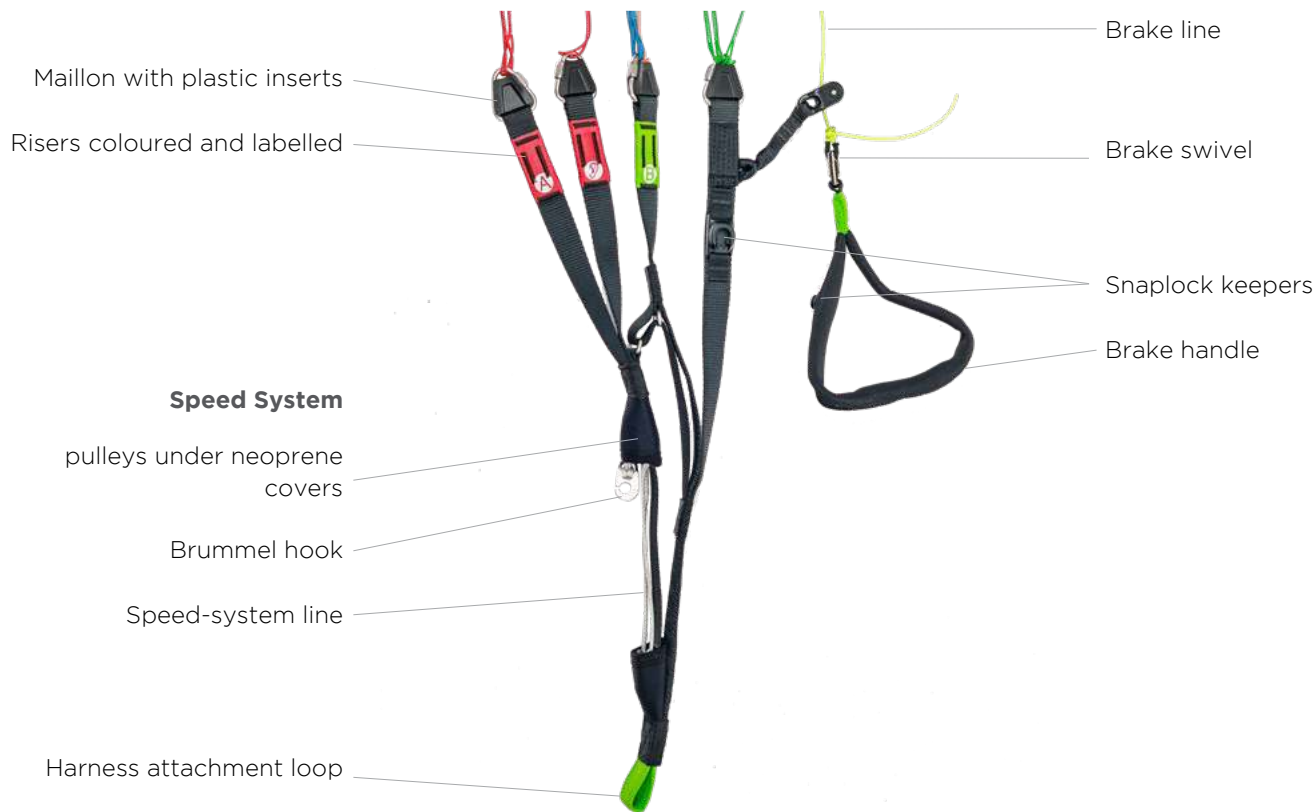
## Specifications

	<b>XS</b>	<b>S</b>	<b>M</b>	<b>ML</b>	<b>L</b>
Linear scaling factor	0.96	1.00	1.04	1.08	1.12
Projected area (m <sup>2</sup> )	17.9	19.7	21.4	23.1	24.8
Flat area (m <sup>2</sup> )	21	23	25	27	29
Glider weight (kg)	4.1	4.4	4.75	4.96	5.4
Total line length (m)	212	232	252	272	293
Number of main lines			3/4/3		
Cells			36		
Flat aspect ratio			4.8		
Projected aspect ratio			3.4		
Root chord (m)	2.6	2.7	2.9	3.0	3.1
Flat span (m)	10.0	10.5	11.0	11.4	11.8
Projected span (m)	7.9	8.2	8.6	8.9	9.2
Certified weight range (kg)	50 - 65	60 - 80	75 - 95	88 - 108	100 - 125
Trim speed (km/h)			37		
Top speed (km/h)			48		
Min. sink (m/s)			1		
Best glide			8.5		
Certification (free flight)	EN+LTF: A	EN+LTF: A	EN+LTF: A	EN+LTF: A	EN+LTF: A
Certification (paramotor)	Not yet tested				
Suitable for towing	Yes				

## Overview of glider parts



### Risers



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

## Accelerator and brake ranges

### Riser lengths

Length are in millimetres. The actual measured riser length must be no more than 5 mm different to the value in the table.

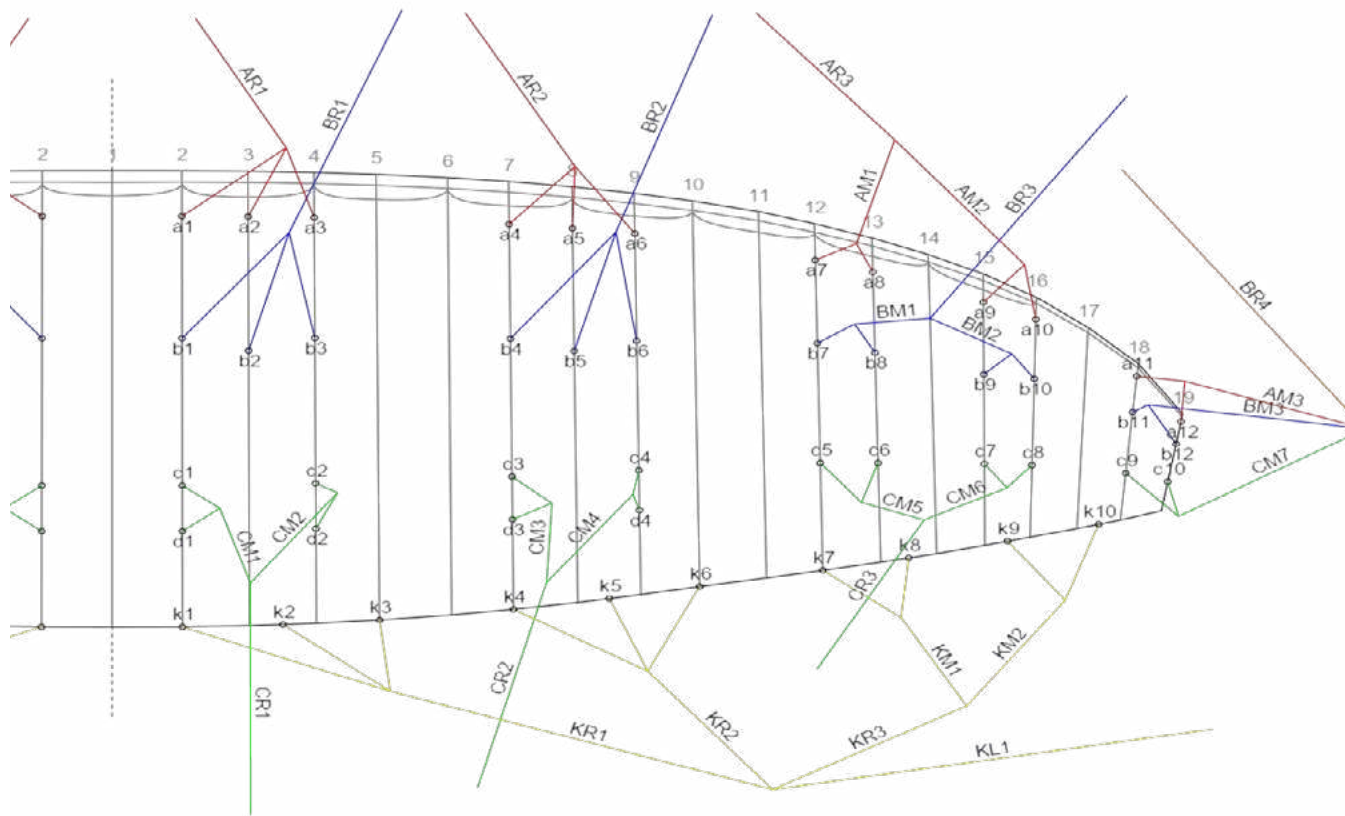
	<b>A</b>	<b>Baby A</b>	<b>B</b>	<b>C</b>
Trim slow	500	500	500	500
Accelerated	360	360	410	500
Accelerator Length	140 between end of pulleys			

### Brake range

In millimetres, at maximum all-up weight.

<b>XS</b>	<b>S</b>	<b>M</b>	<b>ML</b>	<b>L</b>
650	675	700	730	750

# Line Plan



## Line Lengths

The latest versions of the line layout diagrams and line lengths for all BGD wings can be downloaded from [Dropbox](#).

All measures are in mm, with 50 N 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.

Compliance of the test sample's suspension lines, control lines and risers with the dimensions given in the user's manual are checked by the testing laboratory after the test flights have been completed

The difference in line lengths between the manual and the sample may be no more than 10 mm. The measured lengths are in the appendix.



Size XS

	A	B	C	D	K
1	6159	6090	6174	6250	6558
2	6132	6041	6153	6226	6335
3	6137	6067	6126	6195	6246
4	6149	6058	6117	6177	6044
5	6139	6039	6105		5945
6	6150	6058	6036		5977
7	6110	6048	5942		5938
8	6064	6001	5926		5873
9	5933	5895	5711		5848
10	5873	5855	5612		5926
11	5549	5563			
12	5404	5453			

A	B	C	D	K					
a1	1749	b1	1730	c1	865	d1	941	k1	1440
a2	1722	b2	1681	c2	855	d2	928	k2	1217
a3	1727	b3	1707	c3	819	d3	888	k3	1128
a4	1647	b4	1436	c4	815	d4	875	k4	1280
a5	1637	b5	1417	c5	724			k5	1181
a6	1648	b6	1436	c6	655			k6	1213
a7	474	b7	416	c7	492			k7	773
a8	428	b8	369	c8	476			k8	708
a9	429	b9	364	c9	496			k9	474
a10	369	b10	324	c10	397			k10	552
a11	426	b11	415						
a12	281	b12	305						
AR1	3929	BR1	3881	CM1	901			KR1	2550
AR2	4021	BR2	4141	CM2	890			KR2	2196
AM1	2076	BM1	1589	CM3	853			KM1	822
AM2	1944	BM2	1487	CM4	848			KM2	1031
AM3	362	BM3	385	CM5	776			KR3	1782
AR3	3084	BR3	3568	CM6	845			KL1	2551
		BR4	4302	CM7	452				
				CR1	3950				
				CR2	3996				
				CR3	4144				

Bridle check ▲  
Single line lengths ►

## Size S

	A	B	C	D	K
1	6487	6411	6507	6586	6887
2	6459	6376	6486	6563	6667
3	6465	6388	6477	6550	6584
4	6474	6385	6468	6530	6392
5	6465	6370	6450		6270
6	6476	6386	6379		6305
7	6436	6384	6280		6223
8	6388	6335	6263		6149
9	6253	6225	6032		6133
10	6189	6183	5928		6201
11	5884	5893			
12	5734	5779			

Bridle check ▲  
Single line lengths ►

A	B	C	D	K					
a1	1830	b1	1833	c1	906	d1	985	k1	1503
a2	1802	b2	1788	c2	896	d2	973	k2	1283
a3	1808	b3	1810	c3	857	d3	930	k3	1200
a4	1723	b4	1718	c4	854	d4	916	k4	1345
a5	1714	b5	1703	c5	758			k5	1223
a6	1725	b6	1719	c6	687			k6	1258
a7	496	b7	436	c7	516			k7	816
a8	448	b8	387	c8	499			k8	742
a9	450	b9	382	c9	520			k9	505
a10	386	b10	340	c10	416			k10	573
a11	446	b11	435						
a12	296	b12	321						
AR1	4143	BR1	4061	CM1	943			KR1	2667
AR2	4232	BR2	4148	CM2	932			KR2	2330
AM1	2172	BM1	1662	CM3	893			KM1	859
AM2	2035	BM2	1556	CM4	887			KM2	1080
AM3	395	BM3	413	CM5	812			KR3	1838
AR3	3254	BR3	3768	CM6	884			KL1	2695
		BR4	4529	CM7	472				
				CR1	4145				
				CR2	4214				
				CR3	4369				

## Size M

	A	B	C	D	K
1	6768	6689	6779	6861	7178
2	6739	6653	6759	6839	6936
3	6747	6666	6750	6826	6841
4	6753	6661	6742	6807	6623
5	6743	6648	6729		6515
6	6755	6662	6655		6552
7	6716	6662	6551		6510
8	6666	6611	6534		6440
9	6524	6496	6292		6416
10	6458	6453	6184		6502
11	6142	6146			
12	5987	6028			

Bridle check ▲  
Single line lengths ►

A	B	C	D	K					
a1	1907	b1	1932	c1	945	d1	1027	k1	1571
a2	1878	b2	1896	c2	935	d2	1015	k2	1329
a3	1886	b3	1909	c3	894	d3	970	k3	1234
a4	1797	b4	1989	c4	891	d4	956	k4	1397
a5	1787	b5	1976	c5	791			k5	1289
a6	1799	b6	1990	c6	717			k6	1326
a7	518	b7	455	c7	538			k7	844
a8	468	b8	404	c8	521			k8	774
a9	469	b9	398	c9	542			k9	518
a10	403	b10	355	c10	434			k10	604
a11	466	b11	455						
a12	311	b12	337						
AR1	4340	BR1	4233	CM1	982			KR1	2777
AR2	4435	BR2	4146	CM2	972			KR2	2396
AM1	2263	BM1	1732	CM3	930			KM1	895
AM2	2120	BM2	1622	CM4	925			KM2	1127
AM3	412	BM3	430	CM5	846			KR3	1948
AR3	3416	BR3	3952	CM6	921			KL1	2803
		BR4	4745	CM7	492				
				CR1	4342				
				CR2	4416				
				CR3	4579				

## Size ML

	A	B	B	D	K
1	7020	6945	7049	7134	7506
2	6991	6911	7029	7112	7254
3	6999	6923	7005	7085	7156
4	7016	6911	6998	7065	6930
5	7006	6900	6982		6820
6	7019	6912	6905		6858
7	6976	6911	6798		6814
8	6925	6859	6780		6741
9	6778	6739	6540		6717
10	6710	6694	6427		6807
11	6379	6385			
12	6219	6264			

Bridle check ▲  
Single line lengths ►

A	B	C	D	K					
a1	1981	b1	2025	c1	982	d1	1067	k1	1634
a2	1952	b2	1991	c2	972	d2	1055	k2	1382
a3	1960	b3	2003	c3	929	d3	1009	k3	1284
a4	1866	b4	2250	c4	927	d4	994	k4	1451
a5	1856	b5	2239	c5	822			k5	1341
a6	1869	b6	2251	c6	745			k6	1379
a7	538	b7	473	c7	560			k7	878
a8	487	b8	421	c8	542			k8	805
a9	488	b9	414	c9	564			k9	538
a10	420	b10	369	c10	451			k10	628
a11	485	b11	473						
a12	325	b12	352						
AR1	4518	BR1	4398	CM1	1020			KR1	2884
AR2	4629	BR2	4137	CM2	1010			KR2	2491
AM1	2351	BM1	1799	CM3	966			KM1	929
AM2	2203	BM2	1685	CM4	961			KM2	1172
AM3	429	BM3	447	CM5	879			KR3	2026
AR3	3571	BR3	4121	CM6	957			KL1	2966
		BR4	4954	CM7	511				
				CR1	4541				
				CR2	4604				
				CR3	4774				

## Size L

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>K</b>
1	7279	7194	7296	7385	7782
2	7239	7152	7276	7363	7521
3	7258	7173	7262	7345	7420
4	7269	7159	7253	7323	7184
5	7250	7149	7243		7069
6	7274	7160	7163		7109
7	7227	7162	7051		7068
8	7175	7108	7031		6997
9	7023	6986	6780		6974
10	6953	6939	6664		7063
11	6621	6617			
12	6452	6490			

Bridle check ▲  
Single line lengths ►

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>K</b>					
a1	2052	b1	2115	c1	1018	d1	1107	k1	1694
a2	2012	b2	2073	c2	1008	d2	1095	k2	1433
a3	2031	b3	2094	c3	963	d3	1046	k3	1332
a4	1934	b4	2500	c4	960	d4	1030	k4	1504
a5	1915	b5	2490	c5	854			k5	1389
a6	1939	b6	2501	c6	774			k6	1429
a7	557	b7	491	c7	582			k7	910
a8	505	b8	437	c8	562			k8	839
a9	506	b9	430	c9	585			k9	561
a10	436	b10	383	c10	469			k10	650
a11	502	b11	490						
a12	338	b12	366						
AR1	4706	BR1	4557	CM1	1057			KR1	2988
AR2	4814	BR2	4135	CM2	1047			KR2	2580
AM1	2434	BM1	1864	CM3	1001			KM1	964
AM2	2281	BM2	1748	CM4	995			KM2	1219
AM3	454	BM3	462	CM5	906			KR3	2101
AR3	3720	BR3	4289	CM6	986			KL1	3093
		BR4	5154	CM7	530				
				CR1	4715				
				CR2	4792				
				CR3	4976				

# Service Record

**Service No 1**Date  Stamp / SignatureN° flights Type of Service Notes **Service No 2**Date  Stamp / SignatureN° flights Type of Service Notes **Service No 3**Date  Stamp / SignatureN° flights Type of Service Notes **Service No 4**Date  Stamp / SignatureN° flights Type of Service Notes **Service No 5**Date  Stamp / SignatureN° flights Type of Service Notes **Service No 6**Date  Stamp / SignatureN° flights Type of Service Notes

# Owner Record

## Pilot No 1

First name

Family name

Street

City

Post code

Country

Telephone

Email:

## Pilot No 2

First name

Family name

Street

City

Post code

Country

Telephone

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!

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Am Gewerbepark 11,  
9413 St Gertraud, Austria  
Tél +43 (0) 4352 35676

43N SARL R&D  
195 Avenue Auguste Renoir,  
06520, Magagnosc, France  
[email: sales@flybgd.com](mailto:sales@flybgd.com)

# Appendix

## EN line measurements

The tables below show the line measurements for the test wings, as measured by the test house during the certification procedure. These figures relate to the Bridle Check Tables in section 7.

### Size XS

	A	B	C	D	K
1	6162	6089	6173	6249	6554
2	6129	6039	6153	6221	6330
3	6140	6069	6130	6199	6246
4	6150	6055	6116	6176	6040
5	6136	6027	6103		5940
6	6149	6047	6034		5972
7	6112	6048	5940		5938
8	6060	6001	5926		5873
9	5936	5886	5702		5848
10	5873	5849	5603		5925
11	5541	5556			
12	5400	5447			

### Size S

	A	B	C	D	K
1	6484	6411	6508	6586	6887
2	6454	6377	6488	6564	6659
3	6465	6387	6477	6549	6577
4	6471	6385	6469	6531	6388
5	6455	6363	6453		6282
6	6473	6387	6383		6296
7	6429	6383	6278		6221
8	6388	6331	6262		6152
9	6248	6218	6031		6144
10	6187	6180	5928		6207
11	5884	5889			
12	5737	5777			

## Size M

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>K</b>
1	6761	6688	6782	6859	7163
2	6732	6646	6758	6836	6925
3	6745	6669	6747	6823	6832
4	6749	6660	6741	6804	6620
5	6736	6643	6729		6508
6	6754	6662	6655		6548
7	6714	6660	6550		6501
8	6668	6610	6533		6439
9	6523	6494	6293		6423
10	6459	6453	6185		6505
11	6143	6147			
12	5991	6028			

## Size ML

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>K</b>
1	7018	6944	7049	7126	7497
2	6995	6906	7025	7108	7250
3	7001	6927	7002	7077	7148
4	7014	6915	6996	7061	6930
5	7006	6892	6977		6818
6	7014	6907	6899		6855
7	6982	6909	6794		6814
8	6930	6859	6778		6741
9	6784	6734	6535		6715
10	6714	6689	6419		6804
11	6379	6379			
12	6218	6257			

## Size L

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>K</b>
1	7283	7195	7299	7382	7777
2	7241	7155	7278	7363	7518
3	7263	7174	7264	7341	7416
4	7271	7158	7252	7322	7184
5	7250	7152	7241		7067
6	7277	7167	7160		7107
7	7233	7168	7056		7058
8	7181	7115	7034		6990
9	7029	6987	6779		6966
10	6959	6941	6664		7054
11	6615	6616			
12	6448	6484			