

OZONE

ALTA

Pilot Manual - EN

CONTENTS

Thank You	01
Warning	02
Your Alta	03
Limitations	05
Preparation	07
Basic Flight Techniques	09
Rapid descent Techniques	12
Incidents	14
Care and Maintenance	16
Ozone Quality	23
Technical Specifications	24
Drawings/Riser Lengths	25
Rigging Diagram	26
Materials	27



THANK YOU

Thank you for choosing Ozone.

As a team of free flying enthusiasts, competitors and adventurers, Ozone's mission is to build paragliding equipment of the highest quality. We are constantly working together to develop cutting edge designs with class leading performance and maximum security. Wings are rigorously tested and developed by our team of experienced, discerning, world-class pilots to ensure they meet your expectations and demands. The products we offer you are the ones we fly ourselves, every day.

To ensure the highest levels of quality, we manufacture our products in our own production facility. This unique made-to-order system means that every glider is effectively tailor-made for you. Panels are individually laser cut from a single layer to ensure the highest precision and production consistency from one wing to the next. Your wing undergoes numerous rigorous quality control checks at each and every stage of the manufacturing process to guarantee it meets the highest industry standards.

It is essential that you read this manual before flying your wing for the first time. It includes important information regarding the use and care of your paraglider. For the latest updates, including all technical datas, please refer to the latest online version.

If you need any further information about any of our products please check flyozone.com or contact your local dealer, school or any of us here at Ozone.

Safe Flying!
Team Ozone

WARNING

- Paragliding is a potentially dangerous sport that can cause serious injury including bodily harm, paralysis and death. Flying an Ozone paraglider is undertaken with the full knowledge that paragliding involves such risks.
- As the owner of an Ozone paraglider you take exclusive responsibility for all risks associated with its use. Inappropriate use and or abuse of your equipment will increase these risks.
- Any liability claims resulting from use of this product towards the manufacturer, distributor or dealers are excluded.
- Be prepared to practice as much as you can - especially ground handling, as this is a critical aspect of paragliding. Poor control while on the ground is one of the most common causes of accidents.
- Be ready to continue your learning by attending advanced courses to follow the evolution of our sport, as techniques and materials keep improving.
- Use only certified paragliders, harnesses with protector and reserve parachutes that are free from modification, and use them only within their certified weight ranges. Please remember that flying a glider outside its certified configuration may jeopardise any insurance (e.g. liability, life etc) you have. It is your responsibility as the pilot to verify your insurance cover.
- Make sure you complete a thorough daily and preflight inspection of all of your equipment. Never attempt flying with unsuitable or damaged equipment.
- Always wear a helmet, gloves and suitable footwear.
- Pilots should have the appropriate level of license for their respective country and third party insurance.
- Make sure that you are physically and mentally healthy before flying.
- Choose the correct wing, harness and conditions for your level of experience.
- Pay special attention to the terrain you will be flying and the weather conditions before you launch. If you are unsure, do not fly and always add a large safety margin to all your decisions.
- NEVER fly your glider in rain, snow, strong wind, turbulent weather conditions or clouds.
- If you use good, safe judgment you will enjoy many years of paragliding.

YOUR ALTA

The Alta is a new breed of paraglider with performance equal to wings in the category above, combined with our most cutting edge lightweight paraglider technology.

The Alta's glide performance, light weight and ease of use makes it an attractive wing for a wide range of pilots. With design and construction techniques used in our X-Alps wings along with features that have made our beginner wings so famously safe, the Alta is ideal as a first wing for beginner pilots and for the more experienced who want maximum levels of safety for XC flying and hike and fly adventures. With high levels of agility and precise yet forgiving brakes the Alta is easy to centre thermals, it has super tight and manoeuvrable handling characteristics for maximum levels of fun.

The Alta is a versatile and reliable wing with the performance necessary to fly big XC. It sits solidly in the EN A category in terms of passive safety yet has the glide performance of a mid-range EN B. Whether you're launching from a coastal dune or a high alpine col, Hike & fly, XC or just thermalling locally, the Alta will take you there with ease.

This unique combination of design tech has created a wing that is forgiving, easy to launch and fun to fly, it is durable enough to be your only wing and light enough to carry anywhere. The Alta contains design technology that has pushed the boundaries of performance in our most advanced wings:

- Double transversal shaping for high efficiency in the leading edge.
- Optimised intake position for high internal pressure, low vibration and good chord stability necessary for agile handling and performance in turbulent air.
- 3D referenced rib alignments for optimal airflow and efficiency.
- The high arc design combined with winglets offers the best of both worlds: better handling, and good roll stability and spiral behaviour.
- A new and unique profile developed from the Moxie provides fast and easy inflation.
- The low drag line plan and materials was developed from knowledge gained in the Red Bull X-Alps wing R&D program.
- Its every-day durability makes the Alta more than just a light wing!

Rucksack

A choice of optional rucksacks are available for your wing. We have a large range suited for many applications - from large competition bags to accommodate modern competition harnesses to small lightweight compact designs suited for lightweight harnesses and hike & fly. You can choose from any of them at the time of order, or decide to not take one and re-use your old rucksack.

Brake Lines

The brake line lengths have been set carefully during testing. We feel it is better to fly with a wrap (one turn of the handle around the hand), for greater turn authority in the thermals and better overall control. Shortening the brakes from the factory setting will affect the trailing edge at full speed, so we strongly recommend to not do so. As the wing ages, the brakes will naturally reduce in length, so it is possible that they will require lengthening at some stage. When adjusting the brake lengths please keep in mind the following:

- Ensure both main brake lines are of equal length.
- If a brake handle has been removed, check the main brake line is routed through the pulley when replacing the handle. Use a bowline knot.
- When the brakes are fully released in flight, the brake lines should be slack. There must be a minimum of around 10cm of free play before the brakes begin to deform the trailing edge and a substantial bow to guarantee no deformation of the trailing edge when accelerated.

Risers

The Alta has been designed with 3 risers per side. The A risers are covered with coloured webbing for easy identification and split into two - the smaller riser, holding only the outermost A line, is for an easier application of big ears.

The risers feature a foot operated accelerator system, they do not feature trimmers.

IMPORTANT

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 (C-risers) for directional control.

LIMITATIONS

Pilot Ability

The Alta has been designed as a solo beginner / intermediate XC wing for those looking for maximum levels of security. Due to the forgiving nature of the wing, it is also suitable for all levels of training. It is not however suitable for tandem flights nor aerobatic manoeuvres.

Total Weight in flight

Each Ozone glider has been designed and certified for a defined weight range. We strongly recommend that you respect these weight ranges. If you are between sizes the following information may help you make a decision as to which size to buy:

- For the most precise and dynamic handling or if you generally fly in mountains and/or in strong conditions, you should choose to fly near the top part of the weight range.
- If you want a better sink rate, or if you generally fly in flat lands and/or in weaker conditions, you may choose to fly nearer the middle part of the weight range. Remember, you can always add ballast when conditions are stronger.
- It is not recommended to fly at the very bottom of the weight range.

SIV

The Alta may be used for SIV training. Ensure you fully understand the correct and safe use of this equipment before attempting SIV and only do so under expert tuition over water with all the necessary safety precautions in place.

Towing

The Alta may be tow-launched. It is the pilot's responsibility to use suitable harness attachments and release mechanisms and to ensure that they are correctly trained on the equipment and system employed. All tow pilots should be qualified to tow, use a qualified tow operator with proper, certified equipment, and make sure all towing regulations are observed. When towing you must be certain that the paraglider is completely over your head before you start. In each case the maximum tow force needs to correspond to the body weight of the pilot.



Flying in the Rain

Modern wings are susceptible to rain and moisture, flying with a wet wing can result in the loss of normal flight.

Due to the efficient, wrinkle-free design of the sail, water tends to bead on the leading edge causing flow separation. Flow separation will make the wing more prone to entering inadvertent parachutal stalls, so flying in the rain, or with a wet wing (e.g early morning dew) should be avoided at all costs.

If you are accidentally caught-out in a rain shower, it is best to land immediately. If your wing becomes wet in the air it is advised to maintain accelerated flight using the speed bar, even during the final approach. DO NOT use big ears as a descent technique, big ears increases drag, and with a wet wing this will further increase the chances of a parachutal stall occurring. Instead, lose height with gentle 360's and maintain your air speed at all times. If your wing enters parachutal stall when wet, immediately accelerate the wing with the speed bar to regain airspeed.

IMPORTANT
**Never fly in the rain or
with a wet glider.**

PREPARATION

Accelerator System

Attach the speed system lines to the accelerator system on the risers with the Brummel hooks. Alternatively they can be bypassed with the speed system attached directly to the riser accelerator lines using a Larks foot.

There must be enough slack in the speed system to ensure the A risers are not inadvertently pulled during normal trim speed flight, but not so long that it is impossible to use the full speed range of the glider.

Maximum speed is achieved when the pulleys overlap. Pushing the speed system beyond this point will not increase the speed.

Once set up, test the full range of the accelerator in calm flying conditions and ensure that both risers are pulled evenly during operation. Fine-tuning can be completed when you are back on the ground.

Harness

It is important to set up your harness correctly before flying the wing. Make sure to spend time adjusting your harness's different settings until you are completely comfortable. Depending on the size of the wing, we recommend a chest strap setting between 42cm and 48cm (measured between the centre of the hang points). The XS/S sizes were certified with a chest strap set to around 42cm, the MS and ML at 44cm, and the L/XL between 46-48cm. Do not fly with a chest strap setting too tight (below 42cm) or too wide (above 48cm) as this will affect the behaviour and feedback of the wing.

IMPORTANT
Using the accelerator decreases the angle of attack and makes the wing more prone to collapse, therefore using the accelerator near the ground or in turbulent conditions should be avoided.

Wing

To prepare the wing, lay it out on the top surface and perform a thorough daily check. You should inspect the top and bottom surfaces for any rips and tears or any other obvious signs of damage. Lay out the lines one side at a time, hold up the risers and starting with the brake lines, pull all lines clear. Repeat with the C (including the upper D lines), B and A lines, laying the checked lines on top of the previous set. Make sure no lines are tangled, knotted or snagged. Mirror the process on the other side and then inspect the lines for any visual damage.

Inspect the risers for any signs of obvious damage or wear. Ensure they are not twisted in any way.

Take-off checklist:

1. Check reserve parachute - pin is in and handle secure
2. Helmet on and fastened
3. All harness buckles closed - check leg-loops again
4. Risers connected to the harness correctly with carabiners and maillons tight
5. Accelerator system connected
6. Holding the A risers and your brake handles correctly
7. Leading edge open
8. Aligned in the middle of the wing and directly into wind
9. Airspace and visibility clear

BASIC FLIGHT TECHNIQUES

Launching

Your Alta will launch with either the forward or reverse technique. The wing should be laid out in a pronounced arc, with the centre of the wing higher than the tips.

Forward Launch - Nil to Light winds

When the wind is favourable, whilst gently holding the central A risers move forward positively, your lines should become tight within one or two steps and the Alta will immediately start to inflate. You should maintain a constant pressure on the risers until the wing is overhead. Do not pull down or push the risers forward excessively, or the leading edge will deform and possibly collapse.

Move smoothly throughout the entire launch, do not rush or snatch at it. Once above your head look up and check the canopy is fully inflated and there are no knots in the lines before committing yourself to the launch run.

Reverse Launch - Light to Strong Winds

Lay out your wing as you would for the forward launch. Turn to face it by passing one entire set of risers over your head as you turn. Inflate the glider using your body weight and the A-risers. Once the wing is overhead, release the risers, brake gently if necessary, turn and launch. In stronger winds, be prepared to take a few steps towards the glider as it inflates. This will take some of the energy out of the wing and it will be less likely to overfly you or pick you off your feet.

Speed to Fly

The Alta achieves its best glide in still air at trim speed. To maximise glide ratio when gliding downwind or when the air is not excessively sinking fly at trim speed or slightly slower by applying gentle pressure on the brakes. To penetrate better in headwinds and improve the glide ratio in sinking air, crosswinds or headwinds you should fly faster than trim speed using the accelerator. Using up to half bar does not degrade the glide angle or stability significantly and will improve your efficiency.

IMPORTANT

Never take off with a glider that is not fully inflated or if you are not in control of the pitch/roll of your wing.

IMPORTANT

Never apply the brakes whilst using the speed system - it makes the wing more prone to collapse.



Do not fly full speed close to the ground or in turbulent conditions.

By applying approximately 20cm of brakes the Alta will achieve its Minimum-Sink rate; this is the speed to use for thermalling and ridge soaring.

Turning

To familiarize yourself with the Alta your first turns should be gradual and progressive. To make efficient and coordinated turns, first check the airspace is clear and then lean in the direction you want to go. The first input for directional change should be weight-shift, followed by a smooth application of the brake until the desired bank angle is achieved. To regulate the speed and radius of the turn, coordinate your weight shift and use both the outer and inner brake.

Active Flying

To minimize the likelihood of suffering collapses in turbulent conditions, it is essential to fly the wing actively. The aim of active flying is to maintain a constant pressure and pitch control of the wing. If you feel a reduction or loss of pressure quickly apply the brakes until you feel normal pressure again. Once you have normal pressure, raise the hands back to the original position. Avoid flying with continuous amounts of deep brake in rough air as you could inadvertently stall the wing - always consider your airspeed. These subtle adjustments will help keep the glider flying smoothly directly above you and dramatically reduce the likelihood of a collapse. If the glider pitches in front of you, use the brakes to slow it down. Equally, if the glider drops behind you, release the brakes to allow it to speed up, but be ready to anticipate the following pitch forward. The goal is to maintain the wing directly overhead with a constant level of internal pressure.

When the conditions are turbulent, be more active and anticipate the movements of your wing, always be aware of your altitude and do not over-react.

We strongly advise you to keep hold of your brakes at all times and to not fly in turbulent conditions.

IMPORTANT

Never initiate a turn at minimum speed (i.e. with full brakes on) as you could risk entering a spin.

IMPORTANT

Always keep hold of your brakes. Do not fly in turbulent conditions



Landing

The Alta shows no unusual landing characteristics but as a reminder, here are some tips:

- Always set up for your landing early, give yourself plenty of options and a safe margin for error.
- Once below 30 metres avoid turning tightly as the glider will have to dive to accelerate back to normal flight. If you are at low altitude, or if you hit sink, this could mean you hit the ground harder than necessary.
- Lean forward out of your harness before the actual landing (especially if it's turbulent), with your weight leaning forward against the chest strap, and make sure your legs are ready for the landing and a possible PLF (parachute landing fall).
- Allow the glider to fly at hands up (trim) speed for your final descent until you are around 1 metre above the ground (in windy or turbulent conditions you must fly the glider actively all the way). Apply the brakes slowly and progressively to slow the glider down until groundspeed has been reduced to a minimum and you are able to step onto the ground.
- In light winds/zero wind you need a strong, long and progressive flare to bleed off all your excess ground speed. In strong winds your forward speed is already low so you are flaring only to soften the landing. A strong flare may result in the glider climbing upwards and backwards quickly, leaving you in a vulnerable position.
- If the glider does begin to climb, ease off the brakes (10-20cm) - do not put your hands up all the way - then flare again, but more gently this time. Keep the brakes at mid speed, stand up, be ready to run and make sure you brake fully as you arrive on the ground.
- Choose the appropriate approach style in function of the landing area and the conditions.
- In strong winds you need to turn towards the glider the second your feet touch the ground. Once facing the wing pull smoothly and symmetrically down on the brakes to stall the wing. If the glider pulls you, run toward it.
- If the wind is very strong, and you feel you might be dragged, or lifted again, stall the glider with the C risers. This stalls the wing in a very quick and controllable way and will drag you less than if you use the brakes.
- Always land heading into wind!

RAPID DESCENT TECHNIQUES

Big Ears

Folding in the wing tips increases the sink rate without radically changing the airspeed. This is useful for staying out of cloud or descending quickly through the lift band of the hill, for example when top landing. To pull Big Ears, keep hold of your brake handles and take the outermost A-line on each side, then pull out and down (preferably one at a time) until the wing tips fold under. The Outer A line is attached to the Baby A riser, making identification and use of the big ear system easier. The size of the Big Ears can be adjusted by pulling more line, or reaching higher up the line. For directional control while using the Big Ears, you should use weight shift. To reopen the ears, release both A lines at the same time. To help reinflation, brake gently one side at a time until tips regain pressure. Avoid deep symmetric applications of the brake as this could accidently induce a parachutal or full stall.

You may use Big Ears for the final landing approach but they should be released before making the final flare. Ozone advise to not use this technique in turbulent or windy conditions due to the reduced ability to fly actively and the risk of an inadvertent stall whilst descending through the wind gradient.

Once the big ears are engaged you can further increase the sink rate by pushing on the accelerator bar, however NEVER try to pull the Big Ears in if the accelerator is already pushed. The lower angle of attack and the act of deflating the tips can lead to a major deflation. Always make the Big Ears first and then apply the speed bar. Whilst it is possible to enter a spiral dive whilst holding in Big Ears, the high forces applied to the lower lines could exceed the breaking strain of the lines leading to equipment failure!

B-Line Stall

B-stall is for fast descents in emergency situations only, sink rates of around 6 m/s can be achieved. It is however faster and safer to lose altitude with a spiral dive than a B-stall.

To initiate the B-stall, keep the brakes in your hand and take hold of both the B risers near the maillons. Pull down firmly - there is a lot of pressure so it requires a reasonably amount of force. As you pull the B-lines the airflow over the wing is broken and the glider loses its forward speed but remains open with a reduced cord. Once the wing is in B stall, maintain

DO NOT perform spiral dives with the big ears engaged.

IMPORTANT
Never apply the brakes whilst using the speed system - it makes the wing more prone to collapse.

your position. Make sure to pull symmetrically otherwise the wing can rotate during the B stall, if this occurs pull the opposite side to stop the rotation or release the B risers to resume normal flight. If you pull too much B-line the glider may horseshoe and move around a lot. If this occurs, slowly release the B lines until the wing stabilises or simply exit the B line stall by immediately releasing the B risers. Do not attempt to maintain a B line stall that is not stable.

To exit the B-stall the B-risers should be released symmetrically and in one smooth, progressive motion. The glider will resume normal forward flight without further input. Check you have forward flight again before using the brakes.

Spiral Dives

The spiral dive is the most effective form of rapid descent. To initiate a spiral, look and lean in to the direction you want to turn, then smoothly and progressively pull down on the inside brake. The Alta will first turn almost 360 degrees before it drops into the spiral. Once in the spiral you should re-centre your weight shift and apply a little outside brake to keep the outer wing tip pressured and inflated. Safe descent rates of more than 10m/s are possible, but at these rates the associated high speeds and g-forces can be disorientating. Always pay particular attention to your altitude.

To exit the spiral dive, smoothly weight shift in the opposite direction of the spiral and smoothly release the inside brake whilst applying the outside brake. It is possible for the Alta to remain neutral in a spiral dive, always be prepared to pilot the wing out of a spiral dive. To do so, use opposite weight shift and smoothly apply enough outside brake until the wing starts to decelerate, the glider will then start to resume normal flight. Recovering from a spiral with hard or quick opposite inputs will result in an aggressive climb and surge and is not recommended. Always be prepared to manage the energy, allow it to continue to turn until enough energy is lost for it to return to level flight without an excessive climb and surge.

Never perform spiral dives close to the ground.

Remember the spiral dive should be used in emergency situations only, excessive use of the spiral may result in an asymmetry in the lines and will put unnecessary strain on the canopy reducing the performance.

IMPORTANT
Always be prepared to pilot the wing out of a spiral dive. Use opposite weight shift and apply enough outside brake to stop the wing from spiralling.

INCIDENTS IN FLIGHT

Deflations

No pilot or wing is immune to deflations, however flying in suitable conditions with correct active flying will reduce the chances significantly.

Asymmetric collapses should be controlled by first weight shifting away from the collapse, fly away from the ground, obstacles and other pilots. Apply enough opposite brake to control your direction, this action alone will be enough to start the recovery process. In your efforts to stop the glider turning towards the collapse be very careful not to stall the flying side. If you are unable to stop the glider turning without exceeding the stall point, allow the glider to turn during the reinflation process.

If the deflation does not spontaneously reinflate make a deep, smooth, progressive input on the deflated side. Pumping too short and fast will not reinflate the wing and pumping too slow might take the glider close to, or beyond, the stall point.

Symmetric front collapses normally reinflate without pilot input, however 15 to 20cm of brake applied symmetrically, and immediately will speed the process. After a symmetric collapse always consider your airspeed. Make sure the glider is not in parachutal stall before making any further inputs.

If your Alta collapses in accelerated flight, immediately release the accelerator and manage the collapse using the methods described above.

Cravats

Cravats are when the wing tips become trapped within the lines and can result in the wing entering a spiral dive if not addressed correctly. The first action should be to stabilise the glider, i.e get control of your direction using opposite weight shift and brake input. Large cravats may require the wing to continue turning to avoid stalling the flying side. Once you have control of the spiral use strong deep pumps of the brake on the cravated side to try to free the tips. When doing so it is important to lean away from the cravat otherwise you risk spinning or deepening the spiral. The aim is to empty the air out of the wing tip, without

spinning. Correctly done, this action will clear the cravat quickly, it is the most efficient and effective method. You can also try collapsing the wing tip by pulling on the AR3 line, this can help free small stubborn wing tip cravats. Whichever method you use, be careful with any brake inputs to not stall the opposite side.

If it is a very large cravat and the above options have not worked then a full stall is the next option. Only attempt this if you have enough altitude.

Remember if the rotation is accelerating and you are unable to control it, throw your reserve parachute immediately whilst you still have enough altitude.

Deep Stall / Parachutal Stall

It is possible for gliders to enter a parachutal stall, this normally occurs when flying with too much brake, after a front collapse or when flying with a wet wing. If the wing is out of trim this can also be a contributing factor.

If the wing enters a parachutal stall, your first reaction should be to fully raise both hands. This allows the glider to return to normal flight but if nothing happens after a few seconds, reach up and push the A-risers forwards or better, apply the speed bar to encourage the wing to regain normal flight. Ensure the glider has returned to normal flight (check your airspeed) before you use the brakes again.

Do not fly in rain, doing so significantly increases the likelihood of parachutal stalls occurring. To reduce the chance of stalling in rain avoid using deep brake movements or big ears. Find a safe area to land and using the speed bar, maintain a good airspeed at all times.

IMPORTANT
Never fly in the rain or with a wet glider.

IMPORTANT
Only a few cms of input from your brakes can maintain your wing in the stall. Always release your wraps if you have taken them!

CARE AND MAINTENANCE

Packing

To prolong the life of your wing and to keep the plastic reinforcements in the best possible condition it is very important to pack the wing carefully. We recommend to use the concertina packing method exactly as shown so that all of the cells rest alongside each other and the plastic reinforcements are not unnecessarily bent.

Step 1. Lay mushroomed wing on the ground. It is best to start from the mushroomed position as this reduces the dragging of the leading edge across the ground.



Step 2. Group LE reinforcements with the A tabs aligned, make sure the plastic reinforcements lay side by side.



Step 3. Lay wing on its side and Strap LE...Note the glider is NOT folded in half; it is folded with a complete concertina from tip to tip. It is really important to not stress the middle cell or bend the plastic too tightly.



Step 4. Group together the middle/trailing edge of the wing by sorting the folds near the B, C and D tabs.

If using a Concerto pack go to **Step 8.**



Step 5. Once the LE and rear of the wing have been sorted, turn the whole wing on its side.



Step 7. Now place the folded wing into the stuff sack.

Step 6. Fold the wing with 2 folds whilst being careful to not crush the LE.



Step 8. If using the Concerto Pack, carefully zip it up without trapping any material.



Step 9. Turn the Concerto on its side and make the first fold just after the LE reinforcements. Do not fold the plastic reinforcements, use 2 folds around the LE.



IMPORTANT: Do NOT lay the wing flat on the ground before packing the glider, this will cause abrasion damage to the top surface as you pull the glider towards the middle. ALWAYS pack from a mushroom or lift the wing off the ground when gathering the wing and grouping the leading edge.



IMPORTANT: Do not fold the glider in the centre, you will bend the plastics, instead pack the wing with a full concertina method from tip to tip before packing into the stuff sac.





Caring Tips

Careless handling damages many paragliders. Here are some things to avoid in order to prolong the life of your aircraft:

- DO NOT drag your wing along the ground or any hard surface as this is guaranteed to damage to the sailcloth. Lift it up and carry it clear of the ground.
- DO NOT try to open your wing in strong winds without untangling the lines first - this puts unnecessary strain on the lines.
- DO NOT walk on the wing or lines.
- DO NOT repeatedly inflate the glider and then allow it to crash back down. Try to keep this movement as smooth as possible by moving towards the glider as it comes down.
- DO NOT slam your glider down on the ground leading edge first. The impact puts great strain on the wing and stitching and can even explode cells.
- FLYING in salty air, in areas with abrasive surfaces (sand, rocks etc.) and ground handling in strong winds will accelerate the aging process.
- DO NOT fly in the rain or expose the wing to moisture.
- DO NOT expose the wing to unnecessary UV or high levels of heat. Leaving the wing sitting in the sun or allowing it to get hot (e.g in the back of a car) will significantly increase the chances of premature ageing.
- Change your main brake lines if they are damaged.
- When ground handling be careful to not saw the brake lines against the risers or main lines. The abrasion caused by a sawing motion can damage the main lines and the risers. If you notice any signs of abrasion, especially to the lines, make sure to replace them. It is important to modify your ground handling technique to stop any future damage.
- Your wing has an opening on the wing tips called the 'Butt hole'. The Butt hole makes it easy to empty any sand, leaves, rocks, mobile phones etc that may have accumulated in the wing.

It is recommended that you regularly CHECK your wing, especially after a heavy period of use, after an incident or after a long period of storage.

Storage and Transport

Your wing should be dry before being packed away. Always store all your flying equipment in a cool, dry room, protected from direct heat and high levels of humidity. Moisture, heat and humidity are the worst elements for damaging your glider. Storing a damp glider in your car in the sun will lead to premature ageing of the cloth and should be avoided at all costs.

Take care that no insects get packed away with the wing. They may eat the cloth and make holes in a bid to escape. They can also leave acidic deposits if they die and decompose.

Transport the wing in the supplied bags and keep away from any oils, paints, chemicals and detergents

Cleaning

Any kind of wiping/scratching can damage the coating of the cloth. We recommend to not clean the wing, but if you do have to, use a soft cloth dampened with a small amount of water and use gentle movements across the surface. If you land in salt water, you must first rinse it thoroughly with clean fresh water. Dry the wing completely, preferably out of the sun, in the wind. Never use a hair dryer or other sources of direct heat.

Wing Repairs

Always let a registered dealer, professional repair centre or the manufacturer carry out any major or complex repairs, especially those near seam margins.

If you damage the sail:

If the rip is small and in the middle of a panel however you can fix it yourself. You'll find all the materials in the repair kit you need. The fabric can be simply mended with the sticky rip stop/spinnaker tape. When cutting out the patches allow ample overlap of the tear and make sure both sides are different sizes. Make sure to round off each corner of the patches.

If you damage a line:

Any line that is visually damaged **MUST** be replaced. Lines can be ordered from your local Ozone dealer, alternatively use a reputable paragliding service centre to make the replacement lines.

IMPORTANT

Never pack away or store your glider wet.

IMPORTANT

Never use detergent or chemical cleaners.



It is important that replacement lines are made from the correct materials and diameters. You should check lengths against their counterpart on the other side of the wing to make ensure symmetry. Once the line has been replaced, inflate and check the glider before flying.

Maintenance Checks

Your wing should be checked regularly to ensure airworthiness. It is important to perform regular inspections to know the exact condition of all of the components of your wing. These inspections must be carried out by a qualified professional and to follow the guidelines set out here: **<http://downloads.flyozone.com>**

These guidelines are based on the PMA standard for inspecting wings and form the minimum values expected.

To ensure the correct trim, the lines should be measured and adjusted to the published values as necessary. The overall line lengths (riser lines + mid lines + upper lines) has to be checked under 5Kgs of tension and the difference between the measured lengths and the published lengths should not exceed +/- 10mm. Risers should be checked for signs of wear or abrasion. Differences to manual lengths should not exceed +/-5mm.

The sail cloth and the lines do not age in the same way or at the same rate so it is expected to change the line set at least once during the life of the wing.

You alone are responsible for your flying equipment and your safety depends on it. Take care of your equipment and have it regularly inspected. Changes in inflation/ground handling/ flying behaviour indicates the gliders aging, if you notice any changes or you suspect any damage you should have the wing serviced before flying again.

IMPORTANT
Take care of your glider and make sure you have it checked and serviced according to the schedule.



Modifications

Your Ozone Alta was designed and trimmed to give the optimum balance of performance, handling and safety. Any modification means the glider loses its certification and will be more difficult to fly. For these reasons, we strongly recommend that you do not modify your glider in any way.

IMPORTANT
**Do not modify your
wing in any way.**

OZONE QUALITY GUARANTEE

Ozone guarantees its products against manufacturing defects or faults, we will repair or replace any defective product free of charge. This does not include accidental damage or damage caused by normal wear and tear.

Ozone and its distributors provide the highest quality after sales service, do not hesitate to contact your local Ozone dealer for the latest most up to date information on our products. If you have an issue please contact the Ozone dealer where you purchased the product from, we will do our best to get you back in the air as fast as possible. Minor damage can normally be repaired locally, any serious damage can be rectified by the factory.

We always welcome customer feedback, it is how we improve our products - our contact details can be found on the website.

Summary

Safety is paramount in our sport. To be safe, we must be trained, practised and alert to the dangers around us. To achieve this we must fly as regularly as we can, ground handle as much as possible and take a continuous interest in every aspect of paragliding. If you are lacking in any of these areas you will be exposing yourself to more danger than is necessary.

Respect the environment and look after your flying sites.

If you need to dispose the wing, do so in an environmentally responsible manner. Do not dispose of it with the normal household waste.

Finally, RESPECT the weather, it has more power than you can ever imagine. Understand what conditions are right for your level of flying and stay within that window.

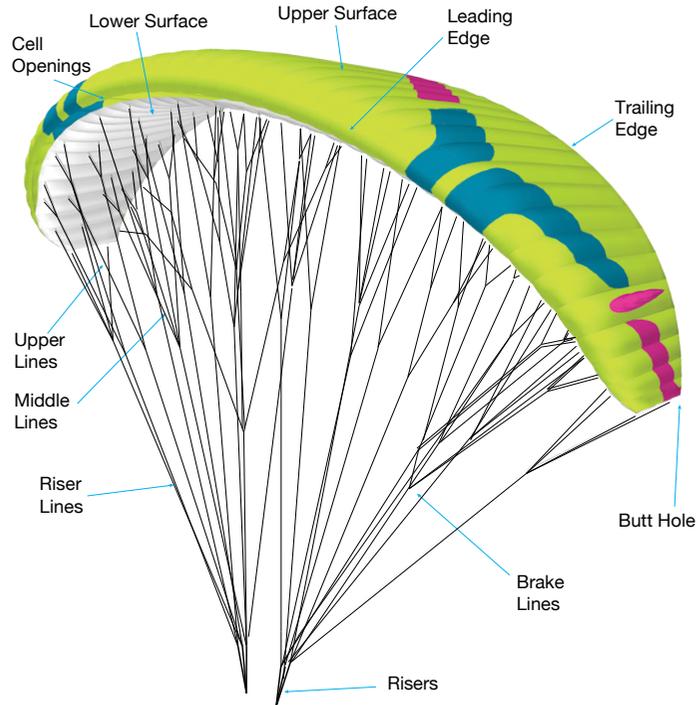
Happy flying & enjoy your Alta.

Team Ozone

TECHNICAL SPECIFICATIONS

	XXS	XS	S	M	L	XL
No. of Cells	40	40	40	40	40	40
Projected Area (m2)	16.82	18.49	20.23	22.04	23.94	26
Flat Area (m2)	20.16	22.16	24.24	26.41	28.7	31.2
Projected Span (m)	7.56	7.93	8.29	8.65	9.02	9.4
Flat Span (m)	10.05	10.53	11.02	11.5	11.99	12.5
Projected Aspect Ratio	3.4	3.4	3.4	3.4	3.4	3.4
Flat Aspect Ratio	5	5	5	5	5	5
Root Chord (m)	2.58	2.71	2.83	2.96	3.08	3.21
Glider Weight (Kg)	3.18	3.54	3.74	4.02	4.29	4.55
Max Control Travel (cm)	60	66	73	75	81	92
In-Flight Weight Range (Kg)	50-65	55-75	65-85	80-100	95-115	110-130
Certification EN	A	A	A	A	A	A

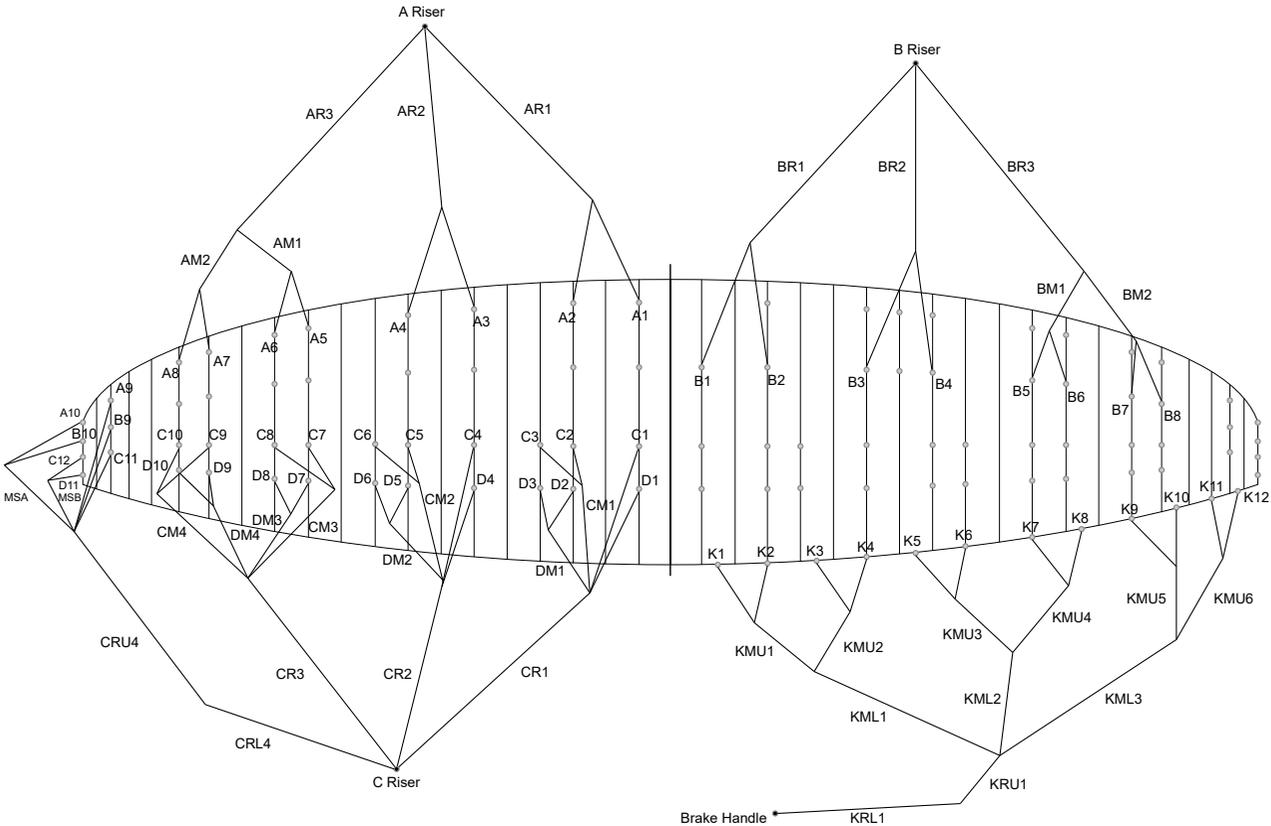
TECHNICAL DRAWINGS



<i>Non Accelerated</i>	
A	500mm
B	500mm
C	500mm
<i>Accelerated Pulleys axis - axis</i>	
A	335mm
B	365mm
C	500mm

LINE DIAGRAM

Individual and linked line lengths can be found online.



MATERIALS

All Ozone gliders are made from the highest quality materials available.

Cloth

Upper Surface

Dominico N20D MF / N10D MF

Lower Surface

Dominico N10D MF / N20D MF

Internal Ribs

Porcher 9017 E29 / Dominico 204432 FM

Leading Edge Reinforcement

Plastic

Main Line Set

Riser Lines

Liros PPSL

Middle Lines

Edelrid 8001

Upper Lines

Edelrid 8001

Risers and hardware

Shackles

Maillon Rapides

Riser webbing

12mm zero stretch polyester webbing

Pulleys

Ronstan

Brake Lines

Main brake Lines

Liros - 10-200-040/DSL

Middle brake lines

Edelrid 8001

Upper brake lines

Edelrid 8001

INSPIRED BY NATURE, *DRIVEN* BY THE ELEMENTS

FLYOZONE.COM

OZONE

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