OCTANE

PILOT'S MANUAL

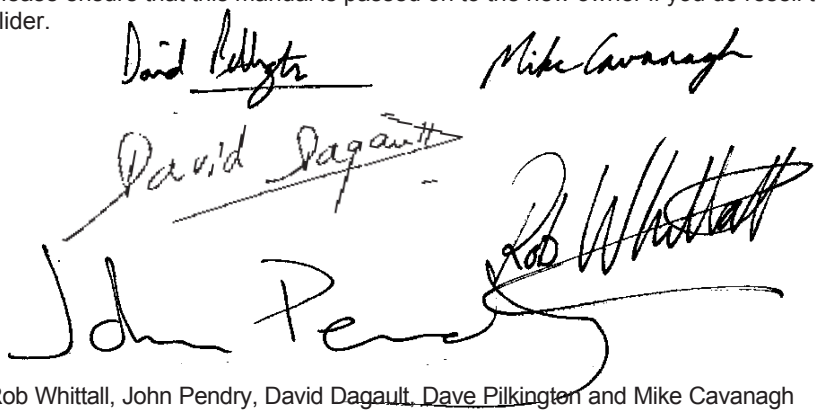
THANK YOU...

for flying an OZONE glider. Our philosophy is to produce sweet-handling aircraft which give a special blend of safety and performance, so we are confident that you will enjoy every minute of it.

This manual will help you to get the most from your glider. If you would like to know more about it, don't hesitate to contact your dealer, school, distributor or any of us here at OZONE.

We are confident your glider will satisfy your flying needs for a long time. This booklet gives advice on keeping it safe and in the sort of condition which will give you the best resale value if you ever want to change. You can help this by logging all your flights and maintenance.

Please ensure that this manual is passed on to the new owner if you do resell the glider.



Rob Whittall, John Pendry, David Dagault, Dave Pilkington and Mike Cavanagh

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THE OZONE PEOPLE

Rob Whittall: Testing, teaching, competing and winning: Rob has flown on most flyable days for the last 14 years. His passion for free flying burns as strong as ever. Rob is a complex personality whose flying style can be extreme, yet he is driven by the development of safety in paragliding. It is not a paradox: who understands the limits better than someone who is capable of pushing a wing far beyond them?

David Pilkington: Doctor of aerodynamics and computer star. David has developed OZONE'S ultra-advanced design software that slices the time from drawing board to sky. Relaxation? Fortunately for us he just loves playing with gliders.

John Pendry: The legend in foot-launched flight. His 25 years of experience and outstanding competition record make him the most respected pilot ever. John's cool style is the perfect counterpoint to Rob's passion and they both agree perfectly on OZONE'S philosophy that safety and fun are what paragliding is all about.

Mike Cavanagh: Mike has plenty of international paragliding experience as British Team Manager and a keen competitor too. It's OZONE'S good fortune that he is a fully trained accountant who can keep a close eye on the numbers and what they mean to the customers. Mike's managerial skills and easygoing character make him popular with pilots and dealers alike.

David Dagault: Current French Champion, famous for his massive alpine cross country flights and long time French team member, David is the newest member of the Ozone design team. David is involved in research and helping Rob with test flying. Only 24 years old, he has all of 12 years' flying experience - that means he has been flying paragliders as long as Rob. David brings new skills, new ideas and a decidedly French accent to team Ozone.

OZONE PEDIGREE

John and Rob have each won two World Championships and twice been awarded the Gold Medal of the Royal Aero Club. OZONE is proud that they have brought such experience to this young company.

OZONE MATERIALS

The best part about starting a new company is that you get the opportunity to choose the ideal materials. We have put together what we think is the best possible combination for durability, performance and longevity.
We started to develop our first wing on a clean sheet of paper. The choice of materials was one of the first problems to solve. In the end we chose the material that we knew would do its particular job best. End of story. Here's what OZONE gliders are made of:

Upper-surface
Gelvenor silicone-coated sailcloth from South Africa. High tenacity 100% polyamide, weight 49g/m2. We consider that this has the best resistance to ageing of any sailcloth currently on the market.

Lower-surface
Porcher-Marine sailcloth from France. High tenacity Skytex+ Ripstop Nylon 45g/m2 SO finish. This tried-and-tested cloth gives the best strength-for-weight ratio going, combined with good durability.

Ribs
Porcher-Marine again. High tenacity Skytex+ Ripstop Nylon 45g/m2 FM finish. This has been selected for stability and resistance to stretch - vital if a glider is to keep its safe-flying characteristics for a long time.

Leading-edge reinforcement
Double-laminated Mylar. Selected for long-term durability, this ensures that your glider's take-off characteristics will remain consistently good for season after season.

Lines
Edelrid has long been one of the market leaders in the manufacture of suspension line. We chose their High Modulus Aramid for its stretch resistance, high thermal tolerance and acknowledged durability. The lower lines are strength and age tested by the DHV. The supple sheath helps prevent lines tangling and kinking, which is important for longevity.
Line specifications: 80/120/160/200 kg breaking strength.

Risers and hardware
Riser webbing - 20/25mm zero-stretch polyester webbing.
Shackles - High quality Delta maillons from Maillon Rapide.
Pulleys - AustriAlpin aluminium mini pulleys with brass roller.
All these components have been chosen for their renowned quality and durability.

CHECKING AND MAINTENANCE

Your glider will have undergone thorough checks at every stage of manufacture and have been signed-off by skilled inspectors. But don't believe us! Do a pre-flight check for your first flight and then at least at the start of every flying day.

PRE-FLIGHT CHECK

It is very important that you perform regular maintenance checks on your glider especially before and after long flights, flying trips and long periods of storage.

To avoid forgetting points it is helpful to always use the same procedure:

1. Inspect all sewing on the harness, rescue bridle and risers.

2. Check all quick links, maillons and karabiners.

3. Check brake handle knot. Follow brake lines up to the wing, checking for knots and damage.

4. Check all other lines up to the wing.

5. Inspect all line attachment points to the wing.

6. Inspect upper and lower surface for damage and ageing.

7. Interior inspection: inspect ribs for damage or fatigue.

If you find any signs of damage or abnormal wear, consult your dealer, school or OZONE for advice.

BRAKE LINES

The brake lines connect to the trailing edge via a series of subsidiary lines. Because of their positions they are more easily scuffed than other lines on your glider, so they should be checked extra frequently.

The main brake lines run through pulleys connected to the rear risers. The brake handles are tied to the main lines and conveniently positioned press-studs attach them to the risers when not in use. This should prevent them twisting and tangling.

Adjusting brake lines

Important: the lengths of the brake lines will have been set carefully during testing and manufacture. At OZONE we feel it is better to have slightly long brake lines and to fly with a wrap (one turn of line around the hand). However, we know that some pilots prefer the lines slightly shorter and may wish to adjust them.

Whatever you choose, make the following checks:

· Ensure both main brake lines are of equal length.

· If a brake handle has been removed for any reason, check that its line is still routed through the pulley when it is replaced.

· When the brake handles are released in flight the brake lines should be slack. There should be a substantial "bow" in them and absolutely no deformation of the trailing edge.

We recommend a minimum of 10cm of free play between the brake release position and the start of deformation on the glider. This will prevent the trailing edge from being deformed when using the speed system.

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 (D-risers) for directional control.

ACCELERATOR SYSTEM

It is important to have your accelerator system correctly rigged before take-off. It must be long enough not to pull down on the front risers while in normal flight, but not so long that it fails to work effectively. The best way to start is to get someone to hold the risers and harness taut while you adjust the bar so that it can just be found with your foot during flight. Then test the full range of the accelerator in calm flying conditions, ensuring that both risers are pulled evenly during operation. Fine-tuning can be completed when you are back on the ground.

We advise you not to use more than half the accelerator's travel when flying in turbulence. Inexperienced pilots are recommended not to use the accelerator system until they are fully accustomed to the glider. Although all gliders are designed and tested with an accelerator system most experienced pilots hardly ever use the full speed range, especially in turbulent conditions.

PREPARING FOR TAKE-OFF

To familiarise yourself with the glider it is a good idea to perform practice inflations and small flights on a training hill. This will enable you to set up your equipment correctly.

Lay the canopy out on its top surface ensuring that the leading edge is in a pronounced arc with the centre of the wing further up the slope than the tips. Lay out the lines one side at a time. Hold up the risers and starting from the brake pull all lines clear, then proceed through the D, C, B and A lines. Mirror the process on the other side. Take care to ensure that no lines are tangled, twisted or knotted. It is always important to check brake lines are clear of rocks and twigs that may snag during launch.

Take-off check list:

1. Check reserve parachute - pin in and handle secure
2. Helmet on and fastened
3. All harness buckles closed - check leg-loops again
4. Karabiners and maillons tight
5. Lines cleared
6. Leading edge open
7. Aligned directly into wind
8. Airspace and visibility clear

LAUNCHING

It is possible to launch your OZONE glider with the usual forward or reverse techniques. You should make sure that you are standing central to the wing, this will ensure that it inflates evenly and progressively. On OZONE gliders the outer main A-line is attached to a mini-riser to assist the pulling of big-ears ('split A-risers'). We advise using all the A-risers during launch

Light or nil-wind technique: Start your run so that the lines become tight within one or two steps. The glider will immediately start to inflate and you should maintain a constant pressure on the risers until the wing is overhead. It is important not to pull down or push the risers forward excessively as this can result in the leading edge deforming and the take-off procedure becoming difficult. You must accelerate smoothly through the entire launch procedure. There is no need to rush or snatch, and you should have plenty of time to look up and check your canopy before taking to the air.

Strong wind technique: The reverse launch method is recommended. For this you set everything out exactly as for a forward launch, clip in, take hold of the brakes and then turn to face the wing, passing one entire set of risers over your head as you turn. Then gently try the brakes to see that they are free, check all is clear and pull the wing up on the A-risers. When the wing is overhead, check it gently with the brakes, turn and launch. The technique is simple, but can feel strange at first. We advise you to practice in a flat open area before taking to the hill.

In stronger winds, a helpful tip is to be prepared to take a few steps towards the glider as it inflates and rises. This reverse-launch technique can be used in surprisingly light winds too.

IMPORTANT: NEVER TAKE OFF WITH A GLIDER THAT IS NOT FULLY INFLATED.

GROUND HANDLING

Practice your ground handling! It will improve your overall enjoyment of the wing by making your launches easier and giving you a better feel for its flight characteristics.

NORMAL FLIGHT

In the hands-up position in calm air, your glider will be stable in pitch and roll and achieve its 'best glide' speed. By applying the brakes approximately 20cm, the minimum-sink rate will be found. For increased speed or headwind glides, use the accelerator bar which will give you an increase in speed of up to 10km/h.

Active Flying

Active flying is the technique of using input to keep the wing as stable and efficient as possible. All good pilots do it. For example, on entering a thermal your glider will rock back slightly behind you; at this point you should reduce brake to allow the glider to come overhead again. As you leave the thermal your glider will try to accelerate and dive forward slightly, so apply a little brake to stabilise the wing overhead.
When flying in turbulent air, you should be able to sense pressure loss in parts of the wing through the brake lines. You can then compensate by using a little of the appropriate brake until you feel the pressure return.
This should all be done smoothly and progressively: over-braking your glider is dangerous and could lead to a stall.

TURNING & THERMALLING USING WEIGHT SHIFT

To familiarise yourself with your glider your first turns should be gradual and progressive.
For efficient coordinated turns: look in the direction of your intended course, then lean into it. Your first input for directional change should be weight-shift, followed by smooth application of the brake until the desired bank angle is achieved. To regulate the speed and radius of the turn the outer brake should be used.
Never initiate a turn at minimum speed (i.e. with full brakes on) as you could risk entering a spin.

WING-OVERS

OZONE paragliders are not designed for aerobatic flying. The limit is tightly banked S-turns, commonly known as wing-overs. These must not exceed 45 degrees of bank. Uncoordinated wing-overs can lead to large asymmetric collapses and therefore tight turns should never be executed near the ground.

DRAG INDUCERS (BIG EARS)

Folding in the tips increases the sink rate of your glider. This is useful for staying out of cloud or descending in strong winds. You 'pull big ears' by drawing in the outermost A-lines until the tips of the wing fold under and drag behind. OZONE gliders are fitted with split A-risers to make this procedure easy.

To increase the sink rate further the accelerator bar may be employed, but pull the tips in first. Remember that when the tips are in, you have reduced the area of wing supporting you, so your stall speed will have increased. Be sure to keep speed on and not to use the brakes other than cautiously for reinflation. For directional control while using the drag inducers, you should rely on weight shift alone.

To reopen the wing tips, release the small A-risers. Normally the tips will reinflate automatically, but you can help the process by careful use of the brakes. This is best done one tip at a time to minimise the chance of inducing a stall. You will find that there is surprisingly little tendency for the glider to deviate during the process.

B-LINE STALL

CAUTION: do not use Drag Inducers near the ground.

B-stall is used for fast descents in emergency situations only. B-stall is performed by symmetrically pulling down on the B-risers. This takes quite a lot of effort. The best way to do this is to place your fingers between the lines above the maillons at the top of the risers. You should not release the brake handles while B-stalling. As you first pull the B-lines down the airflow over the wing is broken and the glider loses its forward speed but remains open. By pulling the B-risers further the sink rate can be increased as the chord is effectively reduced.

To exit the B-stall the B-risers should be returned to their normal flight position symmetrically in one smooth progressive motion. The glider should then resume normal forward flight without further input. Always be sure of this before using the brakes again.

It is possible for the wing to resume its normal shape on release of the B-lines, but to remain in steep descent without full forward motion. This is called 'deep stall'. It is unlikely to happen on OZONE gliders, but you should be aware of the possibility. If you suspect it has happened, simply push the A-risers forwards until normal flight returns. Only then should you use the brakes again.

SPIRAL DIVE

When you turn a series of tightening 360s the paraglider will enter a spiral - a highly banked turn with rapid height loss. The longer you hold the inside brake on, the faster the turn becomes. Safe descent rates of 8metres/second (500 ft/min approx.) are possible in a spiral dive, but at these high speeds and G-forces it is easy to become disorientated, so you must pay particular attention to altitude.

To exit the spiral dive, slowly release the inside brake and apply a small amount of outside brake. As the glider begins to decelerate it is important to allow it to continue in its turn until enough energy has been lost for it to return to level flight without excessive surging.

Spiral dives with sink rates over 8 m/s are possible, but should be avoided. They are dangerous and put unnecessary strain on the glider.

IMPORTANT: SPIRAL DIVES CAUSE DISORIENTATION AND NEED TIME AND HEIGHT TO RECOVER. DO NOT PERFORM THIS MANOEUVRE NEAR THE GROUND.

DEEP STALL

Your glider is designed to exit immediately from any deep-stall configuration within four seconds of the brakes or B-line stall being released. If you find yourself in a deep-stall situation (loss of forward speed, low internal wing pressure) ensure your brakes are up. If your glider does not return to normal flight, you should gently push the A-risers forward until the glider surges slightly and normal flight is resumed.

DEFLATIONS

Due to the flexible form of a paraglider, turbulence may cause a portion of the wing suddenly to collapse.
An asymmetrical collapse can be easily controlled by weight shifting to the open side and applying the minimum amount of brake required to control your direction. A long, smooth progressive pump on the deflated side will assist reinflation. (Flapping your arms uncontrollably will not help).
A symmetrical collapse should reinflate quickly without pilot input, however 15 to 20cm of brake applied symmetrically will speed the process.
Active flying will virtually eliminate any tendency to collapse.

LANDING

Light wind: The landing approach should be flown using only light input on the brakes. When you are one or two metres above the ground, apply the brakes progressively so that the full brake position is attained just before your feet touch down. Always approach with plenty of speed so that it that can be converted into a full flare.

Strong wind: You should regulate your speed facing into wind. Use the minimum of brake needed to touch down smoothly, then immediately turn 180 degrees, reach up and pull down both C-risers while moving towards the glider. This will bring the wing down quickly without pulling you off your feet.

IMPORTANT: Always land into wind in a clear obstacle-free zone.

PACKING YOUR PARAGLIDER

1. Lay the glider out on its top surface, check the lines are not tangled, then lay them on the wing, free of kinks. The risers should be laid together at the centre of the trailing edge.

2. Fold the wing from each tip to the centre cell by cell, making sure that the leading edge is in one straight line, until it is one or two cells wide.

3. Push any remaining air out by flattening the folded wing from the trailing edge to the leading edge.

4. Make four or five folds from the trailing edge up to the leading edge so that the bundle is approximately the size and shape of the OZONE rucksack. Never roll the wing up as this introduces unnecessary stresses into the fabric. Finally, wrap the velcro band around the bundle and put it in the rucksack.

Note: Making sure not to pack the paraglider too tightly and taking care that the leading edge is folded carefully will increase its life. Always pack as loosely as you can, while still being able to fit it in the rucksack - every fold weakens the cloth on any paraglider. It is best not to keep folding the glider along the same lines, so don't worry if it is not completely tidy every time.

GLIDER CARE

The life of your paraglider depends largely on how you look after it. A well looked-after glider can last twice as long as a badly treated glider with the same number of flying hours! Your glider was a major investment and should be worth looking after carefully. Do not forget that your life may depend on the good condition of your wing.

UV damage
It is now commonly known that UV rays from the sun degrade paraglider cloth. Do not leave the wing lying out in the sun for a moment longer than necessary.

Storage
Moisture is the enemy! Always store paraglider/harness/reserve parachute in a dry room. Do not pack the paraglider away for any length of time until it is completely dry. A damp paraglider can be dried by hanging it over a washing line - preferably out of the sun. Allow it to dry naturally, never use a hair dryer etc.
Even when the paraglider is dry, leave the rucksack zip open when possible to allow residual moisture to evaporate. Do not store the paraglider in company with chemicals such as dyes, paints or gasoline.

Cleaning
Any abrasion or water will age the cloth of your paraglider, even if only slightly. Therefore we recommend that stains or marks which have dried into the cloth should be left uncleaned. The glider may not look so pretty, but it will certainly last longer! If you still feel that the wing must be cleaned, then use only a soft cloth moistened with water on small areas and remember that the most sensitive area of the wing is the leading edge top surface - which should on no account be cleaned.
Don't even think of putting your glider in the washing machine or using any sort of chemical cleaners!

Wing Repairs
Amateur repairs can do more harm than good. Always let a registered dealer or the manufacturer carry out glider repairs.

Very small holes in the wing undersurface can be repaired using sticky-back Porcher Marine Sailcloth as long as the tear is not on the stitching of the wing and a large overlap is used. Stick repair cloth on the inside and outside of any area you are repairing. The silicone coating on the Gelvenor cloth used to enhance the life of the of the upper surface makes the use of adhesive repair cloth difficult, so repairs should be professionally stitched. Please consult your dealer.

Line repairs
Any damage to the lines (even if it is only the outer sheath) means a new line should be ordered immediately. Ideally a dealer should replace the line. Before fitting a replacement line, check it for length against its counterpart on the other side of the wing. When a line has been replaced, always inflate the glider on flat ground to check that everything is in order before flying.

Ground handling
Many paragliders are damaged by careless ground handling. Here are some things to avoid in order to prolong the life of your aircraft :
DO NOT drag your wing along the ground to another take-off position - this damages the sailcloth.
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 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. NEVER allow the glider to crash back down to ground leading edge first! This puts great strain on the wing and stitching and can even explode cells. Almost all claims of 'faulty stitching' or 'weak sailcloth' originate from leading-edge slams.

Insects
Take care that no insects get packed away with the wing. Some insects (grasshoppers for example) decay into an acidic substance which can then burn holes in the sailcloth!

TOWING

OZONE gliders may be tow-launched. It is the pilot's responsibility to ensure that suitable harness attachments and release mechanisms are used and that she/he is correctly trained on the equipment and system employed. OZONE make no specific recommendations.

MODIFICATIONS

When your glider leaves the factory, it is trimmed for the optimum balance between performance, handling and safety. It should be noted that any modification will mean that the glider loses any certification and will also probably be more difficult to fly. For these reasons, we strongly recommend that modifications should only be made after contacting OZONE directly.

THE OCTANE

Fueled for fun and ready for lift off! ...the ideal recreational sports wing.

The initial design concept for the OCTANE was to create a glider that pilot's would be able to enjoy in a wide variety of flying conditions.

We feel the OCTANE benefits from the most refined handling of any of OZONE'S wings to date. From the earliest stages of the design the OCTANE displayed fantastic handling characteristics, it was of prime importance for us to maintain this great feeling in the production model. What you can expect is a smooth well co-ordinated turn with progressive brake pressure as the bank angle increases. With light application of the outer brake the turn can be flattened out to maximise weak thermals, simply by releasing the outer brake you can wind it up in the strongest of small thermals.

To instill confidence the wing has been designed to slice through turbulence rather than suffering from the bumpy conditions.

The cross-braced technology utilised inside the canopy has enabled us to minimise line drag, which has increased the performance considerably. This new cross bracing system whilst reducing the amount of line surprisingly creates more line attachment points spreading the load more evenly into the sail which, as our extensive test flying has shown, reduces long term sail deformation.

GLIDER SPECIFICATIONS

	X-Small	Small	Medium	Large	X-Large
Number of Cells	53	53	53	53	53
Projected Area (m2)	19.76	21.52	23.35	25.26	27.24
Flat Area (m2)	22.76	24.78	26.89	29.08	31.36
Projected Span (m)	8.79	9.17	9.55	9.94	10.32
Flat Span (m)	10.84	11.31	11.78	12.25	12.72
Projected Aspect Ratio	3.91	3.91	3.91	3.91	3.91
Flat Aspect Ratio	5.16	5.16	5.16	5.16	5.16
Root Chord (m)	2.517	2.736	2.85	2.964	3.078
In-Flight Weight Range (kg)	55 - 70	65 - 85	80 - 100	95 - 115	110-135
Certification	pending	DHV 2	DHV 2	DHV 2	DHV 2
Max Speed Accelerated km/h	50	50	50	50	50

As we believe the OCTANE is a special wing, Robbie Whittall thought he should add some comments about how to make the most of your glider...

The OCTANE has been designed to give the ultimate flying experience. It has all the performance to satisfy most experienced pilots' needs coupled with all the enjoyment of a wing that is sweet to handle.
The OCTANE has benefited from 700 hours of development, many of them in the harsh Himalayan conditions that we found during our expedition to Nepal while filming for the BBC. A lot of this development went into ensuring that the glider kept its great flying characteristics whilst performing well under DHV test procedures.
The added benefit of DHV2 safety makes the OCTANE one of OZONE' S best and most fun gliders to date.

Take-off

The glider has been designed to have easy take-off characteristics.
For forward launching we recommend the A-lines to be just tight. If you then accelerate smoothly the wing will steadily and easily climb above you with minimum brake damping required. The glider does not respond as well to snatch launching : even in light tail wind conditions we recommend A-lines to be just tight.
For a good reverse launch it is important to remember to be smooth with your inputs. Pulling too hard will cause the glider to overshoot, as with any glider. Remember that walking under the glider as it inflates will make the inflation easier to control.

Turning and thermalling behaviour

The OCTANE has lovely precise handling and does not need massive amounts of brake to make a normal turn. In order to safely understand and make the most of the exceptional handling we advise that during your first flights you should concentrate on making smooth and coordinated inputs.
To initiate smooth turns, weight shift in the desired direction and gradually apply the appropriate brake. The glider will bank progressively according to your level of input, by applying a little outer brake it is easy to adjust the bank angles and radius of your turn.
The further the brake is applied the more pressure you will feel. There is a definite point at which it is difficult to apply more brake due to the pressure. This is a safety indicator to help avoid entering into a spin.
The OCTANE can be flown very efficiently with weight shift and during thermalling we have found this to be the best method to maximise thermal performance.

Spiral dive

The glider is quick to enter a spiral dive but easy to control. As with most modern gliders the speed of the spiral can be increased depending on your inputs.
It is worth remembering that until you are familiar with the wing it is a good idea not to do fast aggressive spiral dives. Weight shifting is important for controlling your spiral. Weight-shifting towards the outside of the spiral will reduce the speed and make your exit smoother and easily controllable.
It is ideal to exit a spiral dive by allowing the glider to decelerate through at least one or two 360's before flying straight again. If you should exit too fast then you and the wing will climb rapidly and the wing will want to overshoot, so it is advisable to damp out the surge by applying a little brake.
It is very easy to become disoriented in a fast spiral so under no circumstances should this manoeuvre be conducted at low level.

B-line stall

The OCTANE is easy to B-stall and has no unusual characteristics. Simply pull both the B-risers at the same time and with equal amounts until the wing falls behind and you start to descend. The further you pull the B-riser down the faster your decent.
To return to normal flight again return the B-risers to the normal flight position in one smooth movement. The wing will surge slightly forward as it regains air speed. If you release too fast the surge will be bigger and if you release very slowly the wing will not surge but might take a second or two before regaining airspeed.
We recommend that, to give the correct timing, you say the phrase "One thousand" as you move the B-risers back to the normal position.

Asymmetric tuck

The OCTANE is a solid wing and has a built-in resistance to deflating, however it can sometimes happen. The OCTANE has undergone extensive testing and to our knowledge the glider always reacts well even with a massive deflation. If you suffer a deflation that is 50% or below the glider will only change its course slightly and should not require any input to open it up again. If the deflation is big (60-70% or more) then the wing has two possible reactions.
One possible reaction is that as the wing starts to rotate it will almost instantly re-inflate from the deflated side. This can sometimes be called a

shock re-inflation and can feel unusual if the pilot is not used to this sensation and the quite loud noise as the glider snaps open. If this does happen simply damp out any surging with the brakes.
The other reaction is a smooth re-inflation: the glider will dive and rotate up to 180 degrees before fully opening again. The pilot can reduce the effect by applying a little outer brake. It is important to remember not to overcorrect as this can lead to other problems such as a negative spin.

Negative spin

The OCTANE has been carefully designed to give the pilot enough feedback that you should never accidentally go negative. The handling has been designed to tell you when you have too much brake applied. It does this by way of pressure. The OCTANE will fly very well using just 30cm of its overall brake travel, which in fact is the region where the pressure is lightest. As you start to push further down the pressure increases rapidly. This is designed to warn you that you are approaching the end of the brake range.
There is no need to fly feeling these high pressures in normal flight. If you are then you are in danger of stalling the wing which we do not recommend! The only time you should feel such pressure is when flaring for landing.
If you should somehow force the glider into a spin then immediately release the inner and outer brake and prepare to damp any surging. If the spin has been held in for any length of time, only release when the glider is in front of you and prepare to damp any surging. Do not release when the glider is behind you.

Symmetric tuck

The OCTANE does not often suffer from symmetric tucks even in very rough air. If it should happen it will probably re-open before you have had time to do anything. If it should be slow to open just pump the brakes down to shoulder level: the glider will open and you might need to control the surge a little.

General flying tips

Flying safely is the most important part of flying. The best way to be safe is to practise regularly. This does not only mean flying it also involves ground handling and a continuous interest in the weather.

The first and most important tip is to RESPECT the weather. It has more power than you can imagine. Understand what are the right conditions for you at your level and always stay within that window.

Do not overestimate your abilities, be honest with yourself. As the wise saying goes, 'it is much cooler to be on the ground wishing you were up there, than in the air wishing you were on the ground'. Take it easy, you can fly well into old age so you have got plenty of time to gain experience. If it does not look good to you then pack up and go home, there is always tomorrow.
There is no substitute for practice, it is the only thing that will help you to improve. Most pilots only like to practise the flying, which is the relatively easy part.

There is however a problem with that: it will only help you in the air and probably the most dangerous part of flying is the take-off. It certainly requires a lot of skill to be confident every time and this is where ground handling comes in. It is a form of flying, like flying a kite and the skill required to be good at it is enormous. The reward for practising ground handling is that you learn how to feel the wing and this helps on the ground and in the air. Find an open space and a clear airflow and practise inflating the wing with both forward and reverse launch techniques.

Don't stop there, do it again and again day after day until you are confident you are fully in control. Even when you are confident it is always worth practising this skill. This skill will help remove some of that apprehension at take-off and make you a safer and better pilot.

DHV CERTIFICATE OCTANE S

The OCTANE XS is undergoing certification at the time of this manual going to press and will have been certified before this glider is released to the public.
If you wish to obtain a copy please contact your dealer or OZONE direct.

Bundesrepublik Deutschland

Der Beauftragte

MUSTERZULASSUNGSSCHEIN

für Luftsportgeräte

Nr.: *MZL GS-01-771-00*

Das nachstehend bezeichnete Luftfahrtgerät ist als Muster zugelassen auf Antrag von:

Aerosport International GmbH, Grafenstraße 26, D-83098 Brannenburg

Dieser Musterzulassungsschein ist auf Grund der die Musterzulassung betreffenden Bestimmungen des Luftverkehrgesetzes und der Luftverkehrs-Zulassungs-Ordnung in der am Tage der Ausstellung geltenden Fassung erteilt.

Befristungen und Auflagen siehe Musterzulassungsbescheid vom 06.06.00.

Die Musterzulassung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *MZL GS-01-771-00*

Bezeichnung des Gerätemusters:

Ozone Octane S

Geräteart:

Gleitsegel

Die Musterzulassung kann in den in § 4 Abs. 2 der Luftverkehrs-Zulassungs-Ordnung vorgesehenen Fällen widerrufen werden.

Datum der Ausstellung

06.06.00

Unterschrift

Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund

Bundesrepublik Deutschland

Der Beauftragte

MUSTERZULASSUNGSSCHEIN

für Luftsportgeräte

Nr.: *MZL GS-01-760-00*

Das nachstehend bezeichnete Luftfahrtgerät ist als Muster zugelassen auf Antrag von:

Aerosport International GmbH, Grafenstraße 26, D-83098 Brannenburg

Dieser Musterzulassungsschein ist auf Grund der die Musterzulassung betreffenden Bestimmungen des Luftverkehrgesetzes und der Luftverkehrs-Zulassungs-Ordnung in der am Tage der Ausstellung geltenden Fassung erteilt.

Befristungen und Auflagen siehe Musterzulassungsbescheid vom 04.05.00.

Die Musterzulassung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *MZL GS-01-760-00*

Bezeichnung des Gerätemusters:

Ozone Octane M

Geräteart:

Gleitsegel

Die Musterzulassung kann in den in § 4 Abs. 2 der Luftverkehrs-Zulassungs-Ordnung vorgesehenen Fällen widerrufen werden.

Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund

Datum der Ausstellung — Unterschrift

04.05.00 — DHV-Technik Harry Buntz

Bundesrepublik Deutschland

Der Beauftragte

MUSTERZULASSUNGSSCHEIN

für Luftsportgeräte

Nr.: *MZL GS-01-770-00*

Das nachstehend bezeichnete Luftfahrtgerät ist als Muster zugelassen auf Antrag von:

Aerosport International GmbH, Grafenstraße 26, D-83098 Brannenburg

Dieser Musterzulassungsschein ist auf Grund der die Musterzulassung betreffenden Bestimmungen des Luftverkehrgesetzes und der Luftverkehrs-Zulassungs-Ordnung in der am Tage der Ausstellung geltenden Fassung erteilt.

Befristungen und Auflagen siehe Musterzulassungsbescheid vom 06.06.00.

Die Musterzulassung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *MZL GS-01-770-00*

Bezeichnung des Gerätemusters:

Ozone Octane L

Geräteart:

Gleitsegel

Die Musterzulassung kann in den in § 4 Abs. 2 der Luftverkehrs-Zulassungs-Ordnung vorgesehenen Fällen widerrufen werden.

Datum der Ausstellung

06.06.00

Unterschrift

Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund

Bundesrepublik Deutschland

Der Beauftragte

MUSTERZULASSUNGSSCHEIN

für Luftsportgeräte

Nr.: *MZL GS-01-769-00*

Das nachstehend bezeichnete Luftfahrtgerät ist als Muster zugelassen auf Antrag von:

Aerosport International GmbH, Grafenstraße 26, D-83098 Brannenburg

Dieser Musterzulassungsschein ist auf Grund der die Musterzulassung betreffenden Bestimmungen des Luftverkehrgesetzes und der Luftverkehrs-Zulassungs-Ordnung in der am Tage der Ausstellung geltenden Fassung erteilt.

Befristungen und Auflagen siehe Musterzulassungsbescheid vom 06.06.00.

Die Musterzulassung gilt gemäß zugehörigem Geräte-Kennblatt Nr.: *MZL GS-01-769-00*

Bezeichnung des Gerätemusters:

Ozone Octane XL

Geräteart:

Gleitsegel

Die Musterzulassung kann in den in § 4 Abs. 2 der Luftverkehrs-Zulassungs-Ordnung vorgesehenen Fällen widerrufen werden.

Datum der Ausstellung

06.06.00

Unterschrift

Deutscher Hängegleiterverband e.V.
Miesbacher Straße 2, 83703 Gmund

DHV FLIGHT TEST REPORT

Ozone Octane S

DHV Certification Number: MZL GS-01-771-00
Classification / Harness group: 2 / GH
Number of seats: 1
Trimming system: Accelerator
Winch towing: Yes

	Behaviour at min. take-off weight (65 kgs)	Behaviour at max. take-off weight (85 kgs)
TAKE-OFF	**1 - 2**	**1 - 2**
Inflation	evenly, immediately	evenly, immediately
Rising behaviour	immediately comes over pilot	immediately comes over pilot
Lift off speed	average	slight
Take-off behaviour overall	easy	average
LEVEL FLIGHT	**1 - 2**	**1 - 2**
Trim speed	35km/h	36km/h
Speed accelerated		49km/h
Roll damping	average	average
TURN BEHAVIOUR	**2**	**1 - 2**
Spin tendency	not available	not available
Control travel	average	average
Agility	high	high
SYMMETRIC STALL	**2**	**2**
Deep stall limit	average 60 cm - 75 cm	average 60 cm - 75 cm
Full stall limit	average 65 cm - 80 cm	average 65 cm - 80 cm
Control pressure increase	average	average
SYMMETRIC TUCK	**1 - 2**	**1**
Tendency to shoot forward	average	slight
Opening behaviour	spontaneous, quickly	spontaneous, quickly
SYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Tendency to shoot forward	-	slight
Opening behaviour	-	spontaneous, quickly
ASYMMETRIC TUCK	**2**	**2**
Turn	90 - 180 degrees	90 - 180 degrees
Rate of turn	average with deceleration	average with deceleration
Loss of altitude	average	average
Stabilization	spontaneous	spontaneous
Opening behaviour	spontaneous, quickly	spontaneous, quickly

Ozone Octane S (continued)

	Behaviour at min. take-off weight (65 kgs)	Behaviour at max. takeoff weight (85 kgs)
ASYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Turn	-	180 - 360 degrees
Rate of turn	-	average with deceleration
Loss of altitude	-	average
Stabilization	-	spontaneous
Opening behaviour	-	spontaneous, quickly
COUNTERSTEERING AN ASYMMETRIC TUCK	**1 - 2**	**1 - 2**
Stabilization	countersteering easy	countersteering easy
Control travel	average	average
Control pressure increase	average	average
Opposite turn	easy, no tendency to stall	easy, no tendency to stall
Opening behaviour	spontaneous, quickly	spontaneous, quickly
FULLSTALL (symmetric exit)	**1 - 2**	**1 - 2**
FULLSTALL (asymmetric exit)	**1 - 2**	**1 - 2**
SPIN AT TRIM SPEED	**2**	**2**
SPIN IN STATIONARY TURN	**1 - 2**	**1 - 2**
SPIRAL DIVE	**1**	**1 - 2**
Entry	easy	easy
Spin tendency	slight	slight
Exit	spontaneous	spontaneous
B-LINE STALL	**1**	**1**
Entry	easy	easy
Exit	spontaneous	spontaneous
LANDING	**1 - 2**	**1 - 2**
Landing behaviour	average	average
ADDITIONAL FLIGHT SAFETY REMARKS		

DHV FLIGHT TEST REPORT

Ozone Octane M

DHV Certification Number: MZL GS-01-760-00
Classification / Harness group: 2 / GH
Number of seats: 1
Trimming system: Accelerator
Winch towing: Yes

	Behaviour at min. take-off weight (80 kgs)	Behaviour at max. take-off weight (100 kgs)
TAKE-OFF	**1 - 2**	**1 - 2**
Inflation	evenly, immediately	evenly, immediately
Rising behaviour	immediately comes over pilot	immediately comes over pilot
Lift off speed	average	average
Take-off behaviour overall	easy	easy
LEVEL FLIGHT	**1 - 2**	**1 - 2**
Trim speed	35km/h	36km/h
Speed accelerated		50km/h
Roll damping	average	average
TURN BEHAVIOUR	**1 - 2**	**1**
Spin tendency	not available	not available
Control travel	average	average
Agility	average	average
SYMMETRIC STALL	**2**	**2**
Deep stall limit	average 60 cm - 75 cm	average 60 cm - 75 cm
Full stall limit	average 65 cm - 80 cm	average 65 cm - 80 cm
Control pressure increase	average	average
SYMMETRIC TUCK	**1 - 2**	**1 - 2**
Tendency to shoot forward	slight	slight
Opening behaviour	spontaneous, delayed	spontaneous, delayed
SYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Tendency to shoot forward	-	average
Opening behaviour	-	spontaneous, delayed
ASYMMETRIC TUCK	**2**	**2**
Turn	90 - 180 degrees	90 - 180 degrees
Rate of turn	average with deceleration	average with deceleration
Loss of altitude	average	average
Stabilization	spontaneous	spontaneous
Opening behaviour	spontaneous, delayed	spontaneous, delayed

Ozone Octane M (continued)

	Behaviour at min. take-off weight (80 kgs)	Behaviour at max. takeoff weight (100 kgs)
ASYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Turn	-	90 - 180 degrees
Rate of turn	-	high with deceleration
Loss of altitude	-	average
Stabilization	-	spontaneous
Opening behaviour	-	spontaneous, delayed
COUNTERSTEERING AN ASYMMETRIC TUCK	**1 - 2**	**1 - 2**
Stabilization	countersteering easy	countersteering easy
Control travel	average	average
Control pressure increase	average	average
Opposite turn	easy, no tendency to stall	easy, no tendency to stall
Opening behaviour	spontaneous, delayed	spontaneous, delayed
FULLSTALL (symmetric exit)	**2**	**2**
FULLSTALL (asymmetric exit)	**1 - 2**	**1 - 2**
SPIN AT TRIM SPEED	**2**	**2**
SPIN IN STATIONARY TURN	**2**	**2**
SPIRAL DIVE	**2**	**2**
Entry	easy	easy
Spin tendency	not available	not available
Exit	turn continues through 180 - 360 degrees	turn continues through 180 - 360 degrees
B-LINE STALL	**1**	**1**
Entry	easy	easy
Exit	spontaneous	spontaneous
LANDING	**1**	**1**
Landing behaviour	easy	easy
ADDITIONAL FLIGHT SAFETY REMARKS		

DHV FLIGHT TEST REPORT

Ozone Octane L

DHV Certification Number: MZL GS-01-770-00
Classification / Harness group: 2 / GH
Number of seats: 1
Trimming system: Accelerator
Winch towing: Yes

	Behaviour at min. take-off weight (95 kgs)	Behaviour at max. take-off weight (115 kgs)
TAKE-OFF	**1 - 2**	**1**
Inflation	evenly, immediately	evenly, immediately
Rising behaviour	immediately comes over pilot	immediately comes over pilot
Lift off speed	slight	average
Take-off behaviour overall	average	easy
LEVEL FLIGHT	**1 - 2**	**1 - 2**
Trim speed	36km/h	37km/h
Speed accelerated		48km/h
Roll damping	average	average
TURN BEHAVIOUR	**1 - 2**	**1 - 2**
Spin tendency	slight	slight
Control travel	average	average
Agility	high	high
SYMMETRIC STALL	**2**	**2**
Deep stall limit	average 60 cm - 75 cm	average 60 cm - 75 cm
Full stall limit	average 65 cm - 80 cm	average 65 cm - 80 cm
Control pressure increase	slight	average
SYMMETRIC TUCK	**1**	**1 - 2**
Tendency to shoot forward	average	slight
Opening behaviour	spontaneous, quickly	spontaneous, quickly
SYMMETRIC TUCK (ACCELERATED)	**-**	**1 - 2**
Tendency to shoot forward	-	slight
Opening behaviour	-	spontaneous, quickly
ASYMMETRIC TUCK	**1**	**1 - 2**
Turn	<90 degrees	90 - 180 degrees
Rate of turn	slight with deceleration	average with deceleration
Loss of altitude	slight	average
Stabilization	spontaneous	spontaneous
Opening behaviour	spontaneous, quickly	spontaneous, quickly

Ozone Octane L (continued)

	Behaviour at min. take-off weight (95 kgs)	Behaviour at max. takeoff weight (115 kgs)
ASYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Turn	-	180 - 360 degrees
Rate of turn	-	average with deceleration
Loss of altitude	-	average
Stabilization	-	spontaneous
Opening behaviour	-	spontaneous, quickly
COUNTERSTEERING AN ASYMMETRIC TUCK	**1 - 2**	**2**
Stabilization	countersteering easy	countersteering easy
Control travel	average	slight
Control pressure increase	average	average
Opposite turn	easy, no tendency to stall	easy, no tendency to stall
Opening behaviour	spontaneous, quickly	spontaneous, quickly
FULLSTALL (symmetric exit)	**1 - 2**	**1 - 2**
FULLSTALL (asymmetric exit)	**1 - 2**	**1 - 2**
SPIN AT TRIM SPEED	**1 - 2**	**2**
SPIN IN STATIONARY TURN	**1 - 2**	**1 - 2**
SPIRAL DIVE	**1**	**2**
Entry	easy	average
Spin tendency	slight	not available
Exit	spontaneous	turn continues through 180 - 360 degrees
B-LINE STALL	**1**	**1**
Entry	easy	easy
Exit	spontaneous	spontaneous
LANDING	**1 - 2**	**1 - 2**
Landing behaviour	average	average
ADDITIONAL FLIGHT SAFETY REMARKS		

DHV FLIGHT TEST REPORT

Ozone Octane XL

DHV Certification Number: MZL GS-01-769-00
Classification / Harness group: 2 / GH
Number of seats: 1
Trimming system: Accelerator
Winch towing: Yes

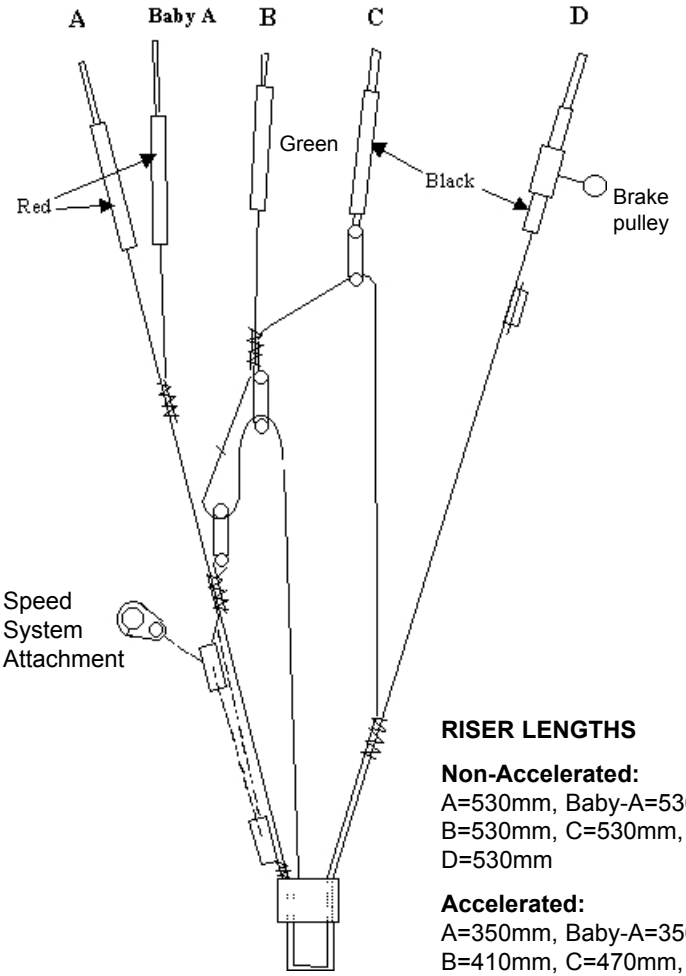
	Behaviour at min. take-off weight (110 kgs)	Behaviour at max. take-off weight (135 kgs)
TAKE-OFF	**1 - 2**	**1 - 2**
Inflation	evenly, immediately	evenly, immediately
Rising behaviour	immediately comes over pilot	immediately comes over pilot
Lift off speed	average	slight
Take-off behaviour overall	average	average
LEVEL FLIGHT	**1 - 2**	**1 - 2**
Trim speed	36km/h	38km/h
Speed accelerated		50km/h
Roll damping	average	average
TURN BEHAVIOUR	**1 - 2**	**2**
Spin tendency	slight	slight
Control travel	average	average
Agility	high	high
SYMMETRIC STALL	**2**	**2**
Deep stall limit	average 60 cm - 75 cm	average 60 cm - 75 cm
Full stall limit	average 65 cm - 80 cm	average 65 cm - 80 cm
Control pressure increase	average	average
SYMMETRIC TUCK	**1**	**1**
Tendency to shoot forward	average	average
Opening behaviour	spontaneous, quickly	spontaneous, quickly
SYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Tendency to shoot forward	-	slight
Opening behaviour	-	spontaneous, quickly
ASYMMETRIC TUCK	**1 - 2**	**1**
Turn	90 - 180 degrees	< 90 degrees
Rate of turn	average with deceleration	slight with deceleration
Loss of altitude	slight	slight
Stabilization	spontaneous	spontaneous
Opening behaviour	spontaneous, quickly	spontaneous, quickly

Ozone Octane XL (continued)

	Behaviour at min. take-off weight (110 kgs)	Behaviour at max. takeoff weight (135 kgs)
ASYMMETRIC TUCK (ACCELERATED)	**-**	**2**
Turn	-	90 - 180 degrees
Rate of turn	-	average with deceleration
Loss of altitude	-	average
Stabilization	-	spontaneous
Opening behaviour	-	spontaneous, quickly
COUNTERSTEERING AN ASYMMETRIC TUCK	**1 - 2**	**2**
Stabilization	countersteering easy	countersteering easy
Control travel	slight	slight
Control pressure increase	average	average
Opposite turn	easy, no tendency to stall	easy, no tendency to stall
Opening behaviour	spontaneous, quickly	spontaneous, quickly
FULLSTALL (symmetric exit)	**1 - 2**	**1 - 2**
FULLSTALL (asymmetric exit)	**1 - 2**	**1 - 2**
SPIN AT TRIM SPEED	**1 - 2**	**1 - 2**
SPIN IN STATIONARY TURN	**1 - 2**	**1 - 2**
SPIRAL DIVE	**1**	**1 - 2**
Entry	easy	easy
Spin tendency	slight	slight
Exit	spontaneous	spontaneous
B-LINE STALL	**1**	**1 - 2**
Entry	easy	easy
Exit	spontaneous	spontaneous
LANDING	**1 - 2**	**1 - 2**
Landing behaviour	easy	average
ADDITIONAL FLIGHT SAFETY REMARKS		

RISER ARRANGEMENT

OCTANE S, M L and XL



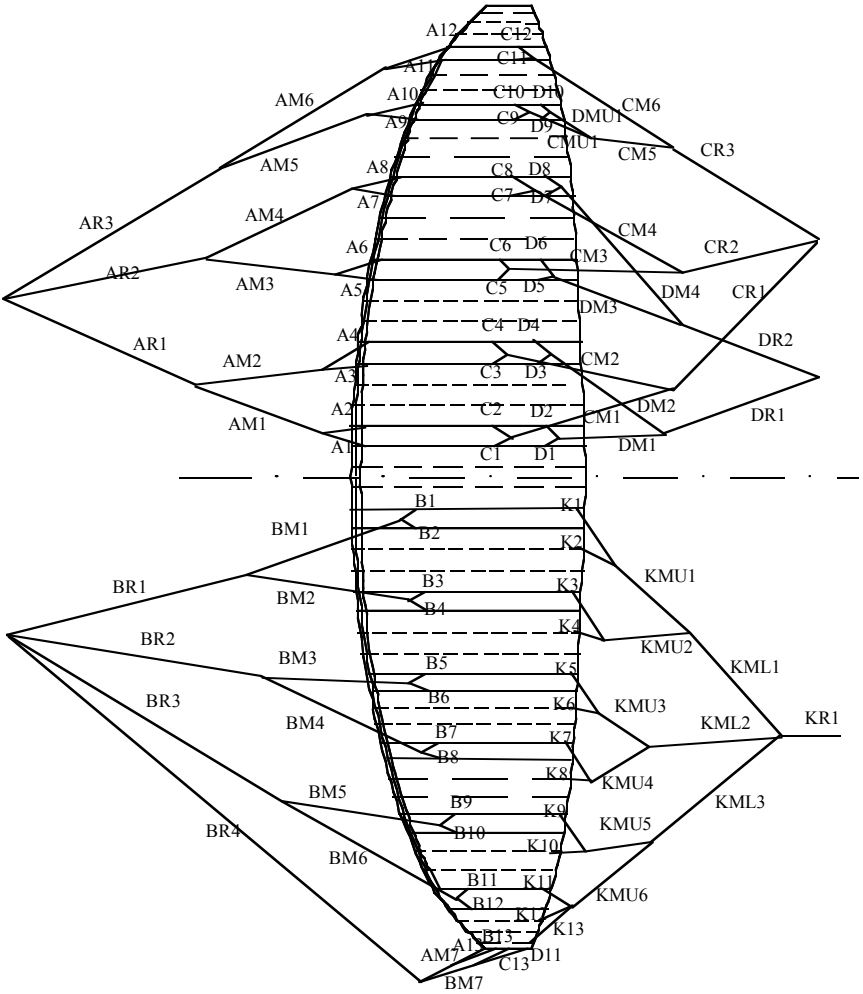
RISER LENGTHS

Non-Accelerated:
A=530mm, Baby-A=530mm,
B=530mm, C=530mm,
D=530mm

Accelerated:
A=350mm, Baby-A=350mm,
B=410mm, C=470mm,
D=530mm

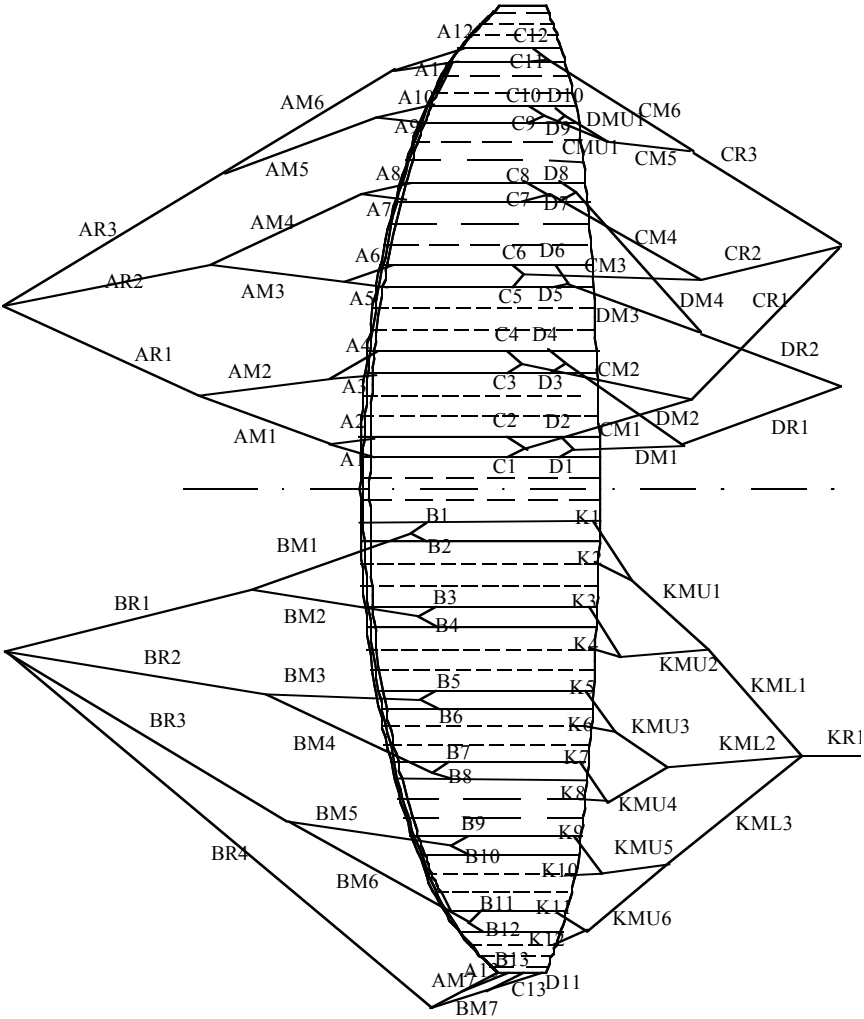
LINE ARRANGEMENT

OCTANE M



LINE ARRANGEMENT

OCTANE S, L AND XL



LINE ARRANGEMENT

OCTANE XS

The Octane XS was undergoing certification at the time of this manual going to print.
The Line Arrangement diagram and the Line Check Sheet for the XS can be obtained from your dealer or direct from OZONE.

LINE CHECK SHEET

OCTANE Small (DHV 2)

	Line No.	A	B	C	D	Brakes	Brake No.
Tip	**13**	6085	6085	6097	6122		
						7120	**K12**
	12	6480	6435	6475			
	11	6500	6455	6495		7120	**K11**
						7135	**K10**
	10	6630	6575	6640	6755		
	9	6670	6615	6690	6805	7135	**K9**
						7205	**K8**
	8	6790	6740	6810	6950		
	7	6790	6740	6800	6920	7200	**K7**
						7250	**K6**
	6	6850	6790	6850	6970		
	5	6880	6820	6880	7020	7370	**K5**
						7435	**K4**
	4	6950	6880	6950	7110		
	3	6940	6870	6930	7070	7570	**K3**
						7730	**K2**
	2	6970	6900	6960	7110		
	1	7000	6930	7000	7180	7965	**K1**
Centre							

Notes: Measurements comply to the official DHV measurement method.
Lines measured from the bottom of the sail to the inside of the maillon.
Measurements made under 5 daN load.

LINE CHECK SHEET

OCTANE Medium (DHV 2)

	Line No.	A	B	C	D	Brakes	Brake No.
Tip	**13**	6500	6470	6470	6490		
						7160	**K13**
						7200	**K12**
	12	6810	6765	6825			
	11	6840	6800	6860		7215	**K11**
						7245	**K10**
	10	6955	6915	6995	7120		
	9	6995	6950	7050	7165	7310	**K9**
						7370	**K8**
	8	7100	7040	7120	7200		
	7	7105	7040	7110	7185	7420	**K7**
						7500	**K6**
	6	7160	7090	7160	7250		
	5	7195	7125	7195	7300	7650	**K5**
						7730	**K4**
	4	7260	7180	7245	7410		
	3	7250	7175	7230	7370	7895	**K3**
						8080	**K2**
	2	7295	7210	7260	7415		
	1	7315	7235	7315	7475	8260	**K1**
Centre							

Notes: Measurements comply to the official DHV measurement method.
Lines measured from the bottom of the sail to the inside of the maillon.
Measurements made under 5 daN load.

LINE CHECK SHEET

OCTANE Large (DHV 2)

	Line No.	A	B	C	D	Brakes	Brake No.
Tip	**13**	6650	6640	6648	6668		
						7628	**K12**
	12	7110	7025	7060			
	11	7140	7055	7090		7638	**K11**
						7662	**K10**
	10	7250	7195	7255	7375		
	9	7300	7235	7315	7425	7672	**K9**
						7741	**K8**
	8	7410	7360	7435	7580		
	7	7410	7360	7425	7560	7741	**K7**
						7791	**K6**
	6	7470	7410	7465	7610		
	5	7510	7440	7505	7660	7921	**K5**
						7991	**K4**
	4	7580	7500	7575	7750		
	3	7560	7490	7555	7710	8141	**K3**
						8303	**K2**
	2	7600	7520	7585	7750		
	1	7630	7550	7635	7820	8543	**K1**
Centre							

Notes: Measurements comply to the official DHV measurement method.
Lines measured from the bottom of the sail to the inside of the maillon.
Measurements made under 5 daN load.

LINE CHECK SHEET

OCTANE XLarge (DHV 2)

	Line No.	A	B	C	D	Brakes	Brake No.
Tip	**13**	6900	6890	6900	6920		
						7965	**K12**
	12	7410	7325	7350			
	11	7440	7355	7380		7970	**K11**
						8008	**K10**
	10	7560	7505	7560	7670		
	9	7610	7545	7610	7730	8018	**K9**
						8091	**K8**
	8	7715	7670	7745	7895		
	7	7725	7670	7735	7865	8091	**K7**
						8151	**K6**
	6	7785	7720	7785	7925		
	5	7815	7750	7825	7975	8281	**K5**
						8361	**K4**
	4	7890	7820	7895	8075		
	3	7880	7800	7865	8025	8511	**K3**
						8675	**K2**
	2	7920	7840	7905	8065		
	1	7950	7870	7955	8145	8925	**K1**
Centre							

Notes: Measurements comply to the official DHV measurement method.
Lines measured from the bottom of the sail to the inside of the maillon.
Measurements made under 5 daN load.