



Rapido

Pilots Manual







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THANK YOU

Thank you for choosing to fly Ozone. As a team of free flying enthusiasts, competitors and adventurers, Ozone's mission is to build agile paragliders of the highest quality with cutting edge designs, performance and maximum security.

Confidence and belief in your wing is a far greater asset than any small gains in performance - ask any of the Ozone pilots on your local hills, or those who have taken our gliders on ground-breaking adventures or stood on podiums around the world. All of our research and development is concentrated on creating the best handling/performance characteristics possible with optimum security. Our development team is based in the south of France. This area, which includes the sites of Gourdon, Monaco and Col de Bleyne, guarantees us more than 300 flyable days per year. This is a great asset in the development of the Ozone range.

As pilots, we fully understand just how big an investment a new paraglider is. We know that quality and value are essential considerations when choosing a new wing. To keep costs low and quality high, we manufacture all of our products in our own production facility. During production, our wings undergo numerous rigorous quality control checks that are fully traceable; this guarantees that all of our paragliders meet the same high standards.

It is essential that you read this manual before flying your wing for the first time. This manual will help you get the most out of your new wing; it details information about the design and contains tips and advice on how to best use and care for your wing. Proper use and care for your wing can help ensure it has a long life and retains a higher resale value.

For the latest updates, including all technical data, please refer to the online version. This can be found on the product page on at www.flyozone.com 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 dangerous. You could suffer serious injury or death as a result of using this equipment. Using this equipment improperly greatly increases the risks involved. Never use this equipment without proper and thorough instruction from a qualified instructor.

By using your Ozone paraglider, you accept all risks involved with the use of such equipment. The designer, manufacturer, distributor, and retailer cannot and will not guarantee your safety when using this equipment. You agree to not hold Ozone Gliders Ltd, nor Ozone Power Ltd liable for any injuries to yourself or to third parties resulting from the use of this equipment. It is essential that you understand the proper use of this equipment before attempting to use it in any way.

The User MUST:

- Be an experienced and licensed paraglider pilot.
- (For Snow Use) Be an experienced skier with competent knowledge of backcountry skiing and terrain, and be equipped with appropriate safety and rescue equipment when traveling in the backcountry.
- Be in an area approved for the type of activity you are undertaking.
- Use helmet and proper protective equipment.
- Use the wing in a safe and hazard free environment.
- Maintain the equipment properly and inspect it regularly.
- Receive thorough and professional instruction for the specific activity prior to using the wing.
- Ensure that all harness connections are fastened properly.
- Always fly with a partner. Be aware of the other people you are traveling with in the backcountry at all times. Use the buddy system.
- NEVER use your wing in turbulent wind conditions.
- NEVER use your wing in a populated area or an area not approved for flying.
- NEVER use your wing in a ski area or on a ski slope / ski piste.
- NEVER use your wing around hazardous obstacles such as ski lifts or trees or rocks.
- NEVER use your wing unless you have adequate safety and rescue equipment for winter backcountry travel such as avalanche transceiver, shovel, probe, and other avalanche safety equipment.
- NEVER use equipment if there is any damage to harness, risers, webbing, lines, cloth or stitching.

TEAM OZONE

Everyone at Ozone continues to be driven by our passion for flying, our love of adventure and our quest to see Ozone's paraglider development create better, safer and higher performing paragliders.

The paraglider design team is led by David Dagault. Dav has a wealth of experience both in competition, adventure flying and paraglider design. Also on the design team are Luc Armant, Fred Pieri and Russell Ogden. Luc is a top competition pilot and XC addict. With a background in naval architecture, he brings a wealth of knowledge and ideas to the design team. Fred is a mathematician, mechanical engineer and vol Biv specialist. Fred and Luc work closely with Dav in the design process. Russ is a top competitor and test pilot. He can usually be found putting the latest creations through a series of test manoeuvres.

The Ozone speed flying specialists offer a wealth of experience and talent with the likes of Rob Whittall, Matt Gerdes and Cade Palmer who ensure that each new model has a thorough test and development process.

Back in the office Karine Marconi, Chloe Vila and Isabelle Martinez run the show. These wonderful ladies look after the ordering system, the dealers, the design team and the general day to day running of the company - without them it would be chaos. Mike Cavanagh is the boss and multiple winner of the UK XC league. When he's not out flying he generally keeps control of the mayhem. Promotion and team pilots are organised by BASE jumping professional and mini-wing specialist Matt Gerdes. He works closely with graphic designer Loren Cox. Loren is a keen pilot from Salt Lake city, USA.

Our manufacturing facility in Vietnam is headed up by Dr. Dave Pilkington, who works relentlessly manufacturing gliders and producing prototypes, as well as researching materials and manufacturing processes for our future products. He is backed up by a superb team managed by Khanh and Phong with over 700 production staff.

YOUR RAPIDO

As speed flying and speed riding wings have evolved, so has pilot skill, experience, and methodology.

The Rapido is a new design for pilots who are pushing the limits of steep carving flights, low barrel rolls, and long swoops. With a slightly higher aspect ratio and a more dynamic and agile character than the Fazer series, the Rapido is designed specifically for experienced speed flying pilots. A wider glide range, higher trim speed and wider acceleration window set this wing apart from the other speed wings in our range.

Compared to the Fazer 2 the Rapido offers:

- Increased trim range
- Higher top speed
- Higher efficiency at flat angles of attack (increased glide performance)
- Steeper angle of attack with trimmers out
- More dynamic and responsive handling
- Even greater swoop potential

The Rapido is meant only for experienced speed flying and speed riding pilots, and is not suitable for beginners or pilots who are new to speed flying, speed riding, or paragliding.

The Rapido requires active piloting: even though the wingloading of speed wings generally contributes to stability, the Rapido is meant only for experienced pilots who are able to effectively pilot their wing in active air. Skydivers without paragliding experience or low-airtime paraglider pilots may not have the skill and experience to safely pilot the Rapido in active air. The Fazer 2 remains the optimum choice for pilots who are entering this exciting branch of paragliding.

The Pack

The Mountain Pack is large enough to carry a standard harness and speed wing. It is also equipped with external straps that can be used to carry skis or snowboards and other equipment. We recommend always using appropriate safety and rescue equipment when traveling in the backcountry in snow conditions.

The Atak Harness (Optional)

The Atak is a special harness developed for speed wing flying. The hang-points, structure, and pilot positioning are all specifically engineered for speed-flying pilots. Your Atak harness is adjustable for upright and semi-reclined flying, although most experienced speed flying pilots prefer to be in an upright position in order to move from seated to skiing quickly and easily.

Brake Lines

The brake line lengths have been set carefully during testing. It should not be necessary to change the lengths. However, if you do choose to adjust them, do so in a progressive manner to ensure that they are not over-shortened.

Risers

Your wing has 3 risers per side. The A riser is covered with coloured webbing, which makes them easy to identify.

Trimmers

The trimmer system can be used to increase or decrease your angle of attack. We recommend becoming very familiar with your wing before using the trimmer system.

Total weight in Flight

The wing has been successfully load tested, without destruction to above 6g with a load of 120kgs. Do not exceed 120kgs in flight. Choose the size suitable for your usual site and experience, do not fly the smaller sizes unless you are a very experienced speed flying pilot.

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.

IMPORTANT

Never fly with your trimmers released in turbulent conditions.

SPEED WING FLYING

Speed Wing flying is still a relatively new sport. Because of this, you are an ambassador and representative and we ask that you please set a positive example to ensure the successful future of the sport. Please be responsible, and practice safe conduct. Never practice flying on populated ski slopes or pistes! It is expressly forbidden to fly in populated areas. When on snow, always carry with you all necessary avalanche safety and rescue equipment.

Never attempt to fly unless you have received instruction from a competent speed-flying instructor.

You must be responsible when you fly near any ski area. Contact the ski resort safety service prior to flying near or at a ski area. Take time to explain the sport and be clear that the sport is never practiced on pistes or near other skiers. A clear presentation with photos, video, and a detailed safety explanation is necessary.

Always carry the avalanche safety and rescue equipment necessary for backcountry skiing. In any alpine environment the following equipment is necessary: avalanche transceiver, shovel, probe, back protection, and helmet. It is absolutely essential to check the weather forecast and snow conditions. Take any advice from qualified resort safety experts or high mountain guides.

You must be a competent skier and paraglider pilot before you attempt to fly on snow.

Do not fly by yourself. Always use the buddy system and be aware of the location and safety of your partners!

Acro Flying

Speed Wing piloting is dangerous. Acro flying greatly increases the danger and therefore should not be attempted. Your wing is stable in flight and load tested to 6 Gs, but we do not recommend flying acro.

Pilot Health

Flying exerts very high stresses on the human body. Pilots must ensure that they are physically and mentally fit enough to cope with these stresses. Know your limits.

PREPARATION

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, the stabilo, C, B and A lines pull all the lines clear. Make sure there are no knots or tangles and lay the checked lines on top of the previous set. Mirror the process on the other side and then inspect the lines for any visual damage. Then inspect the risers for any signs of obvious damage.

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.

Take-off checklist:

1. Helmet on and fastened
2. All harness buckles closed - check leg-loops again
3. Karabiners and maillons tight
4. Holding the A risers and your brake handles correctly
5. Leading edge open
6. Aligned in the middle of the wing and directly into wind
7. Airspace and visibility clear

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. The chest strap should be set between 42cm and 48cm (between the centre of the hang points).

BASIC FLIGHT TECHNIQUES

Launching

After your daily inspection and pre-flight check, your wing may be launched with either the forward or reverse techniques.

Forward Launch - Nil to Light winds

When the wind is favourable, whilst gently holding the A risers, move forward positively. Your lines should become tight within one or two steps and the wing 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 making taking-off more difficult and potentially dangerous.

Move smoothly throughout the entire launch, there is no need to rush or snatch at it. You should have plenty of time to look up and check your canopy before committing yourself. Once you are happy that the wing is inflated correctly, accelerate smoothly off the launch.

Reverse Launch - Light to Strong Winds

Lay out your wing as you would for the forward launch. However, this time turn to face it, passing one entire set of risers over your head as you turn. Now you can inflate the glider with 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 glider and it will be less likely to overfly you. This reverse-launch technique can be used in surprisingly light winds too.

Towing

Do not tow launch your Rapido.

Turning

To familiarize yourself with the Rapido, your first turns should be gradual and progressive. To make coordinated turns, first look in the direction you want to go, then smoothly apply the brake. It is a small dynamic wing, so take it easy to begin with and learn the response of the wing before steepening the turns. To regulate the speed and radius of a turn, coordinate with weight shift and use the outer brake if necessary.

NOTE

The Rapido will launch and inflate easily with or without A riser input if you pull it evenly from the hips.

IMPORTANT

Never take off with a wing that is not fully inflated or if you are not in complete control of your wing.

IMPORTANT

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

Active Flying

To minimize the likelihood of suffering collapses in very turbulent conditions, it is essential to use active flying. These are skills that are best learnt by playing with the glider on the ground. Flying with a small amount of brake applied (approx. 20cm) will allow you to feel the feedback from the wing. In turbulent conditions the internal pressure of the wing is constantly changing and only by using a small amount of brake will you feel these changes. The aim of active flying is to maintain a constant pressure through the brakes, If you feel a reduction or loss of pressure apply the brakes until you feel normal pressure again. Once you have normal pressure, raise the hands quickly 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.

No pilot and no glider are immune to collapses. However, active flying will virtually eliminate any tendency to collapse. When the conditions are turbulent, be more active and anticipate the movements of your wing, return the trimmers to the slow position, always be aware of your altitude and do not over-react. We strongly advise you to always keep hold of your brakes and not to fly in turbulent conditions.

Landing

Choose a landing area that is smooth and free of obstacles. The approach speed can be very fast and requires an accurate flare. Flare the wing by applying both brakes at the appropriate moment. Doing this will decrease your sink rate to almost zero and allow you to touch down easily. Never make turns or aggressive maneuvers close to the ground or on your landing approach.

- 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).

IMPORTANT

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

- 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 reduced, 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.
- 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.

INCIDENTS IN FLIGHT

Rapid Descent Techniques

Do not attempt paragliding rapid descent techniques such as Big Ears, B-Stalls, or Spirals. Your wing has a high sink rate and you should always avoid flying in conditions which might require the use of rapid descent techniques.

Deflations

Ozone Speed wings are very stable and are resistant to deflations or collapses.

Due to the flexible form of a paraglider, turbulence may cause a portion of the wing suddenly to collapse. This can be anything from a small 30% (asymmetric) collapse to a complete (symmetric) collapse.

If you have a collapse, the first thing to do is to control your direction. You should fly away from the ground or obstacles and other pilots. Asymmetric collapses should be controlled by weight shifting away from the collapse and applying enough brake to control your direction. This action alone will be enough for a full recovery of the wing most of the time. Returning the trimmers to the neutral position will aid recovery.

IMPORTANT

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

Once a glider is deflated it is effectively a smaller wing, so the wing loading and stall speed are higher. This means the glider will spin or stall with less brake input than normal. In your efforts to stop the glider turning towards the collapsed side of the wing you must be very careful not to stall the side of the wing that is still flying. If you are unable to stop the glider turning without exceeding the stall point then allow the glider to turn whilst you reinflate the collapse.

If you have a deflation which does not spontaneously reinflate, make a long smooth progressive pump on the deflated side. This pumping action should take about 1-2 seconds per pump. 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.

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

Deep Stall / Parachutal Stall

It is possible for gliders to enter a state of parachutal stall. This can be caused by several situations including: a very slow release from a B-line stall, flying the glider when wet, or after a front/symmetric deflation. The glider often looks as though it has recovered properly but carries on descending vertically without full forward motion. This situation is called 'deep stall' or 'parachutal stall'.

It is unlikely to happen on any Ozone glider, but should it, your first reaction should be to fully raise both hands. This normally allows the glider to return to normal flight. If nothing happens after a few seconds, reach up and push the A-risers forwards or 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. Find a safe area to land, and use the trimmers to maintain a good airspeed at all times.

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!

IMPORTANT

Never fly in the rain or with a wet glider

CARE AND MAINTENANCE

Caring Tips

Careless ground 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 to another take-off position - this damages the sailcloth. Lift it up and carry it.
- 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! This 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. Pack away once you have finished flying. Do not leave it sitting in the sun.
- If you fly with a wrap, you should regularly undo the twisting that appears on the main brake lines. When the line is twisted it becomes shorter, which may apply constant tension on the trailing edge (which can lead to problem on launch, spinning, stalling, glider not flying symmetrically etc).
- Change your main brake lines if they are damaged.
- Be Careful when groundhandling 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 lead to premature ageing of the risers. If you notice any signs of abrasion, especially to the lines, make sure you get the wing professionally serviced and importantly modify your groundhandling technique to stop any further damage.
- 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

Always store all your flying equipment in a dry room, protected from direct heat. Your wing should be dry before being packed away. Moisture, heat and humidity are the worst elements for damaging your glider. Storing a damp glider in your car under the sun would be terrible for example.

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, etc.

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 oils, paints, chemicals, detergents etc.

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 little by little across the surface.

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.

You can find more information about repairing your wing on the Ozone website, including step by step instructions with pictures.

If you damage a line:

Any line that is visually damaged MUST be replaced. Use a reputable paragliding service centre to make the replacement lines. Alternatively you can order them from your local Ozone dealer or directly from our website <http://www.flyozone.com/paragliders/en/shop/lines.php>

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.

 Packing

To prolong the life of your wing and to keep it in the best possible condition, it is very important to pack the wing carefully.

Ozone recommends to use the concertina packing method so that all of the cells rest alongside each other. This helps to ensure the leading edge reinforcements are not unnecessarily bent. Using an Ozone Saucisse or Saucisse light pack will help preserve the life of the wing and aid with the speed and ease of packing.

Alternatively, you can simply fold the wing using the traditional method - in half and then half again.

 Maintenance Checks

It is vitally important that your wing be checked regularly. Your wing should be checked by a qualified professional for the first time after 1 year or 80 hours, whichever comes first and thereafter annually.

We recommend that the check is performed by a qualified professional.

You are responsible for your flying equipment and your safety depends on it. Take care of it and regularly inspect all of its components. Changes in a wing's launching or flying behaviour are indicators of the glider aging. If you notice any changes you should have the wing checked before flying again.

The basic checks involve line measurement and breaking strain, as well as cloth porosity and tear strength. (Full details can be found on our website www.flyozone.com).

 Modifications

Your wing was designed and trimmed to give the optimum balance of performance, handling and safety. Any modification will probably make the glider more difficult to fly and less safe. For these reasons, we strongly recommend that you do not modify it in any way.

OZONE QUALITY GUARANTEE

At Ozone, we take the quality of our products very seriously. All of our gliders are made to the highest standards, in our own manufacturing facility. Every glider manufactured goes through a stringent series of quality control procedures and all the components used to build your glider are traceable. We always welcome customer feedback and are committed to customer service. We will always fix problems that are not caused by normal wear and tear or inappropriate use. If you have a problem with your glider, please contact your dealer/distributor. They will be able to decide the most appropriate action. If you are unable to contact your dealer, then you can contact us directly at info@flyozone.com.

TECHNICAL SPECIFICATIONS

Rapido	9	11	13
No. of Cells	27	27	27
Projected Area (m2)	7.72	9.45	11.22
Flat Area (m2)	8.82	10.81	12.83
Projected Span (m)	4.9	5.4	5.9
Flat Span (m)	5.9	6.5	7.1
Projected Aspect Ratio	3.12	3.12	3.12
Flat Aspect Ratio	3.95	3.95	3.95

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

Cloth

Upper Surface

Dominico DOKDO 20D MF

Lower Surface

Dominico DOKDO 20D MF

Internal Ribs

Dominico DOKDO 30D FM

MainLine Set

Edelrid 6843 - 160/200kg

Middle lines

A9200 -130kg

Upper Lines

Liros DSL - 70kg

Risers and hardware

Shackles

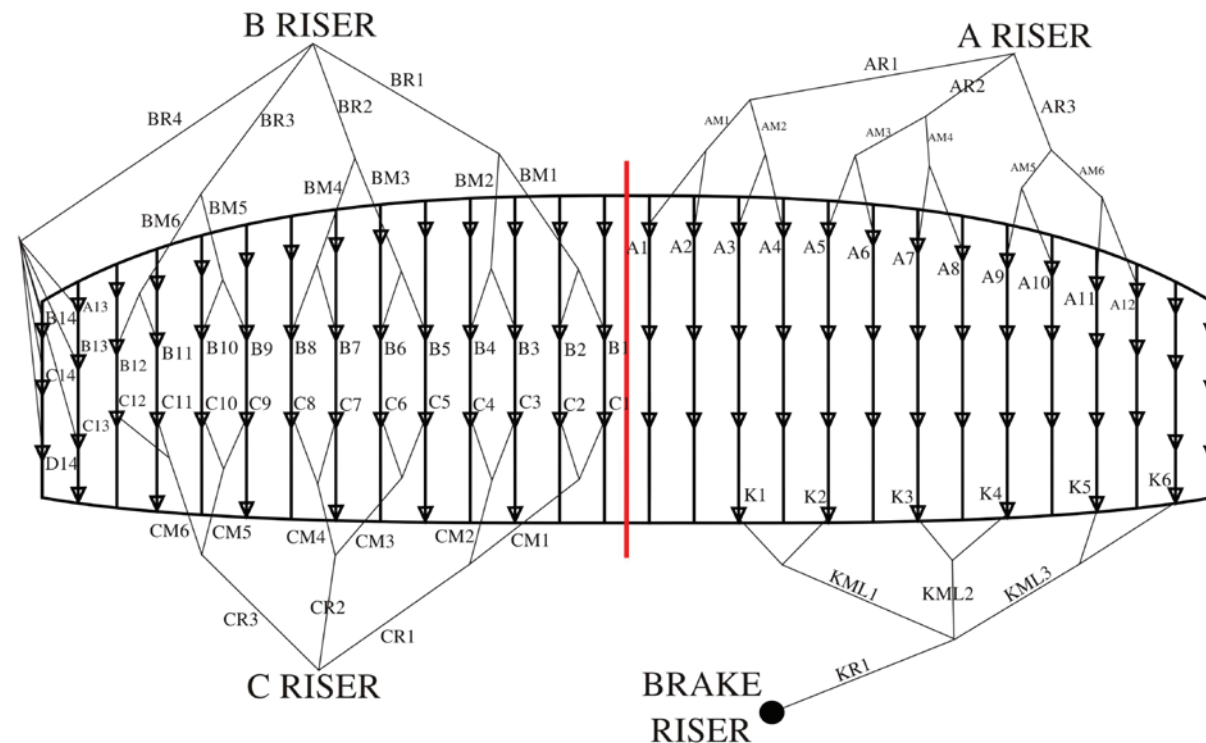
Maillon Rapide - Peugeot

Riser webbing

20mm zero stretch polyester webbing

LINE DIAGRAM

Individual and linked line lengths can be found online.





1258 Route de Grasse
Le Bar sur Loup
06620
France

Inspired by Nature, Driven by the Elements

WWW.FLYOZONE.COM