

OZONE

SWIFT SIX

Pilot Manual - EN

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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, class leading performance and maximum security.

As pilots we fully understand just how big an investment a new paraglider is. We know that quality and value for money are essential considerations when choosing a new wing, so 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 way we can guarantee that all of our paragliders meet the same high standards.

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 which is a great asset in the development of the Ozone range.

It is essential that you read this manual before flying your wing for the first time. The manual will help you get the most out of your new wing, it details information about the design, tips and advice on how best to use it and how to care for your wing to ensure it has a long life and retains a high resale value. For the latest updates, including all technical datas please refer to the latest online version found on the product's 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 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 boots.
- All 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.

Remember, PLEASURE is the reason for our sport

YOUR SWIFT 6

The Swift 6 is a high performance intermediate cross-country wing. Thanks to lightweight materials and advanced construction techniques, the sail weight is among the lightest in the class. Its reduced sail inertia and increased agility makes it easier to launch and more efficient in flight. Derived from the Rush 6/Alpina 4, it shares performance development features with the Enzo and Zeno series wings, offering the highest glide and XC performance in its class.

Hundreds of hours test flying in real air and turbulent conditions have gone into the development ensuring the wing satisfies our own demanding requirements along with the True Performance design goal – real, usable performance in turbulent air throughout the speed range.

Solidity in accelerated flight has been improved thanks to the new profile and optimised internal structure and the ACR risers. The Swift 6's structure is the strongest we have yet made, even in aggressive turbulence the profile remains undisturbed, retaining its shape and efficiency and does not suffer from the loss of performance associated with chord wise deformations. The pilot is connected intuitively to the wing thanks to the Active Control Risers, inherited directly from the Alpina 4. The innovative risers give the pilot full control over the angle of attack of the wing throughout the speed range without deforming the camber of the profile. The ACR risers act on both the B and C lines and offer 2- line-esque levels of control with the comfort of a 3 line package. This transforms the level of control in accelerated flight as the wing is always in your hands.

The Swift 6 is the baby brother of the Alpina 4 and shares many of its design features. Aspect Ratio has been maintained at a moderate level to ensure ease of use, fun and higher levels of passive safety. Gains in performance have been made elsewhere with further optimisations of the line layout with a 3 line structure supporting the middle of the wing and a 2 line structure at the wing tips reducing overall line drag. The new 3D shaping splits the leading edge into three distinct sections to give a clean, wrinkle free surface which smooths the airflow in this aerodynamically critical area. Modifications to the shaping of the panels and construction of the trailing edge mini ribs have also contributed to further reductions in parasitic drag. The Swift 6 features a new optimised Shark Nose profile, not only does this add stability, comfort and performance, it also gives a forgiveness to the brake range – the wing is extremely resistant to accidental spin or stall. The leading edge features G strings which help maintain the shape of the cell openings during accelerated flight, reducing flutter and the associated drag it creates.

Combining sporty, dynamic handling, great top speed and high levels of passive safety in a comfortable and accessible package makes the Swift 6 suitable for a wide range of pilots. Certified EN B, it is ideal for experienced intermediate recreational pilots and experienced XC hounds who fly at least 50hrs per year.



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 and fly. You can choose from any of them at the time of order or choose to not take one and re-use your old bag.

Brake Lines

The brake line lengths have been set carefully during testing. We feel it is better to have slightly long brake lines and to fly with a wrap (one turn of the handle around the hand). However, if you do choose to adjust their length please keep in mind the following:

- Ensure both main brake lines are of equal length.
- If a brake handle has been removed, check that its line is routed through the pulley when it is replaced.
- When the brakes are fully released in flight, the brake lines should be slack. There must be a substantial bow in them to guarantee no deformation of the trailing edge when accelerated.
- There must be a minimum of 5-10cm of free play before the brakes begin to deform the trailing edge. This prevents the trailing edge from being deformed when using the speed system.

Risers

The Swift 6 has been designed with 3 risers per side. The A risers are covered with coloured webbing for easy identification - the smaller riser, holding only the outermost A line, is for an easier application of big ears.

The risers feature attachments for a foot operated accelerator system, they do not feature trimmers or any other adjustable devices.

The Swift 6 features new Active Control Risers (ACR) for full control whilst accelerated. Acting on both the B and C risers, this new innovative system offers direct, efficient angle of attack control - without deforming the profile. The intuitive feel and feedback from the risers allows the pilot to increase the solidity of the wing whilst accelerated in turbulent air.

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.

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 in 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 weak 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.

Towing

The Swift 6 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.

Limitations

The Swift 6 has been designed as a solo sports performance XC wing and is not intended for beginner pilots, tandem flights or aerobatic manoeuvres. The Swift 6 shows no unusual flying characteristics, turns are smooth and coordinated and it remains solid and well pressured throughout the accelerated speed range. It has a very high resistance to both collapses and stalls. However, it is a sport intermediate XC wing and is therefore only suitable for experienced pilots who fly approximately 50hrs per year and who have SIV experience.

The Swift 6 was certified without the use of collapse lines.

PREPARATION

Accelerator System

To set up the accelerator system, first route the lines supplied with the speed system through the harness. Make sure this is done correctly and that the lines pass through all of the pulleys (check your harness manual for instructions). Attach the speed system lines to the accelerator system on the risers with the Brummel hooks.

A basic set-up can be performed on the ground: ask a friend to pull the risers tight into their in-flight position whilst you sit in the harness on the ground. Now adjust the lengths of the lines so that the main bar sits just beneath your seat. You should be able to hook your heel in to the lower loop of the accelerator.

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. Fully extending the lower loop of the speed bar will accelerate the wing to approximately half its accelerated speed range. For full speed, hook your heels on to the upper bar and smoothly extend your legs, maximum speed is when the pulleys on the risers overlap. 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. We recommend a chest strap setting between 42cm and 48cm (measured between the centre of the hang points).

The wing has been certified with a standard seated harness, XS/S sizes are certified with a chest strap set to 42cm, the MS/ML between 44-46cm, and the L 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.

Using a pod harness in a laid back supine position does not invalidate the certification but it may have an influence on the behaviour of the wing. Pod harnesses increase the risk of twists occurring during a large asymmetric collapse.

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 stabilo, D (uppers), C, B and A lines, laying the checked lines on top of the previous set, and making sure no lines are tangled, knotted or snagged. 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. The general rule is if it looks OK then it is OK, however if you have any doubts please get advice from an experienced pilot or your local dealer or instructor.

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. 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 Swift 6 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 A risers move forward positively, your lines should become tight within one or two steps and the Swift 6 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 Swift 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 Swift 6 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.

Speed to Fly

Flying at trim speed (hands-up), the Swift 6 will achieve its 'best glide' speed for still air. You should fly at this speed when gliding downwind or when the air is not excessively sinking. For better penetration in headwinds and improved glide performance in sinking air, crosswinds or headwinds, you should fly faster than trim speed using the accelerator system. Using up to half bar does not degrade the glide angle or stability significantly and will improve your flying performance. You will reach the next thermal faster and higher. At full speed the Swift 6 is stable, however we recommend to always pilot the wing with the ACR risers when accelerated and to not fly at full speed close to the ground or in turbulent air.

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.

By applying approximately 20cm of brakes the Swift 6 will achieve its Minimum-Sink rate; this is the speed for best climb and is the speed to use for thermalling and ridge soaring.

Turning

To familiarize yourself with the Swift 6 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 the outer brake.

Active Flying

To minimize the likelihood of suffering collapses in 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 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 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. The brake inputs can be symmetric or asymmetric; you may have to apply both brakes or just one. These subtle adjustments will keep the glider flying smoothly and 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.

No pilot and no glider are immune to collapses however correct active flying will reduce the chances significantly. 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

Active Control Risers

The Swift 6 features Active Control Risers, a new innovative control system that acts on both the B and C risers for an improved feel and intuitive angle of attack control over the wing. This enables you to fly actively without using the brakes. Using brakes whilst accelerated causes drag, not only is this inefficient but it also reduces the inherent stability of the profile whilst using the ACR risers increases the angle of attack more evenly across the chord and does not weaken the profile. The direct feel allows you to stop collapses before they happen and maintain higher speeds and higher levels of efficiency through turbulence.

To fly with the risers, keep hold of your brake handles (remove any wraps) and take hold of the ACR handles. If you see or feel the leading edge lose pressure, at the same time as releasing some or all of the accelerator you can also apply pressure to help keep the nose open. The amount of pressure and size of the input is dependent on the amount of turbulence/loss of pressure, but always be gentle at first or you risk stalling part or all of the wing if you are over enthusiastic. Learn the feel of the wing - how much speed bar to release and the force required on the risers to keep the nose open without inducing unnecessarily large pitch movements.

ACR control is very effective throughout the speed range, in strong turbulence we recommend to control the pitch of the wing actively using a combination of the speed bar and ACR input. If you feel the nose of the wing start to collapse or pitch forward whilst accelerated the first action should be to release the speed bar impulsively and then make any necessary riser input. Using the combined active speed bar/ACR control technique you will be able to maximise your speed and efficiency whilst minimising the likelihood of collapses.

This control method is suitable for gliding in good 'normal' air, it does not replace proper active flying with the brakes in strong turbulent conditions. If you are unsure about the air, return the glider to trim speed, release the risers and fly the glider actively with the brakes.

IMPORTANT
Always take control of your ACR risers during accelerated flight.

Landing

The Swift 6 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

Ozone would like to remind you that the following manoeuvres should be learnt under the supervision of a qualified instructor and always used with caution. Never forget that properly analysing the conditions before launch will help avoid the need to use these 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 A² 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 accidentally induce parachutal or full stalls.

Once the big ears are engaged you can further increase the sink rate by pushing on the accelerator, however NEVER try to pull the Big Ears in if the accelerator is already applied. 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.

Ozone strongly recommend to NOT perform Spiral Dives with Big Ears engaged.

B-Line Stall

B-stall is for fast descents in emergency situations only. It is more efficient to lose altitude with a spiral dive rather than a B-stall.

To initiate the B-stall, keep the brakes in your hand and take hold of the maillons on the B risers. Look at the wing and smoothly pull both B risers down symmetrically. As soon as the wing breaks the airflow you will feel and see the wing deform in the chord and move rearwards. Once the glider has stabilised overhead keep the B risers in the same position for a stable B stall, do not pull any further. If you pull too

DO NOT perform spiral dives with the big ears engaged.

much the glider may deform across the span and the wing tips may move forward. In turbulent air pulling too much could result in a horseshoe or unstable B stall with the wing moving around above the head. 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, release the B-risers symmetrically in one smooth, progressive motion. The glider will resume normal forward flight without further input. Always double check you have forward flight before using the brakes.

Spiral Dives

The spiral dive is the most effective form of rapid descent. If you turn your glider in a series of tightening 360's it will enter a spiral dive. This will result in rapid height loss. To initiate a spiral, look and lean in to the direction you want to go, then smoothly and progressively pull down on the inside brake. The Swift 6 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 8m/s (1600 ft/min approx.) are possible in a spiral dive, 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. As the Swift 6 decelerates allow it to continue to turn until enough energy is lost for it to return to level flight without an excessive climb and surge.

It is possible for the Swift 6 to remain neutral in a spiral dive under certain circumstances: unsuitable chest strap setting (too tight), total weight in flight outside of the certified weight range, or being in a very deep spiral at a very high sink rate >14m/s.

You should 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 you feel the wing start 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, bleed off the speed if necessary. Never perform spiral dives close to the ground.

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

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.

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 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 Swift 6 collapses in accelerated flight, immediately release the accelerator and manage the collapse using the methods described above.

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

Cravats

If the tip of your wing gets stuck in the lines, this is called a 'cravat'. This can make your glider go into a spiral, which is difficult to control. The first solution to get out of this situation is to stabilise the glider into normal flight, i.e get control of your direction and then use strong deep pumps of the brake on the cravated side. 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, but without spinning. Correctly done, this action will clear the cravat quickly and is the most efficient and effective method. You can also try pulling on the stabilo line to free small stubborn wing tip cravats. Whichever method you use, be careful with any brake inputs as you may stall the opposite wing.

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 and you know what you are doing. 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 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 do so your first reaction should be to fully raise both hands. This normally 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 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

A bad preparation on launch, aerobic flying, flying a wing of too high a level or in conditions too strong for your ability, are the main causes of cravats.

WARNING

Uncoordinated wingovers can lead to large asymmetric collapses and cravats, therefore they should never be executed near the ground.

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!

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 and/or releasing the trimmers, 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 release the trimmers and accelerate the wing to regain airspeed.

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

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. It is also good practice to use the supplied inflatable folding pillow to reduce the angle of the leading edge fold, this will help to preserve the plastic reinforcements. The folding pillow can be deflated and carried in your harness. Using the Ozone Concerto pack will help preserve the life of the wing and aid with the speed and ease of packing.

Step 1. Lay the mushroomed wing on the ground or on the Concerto pack if you are using one. It is best to start from the mushroomed position as this reduces the dragging of the leading edge across the ground.



Step 2. Group leading edge (LE) plastic reinforcements with the A tabs roughly aligned. Make sure the plastic reinforcements lay side by side. Note the glider is NOT folded in half; it is folded as a complete concertina from wing tip to wing tip.

Step 3. Group together the middle and the trailing edge (TE) of the wing by sorting the concertina folds near the B and C tabs.



Step 4. Once the LE and TE of the wing have been sorted, turn the whole wing on its side.



If using the Concerto pack go to Step 7.

Step 5. Place the Folding Pillow below the LE - at the point of the first fold. The pillow reduces the angle of the fold and helps preserve the plastics. Next fold the TE over the LE being careful to not fold with tight angles.



Step 6. Now place the folded wing into the stuff bag.



Step 7. If using a Concerto pack, with the wing laid on its side carefully close the zip without trapping any material.



Step 8. Lay the Folding Pillow in place and make the fold of the LE around it. Use 2 folds.



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.





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 or any hard surface as this is guaranteed to cause 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! 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 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.
- If you fly with a wrap, you should regularly undo the twisting that appears on the main brake lines. By twisting the line become shorter and you can end up with a constant tension on the trailing edge.
- 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. 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 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 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 Swift 6 was designed and trimmed to give the optimum balance of performance, handling and safety. Any modification will result in the loss of certification and will make the wing more dangerous and difficult to fly. For these reasons, we strongly recommend to not modify your wing in any way.

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

OZONE QUALITY GUARANTEE

At Ozone we take the quality of our products very seriously, all 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. Ozone guarantees all of its products against manufacturer's defects or faults. Ozone will repair or replace any defective product free of charge. Ozone and its distributors provide the highest quality service and repair, any damage to products due to wear and tear will be repaired at a reasonable charge. If you are unable to contact your dealer then you can contact us directly at info@flyozone.com.

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 the weather. If you are lacking in any of these areas you will be exposing yourself to more danger than is necessary.

Every year many pilots get hurt launching; don't be one of them. Launching is the time that you are most exposed to danger so practice it lots. Some launch sites are small and difficult and conditions aren't always perfect. If you're good at ground handling you'll be able to confidently and safely launch whilst others struggle, practice as much as you can. You'll be less likely to get hurt and more likely to have a great day's flying.

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.

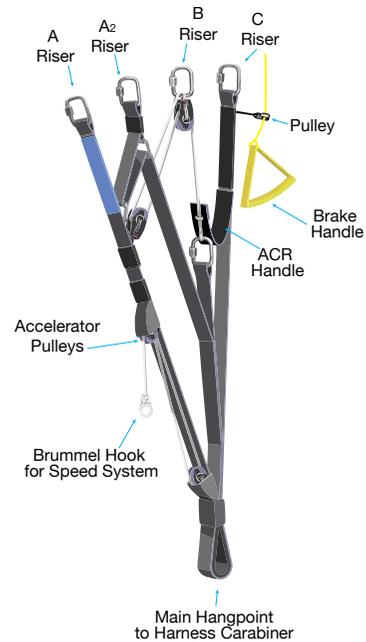
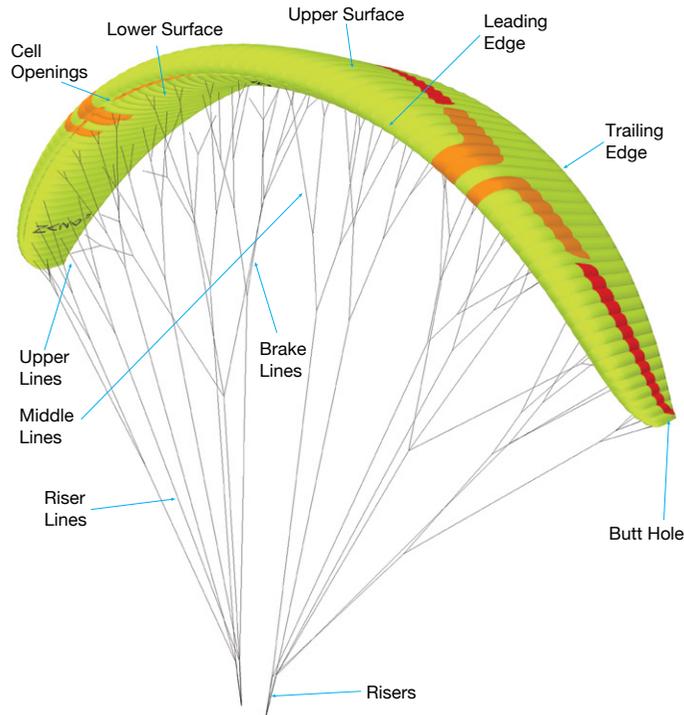
Happy flying & enjoy your Swift 6.

Team Ozone

TECHNICAL SPECIFICATIONS

	<i>XS</i>	<i>S</i>	<i>MS</i>	<i>ML</i>	<i>L</i>
No. of Cells	62	62	62	62	62
Projected Area (m ²)	17	19.11	20.38	21.52	22.64
Flat Area (m ²)	20.05	22.54	24.04	25.38	26.7
Projected Span (m)	8.43	8.94	9.23	9.49	9.73
Flat Span (m)	10.69	11.34	11.71	12.03	12.34
Projected Aspect Ratio	4.18	4.18	4.18	4.18	4.18
Flat Aspect Ratio	5.7	5.7	5.7	5.7	5.7
Root Chord (m)	2.36	2.51	2.59	2.66	2.73
Glider Weight (kg)	3.57	3.88	4.11	4.27	4.41
Approximate Control Travel (cm)	59	64	66	67	68
Certified Weight Range (kg)	55-72	65-85	75-95	85-105	95-115
Certification EN/LTF	B	B	B	B	B

TECHNICAL DRAWINGS



Non Accelerated

A	530mm
A ²	530mm
B	530mm
C	530mm

Accelerated Pulleys axis - axis

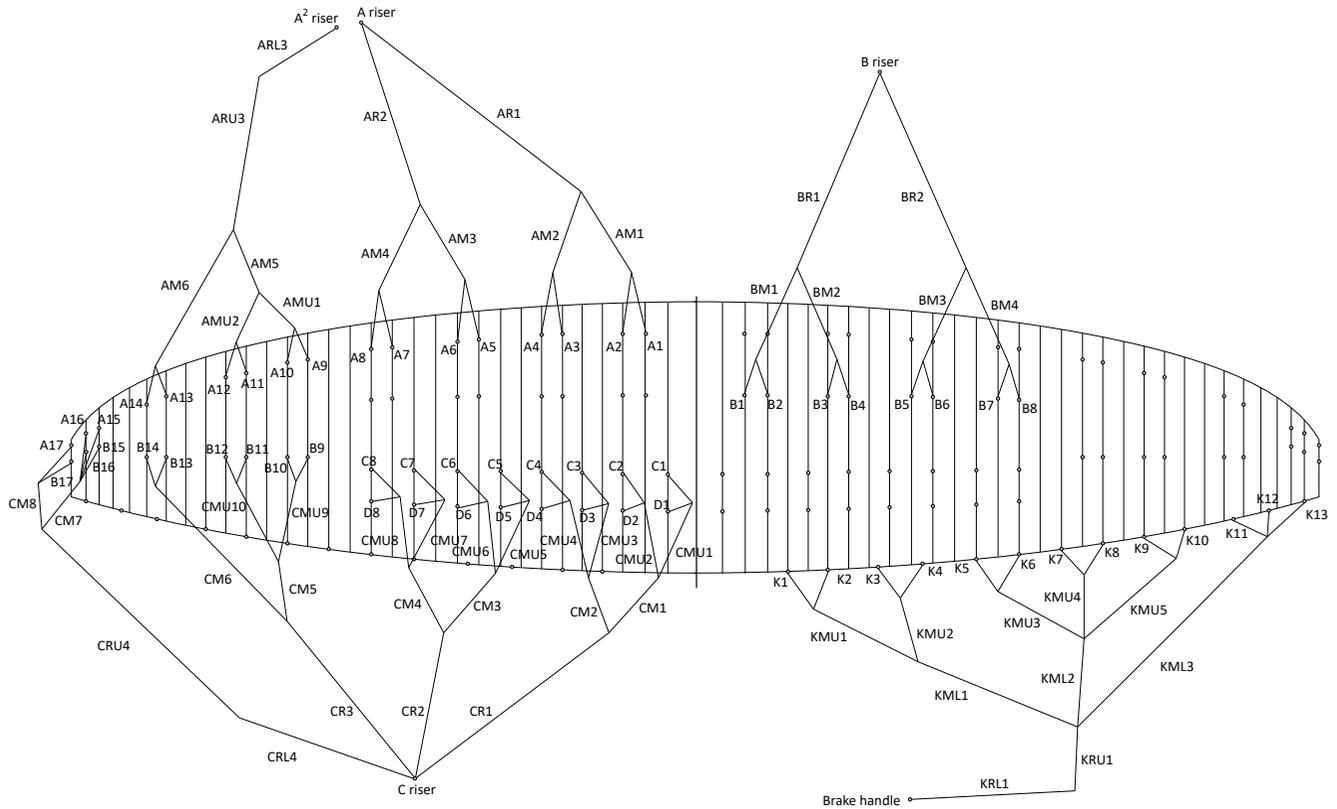
A	350mm
A ²	440mm
B	408mm
C	530mm

Accelerator Range (fully overlapped)

S, MS, ML, L,	190mm
XS	170mm

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 / Porcher 7000 E71

Lower Surface

Porcher 7000 E71

Internal Ribs

Porcher 7000 E29-E91 / Dominico 204432 FM

Leading Edge Reinforcement

Plastic

Main Line Set

Riser Lines

Edelrid 8001U

Edelrid 6843

Liros DSL

Middle Lines

Edelrid 8001U

Upper Lines

Edelrid 8001U

Brake Lines

Main brake Lines

Liros - 10-200-040/DSL

Middle brake lines

Edelrid 8001U

Upper brake lines

Edelrid 8001U

Risers and hardware

Shackles

Link Lites / Maillon Rapides

Riser webbing

12mm zero stretch polyester webbing

Pulleys

Ronstan ball bearing

INSPIRED BY NATURE, *DRIVEN* BY THE ELEMENTS

FLYOZONE.COM

OZONE

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