



**FLYSURFER**  
**KITEBOARDING**

**Handling Manual**

# WARNING!

## Kitesurfen ist gefährlich

Kitesurfen ist ein gefährlicher Sport, der Risiken für den Sportler und auch Andere beinhaltet. Unsachgemäße Bedienung des Kites kann zu schweren Verletzungen und auch zum Tod des Nutzers und Anderen führen!

## Selbstverantwortung

Der Nutzer trägt die alleinige Verantwortung für sich und andere beim Gebrauch des Kites. Der Nutzer hat den Kite, die Bar und sämtliche Verschleißteile vor der Nutzung auf korrekte Funktion zu überprüfen. Jeder Nutzer muss vor der Nutzung dieses Kites eine qualifizierte Schulung absolviert haben. Die beiliegende Gebrauchsanweisung (Manual) muss unbedingt vor Gebrauch gelesen werden. Den Anweisungen im Manual ist strikt zu folgen. Die Gebrauchsanweisung (Manual) ist auch unter [www.flysurfer.com](http://www.flysurfer.com) als Download erhältlich.

## Nicht Fliegen mit dem Kite

Dieser Kite darf keinesfalls zum Fliegen verwendet werden. Er ist nicht als Fluggerät geprüft und nicht zugelassen. Dieser Kite erfüllt nicht die Festigkeitsanforderungen für Fluggeräte (wie z.B. Paraglider). Der Gebrauch als Fluggerät ist luftrechtlich und versicherungsrechtlich illegal. Fliegen mit diesem Kite ist lebensgefährlich!

## Niemals Kiten

- alleine
- bei ablandigem Wind
- in der Nähe von Stromleitungen, Straßen, Flughäfen, Gebäuden, Abgründen etc.
- ohne Quick Release in Verbindung mit Safety-Leash
- bei stürmischen Winden
- in der Nähe von Menschen oder Hindernissen

## Kitesurfing is dangerous

Kitesurfing is a dangerous sport, involving risk for the athlete and for others. Improper use of a kite can lead to serious injury and also to the death of the kite user or others!

## Personal Responsibility

The user alone bears the responsibility for himself and others when the kite is in use. Every user must complete a qualified training before using this kite.

Regular Maintenance of kite and bar must be performed by the user, including checking all parts of the kite before each use.

**Before using the kite, the enclosed operating manual must unconditionally be read. The instructions should be followed strictly. The instruction manual is also available for download at [www.flysurfer.com](http://www.flysurfer.com).**

## Do not fly with this Kite

This kite should not be used to fly under any circumstances. It is not tested as an aircraft and is not certified for flight. This kite does not fulfill the strength standards for an aircraft (like e.g. Paraglider). Utilisation as an aircraft is illegal by air- and insurance-law. Flying with this kite poses a lethal hazard!

## Never kite:

- alone
- in offshore winds
- in proximity to power lines, streets, airports, buildings, cliffs, etc.
- without a quick release in connection with safety-leash
- in stormy winds
- in proximity to people or obstacles

## Kitesurf es peligroso

Kitesurf es un deporte peligroso que alberga riesgos para el deportista y para otros. ¡El manejo inadecuado del kite puede causar heridas graves y puede incluso causar la muerte del usuario u otros!

## Propia Responsabilidad

El usuario tiene la responsabilidad única para sí mismo y para otros mientras usa el kite. Cada usuario debe pasar por una capacitación cualificada antes de usar el kite. Es de necesidad absoluta leer el manual anexo antes del uso. Debe seguir estrictamente las indicaciones del manual. El manual de uso está disponible para descarga en la página [www.flysurfer.com](http://www.flysurfer.com).

## ¡Prohibido volar con el kite!

Este kite no debe usarse para volar de ninguna manera. No dispone de las revisiones y permisos necesarios para dispositivos para volar. Este kite no cumple con los requisitos necesarios de dispositivos para volar (como p.e. los parapentes). De acuerdo con la Ley Aérea y la Ley de Seguros, su uso como dispositivo para volar es ilegal. ¡Tome en cuenta que volar con este kite comprende un riesgo mortal!

## Nunca use el kite

- cuando está solo
- con viento fuerte
- cerca de conductos de electricidad, calles, aeropuertos, edificios, precipicios, etc.
- sin Quick Release (mecanismo que permite liberar una línea o cabo en tensión en un instante) junto con la correa de seguridad
- con vientos tempestuosos
- cerca de personas u obstáculos

## Faire du kite-surf est dangereux

Le kitesurf est un sport dangereux, qui présente des risques pour les sportifs et de même pour d'autres personnes. La mauvaise utilisation du kite peut causer de graves blessures et même la mort de l'utilisateur et d'autres personnes!

## Responsabilité

En utilisant le kite, l'utilisateur porte son entière responsabilité de soi-même et des autres personnes. Avant l'usage de ce kite, chaque utilisateur doit avoir effectué une formation qualifiée. Le mode d'emploi ci-inclus (manuel) est également disponible en téléchargement sur le site web [www.flysurfer.com](http://www.flysurfer.com).

## Ne pas voler avec le kite

Il ne faut absolument pas utiliser ce kite pour voler. Il n'est ni examiné ni autorisé comme engin volant. Le kite ne remplit pas les conditions de fermeté posées à des engins volants (comme p.ex. le parapente). L'usage comme engin volant est illégal et n'est pas légitimisé par la législation aérienne et la législation des assurances. Voler avec ce kite présente un risque mortel!

## Ne jamais faire du kitesurf

- seul
- lorsqu'il y a du vent de terre
- près des lignes de courant, des rues, des aéroports, des bâtiments, des abîmes, etc.
- sans Quick Release attaché au Safety-Leash
- lors d'une tempête
- près des personnes ou des obstacles



**FLYSURFER**  
KITEBOARDING

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## INTRODUCTION

With the purchase of this Kite you bought yourself a high quality, environmentally friendly piece of sports equipment. We are sure you will enjoy it using it on water, land or snow! Using a traction kite holds a certain dangers. These dangers can occur by incorrect handling of the Kite or due to an error with the kite, the lines or the bar. The following instructions should help you reduce these dangers to a minimum in order to enjoy the beauty of kiteboarding.

With these instructions we assume that the reader has basic kite piloting skills!

Furthermore we assume that while kiting the user:

- is always able to control the kite with two hands
- uses an appropriate kite harness
- is able to swim and his health conditions allow for doing this sport

This manual is not intended to teach kite flying! You must read through the whole manual before using the kite for the first time and familiarise yourself with the proper handling of this product.

## WARNING!

Launching and flying a kite can be potentially dangerous if you ignore the basic safety guidelines. When operating a kite the utmost attention is required. Incorrect handling or misuse of a kite may result in serious injury and/or death. When operating a kite you are responsible for your own safety and that of others around you. A kite can be dangerous as long as it remains attached to the kiter!

Practice the proper use of the Safety-System and do not hesitate to activate it in a dangerous situation, and if necessary disconnect the Safety Leash if the kite still pulls. The most important thing to remember when kiting is to remain alert and learn to recognize and avoid dangers before they occur. Don't overestimate your own abilities and assess the risks (weather, obstacles, surface etc.) at your kite location before launching your kite!

No one should attempt to fly a traction kite prior to professional instruction by a certified kite surfing school. For "tube-kitters", a proper introduction into the FLYSURFER-System is essential. Please read the manual thoroughly.

You can find competent FLYSURFER-schools at [flysurfer.com](http://flysurfer.com)

## SAFETY GUIDELINES

- Never launch a kite during thunderstorms, in stormy conditions with lightning or before gust fronts.
- The risk of injury increases over-proportionally in Onshore Winds or with increased wind strength and turbulences.
- Always check the weather conditions and choose the correct kite size. A kite that is too big can be very dangerous.
- Lines under tension can be as sharp as a knife. Never touch the lines unless the kite is properly secured on the ground.
- Only use a kite with a fully operational Safety-System and wear a helmet and impact vest!
- Always check for wear and tear on your equipment. Especially your Depower Loop, pulleys and spare part lines) as they are very important for safe and controlled flying.
- Never launch a kite that has any weakened or worn parts.
- Only sail out as far as you are able to swim back.
- Thoroughly check the kite-spot for shallows, obstacles, currents etc.
- Keep a minimum safe distance of two line-lengths between yourself and other beach users, obstacles, etc. Never fly the kite above other people downwind of you.
- Never Kitesurf alone. Make sure that you are being watched while you are kite surfing and someone is available to call for help in case of an emergency.
- Only use the kite if you are in a good physical condition and never under the influence of drugs and/or alcohol.

## CONTENTS OF THE BAG

Your FLYSURFER Kite should be delivered "Ready to Fly" including attached lines, Control Bar and Kite Bag. Up to three kites can fit into the Kite Bag. Depending on to the model, you can comfortably pack your board and secure it with the straps that are located in the middle of the bag.

## YOUR NEW FLYSURFER KITE

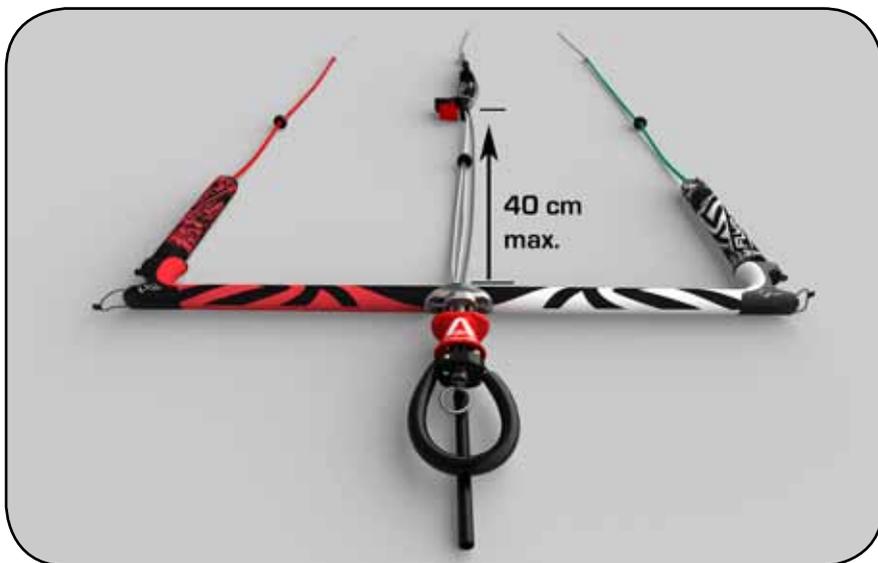
In this manual we have tried to address all questions addressed to us in the past. If you still have some unanswered questions then internet forums like [www.oase.com](http://www.oase.com), [www.kiteforum.com](http://www.kiteforum.com) or [www.foilzone.com](http://www.foilzone.com) will provide you with unbiased and helpful advice. Additionally, you can contact the FLYSURFER team directly by E-Mail or subscribe to our newsletter. You may also contact us via Twitter (@flysurferhq) or Facebook.

Please fill out the Warranty form on [flysurfer.com](http://flysurfer.com) so that we may contact you directly in the case of a safety notifications.

Before you start your kite for the first time please make sure that you have checked all lines and specifically check if the Depower line is connected tightly to the bar. Always fly the kite for the first time in light winds. Your kite is built for kites who have a weight of min. 40 kg and max. 120kg. If you weight less than 40 Kg the Quick-Release might be too hard to open. Higher weight increases potential damages above average. Warranty claims on such damages are excluded

## CONTROL BAR

The FLYSURFER INFINITY BAR is the command central of your FLYSURFER Kite and offers different possibilities for meeting your personal demands. These may vary according to the model you have bought.



## ADJUSTING DEPOWER TRAVEL

In the case that the serial Depower path is too long for you (powered up, it is 40 cm long from the trimmer to the upper edge of the bar), you can shorten it with minimal effort:

Underneath the trimmer of the INFINITY BAR, the double depower rope is fixed with a square knot. Open this knot and adjust to your preferred length. Do not forget to re-fix the Depower by making another knot! At bars with only one Depower Line you have to fix the line with a bowline knot right underneath the trimmer.

The picture to the right shows the first loop. Be careful with the second loop, that it is pulled tightly against the others. In this way, the rope secures by itself.



In the second step, the black front line has to be lengthened by the factor you reduced the length of the double depower rope in step one. The three leader lines are all the same length measured from the bar, when the trimmer is open and the bar is fully powered up. This way, the trim is easy to control from the bar.

The black leader line is knotted to the trimmer with a bowline knot. Loosen this lightly and lengthen the line and then pull the knot tightly again. If you open the knot completely, you will need to make a new bowline knot!



## CHANGING BAR WIDTH

Every FLYSURFER Bar offers different bar widths as options. Factory-ready, all kites are adjusted with the optimal bar width. If you still want to change the setup, please use the following procedure:

In order to adjust the bar width, push up the floaters on the leader lines. Underneath there is the end of the line piece for the three adjustment positions. The other end is countersunk into the winder. In series, two of the three positions can be used by simply pulling the line piece though.

Here are the different options:

Ext. & Center position



Center & Int. position



Center position



Of course you can combine according to your preference. The feed-through on the inner side should (if need be) be pierced with a sharp object [e.g. a screwdriver].

If you only want to use the center position, the connection part can be led from below to the winder:

The FLYSURFER-Bars are available in two different lengths: 50cm and 60cm with the respective width adjustment in 5cm steps:

50 cm : 40 cm >> 45 cm >> 50 cm

60 cm : 50 cm >> 55 cm >> 60 cm

## DEPOWER LOOP / QUICK RELEASE

Your Flysurfer Kite comes equipped with an easy to use Depower Loop that allows for a secure connection to your kite that can be disconnected fast and easily when needed.

### Hooking into the Depower-Loop and the Safety Leash

Hooking yourself into the Depower-Loop works the same as with most other kites on the market. Secure the Loop with the Chicken-Stick when needed as shown in the pictures.



Connect the carabiner of the Safety Leash (included with your kite) to the Ring of the Safety-End line. It should look like the picture on the right.

We recommend that you attach the other end of the Safety Leash to the side of your Harness to ensure a reliable release all the time.



### QUICK RELEASE ACTIVATION AND RESET

To activate the Quick-Release (also called QR) of the Depower-Loop push the red cover away from your body. Remember to let go of the Depower-Loop after it releases.



The Depower-Loop of the Infinity Bar is easily reset after a release.

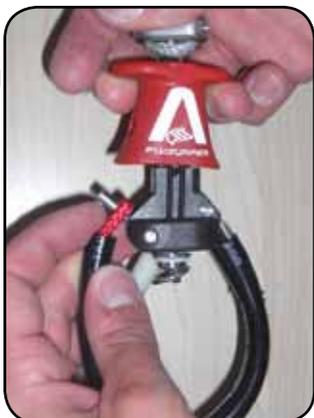
Make sure that the Quickrelease is free of sand!

Bend the end of the open loop towards the pin whilst you are pushing the cover up with your free hand.



To Reset the Loop push the end of the pin through the Red loop and push the pin up toward the cover. Let the cover go and let it slide back over the pin.

Your Loop has now been reset.



### CARE OF YOUR DEPOWER LOOP AND QUICK-RELEASE

**Check your Depowerloop everytime before every session and make sure that it still funktioniert properly.**

To make sure that it is functioning properly, you should activate and reset the QR once before attaching yourself to the Loop.

#### Cleaning the Depower-Loop.

If your Depower-Loop is dirty (eg. Sand, Snow, etc), you should clean it before use by activating it under water a few times and then resetting it. There should be no sand in the QR if you are going to fly the kite.



#### Pay attention to tangled lines!

To guarantee proper functioning of the QR make sure that there are no lines tangled around the QR (eg. Safety Leash)

#### QUICK-RELEASE WARNINGS:

- The Flysurfer Quick-Release is guaranteed for a Rider weight range from 40kg to 120kg (88 lbs - 265lbs). For lighter or heavier riders we cannot guarantee its proper functioning!
- The Depower-Loop must be clean to guarantee its proper functioning!
- When used in freezing temperatures it is recommended to check that the QR does not get wet. If water freezes inside the QR it can happen that QR mechanism does not function anymore!

### ATTACHMENT OF FLYING LINES TO GUIDE-BLOCK

Depending on the kite model you have, the Guide-Block makes it possible to attach a Safety Line without putting on an additional Stopper. The correct procedure for attaching the Flight Lines onto the Guide-Block is described in this section:

Because the Guide-Block comes with very narrow attachment of the Flight Lines without the correct tools tricky, a looped-on white piece of line, which allows thread-in of the Flying Lines is attached to the junction Leader Lines and the Trimmer.



In order to pull the Flight Lines through the Guide-Block, we recommend sticking the white line through the respective hole in the Guide-Block and then through the loop of the corresponding Flight Line. Then again through the hole in the Guidance Block in order to be able to pull the Flight Line through the Guide-Block



After you have pulled the Flight Lines through the Leader Block, you can stick the white 'Line Tool' under the neoprene piece above the Trimmer.

On the black Depower Leader Line there is another small line looped on, with the help of this line, the loops of the Flight Lines can be fixed under the Guide-Block.



Then simply make anchor knot [1] with the pulled through end of the Flight line and lay [2] this on the line piece and pull tightly [3].

1.



2.



3.



## THE SAFETY LEASH

The kite can still be controlled in accelerating winds with the Depower System. Despite this, it could be necessary to activate the Depower Loop Quick Release in an emergency situation. To prevent your kite from flying away upon release, it is secured with a Kite Leash. All FLYSURFER Kite Leashes are equipped with a emergency release system.

The Quick Release on the Kite Leash is activated by pushing the red activation cylinder away.

This way you can disconnect yourself from your kite when the kite is only attached to the Leash. This is especially important if you are still in danger after activating the Depower Loop (e.g., if the kite has become tangled in the propeller of a ship or with another kite).



Be careful however, that your kite can fly away and endanger other people downwind of you.

## DEPOWERLOOP-LEASH / „SUICIDE LEASH“

There is a small, spliced into itself, "Suicide loop" included (except with the Viron). This should be used only by experienced riders as a Kite-Retaining Leash for the so-called 'Suicide-Mode'. CAUTION: The kiter is then attached directly to the kite and bypasses the primary Quick Release. If the kiter should now let go of the Bar while unhooked, the kite would be depowered by the Depower System, but would continue to fly and can no longer be steered, which can lead to a very dangerous, or even deadly situation. Thanks to the Suicide Line, it is possible, to activate the safety on the Quick Release while hooked-in and at the same time to activate the built in FLS (Front Line Safety). This way the kite goes into Safety Mode when the Depower Loop is activated. However, if the kite is still flying and attached with the leash, and there is no opportunity to catch the Bar, you must use the Emergency Separation function of the Safety Leash. In the case of an emergency separation, the kite flies away uncontrollably and can injure a third party.

In order to attach the "Suicide Loop" to the Depower Loop, the QR must be opened and the "Suicide Loop" must be attached to the end of the Chicken Loop as shown.



Pay attention that the sleeve of the Chicken Loop goes through the Unhooked Line. Next, let the red release sleeve spring downward.

In order that the Safety is also activated with Quick Release activation, the end of the Safety Leash must be connected to the Unhooked Line and the ring of the Safety-Endline.



## THE DIFFERENT SAFETY SYSTEMS

Regardless of the safety systems it is extremely important never to exceed the normal wind range of the Kite. Damage to the Kite is also a possibility outside of its normal wind range.

### REEF LINE SAFETY:

The "Reef Line Safety" gives the VIRON a reliable and safe relaunch thanks to its low aspect ratio and Anti-Inversion-System. When the QR is activated the Safety-line pulls the tips together from inside the kite folding the tips into the middle of the kite. The kite flags out along the leading edge.



## FRONT LINE SAFETY (FLS)

With the FLS, the kite can flag out on one of the front Lines of the kite. The remaining pull is extremely low and it is possible to restart the kite. The FLS acts as an extension and tries to keep your kite from flying away when separated, to insure the safety of other persons in the area. Damage to the kite can occur when flown outside of the normal wind range.



After the activation of the Depower Quick Release, the Bar slides upwards a defined distance. Move hand over hand to restart on the FLS to the Bar and reassemble the Depower Loop. Keep the FLS tightened, so that the kite cannot start and make sure that the loose section of the FLS is not caught in anything [e.g. body parts]. You may wrap the FLS Line around your harness hook in order secure it while resetting the Depower-Loop



Then attach the Depower Loop to the harness again and carefully release the FLS. Now the kite will unfold in its normal shape and can be restarted.

The lines can be untwisted after jumps with rotations without the FLS twisting with the Front Lines.

The FLS and the Front Lines should not be twisted before each start. If they are twisted, untwist them by pulling the bar towards you. Make sure when you are riding, that the Leash never becomes tangled.

The Leash should also not be wound around the Depower Line or around the Bar, because the Safety System may be impaired or not function at all.

Check and recheck the Leash when riding and if needed, adjust with your hand. It can also be expected that the remaining pull on the FLS could be higher than normal if the kite flips over or gets caught in the Lines.

## AUTOMATIC BLEED SYSTEM

FLYSURFER Kites come with an automatic Auto Bleed System (ABS). It pushes water and dirt out through the openings on the wing tips and insures that the kite can be restarted even if a high volume of water has leaked into the kite. With the correct technique, litres of water can be bled out

## EASY LINE CONNECTORS (ELC)

The Easy Line Connectors enable a quick loosening and connection of the kite's Flying Lines to the kite, without reducing the breaking strain of the line. It is much easier to untangle bridle lines that way.

In order to connect a line put one ELC in one loop of the two ends to be connected. With the other loop create a larkshead knot.

Now insert the ELC through the loop of the second noose (not through the larks-head knot itself) and tighten the anchor knots together.

It is important that the lines all run in the groove of the ELC. Compare the result with the pictures and make sure the connection is tight



## JET FLAP TECHNOLOGY ®

Most FLYSURFER Kites are equipped with the trend-setting JET FLAP Technology ® (JFT).

Air is conducted from the bottom sail (pressure area) to the top sail (low-pressure area) and is blown out at a higher speed. The connection is established through jet shaped channels, which are located in the rear section of the wing. The additional escaping air mass on the upper sail decelerates the air current displacement so stall occurs later and more lift per size is achieved.



## NOSE VALVES

Your FLYSURFER Kite uses special valves, mounted on the "nose" or leading edge of the kite, which effectively prevent the profile from buckling when Depowering. The result is a larger wind window, because of less drag when Depowering and performance is enhanced. The power/m<sup>2</sup> is higher and the downwind pull is reduced, which increases the flight speed and upwind performance even more. In the end this means more fun when kiting.

A distinctive feature of the SPEED3 is the Depower Performance Enhancer Valve in the middle. This allows the depower behaviour of the kite to be adjusted.

## DEPOWER PERFORMANCE ENHANCER

You can reach the inner side of this Valve by pulling the Valve inside out and adjust the Valve with the help of the Velcro:

Velcro open/open Valve; The kite feels faster when depowering and the profile is more efficient in wind. The kite produces more pull because of the increased lift/drag ratio. This adjustment is the recommended adjustment for achieving maximum performance. (Low wind performance, hangtime and speed)

Velcro closed/Valve closed: When the valve is closed, the profile buckles when depowered and the 'depower' feels more direct, because the kite accelerates less. and sits back in the wind window more. The structure here is similar to a bow kite. This adjustment is recommended for wave riding, learning new tricks and for those who prefer a very direct depower effect. The Velcro can be closed in steps to 1/3 open and closed. This allows you to adjust the depower to your preference.

As the Viron only uses one Valve for inflation, the Depower Performance Enhancer is not an option on that model.

## PREPARING TO LAUNCH

### LAYING OUT THE KITE

Unfold and lay out the kite, trailing edge facing the wind for a launch from the power-zone, or with the a wingtip folded over facing upwind for a launch from the edge of the wind window [recommended method]. Weigh down the kite with sand (if available; if not, any none piercing or blunt objects). Now unwind the flying-lines from the bar in a 90° angle to the kite. Finally check all the lines, pulleys and bridles for any damage and/or tangles and make sure they are running freely.



### PRE-INFLATION

It is not essential to pre-inflate your kite. However a thorough pre-inflation lets the kite fly properly faster after launch and we recommend you fill it as much as possible in light and even strong winds.



There are many ways to pre-inflate a FLYSURFER Kite. The kite should remain still, so that the pulleys don't tangle up with the bridle lines. The more air in the kite at the start, the more controlled it will rise.

In order to properly pre-inflate the kite, it is necessary to close the deflation vents in the middle of the trailing edge!

### CONNECTING THE SAFETY

Attach the Kite-Leash to the harness. The position of the Leash can vary according to the harness used. Always check that the quick release of your bar and leash work properly!



## LAUNCHING A FLYSURFER KITE

Your FLYSURFER kite is very simple to launch by yourself.

Here are various options and some tips to keep in mind.

It is very important during downwind launches that the kite should be quite depowered. The trimmer should be open/ long, arms stretched out and only pull the bar on one side to steer.

It is also recommended to first practice the various launching methods in light winds, then slowly progress to launching in stronger winds.

### LAUNCHING IN LIGHT WINDS (POWER ZONE START)

To launch your FLYSURFER Kite in very light winds, inflate it a bit and start it from the power-zone. Hook into the harness and then grab the upper end of the trimmer with one hand (without also grabbing onto the Safety-Endline). To launch the kite, pull the trimmer/Depower Line with a prolonged tug towards you (you can also use a pumping action in light winds).

This launch technique also works very well in the water, if the wind does not have enough power to launch the kite on its own. In very shallow waters it is important not to walk back as not to sink the kite and complicate the launch by pumping water into the kite.

### LAUNCHING AT THE EDGE OF THE WIND WINDOW

The launch from the edge of the wind window is the preferred and safe method for launching a FLYSURFER Kite. The main advantage is that you won't get dragged downwind as much as you would when launching from the power-zone, which can be quite dangerous in strong winds and with limited space downwind.

Lay out the kite parallel to the wind, fold over the windward tip of the wing and weigh it down the on the area indicated by the symbol of a hand, with an appropriate dull object, e.g., sand.



Now position yourself about 15-30° upwind of the kite. Hook into the sand-free Safety-Leash and Depowerloop and slowly tension the front lines by depowering with the bar and taking a step back.. Slowly move downwind if the kite starts to collapse. At some point the kite



will start to stand upright on its wingtip, now slowly steer it upwards along the edge of the wind window into the zenith.

Don't panic! If the kite has enough time to pre-inflate you will be able to control it better. In order to launch the kite, you only have to give it a strong impulse, thus removing the sand from the kite, and then slowly steer it up in the air.

A helper might be supportive in terms of safety in particular (e.g. if the lines are not sorted properly or if you want to land the kite again for another reason).

Though FLYSURFER recommends launching the kite by weighing it with sand and not with a helper holding the kite.

### LAUNCHING WITH ASSISTANCE

Position yourself in a way that the kite can be launched at the edge of the wind window.

Have an instructed assistant gradually hold the kite at the marked spot on the bottom sail into the wind whilst grabbing the kite in the middle, until the kite stands up straight at the edge of the wind window.

If the upper tip "overflies" the assistant the kite is too close to the power zone. Move downwind until it reaches the edge of the wind window. If the kite collapses, it is outside the wind window. In case the



helper lets go off the kite now, the kite would tumble back into the power zone and develop a lot of pull. Move upwind in order to launch it at the edge of the wind window. If the kiter gives the international sign (thumb up), the assistant releases the kite.

### LAUNCHING WITHOUT ASSISTANCE & WEIGHTING DOWN THE KITE

In this case the trimmer should be pulled slightly. Position yourself as with the Power zone start. Hook in and pull in both steering leader lines to stop the kite from taking off prematurely. Once the kite is inflated sufficiently, walk to one side until the kite is almost at the edge of the wind window and starts to fold in the upwind wingtip. Now release both Back Lines, Depower immediately and the kite will take off. Keep the kite low above the ground and steer it towards the edge of the wind window.

### LAUNCH FROM ON THE WATER

To launch the kite in the water you should be an experienced FLYSURFER and the lines and kite should have been properly wrapped up with pulled safety-line. You should first try these steps in shallow waters and in light winds. Take the kite out of the bag and open it carefully. While unwrapping, face the leading edge towards the wind to help inflation. Keep the bar between your legs or hooked in the harness, so the bar can't drift into the lines.

All current FLYSURFER Kites only require approximately 20% pre-inflation. Lay the kite on the water with the bridling and the trailing edge facing you. Carefully unwind the flying lines, as the kite drifts away from you. First attach, if possible, the SAFETY-LEASH and then launch the kite as usual by Depowering.. You can now body-drag back towards your board unless you have kept it stored on your back in the kite bag.

### ATTENTION:

This is a very advanced launching method and extreme caution should be applied at all times. An improperly pulled safety or floating lines can cause serious accidents and should only be performed by experienced FLYSURFERS, especially in stronger winds.

## FLYING THE KITE

### STEERING

The steering of a FLYSURFER Kite works the same as on any other kite. For those who don't know how to steer and control a kite, it is strongly recommended to take part in a kite-course before attempting to use the kite. Kites can be extremely dangerous in untrained hands, not just for the user but also to innocent bystanders. Pull on the left side of the bar to initiate a left hand turn and vice versa.

### POWER UP/DEPOWER

In order to "depower" a kite, push the Bar further away from the body, to "power up" pull the Bar towards the body. A depowered kite reduces the angle of attack against the approaching air mass and is accelerated and flies further to the edge of the wind window.

### TRIMMER / ADJUSTER

The trimmer adjusts the basic trim as well as the angle of attack of the kite and increases the range of the trim for more than an arm length. With a completely opened trimmer and the bar fully pulled in, the kite is overly powered up, (also known as oversheeted).

This can easily occur with soft steering adjustment and a heavy, wet kite. This condition can cause a stall on the kite profile, causing the kite to fly backwards or a back stall.

We recommend that you only pull the bar in a little when the trimmer is on the most open setting. If you power up too much and the kite is very wet and/or you fly it at the lower wind limit, it is possible for the kite to back stall (to fly backwards) and lose its lift.

In this scenario, immediately Depower (extend arms out) and if necessary pull in the trimmer and/or change to hard steering. In order to Depower the kite more in strong winds (less angle of attack) simply pull on the larger, red handle.

To increase power-up (more angle of attack), pull the (smaller) black handle. In weak winds, the kite is basically more strongly powered up.



### JUMPING WITH FLYSURFER KITES

There are many different ways of jumping. The kites jump very direct and simple. They have a

very special stability, which gives the kite a great hangtime.

Ride with medium speed at about 90° to the wind. Bring the kite up towards the zenith quite aggressively. You should depower the kite as much as possible. When the kite is almost at the Zenith, edge hard and steer the kite past the zenith and pull in on the bar. Push off the water hard. Now when you are in the air, steer the kite back over your head. Just before you land steer the kite forward into your direction of travel to land and ride away smoothly.

## CONTROLLING THE KITE IN EXTREME SITUATIONS

Dangerous situations can often be avoided in advance. It is very important to stick to some basic safety guidelines and if in doubt, do not launch the kite.

However, if you find yourself in an extreme situation, it is important not to panic and react quickly and decisively. We strongly recommend that you practice the use of the emergency procedures such as the Quick Release in order to automate the procedure. This way you will react faster and remain in control in an emergency situation.

### FLYING THE KITE IN THE ZENITH

FLYSURFER kites are at their most stable in the zenith! At the same time, in the zenith you are in the highest risk of being lifted. In order to minimize that potential danger, position your kite towards the edge of the wind window when walking or standing still.

### BEING LIFTED ON THE BEACH

It is important to leave enough space downwind of you and to constantly keep an eye on the weather. If you "park" the kite at the edge of the wind window you can avoid being lifted. If a strong gust catches you unaware, directly depower the kite by pushing the bar away from your body. Make sure there is enough tension on the lines to avoid the kite overflying and a possible front stall. To catch yourself just before landing, power up the kite again.

If you get lifted up very high, keep the kite as still as possible and fully Depowered (pull red strap if necessary) in its zenith (facing the wind). Don't panic! You actually have a small paraglider on top of you and you will be able to control your flight with gentle steering impulses.

The Quick Release must be pulled directly after landing.

### KITE OVERFLIES (DANGER OF FRONT STALL)

If your kite over-flies (e.g. in gusty conditions), it is possible to get it back by either powering up or steering it to the side. It may be possible to power up more by pulling in the thick steering-

leader-lines/backlines,. If you cannot prevent the kite from over-flying, the kite may front stall. Your FLYSURFER kite is however, very stable, so this will rarely be the case.

### KITE IS "LUFFING"

When your kite overflies you and collapses, this is called a front stall. Happily, you are the owner of a FLYSURFER kite and you will very rarely experience this. If the kite is in danger of "luffing", you can sometimes open the kite again. If this is too dangerous downwind, you should unhook and let go of the Bar or pull the Quick Release. Also keep hold the Quick Release of the safety-leash in your hand just in case you need to separate from the kite because of a dangerous obstacle. There should be no people downwind of you! A kite which opens in the power zone can develop enormous forces which can exceed the strength limits of the kite, harness and rider! If conditions are simply dangerous for your abilities, you should leave the water immediately.

### KITE IS ABOUT TO IMPACT ON LAND OR WATER

If the kite hits the ground or water at speed in the middle of the power-zone, it is possible that it will explode. Try to avoid crashing, ease off the bar and steer the kite so that at least the impact is not a frontal one. The structure of the Kite has been reinforced to withstand even the hardest impacts, however nothing is indestructible so far. So take care!

### RELAUNCHING THE KITE FROM THE WATER

There are different ways to relaunch a Flysurfer kite from the water. Some are described here and a few more ways can be found on our Website. [www.flysurfer.com](http://www.flysurfer.com).

The VIRON makes this extremely easy as it has "Autorelaunch". When you let go of the bar, the kite drifts towards the edge of the wind-window by itself. Should there not be enough wind for this to happen automatically, a small steering impulse is enough to relaunch the kite.

Not all FLYSURFER kites have "Autorelaunch", so the rest of the methods are discribed here in this manual.

### TRAILING EDGE DOWN

If the kite is sitting with the trailing edge on the water, simply fully Depower (pull the trimmer if needed) and it will launch by itself.

### LEADING EDGE DOWN

If the kite is crashed with the leading edge on the water, you have various options to relaunch it.

Important: Don't be tempted to turn the bar because of the crossed Flying Lines. The Red Side of the Bar should still be on your left!

### RELAUNCH IN THE POWER ZONE

By pulling in both Leader lines the kites can be relaunched backwards.

Pull in both Leader lines towards you until the kite lifts up backwards a few meters.

Then let go of one Leader line, while keeping the other lightly pulled. Now the kite begins to spin.

When the kite faces up, let go of the second Leader line and grab the bar to be able to steer the kite again.



Especially in low winds, it is important to pull the Back Lines very far. To do this, grab the uppermost ball in the Back lines (also known as Leader Lines): See photo.

Tip: If the board is already strapped to your feet and you bring it in front of you, you can avoid the body drag and keep going with the start. In addition, you can also build up the necessary counter-pressure for launching in weak winds, if you have the board in front of you. In strong winds, you should steer the board immediately downwind, in order to immediately give in to the pull of the kite. In very weak winds, a hard tug on the steering leader lines will give the kite a better impulse to get off the water. It helps in weak winds if the Trimmer is fully opened. The Back Lines are then further pulled in.

### CAUTION:

Relaunching in the powerzone can be very damaging to the material in strong winds, because high pressure can develop on the lines and the kite.

To prevent body a drag in strong winds and from a power-zone start you can fully Depower your kite. The best method is to also pull the Trimmer (pull red strap) in all the way.

## RELAUNCH AT THE EDGE OF THE WIND WINDOW

This technique functions very well e.g. with the SPEED3. By pulling the leader lines you can directly turn your kite and start. In stronger winds you will be able to direct your kite out of the power zone with only a slight pull of the Steering Lines, and with some additional pull, turn and restart the kite. If the impulse with the Steering Line is not enough, pull the other Steering Line a bit, so that the kite moves to the opposite direction. Now when you pull the other Steering Line, the kite has more room in which to accelerate and is easier to start.

## KITE DOESN'T LAUNCH ANYMORE, YOU START DRIFTING AWAY

If you are unable to re-launch the kite from the water and you start drifting away, it might be necessary to disconnect yourself from the kite before you drift too far and are unable to swim back to the shore. Once back you can always get a boat and salvage the kite.

The main thing is that you are safe.

If you judge the situation correctly and early enough whilst still close to the shore you might be able to rescue yourself and the kite. In this case wrap up the kite as you would do on land, but be careful not to get caught in the lines. First, fully pull the Safety and keep the lines under tension, then start to wind them onto the bar. Once at the kite, open the air outlet velcros and wind the entire kite around the bar. Try not to throw the bar into the lines.

If the wind is blowing only slightly on-shore, direct the kite to the edge of the wind window by pulling on the shore-side leader-line and see whether it has enough power to get you back.

If you only have to swim a short distance back to the shore, it is enough to pull the kite with pulled Leader Lines against the wind.

Actively pulling back the kite windward is the biggest mistake you could make. By doing this, you're pumping water into the kite and making it virtually impossible to restart.

## BEING RESCUED WITH FLYSURFER KITES

Experienced FLYSURFER riders can try to rescue others, who have gotten themselves into trouble, can't relaunch their kite (e.g. snapped line ...) and drift out to sea. This is always a little tricky and should only be attempted in safe conditions and with experienced riders. The rescuer should also have a line-cutter to free himself from tangled lines.

It is important, that the to-be-rescued rider's kite hasn't taken on too much water, as this makes a rescue almost impossible (anchor). The rider about to be rescued should detach him/herself from the kite. The rescuing rider cautiously approaches from upwind of the non-relaunching kite. Whilst moving past, the rescuing rider will attempt to grab the wingtip closer to the shore and drag it behind him. If successful he/she can sail back to the shore, dragging the kite behind him/her. Here it is very important that the rescuing rider be extremely cautious not to get tangled in any of the lines.

In case the kite is filled up with water, which makes it impossible to pull it off the water, start with one side and make the water gradually run towards the wingtips. There, it will drain out. Even in shallow water you can drain every FLYSURFER kite.

**IMPORTANT: Look after yourself first. If you would put yourself into danger when attempting to rescue someone else, try and seek help from others.**

## LANDING A FLYSURFER KITE

There are also multiple ways of landing your Kite:

### AT THE EDGE OF THE WIND WINDOW

Basically every kite is caught by a helper at the edge of the wind window, especially if there are strong winds and very little room downwind. Fly the kite at the edge of the wind window slightly above the ground and let a competent helper catch it. The helper will approach the kite from upwind, grab the lower wingtip and pull it towards him/her. You should now walk towards him/her to relieve the tension in the lines and still leave some tension in the upper line to assist the helper in letting the wingtip blow out downwind. The helper lays the kite on its upper sail and weighs down the wingtip on the leading edge e.g. with sand.

The secured kite should be prevented from twirling around in strong winds, because the lines could get tangled up.

This could be achieved by releasing the air out of the kite. Thus the kite is secured and all set for a quick relaunch without assistance.

While landing the kite in areas of whirling wind (e.g. lee of trees) at the edge of the wind window it might happen that the wind turns fast and thus the kite gets out of the wind window.

Consequently there is no tension left in the lines. If you want to land the kite at the edge of the wind window, it is best to fly the kite a bit more towards the power zone. For this purpose you must fly the kite quite fast downwards and also power it more. By powering the bar you can position a foil kite very well at the edge of the wind window. If necessary you can also grab into the back lines.

Do not position the kite too long at the edge of the wind window.



## POWER ZONE WITH QUICK RELEASE

The Kite can be landed in the power zone by means of the Safety. Check that the landing spot is free of people and obstacles. Make sure that the Safety-Endline runs free and that the Leash is correctly hooked-in to the Safety\_Endline. Then unhook and let go of the bar (in an emergency pull the Quick Release on the Depowerloop). Once the kite has landed, it can be secured by a helper or you can let it blow against a suitable object where the wind should pin it down. Otherwise

secure the Safety-Leash onto a solid pole, rock etc. The kite should then be secured immediately to make sure it doesn't restart. If there are no suitable objects near you, it is possible to tie the safety to a board buried in the sand/ snow (only suitable for light winds). Then quickly run up to the kite outside of the lines and secure it additionally.

## BACK STALL LANDING IN LOW WIND

With low winds the kite can be landed from the zenith by grabbing both back leader lines ca 30 - 50 cm above the bar at the balls there and pulling them downward. Thus the kite goes into back stall and flies backwards. The tips fold in and the kite lands on the trailing edge.

This technique should not be applied with strong winds as the kite faces the wind after landing with the majority of its surface and thus creates a remaining pull which should not be underestimated.

## SECURING THE KITE ON THE GROUND

The best way to secure a kite after landing on the ground is to lay it lengthwise into the wind while holding on to one wingtip and to weigh the upwind wingtip with snow, sand or a board, etc. There the kite can be relaunched, see „launching the kite from the edge of the wind window“.

With very strong winds it makes sense to weigh down the kite on several spots. Thus you will prevent the kite from fluttering in the wind and the lines from getting tangled up.

Particularly with snow- or landkiting it is possible, like with all foil kites, to park the kite in the power zone in a stalled position, e.g. to take a short break. After having landed the kite. you can pull both Back Leader lines to force the kite into a backstall landing.

Thus the back lines are tensioned to a higher degree than by hauling the bar. The stalled position guarantees that the kite will not be able to accelerate and take off.

The shortening of the Front Lines by means of the trimmer will have impact on the length

of the back lines. Shortened Back Lines (i.e. open trimmer) create more backstall with less remaining pull. Though, if the back lines are tightened too much, the kite is more likely to relaunch or flutter. We recommend to keep the trimmer completely open if you park the kite on the ground.

Attention: if in this position the kite produces a dangerous amount of pull, e.g. rapidly increasing wind, and you will not be able to release yourself from the kite, due to the back leader lines being hooked through your harness hook! Only use this method in light winds!

Provided there is a stable pillar, tree or ground anchor available you can secure the kite in the same way: hook the Depowerloop onto the ground anchor as well as drawn through both back leader lines.

To secure the kite similarly on a tree you can also use your harness and wrap it around the tree.

In case of turbulence and the wind changing direction the kite might flutter in the wind. As the majority of the kites surface is still in the wind, there might be a considerable remaining pull. The kite might also launch and create dangerous amounts of power, for example if somebody gets tangled in the front lines.

Therefore the kite should be laid down flat on the ground and be weighed down on one end if the rider takes a longer break or in strong winds. We recommend to keep the bar safely next to the kite with the flying lines wrapped up. This way you will avoid that the bar gets into the bridle lines even if the kite gets moved by the wind.

## PACKING AND STORING YOUR KITE

Weigh down the upwind wingtip with something heavy (e.g. sand) and open the deflation vent located at the middle of the trailing edge.

1. Keep all the leader lines together and wrap the back leader lines crossed (figure-of-8) around the bar. Wind on the flying lines also crosswise by means of the winder till you reach the pulleys of the bridle lines. Now secure the lines with a half hitch.
2. Take the downwind wingtip and place it on top of the weighed down wingtip. Throw the lines inside the kite, so that you can place the bar on top of the two wingtips and start rolling the kite all the way around the bar.

3. **IMPORTANT:** Never place the Bar in the remaining lines as this can quite easily result in knotted and tangled lines.
4. Now simply fold over the parts of the kite showing over the Bar and store it in the bag.

Winding up the lines



Packing the Kite



## TUNING TIPPS

### MULTIWAC-SYSTEM SPEED3 (12 - 19 SQM)

By easily pushing the so-called WAC-line between the hard- and soft steering flags the steering forces can be widely adjusted – from very soft to very hard.

By adjustment of the rings, the position on the bar, where the holding force and steering force increase (designated as the pressure point) changes.

Adjust the ring by one centimeter, and the pressure point of the kite changes by two cm. Whichever is better, depends upon your personal preference. Most kites who have just started with a FLYSURFER Kite can become used to the harder setup more quickly, because they can better sense the pressure point

More advanced riders may prefer the softer adjustment, for example when wave riding, easier and steerable with a shorter path. Naturally, the kite is more agile and less fatiguing.



Colored markings on the lines give you a good orientation. Be careful to adjust the rings on both sides equally.

The red mark is for Hard Steering Setup, blue is for Soft Steering and the black is middle position, with which the kite is delivered.

### Trimm:

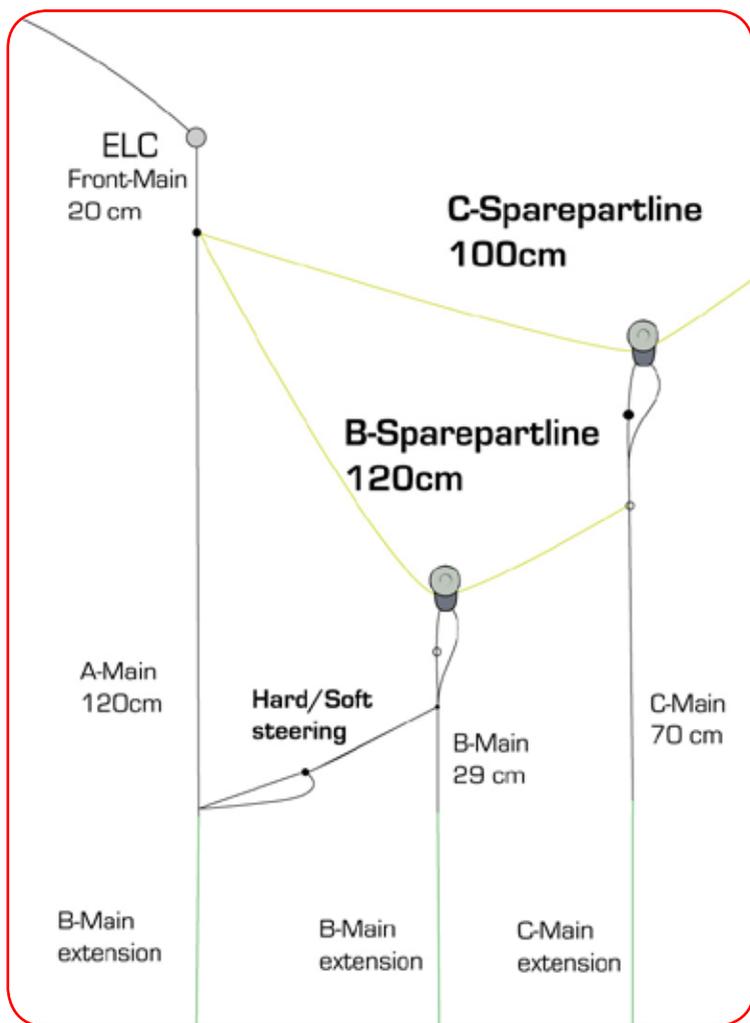
After many hours of use the Depower Flying line (Front lines) will stretch making them longer than the steering lines. In extreme cases this may cause the kite to backstall (even with enough wind). In this case you can adjust the trimm as explained on page 7.

### LINE PLAN AND LENGTHS

The complete line plan goes beyond the scope of this handbook. However, you can view all line plans online at [www.flysurfer.com](http://www.flysurfer.com). You can also place an order for any line at [www.flysurfer.com](http://www.flysurfer.com)

## MAINTENANCE AND REPAIR

### MIXER-TEST



The Flying Lines are all 21m long and “pre-stretched”. Still, the Depower Flying Lines will stretch approx. 5 cm in comparison with the Steering Lines due to the higher load. The trim is adjusted to this.

After the Flying Lines, the Mixer is joined. It picks up the steering impulse from the Front and Back Lines and controls the A-, B-, C- and Z- and the brake level respectively.

The lines, which run over the Pulleys, are naturally wear parts. These spare part lines are constructed of special, unstretched covered Dyneema, in order to minimize shrinkage. We recommend performing a Mixer Test after approx. 50 hours of kiting, to ensure optimal trim of your kite. The VIRON has no “Mixer” attached.

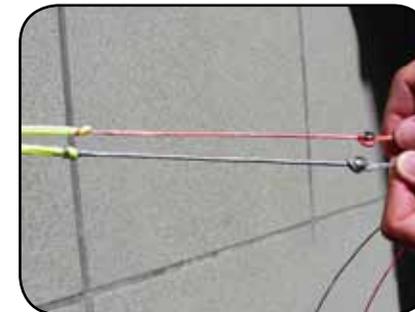
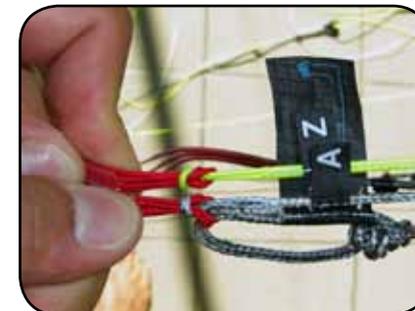
### CARRYING OUT THE MIXER TEST:

To control the trim of your kite, you can carry out the Mixer Test simply and almost anywhere. The following procedure applies to only one side of the kite. The Mixer Test must be carried out separate and symmetrically for the right and left side.

The upper end of the Mixer ends with 4 Lines, the A, B, C and Z (or brake) Line. Lines A and Z (Z= red, respectively green Steering Line) are not adjustable. The B and C levels (lines which end at the pulleys) can be adjusted in length at the metal ring which is found near the pulleys. Small flags on the individual lines make orientation more simple..

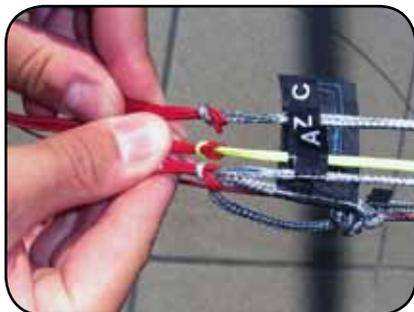
### Steps:

1. Make sure that the WAC-Lines for the hard and soft steering adjustment are not under tension, when you hold the Mixer under tension.
2. Take the A and Z level in hand and bring both to one level. this is very important! Hold the lines in this fixed position.
3. Then hold both lines firmly (Front and Back Lines) at the lower end of the Mixer (near the ELC). The easiest way is with a helper or put your foot on the Lines near the ELCs. Then tension the Mixer and be careful not to change the position of the A- and Z- levels!



**Remark: The ELCs must not end lay exactly on the same level. It is only important that the Mixer is tautly pulled with the Front and Back Flying Lines.**

- Take now the C- and B- levels bit by bit. In ideal cases, all levels should end up on the same level.



If B and C do not end up on the same level, you can adjust the lines as described on the next pages.:

Remark: it is convenient to mark the starting position with a pen. This way you can establish your starting point again and see exactly how much you have adjusted. **Start adjusting the C level as this will move the B level automatically half the way!**

Loosen the position of the metal ring, in which you loosen the looped line. According to whether the line should be lengthened or shortened, push the ring in the desired direction and pull the line tight again.



If necessary, attach the WAC Line again on the desired Hard/Soft Steering Position.

Carry out the MIXER TEST on the second side of your kite and proof the symmetry of both Mixers.

Thanks to the "Mixer Test", the flying characteristics of the kite can be kept consistent over long periods of time, and in extreme cases, can compensate for the change to the kite.

If your kite is still too unstable despite a correct Mixer Test and tips too easily over the leading edge, simply move the C-Level ring 2cm towards the kite. This way, the C-Main shortens by 1 cm and the B-Main automatically by 0,5 cm, maintaining an optimal ratio. The profile is therefore bowed, which creates more stability.

If your kite is stable enough, but the turning could be improved, push the C-Level ring towards the Bar in 1 cm steps. If the kite should become too unstable (too much profile bow), simply push the ring back. If the kite still does not fly optimally and has been flown more than 50 hours, you can extend or shorten the B-Main by moving the ring a maximum of 2 cm, according to which makes the kite fly better.

The Spare Part Line is over-strengthened to a factor of five. Extremely worn-out Spare Part Lines should be replaced with original, minimally pre-stretched DFL 200 Lines. You can order these lines from [www.flysurfer.com](http://www.flysurfer.com) or from your dealer. A set of the Spare Part Lines is included in your Repair Kit.

## MATERIAL CARE

FLYSURFER Kites are extremely UV- and saltwater resistant, as well as very tear resistant. However for maximum durability a few things should be pointed out:

### UV-LIGHT

Even though the fabric has been tested for UV-resistance, we advise not to expose the kite to unnecessary UV-light (do not leave it in bright sunlight.)

### SALT WATER

The material of our kites has also been saltwater-tested. However, the kite can still be rinsed out with fresh water on the inside and outside from time to time (e.g. after a vacation) and then allow it to dry in the shade.

### SAND

Sand is relatively rounded, so it is not particularly harmful to the FS kite. Glass or other sharp or abrasive objects found on the beach can cause severe damage. Sand which enters the kite will work its way to the wingtips, and will be removed automatically from your FLYSURFER Kites.

### MOISTURE

If a kite is stored wet and in a warm environment, it is possible for mildew to develop. This won't damage the kite but leaves ugly, dark stains. In extreme circumstances it is possible for the kite to rot. Moisture can cause discolorations of the fabric.

### CLEANING

Clean the kite only with fresh water. All uses of chemical products can weaken the cloth and invalidate the warranty.

### WEAR AND TEAR PARTS

Generally speaking, all moving parts are wear and tear parts. Generally speaking, all moving parts are wear and tear parts.

FLYSURFER only chooses material with the highest quality standards. We are constantly developing our materials further to provide our customers with maximum safety and product quality. This aside, all kites should be regularly checked for signs of wear and tear.

After the kite has been exposed to heavy loads, you should thoroughly check all effected parts to make sure that none of them have been weakened and/or show excessive signs of wear and tear. When jumping, weakened parts can be hazardous especially on land or in shallow waters.

The FLYSURFER Team recommends you to additionally check the kite thoroughly after each 50 flying hours as well as to implement the above mentioned mixer test.

### IMPORTANT:

A kite should be viewed as a flying machine and like all flying machines needs regular, thorough checks to ensure its safe usage. We recommend that a specialist also perform a thorough safety check on your kite at least once a year.

### Very important wear parts:

The Depower Flying Lines should be checked before the first flight and before each start. The spare part lines that go through the pulleys should also be checked for wear and if necessary changed only with original spare parts.

### REPAIR (WITH INCLUDED REPAIR KIT)

Make sure that the damaged area is clean, dry and free of grease!

Quick repairs are possible by using self-adhesive spinnaker repair tape. Stick the correct size piece of self-adhesive tape to the inside of the kite.

This type of quick fix won't last indefinitely and should in time be replaced with a proper repair. At least your day out on the water is saved.

### LITTLE CONNECTION LINES (LCL)

Each connecting point on the kite is attached by the 1 cm long, so-called Little Connection Line with a knot at the end. These are helpful during repairs, so you can simply open the lines on the kite. They are very tear proof, white (ca. 45 kg) / black (ca. 30 kg), so they mostly prevent a destruction of the canopy. Replacements for the Little Connection Lines are enclosed with every kite.

## KITE PULLS IN ONE DIRECTION

a) The kite pulls into one direction if you pull the bar down. If you let go off the bar it flies straight

The kite`s behaviour indicates that the back lines don`t have the same length and can happen particularly, if a trick has often been done on one side only. Consequently the lines were stretched asymmetrically.

Check first if the leader lines at the bar are symmetrically and correct them by moving the end knots, provided there are asymmetries.

Compare, if possible with a helper, the length of both 21 m steering flying lines with each other by stretching them under a load of ca 5 kg.

If there are any differences in length then try to compensate them by stretching the shortened steering line. For this purpose stress the line with a load of max. 100 kg.



In order to compensate further differences in length you can loop the steering flying lines once on to the steering leader lines.

At the connection point between the steering leader line and the steering flying line there is a loop. Open this loop on the long steering flying line, loop it once more around the steering leader line and tighten it again.

See pictures on the next page.



**b) Kite pulls into one direction if you let go off the bar**

This behaviour can be caused by various asymmetric exposures (e.g. kiteloops always into the same direction).

1. Implement the mixer-check on both sides and make sure that the kite is correctly adjusted both on the left and right hand side.
2. Compare the length of the Depower Flying Lines: for this purpose unwind the lines and fix the Depower Loop on a stable object. Grab the Depower flying lines at the upper end and tighten them. If there is a difference in length, the shorter Depower Flying Line can be re-stretched.  
 (Put e.g. a screw driver through the loop at the upper end of the line to be able to grab the end easily or wrap the line various times around the hook of your harness. Now stress the line repeatedly with as much power as possible, max. 150 kg.)  
 If it doesn't suffice, you might loop the enlarged Depower flying line also once on the bar at the ring of the depower leader line.

3. If the kite still pulls to one side after having implemented point 1 and 2, compare the individual bridle lines of the right and left side with each other. For this purpose stretch and compare, if possible with a helper, the same line from the right and left hand sides respectively with each other.

Adjustments of little deviations can be made by stretching the lines under a load of max. 50 kg. Otherwise the most upper bridle lines (top lines) which are attached at the LCL's can be used to shorten the bridle lines.

4. If the kite still pulls into one direction you can compensate that up to a certain point with the mixer. E.g. the Kite pulls to the left: Shorten B-Main and C-Main on the right side each by 0,5 cm to max 1 cm. That way you slow down the depowered wing till it stops to pulling to one side.



## FLYSURFER 6 MONTH FREE-REPAIR WARRANTY

Terms and conditions:

FLYSURFER will take over the repair at no charge within the first 6 months since purchase for all customers, who have purchased

FLYSURFER kites in Germany, England, Italy, Finland, Austria, Sweden and in Switzerland and who use their kites for private activity only.

Commercial use, such as schooling or rental, as well as deliberate and negligent damages (e.g. crashing into obstacles, etc.) are excluded from this warranty.

In order to be eligible for the FREE-REPAIR Warranty, the customer must register his kite online at [www.FREE-REPAIR.com](http://www.FREE-REPAIR.com) within 2 weeks after purchase with a correctly filled in warranty card. Wilful deception particularly in terms of the date of purchase or dealer name will result in the loss of the FREE-REPAIR Warranty for all FLYSURFER products belonging to the customer.

All warranty claims expire, if a FLYSURFER kite is not repaired within the warranty period by FLYSURFER or a workshop, which has been authorized by FLYSURFER.

The FLYSURFER kite repaired by FLYSURFER, will be sent back (not prepaid) within 4 weeks. If the repair takes longer, a comparable kite may be supplied by FLYSURFER for the additional time at no extra cost. If desired, a rental kite can be obtained via payment for the period of repair. All costs and risks for transports (damaged kite to FLYSURFER, return of the repaired /kite, possibly rented equipment to and from the customer) are the responsibility of the owner. After claim of the warranty, the warranty period will not be renewed, not even if FLYSURFER exchanged the craft for a new one. The service of fulfilment interests and subsequent damages is excluded.

Violation of the terms and conditions of the guarantee will result in loss of the warranty claim.

The guarantee by law is not limited in any way through the additional FREE-REPAIR Warranty.

In the event of damage, you should first contact [Info@FREE-REPAIR.com](mailto:Info@FREE-REPAIR.com) or call +49 8641 6948 42.

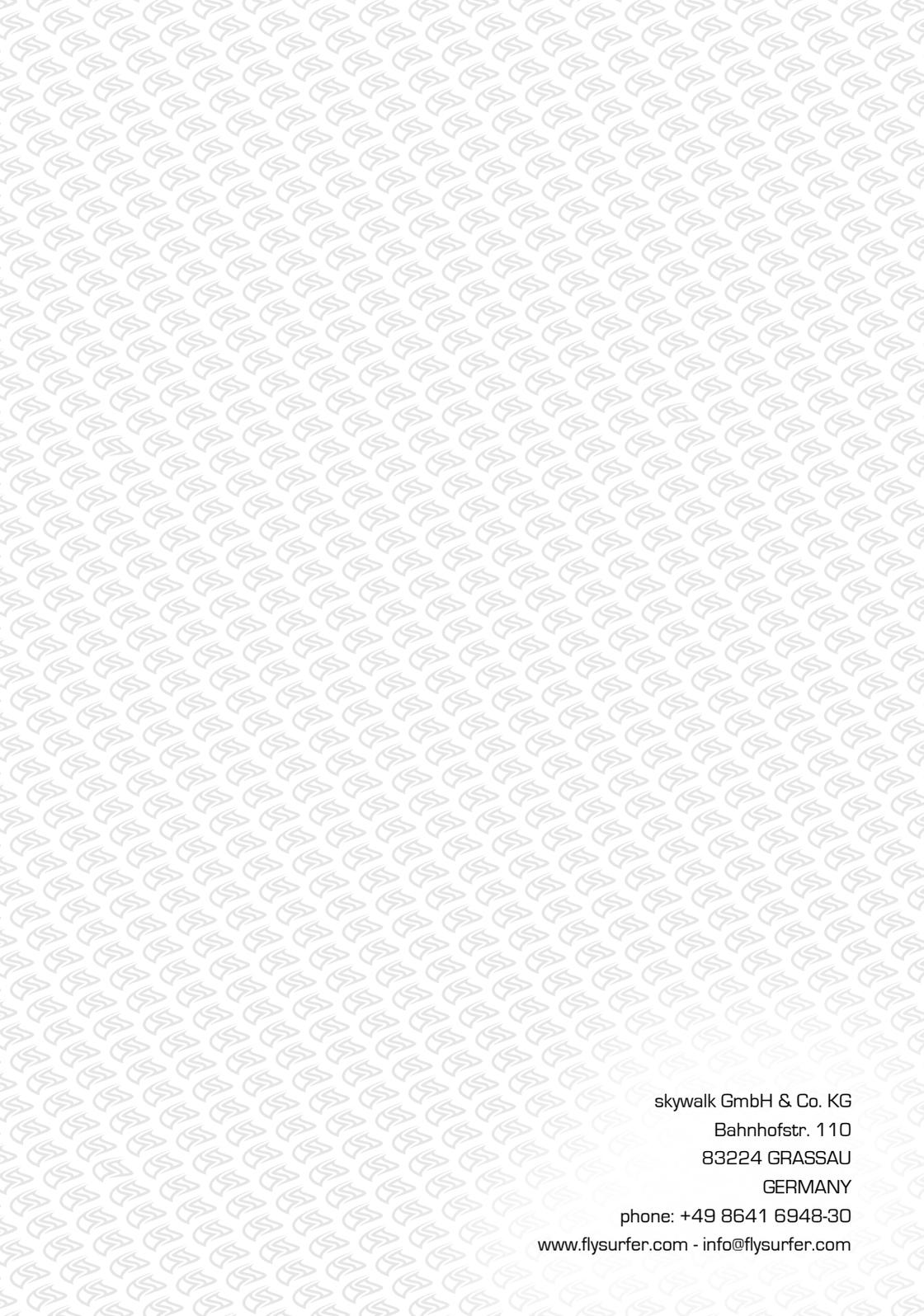
Then the clean, dry and sand-free kite should be sent to:

(forwarding expenses are to be paid by the sender)

Skywalk GmbH & Co. KG

Bahnhofstraße 110

D-83224 Grassau



skywalk GmbH & Co. KG

Bahnhofstr. 110

83224 GRASSAU

GERMANY

phone: +49 8641 6948-30

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