



CABRINHA



K I T E B O A R D I N G M A N U A L



RELEASE OF **LIABILITY** AND **ASSUMPTION OF RISK:**

IMPORTANT WARNING

DO NOT USE THIS PRODUCT UNLESS YOU AGREE WITH THE FOLLOWING TERMS AND CONDITIONS: The user of this product is an adult who understands that the use of this product may expose the user to certain unavoidable risks, dangers, and hazards. The user of this product voluntarily assumes these risks. Before using this product, the user has carefully reviewed, understood, and agrees to comply with the terms of the User's Manual. The user of this product understands and agrees to comply with the terms of the sale.

The user of this product understand that the seller is not responsible for any damage to property or injury caused by negligent operation of this product by the user, and the user releases the seller from all such liability.

THIS WARNING IS FOR YOUR OWN SAFETY AND PROTECTION. IF YOU DO NOT AGREE WITH THESE TERMS AND CONDITIONS, DO NOT USE THIS PRODUCT. KINDLY RETURN THIS PRODUCT BEFORE USE, AND YOUR PURCHASE PRICE WILL BE REFUNDED IN FULL.

YOU MUST READ THIS INCLUDED USER MANUAL BEFORE USING THIS PRODUCT.

Kite surfing is an adult sport. Power kites and their lines and control equipment can be dangerous to flyers and to anyone in the vicinity of their use. Kite surfing must be taken seriously and we recommend that, at least in the early stages of your use, you seek the guidance of experienced kite surfers.

Improper and/or negligent use of this kite may result in serious injury or death to yourself and others. Do not use your kite near power lines, airports, streets and keep your kite fly lines away from people and obstacles. Always fly in an open area, observe wind and weather conditions, particularly in circumstances where you may encounter offshore winds or strong winds.

Do not attempt to use your kite on water until you are confident and comfortable with its use on land. Spend time to become familiar with the operation of your kite and remember that you are responsible for its safe operation and for the safety of those around you. As you learn the sport, work within your own limitations and do not exceed them.

If you intend to use the kite on water, always use appropriate safety and floatation devices and do not attach yourself or tie yourself permanently to the kite lines. The kite is not intended for use as a flying device nor indeed is it intended as a means of floatation.



THE INFORMATION CONTAINED IN

THIS MANUAL IS FOR YOUR

REFERENCE AND MAY BE SUBJECT

TO CHANGE AT ANYTIME. PLEASE

VISIT OUR WEBSITE AT:

www.cabrinhakites.com

FOR CURRENT UPDATES TO THIS

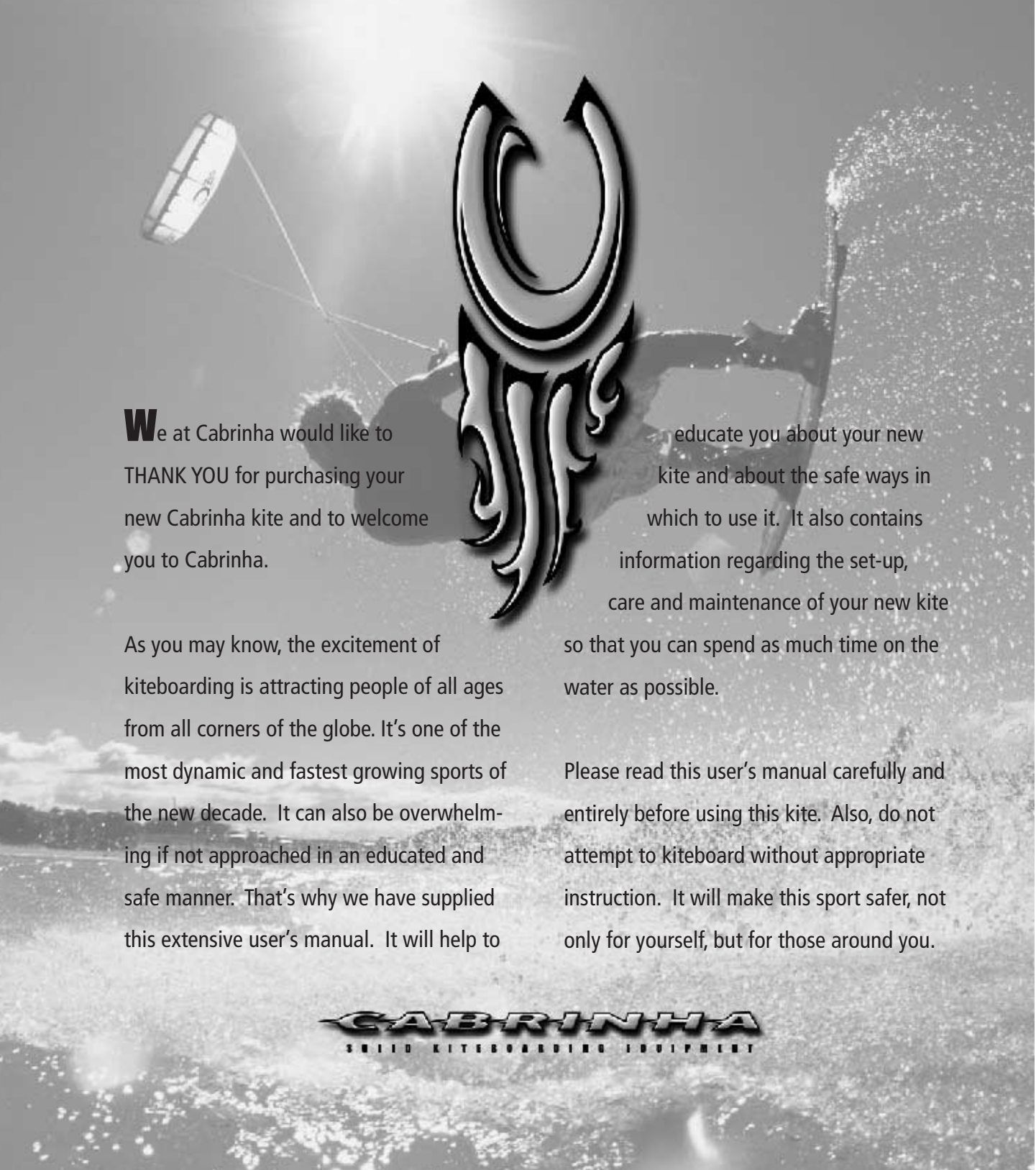
MANUAL.



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We at Cabrinha would like to THANK YOU for purchasing your new Cabrinha kite and to welcome you to Cabrinha.

As you may know, the excitement of kiteboarding is attracting people of all ages from all corners of the globe. It's one of the most dynamic and fastest growing sports of the new decade. It can also be overwhelming if not approached in an educated and safe manner. That's why we have supplied this extensive user's manual. It will help to

educate you about your new kite and about the safe ways in which to use it. It also contains information regarding the set-up, care and maintenance of your new kite so that you can spend as much time on the water as possible.

Please read this user's manual carefully and entirely before using this kite. Also, do not attempt to kiteboard without appropriate instruction. It will make this sport safer, not only for yourself, but for those around you.

CABRINHA
SOLID KITEBOARDING EQUIPMENT

S A F E T Y

KITEBOARDING is an extremely diverse sport, with many disciplines and ability levels. As with all sports, there can be certain inherent risks. The following contains key safety points to remember when operating your Cabrinha kite.

We strongly recommend the use of the following protective gear

SET UP AREA:

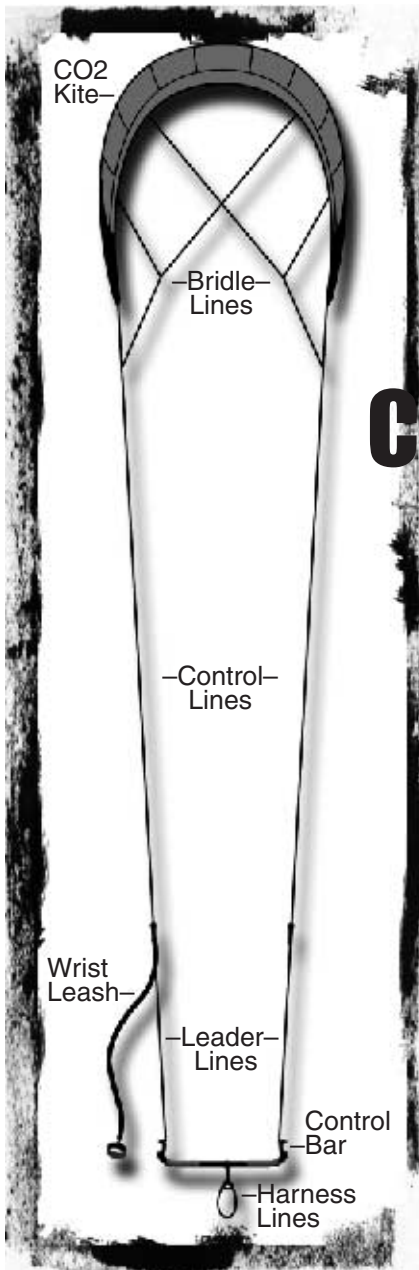
■ Set up your kite for the first time at home, away from the wind, water and temptation to kiteboard immediately. This way, you can be sure that you set your kite up correctly and safely.

■ If possible, choose a grassy area, out of the wind.

■ Avoid asphalt lots, which may chafe your equipment.

■ Choose an area where you have room to roll out your kite and 30 meters of line.

■ Position yourself so that your back is to the wind, if there is any.



CABRINHA CO2 KITE CHECKLIST:



- Kite
- Control bar
- Harness line
- Leader lines
- Flying line set
- Bridle lines (attached to the kite)
- Bladder repair kit
- Hand pump
- Kite bag



SETTING UP YOUR CO2 KITE FOR THE FIRST TIME:

WHAT TO WEAR

Helmet

Gloves

Neoprene wet suit

Eye protection

Foot protection

Sunscreen

Life jacket or flotation vest

Safety knife

CO2 CONTROL BAR:

THE BAR:

- Unpack your kite and its components. Set the kite aside.
- Decide on which arm you will want to wear the leash. Turn the bar accordingly. A good rule of thumb: attach the wrist leash to one wrist and the board leash to the opposite ankle. For example, if you have the wrist leash attached to the left wrist, you should attach the board leash to the right ankle.
- Set the control bar aside.

THE LEADER LINES:

- Your two leader lines, including the wrist leash system, will already be set up on the bar.
- One leader line will have two lines tied together. One of these lines will be attached to your wrist leash.
- The second leader line will be a single line.
- DO NOT take out the knot at the end of each leader line.
- These knots have been pre-set so that you should not have to adjust your flying lines to the same length. Do not move these knots, unless you need to later adjust your flying lines.
- Place the control bar on the ground with something to weigh it down. You may also hook it over a stump or fence post to secure it for the next step.
- Walk the leader lines out away from the bar, perpendicular to it.



THE FLYING LINES:

- Unpack your set of flying lines.
- You will have two flying lines rolled onto one kite line holder.
- One line will have green sheaths, or covers, covering both ends of the flying line and the other will have red sheaths (green denotes the right line; red denotes the left line).

S A F E T Y

ACCEPTABLE KITEBOARDING LOCATIONS:

- Check your area thoroughly before launching your kite.
- Observe local laws and regulations regarding this product and the usage area.
- Avoid launching, landing or using this product near power lines, telephone poles, trees, people, pets, buildings, automobiles, streets, and airports.
- Avoid crowded beaches and waterways.

■ Unwind your flying line from the control bar in an unobstructed direction. You will need 30 meters of space.

■ At each end of the flying line, you will find a knot that ties the red line to the green line for shipping purposes. Untie these knots at both ends.

■ Utilizing a slipknot, connect the red flying line to the left leader line by looping the flying line slipknot over the pre-set knot on leader line (see figure 1). This will create one long flying line.



■ Utilizing the same type of slipknot, connect the green line to the pre-set knot on the right leader line, in the same manner as you connected the red line.

■ Now, starting at the control bar, take the red line in your left hand and the green line in your right and walk out toward the ends of the lines. The goal here is to rid your line of any twists or knots. When you reach the end of both lines, they should be parallel to each other and devoid of twists and knots.

■ Create a slipknot at the end of both the green and the red lines. These slipknots will be the means of connecting your flying lines to the bridle lines on your kite.

CHECKING FLYING LINE LENGTH:

Before flying your kite, it is important to check that both of your lines, including the leader lines, are the same length and that your bar is even. One way to do this is to attach your lines to a rope that is tied around a tree or fence post.

■ Loop a two-foot piece of rope around a tree or fence post (See figure 2).

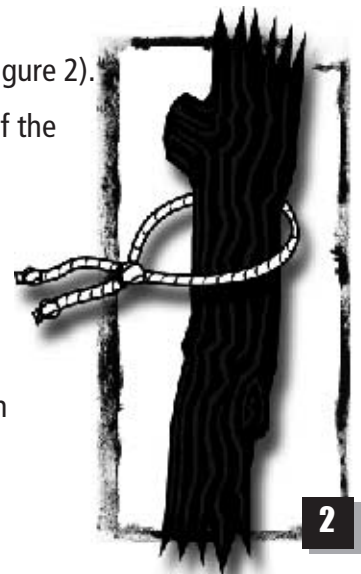
■ Tie the rope in a knot around the fixed point, leaving two ends of the same length.

■ Tie a knot in the base of each end.

■ Attach the slipknot from your red flying line above the knot on the left side of the rope.

■ Attach the slipknot from your green flying line above the knot on the right side of the rope.

■ Walk back to your control bar.



■ Make sure you have considerable space in which to launch, land, and use this product. You should have at least 100 meters of space on both sides and downwind of you. Be especially alert of your downwind area.

■ Avoid areas with rocks and/or reef.

■ Be careful and mindful of other water users, including windsurfers, boaters, jetskiers, swimmers, etc.

■ Be mindful and aware of the wind direction in relation to your launch area.

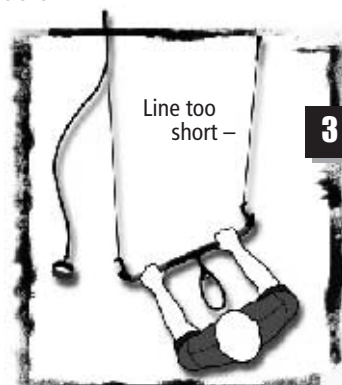
■ Before launching, make sure you have scouted a safe landing area, in case you do not make it back to your launch spot.

■ Make sure your lines do not cross a walkway or passage. Do not let others walk between you and your kite.

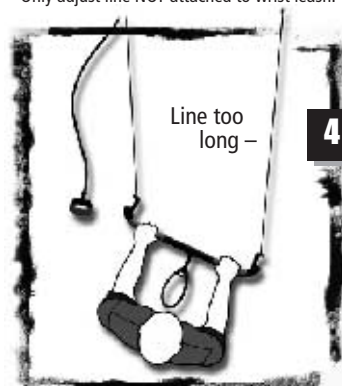
- Standing directly in line with the post or tree, increase pressure on the control bar by pulling it straight back toward yourself. Do this a couple of times. This tightens the knots and slipknots you have just made.
- Now pull back hard on the control bar, but keep it steady.
- Your control bar should be in line with your shoulders and should be straight—i.e. your bar should not be at an angle.
- If your control bar and lines are even, they will now be ready to fly your kite.
- If your control bar and lines are not even, follow the instructions below.

LINE LENGTH CORRECTIONS:

- If your bar and lines are at an angle—i.e. uneven—you will need to adjust the knot on the single leader line—i.e. the leader line not connected to your wrist leash.
- DO NOT change the knot on the leader line with the wrist leash. It has a set length that enables the wrist leash system to work properly.
- DO NOT put knots in your flying lines. You will adjust the line length difference with the leader line, not with the flying line. Knots in the flying lines compromise the life of line.
- At this point, you need to determine if the line not attached to your wrist leash is too short or too long. (See figure 3 & 4)
- If this line is too long, you will move the knot on the leader line toward the bar and away from the kite in the amount that this flying line is longer than the other flying line. This shortens the entire flying line.
- If this line is too short, you will move the knot on the leader line away from the bar and toward the kite in the amount that this flying line is shorter than the other flying line. This lengthens the entire flying line.
- Once you've made the proper adjustment, check the bar again.
- If your control bar and lines are still not balanced, make adjustments in the single leader line knot until your control bar is balanced.
- Your control bar and lines should now be balanced and ready to fly your kite.



Only adjust line NOT attached to wrist leash.



Only adjust line NOT attached to wrist leash.

SAFETY

KNOW and UNDERSTAND

Wind, Water, and Weather Conditions:

- Do not underestimate the power of the wind.
- Avoid "offshore" wind conditions and use extreme caution in "onshore" wind conditions.
- Avoid strong, gusty wind.

CO2 KITE:

STRUTS:

- Unroll your kite, with the struts facing up.
- If it is windy, make sure your back is to the wind and that the leading edge of the kite is closest to your body.
- Partially inflate each of the struts. Start with the center strut, then the two middle struts, followed by the end struts. Partially inflate the struts by holding the pump at a perpendicular angle to the kite valve. You will use one hand to hold the valve steady and the other hand to pump air into the strut (See figure 5). Both of these tips will help maintain the life of the internal bladder.



- When all of the struts are partially inflated, go back to the first strut you inflated. At this point, it is important to make sure the internal bladder has filled into each of the four corners of the strut. If it is not, lightly spread the air around to push the internal bladder into each corner of the sleeve. Once the internal bladder is correct, you may fully inflate the strut.
- DO NOT OVER INFLATE THE STRUT. Once it is fairly solid to the touch, it is fully inflated.
- Once the strut is fully inflated, secure the valve plug in the valve and attach the Velcro piece over the valve (See figure 6). This Velcro protects the valve against opening inadvertently.
- Continue this process with the struts until each one is fully inflated and secured.
- At last, fully inflate and secure the leading edge strut.
- WARNING: DO NOT OVER INFLATE THE STRUTS. It will damage them if you do.
- WARNING: DO NOT UNDER INFLATE THE STRUTS. Your kite will not fly or re-launch properly if the struts do not have sufficient air in them.
- If you are not ready to continue setting up the kite, turn it over so that the struts are now facing the ground and the leading edge is facing into the wind. Secure the kite with a smooth heavy object so it does not launch inadvertently. Do not secure your kite with rocks or sharp objects; they will compromise the life of the product.

- Be careful of wave conditions, especially when learning.
- Be educated about tides and rip currents.
- Be educated about air and water temperatures and wear appropriate protection against the elements.
- Do not use this product in thunderstorms.
- Consult an anemometer to determine wind speeds if necessary.

BRIDLE LINES:

- Carry the kite to the end of the flying lines furthest from your control bar. Make sure the leading edge is facing into the wind.
- Turn the kite on its back (struts facing toward the sky) and clear the bridle (See figure 7) keeping in mind that you will need to secure the kite in some way while doing this. We suggest putting sand or sandbags to weigh it down while you check the bridle. If you have a launch partner, he/she may hold your kite. Avoid putting your foot in the kite to secure it, especially if your launch area is rocky.



- Make sure that the red bridle line is free of twists and knots (See figure 8 & 9).
- Make sure that the blue bridle line is free of twists and knots.

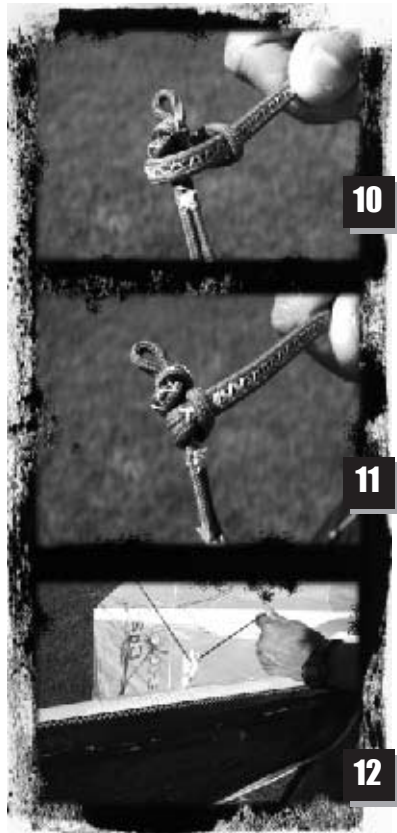


- Attach the red slipknot over the red knot on the bridle (See figure 10).
- Attach the green slipknot over the blue knot on the bridle.

- Make sure that the bridle knots are secure by pulling on each of them to double check (See figure 11).
- Check each pulley to make sure each one is turned upward (each pulley will face downward once the kite is flying) (See figure 12).

■ Also, check each pulley to make sure the bridle lines are not trapped between the strut and the back part of the pulley and the kite material.

- Turn the kite over and secure it with a weighted object.



SAFETY

KNOW YOUR ABILITY LEVEL:

- Do not attempt kiteboarding without appropriate instruction.
- Do not kite alone.
- Launch, land, and ride together with a partner or have someone on shore who can keep an eye on you.

SECURING YOUR KITE ON THE BEACH:

■ Always secure your kite with more weight than you think you need. An unmanned kite is dangerous and deadly. If you do not have a sandy beach launch, consider sandbags (See figure 13).

■ Never secure your kite with rocks or sharp objects; they will compromise the life of the kite.

■ Keep in mind other beach users and make sure your kite and lines will not be a danger to others.

■ As much as possible, wind your line onto the bar when you are not planning on kiting—i.e. while taking a lunch break, etc. This will keep the beach free of line and will prevent other beach users from tripping over your equipment.



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CO2 4-LINE CONVERSION:

The conversion of the Co2 to four lines is a simple process. You will need a second set of similar length flying lines, a center leader line, and a centerline adjustment system is recommended.

1 Lay the kite flat on its back with the struts facing up. Secure the kite if you are in an area exposed to the wind.

2 If the leading edge is not deflated, you must deflate it completely. You can keep the other struts inflated if you choose to.

3 First you must disconnect the existing two line bridle by their slip knot attachments. Disconnect only the bridle lines attached directly to the kite. Store the bridle.

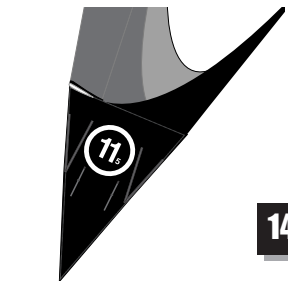
4 Grab a hold of a wing tip and begin to roll it towards the center of the kite along the leading edge. Roll it tightly. (See figure 14)

5 When the tip is rolled up parallel with the fore and aft line attachments, secure the roll with the webbing and ladderlocks attached to the wings.

6 Feed the webbing into the plastic ladderlock and pull to tighten. (See figure 15)

7 Do the same for the other wing tip. Once the struts are re-inflated your Co2 is now ready to be connected to a four line control bar set-up.

8 Now your kite will have features and handling characteristics similar to the Black Tip. Please refer to the Black Tip sections for information concerning the connection of the lines and the set up of the bar.



14



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■ Make sure you are in good physical condition before using this product.

■ Practice flying a small, traction kite or a "trainer kite" before flying this kite. The more time spent on the "trainer kite" the safer and the better.

■ Make sure you are a proficient swimmer before using this product near the water.

■ Make sure the wind and water conditions are within your ability level and that you have made the correct gear choices.

■ Never kiteboard further from shore than you are able to swim back.

■ Always save a reserve of energy. End your kiteboarding session before you are exhausted.

SET UP AREA:

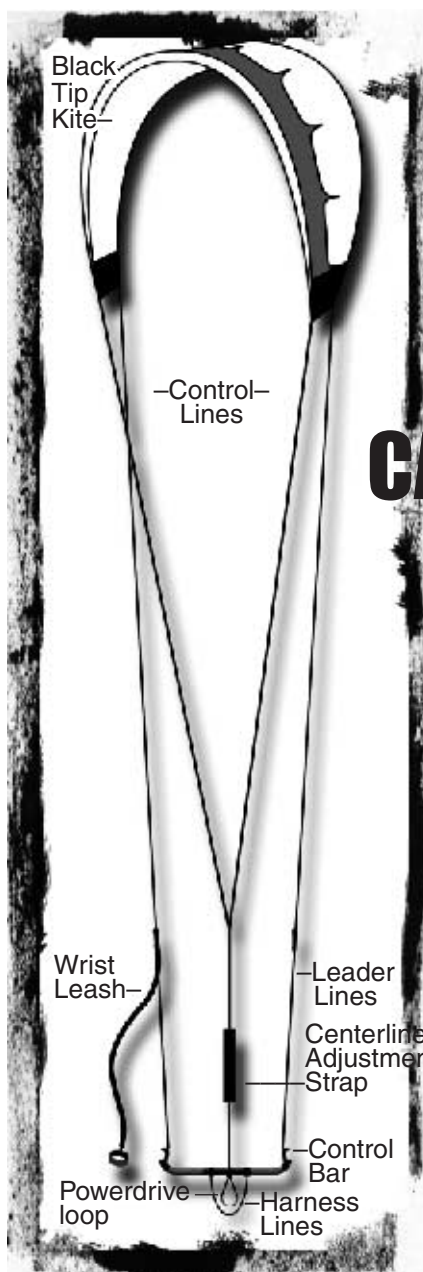
■ Set up your kite for the first time at home, away from the wind, water, and temptation to kiteboard immediately. This way, you can be sure that you set your kite up correctly and safely.

■ If possible, choose a grassy area, out of the wind.

■ Avoid asphalt lots, which may chafe your equipment.

■ Choose an area where you have room to roll out your kite and 30 meters of line.

■ Position yourself so that your back is to the wind, if there is any.



CABRINHA BLACK TIP KITE CHECKLIST:



■ Kite

■ Control bar

■ Harness line

■ Leader lines

■ Flying line set (front and back)

■ Bladder repair kit

■ Hand pump

■ Kite bag

■ Powerdrive System™



SAFETY

■ Make sure you've done your homework and that you know the safety precautions of all aspects of the sport; launching, landing, flying, riding, kiting among other water users, self-rescuing, etc.

■ Understand the technique of self-rescue before using this product near the water.

■ Never let someone who is not familiar with inflatable kites launch or catch your kite. You will endanger them, as well as yourself and those around you. You are responsible for the safe operation of your kite.

BLACK TIP CONTROL BAR:

THE BAR:

- Unpack your kite and its components. Set the kite aside.
- Decide on which arm you will want to wear the leash. Turn the bar accordingly. A good rule of thumb: attach the wrist leash to one wrist and the board leash to the opposite ankle. For example, if you have the wrist leash attached to the left wrist, you should attach the board leash to the right ankle.
- Set the control bar aside.

THE LEADER LINES:

- Your three leader lines, including the wrist leash system, will already be set up on the bar.
- One leader line will have two lines tied together. One of these lines will be attached to your wrist leash.
- The second leader line will be a single line.
- The third leader line will be a single center leader line.
- DO NOT take out the knot at the end of each leader line.
- The knot in each of the leader lines has been pre-set so that you should not have to adjust your flying lines to the same length. Do not move these knots, unless you need to later adjust your flying lines.
- Place the control bar on the ground with something to weigh it down. You may also hook it over a stump or fence post to secure it for the next step.
- Walk all three leader lines out away from the bar, perpendicular to it.

THE FLYING LINES:

- Unpack your two sets of flying line.
- You will have two flying lines rolled onto each kite line holder.
- One set of flying line will be labeled "front line".



■ This set will have green sheaths, or covers, covering both ends of one flying line and red sheaths covering the ends of the other flying line (green denotes the right line; red denotes the left line). The second set of flying line will be labeled "back lines". This set will have green and black sheaths covering both ends of one flying line and red and black sheaths covering the ends of the other flying line. Remember "black is always back" (i.e. the black sheaths will be your back lines, with the green/black denoting the right line and the red/black denoting the left line).

■ Now, unwind both sets of your line from the control bar in an unobstructed direction. You will need 30 meters of space. Roll one set out at a time.

■ At each end of each set of flying line, you will find knots tying the red lines to the green lines for shipping purposes. Untie these knots.

■ Now, set all of your flying lines parallel to each other, with the two red lines on the left side (facing from your bar to where your kite will be placed) and the two green lines on the right.

■ Make sure the red line is on the inside and the red and black line is on the outside.

■ Make sure the green line is on the inside and the green and black line is on the outside.

■ Facing from your control bar to the kite, you should see from left to right, your red and black line, your red line, your green line, and finally your green and black line.

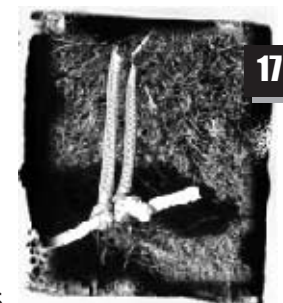
■ Utilizing a slipknot, connect the red and black "back flying line" to the left leader line (See figure 16) by looping the flying line slipknot over the pre-set knot on the leader line. This will create one long flying line.



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■ Utilizing the same type of slipknot, connect the green and black "back flying line" to the pre-set knot on the right leader line in the same manner as you connected the back red flying line.

■ Again, utilizing the slipknot, connect both the red line and the green line to the pre-set knot on the center leader line. It does not matter which line you connect first. Connect them both to the same knot (See figure 17).



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■ Now, starting at the control bar, take the red and black "back line" in your left hand and the red line in your right and walk out toward the ends of the lines. The goal here is to rid your lines of any twists or knots.

When you reach the end of both lines, they should be parallel to each other and devoid of twists and knots. Set them down.

S A F E T Y

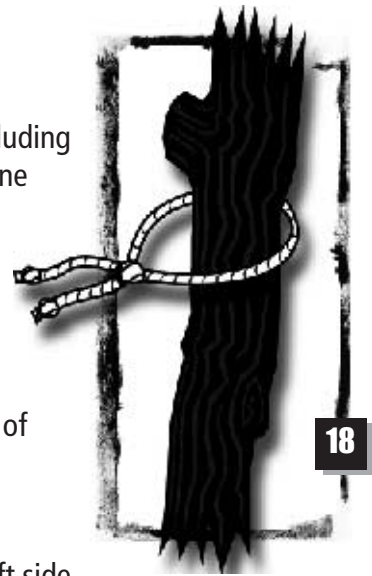
ADDITIONAL SAFETY INFORMATION:

- Always use this kite with the supplied wrist leash system.
- NEVER permanently attach yourself to this kite, the control bar, or lines.
- NEVER use this kite as a flying device.

- Next, take the green and black "back line" in your right hand and the green line in your left and walk out toward the ends of the lines. Again, rid the lines of twists and knots. Set them down parallel to each other and to the other two lines.
- Finally, create slipknots at the ends of all four flying lines. These slipknots will be the means of connecting your flying lines to the four-line connection points on your kite.

CHECKING FLYING LINE LENGTH:

Before flying your kite, it is important to check that your lines, including the leader lines, are the same length and that your bar is even. One way to do this is to attach your lines to a rope that is tied around a tree or fence post.



- Loop a two-foot piece of rope around a tree or fence post (See figure 18).
- Tie the rope in a knot around the fixed point, leaving two ends of the same length.
- Tie a knot in the base of each end.
- Attach the slipknot on your red and black "back line" to the left side of the rope, just above the knot.
- Attach the slipknot on your red flying line to the left side of the rope, next to the back line. Cinch both lines down, next to the knot.
- Now, attach the slipknot on your green and black "back line" to the right side of the rope, just above the knot.
- Attach the slipknot on your green flying line to the right side of the rope, next to the back line. Cinch both lines down, next to the knot.
- Walk back to your control bar.
- Make sure the centerline is fully extended, so that the kite is set up for full power.
- Standing directly in line with the post or tree, increase pressure on the control bar by pulling straight back toward yourself. Do this a couple of times. This tightens the knots and slipknots you have just made.
- Now pull back hard on the control bar, but keep it steady.

■ Never touch the bridle lines or the kite lines while under tension; do not catch the kite using any of these lines.

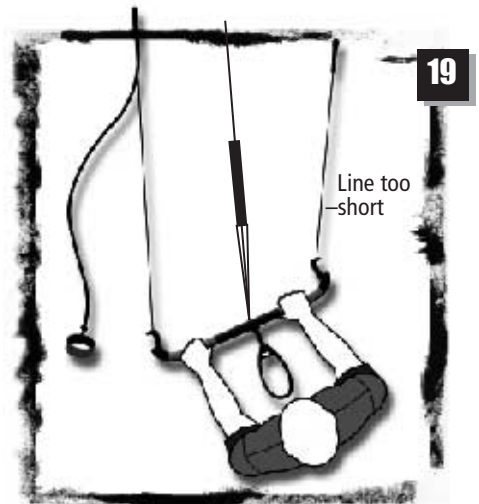
■ When inflated but not in use, secure your kite with sand or with something heavy... the more weight the better. An inflatable power kite will still fly, even without a pilot, so be mindful of those around you and secure your kite. Your kite may cause serious injury or death if it launches unexpectedly.

■ Do not lend your gear to someone who has not been fully instructed on the use of inflatable kites. Other users should also read this user's manual and be proficient in all its points.

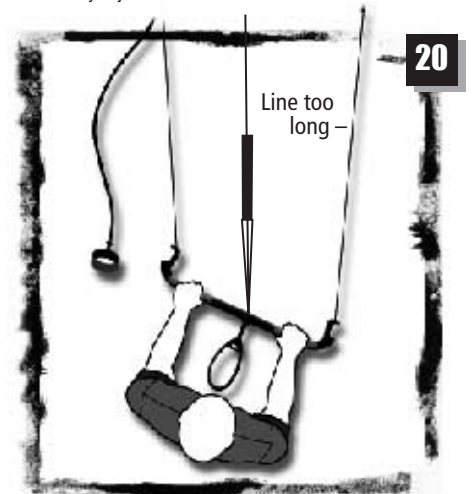
- Your control bar should be in line with your shoulders and should be straight—i.e. your bar should not be at an angle.
- You will find that your outside, or back lines, will be taut while your center lines will be slack.
- Once you've determined that the back lines are even, grab hold of the centerline and pull straight back to make sure the center lines are even with each other.
- If your control bar and lines are even, they will now be ready to fly your kite.
- If your control bar and lines are not even, follow the instructions below.

LINE LENGTH CORRECTIONS:

- First, you need to determine which lines need adjustment—i.e. your back lines or front lines.
- If your bar and lines are at an angle—i.e. uneven—you will most likely need to adjust your back lines. You do this by adjusting the knot on the single outside leader line—i.e. the leader line not connected to your wrist leash.
- DO NOT change the knot on the leader line with the wrist leash. It has a set length that enables the wrist leash system to work properly.
- DO NOT put knots in your flying lines. You will adjust the line length difference with the leader line, not with the flying line. Knots in the flying lines compromise the life of line.
- At this point, you need to determine if the back line not attached to your wrist leash is too short or too long (See figure 19 & 20).
- If this line is too long, you will move the knot on the leader line toward the bar and away from the kite in the amount that this flying line is longer than the other flying line. This shortens the entire flying line.



Only adjust line NOT attached to wrist leash.



Only adjust line NOT attached to wrist leash.

SAFETY

PRE-FLIGHT EQUIPMENT CHECK: Before launching your kite, check your flying lines, leader lines, leader line attachments, knots, bridle lines (if applicable), and wrist leash system for wear and tear. Do not launch if you find any of these things are worn. For your safety and the safety of others, replace them before launching your kite.

- If this line is too short, you will move the knot on the leader line away from the bar and toward the kite in the amount that this flying line is shorter than the other flying line. This lengthens the entire flying line.
- Once you've made the proper adjustment, check the bar again.
- If your control bar and lines are still not balanced, make adjustments in the single outside leader line knot until your control bar is balanced.
- It is highly unlikely that your center lines are uneven, but if they are, you may make the adjustment by creating two knots in the center leader line, one for the flying line that is short and one for the longer flying line. You will attach the longer of the two flying lines to the knot closest to your bar and the shorter line to the knot closest to the kite. Once you've made the proper adjustment, check the bar again.
- Your control bar and lines should now be balanced and ready to fly your kite.

BLACK TIP KITE:

STRUTS:

- Unroll your kite, with the struts facing up.
- If it is windy, make sure your back is to the wind and that the leading edge of the kite is closest to your body.
- Starting with the center strut, then the two middle struts, followed by the end struts, partially inflate each of the struts.
- Partially inflate the struts by holding the pump at a perpendicular angle to the kite valve. You will use one hand to hold the valve steady and the other hand to pump air into the strut (See figure 21). Both of these tips will help maintain the life of the internal bladder.
- When all of the struts are partially inflated, go back to the first strut you inflated. At this point, it is important to make sure the internal bladder is in each of the four corners of the strut. If it is not, lightly spread the air around to push the internal bladder into each corner of the sleeve. Once the internal bladder is correct, you may fully inflate the strut.



- Check your lines for unwanted knots and tangles and remove them before launching.
- If using a two-line kite, make sure your bridle lines are free of twists before launching.
- Do not attempt to make corrections to the flying lines and bridle lines while the kite is flying or the lines are under tension. Flying lines can be sharp and dangerous, especially when under tension.
- Check your kite struts to make sure they are holding air. If not, make the necessary repairs before launching (see Section XI. for repair). When kite struts are not inflated properly, the steering and flying ability of the kite is compromised.

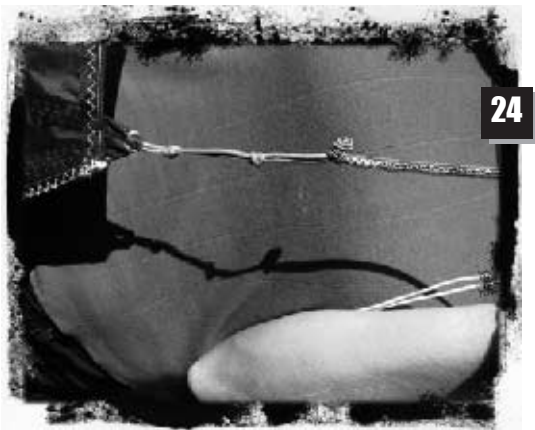
- DO NOT OVER INFLATE THE STRUT. Once it is fairly solid to the touch, it is fully inflated.
- Once the strut is fully inflated, secure the valve plug in the valve and attach the Velcro piece over the valve (See figure 22). This Velcro protects the valve against opening inadvertently.
- Continue this process with the struts until each one is fully inflated and secured.
- At last, fully inflate and secure the leading edge strut.
- WARNING: DO NOT OVER INFLATE THE STRUTS. It will damage them if you do.
- WARNING: DO NOT UNDER INFLATE THE STRUTS. Your kite will not fly or re-launch properly if the struts do not have sufficient air in them.
- If you are not ready to continue setting up the kite, turn it over so that the struts are now facing the ground and the leading edge is facing into the wind. Secure the kite with a smooth heavy object so it does not launch inadvertently. Do not secure your kite with rocks or sharp objects; they will compromise the life of the product.

FOUR LINE CONNECTION POINTS:

- Carry the kite to the end of the flying lines furthest from your control bar. Make sure the leading edge is facing into the wind.
- Turn the kite on its face (struts facing down, toward the ground) and secure the kite with weight (See figure 23).
- On the tips of the kite you will notice four connection points—two short lines with knots on each wing tip of the kite. These are the connection points to which you will attach your flying lines (See figure 24).
- Also, notice that there are two knots on each connection point. Generally, you will attach your lines to the same knot at all four connection points. It does not matter which knot you utilize; it only matters that you utilize the same knot on all four connection points.
- Walk back to your bar.



23



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GLOSSARY:

KITEBOARDING TERMINOLOGY

TRAINER KITE - a kite that may be used on land to simulate the motions used in kiteboarding. It is an excellent instructional/learning tool. Despite its small size, this kite still has power, so be alert.

- Starting with the red lines—the red and black back line in your left hand and the red centerline in your right—walk down the lines toward your kite.
- If there are no twists or knots in the lines, attach the red centerline to the front left connection point on the kite. This will be the connection point closest to the ground when the kite is on its face; it is also the connection point closest to the leading edge strut. Attach the flying line to the connection point by using the slipknots you created when checking your flying line length.
- Now, attach the red and black back line to the back connection point on the kite. This will be the connection point furthest from the ground when the kite is on its face. Remember "black is always back". Utilize the same type of slipknot.
- Make sure each knot is secure by pulling on it to double check.
- Again, walk back to your bar.
- Next, walk down the green lines—the green and black back line in your right hand and the green centerline in your left—toward the kite.
- If there are no twists or knots in the lines, attach the green centerline to the front right connection point on the kite. This will be the connection point closest to the ground when the kite is on its face; it is also the connection point closest to the leading edge. Attach the flying line to the connection point by using the slipknots you created when checking your flying line length.
- Now, attach the green and black back line to the back connection point on the kite. This will be the connection point furthest from the ground when the kite is on its face. Again, remember "black is always back". Utilize the same type of slipknot.
- Make sure each knot is secure by pulling on it to double check.
- Finally, walk down each set of lines—the red and the green—one more time to make sure the lines do not cross over each other and that there are no knots, etc.
- Check once again that you have connected each of the four lines to the same knot on each connection point—i.e. check that all slipknots are on the first knot or that they are all on the second knot on the corresponding connection point.

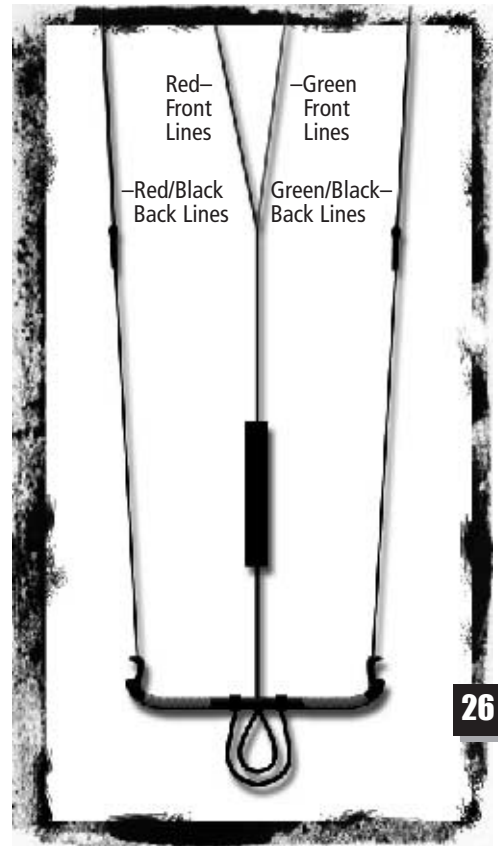
INFLATABLE KITE - a kite with inflatable tubes designed to float the kite and to facilitate water re-launchability.

TWO-LINE INFLATABLE KITE - a water-re-launchable kite with two flying lines and inflatable tubes. This kite usually has a bridle system.

FOUR-LINE INFLATABLE KITE - a water-re-launchable kite with four flying lines and inflatable tubes. This kite does not usually have a bridle system.

STRUTS - the outer fabric tubes found on your kite. They house the inner inflatable bladders, which are filled with air to give structure to the kite.

■ It is very important to check your lines more than once (See figure 25 & 26). If you have them set up incorrectly, the kite will not respond properly to the control bar and can be dangerous to fly.



SECURING YOUR KITE ON THE BEACH:

- Always secure your kite with more weight than you think you need. An unmanned kite is dangerous and deadly. If you do not have a sandy beach launch, consider sandbags.
- Never secure your kite with rocks or sharp objects; they will compromise the life of the kite.
- Keep in mind other beach users and make sure your kite and lines will not be a danger to others.
- When launching among other beach users, make sure to double check your lines before launching, just in case someone moved your bar, your lines, etc.
- As much as possible, wind your line onto the bar when you are not planning on kiting—i.e. while taking a lunch break, etc. This will keep the beach free of line and will prevent other beach users from tripping over your equipment.

GLOSSARY:

KITEBOARDING TERMINOLOGY

BLADDER - the inner inflatable tube found within the leading edge and the struts of the kite. (Imagine a bike—it has both a tire on the outside and an inner tube which holds air).

LAUNCHING - the motion in which the pilot steers the kite from their partner's hands into the sky.

SELF LAUNCHING - a technique in which the pilot launches the kite without assistance, usually by weighting down a wing tip with sand until he/she is ready to launch.

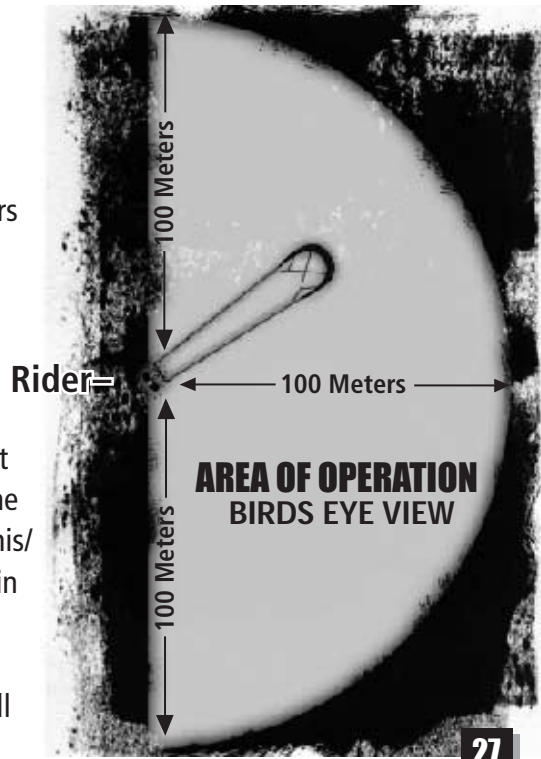
OPERATING ZONES:

AREA OF OPERATION: This is the 100 meters of area to each side and downwind of the pilot (See figure 27). Do not launch your kite if you do not have this safe distance between yourself and other people, pets, or obstructions.

NEUTRAL POSITION: This is the position just above the pilot's head in the sky (See figure). If the pilot keeps the control bar steady and parallel to his/her shoulders, the kite will naturally "park" itself in this position. It is a position in which the kite will have the least amount of pull and is most steady. When in the neutral position, if the kite luffs, it will move slightly away from the user, in a downwind direction. If kept steady, when the kite receives a gust, it will pull and again fly back into the neutral position. The neutral position is also where you may "park" the kite in order to rest, reel in your board, etc. In this position, the kite still has power, so keep in mind that although it is relatively stable in this position, it may still pull you. This is the safest position in which to keep the kite when learning.

NEUTRAL ZONE: This is the area that includes the neutral position and the area to the left and right of the pilot. It encompasses the most upwind or windward positions in which to fly the kite (See figure). When flown here, the kite has the least amount of power or pull. This is one of the safer zones in which to fly the kite.

POWER ZONE: This is the area in front and to the sides of the pilot, but excluding the neutral position and zones (See figure). It is the area in which the kite has the most power and pull. When flown in this area, the kite can be powerful and dangerous, so avoid flying your kite in this zone when learning.



RE-LAUNCHING - the motion in which the pilot steers the kite off of the water and back into the sky.

BODY DRAGGING - this is an instructional tactic/step in which the pilot flies the kite from the water, but without the board. The pilot will launch the kite, walk to the water, and basically

drag in the water, practicing flying, re-launching and self-rescue techniques.

WATER STARTING - the motion of the pilot in which he/she goes from sitting or lying in the water to standing on the board.

POWER ZONES



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GENERATING POWER: One way to generate power from your kite is by steering your kite from low to high or from high to low in the sky. The movement of your kite in the sky creates lift, which creates power. Keep this in mind, especially when learning. When bringing the kite from a low position up to the neutral position, the movement of the kite actually creates power and generates speed, so be prepared. When underpowered, you may use this ability of the kite to your advantage by creating power and speed to get planing.

GLOSSARY:

KITEBOARDING TERMINOLOGY

GYBING - the motion in which the pilot changes the direction of the board he/she is riding. The pilot switches from a starboard tack to a port tack or vice versa.

PLANING - the point in time in which the pilot gets the board skim-ming on the water.

LANDING - the motion in which the pilot steers the kite into their part-ner's hands on shore.

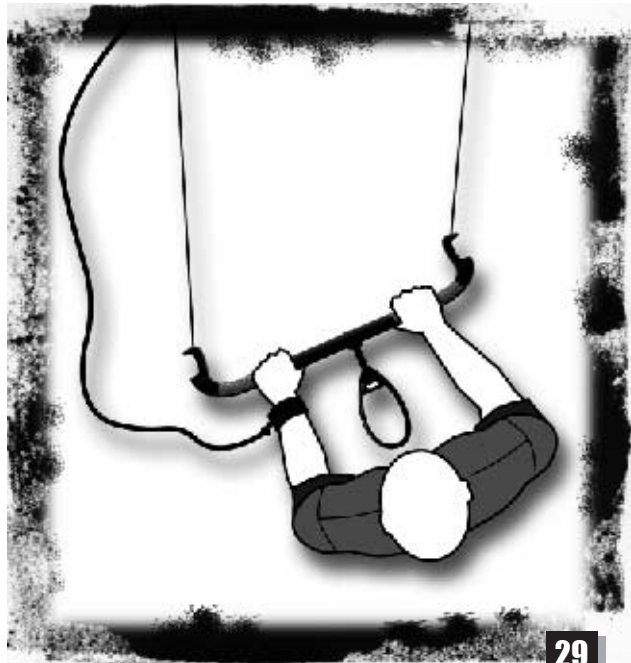
CONTROL BAR - the steering device the pilot uses to steer the kite.

KEY POINTS TO REMEMBER

- When practicing steering a kite on land, always remember that your kite has extreme power. Be prepared and be safe.
- When first learning to fly your kite, always keep your eyes on the kite.
- Steer slowly. Do not make any abrupt motions with the control bar.
- Keep in mind the power of the kite.
- Never turn the control bar like a car steering wheel. It is ineffective for steering the kite and may actually cause the kite to become out of control.

STEERING THE KITE TO THE LEFT:

- Hold the bar with both hands, shoulder distance apart.
- With your eyes on the kite, slightly pull on the control bar with your left hand, pulling it toward your body. (See figure 29)
- This will allow your left arm to bend and your right arm to extend.
- Pull slowly. The quicker your movements, the faster the kite will turn and the more power it will create.
- Once the kite starts to turn, it will continue to turn left unless you tell it otherwise.
- Be ready to steer the kite back into the neutral position.



29

HARNESS - a piece of equipment used to temporarily attach the rider to the control bar harness line. This enables the rider to save energy by utilizing their body weight and all of their muscles to hang on to the kite. Most common are the waist harness (attaches around the torso) and the seat harness (attaches to the waist and around the legs)

KITEBOARDING - the term is used to describe the sport of power kiting on water.

KITESURFING - another term used to describe the sport of power kiting on water, but in waves.

STEERING THE KITE TO THE RIGHT:

- Hold the bar with both hands, shoulder distance apart.
- With your eyes on the kite, slightly pull on the control bar with your right hand, pulling it toward your body.
- This will allow your right arm to bend and your left arm to extend.
- Pull slowly. The quicker your movements, the faster the kite will turn and the more power it will create.
- Once the kite starts to turn, it will continue to turn right unless you tell it otherwise.
- Be ready to steer the kite back into the neutral position.



30

OPERATION OF CENTER LINE ADJUSTMENT STRAP:



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FOR FOUR-LINE BLACK TIP KITES ONLY

- The Black Tip center-line adjustment strap is a useful tool for increasing the range of usage of your kite.
- When the center-line adjustment strap is fully extended—ie. there is no slack in the strap—the kite is set fully powered (See figure 31).
- When the center-line adjustment strap is pulled toward the pilot—ie. there is slack on the back side of the strap—the kite is set de-powered (See figure 32).

GLOSSARY:

KITEBOARDING TERMINOLOGY

OVERPOWERED - a situation in which the pilot has a kite too powerful for his/her ability level, weight, strength, and/or wind conditions.

UNDERPOWERED - a situation in which the pilot has a kite not powerful enough for his/her, weight, strength, and/or wind conditions.

REACH - a direction of travel relative to the wind direction. Generally 90-160 degrees off the wind.

■ When the center-line adjustment strap is set anywhere in the middle of these two points, it is set up with a mid-range of power.

■ To change the kite's power utilizing the center-line adjustment strap, you will use the two loops found on the strap.

■ The larger of the two loops is used to pull the strap toward the pilot, which then decreases the power in the kite.

■ The smaller of the two loops, covered by plastic tubing, is used to increase the power in the kite. Utilize this loop by pulling up on it, or in other words, pushing it away from the pilot.

■ Your center-line adjustment strap works best when free of sand and other debris.



PLANNING YOUR LAUNCH

■ Choose an area where you have at least 100 meters of space to your left and right and especially downwind of you.

■ Set up your equipment so that your kite is downwind of where you will be launching, but most importantly, so that it is at an angle off of the wind.

■ **DO NOT SET UP YOUR KITE FOR A STRAIGHT DOWNWIND LAUNCH!** The kite will launch with too much power and you will endanger the lives of yourself and those around you if you launch in this manner.

■ Basically, if the wind is at your back, and straight downwind is at a 180-degree angle, then you will want to set your kite at about a 100-degree angle off the wind, either to the left or to the right of you (See figure 33).

LULL - a term used to describe wind when it lessens in strength, for any amount of time. A term also used to describe the complete depowering of a kite.

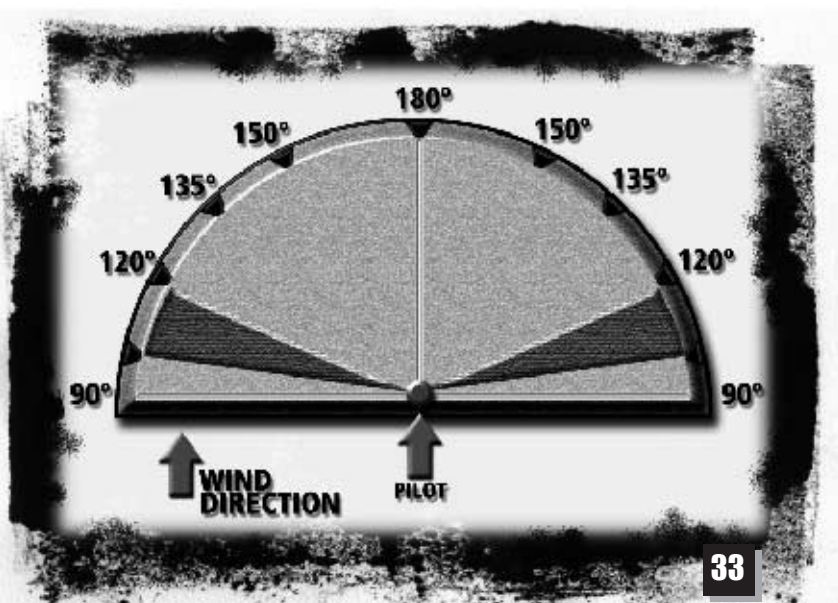
LUFF - a term used to describe what happens to the kite in a lull.



■ The more the kite is positioned into the wind when you launch, the less power it will have when it goes up, and the safer your launch will be.

■ Your partner will stand with the kite while you will stand 30 meters away at your control bar.

■ Make sure you launch slowly and safely, and launch the kite at an angle, **NOT STRAIGHT DOWNWIND!**



33

SECURING THE KITE AND LAYING OUT YOUR LINES

■ First, secure your kite face down at the place where your partner will hold your kite to launch it (Remember to secure it properly with sand or sand bags).

■ Next, wind your line out from the kite toward the place from which you will launch your kite. Tip: If your lines are not still connected to the kite, weigh the ends down with sand or with something heavy to keep them from blowing in the wind while you wind your lines out.

■ Set your bar down.

■ Walk down your lines, freeing them of twists and knots. If you have the four line Black Tip kite, first walk down the red lines and then walk down the green lines.

■ Next, connect the lines to your kite as instructed on page 3 and 4 for the CO2 kite and on page 10 and 11 for the Black Tip kite.

■ It is imperative that you make sure your lines are straight and free of twists and knots. Your kite will not steer properly and will be a danger to you and those around you if the lines are not correctly attached.

■ You should now be ready to launch.

GLOSSARY:

WIND TERMINOLOGY

OFFSHORE - wind is blowing from the shore, directly or to a great extent out to the water. Do not operate your kite near water in this wind direction.

ONSHORE - wind is blowing directly or to a great extent directly from the water toward the land. Utilize caution when operating your kite near water in this wind direction.

SIDESHORE - wind is blowing from the left or from the right, in a perpendicular direction to the shore. Ideal wind direction for kiteboarding.

LAUNCHING WITH A PARTNER:

- Once you have thoroughly checked your lines, your gear, and your launching and landing sites, you are ready to launch your kite.
- First, attach the wrist leash to your proper wrist.
- Have your partner stand with the kite at 100 degrees off of the wind.
- Your partner should hold the kite in the middle of the leading edge, with the leading edge vertical and pointing into the wind (See figure 34a).
- Your partner should stand behind the kite and not to the side or in front of the kite (See figure 34b).
- Also, your partner should NOT touch the bridle or flying lines.
- With the control bar in your hands, take a few steps back to take the slack out of the flying lines.
- Signal your partner to let go of your kite. It is important that your partner lets you steer the kite out of his or her hands.
- Your partner should NOT throw the kite into the air. Instruct him/her against doing this BEFORE you launch. When the kite is thrown into the air, it hinders the ability of the kite to launch properly. The kite may either launch too abruptly and powerfully or it may not launch at all. It is a very dangerous way to launch.
- Once your partner lets go of the kite, have him/her move upwind of you and out of your way.
- With both arms extended, SLOWLY steer the kite up into the neutral position. Do this by slowly pulling toward you on the side of the bar attached to high side of kite. DO NOT make any abrupt motions. The slower you steer the kite into the neutral position, the safer and the more in control you will be.
- Your arms will remain extended above your head, with the bar even, while the kite is in the neutral position.



SIDE OFFSHORE - wind is blowing from either the left or the right and from the shore out to the water. This is a combination of offshore and sideshore wind. Do not operate your kite near water in this wind direction.

SIDE ONSHORE - wind is blowing from either the left or the right and from the water toward the land. This is a combination of onshore and sideshore wind. Utilize caution when operating your kite near water in this wind direction.

- Walk slowly to the water's edge, keeping in constant check with the kite. You should know what it is doing at all times.
- **DO NOT HOOK INTO THE HARNESS LINE WHEN LAUNCHING!** If you do, you will not be able to safely and quickly utilize your wrist leash system if necessary.
- If anything goes wrong with the launch, you should be ready to let go of the bar and utilize the wrist leash system.
- **WARNING:** the more wind there is during your launch, the faster everything will happen. That's why it is important that you launch the kite slowly and safely.

SELF LAUNCHING:

- First set your kite face down, with the leading edge into the wind, at 100 to 110 degrees off of the wind.
- Secure the kite with sand or with sandbags.
- Next, wind your lines out from the kite to the place from where you will launch the kite.
- Check to make sure your lines are connected properly.
- Once you have thoroughly checked your lines, your gear, and your launching and landing sites, you are ready to set your kite up for self-launch. Turn the kite on its side, with the leading edge facing into the wind.
- Fold the bottom wing tip (the one closest to the ground) over onto the kite. Make the fold at the first strut. (See figure 35a).
- Weigh this wing tip down heavily with sand or sand bags (See figure 35b).
- Make sure that the flying lines and bridle (if applicable) are free and will not catch on the struts when you self-launch (See figure 35c).
- Quickly walk back to your bar.
- Attach the wrist leash to your proper wrist.



GLOSSARY:

WIND TERMINOLOGY

GUSTY WIND - wind is inconsistent and varies considerably from one strength to another.

DOWNWIND - the direction in which the wind is travelling.

UPWIND - the direction from which the wind is blowing.

LEEWARD - the downwind side of the kiteboarder.

■ With the control bar in both hands and at chest height, take a few steps back to take the slack out of the flying lines.

■ This will release the sand or sand bags from the wing tip of the kite (See figure 35c & 36).

■ Next, SLOWLY steer the kite into the sky by pulling toward you on the side of the bar attached to high side of kite. DO NOT make any abrupt motions. The slower you steer the kite into the neutral position, the safer and the better.

■ As you take a few steps backward and steer the kite up into the sky, the kite will fill with wind and continue to rise.

■ Continue to steer the kite into the neutral position—SLOWLY.

■ Your arms will remain extended above your head, with the bar even, while the kite is in the neutral position.

■ With your back to the wind, walk slowly to the water's edge, keeping in constant check with the kite. You should know what it is doing at all times.

■ DO NOT HOOK INTO THE HARNESS LINE WHEN LAUNCHING! If you do, you will not be able to safely and quickly utilize your wrist leash system if necessary.

■ If anything goes wrong with the launch, you should be ready to let go of the bar and utilize the wrist leash system.

■ WARNING: the more wind there is during your launch, the faster everything will happen. That's why it is important that you launch the kite slowly and safely.

■ WARNING: DO NOT set your kite up for self launch and then wind out your lines. Make sure your lines are laid out and are correct before you set your kite in self-launch position. The kite may launch accidentally while you are winding out your lines.



WINDWARD - the upwind side of the kiteboarder.

KNOTS - a measure of speed, in this case windspeed, which refers to the number of units of distance covered in a certain amount of time,

Based on nautical miles.

1 knot = 1 nautical mile per hour.

1 knot = 1.15 mph.

LANDING A KITE TO YOUR PARTNER:

- You should always determine adequate landing spots before you launch your kite.
- Having done that, make sure that when you are heading toward shore, that your landing location is still safe uncrowded and unobstructed.
- Never land your kite over, on top of, or near others, especially if they are downwind of you. You should have an area clear of people, pets, power lines, trees, and other obstructions.
- Make sure your partner has been instructed on how to land your kite properly.
- As you approach shore, keep your kite low near the water, at the edge of the power window.
- Drop down (or step) off your board and body drag the final distance to shore. Do not approach the shoreline with speed.
- Slowly steer your kite into the wind and to your partner.
- Your partner should be on the windward side of your kite as he/she approaches it.
- Once the kite is nearly touching the ground, your partner should grab the kite at the middle of the leading edge strut. He/she should grab the kite in the same location on the kite as when it was launched (See figure 37a & 37b).
- Your partner should NOT grab the kite bridle or flying lines.
- Your partner should AVOID grabbing the kite by either wing tip. Grabbing the kite by the wing tip will often cause it to flip or spin; the kite will also be hard to manage.
- Once your partner has the kite's leading edge, he/she should walk the kite away from the water's edge.
- Your partner may either continue to hold the kite or he/she may secure the kite by turning it over, with the struts down and the leading edge pointed into the wind, and securing it with sand or a smooth weighted object.
- Once on land, with your kite secured, you may wind up your lines.



GLOSSARY:

WIND TERMINOLOGY

MPH - a measure of speed, in this case windspeed, which refers to the number of units of distance covered in a certain amount of time,

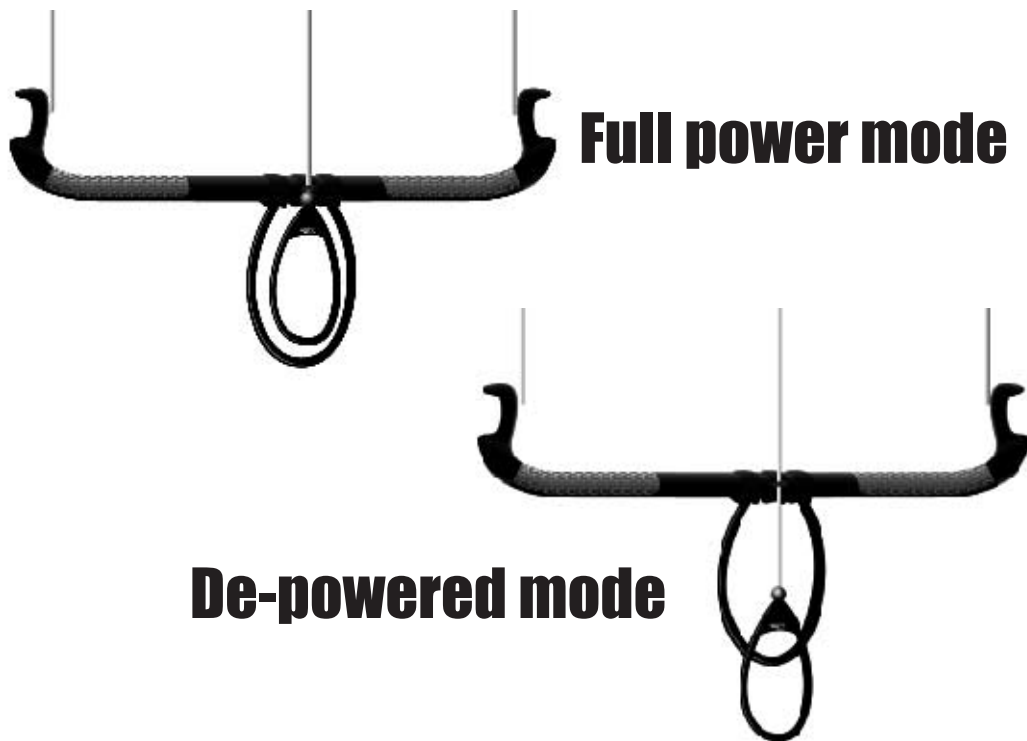
Based on miles.

1 mph = 1 mile per hour.

USING THE POWERDRIVE DE-POWER SYSTEM

The de-power loop is valuable in many situations: gusty wind, over-powered conditions, jumping, etc. The de-power loop lets you adjust the power of your kite on the water. When you are hooked into main harness line (the one connected directly to the boom), your kite will be fully powered, assuming you have left the center line adjustment strap in the full power position. To utilize the de-power loop, you will need to hook into the top harness loops. This loop is attached to your center line, which is then connected to your front lines and the leading edge of the kite. While hooked into the de-power loop, you may fine tune your kite's power by making adjustments in the bar position. For example, to de-power the kite, you will push the bar away from your body, while still maintaining your kiting stance.

To power up your kite, pull the bar back toward your body, while maintaining your kiting stance. Many people like to ride only in the de-power loop, so they may react to gusts easier and quicker. The de-power loop can be used in conjunction with the center line adjustment strap to effectively fine tune your kite for changing wind conditions.

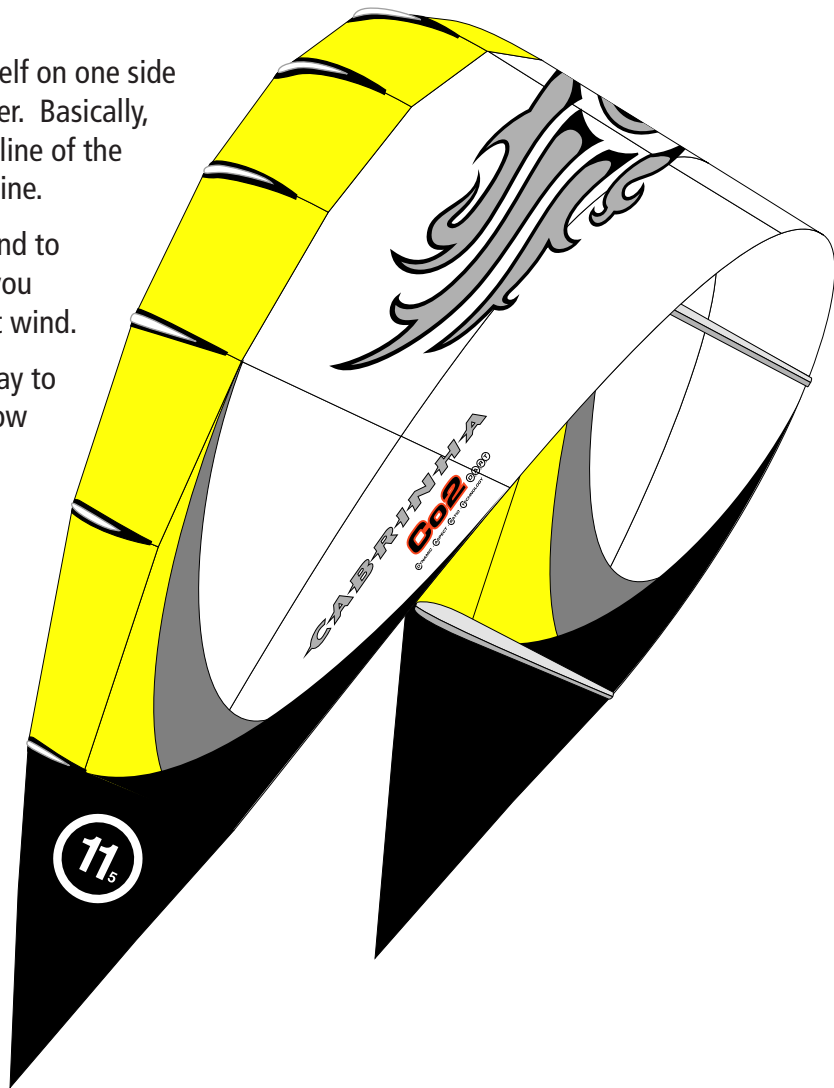


BEAUFORT SCALE - a system for estimating wind strength based on the effects wind has on the physical environment (eg. the behavior of waves, smoke, etc.) Instruments are not used to determine wind strengths in this point scale

(0 = calm to 12 = hurricane).

RE-LAUNCHING THE CO2 KITE:

- Important Note: proper inflation of the struts, especially the leading edge, is imperative for water re-launchability of your kite. Make sure your kite struts are properly inflated before entering the water.
- When your CO2 kite goes down on the water, know that the kite may re-launch on its own, often when you do not expect it to, so be prepared.
- If your kite goes down on its face, with the leading edge and struts facing the water, you must steer the kite onto its side.
- Do this by pulling toward yourself on one side of the bar and pushing on the other. Basically, you will be pulling on the bottom line of the kite and creating slack in the top line.
- Be patient. Your kite will respond to your instructions, but sometimes you must be patient, especially in light wind.
- Your kite will slowly work its way to one side—to the edge of the window of wind.
- Once it is at the edge of the window, pull on the top line by pulling on the opposite side of the bar. This will steer the kite up. Slowly steer your kite into neutral position and level out your bar.
- Sometimes when you crash your kite, it will land on its side. When this happens, be prepared for a wind gust to re-launch your kite. It often does not take much to re-launch the CO2 kite, so be prepared. It may launch before you are ready.



WRIST LEASH SYSTEM

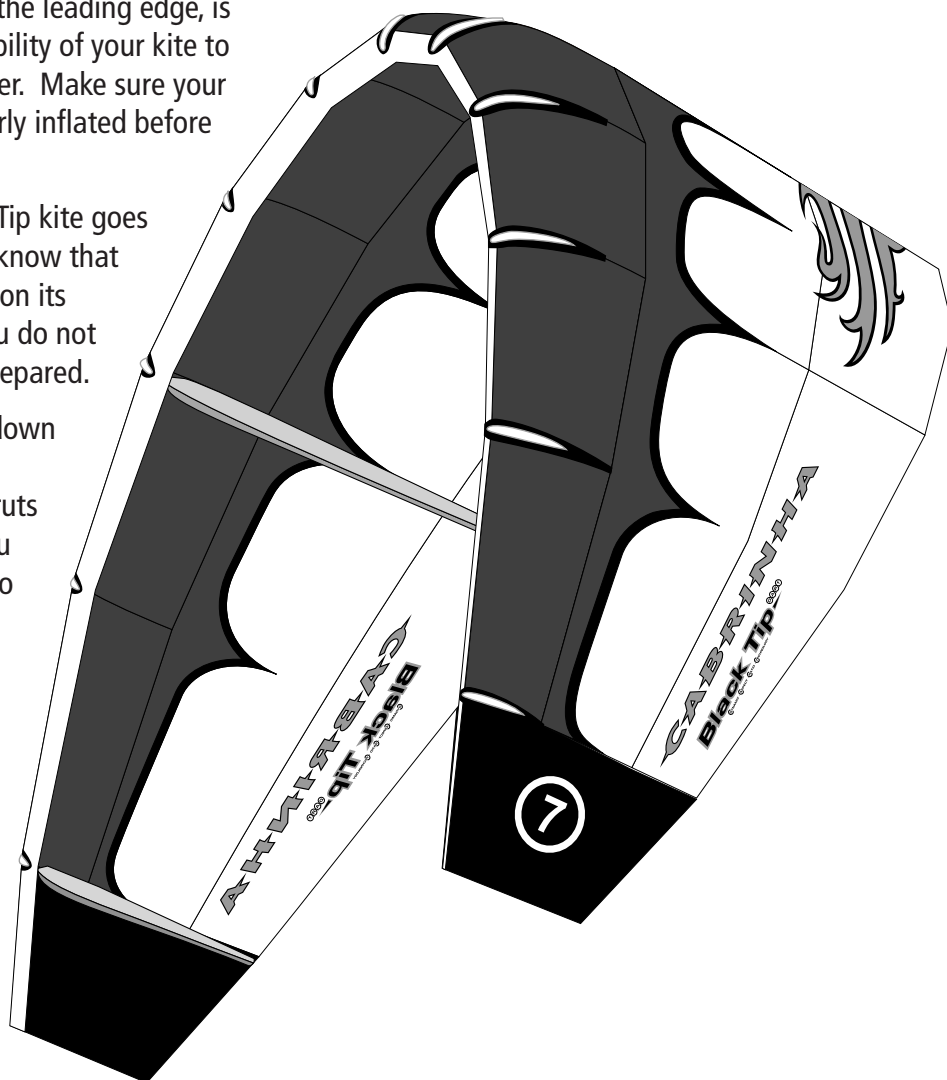
The wrist leash is a simple device that allows you to stay connected to your kite even after letting go of the control bar. Once activated by releasing the control bar completely, the leash system should reduce the power of the kite by allowing the kite to open up like a flag. The kite will then fall out of the sky. Sometimes the kite may hover off of the water or rise again into the air even in the flat position. There may still be considerable pull on the leash from the kite especially at the moment the bar is released so be aware.

RE-LAUNCHING THE BLACK TIP KITE:

■ Important Note: proper inflation of the struts, especially the leading edge, is imperative for the ability of your kite to re-launch in the water. Make sure your kite struts are properly inflated before entering the water.

■ When your Black Tip kite goes down on the water, know that the kite may launch on its own, often when you do not expect it to, so be prepared.

■ If your kite goes down on its face—with the leading edge and struts facing the water—you must work the kite to one side. You may either do this by swimming to one side of the kite, or by a combination of swimming to one side and steering the kite with the bar.



We recommend that you put on the leash prior to launching your kite. The wrist cuff is secured to the wrist by passing one end of the Velcro through the plastic ring and back onto itself. It should be worn snug to the wrist but not too tight to the point of discomfort. If you have a board leash connected to your right ankle then we suggest putting the wrist leash on your left wrist. If you connect the board leash to the left ankle we suggest putting the wrist leash on your right wrist. This will allow you more freedom of movement when retrieving your board after a fall.

■ Note: the Black Tip kite is not fit with a bridle, so merely steering with the bar will not re-launch your kite.

■ If you find yourself sitting in the water, while the kite keeps pulling you downwind, first de-power the kite fully using the center-line adjustment strap. Next, swim toward the kite, just far enough to take the tension out of the lines. **BE MINDFUL OF WHERE YOUR FLYING LINES ARE.** This will allow the kite to roll onto its back, at which point you should pull on one side of the bar to get the kite to roll onto its side.

■ Continue to steer the kite to the side you chose. Changing your mind and pulling on the other side of the bar will only confuse the kite and will extend your re-launch time.

■ Be patient.

■ Once the kite has tracked to the edge of the window, steer the kite into the sky by pulling on the side of the bar corresponding to the top lines.

■ Now slowly steer your kite into neutral position and level out your bar.

■ Keep in mind that the Black Tip kite is an advanced kite. It may take time and practice to fine tune your Black Tip re-launching techniques.



To power up the kite and re-launch it you must first collect your bar. When approaching your bar always be aware of the lines. Keep an eye on your kite and note its position on the water. Grab your control bar and make sure the leader lines are not looping around the bar. Once you have cleared the lines and have repositioned your bar you can once again launch your kite.

NOTE: At anytime if the pull from the kite onto the wrist leash is too much or you would like to quickly take the leash off. Pull on the gray strap to undo the Velcro and slip your wrist out.

BEACH ETIQUETTE:

Here are some basic things to consider when sharing beaches and water accesses with other users:

■ Setting up: • Set up only the gear that you plan on using immediately • Set up in an area where you have plenty of room • Set up in a manner conducive to having multiple users in the area.

■ Roll up your lines when not in use.

■ Always keep other beach and water access users in mind when launching.

■ Yield to other beach users. Be courteous and cooperative.

■ Deflate and put away kites you will not be using immediately.

■ Always be ready to lend assistance to other kites. The favor may be returned sooner than you think.

■ Safety: • Follow the safety instructions outlined in this manual • Follow the safety instructions posted at the beaches you use • Utilize common sense safety.

■ Do not touch other people's gear, unless instructed to do so by the owner. Picking up their bars, kites, etc. may disrupt a set-up ritual they have.



KITE REPAIR:

MAJOR TEARS:

For a major tear in the kite fabric, consult your dealer for a reputable kite repair loft.

MINOR TEARS:

For a minor tear in the kite fabric, you may repair the kite with kite repair tape. Check your local dealer for repair tape.

- Clean and dry your kite.
- Lay the kite flat and on a clean, dry, smooth surface.
- Cut two pieces of repair tape the same size, making sure they are each big enough to cover the entire tear.
- Carefully cover one side of the tear with a piece of the repair tape. Gently rub the tape smoothly onto the surface of the kite.
- Next, cover the opposite side of the tear with the second piece of repair tape, in the same manner as before.
- Make sure the tape is secure.

BLADDER REPAIR:

KEY POINTS TO REMEMBER:

- Before attempting to repair one of your kite bladders, make sure your kite is clean and dry. Always keep your kite pump, valves and bladders free of sand, water and other things that will dirty them.
- Make sure the bladders are deflated.
- Avoid repairing your kite on the beach or in dirty, dusty, windy areas. It is best to find a clean, dry spot out of the wind. A grassy spot is ideal.
- You will need a set of flying lines and a bladder repair kite before you begin to repair the bladder.

REPAIRING VERTICAL BLADDERS:

- First, lay the kite out with the struts facing up.
- Detach the Velcro closure at the base of the damaged strut. This will open up the sleeve of the strut and will allow you access to the bladder (See figure 38).
- Next, separate the valve plug from the Velcro closure so that the nozzle is free from the strut's sleeve. This will essentially disconnect the bladder from the sleeve. Keep track of the valve plug for later use.
- Tie one flying line around the valve nozzle. Cinch it down well on the nozzle. Do not tie the knot through the hole on the valve nozzle or you may damage it (See figure 39).



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■ Gently insert the nozzle down into the strut sleeve (See figure 40).

■ Go to the base of the sleeve and gently pull the bladder out of the sleeve, leaving the flying line through the sleeve (See figure 41). Having the flying line through the sleeve will allow you to easily replace the bladder once it is repaired.

■ Inflate the bladder and plug the valve so that it maintains air.

■ Submerge the bladder in water to locate the hole. A bathtub or large sink full of water is best.



■ Look for bubbles to locate the hole.

■ Once you have located the leak, dry the area and mark the hole with a circle. A permanent marker works best for this (See figure 42).

■ Dry and clean the rest of the bladder with a soft towel.

■ Again, deflate the bladder.

■ Decide whether to use the glue or a patch supplied in your bladder repair kit.

■ If the hole is on a seam, you will need to glue the area.

■ If the hole is on a flat area of the bladder, remove the backing on one of the patches and press it onto the bladder, covering the hole (See figure 43).

■ Set the bladder aside for approximately 20 minutes to dry.



- Again, inflate the bladder and check to make sure it is now holding air.
- Deflate once again.
- Remove the valve plug and replace it in the Velcro fitting on the corresponding strut.
- Tie the flying line from the end of the strut opening onto the valve nozzle.
- Lay the bladder flat at the end of the strut, so that you may now feed it back into the sleeve.



- Gently feed the nozzle into the sleeve, followed by the rest of the bladder (See figure 44).
- From the nozzle opening of the sleeve, you will pull the flying line out of the sleeve, while pulling the bladder back into place.
- Once the bladder is replaced, pull the nozzle back into the hole of the sleeve and remove the flying line from its base.
- Re-attach the Velcro at the base end of the sleeve.
- Re-attach the nozzle plug.
- Inflate the strut partially to make sure the bladder fits into all four corners of the sleeve.
- Inflate the strut entirely or deflate it if you are going to store the kite.

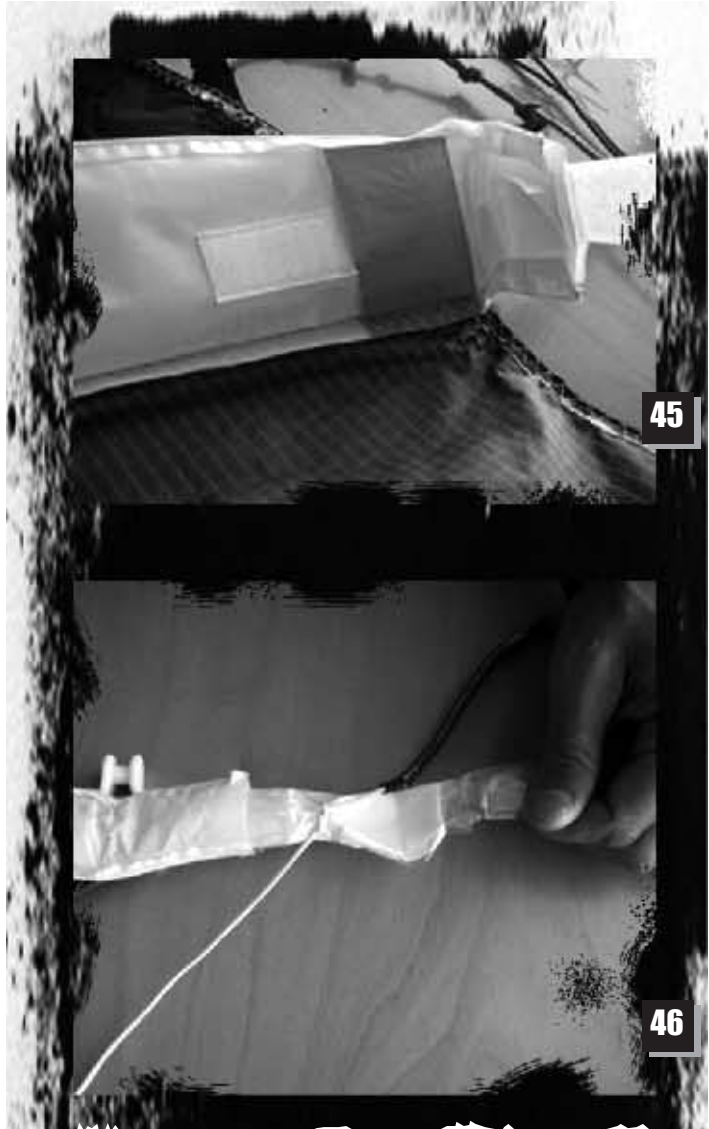
REPAIRING THE LEADING EDGE BLADDER:

■ First, lay the kite out with the struts facing up.

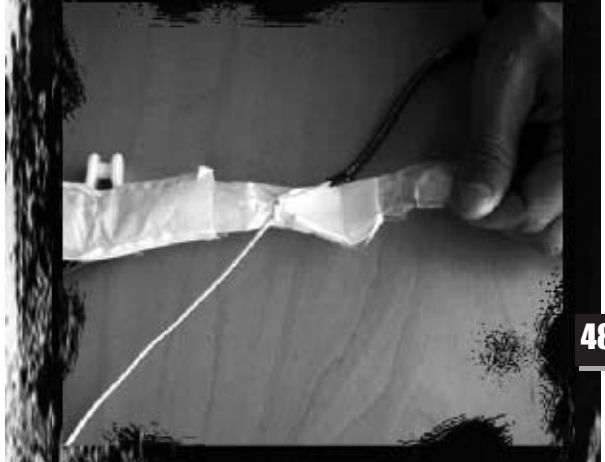
■ Detach the Velcro closure at each end of the leading edge strut. This will open up the sleeve of the strut and will allow you access to the bladder (See figure 45).

■ Next, separate the valve plug from the Velcro closure so that the nozzle is free from the strut's sleeve. This will essentially disconnect the bladder from the sleeve. Keep track of the valve plug for later use.

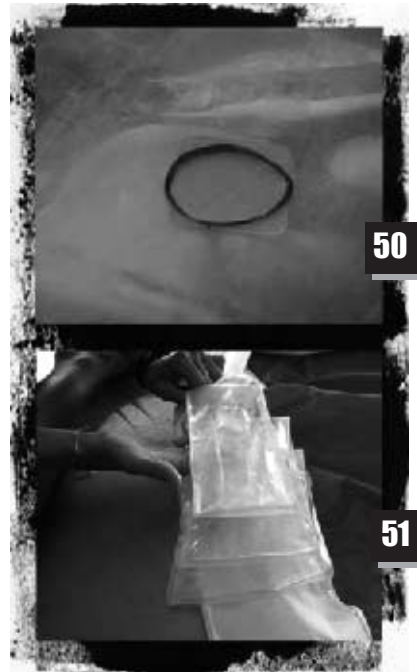
■ For the next step, you will need two flying lines. Starting with one end of the leading edge, tie one line around the wing tip end of the bladder. Cinch the line down well. Follow the same procedure with the other end of the leading edge bladder (See figure 46).



- Next, gently insert the nozzle down into the strut sleeve.
- Now, access the leading edge bladder through the Velcro access pocket near the leading edge nozzle (See figure 47).
- Gently pull one side of the bladder out of the sleeve at a time, leaving the flying line through both sides of the sleeve. Having the flying line through the sleeve will allow you to easily replace the bladder once it is repaired (See figure 48).
- Inflate the bladder and plug the valve so that it maintains air.
- Submerge the bladder in water to locate the hole. A bathtub or large sink full of water is best. You will need to submerge one section of the bladder at a time in order to locate the hole. Look for air bubbles to locate the hole.
- Once you have located the leak, dry the area and mark the hole with a circle. A permanent marker works best for this (See figure 49).

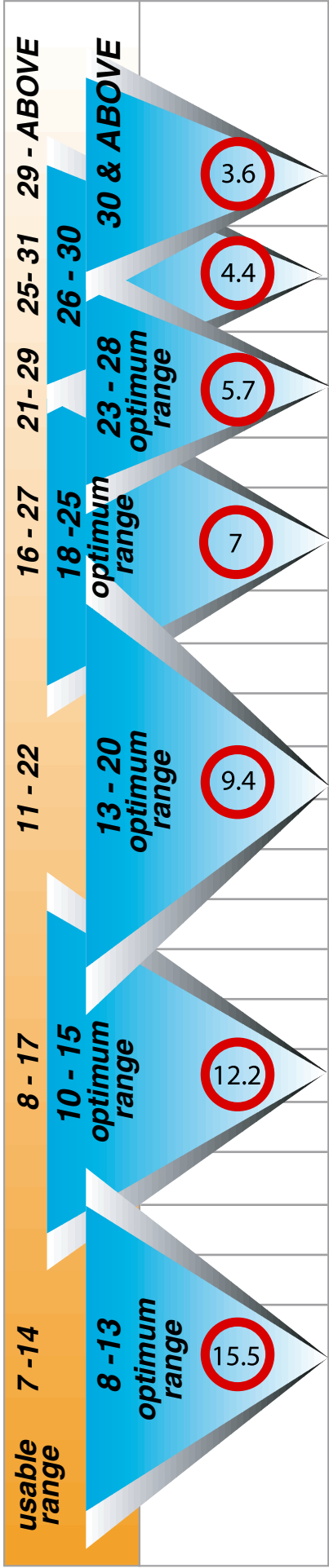


- Dry and clean the rest of the bladder with a soft towel.
- Again, deflate the bladder.
- Decide whether to use the glue or a patch supplied in your bladder repair kit.
- If the hole is on a seam, you will need to glue the area.
- If the hole is on a flat area of the bladder, remove the backing on one of the patches and press it onto the bladder, covering the hole (See figure 50).
- Set the bladder aside for approximately 20 minutes to dry.
- Again, inflate the bladder and check to make sure it is now holding air.
- Deflate once again.
- Remove the valve plug from the nozzle and replace it in the Velcro closure on the leading edge.
- Tie each flying line to the corresponding ends of the bladder.
- Lay the bladder flat near the access pocket and fold it, accordion style, so that you may feed each end back into the sleeve (See figure 51).
- Starting with one end, feed the bladder into the access pocket.
- Walk to one end of the leading edge and gently pull on the flying line, while holding the end of the sleeve. Slowly feed the bladder back into this side of the sleeve.
- Next, follow the same instructions with the other side of the bladder, until the valve nozzle is near the hole and the bladder is fully inserted.
- Once the bladder is replaced, pull the nozzle back into the hole of the sleeve.
- Re-attach the Velcro closures at each end of the sleeve.
- Re-attach the nozzle plug.
- Inflate the strut partially to make sure the bladder fits into all four corners of the sleeve.
- Inflate the strut entirely or deflate it if you are going to store the kite.

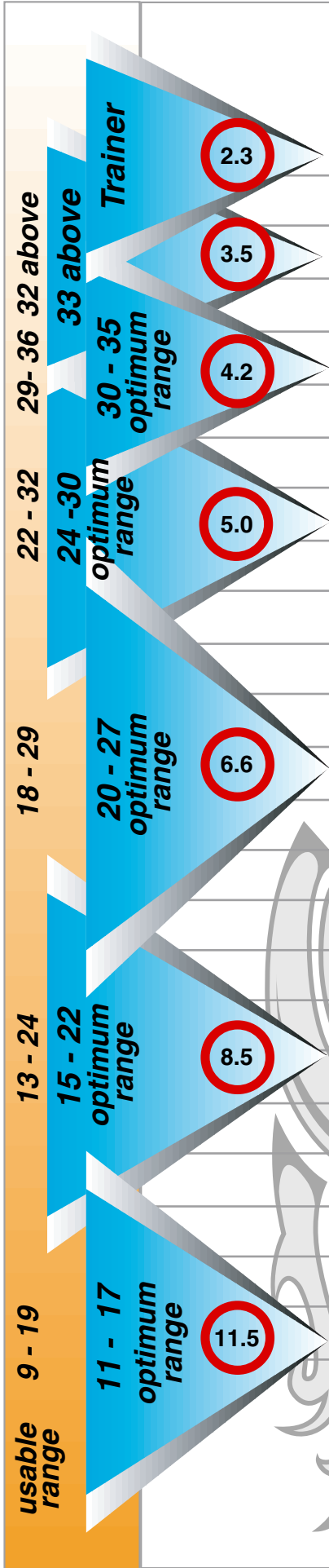


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These general guidelines are purely for reference only. Your ability, water conditions, and board size will also affect kite selection. The above ranges are based on a 155 lb person using a directional board. When choosing a kite size please use your personal experience and always refer to the riders on the water for a size reference.

KITE SIZE REFERENCE GUIDE:

The following guide will help you select the proper kite size for certain wind strengths.



KNOTS	M.P.H.	BEAUFORT	VISIBLE CONDITIONS
0	0	0	Calm sea. Smoke rises vertically.
1-3	1-3	1	Hint of wind. Ripples on the water. Smoke drifts in direction of the wind.
4-6	4-7	2	Light breeze. Small wavelets; crests have a glossy appearance and do not break.
7-10	8-12	3	Gentle breeze. Large wavelets, scattered whitecaps. Crests begin to break. Smoke-stacks start to bend horizontally.
11-16	13-18	4	Moderate breeze. Small waves, frequent whitecaps. Small branches move, dust raised.
17-21	19-24	5	Fresh breeze. Moderate waves, many whitecaps. Chance of some spray. Medium branches move, debris move about.
22-27	25-31	6	Strong breeze. Large waves, white foam, some spray. Large branches in motion. Wires whistle. Wind heard in trees.
28-33	32-38	7	Near gale. 6-10 foot seas, foam blown in streaks. Whole tree in motion. Difficult walking in the wind. Roar heard in the trees.
34-40	39-46	8	Gale/Fresh Gale. 8-12 foot seas. Foam everywhere. Dangerous to be out. Twigs break off trees.
41-47	47-54	9	Strong gale. 10-16 foot seas, dense streaks of foam, spray may restrict visibility. Crests of waves begin to tumble and roll over. Large branches break. Car rocked by wind.
48-55	55-63	10	Storm. Whole Gale. 12-18 foot seas. Sea appears white. Tumbling of sea becomes heavy and shock-like. Visibility compromised. Trees uprooted, roof shingles damaged. Car motion affected.



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