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Warning: Kiteboarding is Dangerous

- Always use extreme caution when using this product.
- Only use this product if you are in good physical health.
- Never act in a careless manner when using this product
- You are responsible for your own safety and the safety of others when using this product.



1. RELEASE OF LIABILITY

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By assembling and/or using this North Kite Product, you agree that you have read and understood the entire North Kiteboarding Product Owner's Manual, including all instructions and warnings contained in that Manual, prior to using the North Kiteboarding Product in any way. You additionally agree that you will ensure any additional or subsequent user of your North Kiteboarding Product will read and understand the entire North Kiteboarding Product Owner's Manual, including all instructions and warnings contained in that Manual, prior to allowing that person to use your North Kiteboarding Product.

ASSUMPTION OF RISK: Use of the North Kiteboarding Product and any of its components involve certain inherent risks, dangers, and hazards which can result in serious personal injury and death to both the user and to nonuser third parties. In using the North Kiteboarding Product, you freely agree to assume and accept any and all known and unknown risks of injury to you and to third parties while using this equipment. The risks inherent in this sport can be greatly reduced by abiding by the warning guidelines listed in this owner manual and by using common sense.

RELEASE AND WAIVER OF CLAIMS:

In consideration of the sale of the North Kiteboarding product to you, you hereby agree to the fullest extent permitted by law, as follows:

TO WAIVE ANY AND ALL CLAIMS

that you have or may in the future have against Boards & More and all related parties resulting from use of the North Kiteboarding Product and any of its components.

TO RELEASE Boards & More and all related parties from any and all liability for any loss, damage, injury or expense that you or any users of your North Kiteboarding Product may suffer, or that your next of kin may suffer, as a result of the use of the North Kiteboarding Product, due to any cause whatsoever, including negligence or breach of contract on the part of Boards & More and all related parties in the design or manufacture of the North Kiteboarding Product and any of its components.

In the event of your death or incapacity, all provisions contained herein shall be effective and binding upon your heirs, next of kin, executors, administrators, assigns, and representatives. Boards & More-related parties have not made and expressly deny any oral or written representations

other than what is set forth herein and the North Kite Product User's Manual.



2. SAFETY

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As active kites and wind fanatics we are convinced that kiteboarding is one of the most fascinating adventures in the world. Kiting is a sport that takes place within the interplay of the elements. This sport involves great risks and can possibly be very dangerous. Therefore it is of utmost importance to assess yourself and your kiteboarding abilities.

We strongly recommend the following:

- If you are not yet able to kite or if you feel insecure, do attend a licensed kiteboarding school to learn the basics of this fantastic sport.
- Get familiar with the safety precautions, which are indispensable for safe kiteboarding.
- Kiteboarding creates a heavy strain on your body. You should only go kiteboarding if you are in good physical condition and suffer from no medical conditions that may prevent you from kiting.
- No risk, no fun ... but: be careful when practicing this sport. Carefulness always pays, as you should be able to enjoy the wind even at a "mature" age.

Dangers when Kiteboarding

When kiting, the extreme powers of the elements may come into play. In rare cases, the kite or its lines may cause dangerous situations:

- The canopy can pull you into the air giving you involuntary "air time". When landing, there is a high risk of getting injured.
- When the kite gets out of control, you can collide with obstacles and objects on the water.
- In case of improper use, the canopy or its lines may get caught up with other people. Due to the enormous powers involved, this may lead to life-threatening situations.
- People who get caught in the lines of the kite may suffer from severe gashes or burns.
- Canopies coming down may injure onlookers.

Risks Caused by the Kiteboard:

- If you bang your head against the kiteboard, there is a risk of severe head injuries.
- Feet, ankles and legs may also be injured by the board
- Never use this kite as a flying object

This list of dangers cannot be complete. The basic rules for kiteboarding correspond to those of common sense and are to be applied to all (outdoor) sports:

- (1) Never put at risk the safety of onlookers in your surroundings.
- (2) Be aware of the risk you are taking and restrict this to a reasonable residual risk (according to your skills).

Threats to Onlookers

It is within your responsibility to check whether uninvolved people or other athletes may be endangered or injured by your actions or your gear. Spots where onlookers may be injured are taboo for responsible-minded kites!

- Only fly your canopy over unobstructed water.
- When kiting, do not fly over people or pets.
- Ensure that a semi-circle extending 100 meters downwind and to each side of your flying position is clear of people and obstructions.
- Use a kite leash that allows you to keep the kite under control.
- Avoid flying the kite in the vicinity of other water users such as swimmers, kayakers, (wind-)surfers and water-skiers as well as near boats.
- If not in use, inflated canopies must be secured with sand or heavy objects. A canopy filled with air can fly away at any time, thus it may injure people and in extreme cases even kill them.



Safety of the Kiteboarder

- Fly this kite only over unobstructed water. Never on land.
- Fly this kite only if you are a strong swimmer and are wearing a Coast Guard-approved PFD.
- Go no further from land than you're able to swim back in case of an emergency.
- Use only bars with a safety system that you can open in emergency situations.
- Use a quick-release kite leash with which you can unhook your body from the gear in case of an unforeseeable emergency.
- Avoid power lines, telephone poles, airports, streets, buildings and trees.
- If you use a board that is leashed to your body, wear a helmet!
- Take into account the usual risks associated with water sports such as rocks, waves, sunburn, hypothermia, jellyfish etc.

Threats through Kite Lines

- Never touch the kite lines when the kite is under wind load as these lines can become dangerously sharp when under tension.
- Never use kite lines with notches, cuts etc.. They must be changed.
- Use only lines that have no knots in them, as knots can weaken lines by as much as 50%.
- Do not touch the lines of the canopy, unless the kite has been secured to the

ground. An unsecured kite can relaunch unexpectedly, putting the lines dangerously under tension.
Never tie lines around your arms or other body parts!

Weather-related dangers

- Avoid offshore wind.
- Be careful with onshore wind.
- Get information on tidal and sea current conditions at your kiting spot!
- Get information from both the weather report and the locals on prevailing weather conditions.
- Never use the kite with wind forces so strong that you are unable to maintain precise control.

- Do not use the kite when wind conditions are likely to change dramatically.
 - Never use this kite when thunderstorms are nearby or when such storms have a good chance of developing (check the weather report!).
 - Leave the water immediately when a storm is approaching. You are in acute life-threatening danger since you may be struck by lightning!
- Mixing up the steering and flying lines is the most common mistake made when rigging the kite. It is for this reason that North Kiteboarding developed the "Kook-proof Attachment". This system only functions if the original North Kiteboarding 5th Element bar is used together with a North kite. Mixing up the lines becomes impossible; however, make sure that the flying lines are attached to the front of the kite.

BFT	M/S	KM/H	MPH	Knots	Designation
0	0 – 0,2	0 – 0,8	0 – 0,6	0 – 0,5	Calm
1	0,3 – 1,5	0,9 – 5,5	0,7 – 3,5	0,6 – 3,0	Light Air
2	1,6 – 3,3	5,6 – 12,1	3,6 – 7,5	3,1 – 6,5	Light Breeze
3	3,4 – 5,4	12,2 – 19,6	7,6 – 12,2	6,6 – 10,5	Gentle Breeze
4	5,5 – 7,9	19,7 – 28,5	12,3 – 17,8	10,6 – 15,5	Moderate Breeze
5	8,0 – 10,7	28,6 – 38,8	17,9 – 24,0	15,6 – 20,9	Fresh Breeze
6	10,8 – 13,8	38,9 – 49,8	24,1 – 31,0	21,0 – 26,9	Strong Breeze
7	13,9 – 17,1	49,9 – 61,7	31,1 – 38,3	27,0 – 33,3	Near Gale
8	17,2 – 20,7	61,8 – 74,6	38,4 – 46,4	33,4 – 40,3	Gale
9	20,8 – 24,4	74,7 – 88,0	46,5 – 54,7	40,4 – 47,5	Strong Gale
10	24,5 – 28,4	88,1 – 102,0	54,8 – 63,6	47,6 – 55,3	Storm
11	28,5 – 32,6	102,1 – 117,0	63,7 – 73,0	55,4 – 63,4	Violent Storm
12	32,7 +	117,1 +	73,1 +	63,5 +	Hurricane



3. RIGGING OF THE KITE

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Inflating the Canopy

1. Lay the kite out on an even surface (without hard or sharp objects), e.g. on sand, grass or a comparable surface. Although the kite is engineered to withstand the enormous stresses of flying, it can easily be damaged by rocks, thorns, wood and other hard objects.
2. Turn the kite with its front tube into the wind, so that the transverse tubes are pointing upwards.

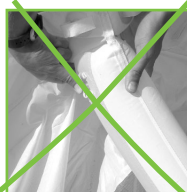


3. Place a weight, e.g. sand, gear bag etc. on the upwind end of the canopy.
4. Inflate the transverse ribs. Start with the middle transverse rib. Inflation involves the following steps:
 - a Grasp the valve with one hand and insert the pump tip into the valve with the other hand.
 - b Pump air into the bladder until it is firm.

c Pinch the valve with your fingers to prevent air from escaping, then remove the pump's tip from the valve. If the valve is pulled in while pumping, the air must be completely let out again. After letting out the air, you can pull the valve to the right position.



d Quickly close the cap on the air valve and fasten the Velcro fastening over the top. Do not push the valves into the bladder after inflating.



e Finally, inflate the leading edge bladder (front tube) until the correct pressure is reached, i.e. when there are no wrinkles in it.

Inflation Pressure

All Toro perform well with 6 psi of air pressure in the leading edges and 10 psi in the ribs.

Turning around and Securing the Kite on the Beach

If the kite is not in use, it must be secured on the beach. Turn the kite around. The leading edge must always point upwind and be secured by a sufficient weight. As a general rule, take rather more sand than less, because if the canopy flies away, it can become a dangerous flying object. If the front tube is pointing downwind, the canopy is pushed to the ground by the wind pressure in addition to its own weight. When turning the kite around, make sure that there are no sharp objects lying on the ground. With changing wind directions, the canopy should be turned into the prevailing wind direction.

4. ATTACHING THE LINES

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Mixing up the steering and flying lines is the most common mistake made when rigging the kite. It is for this reason that North Kiteboarding developed the "Kook-proof Attachment". This system only functions if the original North Kiteboarding 5th Element bar is used together with a North kite. Mixing up the lines becomes impossible; however, make sure that the flying lines are attached to the front of the kite.

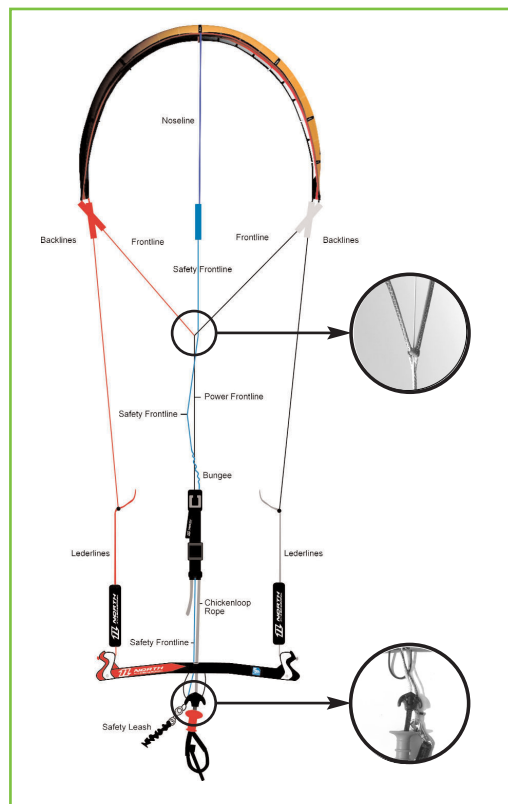


Make a lark's head knot with the loop at the end of the line and/or the canopy. Slip the lark's head knot over the knotted end at the corner of the kite or the lines. Pull the lark's head knot tight at the end. Then tie the blue center line to the string that is attached to the center of the front tube in the same way. Kites without a center line cannot be used in connection with the 5th Element bar.

Adjusting the line length has an impact on the performance of the kite. See chapter "Tuning and Response Rate".

Despite our recommendation that all lines be the same distance from the control bar, this however does not mean that, even if the lines are the same length, every kite is perfectly tuned for all kiteboarders and wind conditions. Every kiteboarder, every kite and all spot conditions differ from each other, thus the recommendations can only be guidelines.

The kiteboarder must adjust the length of the lines before every flight, but also during the flight, using the "North Flight Control System" (or comparable systems). E.g, Sit-harnesses require a longer basic depower setting than waist-harnesses.



5. KITE TUNING

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Attachment of the Flying Lines

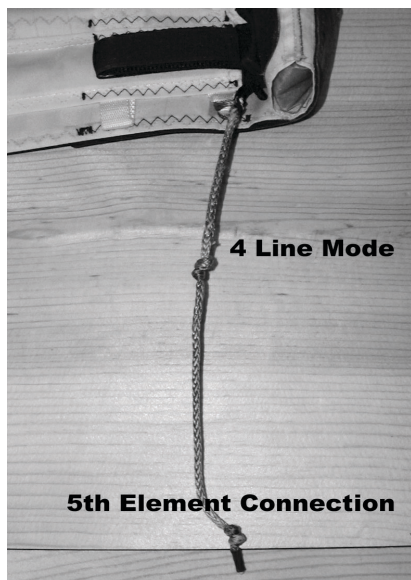
You have the choice to fly the Toro 05 in a **4 line mode** or with the **5th Element bar**.

Four-Line-Mode:

Attach the flying lines on the middle knot of the pigtails.

5th Element Bar:

Attach the flying lines on the last knot of the pigtails.



Response Rate

The speed at which a kite responds to control input – its response rate – varies with the amount of tension on the kite lines. The greater the tension, the quicker the response will be. The tension on the lines varies in turn with the size and skill of the boarder. For example, a kite used by a lightweight boarder in light wind will have low line tension and will respond relatively slowly, while the same kite used by a heavyweight boarder in strong wind will have high line tension and will turn quickly. This means that the construction and the design of the kite control the response rate only to some extent and that there is no canopy that suits boarders of all different weights and skill levels.

The response rate of the canopy can also be varied by the two different width adjustments of the bar. With a wide bar, the canopy reacts and turns faster than with a narrow bar adjustment. North Kiteboarding recommends flying the 18 and 20m² using the wide adjustment and using the smaller Rhinos (sizes 9m² to 16m²) with the narrower adjustment.

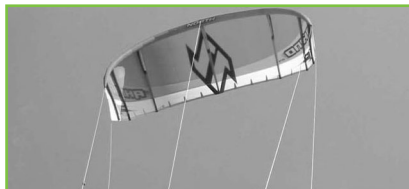


The kite is equipped with several attachment points and can thus be tuned in terms of its turning ability and depowering qualities. The hare symbol stands for a fast turning canopy whereas the tortoise indicates a slower turning of the kite. The designation "Max." and/or "Min. Power" characterize the depowering qualities of the canopy which can be trimmed by means of the front attachment points.

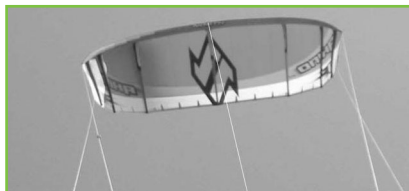
6. KITE CARE

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In order to trim the kite quickly, please turn to the illustrations below. These show an optimally trimmed kite



and over-taut adjustment.



General Remarks and Tips

- Avoid bringing the kite into contact with sharp-edged rocks, thorns, wood and other objects that may damage, puncture or tear the cloth.
- It often happens that the canopy is damaged in a way that is not obvious until the kite fails while flying. Careless handling on the ground usually causes such damages; for example, when a rock is placed on the canopy to secure the kite stays in place.
- The sun is one of the worst enemies of every canopy. Thus, keep your kite out of intensive sunrays as much as possible.
- Deflate the bladders if the kite is to be left unattended for any length of time.
- If your kite lies trimmed on the beach, small wind movements may quickly cause wear and tear to the cloth. Thus, pack up the canopy as soon as you do not want to use the kite anymore.
- Try to pack the kite into the kite-bag with as few wrinkles as possible avoiding creases that may damage the cloth material.
- To carry a kite, turn it so that the leading edge is upwind and the underside faces upward. Grab the center of the leading edge tube. If the wind is blowing, it will hold the kite clear off the ground. Be sure not to drag the tips of the kite across the ground.
- A coating that results from using the kite in salt water will not damage the kite. However, rinsing in fresh water and drying can't hurt.
- Let the kite dry away from sun and wind.
- Failure to dry the kite after use, or rinsing in fresh water can cause mildew, which is unsightly but will not affect the performance of the canopy.
- Be sure to prevent water, dirt and sand from entering the bladders when using or rinsing the kite.
- Failure to dry the kite after use or rinsing can cause bleeding of dye from one panel of cloth to another. Such bleeding is not covered under the North warranty.
- Keep sand and water out of the air pump.
- **Make sure to remove the deflators from the valves after use!**



7. REPAIR OF THE BLADDERS

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- Lay the kite out flat with the ribs facing up. Loose lines should be removed and all the ribs deflated.
- Tie a "reinstall" line to the bladders. You will need to use this line to pull the bladder back into the tube after the repair has been completed. If you are repairing the air bladders of a transverse tube, the line should be tied to the rope at the end of the rip between the fusion rip joint and the canopy.



The line should be about one meter longer than the rib. If you are repairing a leading edge bladder, a line should be tied to each end of the bladder. Each line should extend one meter more than the distance from kite tip to center.

- Push the air valve entirely into the rib.
- If you're repairing the leading edge bladder, open the Velcro strap near the middle of the leading edge and pull the bladder out, first one side, then the other. If you're repairing a transverse tube, pull the bladder out of the rib from the back.

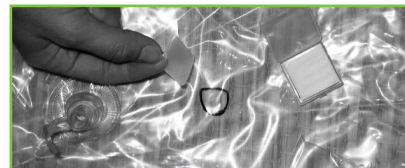


- Our tip: It's best if someone helps you by holding one end of the leading edge or rib, thus ensuring that the bladder comes out of the tube smoothly.
- When the bladder has been removed from the kite, the reinstall line should pass through the tube and extend from each end.
- Inflate the bladder and wipe it with a sponge soaked in soapy water. Alternatively, submerge portions of the bladder in a tub of water. Air bubbles indicate holes. Small leaks can be hard to



find, so be sure to press the tube with your hands.

- If you discover holes, dry and clean the bladder with a towel, mark the hole (using a permanent black marker) and deflate the bladder again.
- Use the sandpaper enclosed in the repair kit, lightly roughen the area to be repaired.
- Cut a round patch out of the enclosed tube material.
- Spread the patch and the damaged spot with a thin layer of contact glue. Follow the instructions indicated on the contact glue tube and let both sides begin to dry. The first pressure exerted is the deciding factor for successful repairing.
- For small damages: Peel the backing off the repair patch and press it on the bladder to cover the hole.
- Close the valve and put the dry bladder in a plastic bag with a sufficient amount of talcum or baby powder.



8. SELF RESCUE

- Close the bag and shake it until the talcum powder completely covers the bladder.
- Before you begin the reinsertion process, fold the bladder like an accordion, with the air valve pointing to the valve opening.



- Have your assistant pull the feed line so that the bladder can be re-inserted into the rib. While he/she is doing this, you should keep tension on the rib and make sure the bladder is inserted properly and that it is not twisted.
- Once the bladder has been inserted completely into the rib, make sure that the air valve is properly exposed through the valve opening.
- Inflate the bladder until it is half full with air. Check to make sure that the bladder has been inserted correctly and that there are no folds in the bladder material. If you detect a crimp in the bladder, or if the air valve appears misaligned, stop and re-insert the bladder. Note! Failure to correct the problem at this point can cause severe damage to the bladder when it is fully inflated.

- Roll the excess bladder material into the tip of the rib and reconnect the Velcro strap under the safety loop.

If you have to rescue yourself under side or on-shore conditions, you may use the “Self Rescue Drag Handles” which are attached to the inner side of the wingtips. These loops enormously facilitate holding the kite during the body-drag in the direction of the beach.



If you must rescue yourself by paddling, for any reason whatsoever, use the safety system and let the kite come to a stop by itself. Then wind up the lines on the winches. Following this, turn the kite around, the way you carry the canopy on the beach, and grasp the kite with your feet. Lie down on the board and paddle with your hands.

Never (!) deflate the bladder while you are in the water since it can help to rescue you, as the canopy is clearly visible from the air. **Never release the safety leash as long as you are in the water!**



9. WINDRANGE AND KITE SIZES

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All Rhino- and Vegas kites are powered jumping kites designed for the expert kiteboarder who knows all the tricks of safe kiteboarding and who has considerable skill at water relaunch.

All Toro kites are superbly easy to water relaunch and offer easy, predictable performance.

Only about 8 knots of wind speed is required to fly any of these kites. However, kiteboarding generally requires more wind, depending not only on rider ability but also on the size of kite, rider and board.

The following table demonstrates the APPROXIMATE average wind speeds in which kites of different sizes can be used by 175-lb. (80-kilo) kiteboarders of various skill levels. Riders who are significantly heavier or lighter (25 pounds, or 11 kilos) should use, for a given wind speed range, kites that are one size bigger or smaller respectively.

No kiteboarder should take these numbers as a recommendation. They represent a rough guide only. Keep in mind that kiteboarding is a dangerous sport in any circumstance and that using any kite in any wind strength can result in serious injury or death.

- A novice has flown small trainer kites but has no experience with large kiteboarding kites.

- An intermediate rider can stay upwind while kiteboarding

- An advanced rider can jump consistently and safely, without injury.

- An expert rider can perform aerial spins and flips while maintaining a safe level of kite control.

- These wind strength numbers do not represent gusts and lulls, but only average wind speeds at a height of 2 meters from the surface of the water in typical sea level atmospheric conditions.

Kite Size Information

There are several ways of measuring a kite and even more ways of indicating kite size. This can be confusing. To be clear, North kites are named according to their actual surface area. For example, if you have a sheet of paper that measures ten cm wide by ten cm long, the area of this sheet of paper is 100 square cm. Each panel of fabric in the canopy of a North kite is precisely measured in this way, and the sum of the areas of all these panels is listed as the size of the kite. Note: Surface area (or size) doesn't necessarily indicate power.

Size	Int/Advanced	Expert	AR	Projected area	Patent Area
	<i>knots</i>	<i>knots</i>		<i>m²</i>	<i>m²</i>
9	18-27	18-30	5,4	5,0	6,6
10	16-25	16-27	5,4	5,6	7,4
12	14-21	14-23	5,3	6,7	8,8
14	12-19	12-20	5,3	7,8	10,3
16	10-17	10-18	5,3	9,0	11,8
18	na	9-17	5,3	10,1	13,2
20	na	8-16	5,3	11,2	14,7



10. TIPS AND TRICKS FOR THE 5th ELEMENT BAR

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5th-Element Noseline Attachments

If you are flying the Vegas 05 with the 5th element bar you will have two choices of power settings when connecting the extra nose line:

Attach the safety line at the higher knot for maximum depower.

Attach the safety line at the lower knot for maximum power.



Maximum Depower ->

- Maximum high end
- Strong wind conditions
- Lighter riders

Maximum Power ->

- Maximum low end
- Light wind conditions
- Heavier riders

Safety Functions With the 5th Element Bar

Whether you ride unhooked, spin or try a water relaunch for the first time, the 5th Element bar allows you to perform all maneuvers, even the latest moves, with full safety functions. As soon as you pull the QuickRelease, the bar slips up along the safety line. The kite is then completely depowered and comes down without twisting the lines.

Waterstart with the 5th Element

When the kite lies on the water after you let go of the bar or after a crash, the 5th Element bar permits you to relaunch your kite without swimming. Simply pull on one side of the bar and slowly release the center line. The harder you pull the bar, the faster the kite will relaunch. Don't forget that this implies that the kite will launch closer to the center of the wind window and get more power the harder you pull. With a moderate pull the kite will move about the edge of the wind window and you can relaunch it there as usual without power.

CAUTION: MAKE SURE THAT YOU ARE NOT CAUGHT IN ANY LINES BEFORE RELAUNCHING YOUR KITE!



11. WARRANTY POLICY

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North Kiteboarding warrants this product to be free of major defects in material or workmanship to the original purchaser, for a period of six (6) months from the date of purchase. This warranty is subject to the following limitations:

The warranty is valid only when the product is used for KITEBOARDING ON WATER, and does not cover products used in rental or teaching operations.

North Kiteboarding will make the final warranty determination, which may require inspection and/or photos of the equipment, which clearly show the defect(s). If necessary, this information must be sent to the North Kiteboarding distributor in your country, postage pre-paid.

If a product is deemed to be defective by North Kiteboarding, the warranty covers the repair or replacement of the defective product only. North Kiteboarding will not be responsible for any costs, losses, or damages incurred as a result of loss of use of this product. This warranty does not cover damage caused by misuse, abuse, neglect or normal wear and tear including, but not limited to, punctures, rigging with other than North Kiteboarding components, damage due to excessive sun exposure, or damage due to over

inflation of the bladders, damage caused by improper handling and storage, damage caused by use in waves or shore break, and damage caused by anything other than defects in material and workmanship.

This warranty is voided if any unauthorized repair, change or modification has been made to any part of the equipment.

The warranty for any repaired or replaced equipment is good from the date of original purchase only.

The original purchase receipt must accompany all warranty claims. The name of the retailer and date of purchase must be clear and legible.

There are no warranties, which extend beyond the warranty specified herein.

Warranty Claims

Warranty claims must be processed and be issued a return authorization prior to shipping to North. Please call or write for claims processing to the **national North Kiteboarding distributor**.



