

# ARC<sup>®</sup>

## USER MANUAL



Congratulations on purchasing a Peter Lynn Arc, the new form of traction kite technology for kitesurfing and kitesailing, but also very useful for buggying and other power kiting activities.

Their basic form is a twin skin, self inflating parafoil style kite without bridles, the flying lines being attached directly and only to the wing tips.

PETER LYNN

# INTRODUCTION

THIS NEW TWIN SKIN TRACTION KITE FROM PETER LYNN IS RADICALLY DIFFERENT FROM ANY PREVIOUS KITE DESIGN. IT IS IMPORTANT THAT YOU GO THROUGH THIS WHOLE MANUAL CAREFULLY IN ORDER TO UNDERSTAND AND APPRECIATE THE KITE'S DESIGN, PRE-FLIGHT SET-UP, TECHNIQUE OF FLYING, AND ITS POTENTIALLY DANGEROUS AMOUNT OF SPEED AND POWER. WE ALSO ADVISE YOU TO WATCH THE ARC INSTRUCTIONAL VIDEO TO GIVE A CLEARER UNDERSTANDING OF SOME OF THE ISSUES MENTIONED IN THIS MANUAL.

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- [8] C-Line Flying Line set 330kg, 2 x 30m\*
- [9] Peter Lynn Harness Line\*

\* Only with an Arc R2F (ready-to-fly)

# SETUP

## WINGTIP SPARS

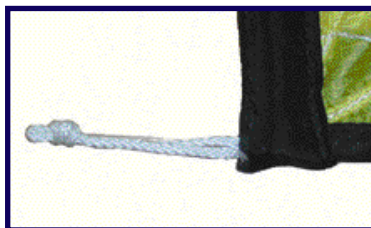
Your Arc is supplied with two carbon spars that need to be inserted into the black webbing sleeves that are located at each wingtip. You will find the opening underneath the white Velcro 'flap'. The spar fit is fairly 'tight' you might need a small spoonlike instrument to squeeze the end in. The Velcro flap can then be folded in as well for extra security against spontaneous popping out of the spar.



## LINE ATTACHMENTS

(standard arc only)

The little loops on the tips of your Arc need to make overhand knots. On these loops you will be connecting your steering lines.



## PETER LYNN DEPOWER SET

When using the Peter Lynn depower set, stick the extra piece of velcro supplied with the depower set on the bar exactly in the centre. This piece of velcro makes sure that your depower set does not slide from side to side over your controlbar.



## FLYING LINES

	Powerkiting	Buggying	Kitesurfing
Top Lines	220 kg	220 kg	330 kg
Rear lines	170 kg	170 kg	220/330 kg
Line length	20 - 40 meters		

When using the lines for the first time, always check if they are equal and adjust if needed. The top lines should usually be around 20 centimeters shorter than the brake lines. Since the depower set is 20 centimeters shorter than the leader lines on the outer ends of your bar, your lines should be around equal length.

# CONTROL BAR

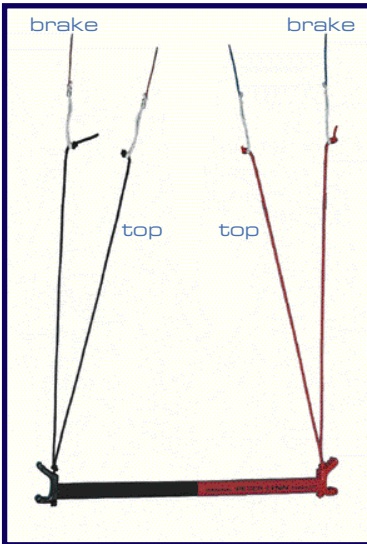
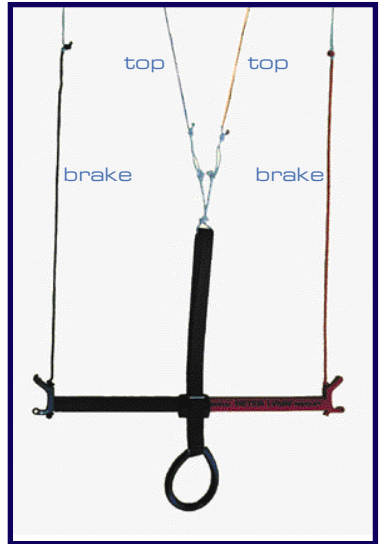
## FLYING LINE SET UP

Arcs are flown best with a controlbar, it gives the rider the possibility to easily control the power and speed of your kite. These are some setups which can be used:



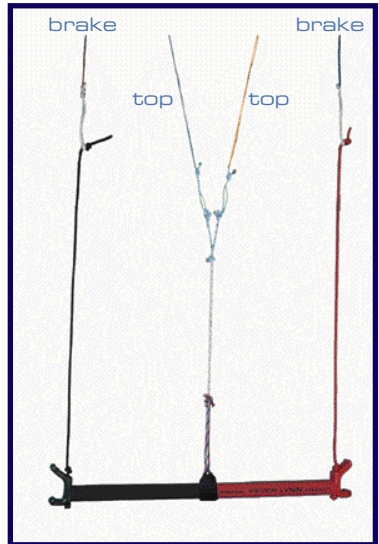
This setup is the most common. It gives you the possibility to easily control the power and speed of your kite.

When the depower loop is hooked into the harness, pushing the bar away will speed up the kite and reduce power, pulling the bar towards the harness will increase power and slow the kite down.



The brake lines are connected to the kite as usual but the top lines cross to the opposite side. So the top line connected to the left side of the bar is connected to the right side of the kite and vice versa.

The kite now turns faster but steering is a bit heavier.



This is a setup for beginners or other people who do not want to use a depower system. By adding an adjuster to the line in the center of the bar, you can set your kite exactly as you like it.

# BEFORE LAUNCH

## PRE-INFLATION

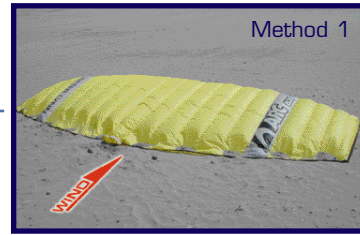
Before launching your Arc, you need to fill the kite with air. *Pre-inflate as much as possible*, for an easier and safer launch.

### Arc with Velcro seal/flap

*Method 1:* Place small heaps of sand on the trailing edge and lie your kite down with its trailing edge towards the wind. Let the air flow in through the flap in the center of the trailing edge (as shown on the right). Make sure the sand does not lie on the profiles, this will stop the air from flowing to the tips.

*Method 2:* Stand on one wingtip and hold the other above your head (be carefull not to stand on the stick). Let the air flow in through the valves along the leading edge. (as shown on the right)

*Method 3:* Hold one tip and let a helper grab the other tip. Hold the kite in the wind so the air can flow in through the valves along the leading edge.



### Arc with Zipper

*Method 1:* Place some sand on one tip and let the other tip flap in the wind. Open the zipper located in the center of the lower skin and let the air flow in.

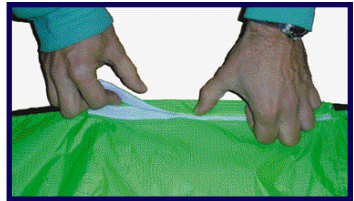
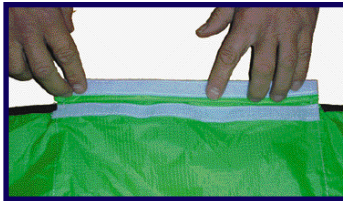
*Method 2:* Same as mentioned above, hold one tip and let a helper grab the other tip. Hold the kite in the wind so the air can flow in through the valves along the leading edge.

In very light winds an electric blower can speed up the process. (available at your Peter Lynn dealer)

## VELCRO SEAL/FLAP / ZIPPER

*Velcro seal/flap:* To prevent air leakage during flight the flap located in the middle of the trailing edge needs to be tightly folded and closed with the Velcro seal as shown in the pictures

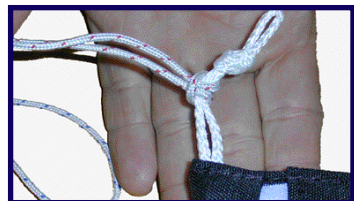
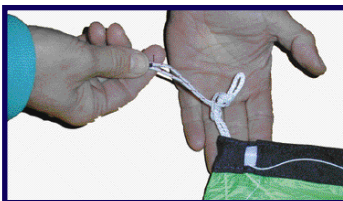
*Zipper:* Close the zipper all the way up to the end so no air can escape.



## LINE ATTACHEMENTS

Before connecting your lines to the kite, you have to make sure your lines are free of tangles and knots. Attach each of the four flying lines with a 'Larkshead' knot (as shown) on the loops with the overhand knots at the wingtips.

The thicker lines are the top lines (330 kg) and the thinner lines are the brake lines (220 kg).

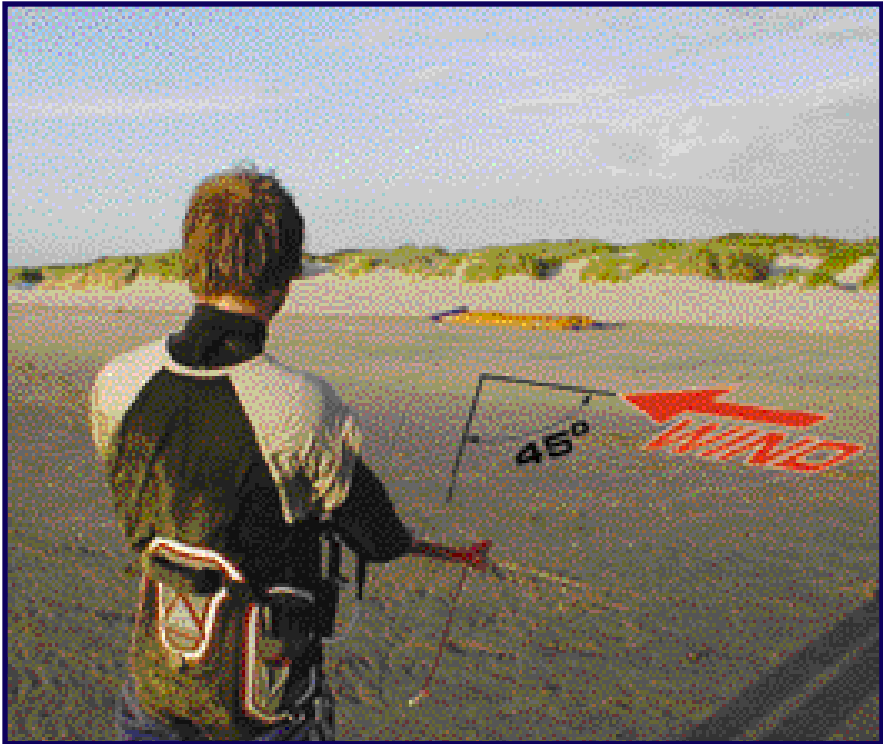


# LAUNCHING

## **LAUNCHING**

To launch your Arc lay it down with some sand on one tip. The area should be clear of other people, powerlines, airports, roads and railroads. Also check that there aren't any sharp objects near the kite, as it may slide a little bit over the sand during launch.

Make sure there is enough pre-inflation inside the kite. Failure to do so will result in the kite to collapse during take off. Make sure you stand at the correct position so your lines are at a 45 degree angle to the wind direction. (as shown below)



# LAUNCHING




1. Make sure the kite is ready for take-off: lines free of tangles, area clear of people. Fold the tip over and place some sand on top as shown.

2. Make sure the far top line lies over the kite and slowly pull the tip up.

3. Slowly let the tip come up further. Do not run back, slowly let it come up, and keep your rear lines tensioned to avoid collapsing.

4. Once the kite is off the ground keep the rear lines slightly tensioned until it has filled up with air. Let the kite slowly fly up to the zenith.

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- Make sure the area is free of obstacles like poles or cars, make sure the area is free of people or other kites. Do not fly your kite near powerlines, airports, highways, or in thunderstorms.
  - Make sure the ground is free of sharp objects to prevent the fabric from damaging.
  - **The Arc can collapse during the launch when it is not completely filled up with air.**
    - **Keep the rear lines tensioned until the kite is completely filled up.**
    - **Pre-inflate the kite properly. The more you pre-inflate the easier the launch.**
  - Do not launch while hooked into a harness.
  - When in doubt of the wind strength, try a smaller kite first.
  - Check your lines properly, make sure they are free of twists and tangles.

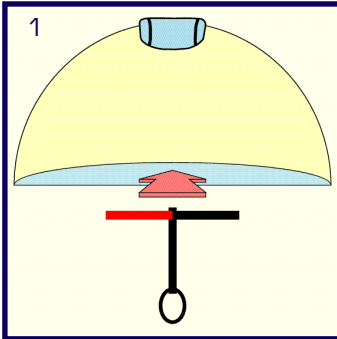
## LANDING

To land your Arc:

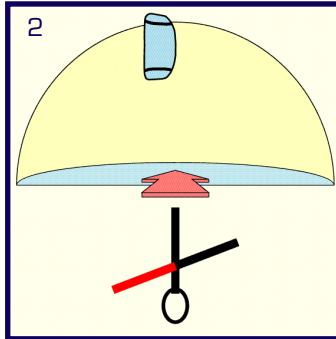
Fly your kite all the way to the edge of the wind window, and slowly steer it down to the ground. An assistant can then grab the spar closest to the ground and after releasing the tension on your lines the Arc flaps in the wind. If you do not have an assistant, activate your safety system when your kite is close to the ground. More about safety systems later on in this booklet.

# FLYING TECHNIQUES

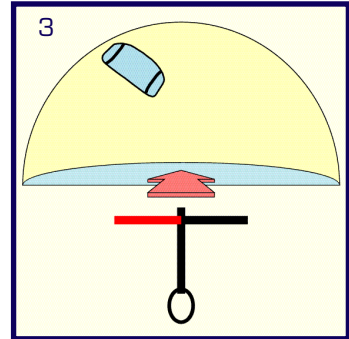
## SURFING - STARTING OFF



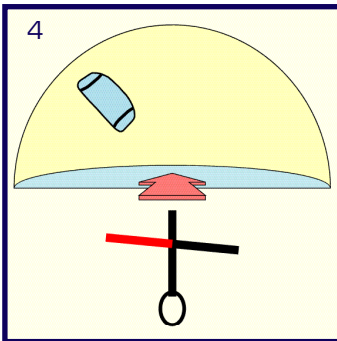
1 Start off with the kite straight above your head. Place your board on your feet ready to surf to the left direction.



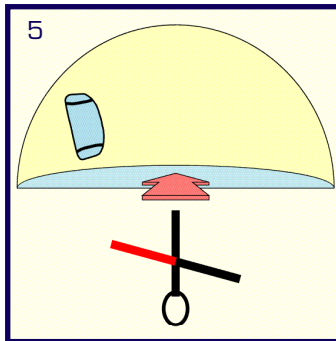
2 Pull the left side of the bar towards you. For faster steering, the whole bar can be pulled towards the body. Let the kite turn anticlockwise for about 135 degrees.



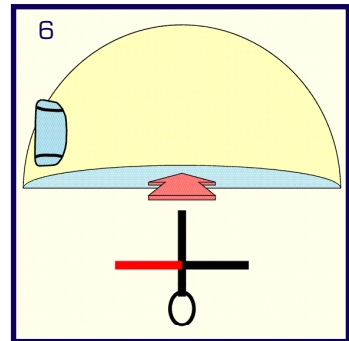
3 Now let the kite fly straight. Push the bar away from the body to speed up the kite.



4 You should now be pulled out of the water. Pull the bar *slowly* towards the body for more power. Pull a bit more on the right side of the bar for a slow clockwise turn.



5 When the kite gets closer to the water pull the right side of the control bar a bit more for a faster turn.



6 When the kite is at the edge of the window keep the control bar pulled towards the body for a constant pull.



- Keep the speed in your kite, this is very important when flying Arcs.
  - Do not make very tight turns as it will slow down the kite
  - When the kite flies straight, push the bar away from the body to speed the kite up faster.
- To make tighter turns, pull the bar a bit more towards the body when steering.
- Do not jerk the bar towards the body, always pull the bar towards the body smoothly.
- Slowly bring back the kite straight above your head when things get out of hand. We would not recommend you to steer the kite on the water.
- Do not fly your kite straight through the center of the wind window.



# ***FLYING TECHNIQUES***

## **TOP-BRAKE LINE ADJUSTMENTS**

Adjusting your lines is very important. Some people prefer to fly with loose brake lines, some people prefer to fly their Arc with tighter brake lines. The best method is to fly your Arc and try a few different settings. These are some guidelines that might help:

- If the Arc flies slow and stalls frequently, your brake lines are too tight. Loosen your brake lines.
- If the Arc flies fast and steers very slow, your brake lines are too loose.

When an Arc stalls, reach forward and jerk the top lines until the kite gets moving.

## **STABILITY**

Arcs are very stable. Luffing is almost impossible. If the Arc collapses, check on two main things:

- Trailing edge flap open: If the Velcro seal of the deflation flap becomes undone, air will leak and the Arc will collapse easily. It should be very obvious if this happens.
- Damage: If little holes appear in the fabric, air can leak out. Small holes can be repaired with special tape, larger holes should be repaired properly.

## **INVERTING**

Very occasionally when an Arc overflies completely and then drifts back it may invert (top becomes bottom AND left becomes right!). The Arc will fly inverted. Land the kite nose down, allow it to roll over and then you can relaunch the kite.

## **PACKING**

When you wish to stop using your kite, roll in the lines on your controlbar. When you are using more Arcs with this controlbar take the lines off the kite. If you only use the controlbar for this kite, leave the lines attached to the kite, this prevents line tangles.

Open Velcro seal, at the trailing edge (=at the rear of the kites). Fold the Arc tip to tip and roll up, squeezing the air out and finishing at the centre.

When the kite is still wet after usage, make sure it is dry before storing it. Make sure you store your kite in the specially designed Arc bag, to make sure the kite is not damaged while not in use.

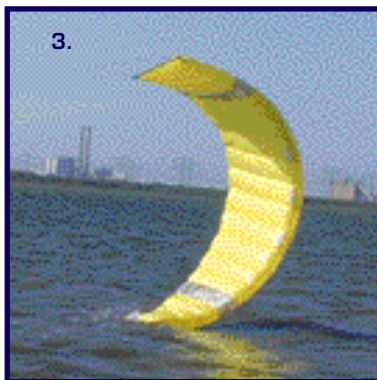
# WATER RELAUNCH

## KITE ON ITS LEADING EDGE



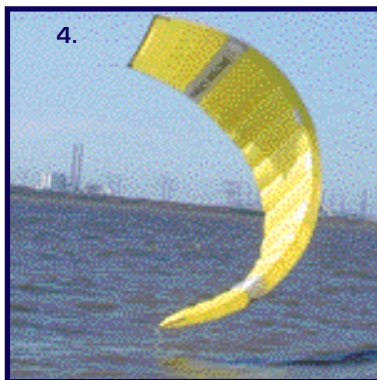
1. The kite lands with its leading edge on the water. Pull on the brake lines. Maybe you need to grab the leader lines and pull on those so the kite will reverse off the water.

2. The kite slowly comes off the water flying backwards. Let it fly up a bit...



3. ...and suddenly make a very sharp turn to one side. (in this steer the kite to the left) Keep steering the kite...

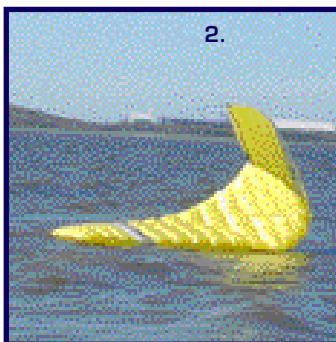
4. ...so it comes off the water.



## TIP ON TIP



1. The kite lies on the water tip on tip.



2. Pull the top line of the tip that lies on the bottom. The kite will open up, and now steer the kite off the water (in this case steer to the right).



3. The kite will regain its shape and fly off.

After a water relaunch fly the kite up the zenith. If water has seeped into the kite, keep the kite above your head till the water has dribbled out through the small water valves at the tips. Then continue surfing.

# ***IMPORTANT INFO***

## **SAFETY PRECAUTIONS**

### Safe Location:

- stay away from power lines, roads, airfields, railway lines
- never launch your kite on crowded beaches
- do not fly over bystanders
- make sure there is a 'clear' downwind area at least three times the distance of your flying line length

### Safe weather conditions:

- never fly kites in thunderstorms, lightning or gusty/stormy winds
- do not go kitesurfing in offshore winds

### Safe kitesurfing:

- we strongly recommend the use of helmet and floatation device. also a safety knife to cut flying lines in case of emergency is recommendable.
- do not kitesurf in spots already in use by swimmers, surfers or windsurfers
- stay safely away from other watercraft and shipping lanes.
- never go further out to sea than you can safely swim back
- always make sure there is a capable person on shore that knows keeping watch and ready to provide (or call for) help in case of an emergency.
- powerkites are no toy's, they should not be flown by inexperienced persons and certainly not by children.
- learn to fly kites with smaller models and start in light winds.
- never use kites for paragliding or parachuting.
- never use the arc or any other type of kite or kite accessory for jumping off high places or any other manlifting activity

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## **MORE ABOUT PETER LYNN PRODUCTS**

There is a whole range of products available from Peter Lynn. Kitesurfing kites and accessories, buggies and buggy accessoires, kites for buggying and other traction activities, and a whole range of accessories for power kiting.

For more info on these products or any other questions, please visit:  
<http://www.peterlynnkiteboarding.com/>