

POWER KITE MANUAL

Tips on choosing, flying and
maintenance of your power kite



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Enthusiasts have used kites for many years, to drag themselves over all sorts of surfaces.

Over the years kites have been developed and perfected for this purpose. This range of kites are commonly known as Parafoils. They contain no spars and are therefore very light in relation to their size. They are used for Buggyng, Sand Skiing and Landboarding.



Safety Tips when Flying A Power Kite

1. When venturing into power kiting you should already have a very good idea of how to fly a kite before getting onto anything that moves. You need to be able to fly the kite without watching it.
2. Use common sense when dealing with these kites, they are big and very powerful and can be potentially very dangerous.
3. Never hold onto the lines when under tension or try to launch the kite holding onto the flying lines.
4. Keep your kite and line away from bystanders, lines under tension can cut or burn.

5. Never fly near:

- Power lines
- Roads
- Airfields
- Railway lines
- Poles or fences
- People and animals
- Thunderstorms

6. Always make sure that you have enough space around you. When launching power kites in strong winds they can pull you forward or even drag you off your feet.

7. Never underestimate the power of your kite or that of the wind. Try to fly in winds that you feel comfortable in. Be aware of your limitations and never try to exceed them.

Equipment Commonly Used with A Power Kite**Power Kites**

Power kites or parafoils are designed for traction.

They come in a wide range of sizes. Your weight, the wind you intend to fly in and the type of power you need to generate will dictate the size of kite you need.

Power kites have either two lines or four lines. The two line variety give the truest pull. The four line kites require a different technique to fly, the additional two lines act as brakes.

The most commonly used kites are the two line variety.

**Buggies**

These usually have 3 wheels with a sling seat that is set very low to keep your centre of gravity low.

Made with a stainless steel frame and inflatable tyres.



Sand Skis

There are a lot of different types of sand skis. Generally they look like snow skis but with a shorter ski.

The foot attachments can either be in the form of boots or slip in straps.

The ski itself is either made of a highly varnished hard wood or composite resin.



Land Boards

These look like really big skateboards.

They have large inflatable wheels.

The boards are usually made of laminated wood and carbon composites that are very flexible and durable.



Accessories - Helmets

A helmet is always a good idea especially when learning.



Accessories - Harness

Land harness with quick release is both a comfort and safety issue.

It has a quick release mechanism for instant disconnection from the kite in an emergency situation and is designed to remove the strain from your lower back and place the center of pull closer to your own center of gravity.



Accessories - Pads

When land boarding or sand skiing, elbow and knee guards are essential.



Choosing the Flying Area

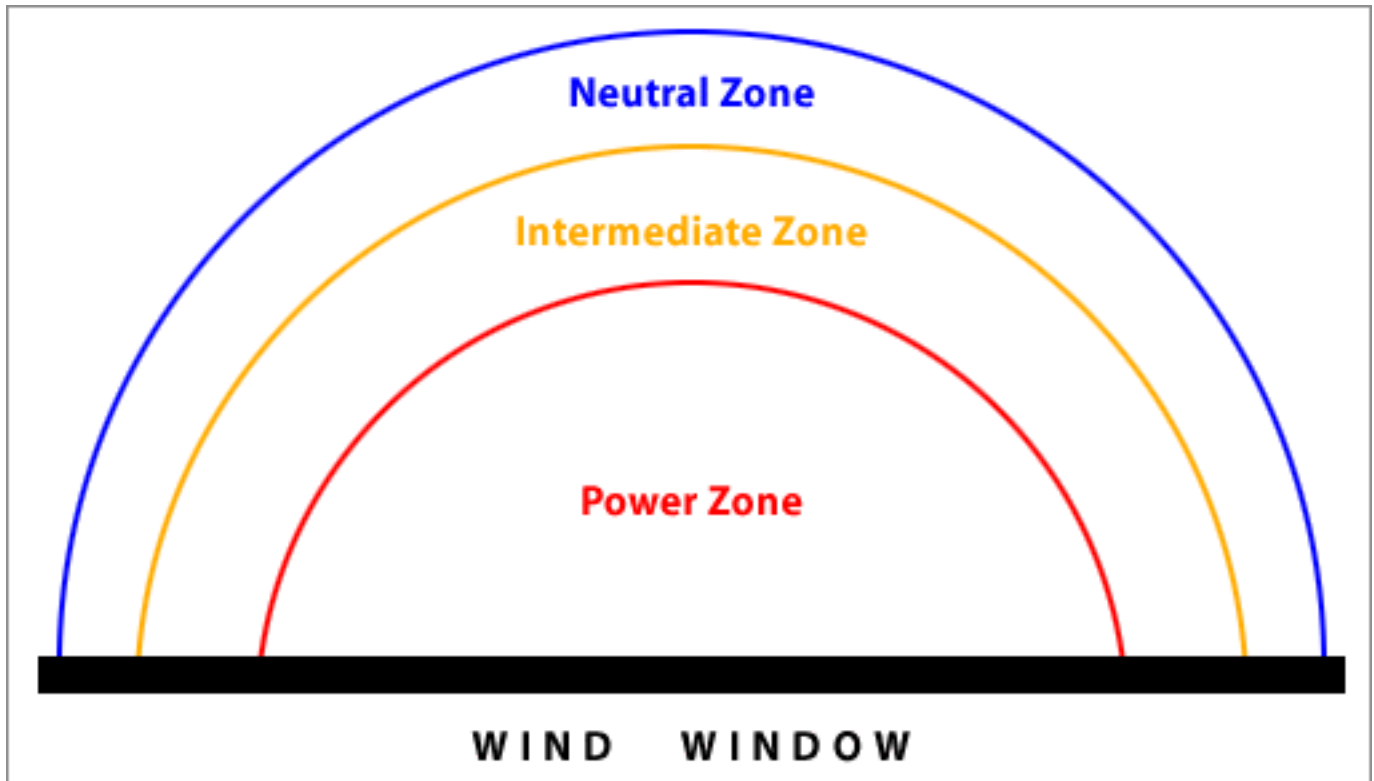
Now for your first flight!

Requirements:

- Choose your flying area carefully.
- The kite lines are 40m (130ft) long, so make sure you have at least 80m (260ft, or 85yds) radius safe flying area.
- Make sure that the area downwind is clear of rocks and other solid objects - impact at high speed can cause injury.
- If you are flying on hard ground wear suitable shoes.

The wind window is that space in which your kite will remain airborne, the window is a half hemisphere in front and above the flier, with a radius equal to the length of your flying line.

With your back to the wind, the area directly down wind from you and about just above the ground is where you will get the strongest pull, this is known as the **power zone**. This is also the best place to launch your kite especially in light wind.



Hot Tip: In strong wind and with larger kites it may be better to launch towards the edge of the window where the initial power surge will be lessened and you reduce the risk of being dragged across the ground. The space directly to your right and left and extending directly over head in an arc is known as the **neutral zone**.

There are two factors that affect the size of your wind window. The first and most critical is wind speed, if you are flying in a strong wind the window will expand in comparison to a light wind where the window will shrink. The second will be the length of your lines, the longer your lines the greater your wind window will be. Longer lines also make maneuvers less precise.

Kite Bugging

- For your first venture out choose a suitable spot, a good open space with no hidden depressions in the ground or rocky outcrops.
- Prepare your gear and make sure that everything is in perfect working order.
- Wear the right clothes. If you are flying facing the sun a pair of sunglasses is a must. If you are on a field, wearing trousers could prevent nasty grass burns. When learning a helmet is also a good idea.

- Launch your kite and take it overhead into the neutral position.
- Fly your kite a bit from side to side get a feel for the pull and even let it pull you a little.
- When flying a kite with a buggy keep in mind that you will fly the kite on one side of you while you steer the buggy across the face of the wind (like sailing or wind surfing).
- Now get into your buggy and slowly put your kite into the edge of the power zone. Be prepared for your buggy to slip a little while you and your kite settle.
- Keep an eye out for any unforeseen obstacles.
- As you gain confidence you can bring the kite lower and more into the power zone, this will cause you to gain speed so be prepared!
- As you gain speed you will find that you and the back of the buggy will start to be pulled sideways. You need to counter-steer the buggy to avoid veering off track.
- Be careful when you cross from a dry patch to a wet/slippery patch as this will cause the buggy to slip sideways.
- Skidding out is a useful way to slow down and can be used as a kind of brake.
- Another way to stop is to do a wide skid. This is done by doing a quick, left-right maneuver with your foot pegs or right-left depending on which direction you are going. Then counter steer to avoid going into a spin and take your kite overhead into the neutral zone.
- One can simply take the kite overhead into the neutral zone but be careful doing this. If it means going through the power zone your kite will power up and pluck you out of the buggy. The best method would be to get the kite to the extreme edge of the wind and edge it upward from this position.
- In order to turn you will have to learn to gybe! To do this, do a wide skid as described above and bring your kite up. As you slow down, turn as sharply as possible as you lower your kite back into the power. The main key to doing this successfully is to synchronise the turn of the buggy and the kite motion.



Kite Landboarding - Surfing the Earth

The same safety and set up systems apply as for buggying. If you have some skateboarding experience this will be to your advantage.

- You can learn the basics of controlling your land board by simply standing on it and using it as a skateboard. This will help you figure out which foot is your front or riding foot.
- Try doing runs on your board down slopes to get used to the speed and how sensitive the boards' suspensions are. As well as how to control the motion by shifting your weight.
- Once you are comfortable with the board you are now ready to try it together with your kite.
- Set up your kite, launch it and get it into the neutral position. Put both feet into the board straps keep the board aimed across the face of the wind, then very slowly dip the kite into the power zone.
- Keep the kite high at first as too much power will just pop you off the board.
- Keep your knees bent and lean back against the pull of the kite. Keep the kite in a tight figure of 8 pattern to keep the pull continuous.
- Keeping the kite low and in the power zone will generate a lot of traction and you will get to incredible speeds. To slow down use the same principles as for buggying i.e. allow the back to skid out at the same time bringing the kite overhead.



Kite Sand Skiing

The major difference between sand skiing and buggying or landboarding is that you use the kite to pull you directly down wind. Whereas with buggying and landboarding you move across the face of the wind. This affords you the ability to return to your original starting position. With sand skiing you need an obliging assistant to collect you at the other end.

Kite Jumping

Kite jumping uses the lift generated by a large power kite to lift the flyer into the air and then bring you down again.

What Do You Need?

You will require a large power kite in the region of 6 to 9 m² (65 to 100ft²), decent boots with good ankle protection, helmet (cycling helmet is fine) and elbow and knee pads are not a bad idea unless you want "war wounds" to show off.

You will also need a decent flying site, free of people and other kites. Usually a beach with soft sand (not hard packed as this is like landing on concrete) and free of obstacles for at least 200m (220yds) downwind. The wind also needs to be free of turbulence so upwind of your flying site should be free of trees, buildings and hills. Turbulence is very dangerous and will cause the kite to behave unpredictably. It is usually best to have the wind coming off the sea or large body of water (at least 400m - 440yds - wide is usually enough to smooth out the wind).

How to Kite Jump

There are essentially two types of kite jumping. One way is to find a solid anchor point against which you can anchor yourself, such as a hole in the ground or sturdy log or boulder. It is important that your anchor point is smooth so you can be safely dragged over it without injury.

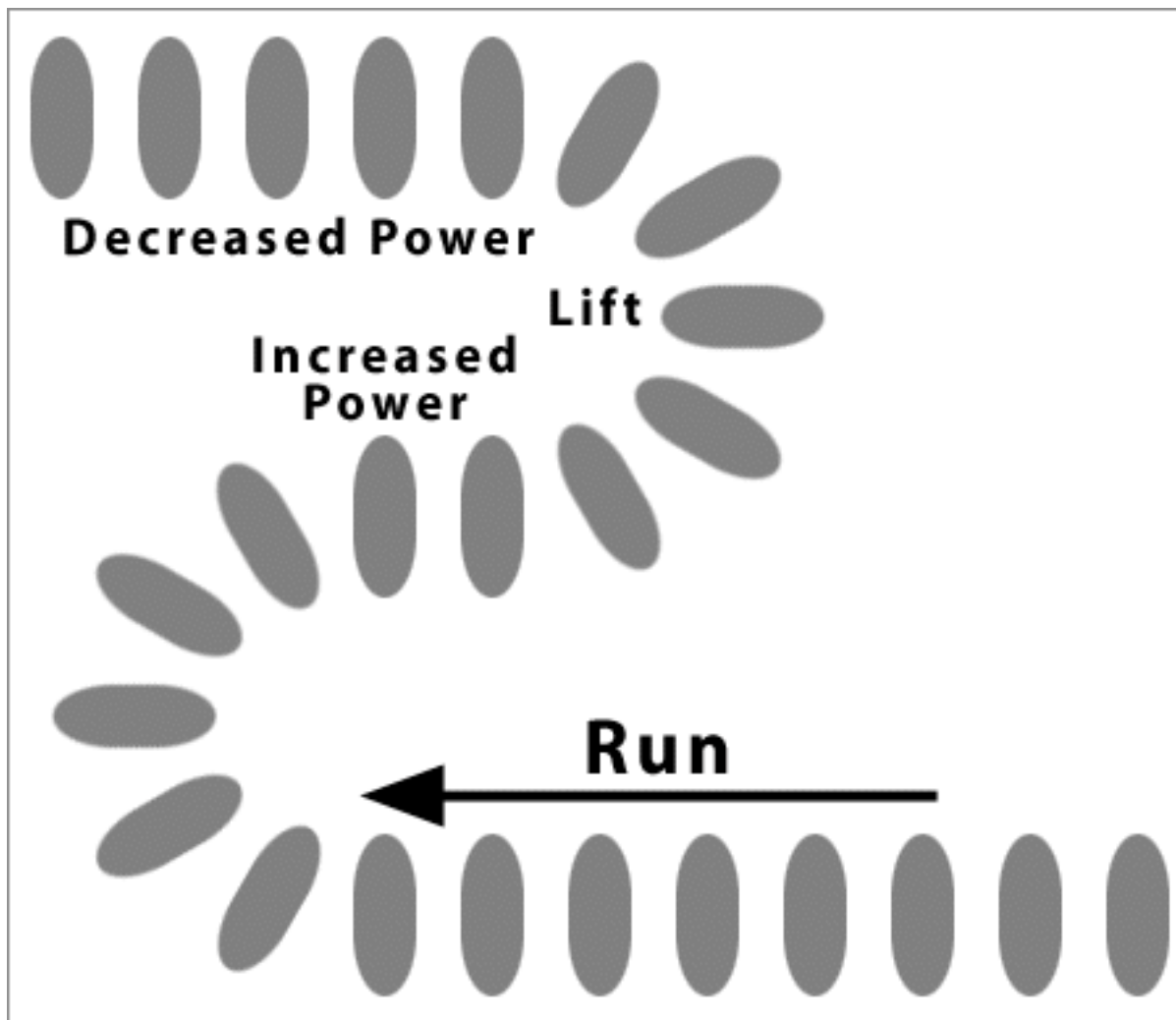


Remember that the amount of power generated by power kites in strong wind is scary and you can get seriously injured, so take it easy and learn gradually getting used to the kite and its power.

What you do is brace yourself against your anchor point and bring your kite across the wind window at about 45 degrees above the ground. (This position changes with wind speed, in strong wind the kite needs to be more overhead.) As the kite nears the centre of the window arch the kite upwards. As you feel the power increasing push backwards and upwards and you will be pulled vertically into the air. Ensure the kite flies directly overhead and you should land softly. If you jump too soon you will be pulled horizontally causing you to land hard and fast. The answer is to delay the jump until the kite is more overhead. With experience you will be able to judge the timing.

The other way to jump is to fly the kite horizontally across the wind window at about 50 degrees above the ground and at the same time run like mad in the same direction as the kite i.e. across the wind. You are trying to stop the kite from flying through the power zone and out the other side. When you feel the power starting to build turn the kite upwards and back the way it came. As you get lifted off the ground remember to turn the kite back again to its original flight path.

See diagram on the next page:



The trick to this type of jump is timing. A very similar maneuver is performed when kitesurfing so it is worth practicing as it will also give you a better feel of where and how a kite generates power and how to use this power to your best advantage.

All types of power kiting has the potential to be extremely dangerous so be careful and remember that things can go wrong really, really fast!

Don't take chances and take your time learning the feel of the kite and your limitations. Good luck and have fun.

You can buy a Power Kite online right now at www.hiflykites.co.za. See you there!

