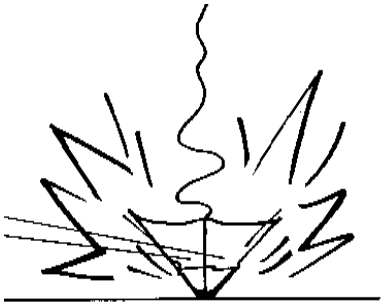
CHAPTER TWO:

FIRST FLIGHT



BEFORE YOU LEAVE THE HOUSE

Most people who ride bikes remember falling off or crashing when they first started learning. So did they quit trying? Of course not -- they picked themselves up and kept on practicing.

Keep that in mind when you first start flying your stunter. Crashing isn't a requirement -- but it is likely to occur. That said, let's go flying! If you've never flown before and there's no one around to teach you, here are some things to help you get off the ground.

1. Almost every stunt kite on the market comes with an instruction sheet. If you have one, read it. If you didn't get one, contact the store or manufacturer where you bought the kite and get one.

Instruction sheets usually contain specific information on assembly, fine tuning, replacement parts, and warranties. This is important stuff! Put the sheet someplace where you can find it later. You may want to take it with you on a first flight to help with assembly, but don't lose it.

2. Have you read the section on picking a flying site? It helps to know where you are going before you try to go there.

3. Check the wind. For your first few flying sessions it should be blowing 8-12 m.p.h. Less or more is all right, but not as easy.

4. Take a helper if at all possible. Having a "ground crew" eases the process considerably. If no help is available, be sure to read the section about Self Launching and take along a piece of scrap dowel, or a screwdriver to use as a ground anchor. We'll explain more about anchors later. Also, remember to take your kite, any stray parts, your flylines, and some handles.

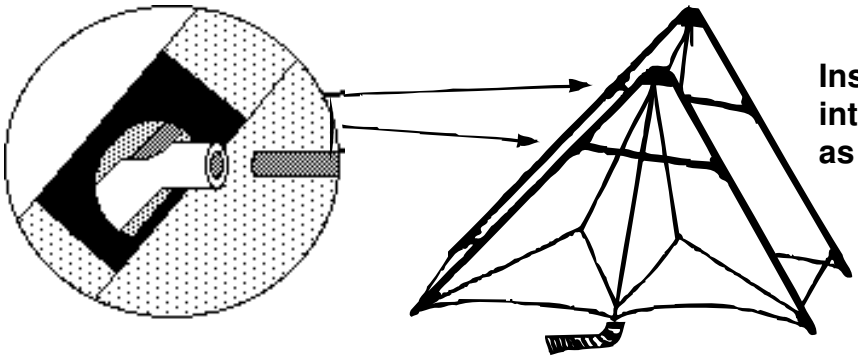
We only mention this because we're good at forgetting stuff like that.

KITE **KITE ASSEMBLY**

Assembly is simply a matter of following the instructions provided by the manufacturer. E is somewhat different, but there are a few common things to watch out for.

Nearly all stunt kites use clear vinyl tubing or molded connectors to attach cross-struts to the kite. Many also use several smaller support-struts called stand-outs or "whiskers" to hold the sail out and withstand the compression stresses that are encountered in flight.

Insert the struts into the vinyl tubes or connectors as far as they will go. Use a steady, even pressure when you push the strut in and don't force anything.



Insert the struts into the vinyl connectors as far as they will go.

If you don't push the struts all the way in, the kite may not handle smoothly. Also, when you crash (and eventually, you will), the struts will have a tendency to pop out unless they are properly inserted.

It's a good idea to put a roll of electrician's tape in your kite bag. If your spars are too loose or have a tendency to pop out, you can secure them with a small piece of tape that is easily removed later.

When removing spars - "twist" while pulling.

Removing spars in conditions of high humidity can be tough on your hands. You may even need to pack up with the spars connected and take them out later, since nothing short of a world class wrestler can pry them loose.Some fliers recommend putting some common baby or talcum powder on the struts first. Don't use oil or other lubricants since they dry sticky .

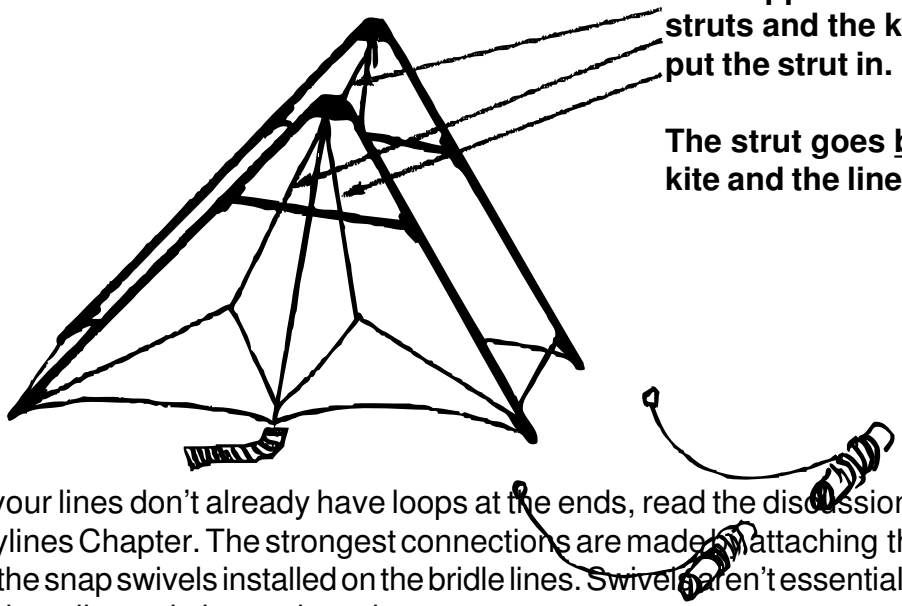
When you have all the struts attached, take a close look at your bridle lines. Check them all and make sure none are wrapped around or under one of the struts. This is the easiest mistake to make in the excitement of preparing for a first launch. Believe us, overlook this bridle-check and the excitement is just beginning!

Tangled bridles mean crashing kites ...

Next, attach your flylines.

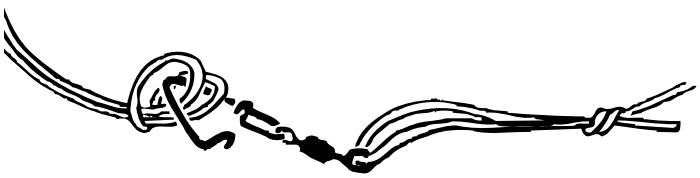
Make sure that bridle lines are not trapped between the struts and the kite when you put the strut in.

The strut goes <u>between</u> the kite and the line.



If your lines don't already have loops at the ends, read the discussion on knots in the Flylines Chapter. The strongest connections are made by attaching the loops directly to the snap swivels installed on the bridle lines. Swivels aren't essential but they do help reduce line twisting and tangles.

Open the clip and connect the loop at the end of the flyline using a "larkshead" knot. This method is generally better than just slipping the loop into the clip. It will reduce strain on the line, prevent slippage, and keep the line from "sawing" constantly against the metal clip.



Finally, you might want to consider color coding your line or handles.

It's easy to put the wrong handle in the wrong hand. You'll be trying to turn the kite one way, and it will think you're telling it to go the other. The results are pretty funny, unless you happen to be the one steering the kite.

Put a heavy red mark at both ends of one line. One red mark connects to the bridle on the right side of the kite. The other red mark goes to the handle in your right hand. Remember, red - right! You even might want to paint your handle red. That way you can get the handles in the correct hands every time and avoid the embarrassing condition we call "WRONG HAND-ITIS".

Most stunt kites are pre-assembled at the factory so that you can spend your time flying instead of assembling. Only a few quick connections are required. Putting your stunt kite together and getting it ready for its first flight should take about the same time, or less, as reading these assembly directions.

LAYOUT

Unroll the flylines directly upwind.

The most important thing you can do when you buy a new kite is to MEASURE IT. Make a record of the length of each strut and spar. That way, if you break or lose a piece, you'll know how long to make the replacement.

Also note the distance from the strut to the sail when the sail is fully extended. Sails stretch after use. If you keep track of what they are "supposed" to be, you can lengthen your spreader bars and take up the stretch later.

Cris Batdorff
Manistee, Michigan

Your lines should be between 100 and 150 feet long. Shorter lines reduce response time and make the kite move too fast for most inexperienced flyers. Longer lines make maneuvers hard to complete unless you have very long arms.

Line of 100 to 150 feet maximize responsiveness within the "flight envelope". We'll discuss the flight envelope in much more detail later. For now, take our word for it and USE AT LEAST ONE-HUNDRED FEET of line.

After you have unrolled the lines, check them carefully to make sure they're the same length. Commercially packaged lines are seldom cut to exactly identical lengths, so take some time and save yourself some trouble later.

If the difference is more than four inches, re-tie the loop at the kite end of the longer line to make it shorter. Smaller changes can be made where you attach the lines to the handles, but ideally, THE LINES SHOULD BE EXACTLY EQUAL.

Adjust the lines until they are as close to exactly the same length as you can get them. This is also a good time to make sure the lines are securely fastened to your handles.

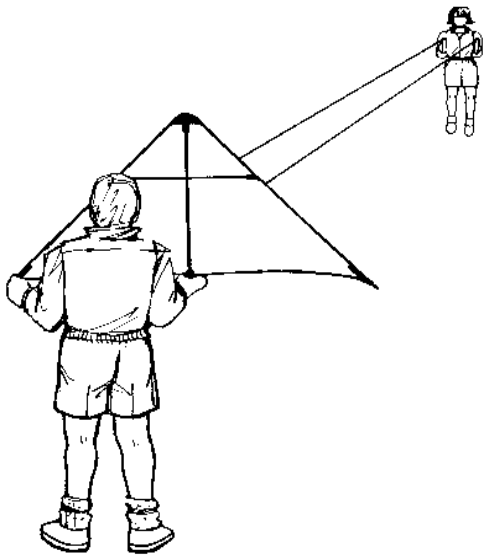
LAUNCHING

ASSISTED LAUNCHING — Here's how it works if you have a helper.

Pick up the handles. If they are color-coded, make sure the RED one is in your RIGHT hand.

Have your helper pick up the kite from behind, and hold it by the base and center struts. (If you are flying more than one kite, they should hold the last one in the stack.) Keep a little tension between the two of you so that the flylines are off the ground. From your helper's viewpoint, the launch should look like this:

Now complete the "Pre-launch Checklist". Do everything on this list before every launch.



Pre-launch Checklist

1. Check the area under where your kite will be flying for possible hazards - mainly people.

2. Look behind you to make sure that you have a clear path if you need to back up. Backing up is a legitimate and natural way of helping your kite out of trouble, but it can get you into trouble. (We once forgot this second pre-launch step and backed into a smelly drainage ditch!)

3. Make sure your flylines have equal tension so that your kite will launch straight.

4. If there are other kite flyers around, check the sky for traffic. When it is clear, announce to any nearby pilots that you are ready to launch.

Finished with the checklist? On your signal, your helper should give the kite a gentle upward push, then let go. There is no need to be forceful. Just toss it.

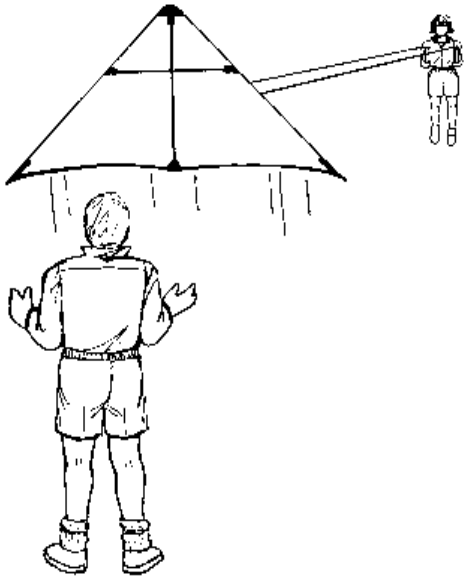
And guess what?

YOU'RE FLYING!!

Now we sincerely hope that, before you actually launch your kite, you read the Piloting

It's not unusual for new fliers to crash a few times when they first practice launching. That's fine -- as long as you don't hit anyone on the way down.

Your kite and all of your line should be layed out before you launch. Look around to make sure that there are no obstacles or people anywhere within reach of your lines.This is the only way to know that you are clear and safe.



Basics section, which deals with what to do immediately after you've launched. If not, go collect your kite from wherever it ended up, and read it now.

SELF LAUNCHING — Now here's how it works if you're by yourself.

Self Launching is not difficult, but it helps to have at least a few flights in your logbook before you try it. The main thing

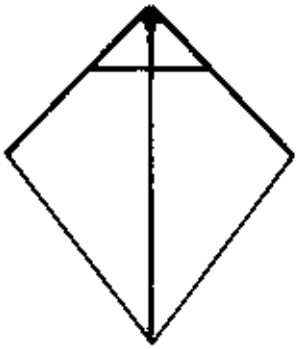
> *After the launch, your helper should quickly move downwind and away from the sweep of the kite. Often, helpers become "mesmerized" by the kite's flight. They forget to move and can be seriously hurt by a sudden loop or crash.*
>
> *The best way to "keep" a helper is to keep them from getting hurt!*

that a helper does is give you a straight "boost" through the Boundary Layer that we talked about earlier. Doing it by yourself takes a little practice so expect to have to try it as many as three or four times to get it right. After that, it's easy.

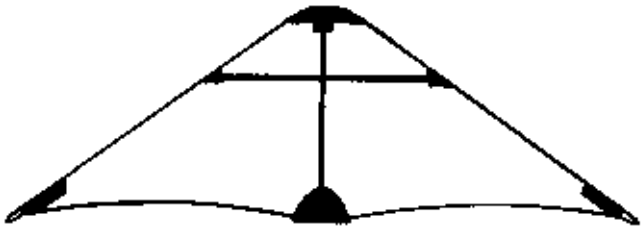
Self launching is also slightly different depending on whether you are flying a "Delta" or "Swept-Wing" kite (also called "California Style" stunters since that's where many first came from), a "Foil", or one of the "Diamond Wing" kites.

We'll start by explaining how to self launch Deltas and Diamonds.

DELTAS and DIAMONDS: Stunters come in lots of shapes and sizes, but generally speaking, on Diamond Wings, the center strut is longest. On Deltas wings, the side struts are the longest part of the kite.



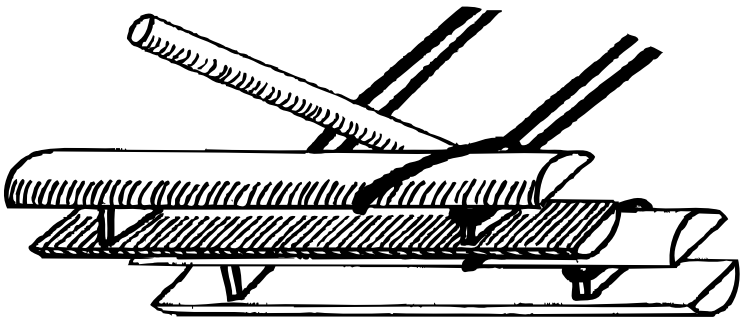
Diamond Wing



Delta or Swept Wing

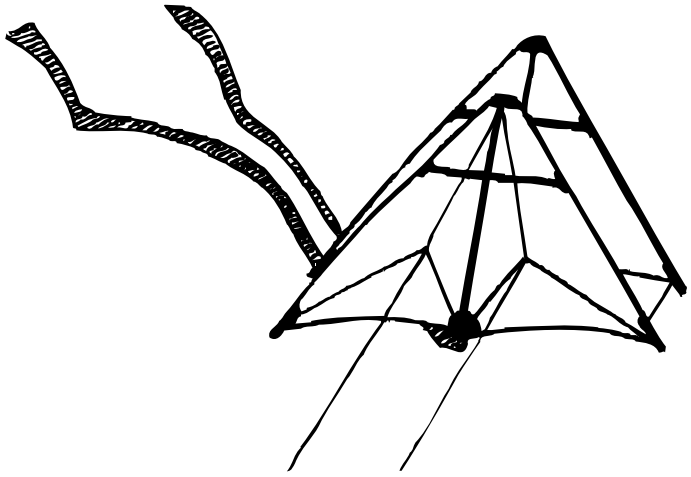
1. After you unroll the lines upwind, "stake" your handles down. Remember that anchor we talked about earlier? Here's what it it's for:

Stick it in the ground at an angle away from the kite. Hook the loops in the lines or your handles over it.



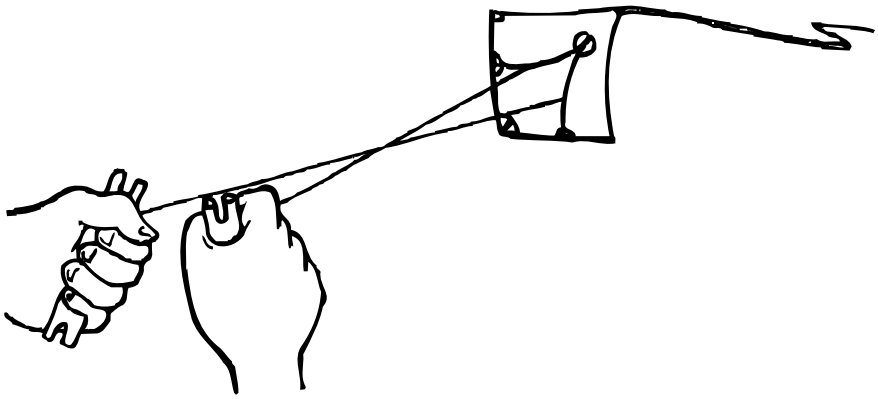
2. Walk back to the kite and stand it up using the flylines as a tension against the wind. Be sure that the kite isn't standing straight up when you're done. Unless it leans away from the handles a little, it will try to take off and fly by itself!

Delta stunters should stand on their base and be leaning slightly back. Diamond Wing kites should be standing on a side strut with the nose pointed at an angle into the ground.



3. Now go back to the handles and carefully pick them up. (Pick up your stake too since you'll need it for your next launch.) Try not to let the kite move.

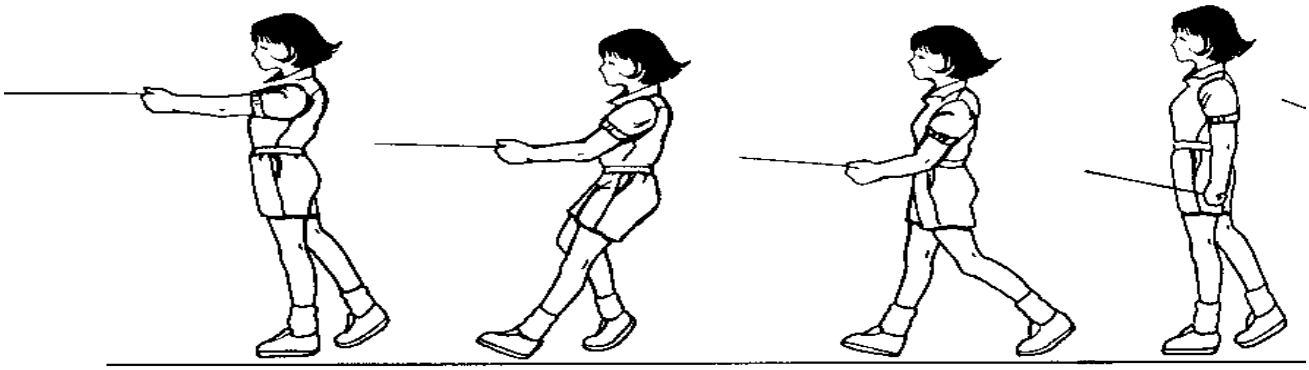
It's okay for the kite to tilt a little farther back while you pick up the handles, but



if you pull it toward you it will either try to take-off prematurely, or just fall over on its face. Similarly, if you let it lean back too far, the kite will fall over and you'll need to walk back (100 to 150 feet!) to set it up again.

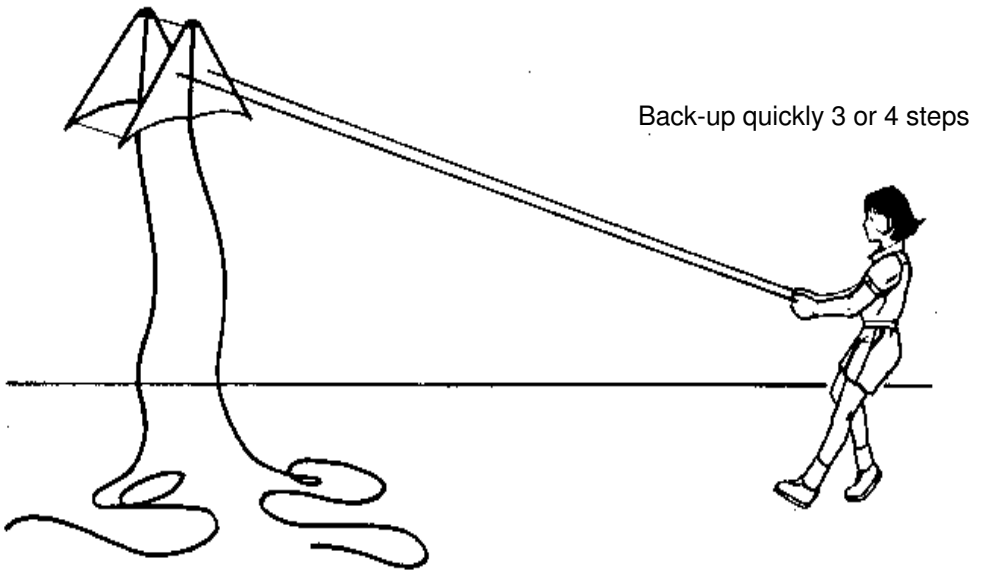
4. Don't forget the Pre-Launch Checklist.

5. For Delta Wing kites, you will need to keep equal tension on both lines during the launch. Diamond Wing kites require that you pull up a bit on the line attached to the SKYWARD side strut during the launch. Got it?



Now, just take three or four steps backwards - and you're off!

Your Delta Wing should lift straight into the air. A Diamond Stunter or stack will roll over and turn skyward. Then it too will take off.

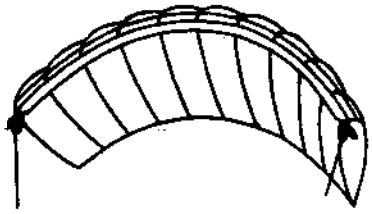


Launching a Delta in the sand can be a bit different in a strong breeze because the sand won't support your anchor with the wind blowing on the kite. Lay the kite flat on it's back, and try piling some sand on the outside corners of the wings. Then walk back to your handles and carefully pull on the lines. The kite will stand up against the wind, the sand will slide off and the kite will be ready to launch.

Susan Gomberg
Lincoln City, Oregon

Many flyers will stake out a kite ready to launch, and then walk away and leave the kite unattended. It's almost too obvious to mention, but, because the practice is so common, we'll say it anyway: Leaving your kite staked out and unattended is a DUMB IDEA! A hundred feet of line, strung out a few inches above the ground, is an accident waiting to happen. Don't do it!

Self Launching Foils:



"Ram Air Inflated Airfoils" (we call them "Foils") are clearly distinct from other types of stunters. Most have only one spar and no bridles at all. And they certainly won't "lean back" against the flylines ready to launch. Stake out a Foil on the ground with tension on the line, and the kite will launch itself!

There are two important things to remember about launching and flying Foils:

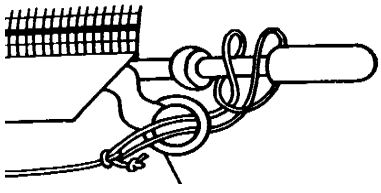
A Foil will only fly when it is right side up. The right side is the "rounded side". Usually, when not being flown, a Foil is left in an upside-down or inverted position to prevent unintentional launches.

A Foil will only fly when the cells are inflated by the wind. Try facing it into the wind, and shaking it lightly to "open" it up. Make sure there is no sand or debris in any of the cells.

In an assisted launch, your helper should stand behind or beside the kite and hold it by the spar. Holding the leading edge or trailing edge will prevent the Foil's cells from being properly inflated by the wind. Make sure the cells are inflated and the lines are taut before releasing.

Foils don't attach to the flylines with clips. Instead, the line is passed through a ring at the edge of the sail and looped around the spar. Don't make the mistake of simply snapping your flyline onto the ring. It won't work.

Ray and Jeanne Merry
Lavallette, New Jersey



Your flylines will wear faster where they pass through the the metal ring. Try attaching short bridle lines made of Dacron or Skybond to isolate the wear and tear. These bridles are easily replaced and they save your expensive flylines. Just remember to keep them the same length.

Corey Jensen
Monterey, California

Self Launches for Foils aren't difficult but they do take some practice.

1. Lay the kite out on the ground, right side-up, with the leading or front edge facing into the wind. Then unroll your flylines upwind. Be careful that the kite doesn't try to launch by itself in stronger winds.

2. Remember your Pre-Launch Checklist.

3. Place equal tension on both lines and take three or four steps backward. The Foil will lift into the air and gain speed as the cells inflate and the kite arcs or "flexes".

Launching in heavier winds may actually be more difficult because the kite will begin to lift-off before you can get to the handles and control the launch.

The trick here is to lay the Foil out upside-down. Cross your lines so the Right Handle is on the Right Side. Now pull sharply on one line. Pull it across the other. The kite should swivel around and flip over, right side up. The cells will inflate, the kite will quickly rise into the wind, and you'll be real impressed with yourself.

Pulling the kite across rough or rocky ground will damage the sail. Pulling it across the beach will force some sand into the cells and throw the Foil off balance. If you don't get a lift-off almost at once, STOP PULLING.

The key to launching a Foil without assistance is fluidity -- especially in slight or moderate winds.

Never jerk the Foil on launch. It has a tendency to go toward the ground. Instead, place your hands at your sides with arms down and slightly in front of you. Take one or more steps backward while at the same time, sweeping your arms from slightly in front to slightly behind you (see step five of the Delta/Diamond launch).

Be as fluid as possible. The kite should gently launch and climb.

Robbi Sugarman
Mill Neck, New York

A number of new maneuverable Airfoils are now being designed and becoming commercially available. Some have no spars. Others have very complex bridles.

No matter what type or size Foil you fly, the basics of launching remain the same. keep it right side-up, let the cells inflate, and pull - not jerk - the flylines.