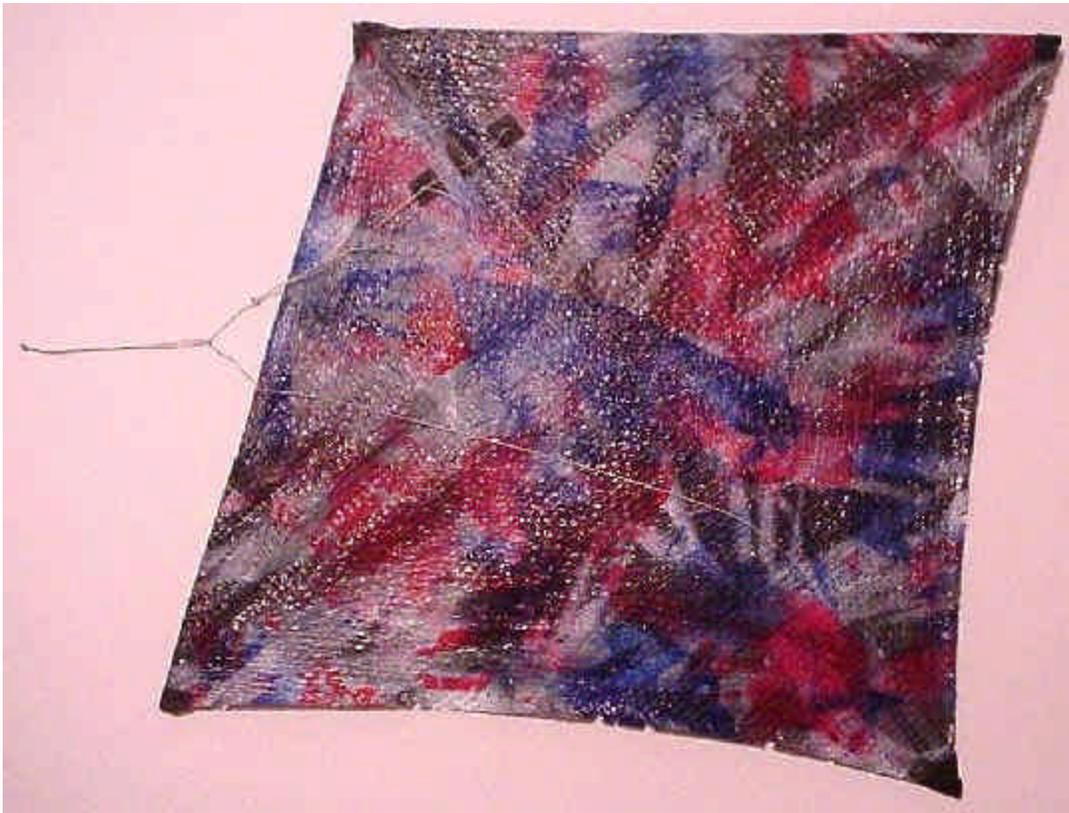


Woody's " Woodtick " Fighter Kite

This kite is easy to make and easy to fly. It's performance will allow you to learn all fighter kite flying skills, plus put an ear to ear grin on your face. What more could you ask for in a kite.



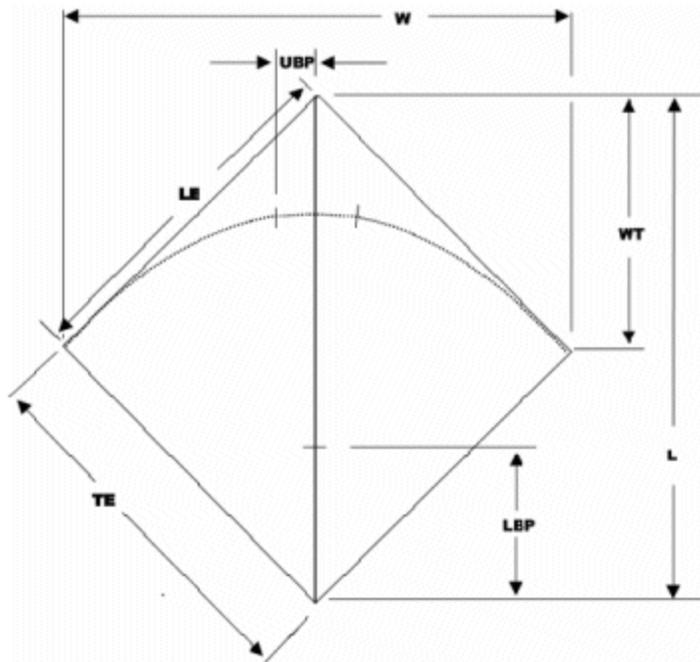
You can use a variety of materials for this kite, such as Tyvek, ripstop nylon, Orcon, paper, or mylar or mylar-like plastic gift wrap films.

I suggest reading the entire instructions before you begin, this will give you an overview of what is involved.

If you plan to make only one Woodtick, then you can draw or transfer the full size pattern directly onto the kite skin. But, if you think you would like to make more than one, or if friends want to make one or more, you should make a template to speed cutting out the kite skins.

Remember to add an extra 3/8" on the leading edge to glue down and hold the bow in place. Also you can scallop the trailing edges if you desire.

Woody's "WoodTick" Fighter Kite Plan



L - 18 1/4
W - 21 1/2
WT - 7 7/8
TE - 14 1/2
LE - 13 1/4
UBP - Upper Bridle Connection Points- 1" from Center
LBP - Lower Bridle Connection Point - 5 3/4" from bottom

Here is a material list for the Woodtick fighter kite

A 22" x 22" kite skin (orcon, mylar,paper) your pick

Clear packing tape or orcon tape (if you can get it) that is approximately 2" wide by about 36".

A bottle of Elmers contact cement or any other contact cement you might have available. (I like Elmers)

Bamboo spine 18 1/4" long. Bamboo is the best material to use for the spine of the kite.

Bow material. If you want your kite to fly indoors, use a bow 24 1/2" of 0.04" diameter carbon fiber, for light winds, 2mph - 8mph, 0.05" diameter carbon fiber rod, if you want your kite to fly in winds from 8 mph-15mph bow of 0.06" diameter carbon fiber rod.

A couple of drops of Super Glue or clear finger nail polish

**About a 1/4" length of the smallest diameter vinyl tubing or shrink tubing you can find.
These are used as stops for the bridle connections on the bow.**

Approximately 50" of 15# - 20# test dacron line for the bridle. Any strong small diameter, low stretch line will work just fine, including cotton, linen or spectra.

Here are the tools you will need to make the Woodtick Fighter kite:

A work surface that will allow you to cut with a razor or xacto knife.

A very sharp breakoff utility knife or xacto with new blade

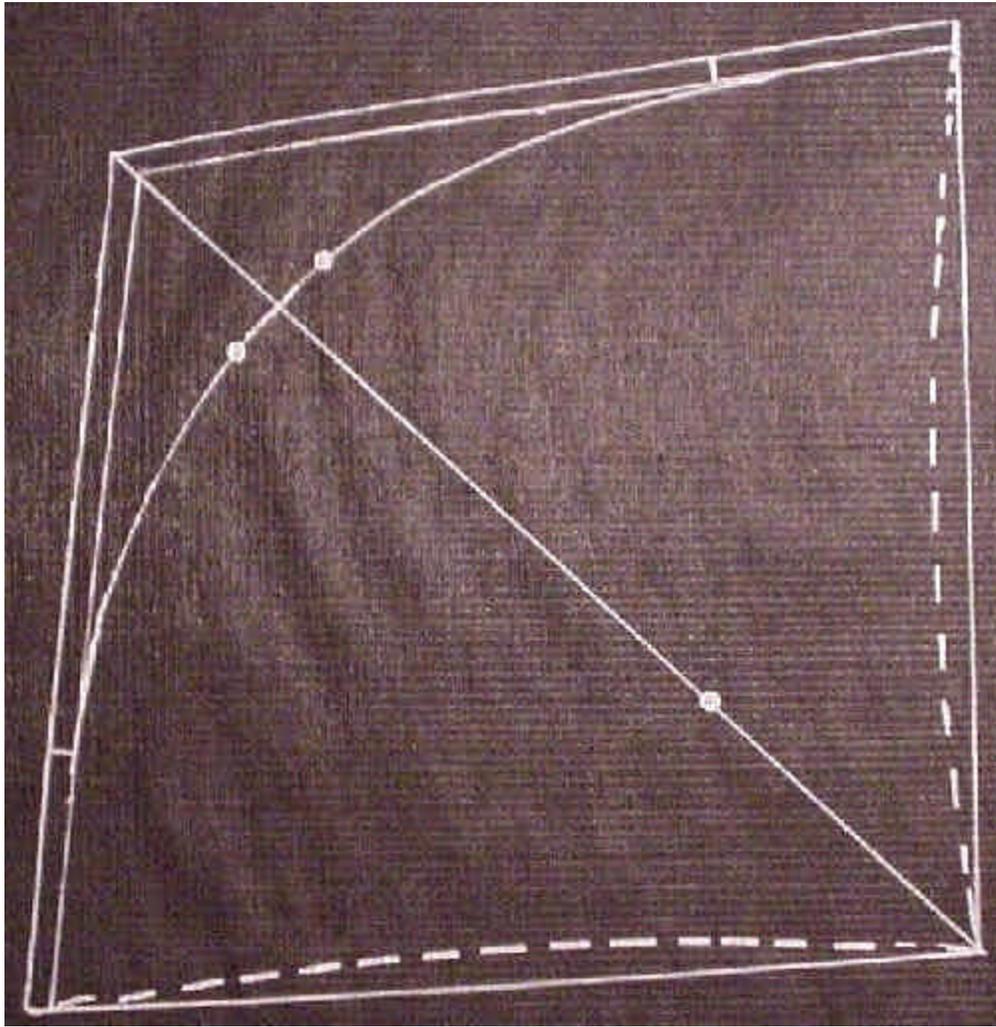
Straight edge ruler

A Sharpie extra fine point marker

Sharp scissors

Construction nail, about 8 penny size, and a cigarette lighter or a pencil point soldering iron

MAKING THE TEMPLATE



I use a matt board or heavy poster board to make my template. You can draw the kite pattern directly onto the template material and cut it out. Remember to make the leading edge $\frac{3}{8}$ bigger to allow for the fold over to hold down the bow and make a nice leading edge.

CAUTION NOTE:

Before you actually cut out the skin, there is one characteristic of mylar and other plastic films that I want to share with you. It is this - once an edge is nicked, it easily tears at that point.

Here is how to minimize this potential problem. When cutting out the kite skin with a knife, do not stop the knife along the cut. Make each cut with one uninterrupted pass of the knife. If you are using a template, make one pass with the knife on each edge. The only place you can stop the knife is at the corners. It is very disappointing to finish the kite and during its first flight, the skin tears for no apparent reason! The reason is the "nic" made by the knife stopping and starting. Fortunately with a piece of packing tape it can usually be fixed.

Cutting out the Skin

On work table, " I use a glass top table " I put the kite skin down and my template on top of it and cut it out with either a hot knife or razor knife. If hot cutting orcon please use a respirator in a well ventilated area. Hot cutting orcon can be very dangerous.

The Queen from the North American Fighter Kite Assoc. (NAFKA) gave this report on orcon. However I still hot cut it in a well ventilated area with a respirator and goggles on.



ORCRON!!! It is Polyvinylfloride film. Florine gas is a way bad chemical! It Kills Olfactory nerves before they record that it smells. It blisters Eyes and Lungs! IT IS VERY BAD!!!!

After you get the skin cut out take your sharpie and ruler and mark out the back side of the skin. Draw a line up the center of the kite and a 3/8" fold down line on the leading edge. 4" up on both ends of the leading edge draw another line.

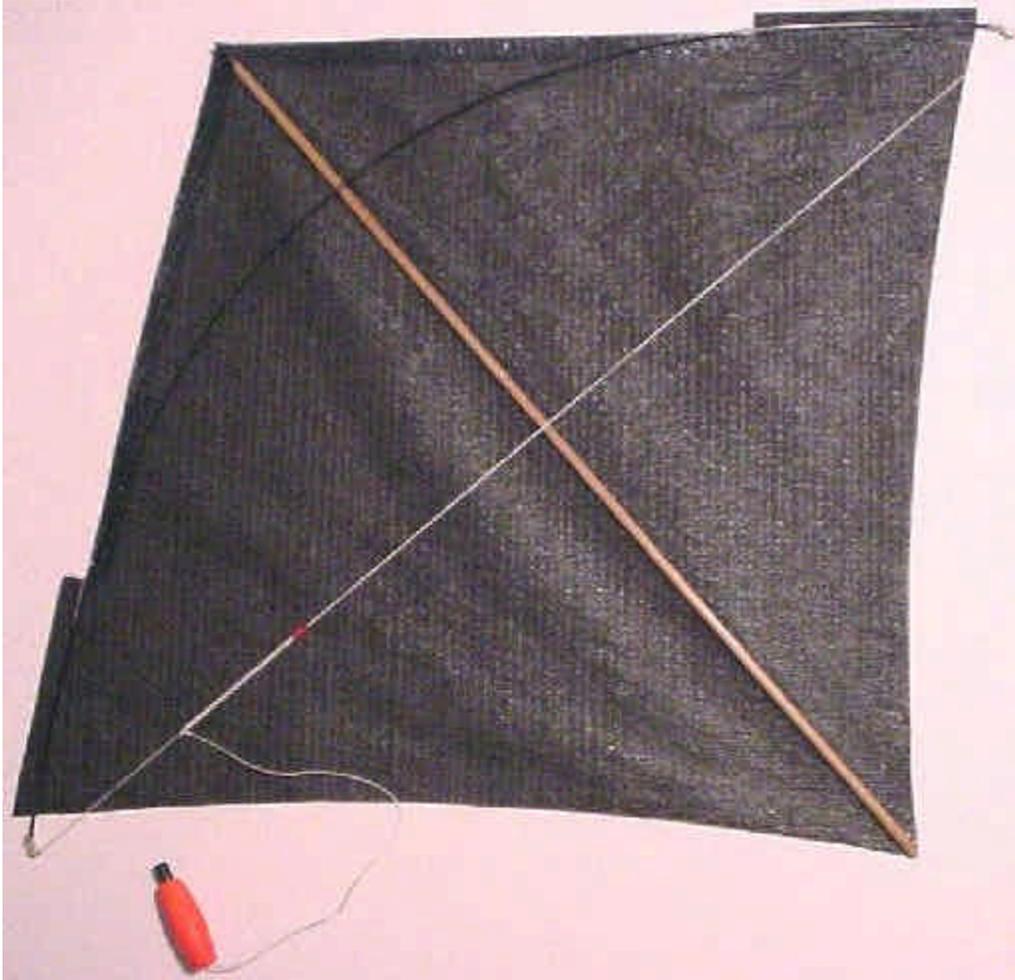
Now I take my kite skin and place it on my work table that I have sprayed with water and stick it to the table. Now I'm ready to glue my spine. Using a syringe I apply my contact cement down the center line and on the flat side on my bamboo spine. I wait a few mins. until the glue is tacky and I start from the top of the kite and place the spine down on the skin as precisely as possible.

Now I take a pair of scissors and cut that small line I drew 4" up from the wing tips.

Then I apply contact cement to the 3/8" fold down line from the cut line to the tip of the kite applying it with a small brush or a piece of foam rubber you want to make sure you also put some contact cement on the other side of the line that you will be folding down to make the leading edge. Don't go glue crazy all you need is enough to stick the skin together. No need to get messy !!! When I fold down the leading edge I use a tiny spatula I picked up the art store.

It makes a great tool and you get a nice clean edge. Once you have both sides glued down you're ready to put in the bow.

I use a sliding bow setter made of string with some small tubing attached to the ends. Or you could use a ruler with notches cut out in it. Make sure you put a bend in the bow and make sure it turns to the natural bow. When you bend the carbon you will see how it turns where the bend wants to be. It's not that tricky it just sounds it.



OK now it's time to set the bow in place. Slide two 1/8" pieces of shrink wrap tubing onto the bow. Prepare both sides of the 4" fold down line with contact cement. Wait until it's tacky and place the bow over the kite so it lines up centered on the kite and that both sides look exactly the same. You want to see the curve of the bow line up with the bottom of the leading edge and the top of the 4" fold down line on both sides. When you're happy with the way you have it lined up tape the bow setter in place and fold down both hems.



Remove the bow setter and trim off the excess bow flush to the kite skin. Slide the two pieces of shrink wrap tubing over 1" from center of the spine and hit with a drop of super glue or clear nail polish.

BRIDLE POINTS



The upper bridle point will be 1" from center of the spine, You can use a hot cutter or a heated up nail to make the holes. Please keep the heat away from the bow. If you touch the bow with anything hot it will crumble in your hands and all your work is wasted. Make sure you hold the bow away from the heat source.

The lower bridle point will be 5 3/4" from the bottom of the kite and I put a small piece of tape over the spine and about 1/4" on each side of the bow. Make a small hole on each side of the spine.



BRIDLING THE KITE

For the bridle cut 3 pieces of bridle line, one 12" - 13" long, another about 20" long and the third about 6" long. Take the 6" piece and fold it in half and tie an overhand knot and trim the ends, set it aside. This will be the "tow connection".

Next tie one end of the 12" piece to the bow through one of the holes in the front face of the skin. Use any knot that will hold well and is easy for you to tie. When I tie the knots, I usually have about an inch or so of line that is a tail that I later trim off. Then tie the other end of the 12" line to the other bow bridle point. Trim the tails so they are only about 1/2" or so.

With the 20" piece, loop one end over on itself and form about a 4" long overlap. Tie an overhand knot there to form a loop that is approximately 3" - 4" long. Attach the looped end to the 12" bridle line you just tied to the bow. To do this, use a larks head knot. Center it and tighten. Tie the loose end through the lower bridle attachment point holes in the skin and around the back of the spine. Before you tie it, pull the bridle line toward one wingtip of the kite. When tied, the bridle should not be long enough to extend over or outside of the wingtip. Tie the lower bridle point and trim the tail of the line.

Using a larks head knot to attach the two parts of the bridle allows for adjustment of the kite's bridle.

Attach the 3" - 4" loop you made earlier to the lower bridle line using a larks head knot. This is the point where you will attach your flying line, it is called the tow point. Using a larks head knot allows the tow point to be adjusted up or down to suit the wind and your flying style.

PACKING TAPE OR ORCON TAPE

Reinforce the wing tip area with tape. Cut 2 pieces of tape about 2" long and 1/2" wide Wrap around wing tips and make sure you cover the ends good.

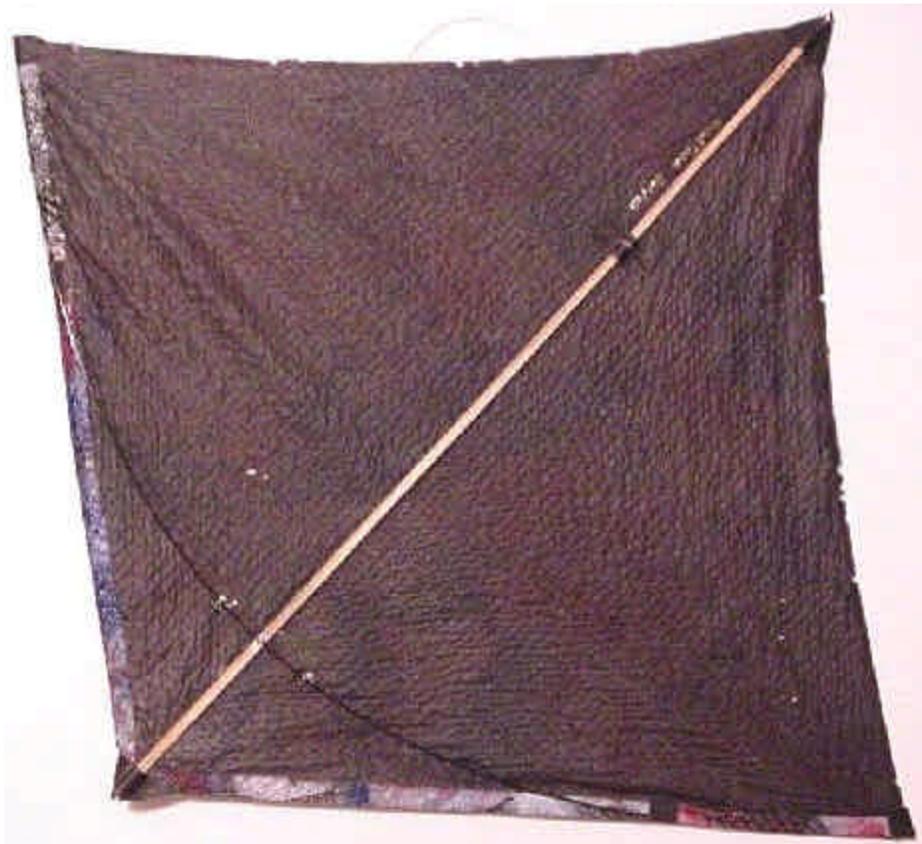
NOSE TAPE

Now, reinforce the nose of the kite with tape. Place the kite on the work surface so it is lying on its face with the nose pointed toward you. Cut a piece of tape about 1" x 1 1/2" and lay it sticky side up on your work surface so that 3/4" or so of the length of the tape is under the nose of the kite. Press the nose of the kite down onto the tape. With your xacto knife, cut two slits in the tape aligned so the cuts are extensions of each side of the spine. Fold the center portion of the tape over the spine. Then, fold over one side of the remaining tape onto and around the back of the kite skin and onto the spine. Do the same with the other side.

TAIL TAPE

Cut a 1/8" wide piece of packing tape and apply it around the end of the spine. About 1/2 of the 2" long piece is on the front of the kite sail and the other half on the back of the spine.

That's it you have made a Woodtick and you're ready to fly. Have a blast !!!!



If you're not fighting your not kiting - Woody