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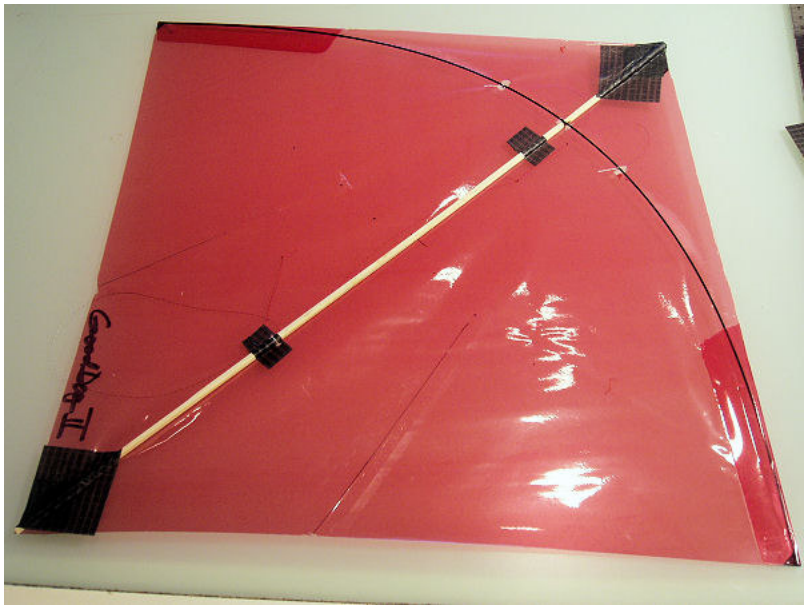
'GOODDOG-2'



MAKING A GREAT FLYING KITE IN ABOUT 30 MINUTES

GOODDDOG2 is a light to medium wind kite that is predictable, precise, can do every maneuver imaginable, but isn't the fastest kite on the block. However, what it lacks in speed, which isn't very much, it provides in 'spades' in all other aspects of its flight characteristics....well, that's my take on it at any rate ;o)

The other day I made GOODDOG-2 very quickly using a 'new to me' technique. It's a very simple and easy technique using two products that make construction especially easy. It uses one of my favorite fighter kite making aids, the self adhesive plastic photo corner to hold the bow in place, and it uses Scotch brand ½" wide DOUBLE SIDED tape, the is tape available in any office supply or craft store. Both of these items are available in stores such as Wal-mart.

Using both of these kite building aids, you can make GOODDOG-2 in about 30 minutes or so if you have all the parts at hand and the full sized template pieces taped together and cut out. The full sized template is on four separate pages at the end of this construction discussion. Print them at 100% size without using any 'scaling' or 'modify to fit' printer feature, cut them out and tape together so the letters A, B, C all match. It will make a full sized template of ½ the kite.

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Here's what I did to make GOODDOG-2 in about 30 minutes:

Cut the skin material using a full sized template. I used 'Clearphane', but any gift wrap style plastic film will work great. It took me about 3 minutes to smooth the Clearphane onto my glass table and cut the skin for GOODDOG-2 using a 25 watt soldering iron to hot cut it. I made 2 full sized half templates and taped them together along the spine line, that way I was able to cut around the perimeter of the entire pattern to make the skin. The other method is to fold the skin material and use 1 half template. You align the spine line on the fold of your folded skin material and cut around the perimeter, but you don't cut along the spine line.

After the skin was cut, I drew the spine line using a felt tipped marker, from nose to tail, on the skin so I would know where the spine is supposed to go, that took about 1 minute.

Cut a bamboo spine to length; 20" long. The bamboo I used is one of the bamboo spines I sell. I did nothing to it but to cut it to length and straightened it a little. I tried to make the bamboo spine as straight as possible before installing into the kite. It took me about 2 minutes to measure, cut to length and to bend the spine with my hands to get it as straight as I could. I just sighted down the spine's length to determine where it needed to be straightened. It wasn't perfectly straight when I installed it and it works great anyway.

Cut a piece of 0.05" diameter carbon fiber rod to 25" and sand each end to smooth them. This took about 1.5 minutes.

Next I removed 2 self adhesive plastic photo corners from their backing using a toothpick and applied them to the kite skin at the precise location shown on the template. That took about 2 minutes.

Then I installed the spine. To do that I cut a couple pieces of clear 2" wide packing tape, each about 2" long. When I positioned the bamboo spine on the spine line of the skin, I applied one of the square pieces of tape to the tail of the spine diagonally so 2 opposing tips of the tape square are aligned with the center line of the spine and I also applied one to the nose of the spine oriented in the same way. This took about 3 minutes. Before applying the tape to the nose, I tried to make sure the skin was snug along the length of the spine. For the photos I used black tape so it would be more visible.

To complete the job of installing the spine I applied 2 additional pieces of ¾" tape, each about 2" long. One I applied at the point of the lower bridle connection point and the other about 1" toward the tail of the kite from the point where the bow and spine cross. This took about 2 minutes.

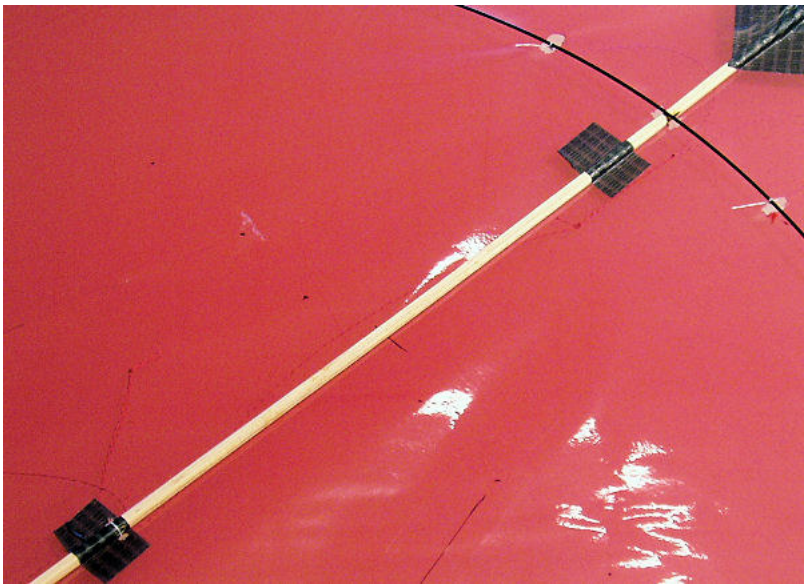
Then I installed the bow into the photo corners. To aid in opening the photo corner pockets, I used a toothpick. Once the bow ends were as far into the photo corners as I could get them the bow was installed. That took about 3 minutes.

I applied a piece of Scotch brand double sided ½" wide tape along the outer edge of the 'flaps' of the skin and also a piece of DST along the edge of the flap that

joins the trailing edge. This piece of tape extends to cover the photo corner and part of the bow. On the template it indicates 'DST', double sided tape. This took about 3 minutes.

Then I folded over the 'flaps' along the dashed line on the template, the 'fold line'. And pressed and rubbed to bond the double sided tape to the backside of the skin. That took about 3 minutes.

If you're new to fighter kites or kites in general and would like more details about the bridle construction, you can download the article at www.fighterkitecentral.com under making fighter kites titled 'how to make fighter kite bridles'. And there may be other articles there that may assist your understanding of some of the construction points discussed here.



I decided to use a 3-point bridle, so I measured the location of the upper bridle connections; 2" either side of the spine center, and made a mark on the skin, then melted a hole there using my soldering iron. I make the hole reasonably large so the bridle doesn't get snagged on the skin during flight. And also for the 3-point bridle I melted a hole on either side of the spine at the lower bridle connection point as indicated on the template. All total, this took about 3 minutes.

BRIDLE OPTION:

If you choose to use a 2-point bridle, you would simply make a hole at the cross point of the bow and spine and then at the lower bridle connection point. This would take about 2 minutes.

Now I installed the upper bridle yoke. I used a 3-point bridle so I first cut a piece of bridle line about 14" long and tied one end to one of the points on the bow and the other end to the other using a double half hitch on each or any knot that will hold securely. As an added measure, I put a drop of CA, superglue, on the bow at each of the upper bridle yoke connection points. This took about 4 minutes.

Then I cut a piece of bridle line about 30" long for the lower bridle line. Folded over about 5" and tied an overhand knot to form a loop about 2.5-3" long on one end of the line. With that loop, I tied it to the upper bridle yoke using a larkshead knot, and tied the other end of the bridle line to the spine at the lower bridle connection point. But before I tied the lower connection of the bridle, I pulled the bridle toward a wingtip so I know it won't extend beyond the wingtip; then I secured the lower bridle connection knot. I placed a drop of CA glue on the back of the spine at the lower bridle connection point to further secure the connection. Fingernail polish will also work if you don't have CA glue. The lower bridle line installation took about 4 minutes.

The final part of the bridle was to make the tow connection loop. This is about a 7" long piece of bridle line that you fold in half and tie the loose ends together forming a loop about 3" long. Then attach this loop to the lower bridle line using a larkshead knot. Position the tow connection loop along the lower bridle line so that when you suspend the kite from the tow connection loop, the tail of the kite is resting on a table top and the nose of the kite is about 3" above the table top. This took about 2 minutes.

Before flying the GOODDOG2, put a slight bend in the spine. The bend should start about 6" from the nose of the kite and should continue to the nose. The amount of bend isn't very critical, but it must have some bend or the kite will not behave like a fighter kite that you'd enjoy flying ;o) The way I put the bend in the spine is to put the front face of the kite against my stomach and press gently but firmly with my fingers on the back of the spine about 6" from the nose of the kite; and then at about 5" from the nose; and then at about 4" from the nose, etc. I press hard enough so the spine pushes my into my stomach about ½" – 1". The combination of heat from my body and the pressure of my fingers on the back of the spine are enough to create the needed rocker shaped bend.

Your new GOODDOG-2 is now ready to fly and enjoy!

And if you are so inclined, here are a few options that will allow you to modify the flight characteristics of your GOODDOG2 kite.

1. Cut the trailing edge with the curve shown with the 'dashed' line rather than the straight trailing edge; this will reduce some of the fluttering of the sail and may also add a very small amount of speed to the kite. The photo of the finished kite shows the curved trailing edge.

2. Add battens to the kite. This will reduce the fluttering of the sail during flight and in the process slightly increase the kite's forward speed. For the battens you can use small diameter 'stirring' straws, split bamboo or carbon fiber of about 0.03-0.04" diameter range. When applying battens to the back of the sail, tape the battens along their length. The photos show the lines where battens would go if I decided to use them.

3. Tie the bow and spine together at their cross point. If you use a 3-point bridle, tying the bow and spine together will be an added step requiring a hole through the skin at that point, if you use a 2-point bridle, they will already be tied together. Tying the bow and spine together will cause the kite to be slightly faster and will allow it to fly in slightly stronger winds compared with not tying them together.

BigGrins,
Bruce

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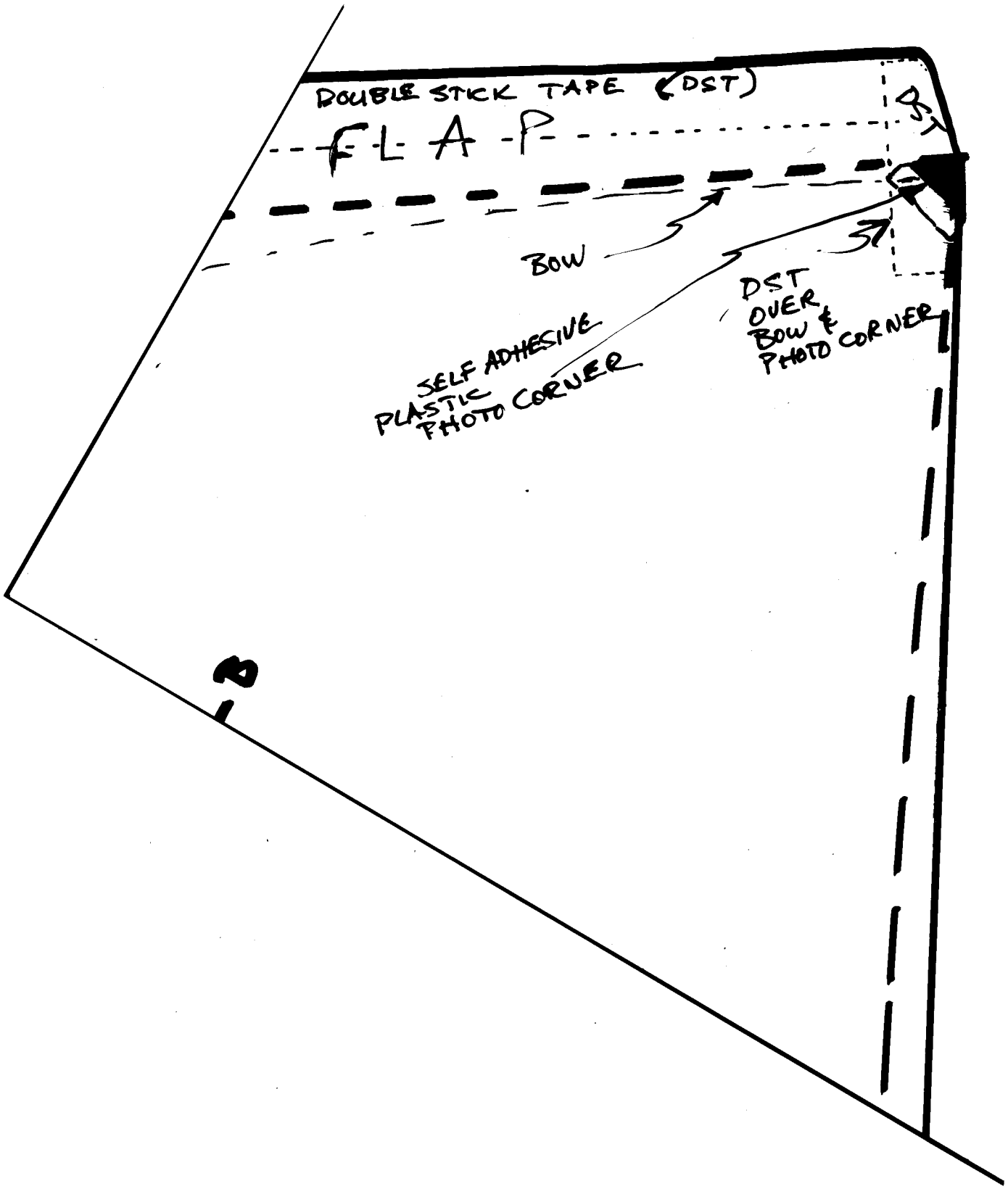
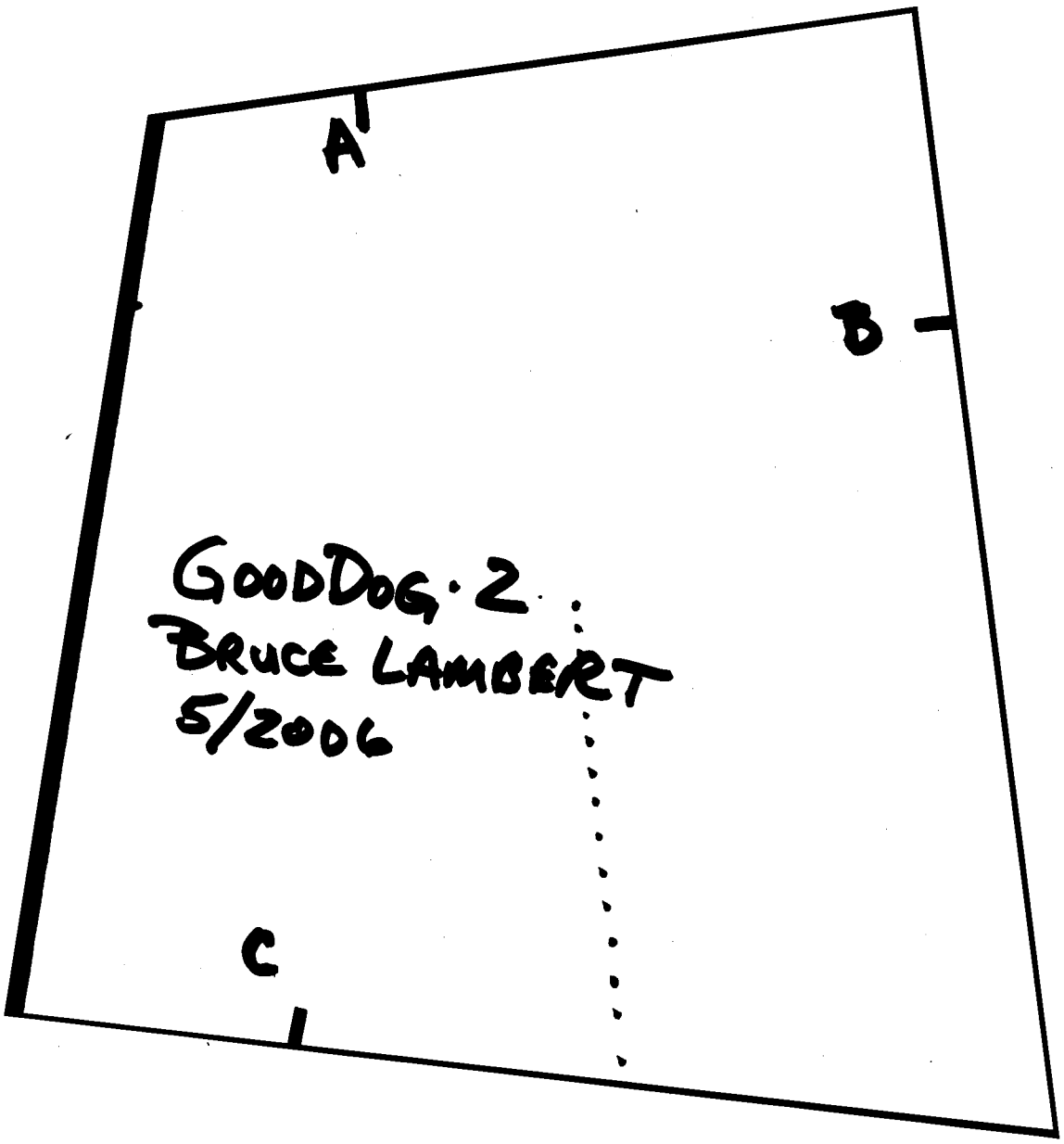
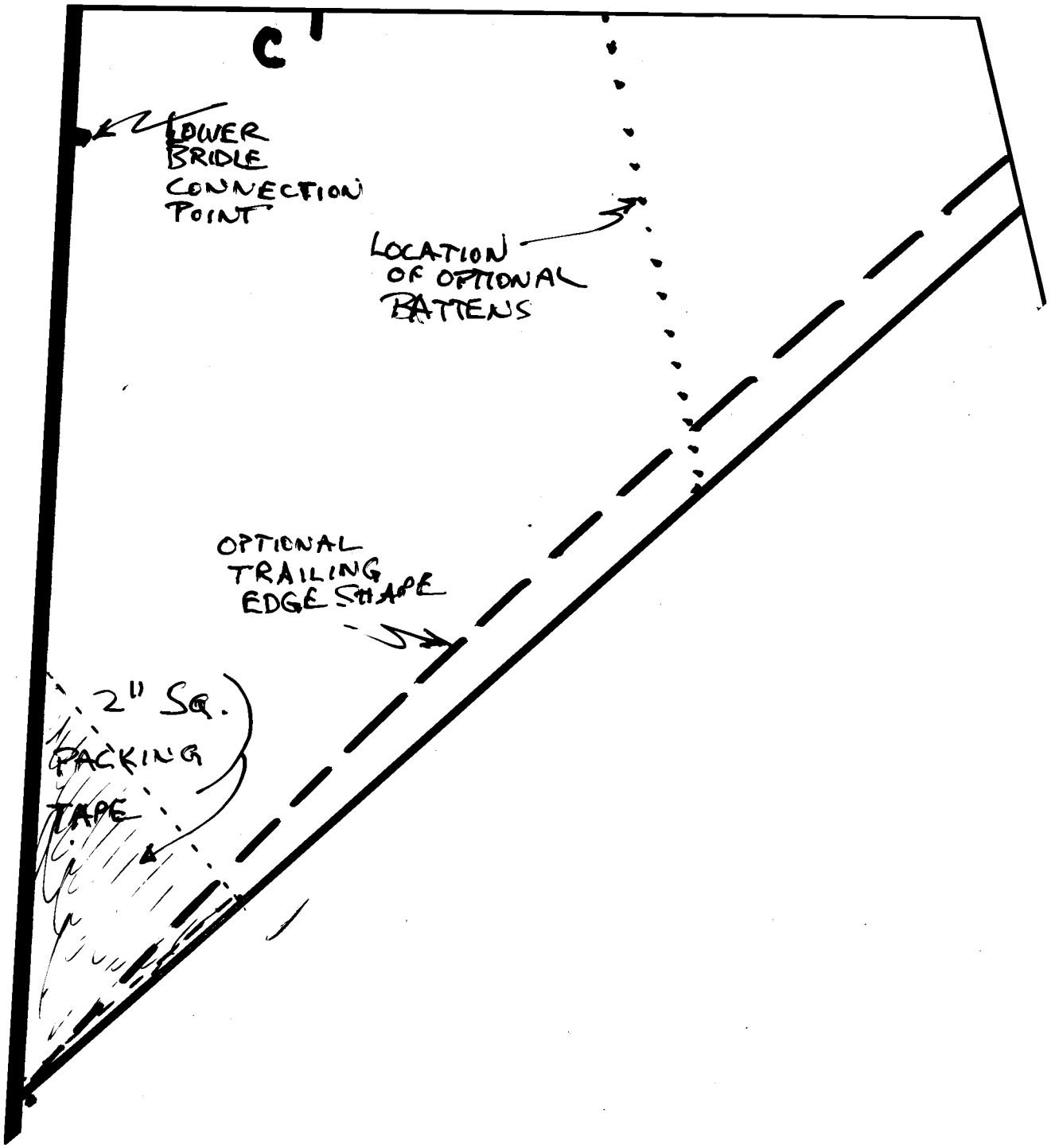
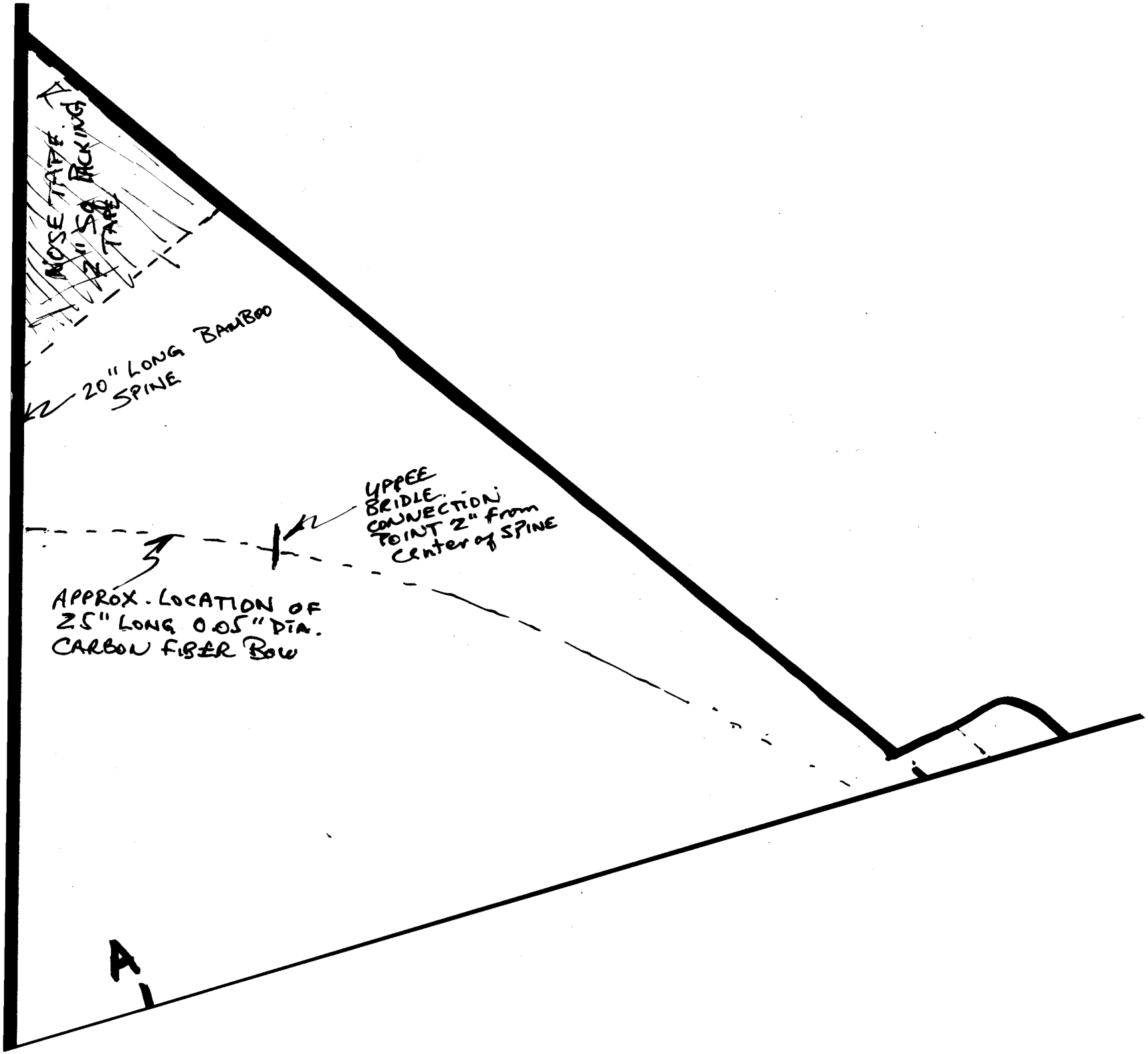

DOUBLE STICK TAPE (DST)
FLAP
DST
BOW
SELF ADHESIVE PLASTIC PHOTO CORNER
DST OVER BOW & PHOTO CORNER


A
B
GOODDOG.2
BRUCE LAMBERT
5/2006
C


C
LOWER BRIDLE CONNECTION POINT
LOCATION OF OPTIONAL BATTENS
OPTIONAL TRAILING EDGE SHAPE
2" SQ. PACKING TAPE


NOSE TAPE
2" SQ PACKING TAPE
20" LONG BAMBOO SPINE
YPPEE BRIDLE CONNECTION POINT 2" from Center of SPINE
APPROX. LOCATION OF 25" LONG 0.05" DIA. CARBON FIBER BOW
A