

06/05/05

## Mouse



### Introduction

The Mouse kite is a 'wind bag' type of kite – meaning that it has no internal ribs or lines, only a front and back skin connected by an edging strip. The kite needs quite a strong wind to fly due to the relatively small lift producing sail area. Once in flight with a suitable drogue it is quite stable! The kite is extremely easy to make, and I think that you could easily make your own modifications to produce your own original (nearly!) design!! Try making the kite with different graphics – maybe a happy mouse!! If you do feel adventurous enough to give it a go then please email me some photos so I can start a gallery of successful kites from the plans. The kite took two evenings to design and build from the initial idea to the final bridling. I was very lucky with the bridle setting as it flies well in a good wind.

## Construction

*All measurements are in cm.* As with all inflatable kites you should try to keep all seams internal, except for one small strip used to finally close the kite off. You will probably need to give some time during the construction to achieve this!!

### The Skin

Figure 1 shows the dimensions of half of the head. I guess you could be slightly different to these, as long as you have a symmetrical design, where the bridle points are the same. At the horizontal distance of 10.5 cm the vertical distance is 17.5 cm, I am only stating this as it is not 100% clear in the diagram. Cut the front and back skins according to Figure 1. You can add any design you like. Figure 2 shows the detail of the design I used.

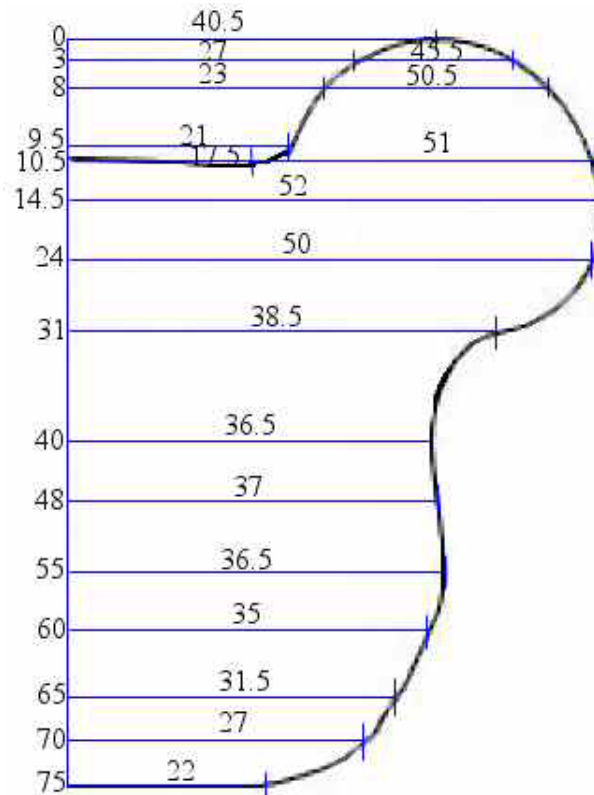


Figure 1. Half of the head.



Figure 2. Detail of the graphics.

The front and back skins are joined together with a 10 cm edging strip of material. You should add the bridle reinforcement points before sewing the two skins together. Also do not completely close off the head at this point, as you will need to attach the body at a later stage.

### **Bridles**

Figure 3 shows the bridle points of the kite. At each point I have sewn a reinforcement piece of material on the inside of the kite with a cross (X) on it. The bridle line is sewn onto the kite using the cross stitch in a similar way as reinforcement lines are used on larger kites (see Figure 4). This method seems strong enough for this size of kite. But if you wanted to make a stronger or larger version I guess you should sew on some reinforcement lines in a grid pattern, where the intersecting nodes are at the positions of the bridle points. Table 1 shows the lengths of the bridle lines. I have experimented with different towing points to try and make the kite fly in low winds, but it seems these values work best, and the kite needs a good bit of wind to produce any lift from the small sail area. I attached my bridle lines after all the sewing was complete, so that they were not in the way.

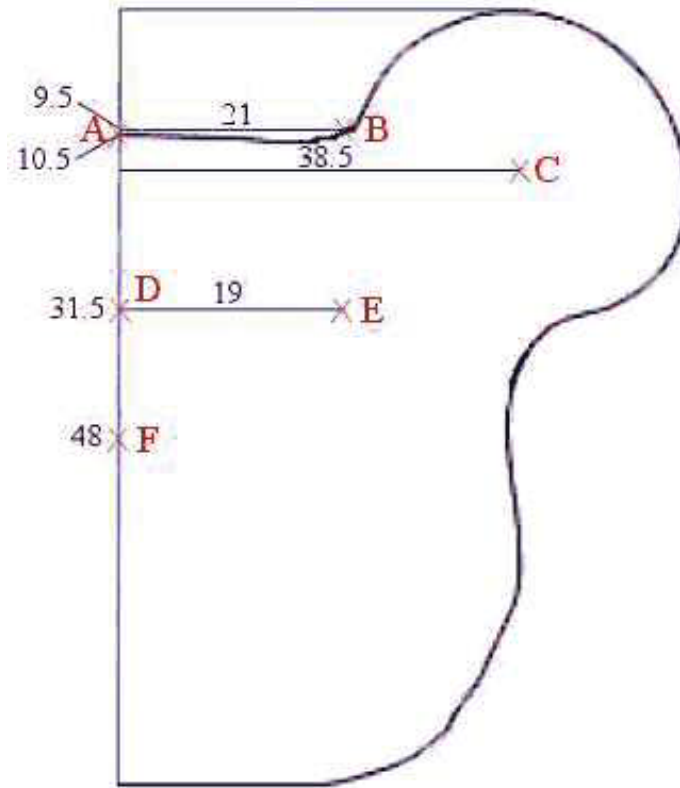


Figure 3. Bridle points

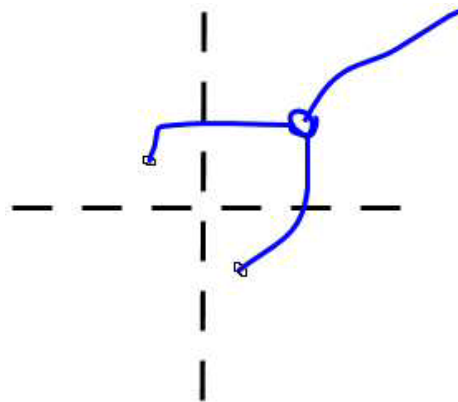


Figure 4. Detail of how the bridle lines are attached to the kite.

Table 1. Bridle line lengths.

Bridle Position	A	B	C	D	E	F
Length (cm)	217	218.5	222.5	222.5	224.5	237

## The Body

The body of the kite should be sewn together using the dimensions of the pieces given in Figure 5. You need to cut 2 pieces of the large parallelogram and two of the rectangular pieces. The top of the body is attached to the edging strip of the head in the shape of a rectangle. A hole must then be cut in the edging strip to allow the air to flow into the body. The arms and legs are constructed using the pieces in Figure 6. The side of the rectangle that is 31.5 cm in length should be attached to the circular end piece and onto the body. You can align the arms at a suitable position on the body – exact positioning does matter too much.

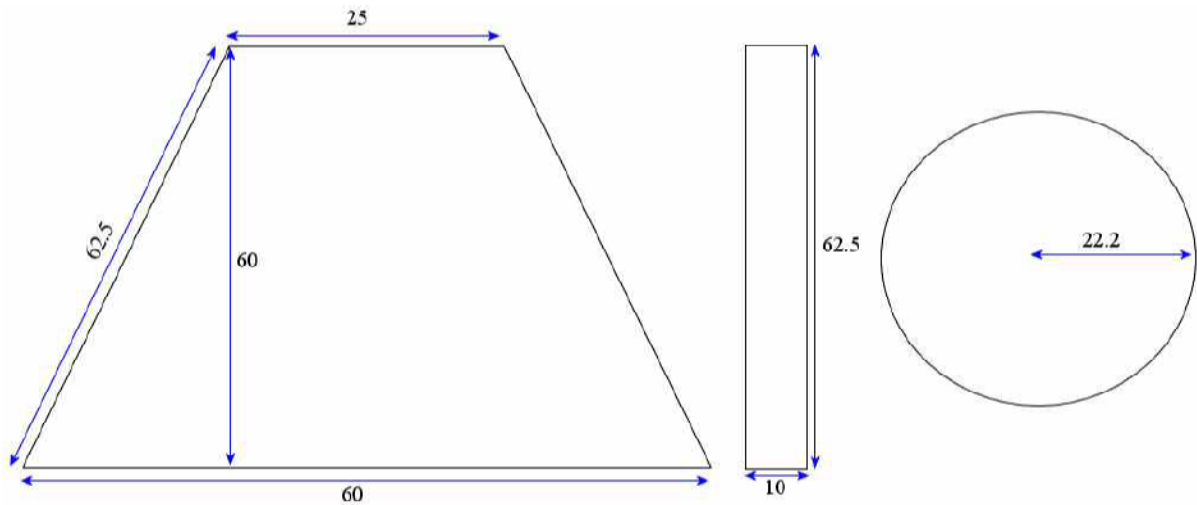


Figure 5. The Body

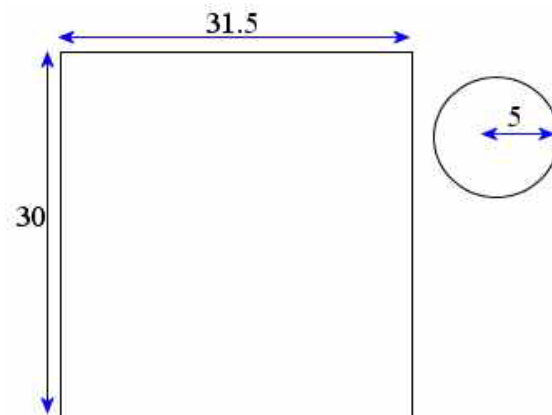


Figure 6. The arms and legs.

The legs and tail should be attached to the bottom of the kite in the positions shown in Figure 7. The tail is a tube of circumference 16 cm and length about 600 cm. A drogue such as the one shown in Figure 8 should be attached to the end of the tail to add some stability during flight.

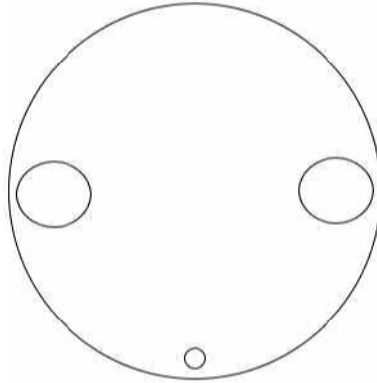


Figure 7. Where to attach the legs and tail.

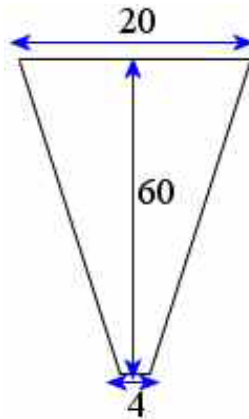


Figure 8. The drogue. Four pieces are needed. Four evenly spaced bridle lines, 75 cm long should be used.

## Flying Tips and Other Stuff

As I have said before the kite needs a good wind to fly. When launching the kite may from side to side until the drogue is off the ground and producing some drag. Once the drogue is in action and the kite gains a bit of height you should have no problems with it, and can leave it staked out for an afternoons flying. The kite does not produce too much pull, so you should have no problems holding it down – either a small sand bag on the beach or a corkscrew tether on grass.

Try to come up with some original graphics and send me some photos of the results!

If you want to email me use the following address, with ***kites*** as the subject – messages with other subject lines will probably be automatically sent to my junk mail folder and not be read!!

**dave\_wade69@hotmail.com**

You can also catch me at the Kite Builder Forums ( <http://kitebuilder.com/forums/> ) with the user name ‘TS’.