

## “Flagermus Sled” – The Bat Sled

Idea by Paul Stærk

Original plan and German description by Peter Schmidt

English translation by Isabella “Izzy” von Lichtan



### Background

After the plan for the large "Flagermus" or “Bat”, here is an additional plan, this time for a smaller and more basic kite that is well suited for a child or novice flyer. This kite can fit neatly into your luggage (30 cm x 5 cm) and flies relatively well over a large wind range.

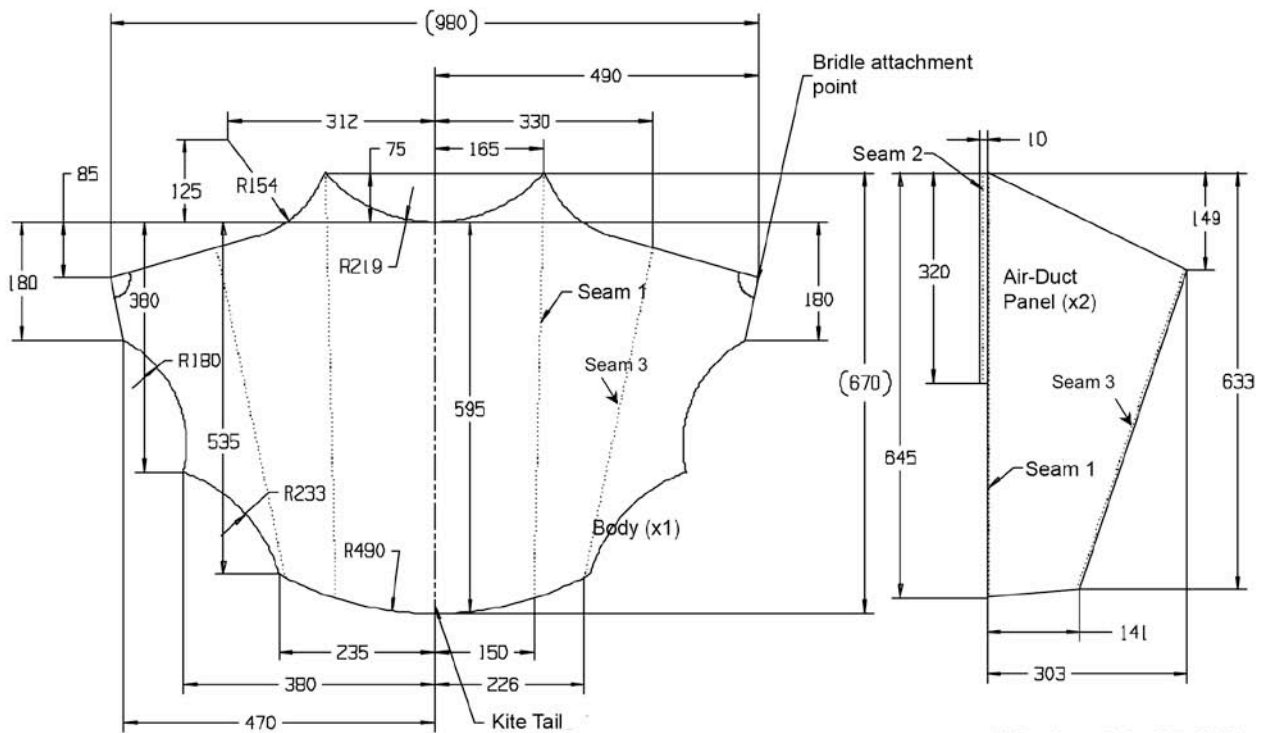
Paul Stærk had brought along the small sled kite at that time to the Flagermus Workshop 2002 in Randers, and the small kite further developed during the building of one of the two kite prototypes for the Workshop. From the plan, the small kite looks to be nearly identical to the original kite developed! Paul built the first kites from black garbage bag material and yellow Mylar. The kite possesses two spars that do not go over the entire length of the back. In this plan, the kite is made from .75 oz spinnaker rather than plastic and Mylar. If using plastic and Mylar, all

parts can be stuck with clear adhesive tape, such as TesaFilm or SelloTape.

**Important: This plan must not be used commercially!**

### Plan





(After Peter Schmidt, 2002)  
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**Figure 1: Diagram for the sled**

**1. Pattern:** Use the diagram (Figure 1) provided above to create a complete template for the kite. Hot-cutting the panels will ensure that the edges will not fray. You may like to bind the outer edge of the kite with 2.5 cm ripstop tape instead of hot-cutting.

**2. Reinforcing:** Small Dacron reinforcements are needed only at the two outside points. The bridle line is sewn on to these reinforcement points later.



**3. Air-Ducts & Spar Tunnels:** The placement of seams for the air ducts are drawn on the diagram (Figure 1) as broken lines. The cells are sewn first along the Seam 1 line.



Afterwards sew Seam 2, a seam that only goes part way down the sail and closes at the bottom forming a small tunnel.



When sewing the tunnel, leave the upper point open in order to be able to push the spars in later. To form the other side of the air-duct, sew both panels along Seam 3.

**4. Appliqué:** The eyes have diameters of approximately 95 mm. The pupils, 30 mm wide, are glued on rather than sewn on. A good thing to use is stick-on Dacron, the same material sail makers use to attach numbers to the sails. The mouth is about 280 mm wide and the big teeth are approximately 120 mm high. The small teeth are about half the height. The whites for the eyes and teeth can be stitched on with a straight stitch, or with an appliqué zig-zag stitch. For a good introduction to appliqué, try this site: <http://www.2kiters.com/tips/contents.htm>



**5. Spars:** The spars are 2 mm carbon fibre rod, approximately 285 mm long. Once the spars are cut to size, sand smooth the rough ends, and fit the end-caps on each end of the rod. Then slide the spar into the spar pocket and seam it into place. Repeat with the other spar pocket.



**6. Kite Tail:** At the centre at the base of the kite, fix four strips of 160 cm length of 25 mm

spinnaker fabric or hemming tape. The tail then can be sewn on, if desired.

**7. Bridle:** The points of balance are at the two outside tips of the kite. Here one can sew on the bridle line directly. Do this on both sides and then attach a small loop accurately in the centre of the bridle line.

**8. Finished:** Now you are ready to fly!

Original German plan be found at:  
<http://www.schmidts-pit.de>

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<http://www.taskite.org.au>  
<http://www.the-izzy.com>

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I would like to say a thank you to Sarah Badcock for her editing skills, for without them, this translation would be a poorer one! – Izzy

The following is a spooky version of the kite by Sarah Badcock and Izzy von Lichtan.





**Detail of the Dacron reinforcement**



**Upper part of spar pocket in relation to the rest of the kite**



**Upper part of spar pocket**



**Lower part of spar pocket**



**Close-up of Seam 3**



**Close-up of Seams 1 & 3**



**Looking inside the air-duct at Seam 1, we have turned the seam in by 0.5 mm so it looks neater than the original plan, although it is a lot fiddlier to do. We did the same with Seam 3 too.**



**An appliquéd tooth**



**A different way to attach the tail; it is attached to the body by a line sewn into a Dacron loop at the bottom of the kite. The tail is detachable so the kite can fly in very light winds.**