

# “Feuervogel” (the firebird)

from Schmidts-Pit (Peter Schmidt)  
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The history about the origin of this kite at first. The idea for the making of the “Feuervogel” in this size developed in the year 1997 on the kite festival on Rømø (DK). Here we decided to build this kites in a larger version than bird. Because up to this time it gave only the “Ur-Feuervogel” (1996) with a span of approx. 1,5m. In the autumn '97 I increased the kite on the actual unit size. January '98 followed then the Feuervogel Workshop in Minden (GER), where we built 13 fire birds on one weekend. In the year before our group sewed 12 of Cross-Decks (see also to Fanoé video '97). To the maiden flight of the birds at



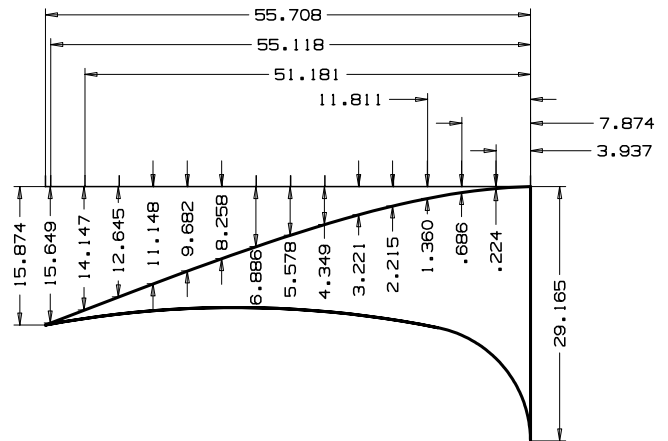
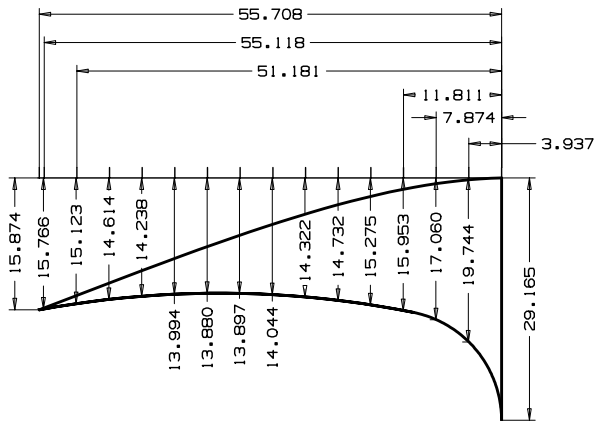
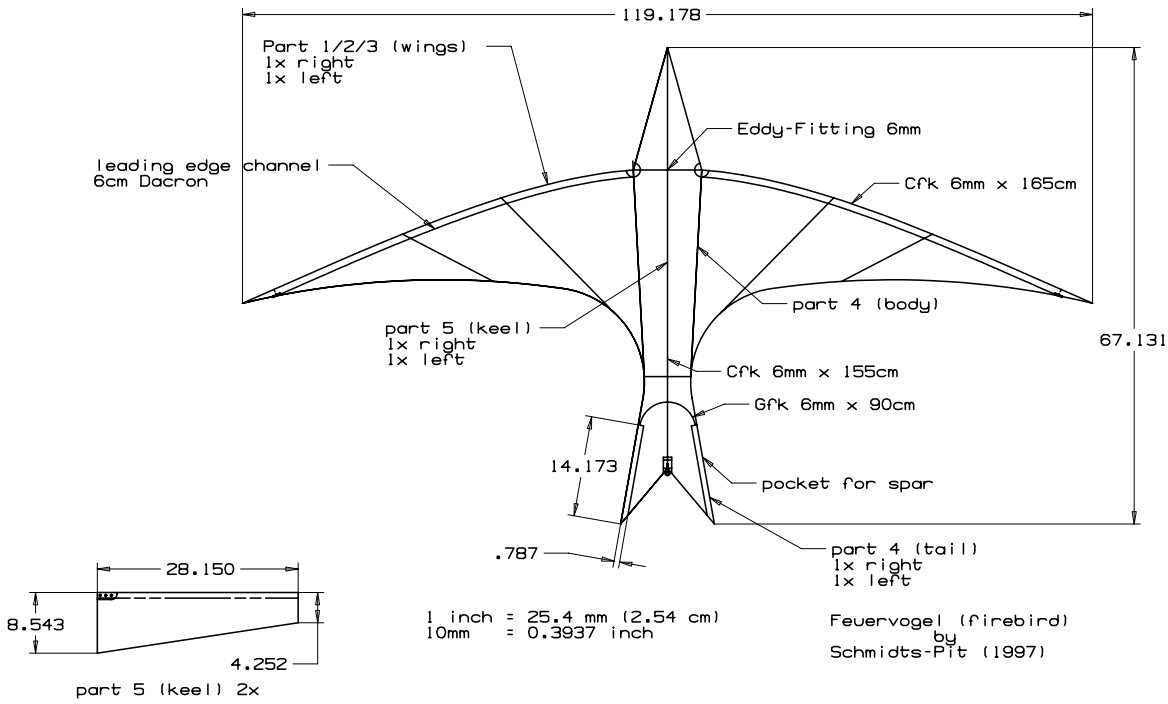
the kite festivals Fiestel and Burhave many kitefliers interest in a kiteplan pointed. The “Hamburger Drachenfreunde” (Hamburg Kite Club) made this kite to the winter project 98/99. For this project and the "Fang den Wind" (Journal of the Kite Club Berlin) I made the german plan about the firebird. The English version arose for the kitemakers conference 2003 in Fort Worden (USA).

The firebird got the name first of all by the colored design and secondly by the reflection on the kite and flutter tail. Thereby the firebird became night-flight-apt. The kite flies from 1 to 5 wind forces between stably, with stronger wind tilts it to a side away. This being able to again correct within a certain range by one for the side, on which the kite pulls, which pivots outside point and thus this side more stretches. The kite makes even with stronger wind so little pressure that one can press it also a child into the hand. Short violent gusts are for the firebird thanks of its flutter tail likewise no problem. It is characterized by a flat flight angle. Most beautifully the firebird is however as bird swarm. In the same way it offers to itself onto a kite in the measure 1,65:1 building and flying this as a bird chicken with the big kite as a bird concatenation. This "crooked" Measure results in the consequence, that one can employ spars with a length of 1m.

***Important:***

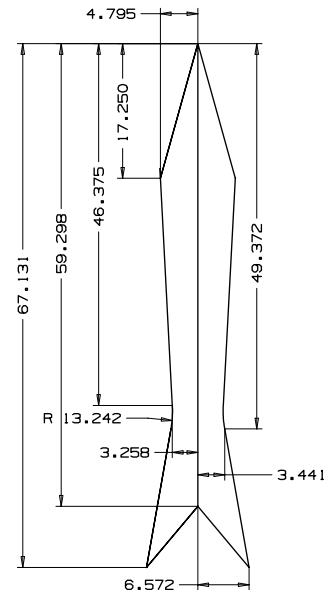
***This kite must not be built for commercial purposes!***

# Plan



Now some important notes at the beginning of the structural drawing. The structural drawing is for kitemakers meant those already kites built. Therefore I do not explain e.g. also fell seam or like one a normal bag for the rods. You find the most important mass of the kite as well as the seams on the sketches.

**Now still which extremely important!  
The mass in the designs all are indicated,  
thus in inch as finished sizes at the  
firebird without any seam additions!**



The kite consists in the simplest kind of 5 parts: 1 x body, 2 x wing, 2 x keel. The wings are in-colored held in this structural drawing. The original firebird possesses however 3 colors in the wings. If the body from a piece is cut, you must seam into the tail corner! You escape this point of problem by the division in 2 and/or. 6 parts. The keel consists of 2 parts. I describe the more complex kind of the kitebody in this structural drawing, since one has here less blend and the kite from the execution becomes nobler. With the flutter tail a new variant was selected, which strips individual by building up takes place.

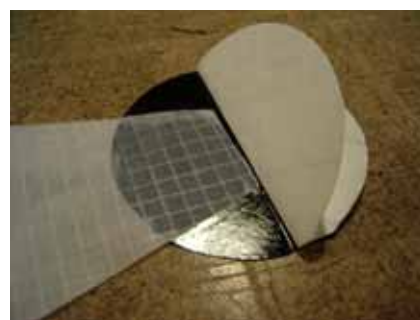
Stencil making! The parts of the body and the keel parts are evident on the sketch. With the two sketches about the wings you can note the points of the direction and/or dragging edge of the wings and smooth with the help of a gfk-rod the curve. Note: the two outside points at the wingtips lie apart only 5mm! Otherwise there is always 100mm distance. The kite is missed up to the wing guidance edge completely with spinnaker seam fabric tape. Because of the large load in the shoulder corners you must absolutely sew on reinforcement in these places. Now

still shortly something to the relaxation and pockets for the rods. Above at the head point there will be a loop for the nock and into the tail corner a staff execution with 2 eyes or a loop for a stretching and/or a rubber cord. The bracing at the wingtips is made by loops also and a rubber cord. Also here one can make an eye or a loop. I personally prefer however the loops, since they are more beautiful than simple holes. So - now we come to the description of the sequence.



### Sequence:

1. **Drawings:** Structural drawing and notes read still once exactly and slowly!
2. **Stencils and Cut out:** Prepare the stencils after sketches. Again completely importantly! Don't forget the seam additions! Cut out the parts.
3. **Reinforcements Keel and Body:** Glue on reinforcements with a diameter of 50mm (adhesive dacron) at the top of the head in front and back, cut it out and sew it. Glue also the reinforcements on the acute angle corner on the outside of the keel and sew it. The rest will be used for the shoulder.



4. **Seam Keel and Body:** Seam the keel parts at 3 sides first and after this - both parts in a common seam together-sew. Helpful will be a seam-tool for 25mm fabric!



5. Seam the head-edges with 25mm fabric (Ripstop).

6. **Keel:** Make a parallel seam in the distance of approx. 20mm over the entire length reduce.



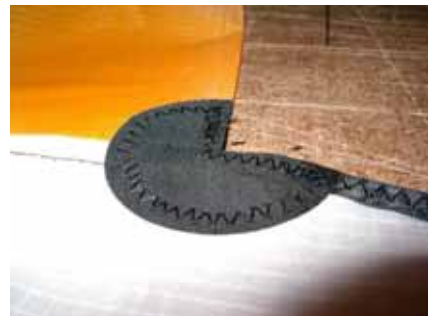
7. **Body:** Now we need to sew the first part of pockets for the spars at the tail of the bird. Make a seam on the topsite of the part. Fold the band on the centerline (1,5cm) and sew it on this line.



8. **Wings:** Sew the wing parts with a closed lap seam together.



9. **Body and Wings:** Sew the wings to the body with a simple lap seam. Glue on reinforcements with a diameter of 50mm (adhesive dacron) into both shoulder corners in front and back, cut it out and sew it. It's the same diameter like the part at the head of the kite. Adhesive Dacron is the same material which used from sail-makers for the numbers on the sails. Normal Dacron is also ok.



10. **Leading edges of the wings:** The tunnel for the wing spars around the wing leading edge is made with 6 cm Dacron or thick ripstop. Fold it first. Take the reinforcement (6cm x 6cm) with normal tape at





the edge in the shoulder area. The leading edge of the wings must be in the folded edge of the Dacron.



11. Cut the wingtips. This is exactly the place, where the dragging edge with the edge of the tunnel cuts itself. Both wings need the same length measured from the shoulder.



12. **Trailing edge and tail area:** Seam the trailing edge with folded 25mm Ripstop. The start point is always the wingtips. We need additional seamband (min 4cm) for the loops on the wingtips later.



13. Seam also the corner of the tail area. Pay attention in the small radius of the trailing edge. Sew very slow and careful! Use first a long straight stitch. By the seam of the trailing edge - the pocket for the tail spar will be close.



14. Take a second seam with a zigzag stitch on the seam from wingtip to wingtip.

15. **Tail corner:** Glue the reinforcement in the corner of the tail on both sides. Cut it out and sew around the edge with included Dacron for the leading of the mid-spar (backside).



16. **Wingtip loops:** Make with the additional seamband (4cm) at the wingtips a loop (5mm). Use a zigzag stitch.

17. **Head loop:** Sew a loop with a 6cm x 5mm seamband on the top corner of the head.



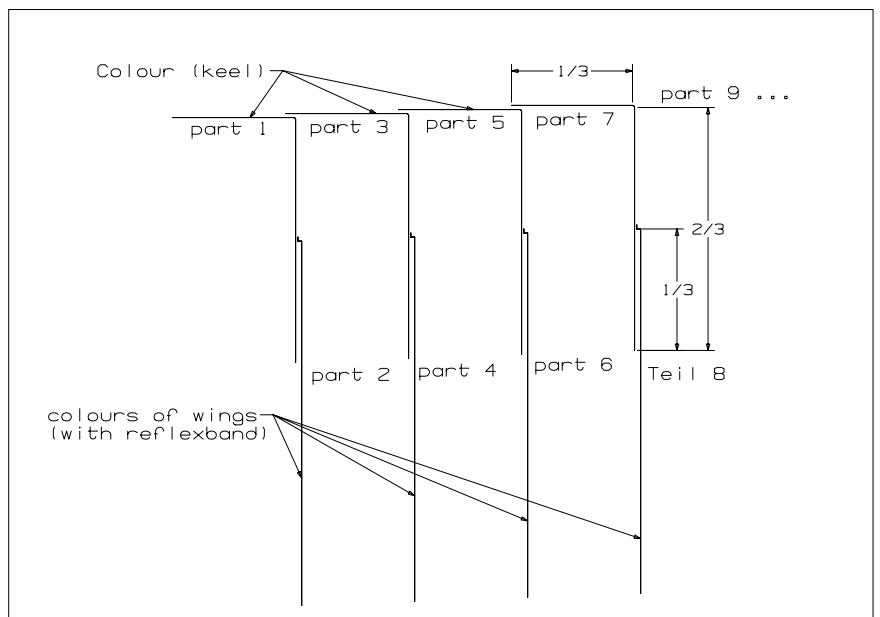
18. **Keel and body:** Sew the keel on body. The start point is the corner in the shoulder. Important: Don't close the tunnel for the wing-spars.

- 19. Points of balance and tail corner:** Punch a hole for the balance point in the keel and in the one hole in the tail corner. Press a rivet in the holes.



- 20. Stretchlines:** Knot a rubber-line (20cm) in the loops of the wingtips. The knot should be in the middle of the rubberline. Also a normal line (20cm) in the rivet of the tail corner.

- 21. Spars:** All spars should be the same length (approx. 155cm). Take Exel-Nocks or FSD-Nocks (Level One) on the spars. Don't forget the the eddy-fitting on the mid-spar. Take also end caps (2mm) on the 1mx2mm Gfk-spar. On the central spar come 2 nocks and 1 eddy-fitting. At each wing spar is 1 nock and on the tail elbow 2 end caps (2mm). In order to prevent a bar break of the wings at the Eddy link, you can strength the CFK pipe with a spar 4mm x 10cm inside (glue it).



- 22.** Stretch the kite with the rubber-line and the line in the tail corner!

- 23. Kite-tail:** You need to be joined 2 partial tails from altogether 24 strips with 5cm x 100cm to one. A short with 8 strips and the long partial tail with 16 strips. Thus the tail within the upper range becomes more volume. The kitetail is fastened with a bay knot to the end of the central staff. Mix the colors in the tail! It is easy if you make parts 1,3,5,7... in the color of the keel and the others are the colors of body and wings.

- 24.** Sew both parts of the tail together and glue a reinforcement (5cmx5cm) on it. Cut it and sew around the edge. Now we need only a rivet and the line.



- 25. night flight fitness:** We took the 3mm reflectiveband from 3M on the kites and kite-tails.

- 26. Ready!**  
**Have fun with your kite !**

## Bill of material

1 inch = 25.4mm

10mm = 1cm = 0.3937 inch

<i>quantity</i>	<i>discription</i>	<i>size</i>
2	<i>cfk-spar (wing)</i>	<i>6mm x 155cm</i>
1	<i>cfk-spar (center spar)</i>	<i>6mm x 155cm</i>
1	<i>gfk-spar</i>	<i>2mm x 100cm</i>
1	<i>ripstop</i>	<i>ca.3m<sup>2</sup></i>
1	<i>eddy-fitting</i>	<i>6mm</i>
2	<i>end cap</i>	<i>2mm</i>
4	<i>nock (exel or FSD)</i>	<i>6mm</i>
1	<i>seamband 25mm</i>	<i>15m</i>
1	<i>adhesive dacron</i>	<i>15cm x 15cm</i>
3	<i>adhesive fabric</i>	<i>5cmx5cm</i>
1	<i>dacron 6cm breit</i>	<i>6cmx310cm</i>
1	<i>line</i>	<i>40cm</i>
1	<i>Rubberline 2mm</i>	<i>40cm</i>
1	<i>Reflexband (for night flight)</i>	<i>3mm x18m</i>

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**“And the whole time enough wind under your kite!”**