A Vampire on the Line

Photos and text by Charmayne and Bob Umbowers with drawings by Ralf Dietrich.

Many times when someone designs a "new" kite, the idea actually starts with another kite. In 1991, Manfred Uphoff of Germany used what he found in a kite book to make "der Fledermaus." His bat is big, durable, and flaps its wings in the sky. We saw several of Manfred's bat design flying at the Fano 2000 International Kite Fliers Meeting. They were incredible to watch in the strong wind: unusual and in motion. One kite makes an impression in the sky; a flock of bats is a knock out display. We have found the bat's wind range is fairly wide, but as the wind speed increases, you will want to give him plenty of airspace.

We came home from Fano knowing we had to have our own bat kite. Not being able to find a set of plans, yet sure they must exist, we posted a message in the German kite newsgroup. Ralf Dietrich replied and sent us a copy of the Drachen Magazin article he had written. Ah! We had the plans. First step was to type in and translate the German. Using language translation software is always interesting as one gets some very bizarre results. "*First, the two wing-parts are positioned at the exhausted stomach-slice. Unpracticed dragon-farmers should fix the respective spinnaker-parts for this, about a moves when sewing and so that to avoid a possibly crooked flight-situation.*" It makes us smile but it does get the job done! Our last step is always the test flight. Below is what comes between. Because of the kind permission of Ralf and Manfred, we are able to share the bat with you.

Material list

- 3 yards of .75 ounce ripstop nylon, black
- scrap of yellow .75-ounce ripstop
- 1/2" wide heat slit edge binding (recommended for durability)
- 1 red Eddy connector dihedral
- 2 1/3 yards of 3" wide 4-ounce Dacron reinforcement material
- 23 inches of 4 ounce 3" wide Dacron (additional for keel)
- spreader-rods: 4- FL248 epoxy tubes (.248OD), 2 ferrules, 2 vinyl end caps
- spine: 2- A20 rods, 1 ferrule, 3 vinyl end caps
- vertical wing rods: 2- 5/16" wood dowels
- interior vertical wing rods: 3- 1/8" fiberglass rods, 12 vinyl end caps
- ear sticks: 1- .070 carbon rod, 2 vinyl end caps

Special notes

1. For accuracy, measurements on the drawings are metric (centimeters). I have given English equivalents when the measurement is not critical.

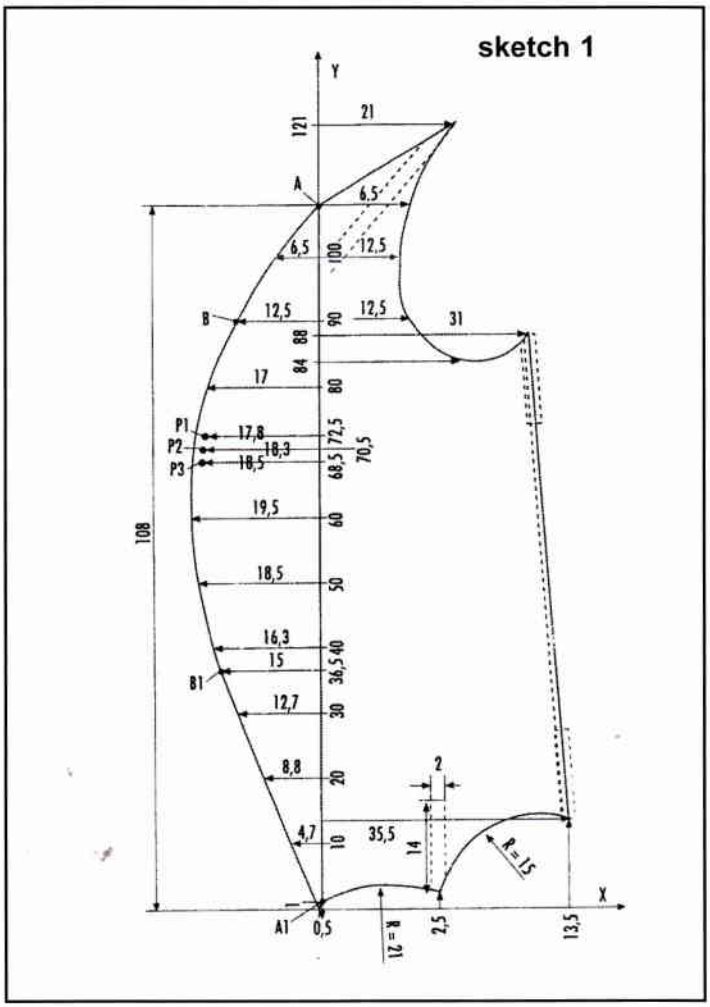
2. The sleeve/pockets: I use 1" wide edge binding cut to the proper width for sleeves. Scraps of .75-ounce ripstop work, too. Sew 1" of Dacron on one end. The Dacron end goes to the edge of the kite. It will take more wear than will ripstop should your bat crash.

3. For durability and definition in the sky, we hem or edge bind all our kites. You may choose not to edge bind the bat kite.

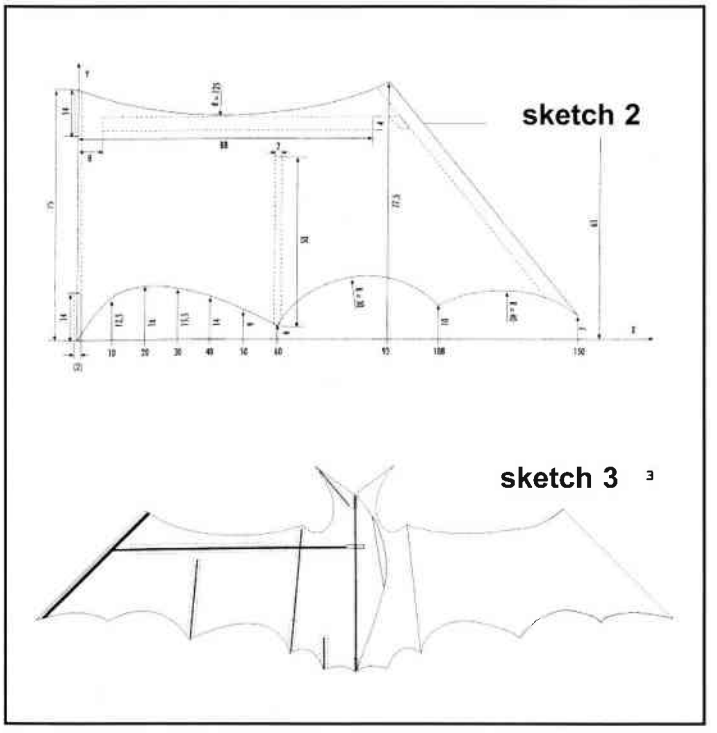
Preparation

Cut out two wings and two body pieces from black ripstop in accordance with sketch 1 and sketch 2. Draw a pencil line on one body piece between the points

A and A1. Mark points B and B1, P1, P2, and P3. This is now the right side of this piece. Cut the 2 1/3 yards Dacron into 4 pieces as follows: 1- 11" x 3" wide piece for spreader rod pockets. Cut the remaining 2 yards, 1" lengthwise into a 2" wide strip and a 1" wide strip. Cut the 2" wide



Bat Eyes & Bat Ears



piece in half, making 2- 2" x 36.5" long pieces for the wing rod pockets. Some of the 1" wide strip will be used for other sleeve/pockets. Heat seal cut edges.

Body and Keel

Eyes. Draw your bat's eyes on scraps of yellow ripstop nylon. Make them about 4.5" long and 1.5" wide. Put one eye on each of the body pieces using the photos as a guide. Make a left and a right body. The yellow goes on the wrong side of the black. Sew with a narrow zigzag stitch using black thread. Carefully cut away the black inside the stitching. The bat's eyes will glow when backlit by the sun.

Ear rod sleeve and pocket. The sleeve is 7". Note the angle it follows (sketch 3). The pocket at the spine will be down 80cm (about 3 1/8") from the top of the head and gets sewn on later. The sketch indicates this point to be about 100cm but the angle works out to about 80cm. (See photo.) Repeat for other ear.

Sew in place the 14 cm (about 5.5") sleeve at the trailing edge of the kite (sketch 3), leaving the top edge open. Repeat on the other body piece.

Fold the ½" edge binding in half. Narrow binding is necessary due to tight curves. I use a narrow zigzag stitch. Sew slowly. Edge bind from point A to the ear tip. Edge bind from the ear tip around the tight curve of the back of the head to where the body will be sewn to the wings. Edge bind the 2 curves on the trailing edge. Do both body pieces.

Put the 23" x 3" wide Dacron piece from point B to B1 on the wrong side of the body piece you marked with the pencil line/points. The Dacron reinforces the keel. Zigzag (narrow stitch) the long straight interior Dacron edge from B to B1. Straight stitch around points P1, P2, and P3. (See photo.) Trim off excess Dacron.

Align the body pieces on top of each other, wrong sides together. The pencil line and markings should be visible (if not, re-mark your line and points). The Dacron is between the two pieces of fabric. Straight stitch along the pencil line A – A1. Edge bind the curved outer edge from A - A1. When you open out this piece, you will see the bat's head and body,

Holy Bat Keel

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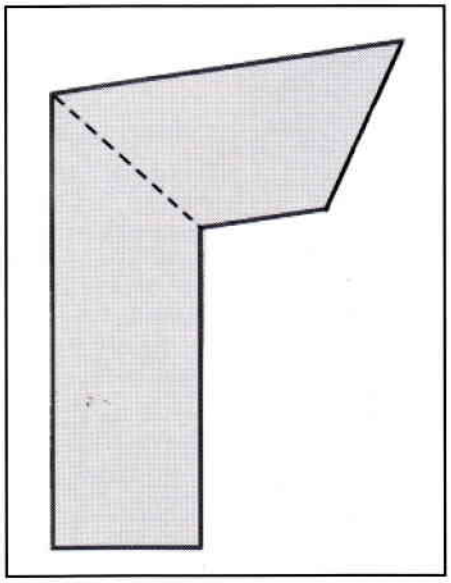
complete with keel. Using a hot pen, carefully pierce through the 2 layers of fabric and the Dacron at points P1, P2, and P3. You can use rivets. We don't, as anything metal will corrode in our salt air. These holes are the tow points for varying wind speeds. We lark's head a loop through a hole and attach the flying line to the loop. (See photo.)

Spine pockets. The spine goes from point A to A1 (sketch 1). Pockets are 14 cm (5.5") long. These sleeve-pockets need to be sewn on carefully, folding the keel out of the way. You sew one side of the sleeve/pocket and then move the keel out of the way again before sewing the other side. Do both top and bottom sleeve/pockets. Don't catch the keel in your stitching. It must remain free.

Ear rod pocket. Use Dacron for this pocket. It is sewn 80cm (about 3 1/8") down from the top of the head, in line with the sleeve. Position it just off the spine pocket. (See photo.) Repeat for other ear rod.



Pocket pattern

Wings

Sew on the 50cm (about 19 ¾") long sleeve for the vertical rod in the center of the wing (sketch 3). Repeat for other wing.

Using the 2" wide Dacron folded in half lengthwise, encase the wing edge. This will form the pocket for the rod. Repeat for other wing. See Sketches 2 and 3.

Edge bind the entire trailing edge. Edge bind the leading edge, starting where the wing gets sewn to the body. Don't sew the last 6" or so. After the rod is sewn into the pocket, the edge binding gets finished. Don't do it now. Repeat for the other wing.

Spreader sleeves and pockets. Cut 2 pieces of .75 ounce ripstop 78cm x 4cm (about 30.5" x 1.5") from leftover fabric. Position as shown in sketches 2 and 3. Stitch in place, leaving both ends open. From the 11" x 3" wide 4 ounce Dacron, cut 2 spreader pockets, using the template. Heat seal the cut edges and fold as shown on the template, making a left and a right. Position the fold at the edge of wing rod sleeve and in line with the spreader sleeve. (See photo.) Stitch the pocket in place. Repeat all steps for the second wing.

Bat Spreader

With right sides together, sew each side of the body to the wings. Remember the translated sentence above? This is what it means: Position the wing edges and the body edges carefully. Be very sure that they do not slip. If you are a beginning kite-maker, double-faced tape can help, pins can help. If your pieces slip while you sew, your bat may not want to fly straight.

The last sleeve now gets sewn in place. It is positioned over the seam you just sewed. The sleeve is 2 pieces, each 140mm (about 5.5") long. The leading edge sleeve should have an extra piece of Dacron sewn on at the point where the spreader rod will cross it. The spreader rod will rub against the vertical rod and will wear a hole in the ripstop. Repeat for the other wing.

Rods

Cut 2- 1/8" rods 12cm(about 4 ¾") long and put on end caps. Slide into the 14cm sleeves on the body, check the fit and sew the sleeve closed. Repeat procedure for the 50cm sleeve.

Cut the 2 wood dowels for the outer wing rods about 85cm or 33.5" long and round the ends. Slide the dowel into the sleeve and check the fit. There should be enough room to allow for you to easily sew the sleeve closed. Don't make the fit too tight. Adjust as necessary. Sew sleeve closed. Edge bind the remainder of the leading edge.

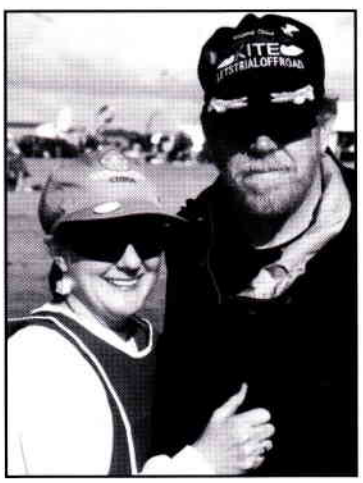
Cut the rods for the ear tips and pockets over the body/wing seam. Add end caps. Cut the spreader rods. Glue the external ferrule onto the short piece, the end cap onto the long piece. The wings should be tensioned but not overly stretched.

Cut the rods for the spine and glue together with the ferrule. The spine uses a 3rd end cap that has the tip cut off. Slid it down to about the 30cm mark from the leading edge of the rod. Slide the dihedral in place above the stopper. Add end caps. Glue the end cap stopper in place after determining exactly where it needs to be. You will find this position after the bat is assembled.

Assembly

Most of the rods stay in place. Put the spreaders rods together, slide one though the sleeve and into the pocket. Then put the rod into the dihedral connector. Repeat with the other spreader. Slip the ear rods into their pockets.

You are ready to test fly. We always seem to find errors and missing information in kite books and plans. I am sure my directions are not perfect either. Apologies in advance! You can email us at 2kiters@2kiters.com if you need clarification. Good luck in building and we hope to see your Fledermaus in the sky some day.



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