

# 4' Rokkaku

1 ½ yards, ¾ ounce ripstop nylon or polyester  
1 - .188" carbon tube, 48"  
2 - .156" carbon tubes, 48"  
2" nylon tape, "  
3.9 ounce Dacron for reinforcements  
1" grosgrain ribbon, 8"  
¼" grosgrain ribbon or nylon lacing, 12"  
6 - ¼" split rings  
4 - .156" FSD endcaps  
2 - .196" FSD endcaps  
Lightweight line, 8'  
2 - line tensioners or buttons  
100# line, 96", 72", and 48"

This scaled-down rokkaku is an easy weekend project. This kite is an evolution of designs by Ron Gibian and the late Scott Spencer, two kitemakers who have given me a lot of advice over the years.

Cut the sail according to the pattern. Decorate as you like.

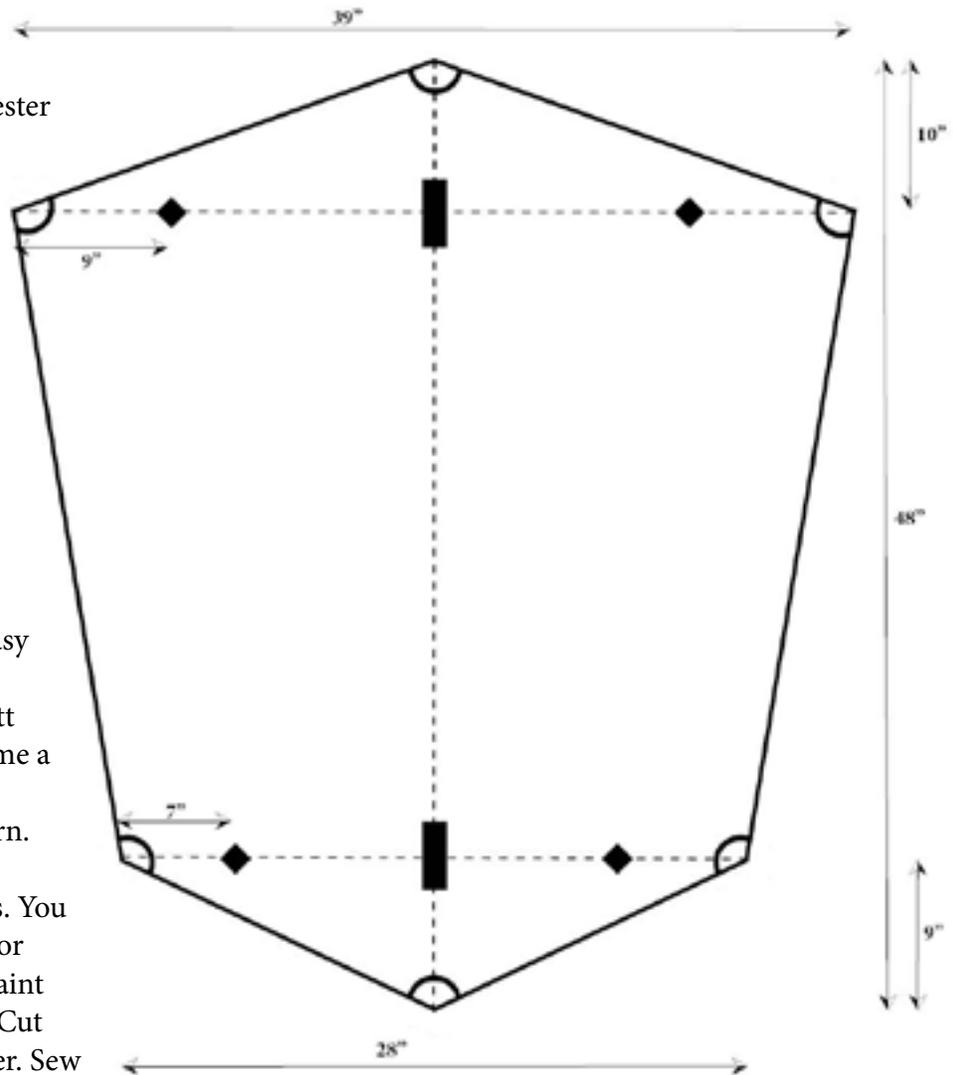
Add reinforcements to the corners. You can use 3.9 ounce Dacron, banner nylon, or a clear plastic like Norlam. I use a spray paint can as my template, and cut three circles. Cut out wedges from the circles for each corner. Sew them into place along the curved edge only.

Sew on edge binding. Take 2" nylon tape or ribbon, fold in half, insert the edge of the sail into the fold, and sew in place. I often use a decorative stitch with contrasting color thread on edge binding. Use a hot cutter to trim the edge binding to the sail size.

Cut a 3" piece of lacing or grosgrain ribbon. (I use a narrow nylon shoelace.) Thread it through a split ring, then fold it over on itself. Hot cut a tiny bit off the end to weld the ends together into a loop. Place the loop on the back of the sail, on top of a corner reinforcement, lining it up with where the spreader will go. Sew in place with a zigzag stitch. Repeat at the other three corners where the spreaders attach.

Attach the four .156" endcaps to the split rings. Insert one end of the top spreader into an endcap, and mark the other end where it will need to be cut. It's better to measure long at first and trim down if necessary, because if you cut the rod too short you'll need to start over with a new rod. Repeat with the bottom spreader. Insert both spreaders, check their fit, and then remove them.

Now you'll sew on the loops and split rings at the top and bottom, for the spine. This is exactly the same as what you've already done for the spreaders, but with some added caution. Assemble your loops and split rings, but also attach the endcaps. Slip the endcaps onto the spine and hold them in place with a piece of masking tape. Lay everything down on the back of the sail, so you can see where to sew the loops. Mark the location... but now move that mark about 1/8" toward the center of the sail, away from the edge. Remember, the spine is 48" long, so if the endcaps are even a little bit out of position, the spine will be too short. It's better to move the endcaps inward, because you can always trim the spine to fit, but you can't stretch it. Remove the spine from the endcaps, and sew the loops into place using the mark you made as a guide.



Locate the spots on the back of the sail where the 1" x 1" bridle reinforcements will go, aligned with the spreaders. Sew them in place.

To make the spar guides, cut two 3" length of the 1" grosgrain ribbon. Now cut two 3/4" pieces. Center one of the small pieces on a large piece, and sew together along the 3/4" sides only, leaving the 1" edges open. Repeat with the other two pieces of ribbon. Draw lines on the back of the sail where the spreaders and spine will be. The spar guide goes at the intersections of those lines, centered so that the spine runs through the length of the 3" piece, and the spreaders fit through the 3/4" piece. Sew the guides into place, sewing only down the long sides of the guides, being careful not to sew the sides of the 3/4" piece closed.

Use your hot cutter to burn a hole through the center of each of the four bridle reinforcements, just big enough for the bridle lines to go through.

Take the top leg of the bridle (96"), and tie a loop in each end. Insert the top spreader through the spar guide, but do not put it into the endcaps yet. Insert the loop through the sail, make a larkshead knot, and affix it to the spreader. When both loops are attached, put the spreader into the endcaps.

Take the middle leg of the bridle (48") and tie loops in both ends. Larkshead (or even double larkshead) it to the top leg of the bridle. Larkshead the loop on the other end, and slide it onto the bottom bridle leg.

Tie loops in both ends of the bottom leg (72"), and affix them through the sail to the lower spreader, as you did with the top spreader. You should now have both spreaders in place in their endcaps, with a complete bridle attached. Make a small loop of leftover bridle line, and affix it to the middle bridle leg with a double larkshead (Prusik) knot.

Insert the spine through the guides and slip it into its endcaps. From now on, when you disassemble the kite for travel, you should only remove the spine, not the spreaders.

Add bowlines along both spreaders. Tie the line to the left-hand split ring, run it through a line tensioner, through the right-hand split ring, and then tie it back to the tensioner.

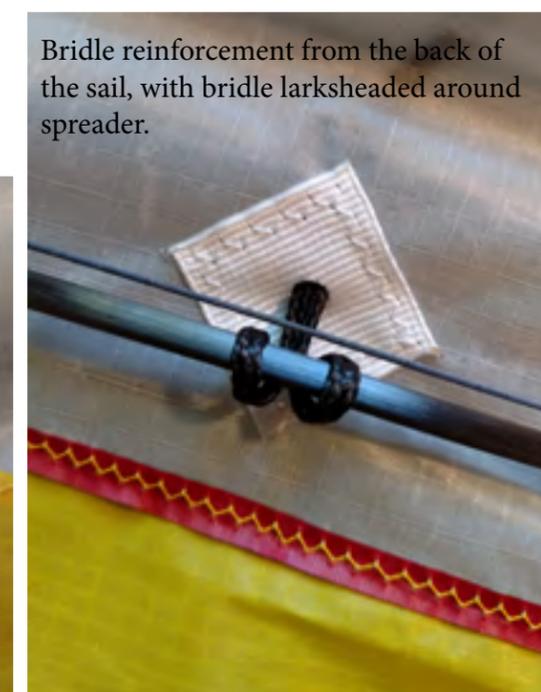
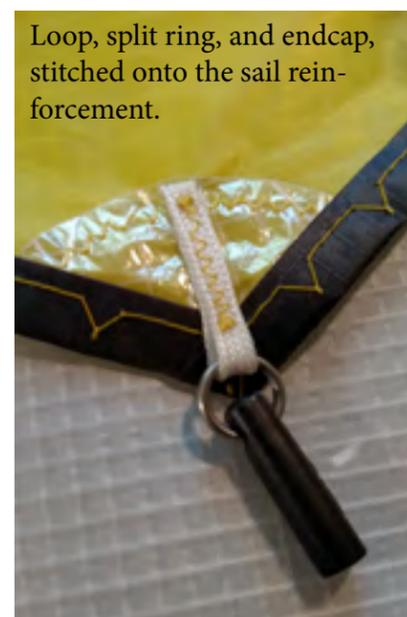
Your kite is finished and ready to fly. It will fly fine without a tail, but I like to add a 16'-20' fuzzy tail for decoration. Cut 3"-4" wide strips of fabric. Using lightweight line, sew the strips end-to-end along the line, keeping the line centered on each strip. Be sure to leave about 12" of the line free, before you affix the first strip. Once all the strips are sewn on, use scissors to cut them into fringe. Be careful not to cut the center line. Tie the loose bit of line at the end into a loop. To attach the tail to the kite, simply slip the loop around the bottom endcap before you insert the spine into it.

I've made several of these kites as gifts, because they're so easy to build, and relatively easy for even a novice to assemble quickly and get into the sky.



The bow line passes through the split ring.

Spar tunnels, where the spine and spreader cross.



Loop, split ring, and endcap, stitched onto the sail reinforcement.

Bridle reinforcement, from the front of the sail.

Bridle reinforcement from the back of the sail, with bridle larksheaded around spreader.

