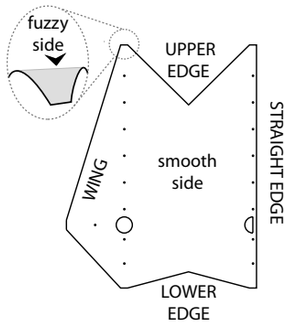
Building your ZIGZAGGY™ box kite

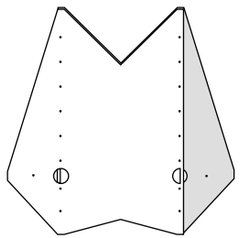
Each kite kit includes: 4 sails, 4 long rods, 4 short cross-sticks (1 with connector), 1 sheet of 12 tapes, 2 pieces of bridle line. You will need a small nail or large, sharp needle.



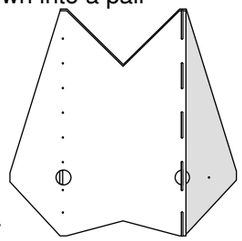
Before building, identify parts and study the sails: know upper from lower edges as well as smooth from fuzzy sides.

Joining sails with the vertical rods

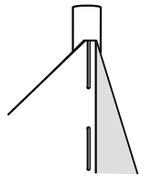
1) With fuzzy sides together, lay one sail on top of another, upper-edge-up, with straight edge holes aligned over wing holes.



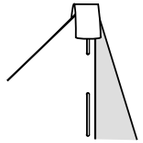
2) Starting at the lower edge, poke the end of a long rod down into a pair of overlapped holes. Weave in and out, through both sails, all the way to the upper edge. When properly positioned, the vertical rod passes **only through small holes**, passes *over* the large holes, and its ends show on the surface at the upper and lower edges of the sails. Smooth both sail layers and adjust so the rod fits neatly from upper to lower edge.



3) To tape the rod in place: Lift the two layers of sail with one rod end and slide half of one tape, sticky-side-up, underneath (tape runs parallel to rod).

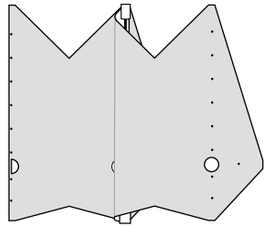


Fold the remaining half of the tape over to form a pocket around the rod and sail ends.

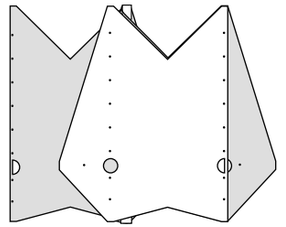


Repeat at the other end of the rod.

4) Now, open the sail on top as you would turn a page.



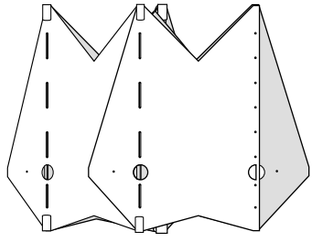
5) Lay a new sail on top of it just as in step **1**. **Always join one straight side to one wing side on the right, fuzzy sides together.**



Repeat steps **2, 3,** and **4**.

Then lay the last sail on top of the third sail and join as in steps **2** and **3**.

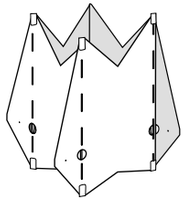
6) Turn open the last (top) sail as in step 4. Bring the free straight edge *all the way over* to the wing on the right. Align holes as shown. Join as in steps **2** and **3**.



You now have a soft box, smooth-sides-out. A wing extends from each corner.

When you are sure all the sails and long rods are joined correctly, with no vertical holes skipped, rub or scratch hard on both sides of each taped end against a hard surface.

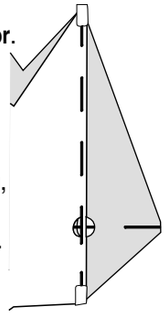
Stand the box loosely by positioning the four lower ends on the table to form a 3D shape. (As you insert the cross-sticks, the box will hold its shape better.)



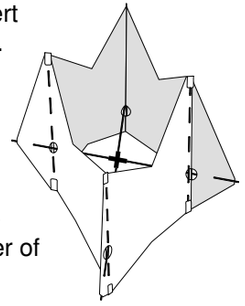
Attaching the cross-sticks

(All four cross-sticks must be in place before you tape them.)

7) Start with the cross-stick **with connector**. Pass the free end from inside the box, to the right, through the large hole where two sails meet, behind the vertical rod and thin strip of sail. Continue behind the first half of the wing, then through the small hole so the rod end shows on the fuzzy side of the wing.

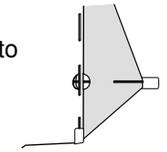


Rotate the box so you see the next wing extending to the right. Insert the next cross-stick as in step **7**. Once that stick is correctly placed, put the inside end into the corresponding branch of the connector.

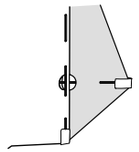


Repeat with the next two cross-sticks, forming an X in the center of the box.

8) To tape the cross-sticks in place: Slide half of one tape behind a wing tip so it sticks to the smooth side and is parallel to the cross-stick. Hold the end of the cross-stick at the exact edge of the wing tip.



Fold the remaining half of the tape over onto the stick end (don't rub yet).



Repeat at the next three wing tips. The box will seem loose and floppy until you apply the final tape, where you will have to pull the wing tip out slightly to meet the end of its cross-stick and tape it in place. This forms a tight-but-not-stressed fit: sticks not bowed, wings not twisted. Adjust other wings if necessary and then rub or scratch each taped end.

Tips about decorating:

To make each kite unique, design with color and lines to enhance its form. Keep in mind the 3-D shape and all four sails, including both sides of each wing - you will see different views as the kite flies.

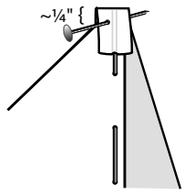
To decorate before building, be sure to plan according to how the sails will join.

When decorating after building, you can slip something stiff, such as cardboard, between the sail and any rod that may create a line.

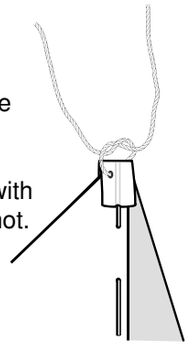
Use markers (except "washable") or acrylic paints (diluted with water till drippy but not runny). Crayons work, but only after building, as the tape will not adhere to wax.

Bridling the kite Your kite has two different points where the flying line can be fastened, depending on the wind and the type of performance you want. The first and main bridle point (for most winds) is at an upper front corner of the box. (The front is determined by your decoration.)

9) Measure and mark a spot on the tape, about ¼“ down on the inner side of the vertical rod, as close to the rod as you can. Poke a hole through the mark with the nail or needle.

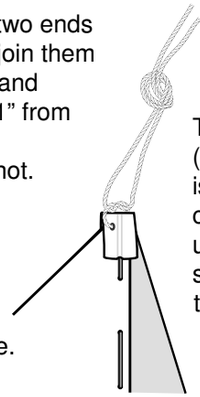


10) Push one end of a bridle line through the hole. Even up the two ends and tie them around the fold of the tape with one overhand knot.



11) Hold the two ends together and join them with an overhand knot approx. 1” from the ends.
Tighten the knot.

This forms a bridle loop where you will attach your flying line.



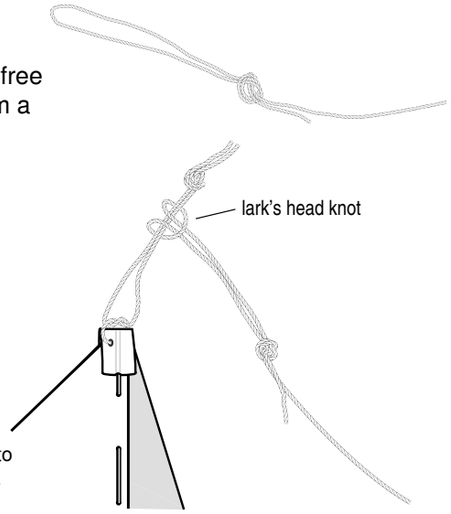
The second bridle point (for very light wind) is at the lower front corner. Just turn the kite upside-down and repeat steps **9**, **10**, and **11** with the second bridle line.

Attaching your flying line:
Tie an overhand knot at the free end of your flying line to form a 3” long loop.

Fasten the flying line loop around one bridle loop with a lark’s head knot.

Tighten the lark’s head knot and slide it against the knot at the end of the bridle loop.

A lark’s head knot is easy to undo to remove the flying line from the kite.



Flying your ZIGZAGGY™ *box kite*

Preflight
Recommended flying line:
8-12lb. test twisted line.

Fly on a dry day in 2-14 mph winds.

Choose a wide open, preferably high, unobstructed location.

Safety
Use common sense – avoid hazards to you, your kite, and those around you.

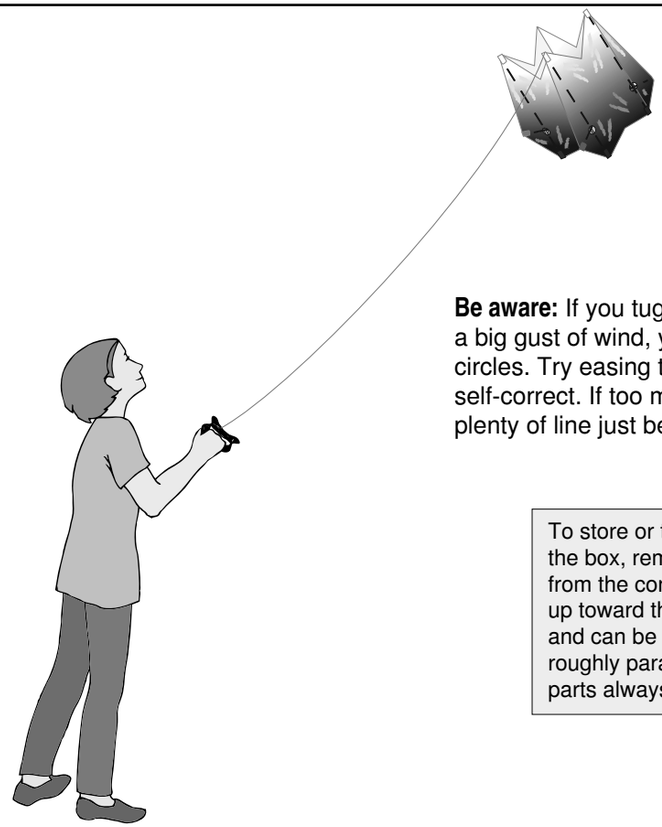
Launching and Flying
For most flying conditions, attach your flying line to the upper bridle loop.

To launch, stand with the wind at your back. Hold the line and let the kite go, right-side-up, tugging gently to make it climb. Or, stand the kite on the ground, right-side-up (line at the top) 15 or 20 paces downwind, and give the line a steady pull to make the kite start flying. Let line out as the wind carries the kite up.

In 3-8 mph winds, the kite should be stable. For fun, you can make it “tumble” if you quickly release several feet of line. The kite will zigzag, somersault, and twirl. When you pull again, the kite will turn upward and stabilize!

In more wind (up to ~14 mph), the kite will stray and be more animated, so find plenty of space in the sky. To keep the box from squeezing shut at the top for too long and losing altitude, slacken the line or move forward.

In the lightest breeze (2-5 mph), try attaching the flying line to the lower bridle loop. The kite will fly “upside-down” and be more sensitive to changes in line tension; tumbling and recovering more rapidly*!*



Be aware: If you tug the flying line too sharply or there’s a big gust of wind, your kite may make some unexpected circles. Try easing tension on the line, enabling the kite to self-correct. If too much wind overpowers the kite, let out plenty of line just before any impact to prevent damage.

To store or transport your kite, simply reach into the box, remove the three movable cross-sticks from the connector and pull all four inside ends up toward the top edges. The box will collapse and can be loosely rolled or folded with all rods roughly parallel. The taped ends stay taped so parts always stay together.

Great Winds Kite Co. Made in USA