

Decorating the Sail

- At a distance, bold, bright features show up best.
- It's easiest to decorate before assembling the kite.
- Use markers (except "washable" ones), acrylic paints diluted with water till drippy but not runny, or crayons. With crayons, **do not** color where you will apply tape: top (head) and center bottom and notches on wings. Tape will not adhere to wax. Once the kite is fully built, color over the tapes!

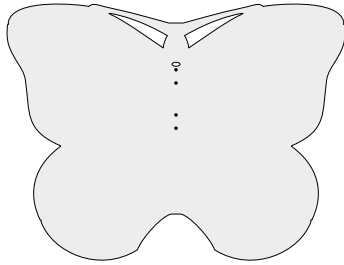
• It doesn't matter which side of the sail you decorate as long as it's top-side-up (antennae and bigger wings at the top).

Tips for creating symmetrical wing designs:

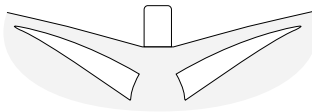
- Fold the sail in half vertically, draw simple details on one wing with a pencil or a fingernail edge. Marks made with moderate pressure will imprint matching guidelines on the opposite wing. (No need to erase.)
- Wet painted color(s) on one wing on will transfer to the other wing when the butterfly is folded vertically then carefully opened back up. Crisp details may be added over dry paint. (Practice on scrap paper.)

Preparing the sail

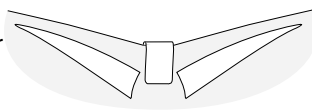
1) Lay the sail decoration-side-down on a work surface (back side facing you).



2) Find the large tape on the sheet. Slide half of the large tape, sticky-side-up, under the "head" at the sail's center top edge.



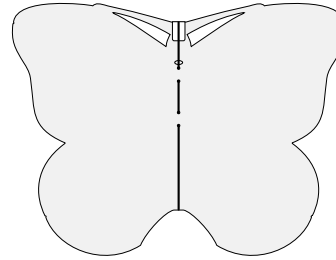
Fold the extended half over onto the side facing you.



This large tape creates a smooth surface for easily detaching the top of the spine for occasional tuning when flying.

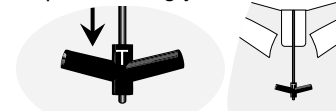
Attaching the spine and connectors:

3) Direct the spine into the first small hole closest to the bottom of the kite, then up through the second in line, into the third, and back up through the fourth.

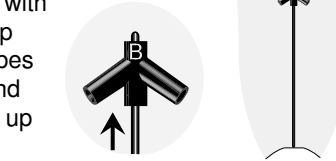


When properly placed, the spine just fits from the top to bottom edge of the butterfly with its ends and a section of the middle exposed on the side of the sail facing you. (It passes *only through the smallest holes*, then *over* the oval hole.)

4) Slip the **Top** connector onto the top of the spine with the letter **T** right-side-up and facing you (side tubes extending upward and off the surface). Slide it down to the uppermost hole (it will sit directly over the oval hole).

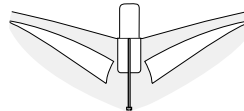


5) Slip the **Bottom** connector onto the bottom of the spine with the letter **B** right-side-up and facing you (side tubes extending downward and off the surface). Slide it up to the lowest hole.

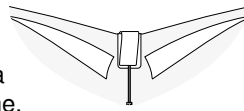


6) To fasten each end of the spine to the sail:

Slide half of a piece of tape, sticky-side-up, centered under the edge of the sail where one end of the spine lies, running parallel to the spine.



Hold the spine in place and fold the extended half to form a pocket over the end of the spine.

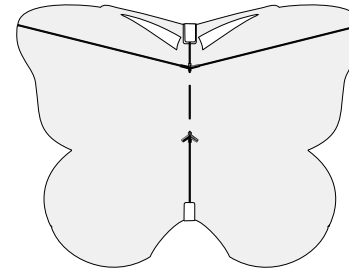


Repeat at the opposite end. (Note: at the top end, you are applying tape over the rod *and* the large tape from step 2)

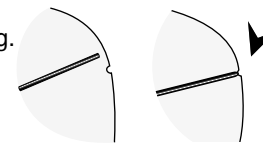
Rub or scratch tapes firmly against sail and rod.

Fastening the spars to the wings:

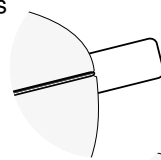
7) Insert the two medium rods *all the way* into the side tubes of the **Top** connector.



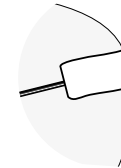
8) Press one of these spars down flat against an upper wing. The end of the spar should just meet the notch.



Tape the spar end to the sail as in step 6. Slide half the tape under the sail and parallel to the spar ...

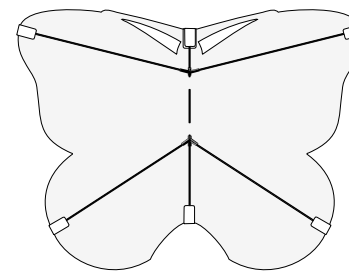


... then hold the spar end right at the notch as you fold the extended tape to cover it up.



Repeat with the opposite spar on the opposite wing.

Insert the two short spars *all the way* into the side tubes of the **Bottom** connector, press to position, and tape at corresponding notches on the lower wings as you did with the top spars.



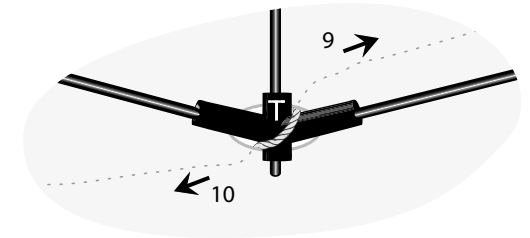
Rub or scratch all tapes firmly against sail and rod.

Bridling the kite:

(It may help to remove spar ends from the **T** connector and/or lift the kite up to do steps **9** and **10**.)

9) Still on the back side of the kite, push one end of the bridle line to the front through the oval hole.

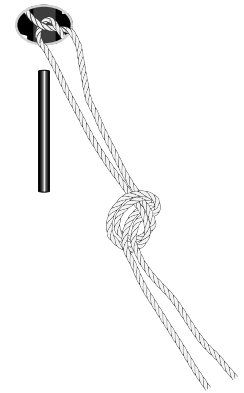
10) Cross the other end diagonally over the **T** connector and push it to the front through the opposite side of the same hole.



11) Now, turn to the front side of the kite, even up the lengths of the bridle line, and tie them around the **T** connector with one overhand knot.



12) Hold the two lengths together and join them with an overhand knot approx. 1" from the ends. Tighten the knot.



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

To store or transport your kite, pull the spar ends out of the connectors, turn the spars roughly parallel to the spine and bring all five rods together. The butterfly will collapse and can be loosely rolled or folded. The spine and spar ends stay taped so the rods can't get lost.

Preflight:

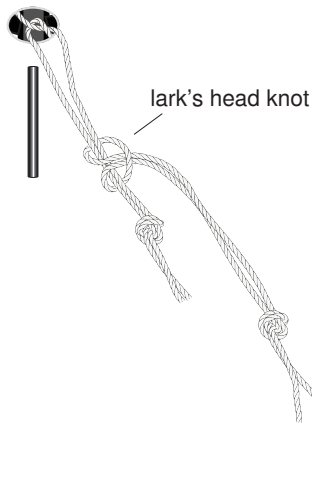
Recommended flying line: 8-12 lb. test twisted line.

Attaching flying line

Tie a ~3" long loop at the free end of your flying line, using an overhand knot.



Fasten the flying line loop around the bridle loop on the front of the kite with a lark's head knot.



Then tighten the lark's head knot and slide it down against the knot at the end of the bridle loop.

A lark's head knot is easy to undo when you want to remove the flying line from the kite.

Flying conditions and safety

Fly on a dry day in 3-14 mph winds.

Choose a wide open, preferably high, unobstructed location.

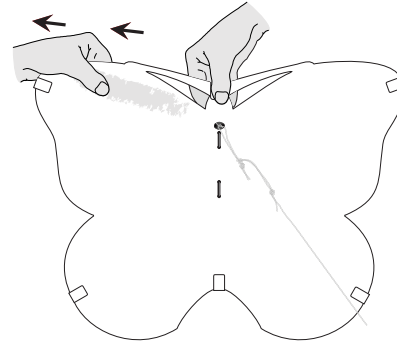
Fly safely. Use common sense – avoid hazards to you, your kite, and those around you.



Preparing the kite for flight

Before your first flight, *it is necessary* to form indentations along the top of the kite to perfect the kite's aerodynamics.

With your *thumb on the front* of the kite, pressing against your fingers on the back, draw your thumb along the upper surface of one wing, from the head out toward the wing tip.



Form an indentation the same way on the upper front surface of the opposite wing.

This insures smooth launches and flights.

Launching and Flying:

Stand with the wind at your back, with plenty of room around you.

Hold your winder in one hand and your kite in the other, top-side-up and front facing you.

Let go or gently toss the kite forward, allowing the wind to lift and push it away from you. With the winder in one hand, work the line with your free hand. As the wind takes the kite up let out line, always keeping a little tension on it.

Near the ground, the kite may dive a bit. Ease tension on the line to allow the kite to right its course.

If the wind dies down and the kite begins to sink, gentle repeated tugs on the line will propel the kite. When you feel the kite pull, let out a little more line to allow the kite to climb and find wind higher up.

If too much wind overpowers the kite, let out plenty of line just before any impact to prevent damage.

Note: *Running* creates erratic conditions which can cause unsteady flying and make the kite crash!

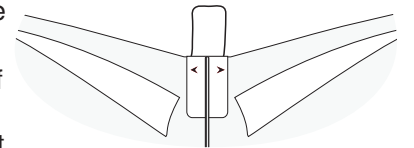


Tuning:

If your kite wanders or circles to one side, try this simple adjustment to correct the kite's flight balance: Make note of the side to which the kite tends (it may help to mark that wing).

Open the back of the tape pocket that holds the top end of the spine.

Move that top end of the rod over toward the marked wing just slightly, $\frac{1}{32}$ - $\frac{1}{16}$ " (for reference, the flying line is ~ $\frac{1}{32}$ " wide), then tape the rod back down.



Test fly the kite to see if it is more stable. Repeat this adjustment as necessary to tune the kite until it flies reliably.