

# Ohashi (Variant) Kite

This kite is based on a design by Japanese master kite builder Eiji Ohashi, in that it is rectangular and uses a rigid central spine with two curved fibreglass spars. Ohashi's own kites have an additional straight spar just above the middle, partly because they are much larger. Its chief unique characteristic is that it does not require any holes for bridle lines to be made in the middle of the skin, making it suitable for graphics. It also does not need a tail.



Fabric: 0.75 oz. Coated ripstop nylon, aka “spinnaker cloth”  
Frame: One 4.8 mm diameter carbon fibre tube spine, two 3.4 mm solid fibreglass rod spars  
Dimensions: 3' x 2' (91 cm x 60.5 cm)

Wind range: 8 -30 km/h, perhaps as low as 6 or 7 km/h, depending on terrain and steadiness of wind, and it has not yet been tested above 30 km/h. Ideal wind is from 12-18 km/h..  
Recommended flying line: minimum strength rating of 30 pound (14 kg) test. Twisted or (preferred) braided, nylon or polyester. Do NOT use monofilament fishing line.

## Assembly

Open the Velcro flap at the tail end on the back and insert the long black spine tube through the bottom pocket, through the tunnel under both spar tabs, and into the pocket at the nose end. Make sure that no part of the black *bridle* line is caught under the spine. Fold the Velcro flap over the end of the spine and press it firmly against the “hook” part of the Velcro on the pocket. (When disassembling the kite, you may leave the spine in, which will save time when assembling it the next time.)

Take the shortest white fibreglass rod and pass it crossways through the tab or loop on the back nearest the nose of the kite. It must be between the spine and the skin. Bend the white rods and insert the ends into the upper left and right corner pockets. Wiggle it a bit if necessary to balance the curve of the white rod from left to right. Again, make sure that the black bridle line is not caught under it. Take the longer white rod and do the same thing with it at the tail end.



*Illustration 1: Back of kite in flight, showing frame*

Adjusting the bow tension lines:

Across the back of the top and bottom ends are a pair of beige dacron bow lines (i.e. bow as in “bow and arrow”, not “bow of a ship”). They both have a black oval “tensioner bead”, which works much the same way as the guy rope tension adjusters on tent ropes. Note that the bead has *two* lines coming out of one end, and *one* line out of the other end.

To tighten a bow line, hold the corner of the kite with the single line in one hand and push the bead towards it with the other hand. To loosen a bow line, push the bead toward the double-line corner. It's like a magic trick!

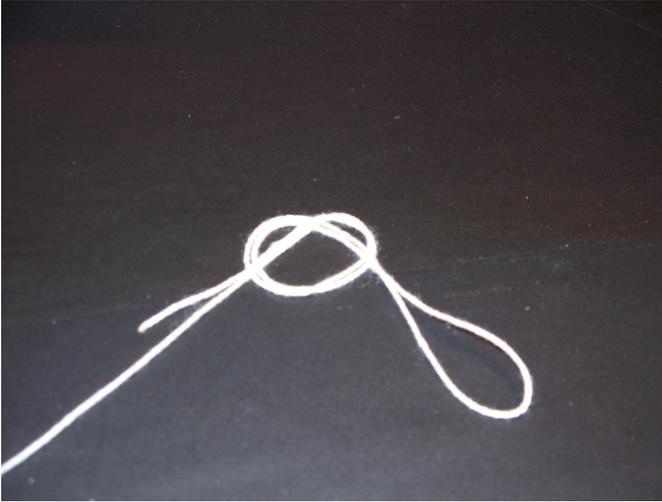
To start with, tighten both bow lines until their centres are about 75 mm (3”) away from the spine. It's not especially critical. I just use the width of 4 fingers.

**Important!** This kite will not fly if it is flat. It *must* have a curve (“dihedral”) across the face.

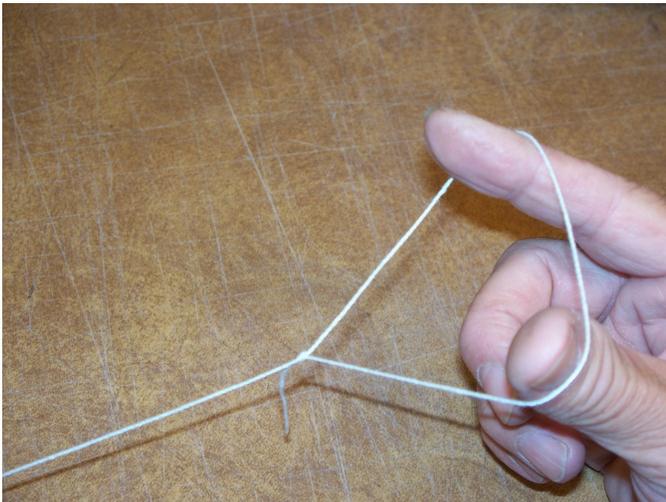
## Attaching the flying line

It's best not to use metal clips or swivels. A simple knot, the "larkshead" or "cow hitch" will work just fine, and is easy to undo. It can be made with one hand while the other hand is busy holding onto the kite.

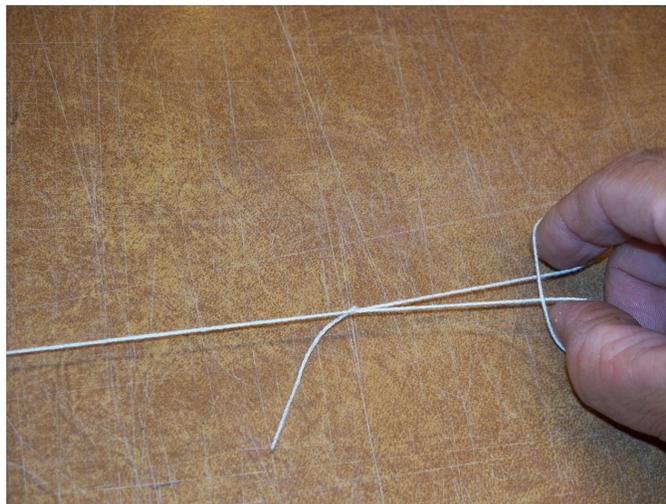
First, the flying line must have a loop, long enough to get a couple of fingers through it, on the end. A simple overhand knot on a loop will do.



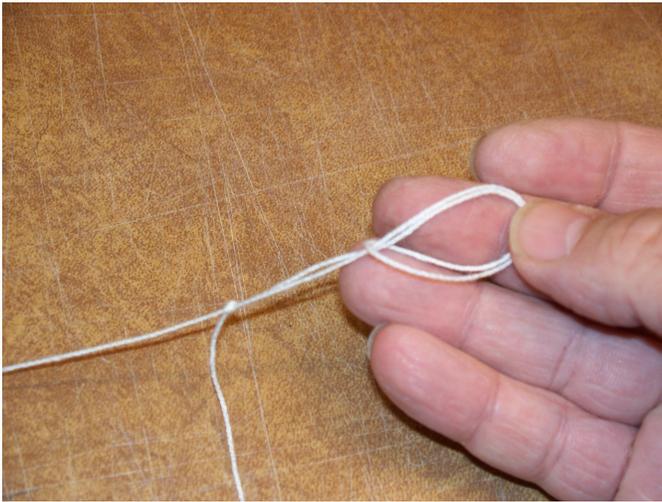
Pull it tight, as this part will be a permanent knot.



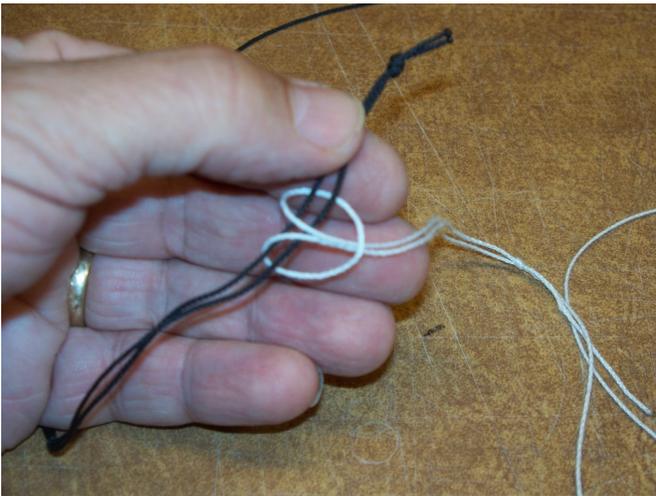
Now, to make the larkshead, put your thumb and one finger through the loop...



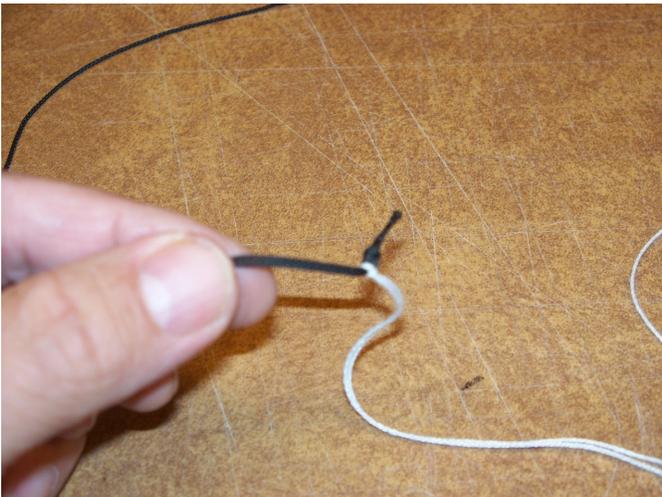
... bend them around to make two "ears"...



... and then pinch to fold them together.



The bridle line on the kite (braided black nylon) has a permanent overhand loop tied into it, similar to the one on the flying line, but it also has an additional short loop of line (called a *pigtail*) with a large *stopper knot* on the end. Pass the loose end of the pigtail through the lark's head ...



... then pull the lark's head tight, pushing it up to the stopper knot of the pigtail.

That's it. The lark's head does not look like much of a knot, but it is very dependable, and is very easy to undo as long as nothing is pulling on it.

Once in a while, though, it's a good idea to cut off the flying line's loop and tie a new one. Otherwise, the very end of the loop may become frayed from you repeatedly picking apart the lark's head.

## Launching the kite

The best methods for launching nearly any type of kite is some variation of the *long launch*, where you feed out a lot of flying line *before* the kite gets into the air. In fact, most kites (even good ones) do poorly on too-short flying lines.

With an assistant:

After tying the flying line to the bridle, have the assistant walk the kite some distance (at least 30 paces, for this kite) downwind while you pay out flying line off the reel. The assistant then turns and stands downwind of the kite, holding it lightly by the bottom corners. At a signal from you, they let go of it and you tug on the flying line. If all goes well, it should fly up in an arc. Once it stabilizes, you can then pay out more line.

Solo launch:

Without an assistant, you have two choices.

A) Prop the kite up against a fence, vehicle, trash barrel, small bush, lawn chair, or whatever, and then walk backwards into the wind while reeling out line. Once you are 30 paces or more upwind from the kite, give it a tug and it will launch.

B) Use some sort of anchor, such as a fence post or (my favourite) a corkscrew-type dog stake. Lay the kite face up on the ground downwind from the anchor, place a weight of some sort on it so that it will stay put for a while, then walk backwards upwind to the anchor reeling out line. Once you get to the anchor, tie or clip the flying line to it. Now go back to the kite, pick it up, and lightly toss it up. Away it goes. Now you can either leave it that way and let it fly itself; or you can go back to the anchor, untie the line, and let out more line.

- Another advantage of the long launch is *safety*. If you feed out lots of line before the launch, and then don't let out any more, then you have a good idea of where the kite will land if the wind fails. You don't want to let out more line than you have room to safely land the kite (power lines? trees? traffic? houses? livestock?).

Notice that I have said nothing about *running* with a kite. Don't run with a kite to launch it. You will either damage the kite, or damage yourself. If a child wants to “run with a kite”, give them a plastic shopping bag on a string.

Sometimes, though, you may need to “pump it up” (with a series of long tugs on the line) through a dead zone of low wind, until it hits better wind a few hundred feet up.

If it tends to figure-eight, swoop, and dive, it may be that the bow lines are too loose, and the kite is too flat. Also, check to see if the bridle lines has gotten caught behind one of the corners.

In higher winds (say, 20 km/h and up) you may need to use more of a bow, such as a depth of “4 fingers plus a thumb” at just the tail end, or at both ends.

In stronger winds I've seen it sort of “shimmy”, but it still stayed in place without looping or diving.

## Landing the Kite

Avoid reeling the line in while it is under tension. “Walk” it down by anchoring it, then go hand over hand along the line to bring the kite down. After you detach the flying line, reel it in. This will also help to sort out any accumulated twists in the line.

Don't let the line slide through your hand (even with gloves on) while it's under tension. Thin lines can easily slice through leather and draw blood. Also, instruct any assistant or bystanders to never grab the

line of a kite that is still in the air, for the same reason.

If the wind is not too strong, then there is a trick you can do with the stake reel (pointy handles at both ends) that I have provided. If you are right-handed, hold the flying line tightly with your left hand, and rest one end of the reel in the crook of your left elbow. Pull some line in with your left hand while twirling the reel with your right hand, rolling up the slack. Repeat pulling in line and spinning the reel until it's down. You can also use your left hand to guide the line back and forth along the reel as you twirl it. The object is to keep just enough tension to wrap the line on the reel neatly.

You can also reduce line tension by walking downwind as you reel the line in, then walk upwind while holding the line tightly. Back and forth, until it's done.

## The Ins and Outs of Line Handling

A very important thing to decide right from the get-go about handling flying line is how you will let it out and how you will wind it in.

One way to let line out is (A-out) to hold the reel firmly by one end and let it spill off the other end. Another way is (B-out) to hold the reel loosely in both hands and let it spin while the line runs off from the middle.

Again, with winding it in, there are two methods. One is (A-in) to hold one end of the reel in one hand all the time, while the other wraps the line on. A second method (B-in) is to twirl the reel with both hands.

Here's the thing. If you let out line using (A-out) and wind it in using (B-in), then *the line gets twisted and will become horribly snarled the next time you use it*. Similarly, (B-out) with (A-in) will cause twisting. So, to save a lot of grief, decide which methods you will use for any given flying session, either (A-in) with (A-out), or (B-in) with (B-out).

A third method (C-in) is similar to (A-in), except that you count the number of times you wind with one hand (say, 20 wraps), and then *switch hands* for another 20 wraps, switch back after 20 wraps, etc. Counting and alternating sides until the line is all in. The net effect though, is the same as (B-in) because the twists change direction every time you switch hands, and they cancel each other out. You may only accumulate, say, 20 turns over the length of the entire line, which isn't much. So, (C-in) is compatible with (B-out).

My personal preference with a stake reel is *always* (B-out) and (B-in).

## Storage

If you want to hang it on the wall or ceiling, you should make the bow lines slack, and let the fold of the spine pocket flap stick out a bit so that the spine doesn't stretch the fabric too much for too long.

To store in the bag, simply pop the white spars out of their corner pockets, pull them back out of the tabs, and roll them up in the fabric of the kite. You can leave the spine in place, but open the bottom Velcro pocket flap. Make sure that all three sticks still have their black vinyl end caps in place. They prevent abrasion of the fabric by the ends of the rods and tube, and prevent splintering.

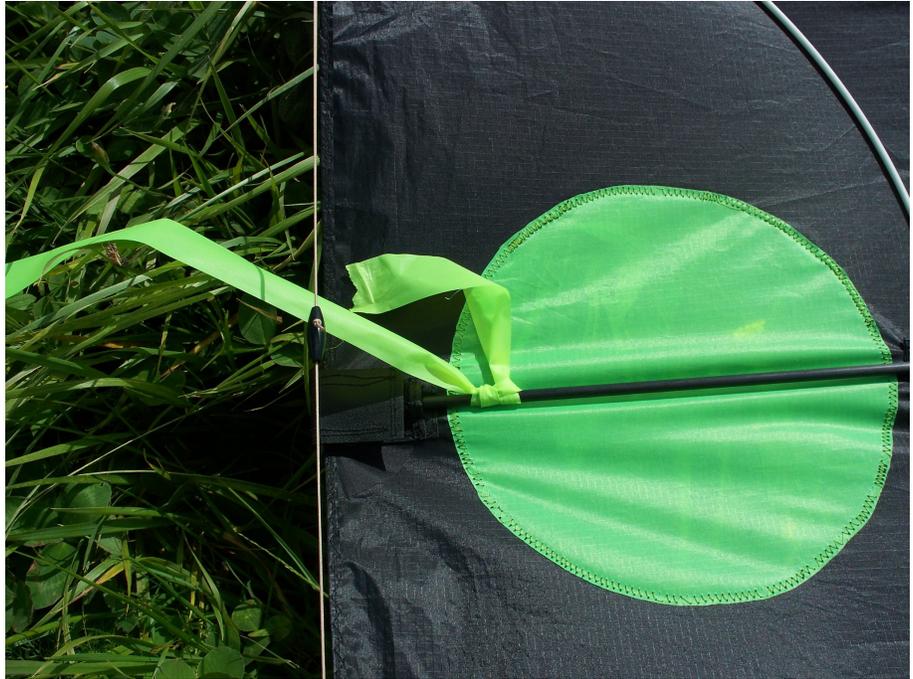
Slide the rolled-up kite into the bag, and close it by folding it over, with the Velcro strips pressed together.

## But What if I *Want* a Tail?

Sure. Unless the wind is very weak, it can carry a long tail.

You can get lots of surveyors' flagging ribbon at a hardware store for a few dollars. It even comes in different colours, like fluorescent green. I just tied one end around the bottom end of the spine.

I think it was about 15 meters long. I could have made it much longer.



Another way is to tie either end of the same ribbon to the ends of the lower spar, for a “U” tail.

How to *store* such a long tail? Just stuff one end into a bag, and keep stuffing, but let the last end fall inside. That's how tangles occur. Tie it to a handle or drawstring. You should later be able to untie it from the bag, then (without letting go of it) tie it to the kite and have it pull out like a jack-in-the-box.

Here's how it looks, both way.



If you have any problems with or questions about this kite, drop me a line or give me a call

John Rose