

# GETTING TO KNOW BAMBOO IS EASY & TAKES SOME PRACTICE

If there is any kite making material that intimidates new kite makers, it's bamboo. For Americans, bamboo is essentially a new material to work with and we don't know the first thing about it. Trial and error is a good teacher, but if you have some general idea about what to expect from bamboo and how to manipulate it, you'll learn much faster!

I have learned a couple of things that really helped me once I understood them. The first is when you split bamboo; try to split it into two equal pieces each time you split it. This helps it split straight and uniform because the amount of pressure on the splitter is equal on each side of the blade.

The next thing I've learned is when shaving or shaping a split stick of bamboo with a knife, it is easier to hold the knife steady and pull the bamboo across or into the blade. I'm not sure why this is the case, but it really makes shaping a piece of bamboo very easy compared with trying to push or pull a knife through it as you might whittle a piece of pine.

An email fighter kite friend who currently lives in Switzerland has had unusual opportunities to learn many facets of kite making directly from Japanese kite making masters themselves while he was living in Japan! Not only that, he learned bamboo basket making from Japanese masters as well. Iqbal has tons of knowledge about bamboo!

When he told me about some of his experiences, I asked him to share some of what he learned from the Japanese masters about working with bamboo. He sent me this email which has lots of good information for anyone interested in working with bamboo.

Hello Bruce,  
About splitting bamboo...

In my experience there are many factors that affect the outcome of how successful you are in splitting bamboo. The most important is the type of bamboo you are using! The Japanese and Chinese use different kinds of bamboo for different kinds of use. This is a very important point to remember. The Malaysians, Cambodians and Thai also all use the different kinds of bamboo that grows in their respective countries. The best bamboo is Japanese without a doubt as they have elevated it to an art form. They even grow square bamboo for beams of traditional Japanese houses by putting planks around the plant and moving the planks up as the bamboo grows. I have a kite from Mikio Toki which was made with old bamboo (over 200 years old) that he had bought at an auction. The bamboo was special because it had acquired a beautiful brown colour due to the fact that it had been smoked and aged naturally. Mikio when

he makes his kite uses bamboo that has been cut at a particular time of the year and aged for 3 years before using. He cuts the bamboo (Madake or *Phyllostachys bambusoides*) and splits it into four pieces within 6 months. It is then turned over and aged for the next 2-3 years. He splits the bamboo by hand and shapes it with a knife by placing it between his thigh and a knife and pulling it through. He bends to check it and then repeats the process until he has the correct size he wants. Make sure you have a thick apron or jeans before doing this though!

Hata kite makers do not draw the bamboo along the knife the way other kite makers do. They push the knife along the bamboo on a wood bench type block. The bamboo node is usually at the centre of the cross spar and they cut toward the node.

So the first thing is to get good bamboo. For us it is not easy to get hold of large quantities of this type of bamboo.

Many Japanese craftsman use a small jig to split long bamboo. This is the device which you mention having seen photos of. It is in fact simple. To start off you split the bamboo to roughly the cross dimensions that you need and then drag it through two Japanese knives placed in a block. To do this place (tap down with a wooden hammer) 2 Kogatana, right bevel and left bevel knives into a large piece of sawn off tree log (like a butchers chopping block) so that they are placed point downwards into the block. The distance between them is the finished size that you require. With the sharp ends away from you push or tap your bamboo down onto the knives about a foot from the end, hold the bamboo down with a short piece of wood so it makes contact with top of log and then slowly but firmly pull the piece through. Once it has been completely pulled through turn the piece around and finish the remaining foot in the same way. You can move the knives and re-place them according to the dimensions that you need for other cross-section of the same piece. The Kogatana knives have one side beveled, the other is flat. The secret I believe in working longer and bigger lengths is that you need more than one person. Another person has to hold down the bamboo firmly as it is dragged through.

To prepare the bamboo before doing the above is to first split the bamboo into roughly the pieces that you need. To do this you mark with a ruler and pen half the width (diameter) on each single node the whole length of the bamboo. Then using a wooden hammer and heavy knife tap down and split each node where you have marked it. Then split the bamboo by hand. Do this again and again until you have roughly the width that you need. You can also do this in between the nodes but the nodes are the real problem when splitting by hand.

I personally find a heavy knife that has a wedge shaped (inverted V shape) or bevel is important for splitting long pieces. I still use the knife I used when making baskets in Japan. The smaller knives can be used for further trimming smaller pieces. But a good craftsman uses the same heavy knife for all operations except very small detail work.

The secret of course is also practice. My basket teacher split really long pieces by hand but I am sure that the quality of the bamboo really made a difference.

In my experience the bamboo we have in the west is very rough and too dry for precise work. The Indian bamboo you use seems fine for most purposes. I also have

some Cambodian bamboo which is very good. The Cambodians brought it over for me this year when they came to Cervia. The Malaysian bamboo is also very good. They also have bamboo that is harder than any other bamboo that I have come across. This bamboo grows thorns to protect itself like a rose plant. It is black and hard like iron. The distance between node is also important in bamboo. For example, Chen Zhao Ji who makes the moving Chinese kites such as the Praying Mantis and Crane uses bamboo that is called Ci in Chinese and which is thin and has joints (nodes) that are 70 to 80 inches apart, for smaller kites. But he uses Mao bamboo for larger kites that is much firmer thicker and stronger and more elastic.

I hope that this helps you in some way Bruce. I have learnt to adapt my kites to the material that I have on hand and sometimes to develop and change my kites as I acquire and understand different kinds of bamboo. But it I have also learnt a lot through mistakes and experimentation.

If you need some further clarification please do let me know.

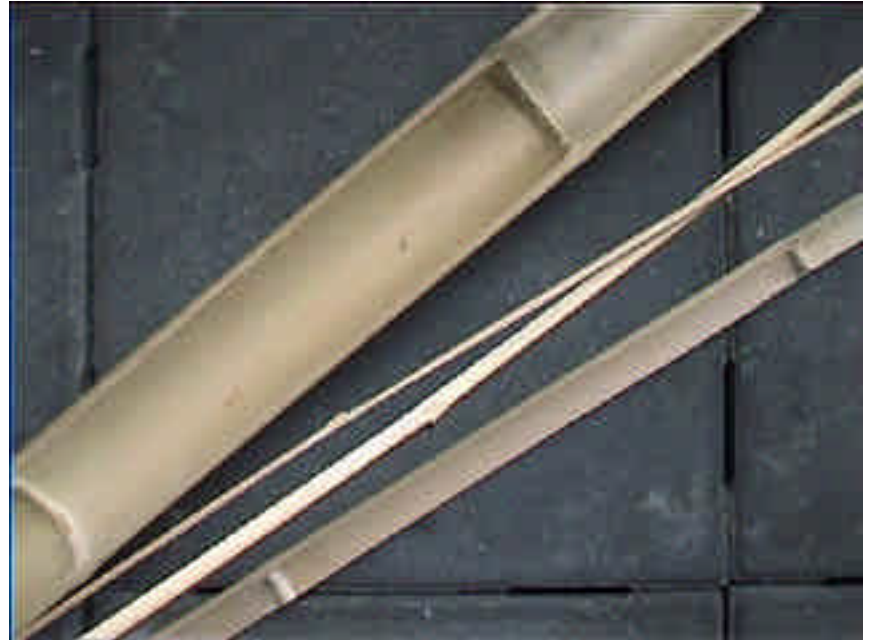
Good winds and good Grins.  
Iqbal

The following article was taken from a link from the Japan Kite Association web site.

## **Working with Bamboo**

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I have provided some information and background materials that might be helpful in order to get acceptable results more quickly with traditional materials (such as bamboo and paper).



Bamboo is a great kite making material because of its versatility and low cost. Unfortunately most bamboo sold in garden centers (Tonkin sticks) has a relatively small diameter. The sticks are very difficult to split straight and evenly.

A limited number of bamboo nurseries now sell bamboo logs that have been imported from Asia or South America. Only by using logs with a diameter of over 5-6 cm and a wall thickness of circa 5 mm (see the photos) one will get really good and reliable results.

- [Tools of the Trade](#)
- [Tricks and Techniques](#)

Other practical information about working with bamboo can also be found in the following publications:

- Gallot, Philippe. *Fighter Kites. 29 Original Designs to Make and Fly*. St. Martin's Press. New York, 1989. Pages 12-13 provide a short introduction to working with bamboo, while pages 15-16 have some black and white pictures of bamboo techniques.
- Ha, Kuiming and Ha, Chiqi. *Zhongguo Hashi Fengzheng (Chinese Kites from Master Ha)*. The Commercial Press. Hong Kong, 1986. Pages 128-147 describe (in Chinese) several designs for traditional Chinese kites. The illustrations provide insight into the various techniques for working with bamboo.
- Hiroi, Tsutomu. *Kites Sculpting the Sky. A Practical and Aesthetic Guide to Making Kites*. Elmtree Books. London, 1978. Pages 90-92 show and describe the various step necessary for building a bamboo frame.
- Tigchelaar, Wim. *Indonesische Vechtvliegers en Varianten (Indonesian Fighter Kites and Variants)*. In: *Vlieger (No. 2)*. Den Haag, 1999. Pages 5-7

are a detailed narrative (in Dutch) on how to cut and carve a bamboo bow for a fighter kite.

## Tools of the Trade

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Bamboo Cutting Knife. This tool is a typical Japanese knife with a wedged shape made specifically for working with bamboo.



All Purpose Craft Knife. This example is a Japanese knife with a single beveled side.



Small Plane. This tool is a light weight aluminum model.



Pruning Scissors. These are very handy for quick cutting of smaller strips of bamboo.



## Tricks and Techniques

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After cutting the bamboo log to an approximate length of 1.2 m one can easily split the full length in straight strips using the bamboo cutting knife.



By working the knife from top to bottom the wedged shape will force the bamboo in even strips. This can be repeated several times depending on the required width.



In order to continue splitting the pieces it is advisable to remove part of the nodes with the cutting knife. This will prevent uneven splitting later.



Once the strips are becoming thinner one can continue by pushing the bamboo against the knife. It is also possible to use the smaller craft knife for this purpose.



With the craft knife one can remove the most obvious uneven parts or taper the ends in case of a bow for a fighter kite.



By using the plane one can very easily reduce the thickness of the bamboo strips. Due to the hardness of the bamboo the blade will become dull very quickly.

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