

New Version of the Quad Bamboo Ferrule

Text and photos by Tapani Salmi

Bamboo ferrules are theoretically (and practically) a very attractive alternative to metal ferrules: they are light in weight and therefore should minimally affect the function of the rod. There are different kinds of bamboo ferrules and joint structures; some of those are easy to build (e.g. scarf joint and scarf ferrules covered with a shrink tube) while some are more complicated and require several accurate steps in construction of the “female” part of the joint. They are also considered to be thick, fat and ugly!

I have previously built hex cane ferrules using an Allen Wrench Key of proper diameters as a tool and scarf joint ferrules using shrink tube in several of my fishing rods (see <http://personal.inet.fi/private/tapani.salmi/>). I wanted to make a light, easy to build and thin in diameter cane ferrule. I previously had good experiences on the scarf joint; the overlapping of the two parts (butt and tip) gives essential support to the joint. Could it be possible to combine the overlapping of the strips and the bamboo coating somehow?

This thinking has lead me to the structure described here: a “fish-tail” interlocking joint of the quad strips inside a very simple and thin bamboo ferrule as the cover. It is very easy to make with common hand tools and there are no special changes required to the planing form or to the taper of the rod.

QUAD (FOUR-STRIP) CONSTRUCTION

The quad or four strip rods are not as easy to make as conventional six strip (hex) rods. Especially hand planing of quad strips is not very straightforward. You need a special planing form to make the 45° angles and because the strips are not symmetrical there has to be two separate forms for one single strip. As a very lazy person I have made the process simpler by planing the other corner (eg. “right” corner) without measur-

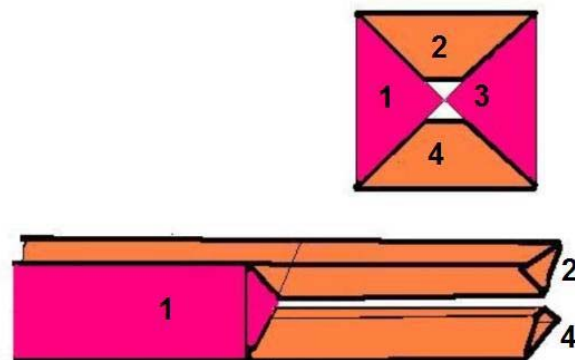
ing the taper – just to make an accurate 45° angle. Thereafter I adjust the planing form to make the other corner (eg. “left” one) according to the accurate measure, see <http://personal.inet.fi/private/tapani.salmi/SalmiPF.pdf>

LENGTH OF THE SECTIONS

As the ferrule is longer than the conventional metal ferrules you have to measure the length of the sections and strips properly. The butt section has to be about 5 cm (2”) longer than tip because it goes so deep into the bamboo ferrule of the tip section! Otherwise there are no differences in planing and making the butt and tip sections.

GLUING OF THE ROD SECTIONS: MAKE THE INTERLOCKING (“FISH-TAIL”) ENDS

The interlocking part of the joint is simply made by cutting two of the strips shorter (strips 1 and 3 in Picture 1) than the two between them (strips 2 and 4). The difference in length has been about 12-15 mm (1/2”) in my experiments. This makes the end of the butt and tip sections



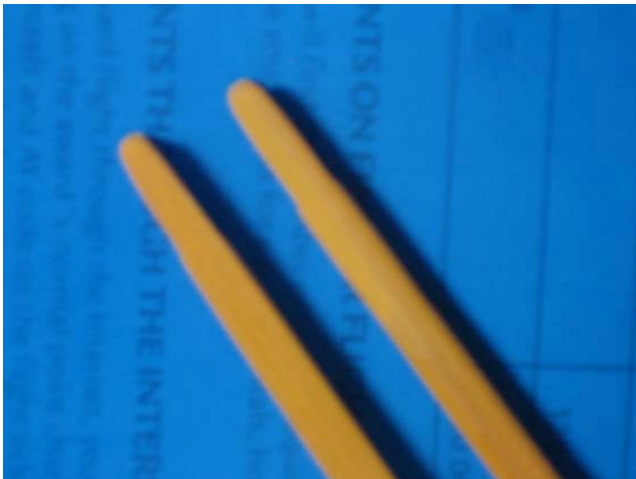
Picture 1
Schematic presentation of the four strips.
2 and 4 are longer than 1 and 3.

(Continued on page 57)

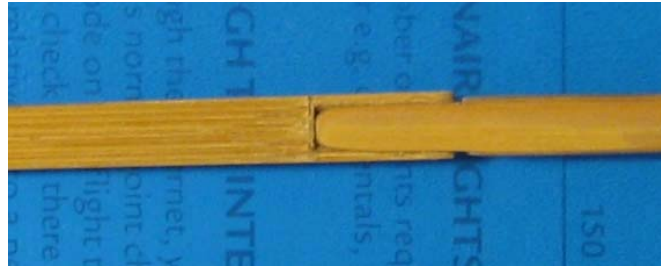
as a “two-spike fork.” The ends are rounded and the inner spaces between the two longer strips are sanded. This makes the end resemble a fish tail.



Picture 2
Longer strips have been sanded a little thinner.



Picture 3
The longer strips are sanded round.



Picture 4
The interlocking joint in details.

Now you already can test that the strips easily go inside each other and form an interlocking joint. You may varnish the sections as usual. I have put some cyano glue (superglue, Loctite) on the surfaces and ends of the strips to “impregnate” them and not to take too much humidity and water inside when used.

CONSTRUCTION OF THE FERRULE

Now you start to make the ferrule. I have used the wall thickness of 1.5-2.0 mm (0.06”-0.07”) in my ferrules for a line weight #5 rod. If the width of one strip in the quad rod is 5.0 mm (0.2”) and you would like to use a 1.5 mm (0.06”) wall thickness in bamboo ferrule you need a bamboo strip with width of 6.5 mm (0.26”), thickness of 1.5 mm (0.06”) and length of 85-100 mm (3.5-4”). The ferrule strips are easy to make simply by splitting the bamboo strips of proper width and length using a knife. Make a 1.5 mm split to the other end of a strip

(Continued on page 58)



Fine Custom Split Cane Fly Rods

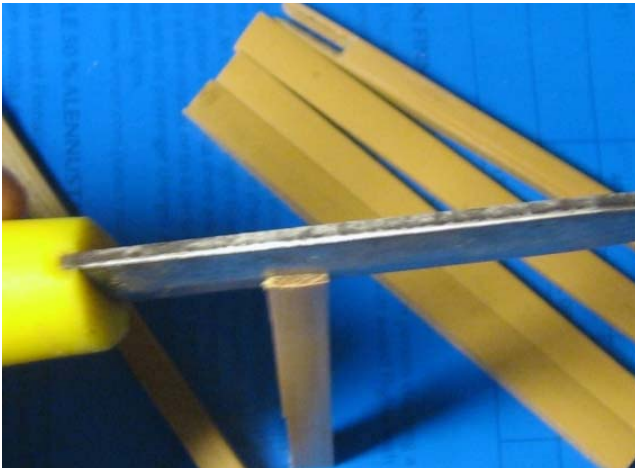
Featuring a full line of original rods to suit your fishing needs.
We are proud to offer our new "Mountain Fork" line of rods for the discriminating angler.

2320 Central Poteau, OK 74953
Phone: 918-647-0496



and then split from the other end and you get almost perfect strips at once.

Cut and sand the end of the four ferrule strips thin at the tip section to make the form smoother. It is also easier to later wrap the ferrule-rod joint. The short strips are easy to heat treat in the kitchen oven if wanted.



Picture 5
Splitting the strips.

The strips are easily split with an ordinary knife. Start the split on the other end and complete on the other to get straight thin strips.



Picture 6
The components for the ferrule are ready.



Picture 7
The ferrule strips are sanded thin at the tip end.

Now it is time to sand the enamel from the strips and sand the inner surface smooth. I have again spread some cyano glue (Loctite) on the inner surface to make it “waterproof” and sanded thereafter using finer grit.



Picture 8
The surface of the ferrule components are coated with cyanoacrylate glue.

The ferrule is built by gluing the four strips on the tip section. I have used 5-minute epoxy but any rod making glue would work. It is extremely important however that the glue should not pour to the butt section and to the interlocking joint. Don't use too much glue.

(Continued on page 59)



Picture 9
The construction of the ferrule.



Picture 10
Here is the “free end” (butt section) of the ferrule in detail.

Note the geometric structure and positions of the strips. They are not glued but moving freely and thus allow them to be adjusted according to the diameter of the butt section.

GLUING THE FERRULE TO THE TIP SECTION

Mark the proper location of the ferrule on the strips with a pen. I have had 40-50 mm (up to 0.2”) length of the “male” ferrule.

Put the glue on the tip section and join the butt and tip. Put the four ferrule strips at the proper position and wrap the ferrule strips firmly against the tip section with a string. Take the butt section away from the ferrule to avoid it being fixed to the ferrule with the glue!

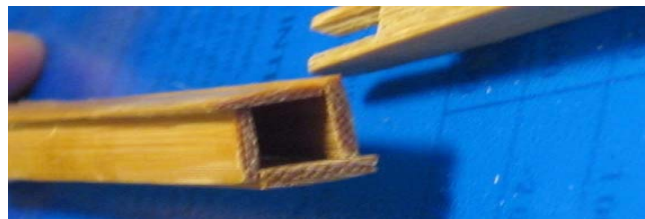
I have used pieces of tape to attach the four strips to each other. Put some small pieces of bamboo or matches between the wrapped string and ferrule strips to help to press the strips against the tip section as the strips are cut a little

too wide and go a little over the surface of the adjacent strip – see the pictures for details!



Picture 11
The ferrule is glued and wrapped. Here the tip section is on left side (with glue) and butt section (no glue) is on the right side.

After a few minutes you may take the wrapping strings away from the ferrule. Now it is fixed at the other (tip) end but the four strips are “free” at the butt section. Now it is time to make the butt part of the ferrule.



Picture 12
The four strips of the ferrule not glued to each other.

This allows for adjustment according to the butt diameter. There is some extra material in each strip in corners of the ferrule to be cut or sanded

CONSTRUCTION OF THE “FEMALE” PART OF THE FERRULE

The female part of the ferrule is now constructed simply by wrapping the ferrule with nylon or silk thread (like line guide wrappings). First you have to cut and sand the four ferrule strips to accurate final dimensions. Make the corners a little round and the connecting end of the strips at the tip thin.

(Continued on page 60)



Picture 13
The ferrule is sanded and ready to be wrapped.

Now slide the butt section inside the ferrule to make the interlocked joint. Start the wrapping from the tip end. The diameter of the ferrule is adjusted according to the diameter of the butt. You may try to slide the section during the wrapping to feel that the tension is not too strong. You also may put some candle wax on the butt section to slide it easily.



Picture 14
The ferrule is wrapped using the same kind of thread as the guide wrappings.

After the wrapping is complete slide the butt section away from the ferrule. Put some varnish to the wrapped thread. I have again used cyano glue to fix the thread wrapping. The great amount of thread makes the ferrule extremely strong. After the varnish or glue is set the ferrule is actually ready and if you use cyano glue it takes only a few minutes to start to test!



Picture 15
The wrapping is finished with varnish or cyanoglue.



Picture 16
Coat the ferrule (and the sections) with varnish.

If you have been careful the ferrule should be quite straight. It is certainly light and should give a strong support to the joint. I have used a short piece (35 mm, 1.5") of silicone tube of proper diameter to ascertain the scarf joints when fishing but preliminarily it seems that it is certainly not needed in this ferrule.

KNOWN PROBLEMS

The problem with bamboo ferrules is the swelling of the cane and possible jamming of the ferrule. I try to protect them from water and swelling using cyano glue. I also put some candle wax to the joint surfaces. I recommend that you have a clothespin-type tool with you when fishing. If the parts are jammed after the fishing trip you may use the tool to separate the sections safely with a better handgrip.



Picture 16
Clothespin tool to loosen a jammed ferrule.

Tight lines with your new innovative rod!