



The best part is putting your finished masterpiece to work on the water.

## ROD-BUILDING MASTERCLASS

### Building a bamboo fly-rod —Part 4

**F**OLLOWING on from Part 3 in the previous issue, you should by now have a completed tip and butt section, just waiting to be finished into a useable fly-rod. Well done if you have reached this point. Compared to building the blank, the remainder of the steps involved are relatively easy and your new fly-rod should be ready shortly.

Before the ferrule can be installed, the blank should be cut to length and prepared to accept the ferrules. The object is to end up with two sections that are equal in length when broken down — and of the correct length when assembled.

In the previous issue we determined where on the blank the target dimensions were reached. Before we cut the blank we have to determine where to make the cuts by accounting for the ferrule.

#### CUTTING THE BLANK TO LENGTH

The male portion of the ferrule is installed on the tip section

while the female portion is installed on the butt section. Follow these easy steps to find the correct cutting points:

- Measure the length of the male slide with digital vernier calipers.
- Divide this length by two. With the ferrule that I used the male slide was 0.800". I ended up with a value of 0.400" when I divided it in two.
- Now add the value that you worked out in the previous step (0.400" in this example) to the tip section length and make a mark in the new location. This is where you will cut the tip section.
- Reduce the length of the butt section by the value that you worked out previously (0.400") and make a mark in this location. This is where you will cut the butt section.
- Use a small hacksaw to cut the blank sections to length, taking great care to cut each face of the blank in order to prevent tearing of the surface power fibres.



### PREPARING THE BLANK TO ACCEPT THE FERRULE

Now that the blank has been cut, you should prepare the blank where the ferrule will be installed. In order for the ferrule to fit, the blank has to be rounded to the correct dimension. If you selected the correct ferrule for the blank that you are building, you will be able to achieve a round cross section without excessively cutting into the power fibres.

Start by measuring how far the ferrule will slide onto the blank when fully installed. Mask the blank immediately adjacent with masking tape for protection, and proceed to remove the six corners from the area with a small file. Once all six corners have been removed, take a piece of 220 grit wet and dry paper and fold it around the section that has to be rounded. Now turn the blank with your other hand to achieve a perfectly even circular cross section.

Regularly check the fit of the ferrule to the blank and stop when it can be fully seated with a bit of resistance. A loose fit is not ideal, because over time the ferrule will loosen if there is too much glue between the blank and ferrule.

Now repeat this process for the other blank section. Once you have finished the process for both sections we can proceed to preparing the ferrule for fitting.

### INSTALLING THE FERRULE

Before the ferrule can be installed the tabs have to be made thinner — a process known as feathering — so that the blank can flex in the transition area where the flexible blank meets the rigid ferrule.

Using a wooden dowel that is slightly tapered to fit the ferrule and chucked in a lathe or drill, I proceed to push the ferrule onto the dowel. Using a small strip of 220 grit wet and dry paper, I sand the ferrules while spinning in the lathe. Once you are happy that the tabs have been feathered sufficiently (they have to be very thin at the edges), switch to 400 grit to remove the sanding marks from the tabs. Take care not to sand beyond the tabs because you don't want scratches on the remainder of the ferrule.

Use a small file or sandpaper to roughen the insides of the ferrule where it will be glued to the blank, followed by a thorough cleaning with an ear bud dipped in acetone.

Once both parts of the ferrule have been prepared, mix a batch of 30-minute epoxy very well before applying a generous amount to the blank and the ferrule. Push the ferrule onto the blank. You will need to apply quite a bit of pressure to seat the ferrule — and it will want to slide off the blank due to the air pressure inside. If you hold the ferrule in position long enough you will hear the trapped air escaping with a loud crack. Now bind the ferrule tabs tightly onto the blank using strong fly-tying thread. Whip finish or apply a few half hitches and set aside to fully cure. Repeat for the other section.

### LAPPING THE FERRULE

The male slide will not fit the female ferrule as received from the factory. In order for the ferrules to fit correctly, the male slide has to be reduced in diameter by a couple of thousandths of an inch. Fold a thin strip of 800 grit sandpaper around the male slide and turn the blank with your other hand. Check the fit regularly as there is no way to repair a fit that is too loose. The fit should be positive, but not overly tight, and definitely not sloppy.

As soon as the whole of the male slide fits into the female ferrule you should switch to 2000 grit wet and dry paper to polish the surface and bring the ferrule to final dimensions.

Now you can remove the fly-tying thread that held the tabs, and then remove any excess glue from the tabs.



1.



2.



3.



4.



5.

1. A typical nickel silver ferrule set.
2. The blank sections which have been prepared for the ferrule.
3. The tabs being feathered.
4. The ferrule glued into position.
5. The tabs are tied down with strong fly-tying thread.





A beautifully finished bamboo rod with cork grip and wooden reel seat insert.

### INSTALLING THE REEL SEAT AND GRIP

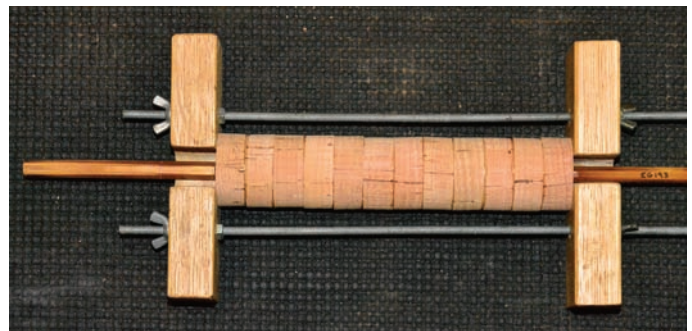
For the size rod that I prefer building I normally select a nickel silver sliding band reel seat with a nice wood insert. The choice is yours. However, I would urge you to stick to classy hardware for your new rod. It is no use spending many hours building your rod, just to compromise on the hardware for the sake of saving a few rands.

I do not use pre-made grips on the rods I build, preferring to glue the cork rings to the blank and then I turn the grip myself. Use the best cork you can find for your new rod, and keep in mind that typical bamboo rod grips are shorter than those normally used on graphite rods — typically 5-6 inches long.

Check the length of the reel seat to determine where on the blank the grip should go. Mark the end of the reel seat on the blank. Now proceed to ream out the center holes of the cork rings to fit the blank, and glue to the blank using 30-minute epoxy and a cork clamp.

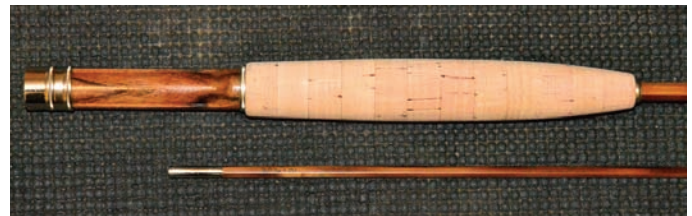
Once the glue has set, the blank is chucked in the lathe or drill and sanded to the required shape using varying grits of wet and dry paper, ending with at least 400 grit. Once the grip has been completed the reel seat can be glued to the blank. *(For more detailed instructions on building your own cork grip, see Dirk's article on this subject in the April 2014 issue of FLYFISHING.)*

Assemble the reel seat as required using five-minute epoxy. If the diameter of the blank is too big to accept the reel seat, you have to reduce the diameter until a good fit is achieved. Follow the same procedure as for preparing the



Above: The cork rings are is glued to the blank before the cork grip is turned.

Below: The finished grip and reel seat assembly



blank for the ferrule. Glue the reel seat into position using five-minute epoxy.

A winding check is not a necessity (many fine rods have been built without), but if you do decide to use one, now is the time to install it.



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## WRAPPING THE GUIDES

Guides on bamboo rods are often smaller than on similarly sized graphite rods. I will often go down to a 2/0 or 3/0 size for the smallest guides, and end with a 7mm or 8mm stripping guide. Agate and Mildrum Carbide guides are traditionally preferred in order to remain as true as possible to the original bamboo rod aesthetic.

While nylon thread can be used to wrap the guides on bamboo rods, tradition dictates the use of silk. My preference is for Pearsall's fine silk threads. If you select white thread for your wraps you will end up with perfectly clear wraps that give any rod a classy look. Select darker thread colours to wrap the tabs on the ferrule.

For the Garrison 193 blank that I am building, the following guide spacing chart is recommended:

**Distance from top (inches)    Guide size**

<b>Tip</b>	
4.5	3/0
9.5	3/0
15	2/0
21.4	2/0
27.8	1/0
34.8	1/0
<b>Butt</b>	
1.2	1/0
9.5	1/0
17	7 or 8mm

*Mildrum or Agate*

Determine the spine of the tip section (*see Part 3 of this series*) and glue the tip guide in position. You may need to trim the blank slightly shorter when the tip guide is attached, so measure the length of the section against the butt section before gluing the tip guide in place. Lay the assembled rod next to a measuring tape and mark the guide positions with a china marker.

Follow the pictorial guide alongside for instructions on wrapping the guides, or see my article on the subject in the February 2014 issue of *FLYFISHING* magazine.

## VARNISHING THE WRAPS

Epoxy finishes do not penetrate well enough and are too bulky, so their use is not recommended on bamboo rods. Rather use a single-part urethane-based rod varnish and apply multiple thin coats to the wraps with a soft brush, allowing a couple of days drying time between each coat. You want to achieve a glossy finish without excessive buildup of varnish. Place the rod in a drying motor to prevent the finish from sagging.

Allow a few weeks drying time after you have applied the final layer of varnish before you go fishing with your new rod.

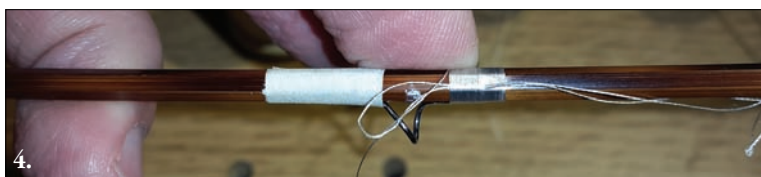
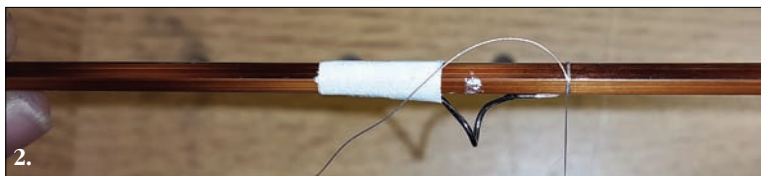
## CARING FOR YOUR ROD

Contrary to popular belief, bamboo rods are not fragile and in some respects are actually tougher than graphite. Having said that, never store a bamboo rod in a sealed tube while wet and do not keep it propped up against a wall fully assembled for long periods of time, as this will definitely cause a set in the rod.

Should a set occur in the rod over time due to fishing, it can be carefully removed by gently heating the blank with a hairdryer while bending it in the opposite direction to the set.

Keep the handle clean by giving it a light sanding under running water with 400 or 600 grit wet and dry paper every now and then.

Enjoy your new rod — and please send us pictures of your finished rod as well as pictures of the fish you catch on your bamboo masterpiece.



1. Attach one leg of the guide to the blank with masking tape.
2. Catch the tag end with the first couple of wraps.
3. Insert a loop to pull the tag end under the wraps.
4. Push the tag end through the loops.
5. Pull the tag end under the wraps with the loop and cut the tag end.
6. A finished wrap.
7. The finished rod, ready to be put to the test.

## RESOURCES

- Dirk De Villiers Custom fly-rods — Custom graphite and bamboo fly-rods, REC reel seats and ferrules and Hopkins and Holloway guides. Web: <www.ddvflyrods.co.za> Email: <dirkav@gmail.com> Phone: 083 643 5897
- AMT Composites — Ampreg 21 epoxy: <www.amtcomposites.co.za>
- Hardware Centre — Stanley and Veritas planes, 0000 steel wool, Japanese water stones: Web: <www.hardwarecentre.co.za>
- Netbooks — Books and DVD's on bamboo rod building. Web: <www.netbooks.co.za>
- StreamX — Rod building components, planing forms, reels seats, guides and silk thread: <www.streamx.co.za>
- Bellinger — planing forms and depth gauges Web: <www.genuinebellinger.com>
- <www.bamboorodmaking.com> for lots of advice, hints and tips.
- <www.thomaspenrose.com> for lots of useful information.