SOLID BODY EURO FOUNTAIN PEN
One Approach

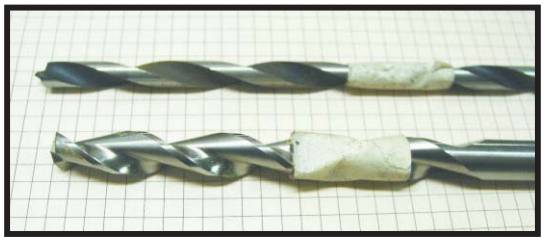
This pen is based on Berea's Euro fountain pen kit. The kit results in a pen with a short, black metal "receiver post" at the end of the main body. The Euro, or Mont Blanc, style pen is a beautiful pen, with graceful, elegant curves. The receiver post breaks up those curves, in my opinion. So I set out to re-create the original form.

I chose a fairly hard wood for this project because I wanted the closed end of the main body to be dense and smooth when I finished. I started with Zircote, and most of the photos show it, but the finished example was African Blackwood. I chose the 24K gold both because this was an experiment for me – I didn't want to get too invested – and because I wanted to use a gold finial on this dark wood. The gold finial and the Art Deco centerband are not made in TG. [I had sworn to never again use a kit where the finish was subject to early wear, but...]This might be an area where the manufacturer could offer the customer some options without substantially increased production costs.

You'll need:

If you turn pens, you probably already have most of the tools that you need. I use a scroll chuck for most of my penturning...just to hold the mandrel. I turn one barrel at a time. I think that using the scroll chuck and shortening the mandrel eliminates most, if not all, of the turning problems – wobble, bend, off-center barrels, etc – that beginners (and those, like me, with cheap lathes) encounter. Using a collet chuck would be an even better solution. But you'll still need a scroll chuck.

You'll need the kit, of course, and an extra set of tubes. You'll need a blank that is at least 5½" long. And an extra piece of wood – a cut-off from a previous pen, perhaps – that is roughly an inch long. You'll need a ¾" barrel trimmer with a 7mm shaft and a shim to fit inside the tubes. You'll also need a ¼" brad point drill bit that is long enough to drill to a length of 2¾".



Body length

As I see it, the central problem with making this style of pen is not only turning the main body (having a closed end, we can't easily use a pen mandrel, at least not as it's commonly used) but also in finishing off the main body. The latter requires that we hold the body of the pen in the

lathe, somehow...without marring it...while applying the finish. My approach is to add an extension to the main body barrel. Of course that's where the scroll chuck comes in.

The Berea kit comes with an alternative to the included ink cartridge – a pump. The pump is fully an inch or more longer than the cartridge. If we want to use the pump, or give the customer the option, we have to make allowances for it.

The tubes that come with the pen kit are 2" long. So that's a starting point for the shape and length of our main body. The original kit results in a main body that is 2⅞" long, with a stubby, squared-off, receiver post making up the difference. For the one piece body, we want to end up with a main body that is roughly 3" long with a graceful taper to a rounded point.

And we want a one inch (approximately) extension block at the cap end of the main body. So that means we need a brass tube 3" long...***or***, two tubes – one 2" long and one 1" long.

Now the main body barrel is two inches long and the receiver post adds an additional ⅞". But the pump, when mounted in the nib (and the nib in the nib holder), is a little less than 2¾" long from the nib holder to the end of the pump. This gives us a pretty accurate length for the hole(s) we need to drill. Of course, we need to add extra to the proposed length of the barrel to create the rounded end of the closed barrel. I left this open to esthetics but assumed at least ¼", making the total for the finished barrel 3". ***But!*** But to turn a closed barrel we need to turn it like a spindle, to some extent, and so we need to add approximately ½" to the overall length to be able to part the body. So...three and one half inches is the length that we need for the lower body.

The procedure

Remember this is just one approach. There may be other, better, ways of doing this.

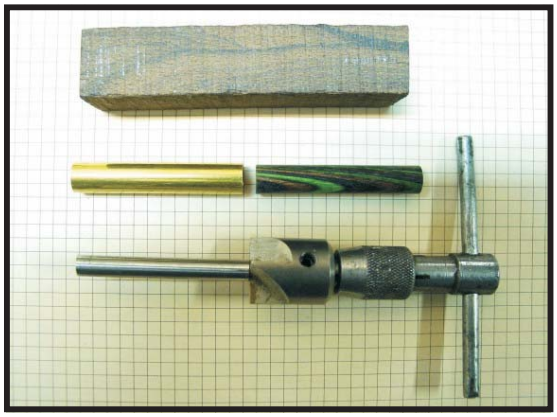
First, I cut my blank....reserving the 2" remnant for the cap. Then I mount the longer piece (should be 3½") in a 4 jaw, self-centering scroll chuck. Sometimes, if the blank is not cut quite square, I will first turn the blank between centers. This gives me a round blank that is more easily centered in the chuck.

Next, using a Jacobs chuck mounted in the tail stock, I drill my blank with the "V" bit that is indicated for this kit. I drill *exactly* two inches into the blank. A little bit extra won't hurt but precision here is pretty critical. Next, without removing, or disturbing the blank, I replace the "V" bit with a ¼" bit and drill that last ¾" – for a total of 2¾". I tried it vice versa, initially – drilling the ¼" hole first and then coming back through with the "V" bit. But the ¼" hole caused the "V" bit to wander and the results were not satisfactory. My experience is that, all things being equal and we've not disturbed the blank, the ¼" bit will center itself pretty closely inside the "V" bit hole.

Dismount the blank.

Preparing the barrel

Next I cut one of the brass tubes (remember I ordered two extra, so now I have four) in half...resulting in two, one inch pieces. Slide the shortened brass tube into the blank and a shim (you have to make this) into it. Using the barrel trimmer, trim the end of the blank square to the tube. Extract the brass tube.



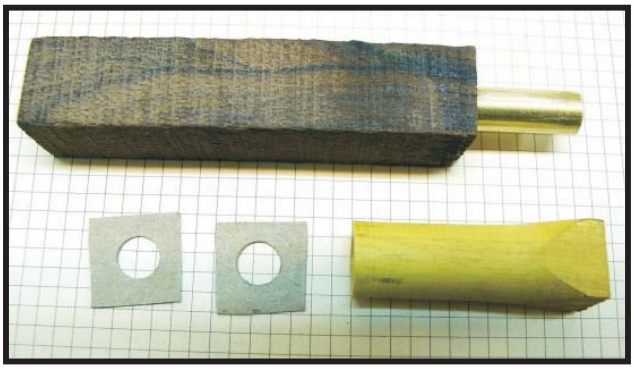
At this point, if you mount the nib in the nib holder and the pump in the nib, you can insert the whole assembly into the blank to determine if the holes were drilled deep enough, etc..

Now I lightly sand the short brass tube and plug one end with beeswax. I repeat this procedure with one of the full length (2") tubes. Then I apply 5 minute epoxy and slide the short tube into the drilled blank and repeat the procedure with the long tube. Push the long tube up against the short tube and push both in as far as they will go. Carefully clean any excess epoxy off the trimmed end of the blank. Acetone will work here.

Allow to dry/cure. The result should leave the blank with a one inch extension of brass tube sticking out. Clean the beeswax out of the tubes--kerosene on a bit of paper towel will get any residue.

The extension block

Now, take a short section of some different coloured wood and turn it between centers to a little less than ¾" in diameter. Chuck it and drill it with the "V" bit. Take the remaining short section of brass tubing and slide it into the wood and follow it with the shim. Trim one end of the extension block square to the tube. Remove the tube.



If you are using a soft wood or a brightly coloured wood, such as OO, you can omit the following, although my sense is that it might make the whole process a bit easier.... Cut a small piece of cardboard for a spacer. Punch a clean hole in the cardboard as close to the size of the brass tube as possible. Slide the cardboard spacer onto the portion of brass tube sticking out of the blank. Spread epoxy onto the brass and slide the extension block, trimmed end towards the lower body blank, onto the tube. Clamp lightly and let cure. If epoxy gets on the extension block side of the spacer, no problem, but don't glue the cardboard spacer to the main body.

Turning

Mount the “B’ mandrel into the scroll chuck (or, if you are fortunate to own one, into the collet chuck). Add a bushing or two for spacers, and one of the lower barrel bushings. Slide the lower barrel onto the mandrel and bring a live center up to the closed end of the blank. Adjust the mandrel in the chuck so that the live center will hold the blank tight to the bushings.

Turn the blank and the extension block down to the lower barrel bushing diameter. This should be very close to, if not exactly, .450 inch. Turn the barrel to this diameter all the way to two inches from the nib end of the lower barrel (ignore the extension block). Taper the barrel to approximately .310 inch at 2¾" from the nib end. Then begin to taper the barrel to the final shape of the closed end – at roughly 3". ***Do not*** part the barrel off just yet.

Finishing

Sand the barrel to 320 or 400 grit. Remove the live center and slide the barrel assembly off the mandrel. Remove the mandrel from the chuck. Mount the main body assembly in the scroll chuck, chucking onto the extension block and using the live center as an aid to making sure everything is aligned.

Part off the closed end of the barrel. Sand and shape the closed end to its final form. Finish the barrel with CA (or whatever you choose) and Micro Mesh to 12000. Polish with Hut Plastic Polish and Renaissance Wax.

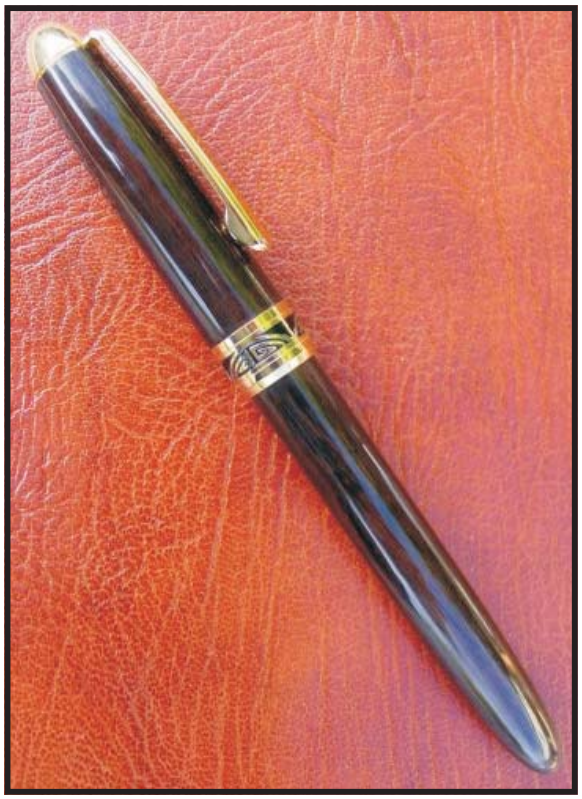
Dismount the barrel and using a jeweler's saw, (or a coping saw) cut the extension block off, cutting close to the cardboard spacer. Slide the shim into the main body barrel and trim off the excess brass, extension block wood, and the cardboard spacer. (This last should nearly fall off at one point.)

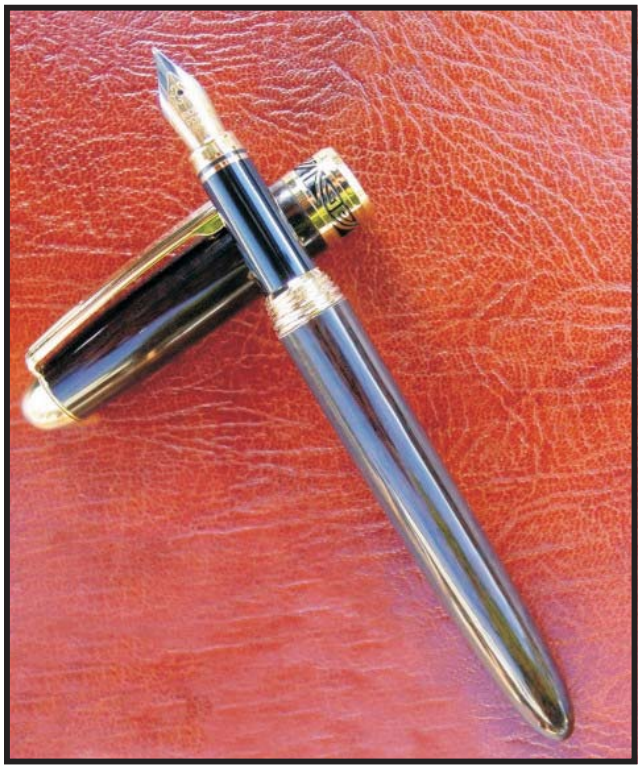
Assembly

Keeping in mind that we have at least ¾" of barrel that is unlined (and un-reinforced) with brass, and that around this section the wood is tapered, we can assemble the nib and nib holder as usual. As a precaution, I cushion the closed end with a piece of gum rubber, not only to prevent marring the finish but to lessen the stress on the hollow wood.

Voila!

Turn, finish, and assemble cap according to instruction. And there you have it.





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31 May 2004