

Another Way of Making a Pen

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To begin with if there is one thing you take away from reading this, it is the hard and fast rule that there are NO rules to follow! I see posts everyday where someone is asking about what taps they are supposed to buy, which drill bits they are supposed to use, which mandrel to buy and so on. These are not kits so quit thinking "Kit assembly" and start using your imaginations. One reason for sharing my way of doing pens is to show there is NO shopping list, there is NO right or wrong procedure, there is NO diagram showing how part "A" attaches to part "B" and there are NO boundaries other than your imagination.

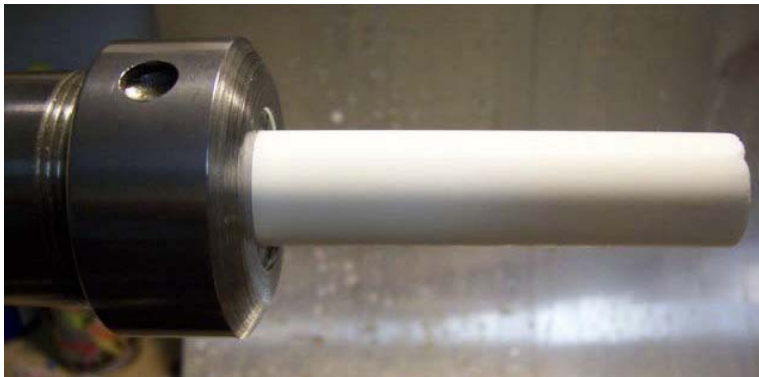
I took a photo this morning of some pens I will be displaying at an upcoming show in the hopes of selling a few. If you notice there are a lot of similarities but no two pens are 100% identical, and the only thing in common is that none of them use brass tubes anymore. I used acrylics, Truestone and ebonite. Some have sterling silver trim, some have titanium. There are homemade clips, there are clips from kits. There are different methods used to attach clips and different types of nib front sections and nib sizes, some are "factory" sections, some are handmade.

The point in showing these is that they are all unique with subtle differences and no rules were followed in their designs. I have dozens of taps, drills and gadgets for making dozens of those "subtle differences" so telling you to turn to a certain diameter, drill a hole using bit "X" then thread using tap "X" just doesn't work and will only frustrate you.

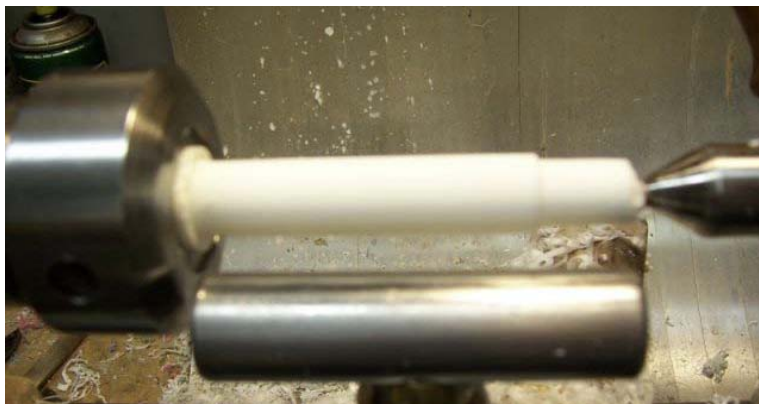
Now that the stage is set, let's begin. I want to share a method I use to turn a pen without using mandrels, just a collet chuck. Remember... do what floats your boat and don't try to make a 100% copy of someone else's work; you'll be glad you didn't!



Step 1. I start with either buying a round blank or turning it round and chucking it in my Beall collet chuck. I like the Beall chuck over other chucks mounted on mt-2 shafts because I can insert a 5" blank quite a way into the chuck for more accurate holding.



Step 2. I turn it down to the approximate size of the finished barrel; we'll call it 5/8". Then I turn a tenon for the threads.



Step 3. Using a die holder with a mt-2 shank mounted in the tailstock I thread the lower "multi-start" threads by HAND TURNING the lathe. Use your Left hand to turn the spindle, and your Right hand gently pushing in the tailstock. When I tap the threads I insert the tap into a chuck in the tailstock to insure correct alignment and gently push the tailstock in while rotating the spindle with the left hand. But when I withdraw the tap I loosen the chuck to release the tap, move the tailstock out of the way then slip a tap handle around the tap and hold it steady while moving the spindle backwards. Usually about halfway out the tap can be removed with the fingers.



Step 4. Using a homemade check gage I make sure the threads work smoothly.



Step 5. Using a short center drill I mark the center for drilling. I think this is VERY important and never omit this step.



Step 6. I start drilling the lower barrel using different size bits to allow clearance for the front section to screw into as well as a Schmidt converter.



Step 7. The last drill just about all the way in. Note my little red shop aid? I leave it on just to give a bit of support to the exterior threads during drilling. May or may not help but it's pretty and I made it so I use it! Note the depth marks on the drill bit? I use those religiously!



Step 8. Once the barrel is drilled out I tap the body to accept the front section. A light shot of cooking oil makes threading easy and leaves clean shiny threads in acrylics (soapy water for ebonite). Notice I don't mention the tap size, that's because you can use any tap you want depending on the size of pen you are making and the section you are using.



Step 9. I simply insert the tap into a drill chuck mounted in the tailstock and HAND TURN the lathe. Remember, Left hand turning the spindle, Right hand gently pushing in the tailstock.



Step 10. I clean out the inside of the barrel then thread in the front section and converter that I will be using to make sure everything works fine with plenty of room. Now is the time to catch any problems.



Step 11. At this point I have a barrel ready to go, almost! Note that up to this step, I have not removed the blank from the collet chuck for any reason. It is rock solid and true as can be.



Step 12. I remove the front section and wet sand the blank with 400, 600, 800 and 1000 grits. Then polish with plastic polish. Remember to stay away from the threads!



Step 13. Now I remove the blank from the chuck and almost have a working pen. All I have to do now is cut the blank to the length I want, change collet sizes to one that fits the smaller body diameter and reinsert the body back into the chuck "head first" and turn down the "fat" end. You will note that the top of the lower body is fairly straight. This allows the blank to be reinserted back into the collet chuck. If it were turned "Fat" as some like their pens, this would not work as the blank would wobble in the chuck. I only taper the tail end of the blank.

The collet chuck will hold the blank true as long as it's the same diameter or close to it. If you like to turn fat or curvy pen bodies this whole method may not work since re-chucking the blank to turn the tail end would result in the blank wobbling on you. You could do it but a mandrel would need to be used to hold the blank to turn down the tail end. Nothing wrong with that, it just adds another step and another tool.



Step 14. With the "nib" end held by the chuck I turn down and taper the bottom of the barrel. If I want a "postable" cap, I turn down the tail end a bit more to fit into the cap. Remember that I already polished the top of the barrel, now I polish the lower end, overlapping the front end a bit. When removed from the chuck I simply take it to the buffer and buff the whole barrel at once and I'm done. Be careful chucking the blank and you will have no chuck marks to deal with.



Well, there you have it, one way of turning a pen with just a collet chuck, I hope this helps shed some light on the subject and gives you some ideas on how you can start on your masterpiece without buying a handful of specialized mandrels. Here is the finished pen.



Additional Comments and Notes:

For the threads where the cap screws onto the lower body I use the multi-start tap and die set which was part of a group buy in 2008. This size thread works perfectly for the size of pens I make. I used a 1/2" x 20 for one of those Sharpie pens and it worked fine so I don't see where a 1/2" x 36 wouldn't work just well for the average size pen.

As far as sections go, Berea sections with feeds already installed are readily available so I bought a good supply of them. Kit nibs as well as the nibs Lou sells both fit these feeds just fine.

To tap the internal threads in the lower pen body to accept these Berea sections, I find the 10mm x 1mm tap works just fine although it is not a perfect match.

That said, as I use up the Berea sections I don't plan on ordering anymore because they are only good for rubber cartridges or ink converters. Instead I have chosen to use one nib/feed/housing supplier for my pens and make custom sections for them. This way I will use one nib, one feed and one housing, so the sections will all internally be the same and I can concentrate on the section lower ends whether I am making a bulb filler or button filler or just using a converter.

I chose to go with Lou since he supplies the tap for both his large and small feed housings and has a good quantity of housing/feed/nibs available in both steel and gold, large and small.

Member Question:

Are you using Lou's large or small feed housing when you make a custom section that will be used with a cap threaded with the multi-start tap? The reason I ask is my own experimentation has shown that there are some pretty tight tolerances in play when the large housing is used, and this has resulted in the creation of some thin-walled, shapeless sections that are not suitable for use.

My Answer:

I use about 70% small and 30% large. Something to consider.... take a look at how the housing for the large feed is shaped, then see how much of the forward section you can remove, which will give you just a little thicker wall sleeve and a decent shape.