



International Association of Penturners

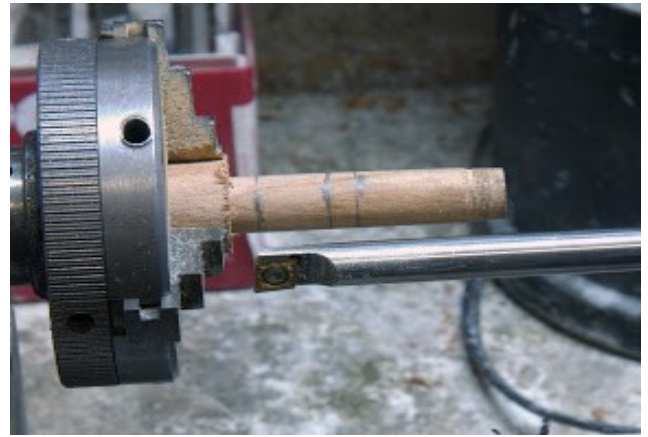
Simple Wooden Rollerball Pen

Author: Mike Redburn aka: mredburn Sept, 2011

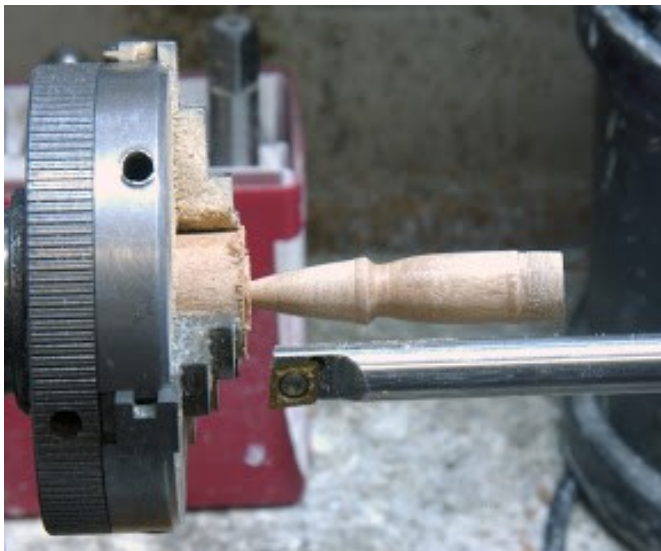
Downloaded from www.penturners.org

I decided to make another pen since I was on a roll with the Best OF IAP pen contest. I wanted to make another wood pen and I wanted to do one I had not done before. I decided to do a roller ball style. I'm like a kid in the candy store when I have to decide on which wood to use. I spend 2 hours going back and forth over which combination of woods to use. I finally settled on Cherry as the trim and I believe a piece of Maple for the body. I have about 22 hours in this pen.

I started with the nose cone/nib by turning a 2 inch piece down to size and forming the area for the threads. I then lay out the design with a pencil by marking where I want the features on the nose cone. I used a metal one I had on hand as a guide. In the picture of the pen with the lay out marks You will see the threads on the end of the wood. I later cut these off and made a brass sleeve with the threads and glued it on instead.



Because I'm using a metal lathe, I turn my boring bar tip down and use it for a guide to turn it to shape with regular wood turning tools.



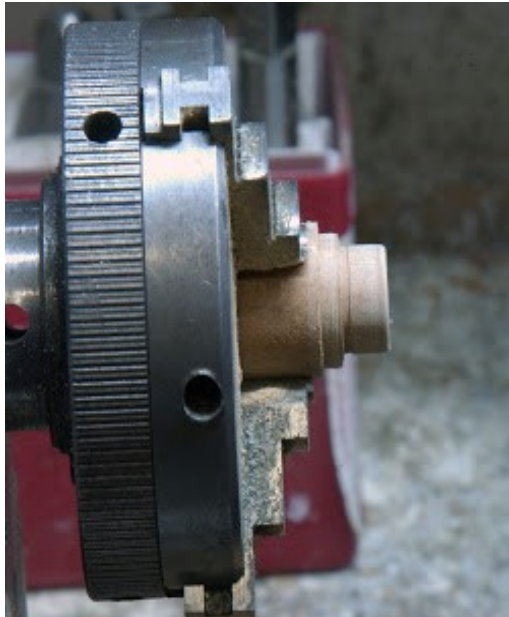
I turn it longer than I need and then trim it back to where I want it.

I then made a mandrel out of brass to turn the nose cone on to finish it. The center hole for the refill tend to drift slightly and this will let me turn it to final size based on the refill hole on the inside.





Next, I take a piece of Cherry and turn the nosecone/nib coupler to shape leaving it about .020 larger than finished size.

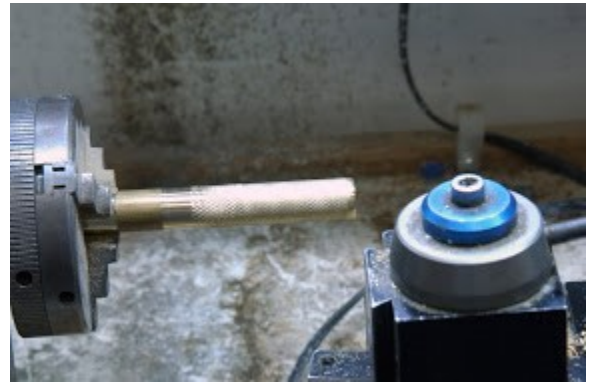


In the picture above, you see the nose cone with the brass sleeve with threads the center band and the nib coupler roughed out and threaded. The taps work great for the inside threads. The dies won't work I had to cut the outer threads on the coupler on the lathe by hand using a 60-degree tool and turning the lathe by hand. I have metal pieces that I have made that fit the threads cut in the wood to try them for fit.

I next take my prepared lower blank in maple and cut a tenon to the tube. I then fit the nib coupler to it and glue it on.



While its drying I make a brass mandrel to hold the upper body. I then mount the upper tube with the center band already glued on and turn it to size with the upper body. The upper cap is then glued on and the whole thing is slid onto the mandrel and turned to finished dimensions by file and by sanding.



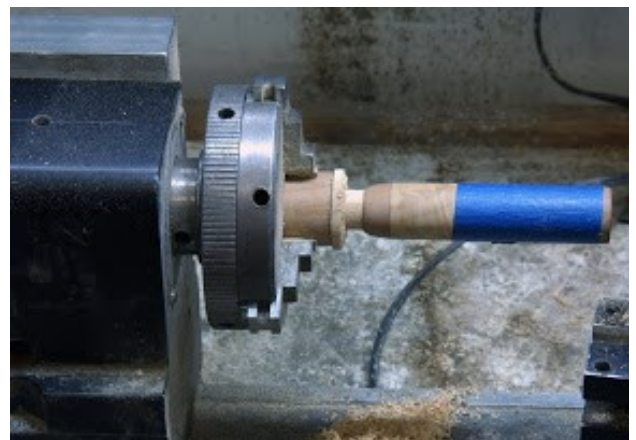
Because the mandrel is not accurate enough to turn the recess in the cap, I take it off the mandrel and wrap it in tape.



I use blue tape to protect the surface of the upper blank and mount it in the jaws of the chuck. I make sure that the seam of the tap is between the jaws, and I turn out the end of the cap for an insert of maple.



I then glued the end scrap of maple to a waste piece and turn the piece for the cap.





I test fit the piece, it's so close it will hold the cap in the air by the friction of the fit. I mark it with a pencil and cut it off.

I glue the maple into the top, mount it back on the mandrel and using a file and sandpaper I contour it to final shape and start finishing it.



The pictures below show the applications of the friction finish walnut oil/wax product I'm using to finish this pen. I wait a couple of minutes between coats and then apply the next.



The next step is to finish the front tube. I make a mandrel for the front tube and turn the nib coupler and tube down together. Before I glue the top, I need to check the length of the refill in the pen. If I haven't measured right, I need to correct it now. I insert the refill all the way forward and the cap goes on easily.

I then push the refill all the way back and measure the difference in the two. There is .080th difference so I will need a small spacer in the cap. I use a rubber piece that they stick on cabinet doors to keep them from banging. It Measures .084. I put some CA on it and glue it in the cap. When everything is assembled it just snugs up the refill nicely.



I then glue the cap in and mount the lower tube in the lathe using the blue tape. I sand and file it to shape and cut out the recess for the maple insert. The pen tube is already pre polished.



I cut the maple piece and glue it in and finish the pen. Because I'm using a friction polish, I peel the tape off the pen back to the jaws and blend the finish together. I then try the pen for fit. I used a small brush on a mandrel in the flex shaft with carnauba wax on it to polish the wood threads on the pen.



Next, I take a piece of Cherry about 2 inches long and 3/16 wide and draw the design of the clip on it. I take it to the band saw and rough cut it out and then start the hand work.



All in all, I am happy with the way it turned out. I have a few places that can be done better. The glue lines are not consistent. Some more pics. Enjoy and comment are welcome.

