

How to turn a wooden pen on a lathe

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Intro: How to turn a wooden pen on a lathe

Have you ever wondered how to make those awesome wooden pens? Well here is how you do it. At first the making of a American pen (that is this kind) will take you about a hour and a half but once you have made a bunch you can make them in 15 minutes.



Image Notes

1. American style pen with Yellow Heart wood

Step 1: Supplies

For this guide you need these supplies. Most of these tools you can substitute for something else cheaper. Lathe

Skew (the tool that you turn the wood with)

Wood (i'm using yellow heart one of my favorites)

CA glue or Super Glue (thick and thin if possible)

Mandrel to hold the pen on with 3 bushings

Sand paper

Pen Kit or you could use pieces from a old pen that you don't use anymore

Paper towels

BLO (boiled linseed oil)

Drill press or equivalent

Clamp

Optional:

Micro mesh to get the super shine

Beall buffing system to put on a awesome finish

Pen press



Image Notes

1. All the pens that my Dad and I have made

Step 2: Cutting the blanks

You will need a piece of wood called a blank. This can be any type of wood as long as the wood is long enough for the tubes to fit in the piece of wood. Then you need to cut the wood so that the wood will be long enough for tubes. Before you start cutting or even think about cutting put on your safety glasses. I use a Craftsman table saw to cut the wood but a bandsaw or a scroll saw would do the job well. Make sure to measure twice and cut once.

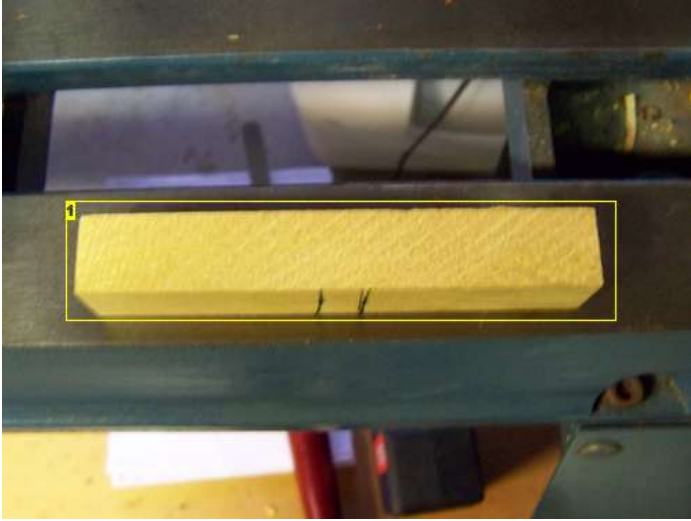


Image Notes

1. This is the blank. This wood is yellow hence why they call it yellow heart.

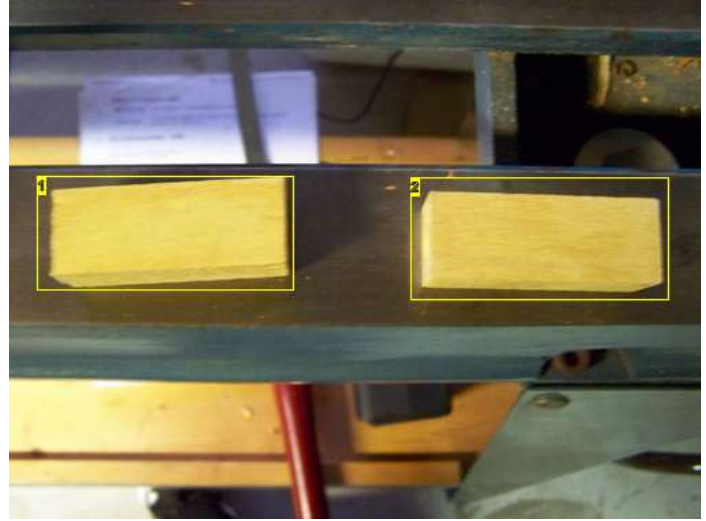


Image Notes

1. The blank cut to size the tubes that go in side.
2. The other blank.

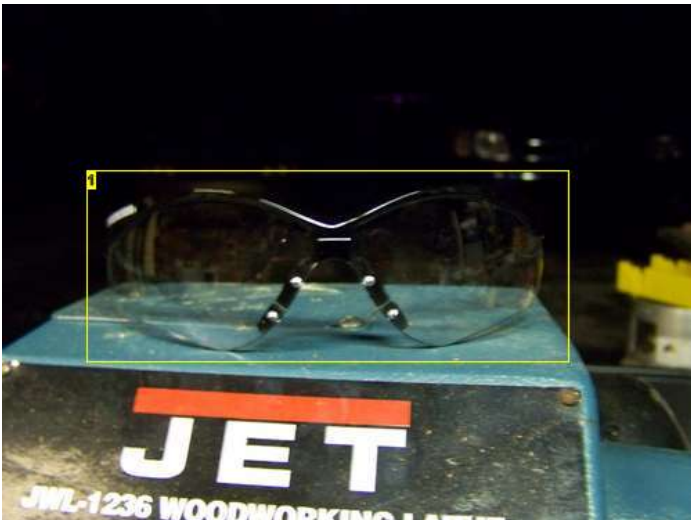


Image Notes

1. Don't forget the glasses

Step 3: Drilling the blanks

This step can either be done on a drill press, Lathe or hand drill. I would not recommend drilling this hole on a normal drill because the hole has to be perfectly square. The drilling on a drill press is self explanatory. But drilling on a lathe? Yes it can be done with a supernova chuck and a drill attachment.

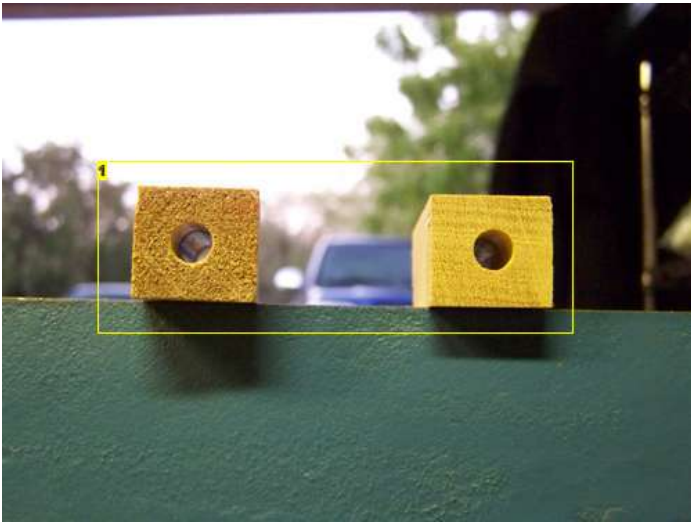


Image Notes

1. The blanks cut and drilled

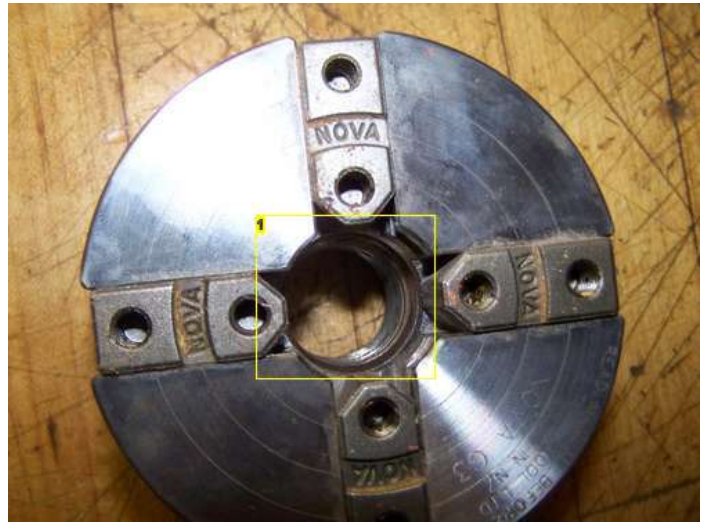


Image Notes

1. This is the chuck that you put the wood in when you drill the blank. (you put this on the spinning side)



Image Notes

1. This is the drill chuck that you put on the live center side.

Step 4: Sand the tubes then glue to Blanks

Sand the blanks so that they are not shiny and then apply a line of thick CA glue to the tube and push in to the blank. Pull and twist the blank so that the glue gets all over the inside of the hole then repeat on the other side. After you have done that push in the tube so that it is not sticking out of either side of the wood.

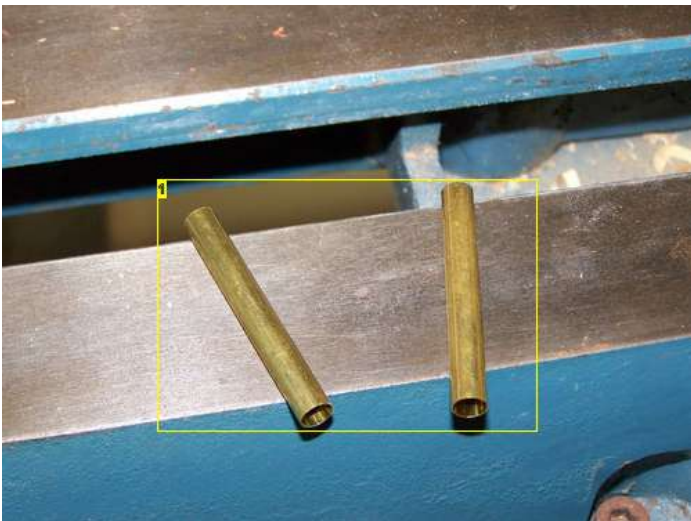


Image Notes

1. Shiny, we don't want shiny

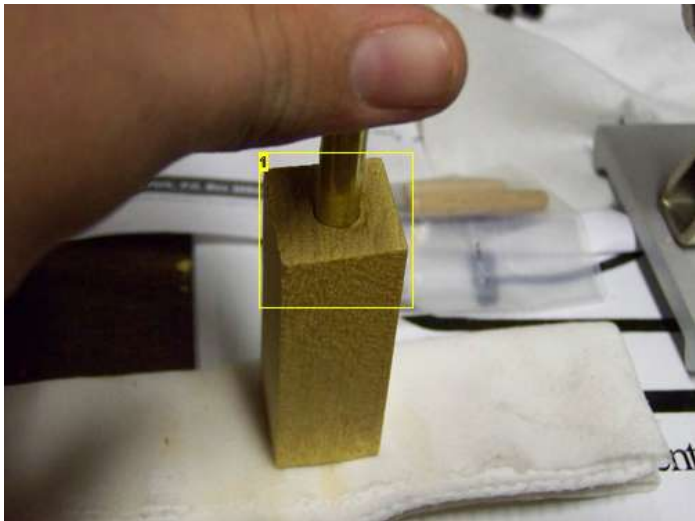


Image Notes

1. Twist and Pull

Image Notes

1. Rough, we want rough
2. Thick CA glue or Super glue

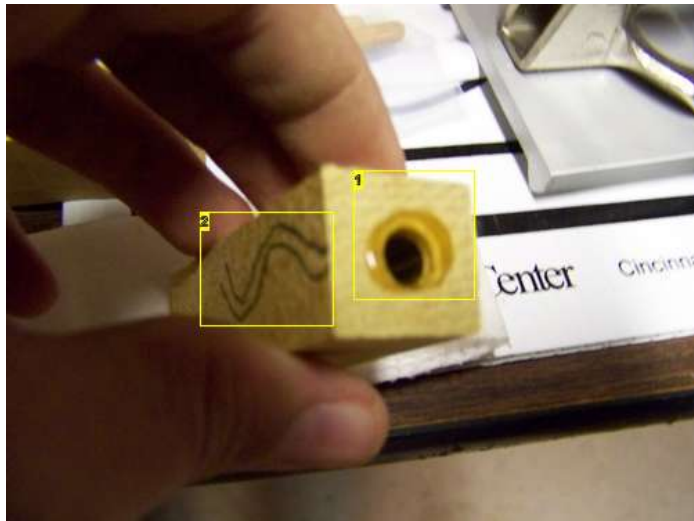


Image Notes

1. Tube not sticking out.
2. Mark so that the grain will match up this is optional.

Step 5: Squaring the blanks

For this step it is best to use the tool specially made for this or you could use sand paper and a square. This makes the wood flush and square with the tubes. Be careful not to drill down to far because then the tube will stick out and in the final product you will have a gap in the joint of the pen.

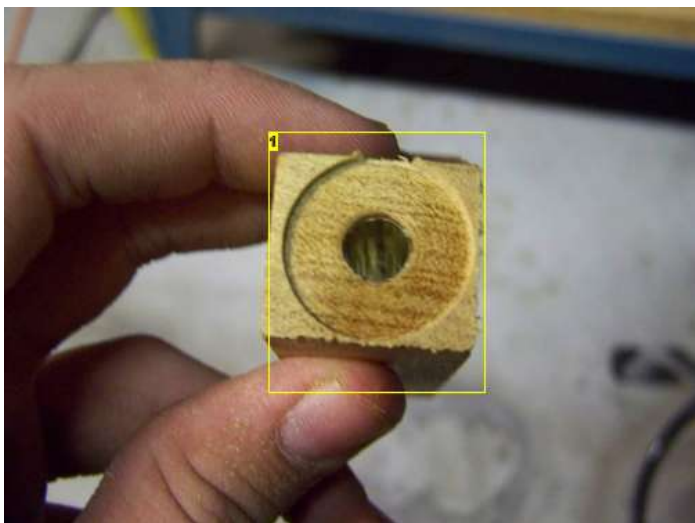


Image Notes

1. Squared Balnk (tube not sticking out)

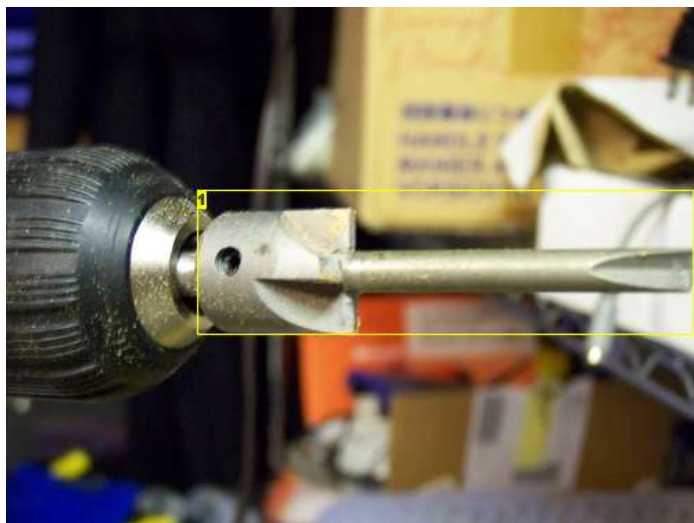


Image Notes

1. Squaring tool on a drill

Step 6: Turning

This is my favorite part. You can use a wood working lathe and skew or make a lathe like in Catwood's Instructable 100%Homemade Lathe .(If your lathe has a speed control you will want this to be as fast as possible) For a skew I use a round tip. You could also use a gouge or a chisel. Now take your Mandrel and bushings and put the blanks on there so there is a bushing then blank then bushing then blank then bushing. The bushings are your guide to how much you turn down the wood. Remember you can always take off more but you can't put wood back on. (or can you) Try to turn as smooth as possible so you don't have ridges.

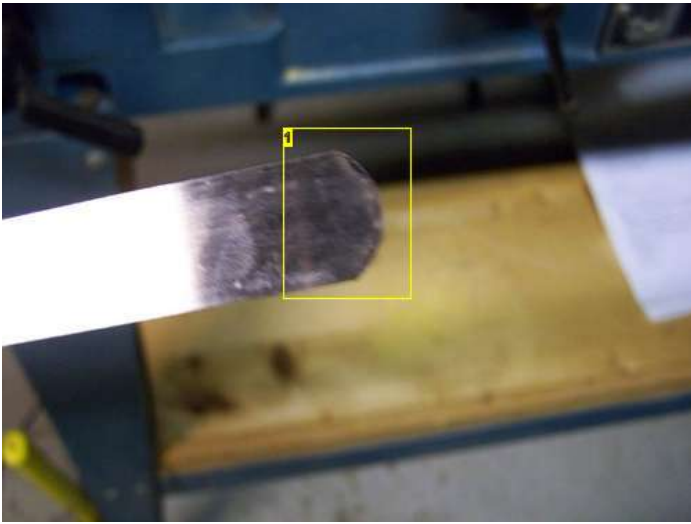


Image Notes
1. Round Skew

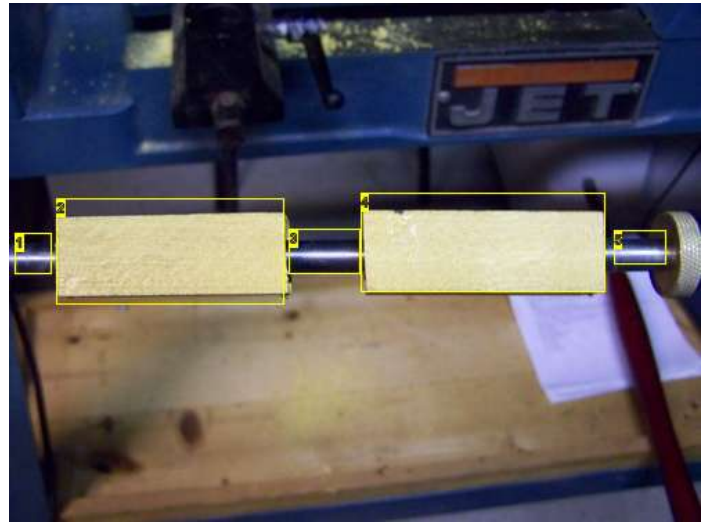


Image Notes
1. Bushing
2. Blank
3. Bushing
4. Blank
5. Bushing



Image Notes
1. Blanks turned and ready for sanding

Step 7: Sanding and BLOing

Before you sand slow down your lathe to as slow as possible for the rest of the process. After you are done turning sand with no less grit of 220. Make your way up to 400 grit then look at your blanks. A good way to see if you are done sanding is to run your fingers on the blank with the lathe on. You can tell a-lot more with your fingers than your eyes. After your blank is smooth and flush with the bushings take your BLO (Boiled Linseed Oil) and put some on a paper towel and rub it good then look at how beautiful your pen will be. This is pretty much how your pen will look like when your done except it will be 100 times shinier.

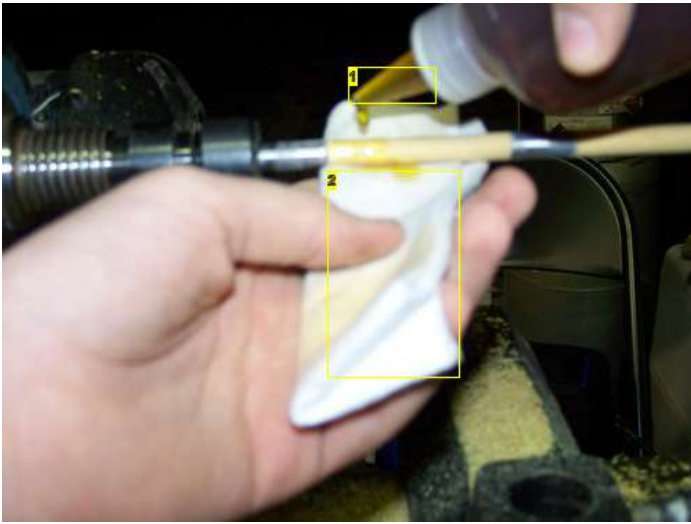


Image Notes

- 1. BLO
- 2. Paper Towel and thumb

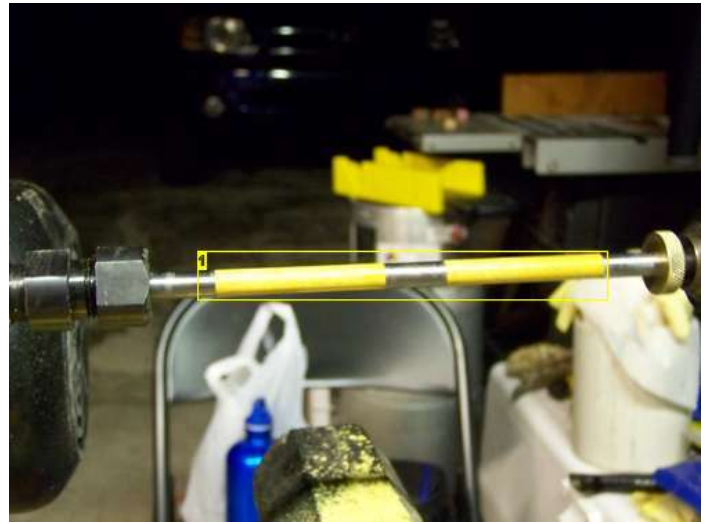


Image Notes

- 1. Blanks BLOed

Step 8: Glueing

In this step you will start to apply the finish. You need CA glue or regular super glue. (CA glue works better) If you have thin glue start with this then do thick glue. Make sure to make the glue as smooth as possible and even. Take your glue and paper towel and put the paper towel on the bottom of the pen then squeeze glue and smooth out the ridges. The paper towel does get hot and does smoke. Make sure not to take away the paper towel too fast because it will look bad, but don't leave it on too long because the glue will set up and will stick to the pen. You will want to do 1 coat of thin and 2 or 3 coats of thick depending on how smooth the blanks are.



Image Notes

- 1. CA GLue
- 2. Paper Towel

Step 9: Sanding and Micro Sanding

After you do the CA finish you will see that the blanks are shiny, you will want to take 400 grit sand paper and get rid of all the shiny spots. You will then take Micro Mesh sanding system and sand from 1,500 grit to 12,000 grit. Every other grit you should turn off your lathe and sand back and forth horizontally while turning the lathe by hand. This will get rid of sanding and tool lines.

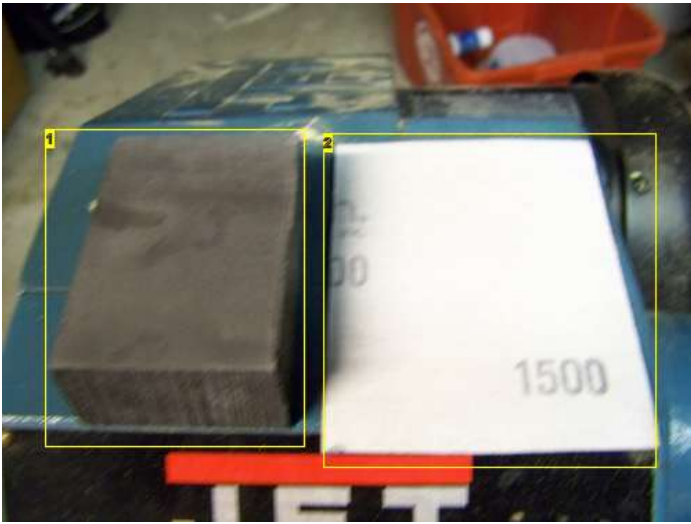


Image Notes

- 1. Foam sanding block (optional)
- 2. Micro Mesh 1,500 grit

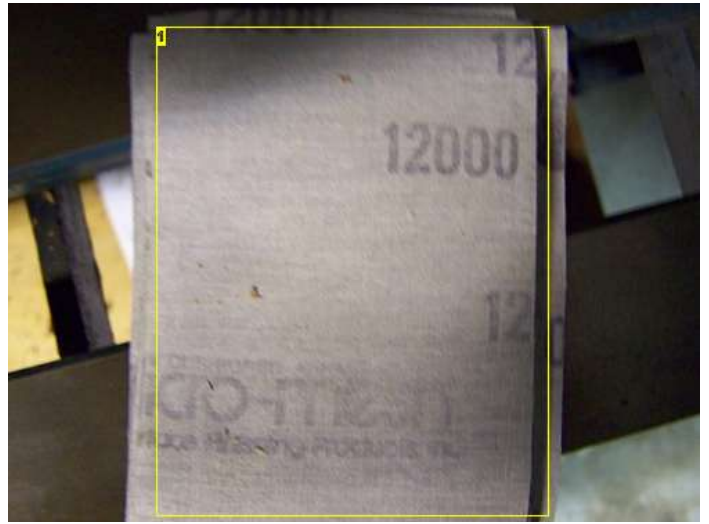


Image Notes

- 1. Micro mesh 12,000 grit

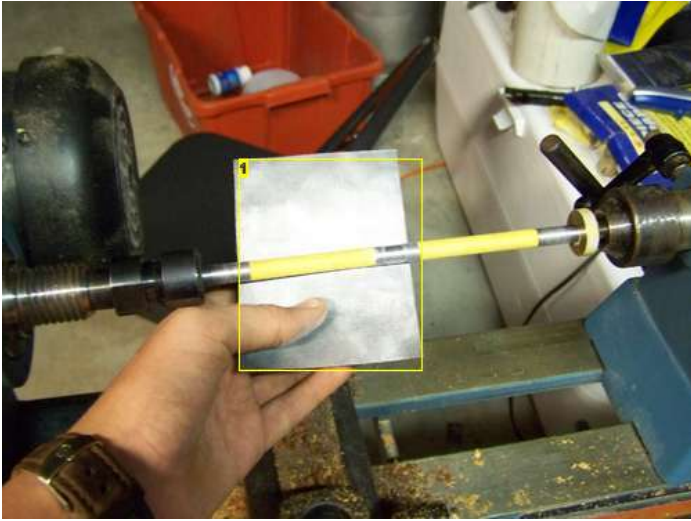


Image Notes

- 1. Sanding with Micro Mesh

Step 10: Finishing

After you have done Micro Mesh you need to take out your Beall buffing and finishing system. This is a 3 step process that starts with tripoli then white diamond then carnauba wax. You load these with the finish by turning on your lathe and rubbing the bars on to the wheels. While the wheels are spinning twist and turn your blanks (still on the mandrel) in the wheels so there is an even and thick coat. After that take the blanks off the mandrel and get out the pen press or clamp. Check the blanks to see if there are any imperfections and if there are set that blank to the side and get the other one and press the tip in to one end. Then take the same blank with the tip and put the transmission in the other end. BE CAREFUL not to put the transmission in too far, push it in to the line and then put in the ink refill and see how far it goes. After that take the blank with the imperfection and take the clip and little cap, and position the clip over the imperfection and then put the spacer on between them and stick them together. YOU HAVE A HAND MADE PEN!!!!!!!!!!!!!!!!!!!!!!!!!!!!

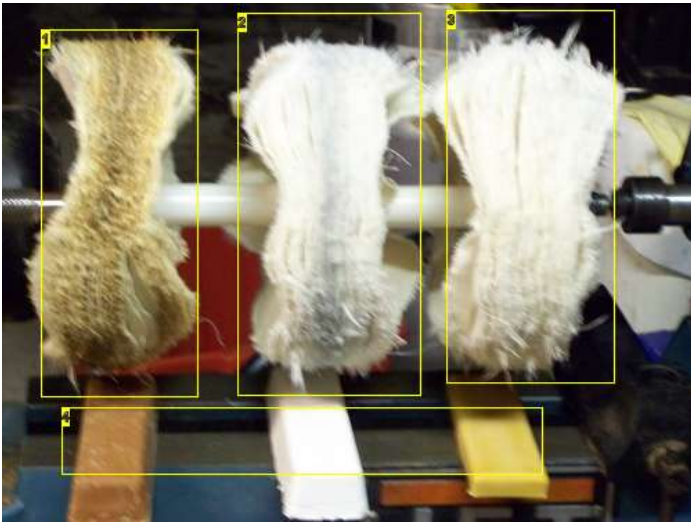


Image Notes
 1. Tripoli
 2. White Diamond
 3. Wax
 4. The Loading Bars



Image Notes
 1. Pen press



Image Notes
 1. Clamp (substitute for the pen press)



Image Notes
 1. Blank
 2. Tip

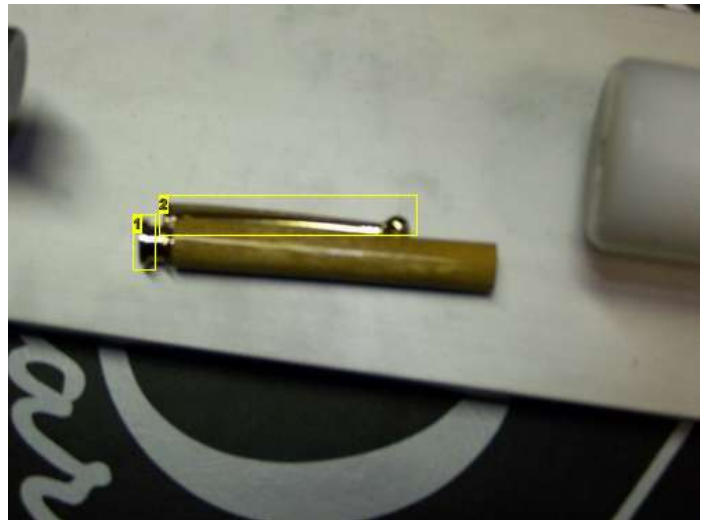


Image Notes

1. Transmission



Image Notes

1. American style pen with Yellow Heart wood

1. Little Cap
2. Clip

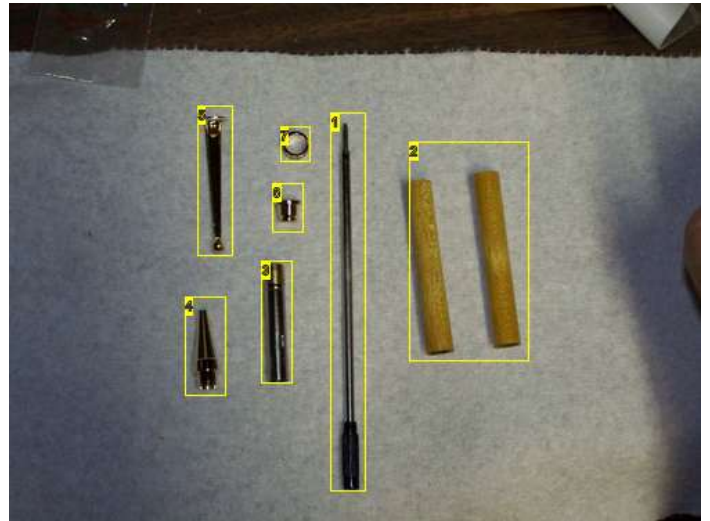


Image Notes

1. Ink refill
2. Blanks
3. Transmission
4. Tip
5. Clip
6. Little Cap
7. Spacer



Image Notes

1. All the pens that my Dad and I have made