

Pool Cue Pen Blanks

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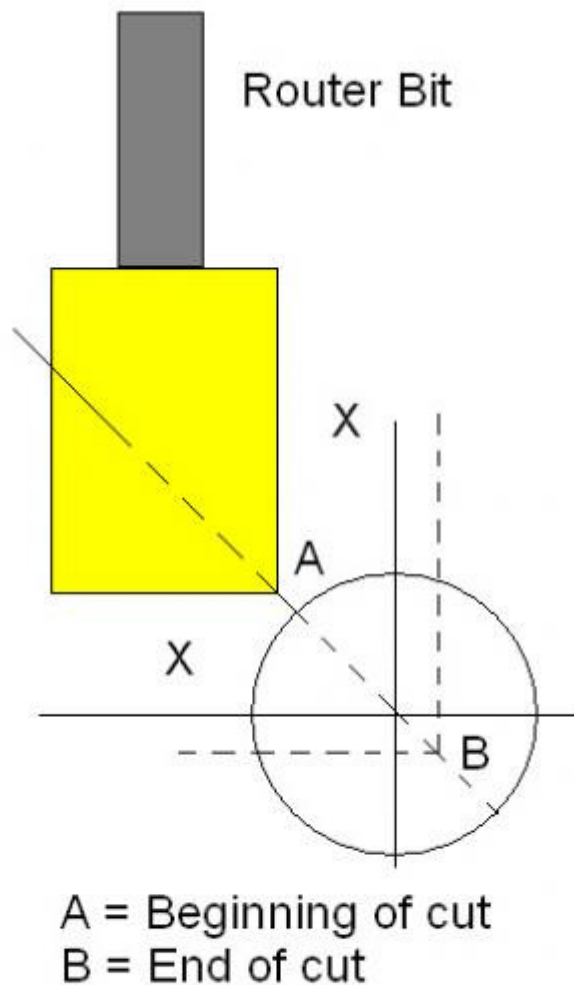


**Here are two methods that I have used to make
'Pool Cue' pen blanks.**

**Actually, the methods are identical. It's really only a
variation in the tool holding that differs.**

**I have also made a few using slightly simpler tool
holding and with a Perfect Point router bit. I found
these bits very expensive and the results weren't
worth the effort.**

**In both of my methods I use a lathe, but it is only to
hold and index the blank. So you will see that
although I have used a metal lathe with a small router
mounted on the carriage, it would be fairly simple to
make a 'Ramp' box for a wood lathe. You will still
need to be able to index the blank though.**



Have a good look at the above sketch. The yellow part represents the router bit. I recommend using at least a 15mm diameter bit, but a 19mm is better.

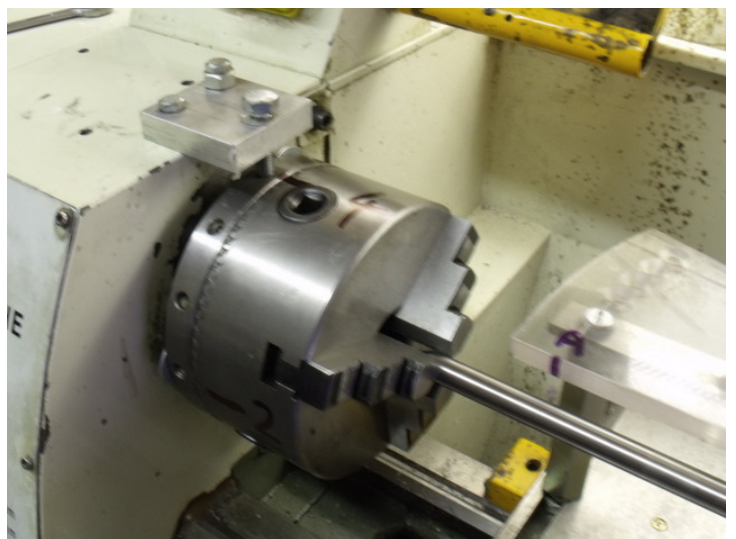
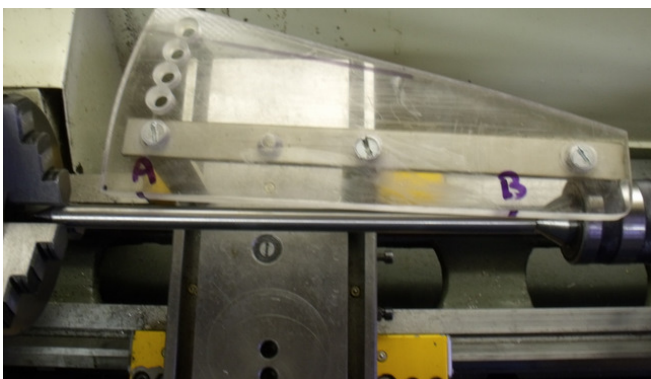
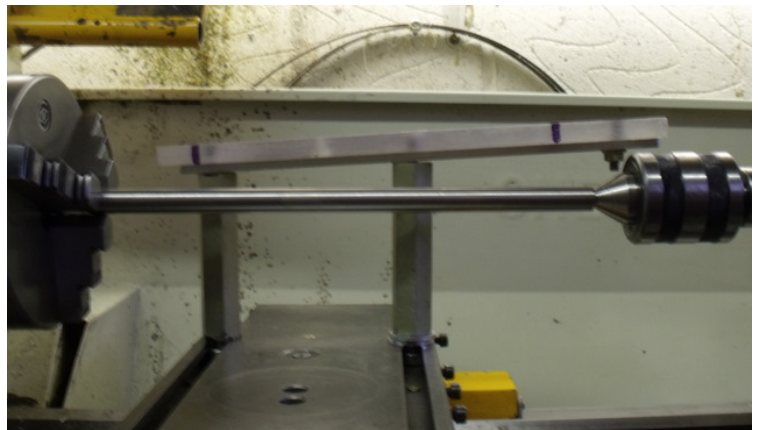
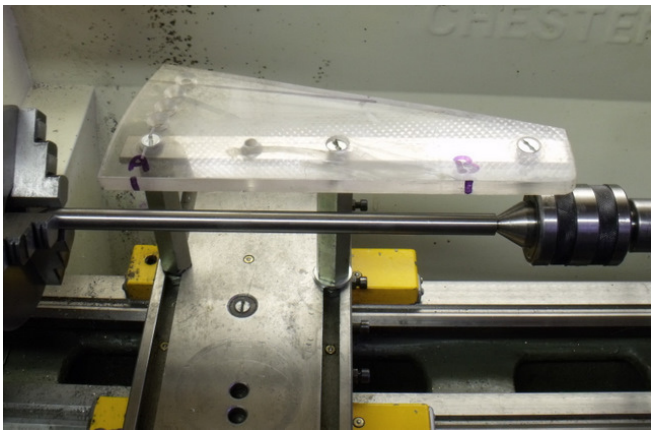
The router bit needs to travel in three directions. First is obviously along the length of the blank. At the same time it needs to lower into the blank diagonally from point A to point B.

Note that the end of the cut is beyond the middle of the blank.

To make the final blank look perfect, the setup and travel of the router should be so that the two X distances are equal throughout the travel of the router. This sounds more complicated than it is.

Once the sketch is fully understood, you will now realise that you don't need this tutorial anymore. So, the rest of this will just be pictures of both my methods.

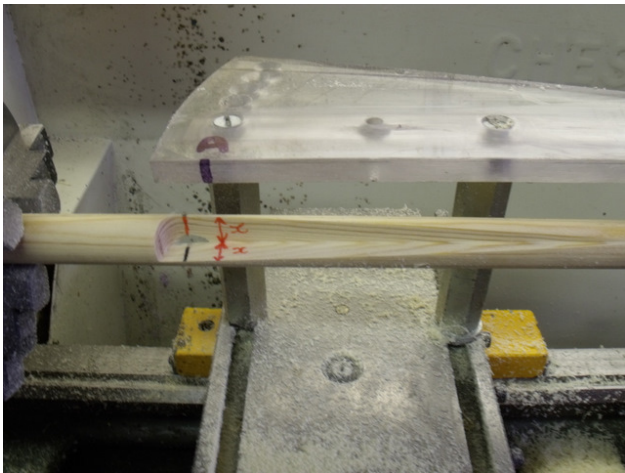
The first method uses the sketch as it is drawn. I simply built a plastic ramp for the router to travel along. It took a bit of setting up to make sure that it followed the 'rules' of the sketch but the results are good. This method has pro's and cons. Cons include; that you need to be careful by moving the router by hand along the ramp. A slight tilt of your grip on the router will ruin the work. Pro's include; the ramp setup takes care of the angles while keeping the blank between chuck and tailstock. The metal rod in the first few pics is for setup only.



Note; the A and B are the wrong way around, compared to the sketch!!!

You can see from the above pics, that the router will start at B and cut into the blank until it reaches point A. (Contrary to my sketch).

Using the indexing, do cut 1 and glue in the first point.



Now index to the opposite side of the blank and do the second point. Repeat for the other two opposite sides. 1-3-2-4



The result of cutting deeper than the middle of the blank can be seen in the above picture and the reason should also now be clear.



In this pic, I have removed the ramp and turned down the blank. Ready to make into a pen.

This is method two.

Instead of the ramp, I now take care of the angles by either offsetting the tailstock or offsetting the blank.

Moving the tailstock is a mission and can take hours to get it perfectly back on centre afterwards, so I won't do that!!

Instead I use an adjustable boring head in the tailstock.

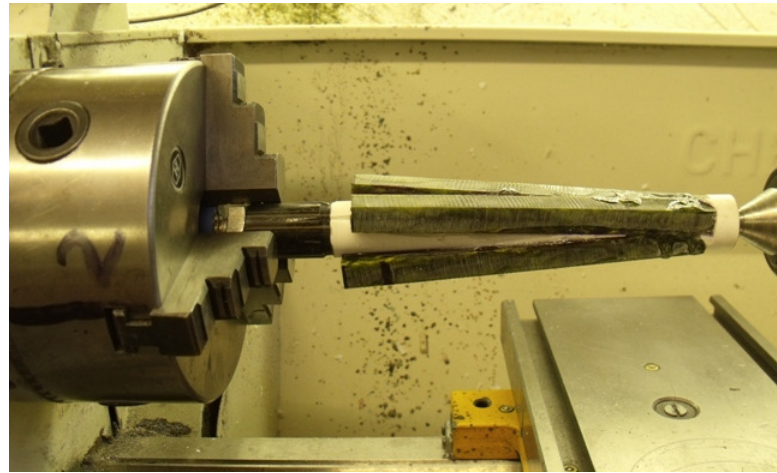
Then I made a simple flexible tool for the chuck.



The flexi coupler consists of a short length of thread with a dimple in one end. This mates up with a rounded point on a bolt. They are held securely together with a tight fitting piece of rubber hose. A sacrificial piece of wood or plastic is glued to the head of the bolt. This gets glued to the blank.

Here a small router is held in a homemade holder at an angle of 45deg. You can now see that this method still follows the 'rules' of the sketch. The rest is done the same as the previous method.

Below are a couple of pictures of the way I now hold the router. This just gives me a bit more space to work.



Once all 4 pieces are done, I then clamp the 'sacrificial' portion in the chuck and turn the blank round.

Here are some finished results.
Walnut wood with white resin.



Dark green and white resin



White and Burnt Copper resin.

