

Ice Cream Cone Pen Made with a European Kit by Bill Jacob



Equipment needed:

- Lathe (no brainer)
- Drill press or equivalent
- Calipers
- Drill chuck with #1 or #2 MT
- Square

Choose your colors of wood you desire. To look like an ice cream cone, it would be best to choose colors that are similar to real ice cream. You will need 4 pieces for the ice cream scoops, and one longer piece around $2\frac{3}{4}$ " for the cone. I prefer blanks that are 1" across, as this will give more room for error. Four scoops may seem excessive, but I will explain the complications using the European kit that could occur with three scoops later.

Measure the top tube with calipers and then divide by 3. Set your calipers to this 1/3 measurement. For example, the top tubes used here are 2.089". Dividing by 3 gives 0.696". Cut 4 small blocks for your scoops slightly longer than the 1/3 measurement. Use a sander (or your preferred piece of equipment) to square and shorten the small blanks to the exact measurement.

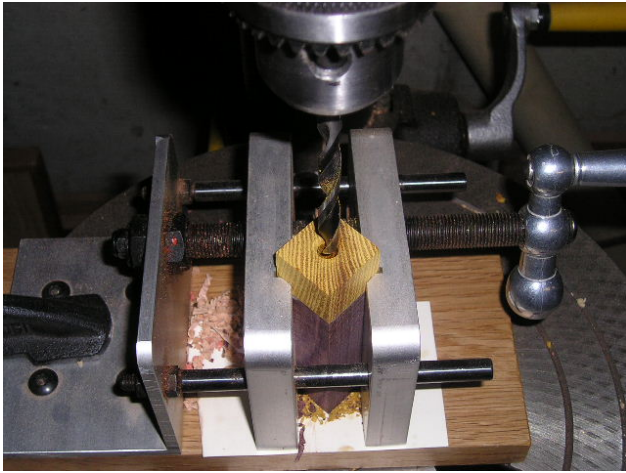


The little blanks **MUST** be square!
When glued together, the tube will be the exact length of the blank.

Glue the blanks in the order that you would like to have and let cure. Three of the blocks will be glued together and one block with the longer cone block should be glued.

Once cured, drill the upper blank completely through the center with a 7mm drill bit. Take care to use a scrap piece of wood under the upper blank to prevent the wood from chipping when the drill bit exits.

The cone end requires step drilling. Use the larger bit (7mm) first and drill into the blank the exact length of the lower tube. In the example case, it is 2.375". Remove the bit and replace it with a 1/8" drill bit. **DO NOT** remove the blank from the centering device! The drill bit needs to be exactly centered with the other hole. Using the 1/8" drill bit, drill 2.575" into the blank.

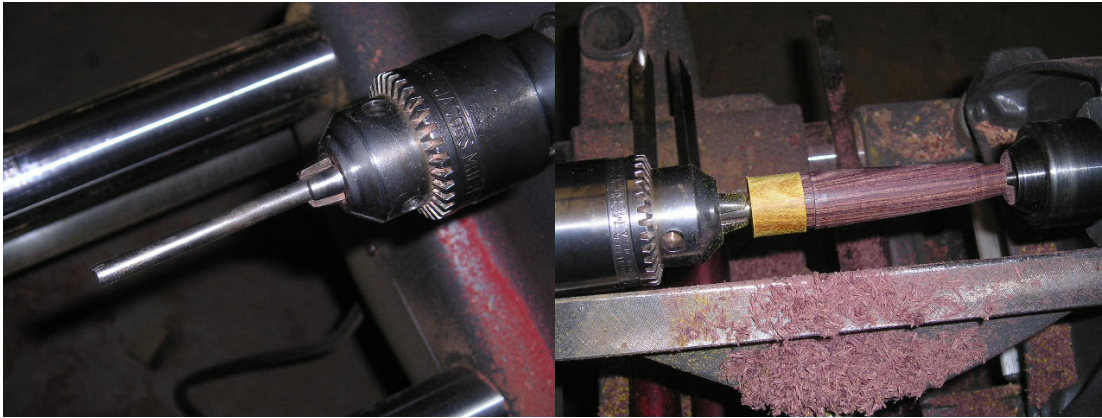


Glue the tubes into the blanks. Fit the tubes before gluing especially on the lower assembly to make sure you have drilled deep enough. On the lower end assembly, do not put the glue into the hole, but rather on the tube before insertion. This will prevent glue from plugging the smaller step drill hole inside the blank.

Once cured, turn the upper assembly separate from the lower. This can be done on a standard mandrel. Round first, then shape the scoops equally.



The lower assembly requires the extra work and equipment. I went to Home Depot and purchased a ¼" steel rod. After it was cut to a length of about 5", I installed it in the chuck end of the lathe (I am currently using a ShopSmith with a drill chuck on the drive end). The ¼" steel rod is a very tight fit into the 7mm brass tube. If you cannot slide the lower tube assembly onto the rod, use some emory cloth and take a small amount of the surface of the rod off. Do this until the lower assembly will slide on with some effort. If it just slips on, it is too loose. If it is a bit loose, use a temporary adhesive, such as sandpaper adhesive for disks, and apply a very small amount to the rod. It should firm up the lower assembly just fine and allow it to be removed. Turn the lower assembly with a live center on the tail end.



Turn the scoop to match the other scoops exactly in diameter and shape. Make the approximate cone shape remembering that about ½" will be removed from the end.



Measure the length from the top of the single scoop down onto the cone and make a mark at 2.750. This will be the end of the cone, so lathe it down there and cut it off. It may be wise to make it a bit longer to allow for sanding and fitting of the ink assembly.

Now install a drill chuck with a Morse Taper (MT) on the tail end. One little note...many of the drill presses today, especially the Chinese versions, use a MT chuck so you might even have one without knowing it. Install a 5/64" drill bit into the end chuck. Check to see if your drive end and tail end are center to center before drilling.



Drill the end of the cone with the 5/64" bit taking care not to hit the metal rod inside the lower assembly. Once drilled, slide the lower assembly off and check to see if the end of the cross ink refill exits the end of the cone to your desired length. If not, reinstall the lower assembly on the rod and carefully turn it down until the desired length is achieved. Instead of putting the live center back in to do the final fitting/turning/sanding, remove the 5/64" drill bit and turn it around in the chuck. Use a little wax on the bit and slide the lower assembly onto the drill bit to stabilize that end. Now turn and finish the cone end.



Assemble the pen in the normal manner of European kits.

You could use the standard metal top for the cone, or make a cherry using a stud and some type of red colored wood (thanks Tim).



Do final sanding and put the finish of your choice on. With a little practice, this is a very easy way to do many pen styles that are all wood. This same procedure can be used with the slimline kit as well, remembering to change the measurements of the tube assembly. The reason 4 scoops are used on the European kit is that the cone would be excessively long and the angle of the wood would pass very close to the brass tube, possibly causing problems.

The end product:

