

Foray Pencil Update

I have done a comparison of the Foray pencil with the Pentel Sharp P20x. I found this pencil, bought a few because I wanted to see if the drill bit I sold on the penturning forums could be used for making this pencil. What follows is how I made the pencil. Also, I give a few personal comments about the Foray and Pentel.

(1) The Pentel has a far superior mechanism. I am still testing the Foray. So far, it is performing flawlessly.

(2) I will not sell the Foray but I will use it for mechanical pencils I gift to friends who use mechanical pencils.

(3) I purchased the Foray pencils at Office Depot. They come three on a card for \$3.99 and the Pentel are supplied 2 on a card for \$9.99 and they have the .5 and .7 mm only. On the Office Depot website the Pentel Sharp .5 and .7mm are \$3.49 each and the .9mm is \$3.59 each. I bought the last ones I purchased from <http://www.nordisco.com/> and the .5mm was \$2.92 each, the .7mm was \$3.05 each and the .9mm was \$3.49. Searching other office supply sites may find them cheaper.

Now, for the photo essay. The pentel pencil can be made the same. One step needs to be omitted.



Here is the card of Forays I first purchased showing the mechanism and the first pencil I made using the Pentel step bit.



This photo shows the Pentel and the Foray mechanisms side by side. The Pentel tip is all metal. The Foray tip is all metal except for the black tip which holds the lead and is plastic. Note the end of the Foray mechanism is larger than the Pentel's. This is the problem I had to solve.



My next step was to lay the Foray body and the step bit for the Pentel on the chosen blank and mark lengths. I marked the end of the barrel and almost to the end of the drill bit. I put a piece of tape on the drill bit to indicate where to stop the drilling. I drilled then cut the blank to length.

FIGURE 3 Cont'd



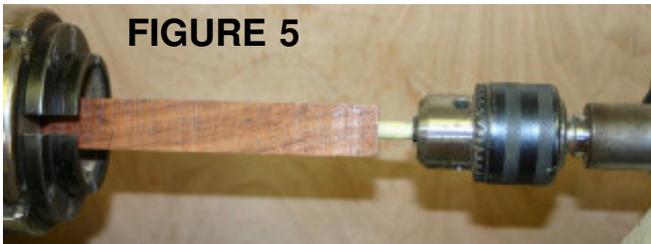
Notice the blank will be longer than needed but I have found it easier to cut it longer and shorten it on the disk sander and sneak up on the final lengths. I drill next and do the drilling on the lathe.

FIGURE 4



The blank is mounted in my chuck and the bit is aligned prior to tightening the chuck. Drilling can be done on a dill press but I find the lathe to be better for this.

FIGURE 5



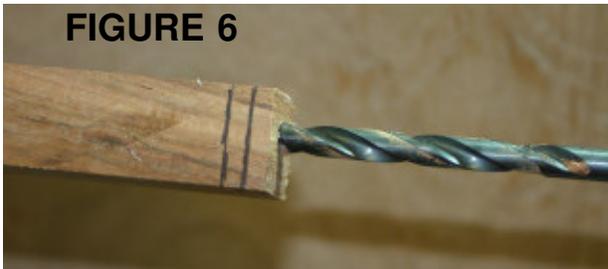
Drilling is completed. Be sure to drill a little then exit to clear the bit. I drilled to the tape and stopped.

FIGURE 6



The end of the blank was cut off on the band saw. Notice the small hole made by the step .5/32 inch. But for the Foray pencil we need a larger hole. I use a letter B bit (.2308") Another size may work but the B bit is a close fit.

FIGURE 6



Now place the blank back in the chuck with the small hole end toward the tailstock and use the step bit to align the blank drill bit. Tighten the chuck then change the bit to the letter B or the bit you will be using and enlarge the 5/32 inch hole to the letter B size.



FIGURE 7

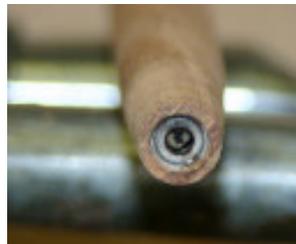


FIGURE 8

Figure 7 shows the enlarged hole for the Foray mechanism and figure 8 shows the mechanism installed but not installed to its final fit and placement.



FIGURE 9

I use a dead center in the head and a live center in the tail to turn the pen. I sometime make the pentel this way also. Light cuts work fine and be sure not to tighten the tail stock more than needed to hold the blank.



FIGURE 10

I turned the pencil to close to half finished and removed it from the lathe and marked the approximate end of the pencil. I used the disk sander and reduced the length a little at a time and tested the fit of the mechanism.



FIGURE 11

Figure 11 shows the mechanism protruding through. Test often and make sure the metal tip will screw on and tighten against the wood. See next figure.



FIGURE 12

If too much wood is removed the metal tip will bottom out before meeting the wood and the tip and mechanism moves in and out. It does not seem to affect the use of the pen but neither does it show off my turning skills, if in fact I have any skills. Take it slow; remove a little at a time and check for fit often.



FIGURE 13

Figure 13 shows the pencil barell sanded and finished and on the lathe.



FIGURE 14

The finished Foray pencil. I like if and will be making more of them..for gifts but not for sale. I will continue making the Pentel for selling.