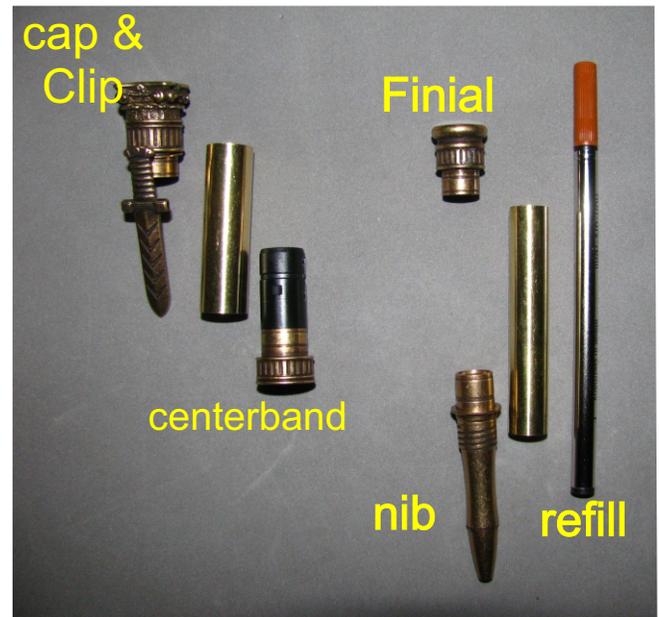


# Making the Junior Zeus pen



The “kit” contains ALL THIS:



Start by taking the brass tubes out.

Now, take your pen blank and cut it to the length of the brass tubes, plus about a quarter inch (2” and 2.5” prox).

Drill the short blank with a 12.5mm drill bit, drill the long one with a 10.5mm bit. Do not drill THROUGH!

Drilling detail: Start with a SHARP drill bit. When drilling, measure the length of the brass tube and mark your drill bit. Do NOT drill through the blank, just drill longer than the amount needed, then cut off the remainder, exposing the hole. This will save you many “blow outs” caused by the drill bit exiting the pen blank.

As you drill your blanks, you should “back off” and clear the flutes of your drill bit every quarter to half inch. Be certain to avoid getting the blank hot. It is sometimes advisable to put water into the hole to keep it cool. If you do this, be certain to allow the blank to dry thoroughly before attempting to glue in the brass tubes.

Additional information if using spalted or burl or other “unstable” pen blanks: Before cutting off the end, you MAY want to put thin CA glue into the hole and “swish it around” for a while. You can repeat this several times, over several days if the material is “punky” or “rotten”. Allow to set for a couple days before you attempt to redrill, however, as the drill bit will get warm and thin CA can really grip the bit if it is still somewhat active.



This is my personal preference: An adjustable length mandrel, coupled with a mandrel saver in the tailstock. Because the length of the mandrel (that you are using) is only about 4”, the mandrel has less “flex”. A nice, straight mandrel will produce a nice, ROUND pen!!



After drilling the hole, test fit the brass tube into it, the tube should slide in, without much friction. If you are using a resin that you expect to be somewhat translucent, now is the time to paint your brass tube, and/or the inside of the hole you just made. IF you are going to paint, you MAY want to make the hole a little larger, either by using the next larger bit or by sanding the inside of the hole a little, by putting sandpaper around a wood dowel.

Glue the tube into the hole you have drilled. Gluing detail: You can use CA (Superglue) or Epoxy, whichever you prefer. Do NOT use thin CA, either medium or thick will fill gaps, thin will not.

To get a good adhesion, take some time, here. First put a liberal coating of glue on your brass tube. Insert into blank, about half the length of the tube and rotate the tube inside the blank. Give it 10-20 revolutions, then remove from blank. Put a little more glue on the tube and insert from the opposite end of the blank. Again rotate quite a bit. IF you start to feel resistance

(like the glue setting), insert the tube quickly and make sure it is not sticking out on either end.

NOTE: IF you have painted your tubes or the inside of the hole, you may find the paint is smeared by the CA glue. It is preferable to use Epoxy when painting. Epoxy can actually be tinted as well, to make it more invisible on the finished pen.

Once the brass tube is glued in place, set the blank aside for a day or so to give the glue time to set completely.

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“Facing” the blank.”Conventional Wisdom” uses a pen mill to face the blank at this point. I disagree, but it is your pen. So, if you have a pen mill, you can put it into your drill press and hold the blank with a vice-grip or other method and face the blank. If

the pen mill is not real sharp, you may blow up your blank. See the video on ExoticBlanks video page, titled “Sanding disc for squaring pen blanks-”. This is my preferred method, guaranteed NOT to blow up your blank.

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Turning: Mount on a standard “7 millimeter” mandrel rod, using the Jr. Zeus bushings. The cap bushings are both the same size, the larger diameter body bushing is the nib end of the pen. If you have difficulty inserting the bushings, there is, most likely, dried glue inside your brass tube. You should remove the dried glue. This can be accomplished with a round file (like you would use to sharpen a chain saw), or a pocket knife, or a brush (as is used to clean guns). Also be careful to remove any burr on the brass tube that may have resulted from your facing tool. This can be done with a deburring or chamfering tool.

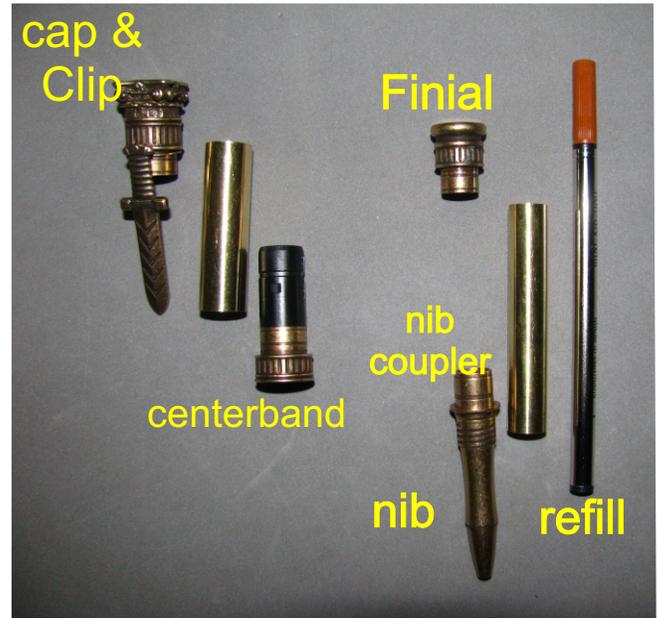
Turn the blank down close to size of the bushings. It is a good idea to measure the kit components and determine what diameter YOU like. A caliper is a good investment and can improve the quality of ALL your turned pens. But, you can use the bushings as a rough guide and achieve a pretty good result!!



# Page 3--Assembly

Before beginning assembly, make certain there is no glue remaining in the ends of your tubes. The first half inch of each end **MUST** be **CLEAN**. Use a small penknife or a round file to clean it out thoroughly!!! (I know I said this before, but it IS IMPORTANT!!!!!!!)

**ASSEMBLY:** Put the nib and trim ring into the "nose end" of the body tube. The **FLAT** side of the trim ring goes toward the pen material (part you turned) If you are making the fountain pen, screw the nib onto the coupler to find the best looking part of your pen and make it visible when in the "writing position" (as a person would hold the pen). Now take the nib section back off and press the coupler into the brass tube.



Put the black plastic thread piece into the centerband and align the three piece centerband. Screw this onto the nib coupler and put your cap piece in position so the cap grain aligns with the pen body grain. Now remove the cap and press the parts together, maintaining the same position of the grain. Assemble the clip and cap and press that in the other end of the cap assembly.

Finish by pressing the finial into the other end of the brass tube. Insert the refill (rollerball) or the fountain pen front assembly.

Test operation!! If it works great, just "take a



**Trim ring is loose on the coupler, if you do not pay attention it will fall on the floor--it is NOT easy to find!!!**