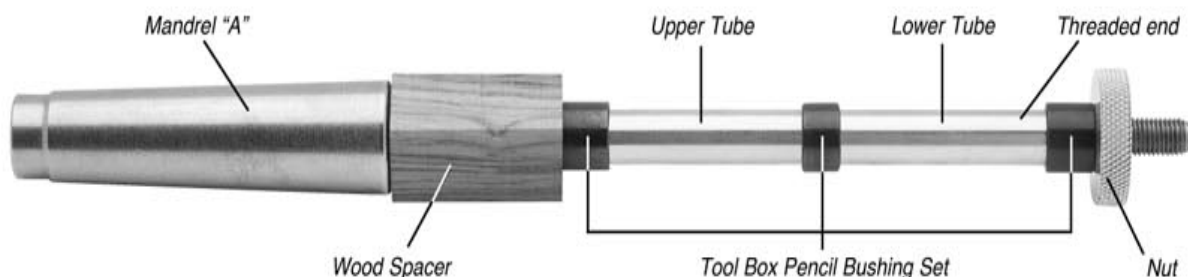


## TOOLBOX PENCIL KIT ASSEMBLY INSTRUCTIONS

### Blank Preparation

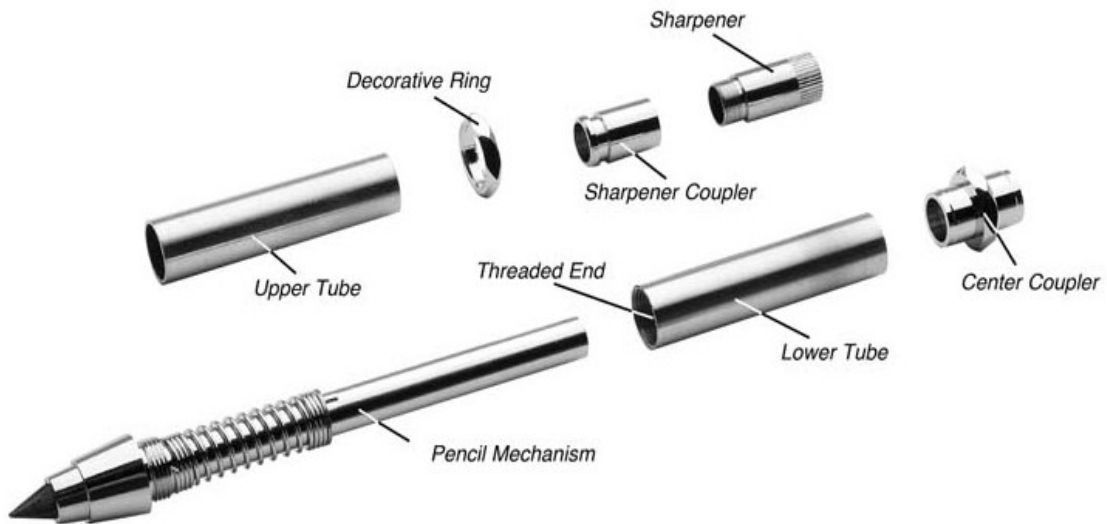
1. Cut the blanks about 1/8" longer than the Brass Tubes to allow for "blow-out" or hole elongation. Maintain grain orientation of the two blanks for turning by placing an "x" on either side of the cut line.
2. Drill the blanks with a 11mm drill bit at a speed of 900 to 1200 RPM.
3. Polish the Brass Tubes with 220 grit sandpaper to remove oxidation and roughen the tubes. This can be done by hand or by chucking them in a drill press or portable hand drill.
4. Prepare to glue with medium CA (cyanoacrylate) glue or two-part fast drying epoxy.
5. Apply the glue to the outside of one tube with a liberal amount around the tube end that is inserted first. Do not apply glue to the inside of the blank, as this will cause the glue to get inside the Brass Tube and ruin the tube.
6. Insert the tube with a twisting motion into the blank until the tube is equidistant between both ends of the blank. Wipe off any excess glue on the ends of the blank. Allow the glue to dry. Glue the second tube using the same method.
7. Using a barrel trimmer, disk, or belt sander, trim the ends of the blanks until you can just see the bright brass ends of the tubes. The faces of the ends must be perpendicular to the Brass Tubes and parallel with each other. It is imperative to match the length of the trimmed blanks to the original length of the Brass Tubes and that the insides of the Brass Tubes are clean and free of any glue.



### Turning the Blanks

1. Assemble the blanks on the mandrel with the bushings placed as shown in the picture above. Keep the grain orientation of the blanks in line when mounting. Note that all of the bushings are the same size.  
**Note:** Either Wood Spacers or extra Bushings may be used to fill the extra space on the mandrel.
2. Tighten the tailstock and then tighten the mandrel nut that holds the blanks. Do not over-tighten the tailstock or mandrel nut as this may cause the mandrel to flex, causing the blank to go out of round.
3. Turn the blanks to the desired shape, making sure that the surfaces next to the bushings are turned to the same diameter as the bushings.
4. To accommodate the Decorative Ring, turn the upper 7/64" (3mm) of the Upper Tube, nearest the Sharpener Top, down to expose the Brass Tube. Be careful not to cut into the Brass Tube.
5. After turning, sand the surfaces in progressive steps of 220, 400, 600, and 1000 grit. If a higher finish is desired, micromesh sandpaper may be used.
6. Apply the finish of choice and polish.
7. Remove the blanks from the mandrel, keeping the blank orientation and grain patterns in line.

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## Assembly

Read the assembly instructions completely before assembly.

1. Press the Center Coupler into the unthreaded end of the Lower Tube.
2. Press the Decorative Ring onto the exposed brass of the Upper Tube. If the fit is loose, a drop of CA (cyanoacrylate) glue may be used to secure the ring.
3. Press the other end of the Upper Tube onto the Center Coupler.
4. Unscrew the Sharpener Assembly from the Pencil Mechanism. Thread the Pencil Mechanism into the Lower Tube.
5. Thread together the Sharpener Top and Sharpener Coupler. Add a small amount of thick CA (cyanoacrylate) glue to the Sharpener Coupler. Fit the Sharpener Coupler over the end of the Pencil Mechanism and wait for the glue to dry.