

# COMFORT PENCIL KIT ASSEMBLY INSTRUCTIONS

## Required Accessories

- 7mm Long Mandrel.
- 3 Piece Bushing Set
- 7mm Drill Bit
- 7mm Barrel Trimmer (optional)
- 2 Part Epoxy Glue or Insta-Cure (cyanoacrylate)

## Step 1 - Cut Wood Blanks

From 1/2" to 5/8" square stock, cut two blanks to the length of the brass tubes plus 1/16" (for squaring off). Grain should run lengthwise.

## Step 2 - Drill the Wood Blanks

Drill a 7mm centered hole lengthwise through each blank. Excessive pressure will cause the drill bit to wander and/or split the blank. Slow the feed rate and back the bit out repeatedly for chip removal.

## Step 3 - Glue the Tubes into the Blanks

Use epoxy or a gap filling cyanoacrylate. Spread the glue on the tube. Insert into the blank with a twisting motion to spread the glue evenly inside. Center each tube lengthwise in the blank. Allow it to dry.

## Step 4 - Square the Ends

After the glue dries, use a 7mm barrel trimmer or other sanding device to square the ends of the blanks 90 degrees flush to the ends of the brass tubes.

## Step 5 - Turning the Blanks

Place 3-4 spacer bushings onto the mandrel. To make without using comfort grip, use standard 7mm bushing for both cap and tip end. To make with comfort grip, place one of the Comfort Bushings onto the mandrel. Then, slide on the lower blank, then the other Comfort Bushing. Follow with the upper blank then a standard 7mm bushing. Thread on the lock nut hand tight. Bring the tail stock snug with the mandrel (do not over tighten, spaces, then tighten the lock nut and lock the tailstock in place.

### Lower Blank:

Turn the wood down, using lathe chisels and abrasives, to the size of the bushings. Make a pencil mark 1" from the end of the lower wood blank (see drawing). Use a parting tool to remove the wood down to the brass tube and to the Comfort Bushing. Keep a sharp 90° corner on the wood.

### Upper Blank:

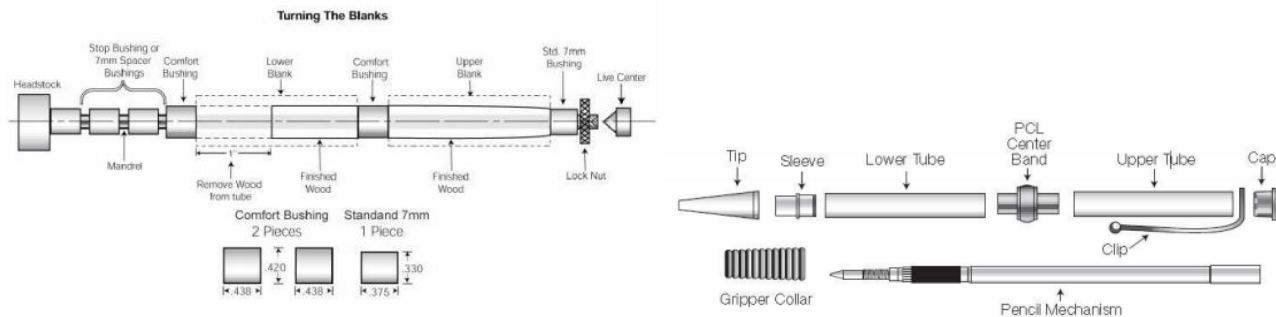
Turn this blank similar to the lower blank but gradually taper the end toward the 7mm bushing.

## Step 6 - Sand

As with any sanding, progress through a range of grits. The type of wood used and the quality of the beginning surface will dictate your selection.

## Step 7 - Finish

Try a finish of your choice but be careful if brushing on a poly, etc. You can accidentally stick the tube, bushings, and mandrel together. Apply with a rag or paper towel to the spinning barrel. Apply two coats.



Line up parts according to layout above.

## Pencil Assembly

- Press the cap through the clip and into the narrow end of the upper barrel. The clip tension may be relaxed by bending it slightly outward prior to assembly.
- Place the PCL Center Band into the upper barrel. Press in. Press other side into the unexposed side of the lower barrel.
- Slip the gripper collar, wide end first, over the exposed end of the brass tube.
- Press the sleeve, wider end first, into the lower end against the gripper.
- Insert the pencil mechanism through the open cap until the thread is showing at the other end of the pencil. Thread the tip onto the mechanism.
- Click the plunger to advance the lead.
- To fill the pencil with lead, pull out the plunger and eraser and drop the lead inside the storage compartment. Plunge until the lead comes through the tip.

Note: If lead does not advance properly or retracts when writing, gently pull exposed short piece of lead out of mechanism. Continue to pump pencil plunger until a new piece of lead is exposed.