



## Toolbox Pencil Kit Instructions

### Required Materials

- 7mm pen mandrel
- Set of Toolbox Pencil Kit bushings
- 11mm drill bit
- CA (cyanoacrylate) glue or two-part fast-drying epoxy
- Pen blank (3/4" thickness or larger)
- Pen press, vise, or clamp
- Sanding supplies and finish



### Blank Preparation

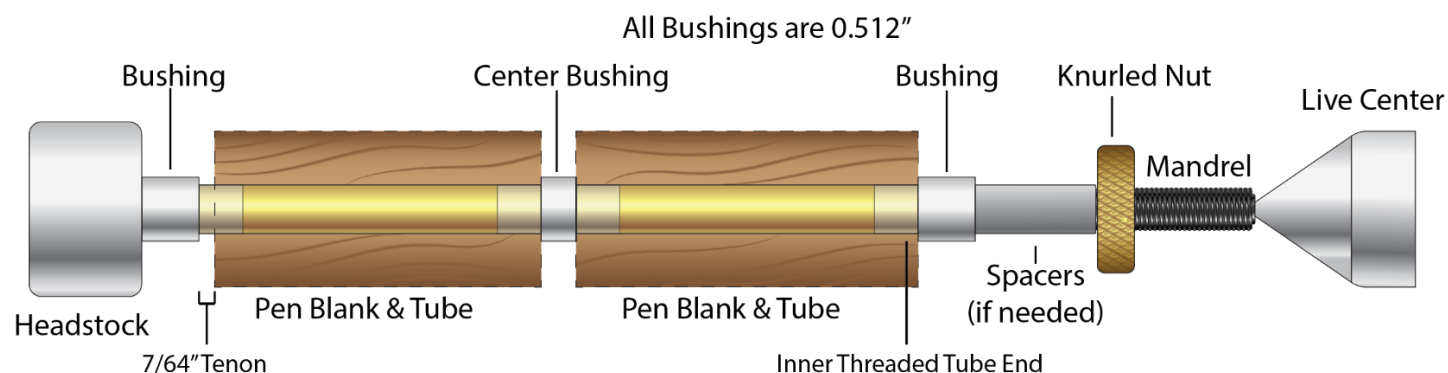
1. Cut blank to length of brass tubes, plus an additional 1/16" on each end for squaring off
2. Drill 11mm hole lengthwise through each blank
3. Rub the brass tubes with low-grit sandpaper to roughen them
4. Apply a line of glue to the brass tubes and insert each tube into the middle of the blanks with a twisting motion to spread the glue throughout the blanks
  - Ensure the inside of the tube is free of any glue
5. Square off the ends of each blank with a barrel trimmer or sander to be flush with the brass tubes

### Turning the Blank and Cutting the Tenon

Follow diagram A below to set up the blanks on the mandrel for turning. Part of the Upper Tube (unthreaded tube) will be stripped of the blank, creating a tenon, to allow room for the Upper Band. Note that the inside end of one tube is threaded- **the tenon will need to be cut on the unthreaded tube.**

1. Turn down the blanks to the desired shape using lathe chisels, ensuring each end is flush with the bushings
2. Mark the thickness of the Upper Band (approximately 7/64") at the top of the Upper Tube
3. Turn down the blank above the mark to the brass tube using a parting tool, ensuring to leave a sharp, 90 degree corner
4. Sand the blanks, progressing from coarser to finer grits
5. Finish blanks with choice of polish

Diagram A

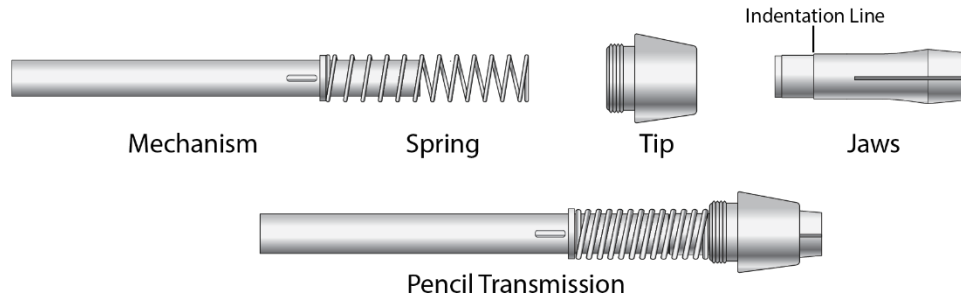




## Assembly

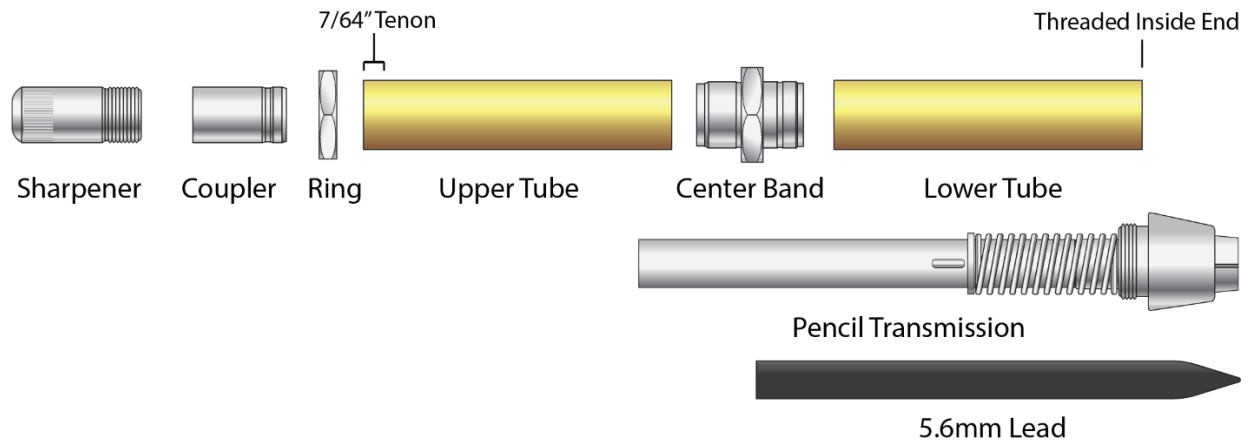
Follow diagrams B and C below for assembly. Press parts using a pen press, vise, or clamp.

### Diagram B



1. Create the completed Pencil Transmission by following Diagram B and the steps below:
  - a. Place the Spring over the short end of the Mechanism
  - b. Insert the thinner end of the Jaws into the cone end of the Tip
  - c. Press the Jaws onto the short end of the Mechanism, compressing the Spring

### Diagram C



2. Press the Center Band onto the **unthreaded end** of Lower Tube
3. Place the Ring over the Tenon of the Upper Tube
  - a. A drop of CA glue may be used to secure into place
4. Press the opposite end of the Upper Tube onto the Center Band
5. Insert the completed Pencil Transmission through the Lower Tube and thread into place
6. Apply a small amount of CA glue to the **inside** indented end of the Coupler and press the Coupler onto the exposed end of the Pencil Transmission
7. When the glue has dried, thread the Sharpener into the Coupler
8. Push the Sharpener and insert Lead into the Jaws at the Tip

## Additional Information

- Pencil uses 5.6mm lead
- To use Sharpener, unthread the Sharpener from the Coupler

QUESTIONS OR ISSUES? EMAIL US AT

[CROOKEDMILL@GMAIL.COM](mailto:CROOKEDMILL@GMAIL.COM)