

Cigar Pen and Pencil Kit

Tools Required

Mandrel
Cigar Bushing Set
10mm Drill Bit
10mm Barrel Trimmer (Optional)

Cutting and drilling the blanks

1. Cut each blank 5mm longer than the brass tube.
2. Drill a hole through the centre of the blank.

Either use a drill press with the blank secured in a vice or clamp or use your lathe with a drill bit mounted into the tailstock chuck.

Drill at high speed penetrating about 10 mm to 20mm at a time and then clearing the swarf to prevent overheating of the drill bit.

To prevent cracking or chipping of the wood when the drill bit exits the other end of the blank, stop drilling 3mm before the drill bit reaches the end of the blank and then trim the end of the blank using a saw to expose the hole.

Glue the brass tubes into the blanks

1. Using 200 grit sandpaper, lightly scuff the exterior of the brass tubes to prepare them for gluing.
2. Apply a thin layer of superglue or epoxy to the tube and insert the tube into the blank. Rotate the tube as you push it into the blank to spread the glue evenly – this must be done fairly quickly to avoid getting the barrel stuck before it is inside the blank.
3. Position the tube inside the blank so that the wood extends beyond the tube on both ends to allow for trimming.

Trimming the blanks

Trim the ends of the wood blank flush with the tube using either a barrel trimmer by hand or a disc sander.

Alternatively, fasten the blank into the chuck and trim the barrel carefully using a parting tool.

Mandrel setup and turning

1. Assemble the bushings and the blanks onto the mandrel as shown in the diagram below. Use 7mm bushings as spacers on the ends if required.
2. Place the wider diameter cap bushing onto the mandrel first, followed by the shorter upper blank.

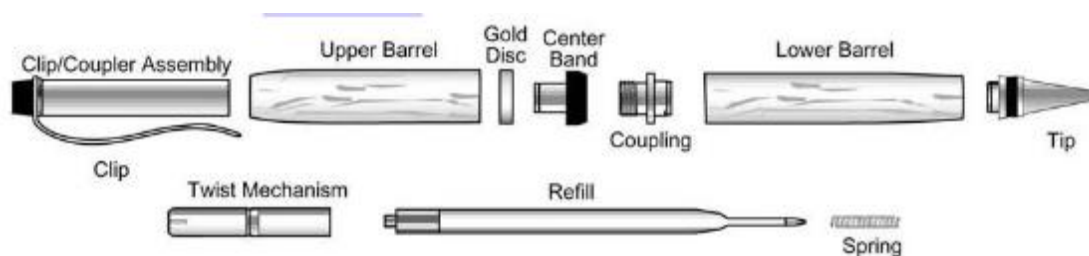
3. Slide on the centre bushing, wider end first followed by the longer lower blank and lastly the tip bushing.
 4. Ensure that the mandrel is tight on your lathe using your live centre in the dimpled end of the mandrel. Do not over-tighten the tailstock or mandrel nut as this may cause the mandrel to flex resulting in off-centre barrels.
- An alternative is to use a mandrel saver tool to tighten the blank into the lathe without putting strain on the mandrel shaft.
5. Turn the blanks to the desired shape leaving the blanks slightly larger than the bushings. The diagram shows a suggested profile.
 6. Taper the ends of the blanks to match the cap and tip bushings.
 7. After turning, sand the blanks using progressively finer sandpaper until the desired finish is reached.

General assembly points

Use a vice or clamp with wood or plastic jaws to prevent damaging the parts during assembly.

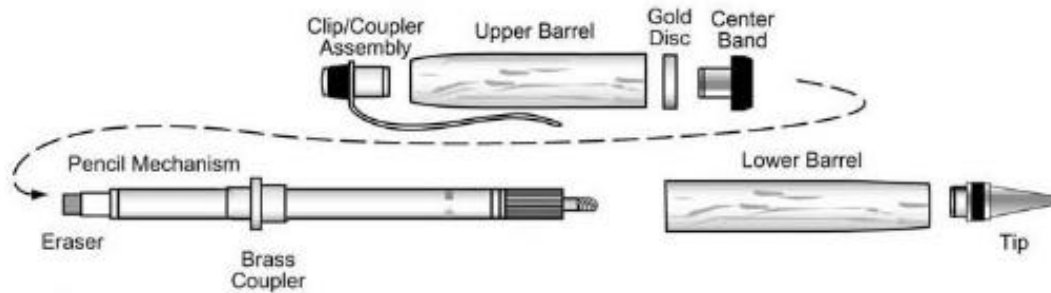
Pen assembly

1. Press the clip/coupler assembly into the tapered end of the upper barrel.
2. Place the disc over the centre band and press into the opposite side of the upper barrel.
3. Press the writing tip into the tapered smaller end of the lower barrel.
4. Press the coupling, recessed end first into the opposite end of the lower barrel.
5. Insert the refill and spring into the lower barrel.
6. Screw the twist mechanism over the refill onto the coupling.
7. To put the barrels together, slide the twist mechanism into the upper barrel.
8. The pen operates by twisting the two halves to extend or retract the refill.



Pencil assembly

1. Press the clip/coupler assembly into the tapered end of the upper barrel.
2. Unscrew the upper black sleeve of the pencil mechanism from the brass coupler. Remove the coupler from the mechanism.



3. Press the brass coupler, long end first, into the untapered end of the lower barrel.
4. Press the tip assembly into the opposite end of the lower barrel.
5. Place the disc over the centre band extension and press the assembly into the opposite end of the upper barrel to close the gaps.
6. The pencil operates by twisting the upper barrel gently clockwise, until a click is heard. Continue to twist to extend the lead to the desired length.
7. Twist the barrel clockwise and hold to push the led back in.

