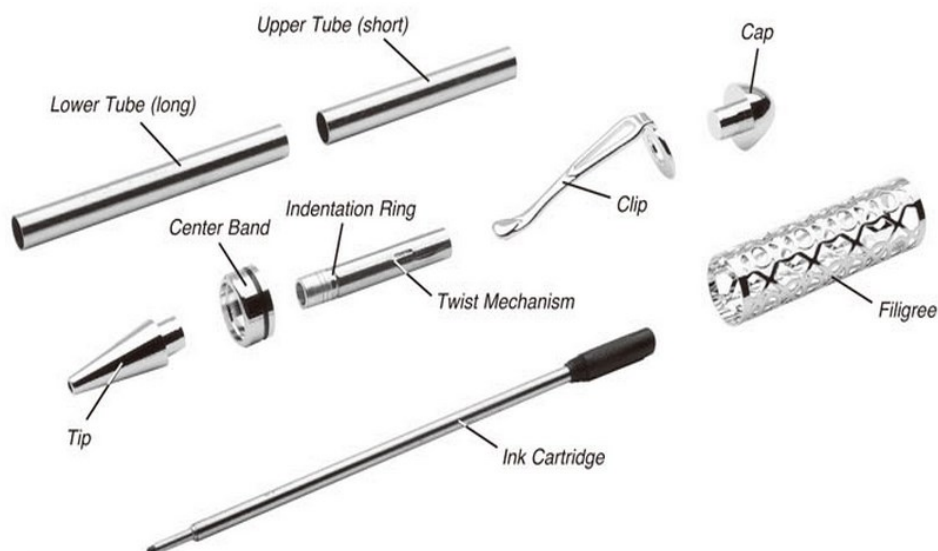
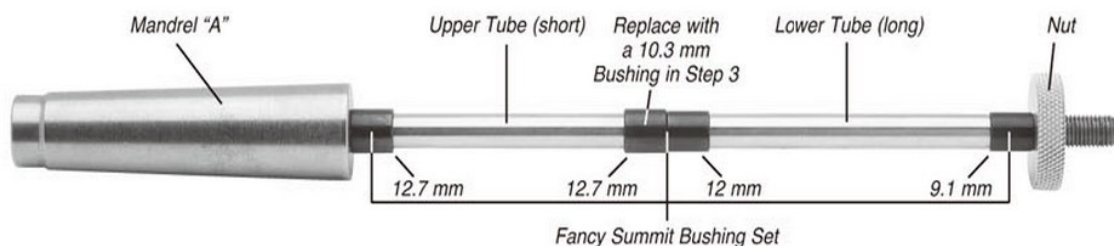


## EUROPEAN FILIGREE PEN KIT ASSEMBLY INSTRUCTIONS

### 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 7mm 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.



## EUROPEAN FILIGREE PEN KIT ASSEMBLY INSTRUCTIONS

### Turning the Blanks

1. Assemble the blanks on the mandrel as shown in the picture above. Use both 12.7mm Bushings, the 12mm Bushing, and the 9.1mm Bushing. The 10.3mm Bushing will be used later. Keep the grain orientation of the blanks in line when mounting.
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 Upper Tube (short tube) blank to a consistent 1/2" (12.7mm) diameter. Then, turn off the lathe and replace the 12.7mm Bushing between the blanks with the 10.3mm Bushing. The new sequence should be: 12.7mm Bushing - Upper Blank - 10.3mm Bushing - 12mm Bushing - Lower Blank - 9.1mm Bushing.
4. Turn a tenon on the end of the Upper Tube to match the 10.3mm Bushing. Tenon length should be approximately 3/16" (4.8mm). Take this cut a little at a time so that you do not cut the tenon too small. The remainder of the Upper Blank should be the same length as the Filigree. The tenon may be cut up to 1/32" (1.9mm) long, as the lower end of the Filigree will cover the gap. If the tenon is too short, there will be a wood gap between the end of the Filigree and the Center Band.
5. Turn the Lower Tube blank to the desired shape, making sure that the surfaces next to the bushings are turned to the same diameter as the bushings.
6. 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.
7. Apply the finish of choice and polish.
8. Remove the blanks from the mandrel, keeping the blank orientation and grain patterns in line.

### Assembly

Read the assembly instructions completely before assembly.

1. Press the Tip into the narrow end of the Lower Tube.
2. With the threaded end exposed, press the Twist Mechanism into the other end of the Lower Tube, approximately 1/4" past the Indentation Ring. To determine if the Twist Mechanism is positioned to the correct depth, thread the Ink Cartridge into the Twist Mechanism. When properly fitted, approximately 1/8" of the writing point shows when the mechanism is twisted open, and is covered when the mechanism is twisted closed. If the point does not extend far enough, remove the Ink Cartridge and press the Twist Mechanism farther into the tube. Be careful not to press it in too far as the Twist Mechanism cannot be pulled back out.
3. Slide the Clip onto the Cap stud, then press the Cap assembly into the end of the Upper Tube opposite from the tenon.
4. Slide the Filigree over the Upper Tube.
5. Press the Center Band onto the tenon cut on the Upper Tube during the turning process. If the Center Band is a little loose, it can be glued into place with a small drop of CA (cyanoacrylate) glue.
6. Gently push the completed Upper Tube assembly onto the Twist Mechanism by hand.