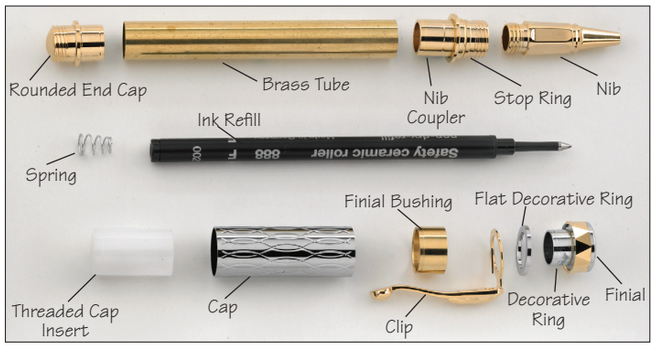
Electra Rollerball Pen Hardware Kit

Rollerball Pen	**88K76.15**
Fountain Pen	**88K76.16**

Requires standard "A" mandrel, Electra pen bushings (88K78.83), Z drill bit, and minimum 3/4″ square by 27/8″ long blank.



Parts for Electra rollerball pen kit shown.

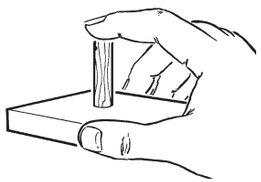
General Instructions

Cut the turning squares to length, center-drill each piece to accept a brass sleeve, and glue the brass sleeve into the turning blank. Mount the bushings and blanks on the mandrel and turn the blanks to size, using the bushings to gauge the proper diameter of the components to be turned.

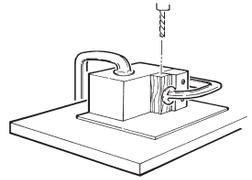
Cutting the Turning Blanks to Length

When cutting the turning squares to length, cut the blank 1/32″ longer than the brass tubing. To ensure a seamless fit between the wood and the pen hardware, the length can be sanded flush and square at either end after the components have been turned.

You can make a small sanding jig from a 1 1/2″ × 1 1/2″ × 3/4″ square piece of wood with an accurately drilled hole matching the outside diameter of the turned components to ensure that the end is sanded squarely.



Drilling the Stock



It is strongly recommended that you drill your turning blanks on a drill press. A drill press vise or homemade jig to help keep your blanks centered and vertical is also a necessity.

You can use a standard twist bit; however, there is a chance that you will split the blank when the bit breaks through the bottom. You will not have this problem if you use a HSS lipped brad-point bit or a HSS parabolic-flute bit (which is ideal for use in dense hardwoods, epoxy-stabilized woods, acrylic acetate, or other challenging materials). Whichever bit you choose, withdraw the drill frequently to clear chips from the flutes.

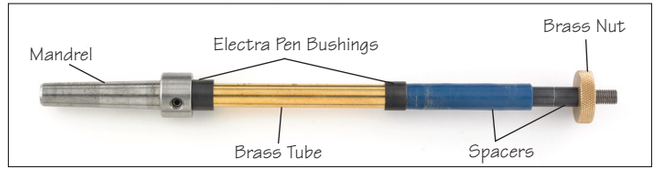
For exotic woods that have unstable moisture content, you can prevent cracking by first drilling a 1/8″ diameter hole. Let the wood blanks dry for about a week, and then redrill with the size of drill required for the sleeves. Other turners prefer to drill the wood and insert the sleeves immediately on bringing the wood into the shop, since thin walls are less likely to crack.

Gluing the Brass Sleeves

Use quick-setting epoxy, polyurethane or cyanoacrylate to glue the brass sleeves into the wood blanks. Spread a small amount of glue on the outside of the brass sleeve and slide the sleeve into the wood. **Do not** put the glue into the hole in the wood because you will inevitably end up with glue inside the brass sleeve.

Turning the Bodies

Mount the bushings and turning blank on the mandrel, as shown in the photograph below. Additional spacers will be required to fill the remaining gap so that all the components on the mandrel fit tightly. (You can use one of the bushings used to turn a standard 7mm pen/pencil, or make your own by cutting a hardwood blank to length and drilling a 7mm center through hole.) Slide the large bushing onto the end of the mandrel where you want the nib to be, the blank, and the small bushing on the end that will be the blind cap. Clamp the components in place by threading the nut onto the end of the mandrel only finger tight.



Turn the blank to the desired size and contour. Use the bushings as guides for the exact diameter that each end of the turned component should be. Sand and finish the turned piece on the lathe.

Assembly

Refer to the pen parts photograph for the correct order. The pen components press-fit together. Once the components are pressed together, it is almost impossible to take them apart. **Do not** try to dry fit the assembly before the components are completely finished.

1. Assemble the finial/faceted decorative ring/flat decorative ring into an assembly, as shown.
2. Press the clip into the assembly.
3. Press that assembly into the finial bushing from the smallest end.
4. Press the completed assembly into one end of the cap.
5. Press the threaded cap insert into the other end. Be sure the threads are toward the outside of the cap.
6. Lay the cap aside.
7. Press the rounded end cap into one end of your blank.
8. Slide the stop ring onto the unthreaded end of the nib coupler, such that the smaller end of the stop ring faces the threaded end of the nib coupler.
9. Press the nib coupler assembly into the other end of the blank.
10. If making the fountain pen:
    a. Choose the pump or the cartridge and install it on the nib.
    b. Screw the nib into the nib coupler.

    If making the rollerball pen:
    a. Insert the spring into the barrel.
    b. Insert the refill into the barrel.
    c. Screw on the nib.
11. Screw the decorative cap onto your completed pen.

The Electra rollerball pen uses a standard Parker-style refill.

Lee Valley TOOLS LTD.
www.leevalley.com
1090 Morrison Drive, Ottawa ON K2H 1C2, Canada, 1-800-267-8761
814 Proctor Avenue, Ogdensburg NY 13669-2205, United States, 1-800-267-8735
customerservice@leevalley.com

Rev. B