Legacy “Old-Line” Pen Kit

Assembly Instructions

Available at www.thewoodturningstore.com

Description:

The “Old-Line” model is a classic style pen which is easy to turn and uses a Roller Ball Refill which is highly desirable among pen enthusiasts

The Old-Line Pen uses two 10mm brass tubes. The lower (main) tube is 3 7/32” long and the upper (cap) tube is 2 1/8” long. The top section is the shorter section. Both sections should be turned straight to create one long line.

The blanks should be at least 5/8” square to accommodate the larger size of the tubes.

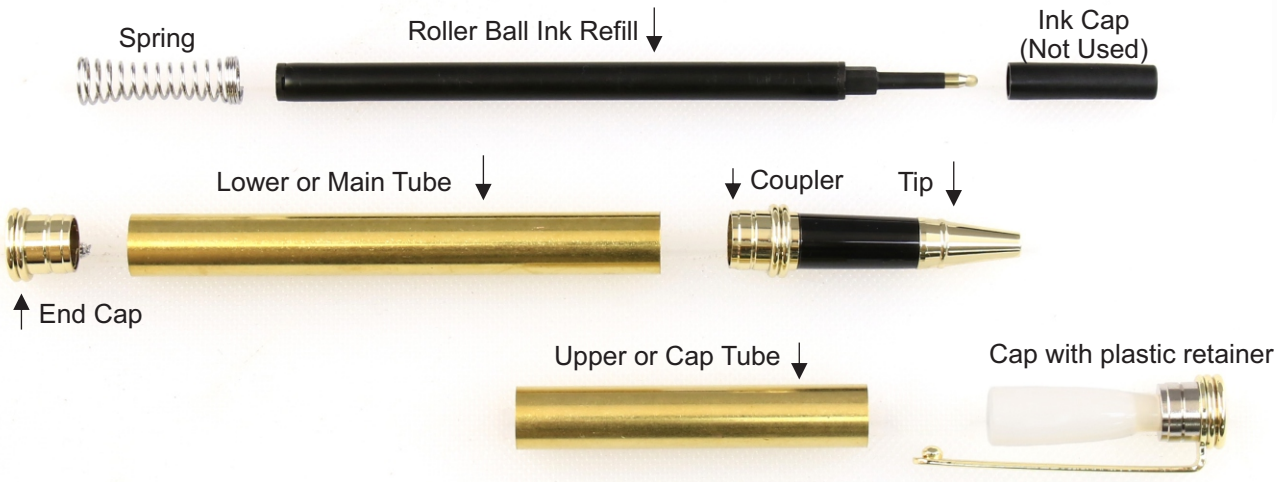
The Old-Line pen is available in two finishes (Gold, Chrome).

Getting Started:

You will need the following accessories to make an Old-Line pen. Many of these accessories can be used with other pen kits. (All accessories are available at www.thewoodturningstore.com)

- 1 wood or acrylic blank, approximately 6 inches long x 5/8” x 5/8”
- 10mm drill bit
- Woodturning pen mandrel with 7mm rod
- Old-Line pen bushing set (3 pieces)
- Pen barrel trimmer (10mm)
- Glue (CA, epoxy or polyurethane [Gorilla])
- Lathe, turning tools, sandpaper, pen finish
- Other items may be needed as desired

Parts of the Old-Line Pen Kit:



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Preparing the Blank for Turning:

- Start with your wood or acrylic bank and cut it so you have two pieces, one about 2 ½” and the other about 3 ½” in length. Mark the blank with “hash marks” at the cut line so you can keep the grain matched when you mount the blanks on the pen mandrel.

- Using a 10mm twist drill, drill a hole through each blank. Be careful to drill slowly to avoid chipping and tearing the material. Also, it is highly recommended that you clamp the blank in a vise and use a drill press for the most accurate and straight hole. You could also mount each blank in a lathe chuck and drill the hole using your lathe.

- Roughen the surface of each brass tube with steel wool or fine sandpaper. Using one of the glues mentioned previously, glue the brass tube into the blank. Twist the tube when inserting it into the blank to insure good glue coverage. Center the tube in the blank, make sure the tube is at least 1/16” - 1/8” inside the blank so you can trim the blank end cleanly.

- Use a pen barrel trimmer (10mm) to square the ends of the blank to the brass tube. This is an important step which will create a clean line between the turned blank and the metal components of the pen kit.

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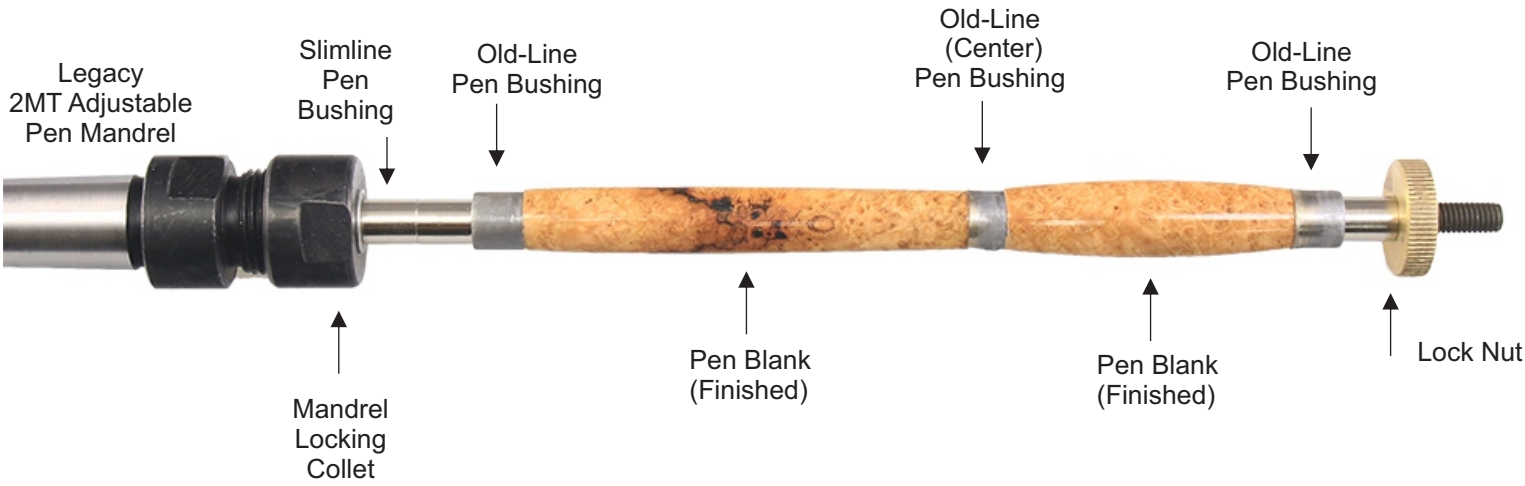
Turning the blanks on the lathe

- Use a pen turning mandrel with a 7mm shaft and Old-Line pen bushings (available at our store). The Old-Line Bushing set is shown on the mandrel below. You may want to add a few slimline bushings to space your work farther away from the mandrel collet.
- Mount the pen blanks on the mandrel as shown in the diagram below. Make sure that your “hash marks” are in the center which assures that the grain of your blank will match that of the original single piece blank. Adjust the mandrel shaft so that the lock nut will tighten down on the assembly of pen blanks and bushings. Hand tighten the nut.
- Put a live center in your lathe’s tailstock and bring it in to support the mandrel shaft and keep it stable while turning.
- Using turning tools, turn the blanks to cylinders which are the diameter of the bushings. Both tubes are usually turned straight.
- Note: Many turners prefer to turn the blank slightly oversize and then sand and polish the blank down to the exact size of the bushings.



Sanding, Polishing and Finishing the blank

- Most pens are finished to a high luster and finished with a durable coating of protective finish. Depending on your skill level and the material being used, you will need to sand with aluminum oxide paper of progressively finer grits, starting with a grit coarse enough to remove all tool marks and possibly shape the blank.

- If you have turned your piece oversize or if it is rough, you can smooth and even shape your blank with 80-100 grit sandpaper. Use a high lathe speed (2000+ RPM) but be careful not to overheat your piece which could cause heat checking.

- Progress through finer and finer grits 120, 180, 240, 320, 400, 600, etc.

- For acrylic materials your can use sandpaper up to 1000 grit than switch to micro mesh pads (up to 12000) and polishing cream to get a superior glossy finish.

- There are many finishes available for pens and you can experiment with what works best for you and the materials you use. Try to use a finish which will be durable and long lasting because the pen will be handled thousands of times and you want to the finish to stay on and not be worn away (especially if you have sold the pen!)

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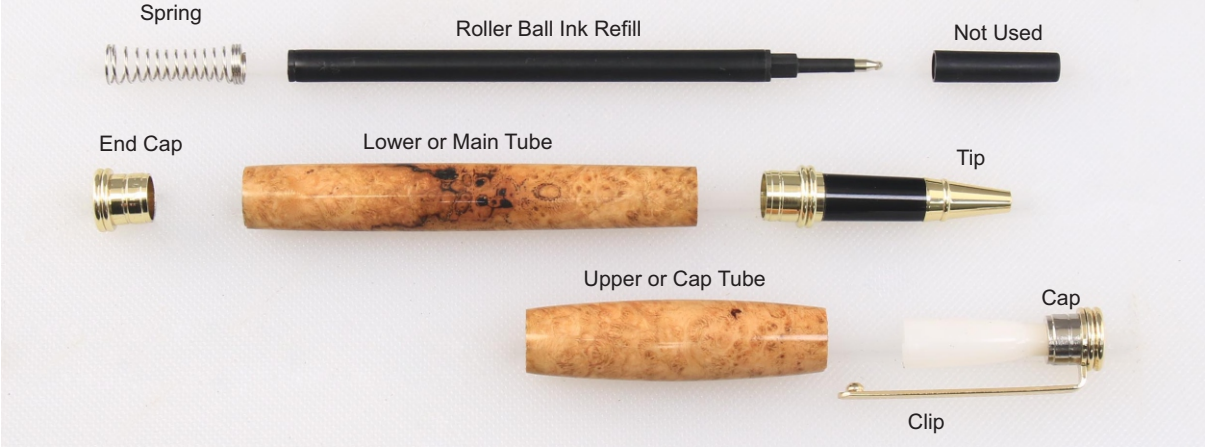
Assembly of the Finished Pen:



- Now that you have turned and finished the blanks into the upper and lower halves, you are ready to assemble your pen.

- It is highly recommended that you use a vise or clamp to assemble the pen. It is essential that you press the parts together “straight”. If you press the parts together and they are not straight, they will not straighten as you continue to press. There are many commercially available pen presses which make the process simple and easy.

- Before you press the parts together, lay out your blanks so that you recall how the grain originally matched.

- Press the end cap into the top of the lower (main) pen tube.

- Press the tip into the bottom end of the lower (main) tube.

- Unscrew the tip to insert the spring followed by the ink cartridge. Reassemble the tip.

- The lower or main section is now complete.

- The main section “clicks” into the cap section when assembled correctly. The ring on the pen tip clicks into the white plastic retainer that is part of the cap/clip assembly. The white plastic retainer is adjustable and can be set to match the length of the finished tube for a proper fit and click. This can be adjusted after the Cap Tube is pressed into the cap, but it is much easier to adjust it before assembly. You may want to unscrew the plastic retainer a few threads so that it is farther away from the cap. It is easier to adjust “in” rather than “out” after assembly.

- Press the cap with plastic retainer inside the bottom of the upper (cap) tube.

- The fit of the cap can be adjusted for a tight fit by inserting a sharp screwdriver and turning the plastic retainer to the left or to the right. See the suggestions above.

- Your pen is complete!