

Legacy “Fancy Baseball Bat” Pen Kit

Assembly Instructions

Available at www.thewoodturningstore.com

Description:

The “Fancy Baseball Bat” pen kit is one of the most interesting and unusual pen kits we offer and is a great conversation piece. They are great gifts for baseball fans and can make spectacular pens if you have access to a laser engraver. They are among the trickiest pens to make because they use a 5mm pen mandrel and the tubes are very thin (5mm). The wood thickness on the tube is extremely thin. We suggest buying extra tubes and be prepared to make a few mistakes while you are getting started with them

The Fancy Baseball Bat pen uses 5mm brass tubes of unequal length. The upper blank is about 3 3/4” long and the lower blank is about 1 1/2” long. The blanks are turned in a tapered form to match the shape of a baseball bat.

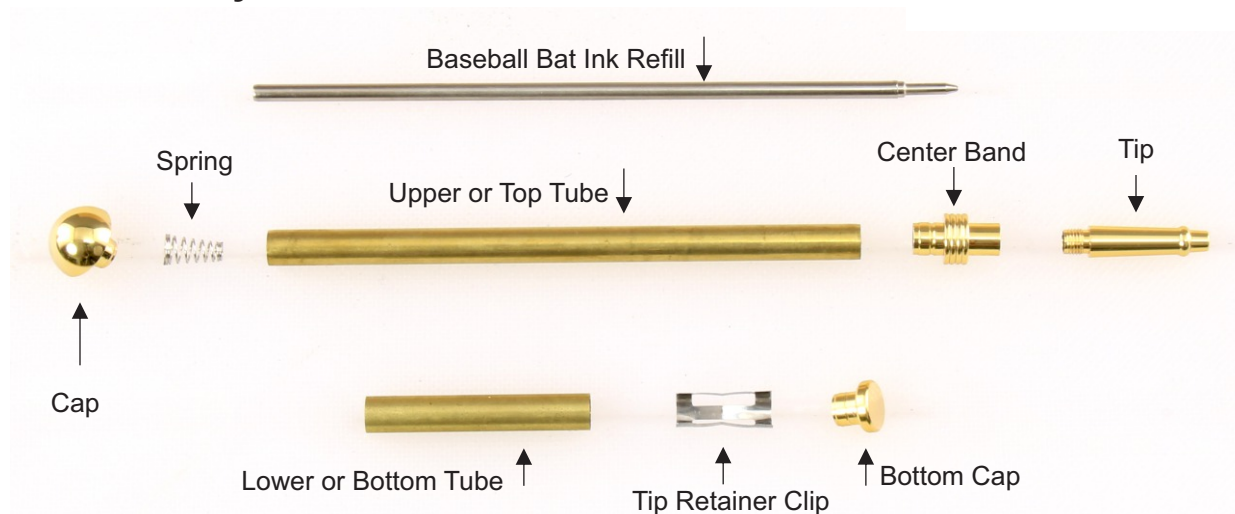
Getting Started:

You will need the following accessories to make a Fancy Baseball Bat pen. Many of these accessories can be used with other pen kits. (All accessories are available at www.thewoodturningstore.com). Note that a mandrel with a 5mm shaft is required

- 1 wood or acrylic blank, approximately 5 1/2 inches long x 5/8” x 5
- 5.85mm drill bit
- **Woodturning pen mandrel with 5mm rod**
- Fancy Baseball Bat pen bushing set
- Pen barrel trimmer (5mm)
- Glue (CA, epoxy or polyurethane [Gorilla])
- Lathe, turning tools, sandpaper, pen finish
- Other items may be needed as desired



Parts of the Fancy Baseball Bat Pen Kit:



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Preparing the Blank for Turning:

- Start with your wood or acrylic blank and cut it in half so you have 2 pieces, one about 3 3/4” and the other about 1 1/2” 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 5.85mm 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 (5.85mm) 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. If you don't have a barrel trimmer this size, you can carefully square the blank on a sander.
- Your blanks are now ready to be mounted on the lathe

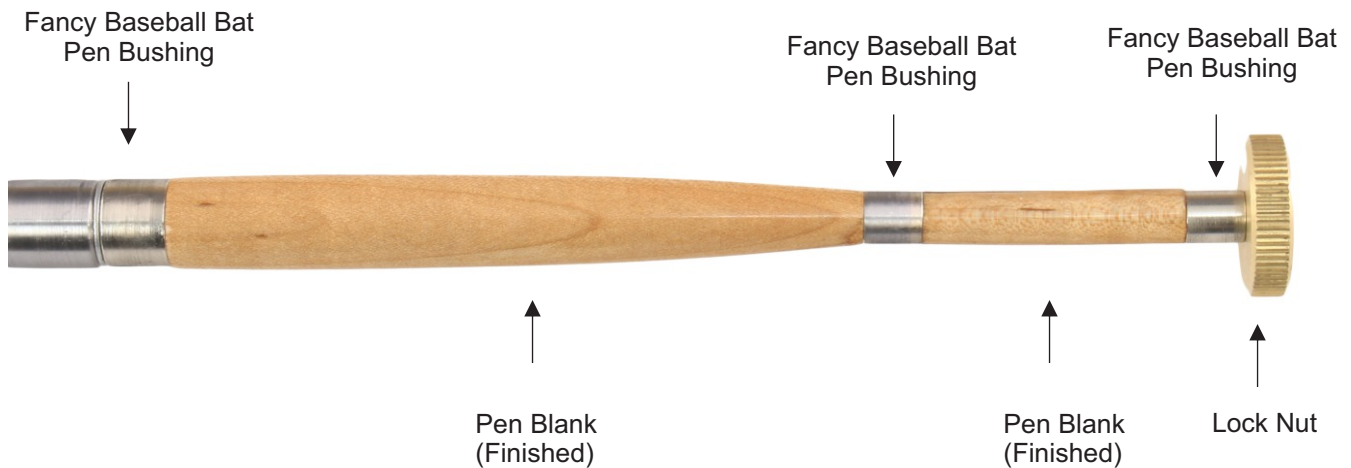
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Turning the blanks on the lathe

- Use a pen turning mandrel with a 5mm shaft and Baseball Bat pen bushings (available at our store). You will need at least three bushings.
- 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 so the ends are the diameter of the bushings. Turn the blanks to the curves of a baseball bat.
- 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.



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Sanding, Polishing and Finishing the blank

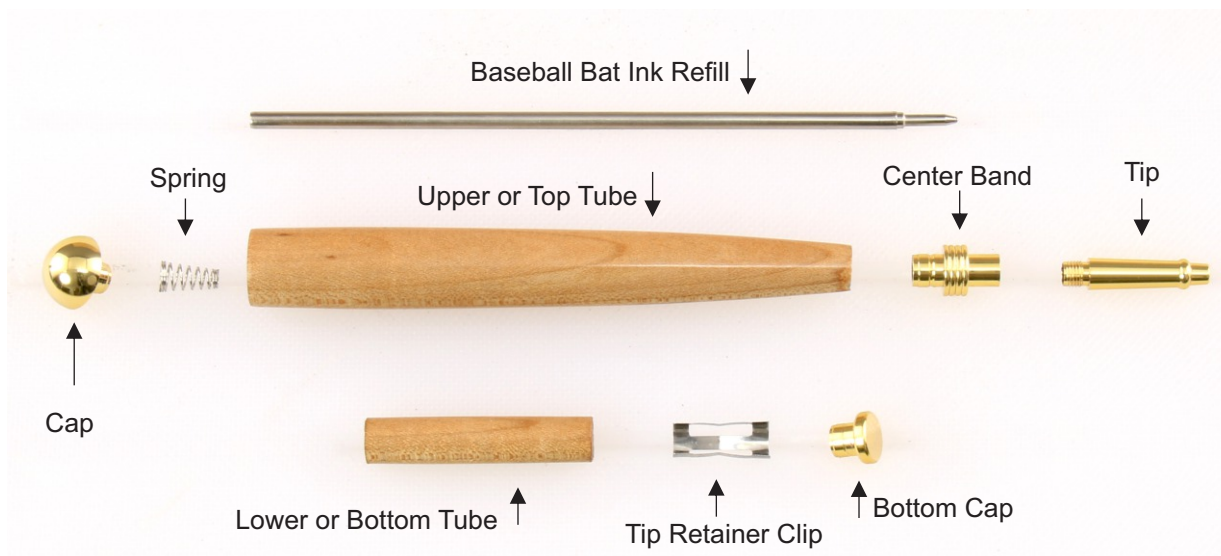
- Most pens are finished to a high luster and finished with a durable coating of protective finish. Depending on your skill level and the material being used, you will need to sand with aluminum oxide paper of progressively finer grits, starting with a grit coarse enough to remove all tool marks and 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 you can use sandpaper up to 1000 grit then 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 the finish to stay on and not be worn away (especially if you have sold the pen!)
- Remove the blanks from the pen mandrel and you are ready to assemble your 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.
- First, press the Bottom Cap into the lower or bottom tube
- Next, push the Tip Retainer Clip into the bottom tube as far as it will go. You may need to squeeze the clip slightly to insert it in to the tube. This clip retains the lower section to the pen body so it stays together as one piece.



- Next, insert the spring (narrow end first) into the upper tube. Press the cap onto the upper end of the upper tube.
- Press the center band into the lower end of the upper tube. Remove the tip from the center band.
- Insert the pen refill into the bottom of the center band
- Screw the tip on to the center band.
- Your pen is complete! Push the two sections together and the retainer clip will keep the pen as one piece.

