

# Pens Make Great Gifts

With a few specialty tools, you can turn your nicest scraps into keepsakes

BY BARRY GROSS



**M**ore furniture makers should try turning a pen. You already have most of the tools you need, you probably have the wood, and if you've done any wood turning at all, you have the skills. Not only is pen turning fun, but pens also make great gifts both for the recipient and for the maker. In the time you'd spend making a box—never mind a small piece of furniture—you can make half a dozen pens and get six heartfelt thank-yous instead of one.

Pen turning can be done on any lathe with a few specialized tools. I'll tell you which of these

tools are essential and which ones can be duplicated by tools you probably already own. I'll tell you what pen hardware to buy, what woods work well,

how to turn and finish the blanks, and last, how to assemble the pen.

## Preparing the pen blank

Woodworkers often ask me what wood makes the best pen and I half-jokingly reply any wood they rejected for furniture making. Examples include gnarly or crotch sections of boards, isolated patches

of figure or curl, or even pieces of firewood with spalting in it. Remember, you want a blank that is less than 1 in. square by 5 in. long. For this reason, burls are a good choice because their tight, swirly grain pattern is the right scale. If the scrap bin or the firewood pile is exhausted, one of the benefits of wood turning is the opportunity to try new and exotic species such as amboyna burl, lignum vitae, or red palm for \$2 to \$8 a blank. You can also buy eye-catching composite woods and acrylic blanks.

Once you've selected the pen kit and the material for the body, you can get started. Depending on whether your kit has a one-



## Tools of the trade

### THREE TURNING TOOLS

Full-size tools suitable for turning a table leg are too big for delicate pen turning. Medium-size or small tools are more responsive. The good news is that you only need three.

- 1**  $\frac{1}{16}$ -in. to  $\frac{1}{2}$ -in. roughing gouge, \$30  
Used to turn the square blank down to a round.

### PEN-TURNING SUPPLIES

[bgartforms.com](http://bgartforms.com)  
[pennstateind.com](http://pennstateind.com)  
[woodturnerscatalog.com](http://woodturnerscatalog.com)  
[bereahardwoods.com](http://bereahardwoods.com)

- 2**  $\frac{1}{2}$ -in. skew chisel, \$30  
Used to profile the blank, smooth the cylinder, and bring the ends almost flush with the bushings.

- OR**  $\frac{1}{2}$ -in. Spindlemaster, \$38  
Designed to leave a smooth finish like the skew chisel without the risk of catching. Use instead of the skew.

- 3**  $\frac{1}{8}$ -in. parting tool, \$30  
Used to remove finish from the bushings and to achieve a clean break with the blanks.



# Quick to make

## PREPARE THE BLANKS

## TURN AND POLISH THE BARRELS

## ASSEMBLE



part or two-part body (or barrel), place the pen tube(s) on the pen blank and mark it for length, adding 1/16 in. to each end. Label the sections and then cut the parts to length.

What makes pens different from a typical spindle turning is the long hole through the center, and the metal tube(s) you glue into it. You can drill the pen blank on the drill press or on the lathe. For the former you'll need to clamp the blank and ensure it is in line with the drill bit. On the lathe, a dedicated pen-drilling chuck is the easiest way to center the blank to the drill bit, but you also can hold the workpiece in a four-jaw chuck.

Once the pen blanks have been drilled, glue the tubes into them. Roughen the outside of the pen tubes with 80-grit sandpaper. I also size natural or unstabilized wood by dripping some thin cyanoacrylate (CA) glue down the holes. Both actions give the glue for the tubes a better surface to bond to. When it is dry, place some medium-thick CA glue or 5-minute epoxy on a piece of glossy paper or

plastic, roll a tube in it, and then use a specialized insertion tool or a nail punch to hold the pen tubes so you do not get glue all over your fingers. Push the tubes into the blanks until they are about 1/16 in. inside each end. You'll bring the ends flush to the tubes later when trimming them clean and square. You can do this before or after rough-turning the blank using either a barrel trimmer in a handheld drill or a squaring jig and a disk sander equipped with a miter gauge. Take off the excess slowly until you just reach the brass tube.

## Turning and finishing the blanks

To secure the pen blank while



## Buyer's guide to pen hardware

All pens require a kit of metal parts. Choices include ball point, roller ball, or fountain; a pen that twists or clicks open; or one with a single or

a double barrel. The typical ball-point kit consists of one or two brass tubes that you place inside the drilled-out pen blanks, a top clip and cap assembly, a twist or click mechanism, a refill, and a bottom or nib section. I'd start with a "cigar-style" kit (shown above). It gives a good introduction to wood selection, turning, and finishing and only costs \$6 to \$10. Avoid 24-karat and 10-karat gold plating, which wears off quickly to expose the brass inside. Titanium nitride (TN) gold plating is better. Even more durable is chrome or black chrome, but I prefer rhodium (sometimes misnamed platinum). It lasts essentially forever.

## BARREL TRIMMER

This tool ensures that the turned blanks will fit together seamlessly with the parts of the pen kit. Attached to a drill, the shaft removes any excess glue from inside the tube and also aligns the cutter as it trims the end of the blank flush with the end of the tube.

Barrel trimmer, \$18

Mandrel, \$18

7mm drill bit

Bushings

## PEN MANDREL

A mandrel supports the blanks while you turn them on the lathe. Most come with a 7mm drill bit and a set of 7mm bushings that match the standard pen kit. The step bushings indicate the diameter to which the blanks must be turned.

## GLUE AND ABRASIVE PADS

Super glue creates a very durable finish. Special sanding pads bring it to a high shine.

Aerosol accelerator, \$12

CA glue, \$10

Abrasive pads, \$14







## Prepare the pen blanks

Before you turn the blanks, you need to drill them and insert the brass tubes that come with the pen kit.

**Lay out the blank.** Each section should be a little over  $\frac{1}{8}$  in. longer than its respective tube. Label the parts and mark their relationship for grain continuity.



**Drilling on the lathe is easiest.** Cut the parts to length, then secure each blank in a pen-drilling chuck or a conventional four-jaw chuck (shown).



**Stabilize the blanks.** In any natural wood (as opposed to impregnated or stabilized woods sold for pen turning), you should "size" the holes with thin cyanoacrylate (CA) glue.



**Rough up the tubes.** Rub the pen tubes on 80-grit sandpaper to give them better adhesion when you glue them into the blanks.



**Work fast.** Spread medium-viscosity CA glue on some glossy paper. Roll a tube in the glue and then use either a dedicated insertion tool or a nail punch to push it into the blank.

**Square up the ends.** To bring the ends of the blank flush with the ends of the tubes, you can use a barrel trimmer mounted in a handheld drill as shown, or a miter gauge on a disk sander.



you turn and finish it, you use a mandrel, which goes into those tubes you inserted earlier. Hold the mandrel in the head stock of the lathe via a Morse taper or an attachment to a chuck, and place the step bushings and prepared pen blanks on the mandrel following the instructions in the pen kit. Do not overtighten the nut on the mandrel because this will cause the mandrel to bow slightly, and you'll turn the blanks out of round. I prefer to turn one pen blank at a time to reduce the chances of vibration.

With the lathe speed set at approximately 2,000 rpm, start with a roughing gouge to get the blank round. Next, use a skew



and turn the blank down to the step bushings, adding a little shape to the blank if desired. If you are skew “challenged,” use a Spindle-master. This tool is a beginner’s best friend because it does not have the sharp points of a skew to catch and dig in, and it leaves almost as good a finish.

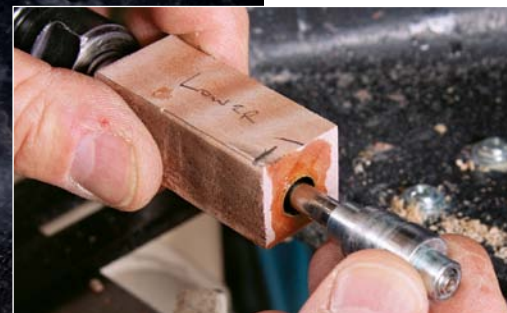
For the last pass, use the skew or the Spindlemaster as a scraper to lightly pass over the blank and bring the ends almost flush with the bushings. Start sanding with P180- or P220-grit sandpaper and work your way up to 800 grit. To remove the microscopic scratches that sandpaper will leave, I give the blanks a very brief touchup with 500, 1,000, 2,000, and 4,000-grit Abralon sanding pads.

**Super glue is the pen-turner’s secret finish**—A high-gloss finish best displays the wood’s beauty, but because of the frequent handling that pens get, it needs to be durable. You can use solvent-based lacquer, but the most durable shine comes from CA glue, which is in fact a type of acrylic. With the lathe turning at around 150 rpm, and wearing disposable gloves, dribble some medium thick CA glue onto the blank while holding a paper towel against the underside. Thin glue wicks into the towel too fast and will not apply evenly.

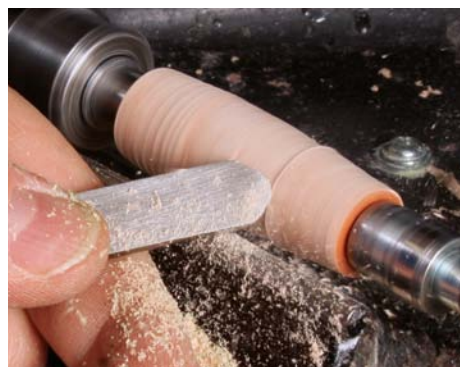
Apply the glue by moving the towel back and forth as the pen blank is turning. Keep moving the towel so it does not stick to the pen blank, then spray on some accelerator to dry the glue quickly, and apply three more coats in the same way. Don’t worry about getting glue on the bushings; you’ll remove it later.

Once you’ve applied four coats, turn off the lathe and sand parallel to the lathe with 320-grit sandpaper to remove any ridges. Turn the lathe back on at 2,000 rpm and with a small parting tool, remove the glue on the bushings close to the pen blank. This will make it easier to remove the bushings from the pen blank later.

**Wet-sanding and polishing**—With the finish smooth, you can use acrylic sanding pads to polish it. The six grits range from 600 up to 12,000 and are color-coded



**Round it.** Insert the correct size bushing (above). Use a roughing gouge to turn the square blank round (left).



**Refine it.** Use a Spindlemaster (left), or if you are comfortable with it, a skew chisel to bring the blank to its final size and shape. To bring the ends of the blank flush with the bushings, use the skew (right) or Spindlemaster like a scraper.



**Sand it.** Smooth the wood with sandpaper to 800 grit, then switch to Abralon cushioned abrasive pads and go up to 4,000 grit. Each grit needs to be applied for a few seconds only.





## Finish and polish the blanks

**A super finish.** Apply medium-thick CA glue to the turning blank as you spread it with a paper towel. Wear a disposable glove or wrap your finger in a plastic bag. Use an aerosol accelerator to instantly cure the CA finish (inset).

by grit. Place a towel on the lathe bed to protect it and wet a 600-grit pad with water. Use a medium amount of pressure and wet-sand for about 10 seconds per pen blank. Wipe off the resulting white slurry, move on to the next grit, and repeat the process.

Remove the pen blanks from the mandrel. If a blank is stuck to the bushings, lightly tap it on the lathe to break the bond. Your blanks will almost certainly have a higher sheen than anything else you've made, but if tiny scratches are still visible, you can buff them off. Hold the pen blanks perpendicular to a buffing wheel treated with a compound (in this case a blue acrylic polish), and apply a bit of pressure. Then polish the blanks



**Smooth the finish.** After four coats of finish are applied, use 320-grit paper to remove any ridges.



**Unstick the blank.** Use a parting tool to scrape off any glue from the bushings.



**Polish the finish.** Use a series of increasingly fine abrasive pads designed for acrylic to polish the finish.



**Any vise works.** You can buy a pen press to assemble the pen, but as long as you protect the components, a metalworking (or woodworking) vise works almost as well.

on a cotton flannel wheel to bring up the ultimate shine.

Line up the pen parts according to the instructions in the kit. Use a pen press, drill press, or bench vise to apply light pressure to press (not glue) the pieces into the pen blanks. Use scraps of wood to avoid any metal-to-metal contact that might damage the pen components. Congratulations, you've just finished what I'm sure will be the first of many pens. □

*Barry Gross turns and sells pens, demonstrates pen turning at shows and clubs, and sells pen-turning supplies.*

