

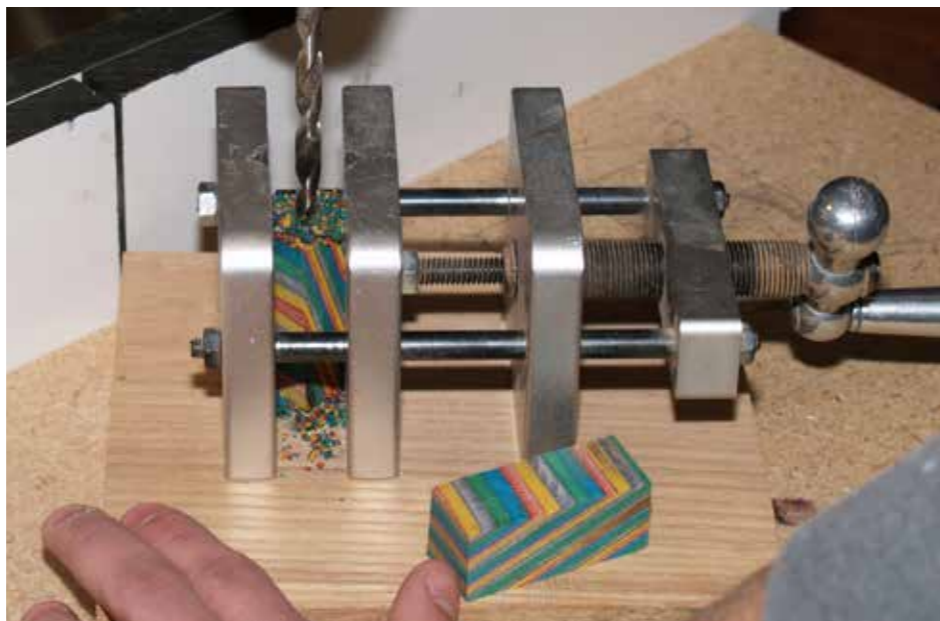


# Pens

## Thinking outside the boxiness

James Trimble suggests some great tips for turning pens and takes you through the process of turning your own nonconformist version

Turners tend to look on pens as a decorative but still very functional item. I wanted to find a way to be unique within the confines of this very simple art form. While looking for inspiration, I noticed that all of the pens online had one thing in common – they included a pocket clip. While the bottom half of a pen needs to fit one's fingers, the only restriction on the shape of the top half was this clip. Designed for the business suits of an era when men ruled the office, the clip is now virtually obsolete. So, I simply eliminated it. Now my pens could evolve into something new.



1 Clamp each blank in turn in a vice and drill all the way through them

### Ground-breaking tools

And speaking of new, the tools that I use are far from traditional. Based on a flat carbide insert, they never need sharpening, and I only need three: a hollower, a rougher and a detailer, which are made in the USA by Easy Wood Tools (see details at the end of the article). The hollower has a small round cutter, the rougher has a square insert, and the detailer has a diamond-shaped cutter. I tried other carbide insert tools, but they all have a concave profile that catches a lot. These flat-topped tools are as comfortable for beginners as they are for old pros.

### Kits & blanks

If you'd like to make some pens, it's a good idea to buy the kits before you start cutting or buying blanks. There are two brass cylinders in each kit that determine the length of your blanks. The pen kit used here is the Apprentice Slimline kit from Craft Supplies USA. Most slim kits are similar, and they accept standard Cross-type ballpoint

refills that are widely available in the UK. Aside from the kit, each pen requires two wood blanks: one for the top and one for the bottom. For each, start with something about 65mm long, and at least 20mm square, so you'll have room to sculpt it. Coloured and dyed multiply blanks such as the ones used here are widely available from woodturning websites. You'll also need a 7mm drill bit and an inexpensive pen arbor/mandrel.

I'm going to guide you through turning one pen, and shown above you can see examples of others that are made in a similar fashion.

### Prepare the blank

Cut two blanks to size and then chuck the 7mm drill bit in the drill press. If you have a drill chuck and a self-centring chuck for your lathe, you can certainly use that setup instead of the drill press. Clamp each blank in turn in a vice and drill all the way through them (photo 1). Use 120 grit abrasive to rough the outside of the two brass cylinders and then secure them in the drilled holes with cyanoacrylate (CA)



2 Secure the cylinders in the drilled holes with cyanoacrylate (CA) adhesive



3 When dry, sand the ends of the blanks flush to the brass cylinders



4 Use a drill bit to gently ream out the ends of the cylinders



5 Reduce the blanks to round using the square cutter



6 Use the hollower to create an inside (concave) curve where a writer's fingers will grip the pen

adhesive (photo 2). They may need to be very gently tapped home with a hammer, or squeezed in a vice. When dry, sand the ends of the blanks flush to the brass cylinders (photo 3). Be careful here: if you sand into the brass, the blank will be too short to assemble as a pen. Next, use a drill bit to gently ream out the ends of the cylinders (photo 4). The idea here is to just remove any excess glue without changing the diameter of the cylinder. Size your drill bit accordingly.

### Mount & round the blanks

Now you're ready to mount the blanks on your pen arbor/mandrel, following the mandrel manufacturer's instructions. This usually entails securing the mandrel in the Morse taper of the headstock, then sliding a metal ring called a bushing onto the mandrel, followed by the top half of the pen blank, another bushing, the bottom half of the blank, another bushing, and then a threaded and knurled brass tightening nut. Snug up the nut by hand (no need for pliers),



7 Clean up the bottom face of this latter curve using the point of the detailer...



8 ... then create a gentle taper towards the centre of the pen, again using the round hollowing tool



9 Create a cove that allows for a gracious transition from the wood to the metal bushing



10 Square up the bead with the rougher...



11 ... then switch to the hollower to form the bead as you'd like it, and to create a small decorative groove just below it



12 Use the hollower to make a matching cove at the bottom of the upper blank...

and then draw up the tailstock so that the point of your live centre seats in the end of the pen mandrel. Don't tighten the tailstock too much or you'll flex the mandrel, and it will no longer be straight and true.

A safe speed to begin with is in the 1,000rpm range. Reduce the blanks to round (photo 5), using the square cutter (called a rougher). These tools' handles are held parallel to the floor and the cutting edge should be absolutely centred on the wood, so adjust the toolrest up or down to accomplish that. The recommended grip is to slide the index finger into the groove in the back of the toolrest, and trap the front of the tool by placing your thumb on top of the shaft. As the shaft is square, it has virtually no tendency to roll. Tuck the back of the handle against your hip.

#### Creating the shape

With the blanks round, turn up the speed to about 1,500rpm and use the hollower to create an inside



13 ... then stay with this tool to create a bead and a concave cove above this



14 Add a second bead and cove...



15 ... then switch to the detailer to fashion the head of the pen



16 Separate the head visually from the body with another groove



17 Smooth out the rest of the curves in a very light pass with the hollower

(concave) curve where a writer's fingers will grip the pen (photo 6). It's much more comfortable for writers if you also create a small outside (convex) curve below this, to stop their grip sliding down onto the funnel-shaped metal nib housing (cone) of the pen. Clean up the bottom face of this latter curve using the point of the detailer (photo 7), then create a gentle taper toward the centre of the pen, again using the round hollowing tool (photo 8). This culminates in a wider bead at the top of the lower blank. Create a cove here (photo 9) that allows for a gracious transition from the wood to the metal bushing. Keep in mind that your carbide tools are a whole lot harder than the soft metal bushing, so don't allow them to touch or the bushing will be reshaped. Most mandrels come with bushings that work well with the Slimline kits, but if you're having problems getting this transition to work perfectly, the makers of the kit do offer their own bushings. Square up the bead with the rougher (photo 10),

and then switch to the hollower to form the bead as you'd like it, and to create a small decorative groove just below it (photo 11). Use the hollower to make a matching cove at the bottom of the upper blank (photo 12), and then stay with this tool to create a bead and a concave cove above this (photo 13). Add a second bead and cove (photo 14), and then switch to the detailer to fashion the head of the pen (photo 15). I like this to be the widest diameter, just for aesthetic reasons. Separate the head visually from the body with another groove (photo 16), using the detailer to cut it and also to round over the adjacent sharp edges. Smooth out the rest of the curves in a very light pass with the hollower (photo 17), and you're ready to sand. I like to work down from 120 grit (photo 18) to about 320 grit on pens, using thin strips of paper that I cut with scissors. For sanding, I ramp up the speed to the fastest available, after first checking that everything is still tight and safe.



18 I like to work down from 120 grit to about 320 grit on pens

**Burning grooves & burnishing**

Use a wire to burn black lines in the grooves (**photo 19**), holding the wire in place until you see smoke. A couple of safety issues pop up here: the wire should be long enough to keep your hands away from the work, and should be attached to dowel handles so that it is never wrapped around fingers. And hot wires shouldn't be placed anywhere near shavings or sawdust.

After burning, use some of the shavings to burnish the pen while it's spinning slowly. These act like a mild abrasive and begin the polishing process (**photo 20**). Next, apply paste wax with a soft cloth (**photo 21**), making sure the cloth can't get tangled up in the work. Polish this first coat of wax almost immediately at high speed (**photo 22**), as it's just a



19 Use a wire to burn black lines in the grooves



20 The shavings act like a mild abrasive and begin the polishing process



21 Apply paste wax with a soft cloth



22 Polish this first coat of wax almost immediately at high speed



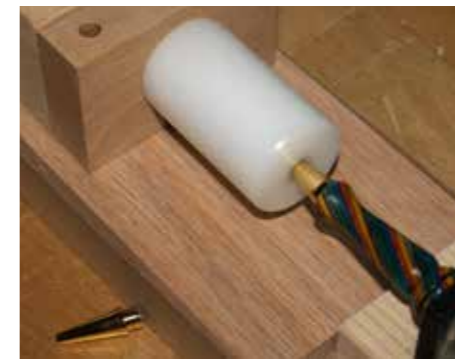
23 Now apply a liberal coat and allow it to set for about 20 minutes



24 Wipe off the excess and then use the edge of a buffing wheel to polish the pen



25 Give the piece a final polish with an old sock or a soft cloth



26 Begin by inserting the nib casing



27 Install the cap on the other end of the pen



28 Push the cartridge into place, and test this as you go



29 Slide the waistband on...



30 ... then install the refill permanently



31 Slide the two parts of the pen together and the project is complete

seal coat. Now apply a liberal coat (**photo 23**), and allow it to set for about 20 minutes. Wipe off the excess and then use the edge of a buffing wheel to polish the pen (**photo 24**). Give the piece a final polish with an old sock or a soft cloth (**photo 25**).

**Assembly**

The final stage in making the pen is to assemble the kit. Begin by inserting the nib casing (**photo 26**), using a pen press to exert just the right amount of pressure – part of the press is the white block shown in the photos above. Next, install the cap on the other end of the pen (**photo 27**). Push the cartridge into place (**photo 28**), and test this as you go: that is, you'll need to install the refill a couple of times and twist it to see how much of the nib emerges, to judge how far the cartridge should be pushed in. If you push it too far, there's really no simple way to retard it, and it's time to move on to a new pen. Next, slide the waistband on (**photo 29**), then install the refill permanently (**photo 30**). Slide the two parts of the pen together (**photo 31**), and you've just completed your first nonconformist, radical pen.

I hope that the other pens shown here will also inspire you to think outside the box, and surprise your family and friends with your artistry. **ww**

**FURTHER INFORMATION**

Easy Wood Tools – [www.woodworkersworkshop.co.uk](http://www.woodworkersworkshop.co.uk)  
 Craft Supplies USA – [www.woodturnerscatalog.com](http://www.woodturnerscatalog.com)  
 You can see instructions for standard pen turning with a slimline kit on Craft Supplies USA's website