



BY CLAUDE DUPUIS

# Pen Making

I taught my daughter Angela, on leave from the military, to make a pen—she’s hooked. Comfort and on the way to Haiti to help with medical relief. Godspeed to all those and I wish to dedicate this article to her. I hope to see her back in the shop soon.

As I write this she is aboard the USNS helping. My wife and I are very proud of her soon.

**W**arning—one drawback to pen making is once you get started, it’s hard to stop. Pen making is easy, lots of fun, interesting and maybe even profitable. I haven’t experienced the latter. I did visit a booth in Vermont last year where the lowest priced pen was \$70 and the most expensive was in the area of \$350. Pen projects are a quick turnaround start to finish. You could get home from work, have dinner, watch the news and still have time to complete a pen, from scratch, that same night and still get to bed early.

The possibilities are endless using woods, acrylic, corian, stone, deer antler (photo 27 far right), water buffalo horn, dymondwood, colorwood, and corn cob. That’s right corn cob. I have even made a couple of pens using snake skin. One was a diamondback rattlesnake skin and the other was a prairie rattlesnake (photo 27 on the right side).

Embellishments include Tagua nut (photo 27 in the center), wood, corian, pickguard and many more. The combinations are infinite. You’re only limited you your imagination. I think anyone wanting to, can make a pen with some basic tools and equipment.

Like any woodworking project, you

need to study up on the subject. Two good books are *Unique & Unusual Pens* and *Pens From the Lathe* both by Dick Sing. A good video is *Hand-Crafted Pens -The Basics* by Penn State Industries. A few good product sources are Penn State Industries, Craft Supplies USA and of course, Woodcraft.



# What You Need

Assuming you have a lathe and a drill press, the first thing you need are some pen kits. Pick a pen style that you like— there are hundreds to choose from. Do not forget to get the bushings and the drill bits that go with the pen style you have chosen. They are very specific to each—photo 1.

Next you will need pen blanks, either store bought or made from shop scraps—photo 2. Most blanks are 3/4"x5". Some are 5/8" for smaller diameter pens. You will need a pen mandrel, a barrel trimmer, a pen tube insertion tool, a pen drilling vise and a pen press—photo 3. My chisel of choice is a small gouge—photo 4. I haven't mastered the skew chisel yet.

You will need adhesives and abrasives—photo 5. I use gap filling CA glue and accelerator for gluing in the brass tubes. You could use epoxy. Use sandpaper starting at 150 grit. I like the multi-pack abrasive rolls ranging from 150 to 400 grit and the micro surface pen makers kit ranging from 1500 to 12000 grit—photo 6.

For a finish, I first apply *EEE-Ultra Shine* as a final sanding/polish. For the finish coat I use *Shellawax Cream* a shellac base friction polish that creates a waterproof high gloss finish in seconds—photo 7.



# Getting Started

Make sure you have everything. Layout the pen parts as in photos 1 & 8. I have selected a *Jr. Gentleman's Pen*. The blank is olive wood. This pen style has two different brass tube sizes requiring a  $\frac{25}{64}$ " and a  $\frac{15}{32}$ " brad point bit. The top section bushings are 0.535" and the lower bushings are 0.480" and 0.460" so proper alignment is critical.

Follow the directions carefully. When buying from a catalog you will automatically get instructions with the kit, but when buying at a store you may have to ask for the instructions.

Decide which end of the blank will be top and bottom to take advantage of a feature in the wood. With this pen top and bottom are different lengths. Cut the blank about  $\frac{3}{8}$ " longer than the brass tubes. Keep the blank wood grain alignment by using a reference mark—photo 8.

Cut to length on a chop saw trimming the blank from the ends with only a saw cut between them keeping the gap to a minimum so the grain alignment is as close as possible—photo 9.

Setup the drill press drilling vise. I mounted a piece of plywood to the bottom of the vise so that it was the length of my drill press table allowing me to clamp either end to the table. Center the vise by installing a drill bit, lowering it into the vise and closing the vise onto the bit. The vise is especially helpful when you are working with different size blanks. The size does not matter since it is always centered—photo 10.

The blank will heat up from drilling and it's a good idea to let them cool before gluing in the brass tubes. The heat in the blank can cause the CA adhesive to setup prematurely not allowing you to flush-up the tube with the blank. Sand the brass tubes to promote good adhesion. Clean off both the tube and blank. Hold the tube using the intersection tool. This prevents getting CA on your fingers—photo 11.

Apply gap filling CA glue to the brass tube. Insert the tube with a spinning motion to get full CA coverage. I'll flush-up



the brass toward the reference mark end of the blank thus avoiding cutting off too much from the match point.

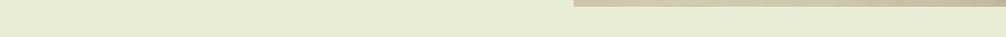
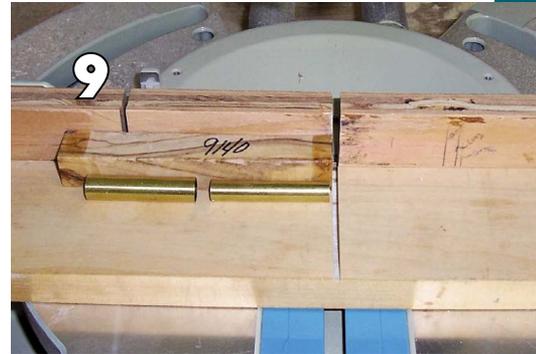
*Here is a CA hint. Leave the cover off the CA container to avoid clogging up the tip. You need to cut off oxygen in order for CA to work. I store CA without a cap.*

Hit the blank ends with accelerator, trim the excess wood at the chop saw leaving  $\frac{1}{16}$ " or so. Use the barrel trimmer in a drill to flush up the wood with the brass tubes—photo 12.

This squares the wood to the brass tube assuring a good fit with the abutting pen fittings. Check that the bushings fit easily into the brass tubes—photos 13.

Sometimes CA will get inside the tube at the end and this can easily be filed clean using a chainsaw file.

I like to keep the blank reference marks toward the top. Drill using short strokes evacuating the shavings often to avoid overheating and binding. Place scrap wood under the blank to help prevent chip-out and drilling the vise base. The blanks are purposely cut long in case of chip-out. This is why the reference marks are kept to the top.



# To the Lathe

Install the pen mandrel in the lathe. Adjust the mandrel length to match to pen length and tighten the lock nut. Insert the blanks with bushings being careful of proper bushing size and location. Keep the blank match line centered. Bring up the tail stock to steady the mandrel end (don't over tighten) and we're ready to turn. The lathe speed can be quite high due to the small size of the parts. Turn to a cylinder using a small gouge. Use light cuts—photo 14.

Bring the wood down to just proud of the bushings. The bushings are a guide to the finished diameter of the turning. *The difference between a well and not so well made pen is right here.* The goal is to get a perfect match to the pen fittings. Not all wood turns or sands alike so be careful. Close is not good enough. As the bushings wear from sanding, it may be necessary to use a calibrator to check for an exact pen fitting match.

Do the initial sanding with 150 grit sheet sand paper cut slightly longer than the blank and backed with a wood block—photo 14.

This will help flatten the blank between the bushings. Always sand with the grain (lathe off) between grits being careful to remove any defects as you go—photo 15. I will do this through 400 grit—photo 16. Using the micro pads (all defects already gone), we're just making smaller and smaller scratches. With the lathe on, using a light touch with each pad will do the trick—photo 17.



# Finishing

I use *EEE-Ultra Shine* wax. It is an ideal base for a friction polish. It's not cheap but it works and will go a long way. Apply with paper towel with moderate pressure. Wipe clean.

Apply the finish coat using *Shell Wax Cream* again using a paper towel. Work from the center of the blank outward toward the bushings. Avoid picking up metal stain from the bushings onto the blank. Polish to an even shine. The blanks are now complete and ready for assembly. The nice thing about the friction finish is that there is no drying time. They are immediately ready to handle. Remove from the mandrel being careful to maintain the match line—photos 18 & 19.



# Assembly



Place the blanks with the already laid out pen parts—photo 20. Using the pen press, assemble following the instructions in perfect sequence. Note the wooden press block used to protect the threaded coupler threads—photos 21, 22 & 23.

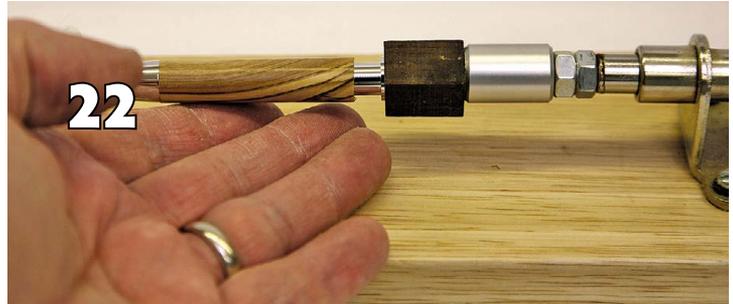
Sequence is important with some pen kits. Disassembly is difficult if not impossible—so be careful. Watch that parts are not skewed when pressing parts in place. Proceed slowly and adjust as needed. Align the clip to take advantage of a figured section or to hide a small defect. Assemble the two halves lining up the grain pattern. Presto you have a finished project—photo 24. Note the grain alignment.

Both pens in photo 25 are *Jr. Gentleman's Pens*. The one at the bottom was made from oak crotch wood salvaged from the wood pile and the other is olive wood from the holy land.

Pen parts come in several finishes. The oak one is 10K gold plated. The plating blends hard nickel and the beauty of gold together to form a brilliant plating that is durable and affordable.

The Olive pen is Rhodium. Rhodium plating is a member of the Platinum Group of precious metals. Rhodium's brilliance, hardness, and beauty has made it a favorite of fine pen makers as well as collectors.

See you in the pen isle—Claude. ■



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