

# The Journey from *Penturning to Penmaking*

by Kurt Hertzog

## Tips and Tricks

Over the years, I've been amazed by the number of people I've encountered who believe that if they just had better... "fill in the blank," they'd be a better penmaker. The "fill in the blank" can encompass everything from tools, to equipment, to jigs or fixtures, to workshops, to finishes, to nearly anything. My belief has always been that the magic isn't in the tools, equipment, supplies, or workspace; it is in the hands of the maker. My father had a far too often used saying that went something like this: "It is a poor workman who blames his tools." That being said, I'd like to dedicate this column to tips and tricks that will give you ways to accomplish a few things well. For the most part, these can be had cheaply or for almost nothing. There are also some general ideas included that might be obvious to some, but not to all.

### MEASURING DEVICES

I am a huge fan of measuring and tuning fits. In my opinion, those who use bushings for their sizing are not achieving the best fit possible. I measure the pieces to be assembled and then make the two components match in size. Since it is a relative measurement, there is no need to have an accurate measuring tool, only a repeatable one. You can use the least expensive vernier, dial, or digital calipers that can be found (see **Fig. 1**). Measure part A



Fig. 1

Since almost all penmaking measurements are relative, modestly priced measuring tools can be used.



Fig. 2

A "quick clamp" with the pads removed makes a great pen assembly device.

and part B. When the two numbers match on the measuring device, the two pieces should fit well. Are those measurements traceable to NIST (National Institute of Standards and Technology)? Probably not, but it's certainly not required either.

### ASSEMBLY DEVICES AND AIDS

There are a host of wonderful assembly devices already in your shop. Many purchase a pen assembly press, but I often wonder why people would buy another tool to assemble pens when they have a lathe. The lathe is an exquisite assembly press. Between the headstock and tailstock, there is superb control and more force than should ever be needed. Or what about your drill press? A block of wood on the table and a bolt in the chuck works nicely. A few layers of tape can even be put over the bolt head if you wish. Again, the force available is more than adequate and the control is nearly as precise as the tail center using the advancing wheel. My favorite assembly tool is a quick clamp (see **Fig. 2**). I take off the padded cushions and use the clamp for assembly. The press to the shoulder is quick and easy. The press of the transmission is just as easy with more than sufficient resolution, since I creep up on the desired inkfill extension as a matter of course.

Whether using a barrel trimmer or sanding the ends of the glue-ups perpendicular, you wind up with the edges of the brass tubes being sharp corners. Putting a chamfer on the inside edges of the tubes will aid in getting the pressed-in parts started more easily. Handled chamfer tools of both the inexpensive or expensive kind can be bought; however, I find that the bargain-basement countersinks available in the discount tool stores work quite

nicely and don't require a handle (see **Fig. 3**). They save space and are easily transported, and at about ninety-nine cents, you can afford to have a few of them scattered around the shop.

### SPRAY AIDS

Though I use a variety of finishes, my two favorites are cyanoacrylate glue (CA or superglue) and lacquer. CA is applied with a cloth right from the squeeze bottle container, while lacquer is sprayed from a gun or a rattle can. I never did like to dirty a spray gun for finishing small items, such as pens, and with the pistol grip sprayer and improvement in rattle-can lacquers, I rarely use a spray gun for any lacquer finishing. For pens, a rattle can works quite nicely; however, holding the can and controlling the spray leaves something to be desired. The best suggestion I can think of is the snap-on pistol grips available for rattle cans (see **Fig. 4**). If you aren't already familiar with these, look for

them in the paint department. For the few dollars they cost, they are a great investment. With the pistol grip snapped into place, you have much more control over the spraying process. The grip can be moved from can to can, but the nominal cost makes it possible for you to have one for every can in use. Move the grip to the new spray can when the old one is empty.

### GRIPPING AIDS

Gone are the days when the bank offered you a "cap snaffler"—used in the days of old to loosen difficult lids from a jar. Now jars are becoming a rarity and bank giveaways are even more rare. "Muscling" difficult fits can be assisted using small pieces of drawer liner (see **Fig. 5**). This soft rubber-like material permits a good hold on pieces while working, yet leaves no marks. Obviously, work can be damaged if the foam being used contains debris. I keep rolls of it around, so that whenever my piece gets



**Fig. 3**

Handled or not, an inexpensive countersink tool makes a great chamfer tool for "easing the edges" of the inside corners of the brass tube.



**Fig. 5**

Old "cap snafflers" or cut-up pieces of drawer liner material are great, non-marring ways to get a good grip on parts.



**Fig. 4**

Look for the snap-on handles in the paint department that allow greater control and finesse when using a rattle can.



**Fig. 6**

Rolls of drawer liner material can be purchased in the houseware department of a discount store or in the RV supplies area.

dirty, I can change to a new piece. Rolls of the drawer liner can be found in the houseware section of almost any discount store (or in the RV department) (see Fig. 6).

### MARKING AIDS

If you work alone and never have to worry about mixing your belongings with others, things may not have to be marked. But if it's necessary to mark your stuff, you've probably discovered that magic marker doesn't work that well on many items, especially if they get cleaned or come into contact with chemicals. Therefore, my marker of choice is a paint pen (see Fig. 7). Paint pens are available in a variety of colors and will leave a reasonably permanent mark on nearly anything. They are not so delicate that they can't write on small tools or in a small space, and they can be used to put indicators on small items and initials or names on larger ones. Though the paint is durable, it can be removed (if desired) by carefully chipping it away should you wish to sell a piece and the new owner really doesn't want your name on it.



**Keeping your belongings sorted from your friends at group events or when on loan is easy with a paint marking pen.**

### MARKING AIDS—THE OTHER KINDS

Drilling an accurate hole requires a good starting point for the drill, and far too many people think that a pencil mark is all that is required. If the hole needs to be located in a specific place, you had better give the drill a place to start. For a drill press, use a center punch (often called a "prick" punch) and a small hammer, or a spring-loaded center punch (see Fig. 8). Either of these will give a point that will keep the drill from wander-



**Giving your drill a good starting point is easy with one of the spring-loaded center punches or the old-fashioned prick punch and hammer.**



**A center drill, used in a drill chuck, is a great way to start drilling in the lathe.**

ing as the hole is started. For those who drill on their lathe, a center drill works wonderfully. This short, sturdy drilling aid is used by machinists, but will also work nicely for woodturners and will help to prevent drill wander. A center drill would also be useful in a drill press if the work was clamped in place and you wanted to create a starting point directly centered under the chuck instead of locating that point manually. An assortment of center drills can be bought from any of the machine tool suppliers or discount hardware stores (see Fig. 9).

### WORKABLE CONTAINERS

If you are like me, you probably buy in-process chemicals and finishes in larger-size containers to take advantage of the savings that are available. The problem is that these quart and gallon containers don't make convenient working containers. I find that decanting a small amount into a smaller-size container makes use and storage in the workspace more manageable. Many styles and sizes of these containers can be found in the cosmetics department of local drug or discount stores. What works well for me are the TSA-approved, 3-fluid-ounce containers (see Fig. 10). They are inexpensive, see-through, and have a good seal-



**Decanting chemicals and finishes into working-size containers is much more convenient for use in the shop.**

ing top. If you standardize on a size, you can keep almost all the needed supplies handy in a small box—just make sure that the contents are marked with indelible marker, not only for your own information and safety, but for others who may come into contact with them (see Fig. 11).

### MANDRELS

I use a stubby mandrel for most of my penturning. It only allows me to turn one piece at a time, but it does, however, give me a lot of freedom for mounting desk-style pens and other non-kit pens. I began that way and continue to this day. The two-piece, longer mandrels work, but I dislike the potential flex and possible chatter based on their increased length.

I make more mandrels than not these days. Rather than collets and pin chucks or specially concocted machine tool-style items, it is just as easy to make drive bushings, closed-end mandrels, or multisize Morse taper-mounted mandrels out of wood, and I keep scraps of oak around just for this purpose (see Fig. 12). When mounted in a chuck, any needed size, shape, or length of mandrel can be turned and test-fit with the tube in question until the perfect fit is obtained. If you don't want to throw it away (actually it only needs to be remounted and re-turned until true again) when it is removed from the chuck, turn the wooden mandrels with a Morse taper on



Fig. 11

**For your protection and others, always mark the contents of any transfer container and keep out of the reach of children.**

them. They will relocate accurately time and again for reuse.

### DRILLING PRECISE FITS

I make many of my pen components that often require drill sizes not commonly used by kit turners. If working mainly with a certain type or size kit, you can usually get by with a few drill sizes specifically for those projects. Yet I've found that having a wide selection of sizes (number, letter, and fractional) has been worth the cost. You do not need to spend a fortune on drills to have a wide selection either—I wait until the discount tool stores have their 40% or 50% off the regular price on their "all in one" index and buy the set. At a good sale, \$30.00 to \$40.00 will get you a set of about 120 drills in the various index schemes (see Fig. 13). Are they tool room grade? Certainly not; but for drilling wood or plastic, they are more than serviceable, especially if you are capable of sharpening them yourself. The beauty of having such a wide array of sizes is that if a slip-fit is needed for the nib of the ballpoint inkfill at 0.085, go to your index and get an 0.087 (or whatever the desired size

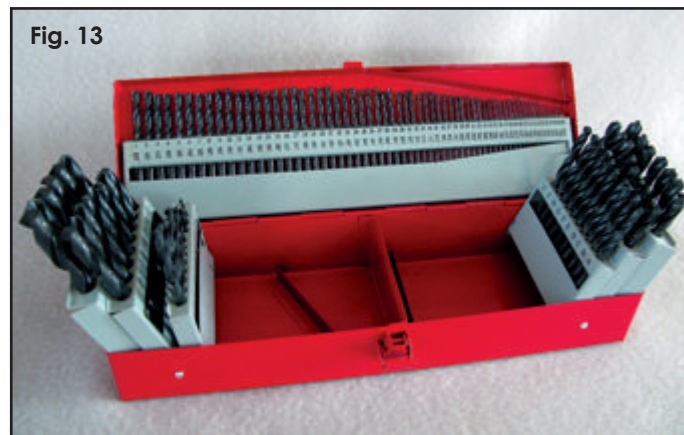


Fig. 13

**A low-cost set of number, letter, and fractional drills is valuable in your shop.**



Fig. 12

**Rather than own or try to find each needed bushing, mandrel, or other mounting gadget, I often find it easier to turn a workable alternative on demand from scraps of wood in the shop.**

is) to do the job. Just remember that the number stamped on the drill or index slot usually isn't what the dimension of the cheap drill is, but it isn't important anyway. More importantly, measure the drill and compare to the measurement of what you need to match using the same measuring tool. The relationship between the two parts is the key, not the absolute number stamped on the index.

### TRIMMING PRECISE FITS

In my opinion, the most important fit on a kit pen (or any pen) is the nib to body fit, because this fit will be felt by the user each and every time the pen is used. You already know my opinion regarding bushings. But even measuring the parts doesn't optimize your chances of hitting it well, easily, and often, particularly when considering the varying dimensional changes produced by sanding and then finishing.

However, there's a trick that should have you nailing that fit (and the others) perfectly each and every time. Turn the pen parts as usual, measuring the sizes so that when you turn, sand, and finish, you will be spot-on or just

a bit undersized at the nib end. Remember: The measurement is the size required when you are ready to assemble, so it needs to include any dimensional build that will occur with finishing. If you are right on the money, great; assemble and enjoy. But if you are a shade undersized (far easier to obtain than spot-on), use the barrel trimmer to trim back the tube a little bit—thus increasing the diameter—until you reach the desired dimension. This technique will work for any fit required in the project (see **Fig. 14**).

There are a few things going on here. First, you need



Fig. 14

I use my handheld barrel trimmer to fine-tune parts for the perfect fit.



Fig. 15

Removing a small bit of length allows you to trim "up the hill" to arrive at the perfect fit dimension.



Fig. 16

After all the trimming is done, a quick clamp allows you to assemble your flawlessly fit pen!

to be pretty close, but just undersized. Second, a tapered design is necessary rather than a straight wall, so the diameter increases as you trim "up the hill." Last, the position needs to be measured accurately. The measurement of the nib needs to be at the widest point and the measurement on the body needs to be right at the very edge. If you don't catch the very edge, the reading will be incorrect and you will trim less than necessary. Your sharpest barrel trimmer should be used by hand, not under power, to creep up on the perfect fit. This is a "slight trim, measure, and repeat" kind of a process. Don't rush; it's worth getting it right (see **Fig. 15**).

Once you are dimensionally there, lightly roll the edge of the trimmed pen barrel on a hard surface to "break" the sharp corner so that it isn't felt after assembly. The two parts can now be assembled to give the perfect fit (see **Fig. 16**). If after assembling the pieces, the "thumbnail test" tells you that it is too small on the pen barrel side, disassemble and continue measuring and trimming until you get it correct. If it is too big on the barrel side, go back to the lathe for sanding and refinishing. Is it worth all this effort? This fit will last the life of the pen and will be the fit that the recipient will most judge you by. After using this process for a few pens, you'll become adept at quickly trimming to the dimension that gives the perfect fit.



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Kurt Hertzog is a professional woodturner, demonstrator, and teacher. He enjoys the continuum of woodturning—from making his own turning tools to photographing his finished turnings.

Kurt is a regular feature columnist for *Woodturning Design* magazine, one of the five Council Members of the Pen Makers Guild, and a member of the Board of Directors of the American Association of Woodturners.

Kurt's work has been featured in the American Association of Woodturners "Rounding The Corners" Exhibit, and he has been published in *Woodturning Design*, *American Woodturner*, *Pen World*, and *Stylus* magazines.

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