

## TIPS AND TECHNIQUES

### The Pattern

The pattern should be printed on the heaviest paper you have available, 60# or better. The squares are 1/8" and confirm that they are with a rule. If they are not, check your printer settings to ensure you are printing 100% full size. Depending on how you work, you may choose to create a negative pattern or template by pasting a pattern copy on a piece of heavier stock (beverage cartons work well for this) and cutting out a negative template. This will allow you to check your contours as you profile your handle. An alternate method if more experienced, is to mark major contour transitions on your stock using the pattern as a guide and simply 'connect the dots' as you turn.

### Stock Selection

A tight grained, no pore hardwood will make your best handle material because it will accept detail very well and feel best in the hand. For aesthetics, choose hardwoods with tight, small grain patterns that have contrasting lines and interesting swirls. Pin knots add interest but they must be very small and secure. These suggested requirements unfortunately eliminate most common native American hardwoods, such as ash, cherry, oak, maple and walnut. However curly grain patterns in cherry and maple can work.

A few recommendations of economical and widely available exotic hardwoods that make good handles are blood wood, bocote, cocobolo, congalo alves, king wood, macassar ebony, olive wood (best, in my experience) and all of the rosewood family.

### Blank Preparation

Blanks must have a starting diameter of at least 5/8" square and minimum length of 6" and 7" is best for some added clearance at the headstock end. If you intend to use a chuck, 7" to 8" is optimal.

Boring a hole that is perfectly aligned parallel to the blank is always a challenge using woodworking equipment. If you are work holding with a drive center, the most accurate and safest method is to use a drill press to bore your hole. You can check your alignment if you have a drill chuck for your lathe. Mount the drill chuck in your tailstock, insert the same size drill, then tap the drilled blank onto the bit. Run the blank up to your drive center and use the point to mark the headstock end. Remove and drill a small pilot for your drive center's point and mount your blank.

A chuck can be used to hold the blank for boring on the lathe instead of the drill press. This method is recommended and is also the most accurate. Turn the blank round between centers first to a consistent diameter of about 9/16". Most head stock #2 MTs will allow the penetration of a 1/2" to 9/16" diameter blank several inches plus the thickness of the chuck and it's jaws. The ultimate diameter you turn will have to be such that it accommodates your chuck's capacity.

### Turning the Blank

The fun finally begins. With the blank turned to a cylinder of essentially a consistent diameter, turn the tenon to a .370" diameter X .358" long. If you have a 1/4" wide parting tool it is the perfect choice to make this cut and a bedan will work very well also.

Turn the shoulder to match the ferrule's outside diameter next which is .500". You want to have a seamless transition between the wood and the metal if possible, so measure often and take your time. At this point it's a good idea to do a fit check of the ferrule before proceeding further. When you're satisfied with the tenon and shoulder diameter fit proceed to profile the rest of the blank.

For best results, sand the your handle while still on the lathe being careful not to obscure any of the crisp detail you have created.

### **Finishes**

Heavy / thick applications of lacquer or polyurethane are generally not advisable on tool handles to be used for fine woodworking as a thick film will obliterate any feel of the wood in the hand. Most craftsmen favor a moderate application of Danish oil followed by a light waxing. At Czeck Edge we use several light coats of super blonde shellac mixed with about 20% BLO. The BLO pops the grain a bit, and allows the shellac to flow out and penetrate the wood while still turning on the lathe as a friction finish.

### **Assembly**

A dry fit of all components is recommended. Five or twenty minute epoxy is a great adhesive choice to assemble your marking knife. Make certain you install the ferrule before the blade and wipe off any excess epoxy. Acetone or finger nail polish remover will dissolve any excess that begins to harden. You may also want to look at the grain pattern and if it has a 'V', line that up with the blade, it will look better.

### **Trouble Shooting**

The tenon is too large for the ferrule, even though you carefully measured it a dozen times. Chuck a right sized bit into your drill and tap the handle on to it. A small file held against the tenon with the drill running will quickly trim the tenon to the correct size. Be careful not to maul the juncture of the tenon and shoulder while performing this operation.

If you find that your blade is cocked one way or the other, the hole can be enlarged a little to 'straighten' out the alignment of the blade. A small jewelers file works well or just use a drill in place of one. Take you time and check your progress often.