# Chisel Handles to Order

Handles you turn yourself make tools a pleasure to use

by Mario Rodriguez

oodworkers who visit my shop always ask how I have managed to find such a large variety of chisels with matching handles. And they always want to know what kind of wood the handles are made of. The answer is I make my own handles, and I mainly use wood from cutoffs pulled out of my scrap bin. I've pulled some really spectacular pieces of wood from my firewood pile.

Making my own chisel handles lets me customize their size and shape. The result is a tool that looks and works better. Making my own handles also lets me have my pick of all those unhandled antique chisels and gouges that everyone else passes up at flea markets and yard sales (see the photos at right).

Rehandling a chisel is much less of a project than most woodworkers realize. It doesn't take a machinist's precision to make a handle that stays on. A few rough measurements, a good eye and a test-fit or two will get you there. And it only takes a half-hour or less to make, finish and attach a handle.

#### Chisels have sockets or tangs

Although there's a chisel for every imaginable woodworking task, all chisels have either a socket or a tang. You'll find more socket than tang chisels at flea markets and used-tool sales. Socket chisels used to be the standard, but they're not made much now.

A socket is simply a conical recess in the steel. One end of the handle is tapered to a cone that mates with the socket. A friction fit holds the chisel and handle together. Pounding on the back end of the chisel seats the handle more tightly, so socket chisels are wellsuited for chopping as well as paring.

Most modern bench chisels and gouges are made with a tang. This is a tapered projection, usually about  $1^{1}/4$  in. long, that mates with a centered hole in the handle. These chisels are great for paring, but they should not be used for any heavy chopping because the tang can split the handle.

#### Making the handles

Initially, making a handle for both socket and tang chisels is the same. Determine a length and a diameter for the handle, and pre-



pare a blank to those dimensions. Adding a few extra inches to the blank will make turning easier. If you're turning a handle for a socket chisel, don't forget to include the part that fits inside the socket.

Think about the size of the blade and how that will affect the balance of the chisel. Consider the chisel's intended use. I make a short, thin handle for a chisel that has a narrow blade because this chisel does more delicate work. On my firmer chisel, which I use for chopping, I made a long, beefy handle. It will stand up to more abuse and will help counterbalance the weight of the blade.

Start by marking the center of the blank at both ends; diagonals from corner to corner will cross at the center. Remove the drive center from the headstock of your lathe, center its point on the center of the blank. Tap the blank a few times with a hammer, just enough so the spurs bite well but not enough to split the blank. Now chuck the blank in your lathe, and position the tailstock.

Using a roughing gouge and then a shallower gouge will take the blank to the approximate shape you want (see photo 1 on p. 46).



Use a pencil line to mark all transitional locations, and come back with a parting tool. You'll want to mark the point where either the socket or ferrule starts, as well as the actual tail end of the chisel (see photo 2 on p. 46). On more complicated chisel patterns, mark the locations of beads, coves and other details.

**Socket chisels**—If you're rehandling a socket chisel, turn the cone to rough dimension now. I use a carpenter's rule held above the spinning blank to estimate diameter. You might prefer calipers. Keep the cone about <sup>1</sup>/<sub>8</sub> in. shorter than the socket depth, so it won't bottom out. Clear away some space on the waste side of the tail end of the chisel, and then round over the tail end with a small gouge (see photo 3 on p. 46).

Remove the chisel handle from the lathe, and check the fit of the cone in the socket (see photo 4). You're looking for a snug fit that takes a fair amount of effort to seat. You won't get this fit right away, but you'll know what to remove by looking for shiny or dirty

spots on the cone when you remove the socket (see photo 5). When test-fitting the handle to the blade, look for about 3/16 in. to 1/4 in. between the socket and the shoulder of the handle (when the handle is finished and you've driven it home onto the blade, there should be a gap of about 1/8 in.). Re-chuck the blank, use a gouge or parting tool to remove a little material from the cone and test the fit again. Repeat until the fit is right.

Sand to 320-grit, and then burnish with some of the chips and shavings you've just removed. This will start to bring up a shine. For a finish, I use Qualasole, a padding lacquer made by Behlen (sold through Garrett Wade; 800-221-2942 and Woodworker's Supply; 800-645-9292). I just pour a little on a T-shirt scrap, apply it while the lathe is spinning and I'm done (see photo 6). The finish dries in a minute or two.

Remove the handle from the lathe, clamp the chisel blade firmly into a vise and hammer the handle home. A little duct tape around the blade will help prevent it from slipping or being damaged if

## SOCKET HANDLE

1. Use a roughing gouge to turn the blank to approximate shape. Then take a shallower gouge to smooth the blank. Position the tool rest as close to the blank as you can; move it in as you remove material.

2. Mark transitions with a pencil and then a parting tool. The pencil mark on the right is where the cone will start. The part on the left defines the tail end of the chisel.

**3.** Round over the tail end of the chisel Clear some space on the waste side of the part first, though, so your gouge won't catch. Turn the cone to rough dimension.

4. Test-fit cone to socket. A snug fit with about<sup>1</sup>/s-in. space between the shoulder and the end of the socket is what you're after. This one is still a little too tight.

5. Dirt and burnished areas mark high spots. Re-chuck the handle, remove more material and check the fit again. Repeat until the fit is right.

**6.** Put on a coat offinish. Padding lacquer, which is the author's choice, goes on quickly and dries almost immediately.

7. Afaceted end can be a nice custom touch.



















### TANG HANDLE

**1.** Sneak up on a perfect fit. Make the section for the ferrule twice as long as it needs to be, turn the end smaller than the inside diameter of the ferrule and keep parting away the section near the shoulder until the ferrule fits.

**2. Drill a hole for the tang.** Replace the center in your tailstock with a chuck. Use a brad-point bit about the size of the tang or a little smaller. Center the point of the bit, and advance the tailstock slowly as the lathe runs.

**3.** Pare orfile the hole in the end of the bandle until the tang fits. Or you can use a drill with a bit in it as a power rasp. Don't remove too much material, or the handle will split.

you're clamping it in a metalworking vise. Saw off the excess blank, and pare, file or sand the end until you're happy with it. The end of the handle can be made perfectly smooth like the rest of the handle or faceted so there's some texture (see photo 7).

*Tang chisels*—The major difference between rehandling socket and tang chisels is that a tang chisel requires a ferrule. The ferrule, simply a metal ring around the handle where the tang enters it, helps prevent the chisel handle from splitting. I make ferrules from brass, or more commonly, copper plumbing pipe. Don't use a hacksaw to cut the pipe, or you'll distort the ferrule. Use a pipe cutter instead, and you'll have a ferrule that will go on easily.

I make the end of the chisel where the ferrule sits twice as long as it will be on the finished chisel. This extra length gives me a place to hold the ferrule as I turn the spot where the ferrule will sit to the proper diameter. This allows me to sneak up on a perfect fit (see photo 1 above).

After getting the ferrule snugly onto the end of the handle, finish turning the blank to shape, sand, burnish and finish it, just like the socket chisel. I file the end of the ferrule to remove any burrs and to give the end a nicely beveled appearance.

Remove the lathe's tail center, and replace it with a tailstock chuck and a bit that's about the same diameter as the tang. I use a brad-point bit because I can center the point on the depression left by the tail center. Advance the tailstock slowly into the end of the handle while supporting the handle with your other hand (see photo 2 above). If I can't advance the tailstock far enough, I'll cut off some of the excess where I held the ferrule. Then I'll repeat the drilling process after moving the tailstock closer.

After drilling the hole just a little deeper than the tang is long (so it doesn't bottom out and split the handle), remove the handle from the lathe, saw off the excess at the blade end, and square up and expand the hole until the tang fits snugly (see photo 3 at right). If the tang is too loose, use shims to tighten it. When you have the fit you want, clean up the end and you're done.

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