

Get an edge on turning

HOW TO SHARPEN THE FOUR ESSENTIAL TURNING TOOLS FOR PEAK PERFORMANCE

BY PETER GALBERT

For many woodworkers, learning to turn furniture parts, such as legs, pulls, or even columns, is a natural progression. It's a fun journey, but to be successful you need to buy the right tools (see photo, above) and keep them sharp.

Sharp tools take the frustration out of turning and ease the learning curve when using a lathe (see "What the Experts Don't Tell You About Turning Furniture Parts," pp. 68–73). And you need to sharpen frequently, since cutting so many linear feet of material at the lathe dulls cutting edges quickly.

Here, I'll show you my sharpening tricks and techniques. I use an 8-in. bench grinder and a set of commercial sharpening jigs made by Oneway. I also hone some of the tools with a couple of inexpensive sharpening accessories. These make sharpening fast and foolproof, and get you back to turning quickly.

Touch up the parting tool

The diamond parting tool cuts straight, accurate diameters, like the ends of tapers or the shoulders of tenons. It's a chisel beveled on two sides with a diamond-shaped cross section that ensures the chisel's cutting edge is the widest part of the tool. The design

lets you take deep cuts without the sides binding in the kerf. The key in regrinding this tool is to keep that geometry while removing material.

Turn on the grinder and lay the tool on the top edge of the rest so that the wheel contacts the heel of the bevel lightly. Then lower the top of the tool until the wheel contacts the middle of the bevel. Grind it evenly by flipping back and forth frequently between both sides.

It shouldn't take much to refresh the edge. Stop as soon as the edge is square and a burr has formed. Don't worry about the burr. It gets knocked off harmlessly when it touches a blank. There's no need to hone the tool—grinding alone leaves a cutting edge that's plenty sharp.

Accentuate the bevel on the roughing gouge

A roughing gouge can turn blanks into cylinders, and also cut some basic shapes like tapers. When sharpening, you need to

A FURNITURE MAKER'S KIT

Four tools can cut just about any shape a furniture maker will need (from left): $\frac{1}{8}$ -in. diamond parting tool, $\frac{3}{4}$ -in. roughing gouge, $\frac{3}{8}$ -in. detail gouge and $\frac{3}{4}$ -in. oval skew chisel. Be sure to buy high-speed-steel, which can be ground more easily than other steels without affecting its temper.

$\frac{1}{8}$ -IN. DIAMOND PARTING TOOL

BEFORE

Straight out of the package, the diamond parting tool needs just a quick touch-up on the bench grinder. It's the only tool that needn't be honed.

AFTER

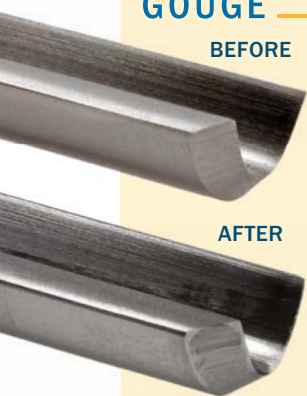


A delicate balance. Rest the tool on the edge of a flat tool rest and grind evenly from both sides.

SEE IT IN MOTION



3/4-IN. ROUGHING GOUGE



BEFORE

AFTER

New gouges have bevels that are too steep and short for effective turning. Regrind them to lengthen the bevel, and then hone the edge.



Set up and grind. Stick the handle into the V-pocket at the back of the jig (below) and adjust the arm so the bottom corner of the bevel is resting on the wheel. Rotate the tool back and forth, and concentrate on getting an even grind along the whole edge.



SHARPENING JIG IS A BARGAIN

The Wolverine Grinding Jig comes with a great tool rest, and a special arm (far right) designed for turning tools. The set is \$90 at woodcraft.com.



polish the flute, regrind its bevel, and hone its edge. Start on the flute with a small DMT honing cone (\$29, amazon.com) and then switch to a 5/8-in. dowel that's been charged with jeweler's rouge or a similar, fine-grit buffing compound. Work them up and down along the first 1/2 in. of the flute until you have a high polish along the tip. Then move on to grinding.

In most cases, the factory-ground bevels on new gouges are too short and steep, so count on doing some extensive grinding the first time to reshape the bevel on yours. It should end up between 30° and 40° and about 1/4 in. to 5/16 in. long. I use the basic Wolverine jig (\$90, woodcraft.com), which lets me butt the end of the handle against a V-notched metal rest. The notched piece slides in and out on a long arm, which is used to set the bevel angle. Once set, just butt the gouge in the pocket, and rotate left and right to get an even grind around the tip. Keep the gouge's tip straight, however. It lets you turn more consistent spindles.

I hone my gouge because I find the finer edge lasts longer, cuts cleaner, and gives me greater control over the tool. To do this, I brace the tool against the edge of a workbench and use a set of fine and super-fine EZE-LAP diamond paddles (\$6 each, highlandwoodworking.com) to hone the edge. Rock the paddle on each pass to find the tips of the hollow-ground bevel, and rub it both across the bevel and diagonally toward

POLISH AND HONE



Inside first. Hone the first 1/2 in. of the gouge's flute with a diamond cone (left), followed by a dowel charged with jeweler's rouge or finer-grit buffing compound (right). Keep both flat in the flute to avoid beveling the edge.



Then the bevel. After regrinding, brace the tool against the rest or a workbench and hone the beveled edge with a diamond paddle.

3/8-IN. DETAIL GOUGE

BEFORE

Create a true fingernail profile on a new detail gouge using a commercial jig, then hone the edge for a clean, easy-to-control cut.

AFTER

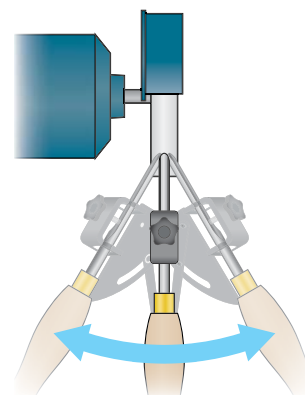


Set the projection. Adjust the gouge so that it sticks out about 2 in. from the Vari-Grind jig.



Leg in the pocket. Adjust the pocket of the Oneway jig to set the bevel angle, and grind with no worries.

SIMPLE MOTION



You simply pivot the Vari-Grind jig to the left and right for an even grind.

the center. Honing leaves a burr along the inside of the flute. Remove it with the charged dowel.

Detail gouge gets a fingernail grind

The detail gouge cuts curves, coves, and other detailed profiles. These shapes are easier to cut if you lengthen and curve the gouge's bevel to look like a fingernail. I do this with a Wolverine Vari-Grind Attachment (right).

Polish the flute first. Then place the gouge in the Vari-Grind jig so that the tip projects about 2 in. Adjust the leg of the jig for an angle of about 150° between the leg and gouge. Place the leg of the Vari-Grind in the pocket of the Oneway jig, and slide the arm in or out to create about a 35° bevel angle at the tip of the tool.

Grind the tip first, and keep pivoting the jig to the left, right, and then back to center. Check often to see that the grind at the tip is symmetrical on both sides. The bevel should be about 1/4 in. long at the tip, and half that length at the grind along the sides. Finish it by honing the edge just like the roughing gouge.

Relieve the skew

An oval skew chisel can cut shapes and smooth surfaces, but it works better if the cutting edge is slightly curved. Grind that shape by balancing the oval shaft on a flat tool rest set at about a 35° angle to the wheel. Round the edges by pressing the center of the shaft tightly against the rest and swinging the handle in a side-to-side arc. Flip back and forth



FOOLPROOF GUIDE
The Wolverine Vari-Grind Attachment (\$55 at hartvilletool.com) fits into your Wolverine Grinding Jig. Set the leg to roughly a 150° angle to the gouge to create a perfect fingernail profile.

Leg

between sides to remove equal amounts of material from the bevels of the chisel. When done correctly, the bevels will be the same length.

Finish by honing the bevels on 4,000- and 8,000-grit sharpening stones, rocking back and forth with each stroke to find the ends of the hollow-ground edge. A few strokes should create a fine polish line that hugs the entire curve. You can refresh it a few times by re-honing it, before eventually having to regrind it.

You now have a kit of tuned and sharpened tools. You'll be turning in no time. □

3/4-IN. OVAL SKEW CHISEL

BEFORE

Relieve the heel and toe of the bevel with a bench grinder and then hone the edge for clean cut.

AFTER



Press in the middle. Keep the gouge tight against the rest and swing the handle to the left and right to create a curved edge.



Hone on stones. Rock the hollow-ground bevel to find the flat spot and then drag it in a sweeping motion to hone the edges.

SEE IT IN MOTION



Peter Galbert teaches turning and builds Windsor chairs in Sterling, Mass.