

Sharpening gouges: the 40° solution

BY MIKE MAHONEY



What a keen edge does. A properly sharpened gouge cuts efficiently and doesn't need a lot of muscle to do its work.

In my years of teaching wood turning, I've noticed that many students have trouble learning how to grind gouges correctly. That's understandable. Unlike most other turning tools, a bowl or spindle gouge must be moved in two directions simultaneously—rolled against the grinding wheel while being swept from side to side. That's the only good way to keep the gouge's distinctive fingernail profile and a cutting edge beveled at a consistent angle along the curved end of the tool.

The proper bevel is crucial for cutting wood efficiently. As a rule, the more acute the bevel, the cleaner the gouge will cut and the less force you'll have to use. For most turnings, a 50° bevel is better than one of 70°, and 40° is better still.

The sharpening jigs I've seen produce an uneven bevel, invariably 16° to 20° more acute on the sides than at the tip. That's because they aren't designed

to swing the gouge from side to side. As a result, the gouge will vibrate when used and will dull quickly.

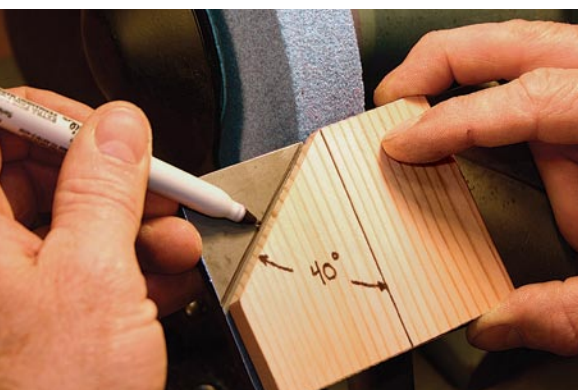
I believe it's better to grind gouges freehand. The technique described here, which I adopted after watching my friend and master turner Stuart Batty, is simple, effective, and easy to learn.

Set your grinder for the proper angles

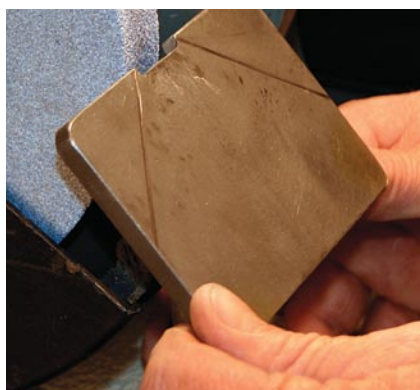
Handbooks and experts give different recommendations for optimum bevel angles, but Batty and I have found through experience that spindle and bowl gouges work best with a bevel of about 40°. As it happens, that magic number represents the bevel angle, the amount of side-to-side movement you make when grinding, and the amount of bevel on the top side. Here's how to set up your grinder to get a consistent 40° bevel.

First, mark guidelines on the grinder platform 40° left and right of the center of the grinding surface. They

1. Set up the grinder to get a consistent 40° bevel



Make a template. Cut one corner of a piece of scrap at a 40° angle and use it to mark the grinder platform.

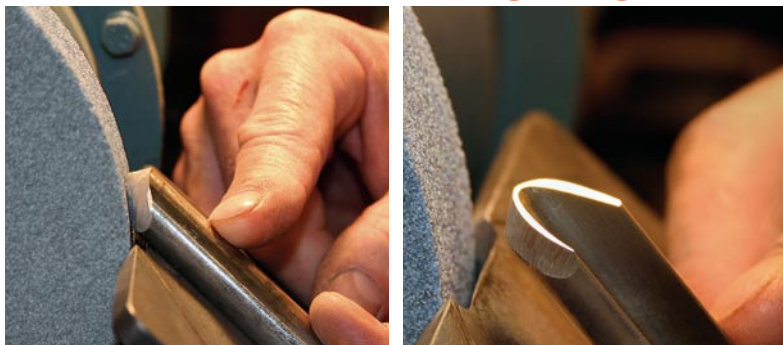


Angle the grinder platform. Use trial and error to set the platform at a 40° angle (or close to it), which will be the bevel angle on the gouge.



Grind the nose to check the angle. Test the platform angle by lightly grinding the nose of the gouge, then checking the result with a protractor or angle gauge.

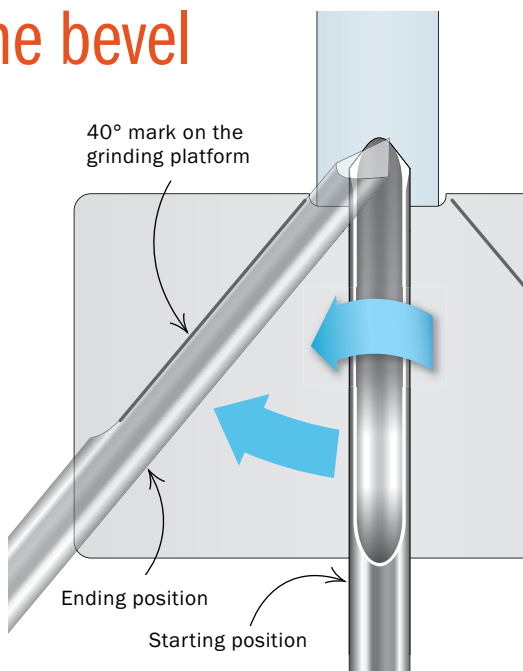
2. Flatten the cutting edge



Start a new cutting edge. With the gouge's flute facing down, grind away the cutting edge. The resulting thin face creates a guide for the last stage of sharpening.

3. Grind the bevel

To sharpen the edge, start with the gouge centered on the grinder platform in line with the grinding wheel. Roll the gouge while simultaneously swinging it to the side to the 40° mark on the grinder platform. Keep the gouge flat on the grinder platform to maintain a consistent grinding angle. Sharpen one side at a time. Finish by blending in the bevel.



will help you get a consistent side-to-side sweep. Make a template from scrapwood cut to the same size as the platform. Mark the guidelines with an indelible marker.

Next, adjust the angle of the platform. Set it by eye to an angle that looks close to 40°, then test it by grinding the bevel on the nose of the gouge. Check the result with an angle gauge or protractor, and tweak the platform angle as needed. Don't worry if the angle isn't exact; a couple of degrees either side of 40 won't matter. Once you have the platform at the correct angle, grind the bevel on the nose again and recheck it.

Grind a fresh cutting surface

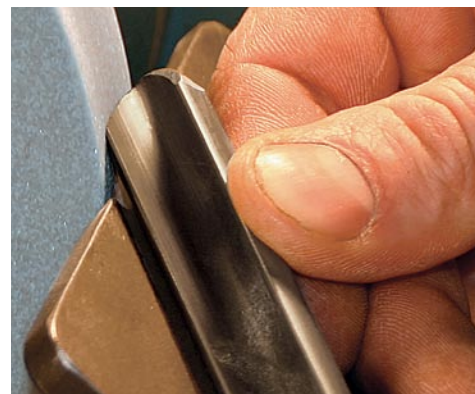
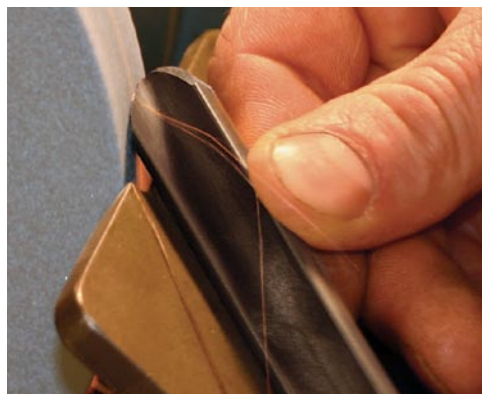
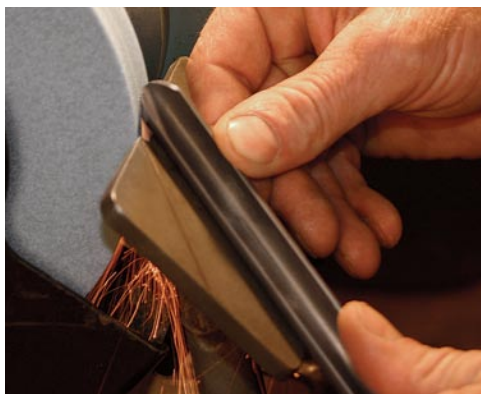
The next stage of grinding deliberately flattens the cutting edge so you will have a fresh surface to grind back to. Hold the tool in line with the grinding wheel with the flute face down on the platform. Lift the gouge from the platform slightly as you pass it over the wheel a couple of times; that will create a slight convex surface overall. If you hold the gouge against the platform the whole time, the wheel will leave a concave surface, which gives the gouge a tendency to catch in the work.

To sharpen the edge, roll and swing

Begin with the gouge in line with the grinding wheel and the flute facing up. Keep the gouge flat on the grinder platform, holding it by the metal just above the ferrule to keep the grinding angle consistent. If you hold the tool by the handle, you may be inclined to lift it off the platform, thus changing the angle.

Roll the gouge counterclockwise while moving it to the left. You want to end with the flute facing to the left and the gouge lined up with your 40° line on the left side of the grinder platform. As you bring the gouge up to the line, be careful not to roll it too far; if you do, you'll make the end of the bevel convex.

Repeat the maneuver, rolling the gouge clockwise while moving it toward the other 40° mark. □



Start with the flute facing up and the tool centered on the grinder platform. Sweep the gouge in an arc to the left, simultaneously rolling the tool so that the gouge faces left. End at the 40° guideline on the grinder platform. Then sweep and roll the gouge to the right.