SIDE-GROUND GOUGES

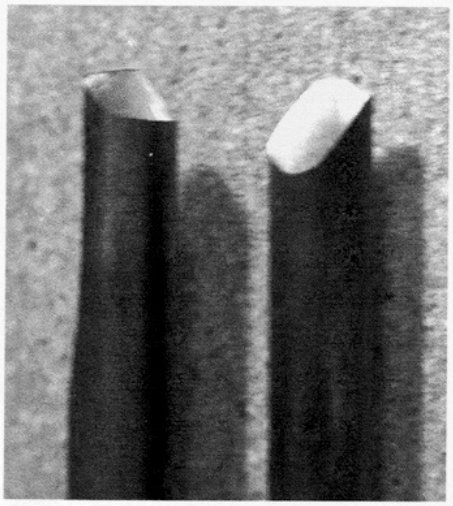
How and why these versatile tools work

JOHN JORDAN

ENGLISH GRIND, Irish grind, Ellsworth grind, O'Neill grind—whatever the term, what we're talking about is the deep-fluted (bowl) gouge with the sides ground back so that the corners are well back of the cutting edge. I won't get into who originated this grind; I know that I didn't. But it has certainly served me well since I learned it from David Ellsworth some years ago.

The advantage of using a grind like this is that there is considerably more cutting edge available, allowing more types of cuts to be made, and with less chance of a catch. The inside and outside of most bowls, and the outside of hollow vessels, can be completed with this one tool alone. Ellsworth routinely does the outside of his oak pots, ending with a tool finish right off the gouge and no sanding. Most of my pieces have a carved or textured surface, but the curves are all faired and smoothed with this tool prior to carving.

The reason for having a deep flute in the first place is that the tip severs the wood at the surface and the wing peels the waste away. The size of the shaving that can be removed is determined by the width of this wing. On a standard-grind $^1/_2$-inch gouge (Photo 1, left) this is around $^3/_8$ to $^1/_2$ inch. On a side-ground gouge (Photo 1, right) the shaving can be as wide as the wing is long, assuming the lathe has the horsepower to cut it. Photo 2 shows a side-ground gouge making a basic, bevel-rubbing cut of moderate size. The surface is cut by the tip and the waste is peeled away by the lower wing.



1. Deep-fluted gouges with a standard grind, left, and a side grind, right.

Photo 3 shows a finishing cut using the vertical wing of the standard-grind gouge. You use this type of cut only if the wood is not cutting cleanly. The shaving goes straight down the edge, which prevents the wood from lifting ahead of the cut—a very efficient cut. The problem is that the trailing corner of the gouge is nearly in contact with the wood. If this contact should occur (Photo 4), the corner will dig in further, resulting in a very nasty catch. In fact most of the catches that novice turners experience are a result of this trailing corner digging in.

Photo 5 shows the same cut using the long wing of the side-ground gouge. The side bevel is rubbing. Note that the corner is now on the bottom and cannot catch. The key to this cut is taking light cuts, since orienting the edge vertically provides no wing to peel away a large shaving.

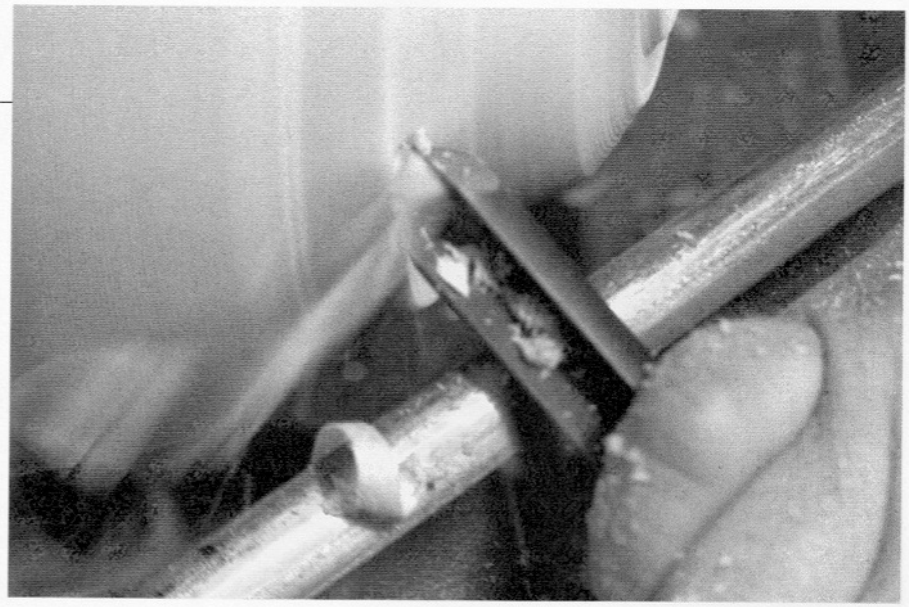
One of the most useful cuts with this grind is the shear-scrape. By using the long edge of the lower wing at around a 45° angle and pulling the tool along, it is possible to remove very small amounts of material wherever needed to refine the shape (Photo 6). Properly done, it will leave a very smooth surface, considerably reducing the amount of sanding necessary. The more horizontal the edge (scraping posture), the more leveling effect it has but the less efficient (rougher) the cut. The more vertical the edge (cutting posture), the more efficient the cut but the less leveling effect it has. Hence, the 45° angle, which represents an effective compromise. The bevel is not rubbing on this cut (or even close) so control is provided by steady, fluid movements.

Since most of my work is turned with the grain parallel to the axis (spindle work), I use the long edge of the wing as a roughing gouge. I present the edge horizontally with the flute pointing up, and pull the tool along. This edge is identical to a shallow roughing gouge, but the flute deflects the shavings up and away. This is the cut that produces the long unbroken shavings several feet in the air that look like so much fun—and are!

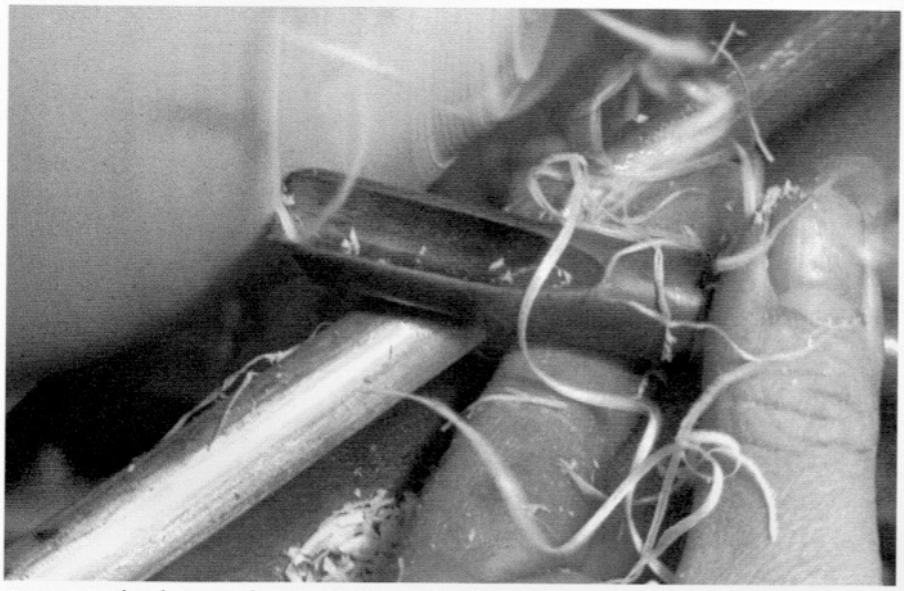
The amount the sides are ground back is a matter of personal preference and use. They must be ground back far enough so a pulling cut such as the shear-scrape is comfortable. The longer the edge, the more leveling effect it has over a larger area and the larger cut it can take. However, most lathes aren't capable of huge cuts, and the longer edge is more work to grind. The gouge pictured in photo 1 is about right for most of my turning.

This is not meant to be a comprehensive look at the deep-fluted gouge and the side grind, but it should give an idea of the possibilities of this versatile shape.

John Jordan is a woodturner/teacher in Antioch, TN. He will be a featured demonstrator at this June's AAW symposium, where he'll be demonstrating methods of sharpening and using the side-ground gouge. These techniques can also be seen in Jordan's videos, Bowl Turning *and* Hollow Turning.

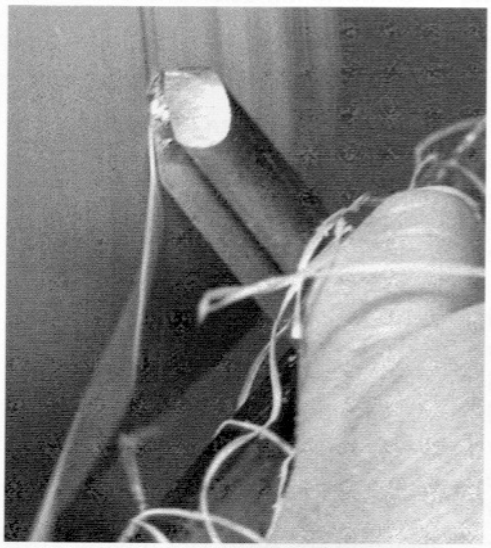


2. A side-ground gouge takes a basic cut, with the bevel rubbing. The tip does the actual cutting, while the lower wing peels away the waste.

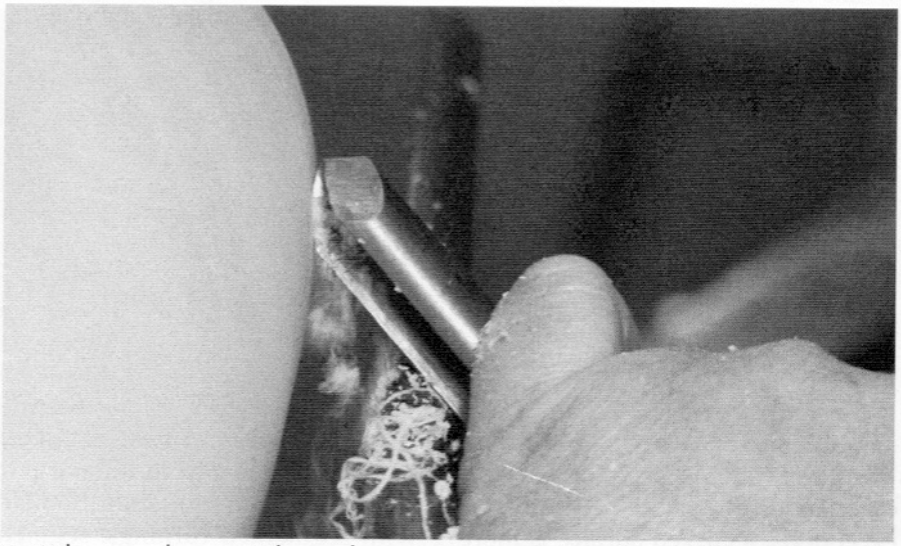


3. A standard-ground gouge takes a finishing cut with the vertical wing.

4. Standard-ground gouge about to catch.



5. Side-ground gouge takes the same cut as in Photo 3, but with no chance of catching.



6. Side-ground gouge takes a shear-scraping cut: the edge at 45° (bevel not rubbing) is a compromise between cutting efficiency and optimal surface leveling.