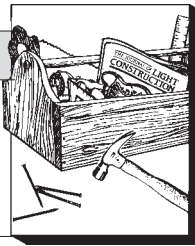


The Lost Art Of Sharpening

by Clayton DeKorne



Sharpening is somewhat of a lost art. Many carpenters prefer to send out all their cutting tools to a sharpening service. I think it makes sense to send out saw blades and power plane knives. But unless you're blessed with a second set of tools, it's much more convenient to sharpen chisels and plane irons yourself.

A set of whetstones should be close at hand on the job site, so you can hone your blades as they're used. If you keep a true edge on your blades all the time, you won't have to make a marathon session out of grinding and sharpening every month, which is what will drive you to the sharpening service.

Grinding and honing doesn't require a whole lot of gadgets or fancy equipment. It does take some practice, but the techniques aren't hard to master. And once you pick them up, you'll never be more than a few strokes away from a razor-sharp edge.

Grinding

A bench grinder is a wonderful luxury but a belt sander will suffice. I use an 8-inch wheel grinder with a 36-grit wheel for all grinding. (I have a wire brush on the other side for cleaning steel parts.) A 36-grit wheel can be used to grind the finest edge, as long as it's honed afterwards. Finer wheels heat up too quickly.

An 8-inch wheel creates a good-sized hollow grind. Smaller wheels will create a smaller diameter curve in the hollow, and the edge won't be as well

supported. A well-supported edge, however, is only important on blades that undergo a lot of stress while cutting. This includes mortising and firmer chisels, framing slicks, and wide plane irons.

When grinding, you have to maintain a consistent angle. I usually match the existing bevel on the tool by resting the edge on the wheel so the entire bevel surface contacts the wheel. Occasionally (once a year) I will check the angle with an adjustable bevel square to make sure I haven't wandered too far from the recommended 25-degree angle for chisels and plane irons (20 degrees for low-angle block planes).

Most grinders have a "tool rest" — an angled piece of steel over the edge of the wheel — which I was taught to use as a fence. With one hand, grip the shank of the chisel or iron, so your fingers press against the fence, as shown in Figure 1. With your other hand, press down on the back of the blade. Find this grip with the grinder off, and then maintain it when grinding.

You have to pull the blade off frequently to cool it in a water bath. But don't change the position of your hands on the blade. Just move your arms to the can of water. As long as you grip the tool in the same position, and rest the side of your first finger on the fence, you will automatically maintain the angle.

Cooling the blade keeps the steel from overheating and destroying the temper. If you don't do it frequently enough you will see an obvious iridescent blue spot, which you will then have to grind past.

On site I have used a belt sander with an ordinary 80-grit belt to grind chisels and plane irons. If the sander is clamped on its back to a bench or stand, you can rest your finger on the back edge of the sander body, much in the same way you would on the fence of a grinder. Just as with dry grinding, you have to cool the blade in a water bath. Keep a

light touch on the blade or you will rip the belt. Klingspor makes a very aggressive *Planer Belt* (available mail order from The Sanding Catalog, P.O. Box 5069, Hickory, NC 28603; 800/228-0000). Planer belts have a super durable cloth backing and zirconium abrasive that will grind a lot of steel before wearing out. (They are also good for removing paint or sanding rough surfaces, particle board, and laminates.)

Honing

For honing, only two whetstones — medium and fine — are needed. You don't have to get too fancy. A block of wood covered with strips of 400 and 600 wet/dry sand paper will do just fine.

Arkansas stone is a more common whetstone. Soft (medium) and hard (fine) Arkansas stone are standards. Black Arkansas is very fine, and is finer than you need for chisels and planes. You can hone a good edge on Arkansas stones, but they cut slower than some manmade whetstones, and clog easily. If you use an Arkansas stone, use lots of mineral oil while sharpening to keep the stone clean.

One fast cutting option is a Diamond Whetstone (Diamond Machining Technology, 85 Hayes Memorial Dr., Marlborough, MA 01752-1892; 508/481-5944). These "stones" have a plastic base covered by a steel screen, which is coated with industrial diamonds. Three grades — fine, coarse, and extra course — are available. For honing, only the fine and coarse are needed. Diamond Whetstones cut very fast with just a small amount of water, and will apparently last indefinitely. But they are very expensive. One 6-inch stone lists for about \$46.

I prefer Japanese waterstones. A 1000/6000 combination stone, which is adequate for honing, costs about \$30. The 1000-grit side is slightly coarser than a soft Arkansas, so it works well to hone a freshly ground edge. The 6000-grit side is a bit finer than the Black Arkansas. This is finer than you need, but the stone cuts so fast, it's easy enough to put a razor edge on a chisel or plane with the 6000-grit.

As you work your blade across the surface of a waterstone, you will create a slurry of stone particles and water. Don't wipe this away. The stone cuts faster and wears more evenly with this slurry. In fact, a special "Nagura" stone can be rubbed across the surface to quickly produce a slurry before honing. Waterstones, including the Nagura stone, are available from woodworking supply houses such as Highland Hardware (1045

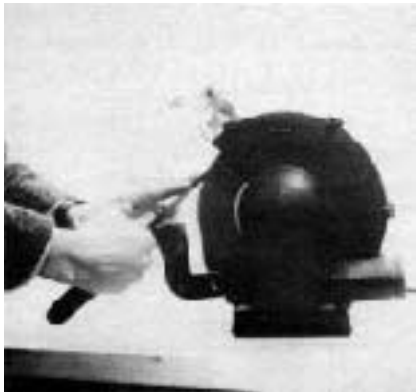


Figure 1. When grinding, maintain the bevel angle by gripping the shank of the chisel with one hand so the forefinger beneath the blade presses against the fence. With the other hand, press down on the back of the blade and maintain even pressure.

N. Highland Ave. NE, Atlanta, GA 30306; 800/241-6748) or WoodCraft Supply (P.O. Box 1686, Parkesburg, WV 26102-1686; 800/225-1153).

You have to maintain a consistent angle on the whetstone, too, which takes a little more practice than it does for grinding, since you don't have a fence to guide you. I haven't ever had much luck with jigs, which either limit the stroke, are difficult to adjust, or don't hold well on all blades. Instead, maintain the angle by holding the tool as shown in Figure 2, with the forefinger of one hand running down the side of the blade and the fingers of the other hand pressing on the back of the blade. Bend at the waist, with the stone at a comfortable height on the bench, and hold your shoulders and body in place. Keep your wrists locked and let your arms do the work. Maintain-

ing your posture will help you maintain the correct angle.

Keep the edge perpendicular to the stone. Only slant the blade if it is too wide to fit on the stone. Your stroke should run the entire length of the stone, as you maintain constant pressure on the back of the blade. The bigger the blade, the more pressure you need. With thin chisels, only a very light touch is needed, or you will gouge the stone. To guard against this, I use the edge of the stone to hone my $\frac{3}{8}$ - and $\frac{1}{4}$ -inch chisels.

Hone on a medium stone, holding the blade at the same angle as the hollow grind, and then hone a slightly steeper (35-degree) angle using both the medium and fine stones. With each grit, hone only until you feel a burr on the back edge. Then "back off" by pressing the back of the blade flat as you stroke across the stone. Keeping the blade at an

angle to your backing-off stroke will reduce the chances of bending the burr to the bevel side of the blade. If this happens, take a few more strokes on the bevel side, and so on, until the burr is gone.

As a final step, wood carvers will often strop a blade on a piece of leather charged with rouge or a gray abrasive powder and mineral oil. But this is overkill for most chisels and plane irons. ■

TOOLBITS

What? No Pattern Marker Again

Here's the scenario: You're ready to cut the hole in a vanity top. The sink manufacturer has thoughtfully provided a pattern for its fixture. It's a good thing, too, because the client chose a sink that isn't round, not even a true oval, but some odd-shaped figment of a designer's imagination. How are you going to transfer that pattern onto the countertop?

You remember having bought a pattern marker — a little wheel with sharp teeth designed to punch through the pattern and transfer it to the countertop. But you left it at home or a helper returned it to the wrong box, the tile man is breathing down your neck, the plumber is due tomorrow, and your client was supposed to move in yesterday.

Here's how I solved this problem: Correctly positioning the pattern on the countertop, I weighed it down so it wouldn't move. Next, I took a jig saw and held it so the tip of the blade just touched the pattern at the bottom of its stroke (see photo). With the saw set at its slowest speed, I proceeded to run it backwards around

the perimeter of the pattern. This produced a neat row of punch marks outlining the sink hole. After removing the pattern, I marked the outline with a pencil so it wouldn't be lost in sawdust as I cut the hole.

The results: A quick, neat job. A surprised and happy tile-installer. And I didn't have to look for my pattern marker, which would probably just get lost again. Of course, I could have cut the pattern out but, whether tracing the outside or the inside of the shape, I find it awkward to draw a neat line. Besides, my scissors were probably hiding out with my pattern marker.

— Neil Momb, Issaquah, Wash.



Figure 2. When honing the blade, maintain the angle of the bevel by holding the tool with the forefinger of one hand running down the side of the blade, and the fingers of the other hand gently pressing on the back of the blade. Keep your wrists locked and let your arms do the work.



In place of a pattern marker, the author uses a jigsaw at slow speed to transfer a sink pattern to a countertop.