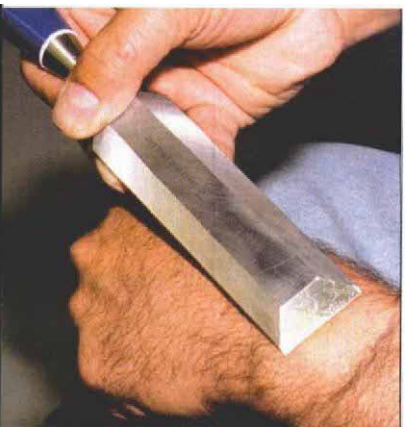
Rules of Thumb

BY MIKE DUNBAR

Sharpness is next to godliness... at least for a woodworker

Working wood is a process of making smaller pieces from larger ones. Smoothing and shaping, peeling away thin shavings, trimming very fine amounts, fitting pieces together—every stage of the process requires cutting wood. To make the cutting job easy and to achieve the best results, you need to use sharp tools.

Few woodworkers would think of running their tablesaw with a dull blade or firing up their router with a bit they knew was as dull as a hoe. As a matter of fact, if their bits and blades weren't sharp, they probably wouldn't even use the tool. They'd put it down because it didn't work right. And this is what happens with a lot of woodworkers, beginners and advanced alike, concerning hand tools. If they don't know how to sharpen the iron of a dull plane, they set the plane back on a shelf, convinced that hand tools just don't work.



Sharpening is a skill that's hard to teach yourself. It is best acquired by working with and learning from someone else, for until you have used a truly sharp tool, you do not know what standard you need to achieve.

Sharpening is a gateway skill. Once you pass through the gateway, unlimited avenues open up to you. But until you pass through the gateway, you are fated to frequently perform some of woodworking's varied tasks in ways that are awkward, difficult and inefficient. Woodworking requires a great deal of precision and control of tools. And without truly sharp tools, precision and control are difficult.

In my chair-making school's literature, students are advised to come to class with their tools tuned and sharpened, as this saves time for their woodworking. One of two things is said to me by almost every one of these students as they begin their work. The first is, "I didn't sharpen my tools because I don't know how and hoped you would be able to show me." Or they say, "I always thought I knew how to sharpen until I used one of your shop tools."

I hear these comments so frequently that I think the vast majority of woodworkers are struggling with tools that are not sharp, and for that reason they are not taking advantage of tools that would be better suited for the job than the ones they are forced to use. As a result, they sacrifice much of the precision they should have while working wood as well as much of the pleasure they should obtain from it.

Sharpening is a skill that's hard to teach yourself. It is best acquired by working with and learning from someone else, for until you have used a truly sharp tool, you do not know what standard you need to achieve. I can tell you that your tools should cut effortlessly, slicing through end grain as a hot knife would cut through butter. The finished surface should glisten and appear waxy, like a bar of soap shaved with a pocketknife. However, it is all meaningless until you hold and use a sharp tool. Only then do you understand your objective.

A sharp edge actually slices wood, leaving the wood's microscopic structure mostly intact, which is why the freshly cut surface glistens. A dull edge—either on a new tool that has only been surface-ground or on an old tool that is nicked and pitted—tears and crushes wood rather than slicing it. Much more effort is required to push (or pull) the tool. The chip breaks into pieces, and these pieces choke the tool. The resulting surface is scarred and rough.

Sharpening is not hard. Avoid anyone who says that it is. You will discover that the process is also rather fast. When

There are as many ways to sharpen as there are to skin a cat. *Sharpening devices are made of many different materials, from man-made ceramic stones to diamond-impregnated steel bars to finely machined natural* stones.

Photos: Jefferson Kolle, except where noted

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There are many sharpening systems. Which system you use is not important. What is critical is creating a truly keen cutting edge: one that has two polished surfaces.

The author uses* sandpaper *and a piece of glass to sharpen his tools. *It's imperative that both sides of a cutting edge get sharpened. Here, the author sharpens the back of a chisel.*

someone claims to have spent a half hour honing a tool, I know that the person does not know how to sharpen.

There are many manual sharpening systems: water stones, oil stones, diamond plates, ceramics, sandpaper on glass. (The latter is used in my shop.) And there are almost an equal number of motorized sharpening systems: electrically powered stones that rotate through a water bath and slow-speed sanding belts. There are almost as many ways to sharpen as there are to skin a cat.

Which system you use is not important. What is critical is creating a truly keen cutting edge: one that has two polished surfaces. You can work one side of a tool for days, and you will not have sharpened it until you also work the intersecting surface. Think of an ax; no one would sharpen only one edge. Polishing replaces scratches in the metal with increasingly finer scratches until the steel has a mirror finish. The scratches on a polished surface are so small they can be seen only through magnification. And the resulting cutting edge is invisible. You can see a dull edge, but a sharp one disappears. While sharpening, look at the cutting edge. If it is visible, more work is required.

Students frequently expect brand-new tools to be sharp and ready to use. They are not. New tools have never been made truly sharp at the factory. No matter what they may claim, manufacturers always expect that you—the woodworker—will prepare the tool for use. I recently bought a 2-in. chisel made by a well-known English firm. The package stated that the tool was sharp and ready to use out of the box. The factory had done a good job grinding the tool to the proper shape. However, it was not sharp. Both surfaces of the cutting edge were coarsely ground with scratches that were clearly visible. They did not even have a matte surface, never mind a mirror polish.

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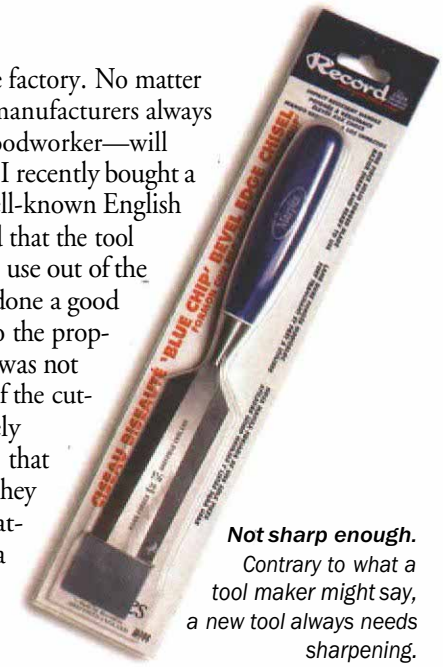


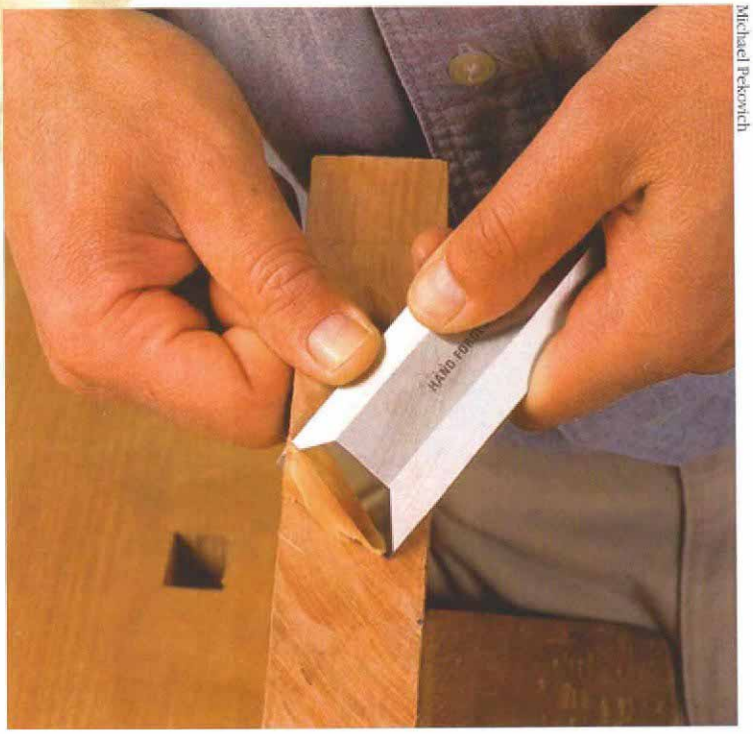
Not sharp enough. *Contrary to what a tool maker might say, a new tool always needs sharpening.*

Rules of Thumb (continued)

prised to discover that their tools are not really sharp own nothing finer than an India stone or a 1,000-grit water stone. These types of stones will produce only a matte finish. They are incapable of polishing steel and creating a truly keen edge. In other words, you have to own the equipment necessary to create the required level of polish, be it an 8,000-grit water stone, a black Arkansas, a fine diamond plate or 2,000-grit wet-and-dry paper (paper uses a different measure of grit than water stones).

A lot of equipment is sold to aid sharpening, but you will be surprised at how little other equipment is needed to produce the necessary polished edge. Be slow to buy such sharpening aids and devices. Wait until you have learned to sharpen, and you will be better able to distinguish what you really need from the widgets and gewgaws,

You'll know when you have a truly keen edge on your tools. You'll feel it in the control you'll have: A chisel will feel like an extension of your hand, and it won't jump across the wood, digging in when you don't want it to. Your spokeshave will slice wisps of wood. And your planes will glide almost without effort, as thin curls slide out of the plane's throat, thin and translucent.



Michael Pekovich

Polished to a mirror surface. *Polishing both surfaces of a cutting edge eliminates minute scratches that will impair the edge's ability to sever wood fibers. Cutting end grain on old, dry cherry is a test for any edge.*