



Japanese chisels have a concave back, which makes them easier to flatten. Regular flattening prevents the hollow from reaching the cutting edge.

Japanese Chisels

With proper preparation, these tools take and hold a superior edge

by William Tandy Young

I have a passion for chisels. But when I first encountered Japanese chisels, I wasn't interested in them, despite the rave reviews. They were expensive and upkeep seemed too bothersome. Besides, how superior could they be to my Western chisels?

I eventually gave in to my curiosity about Japanese chisels and tried a few of them (see the photo on the facing page). For once, the tool hype is true: The laminated steel blade of a Japanese chisel takes and holds an astounding edge. The distinctive hollow in the back of the chisel reduces its surface area, which makes it easy to flatten the tool quickly and precisely.

Japanese chisels are compact and hefty. They're ideal for striking with a hammer, and they allow you to keep your hands close to the work.

They have a comfortable, balanced feel and offer superb control. Japanese chisels raise trimming and chopping to a more refined, intimate level.

Now I work regularly with both Western and Japanese chisels, and I wouldn't want to be without either. By adding Japanese chisels to your tool kit, you can bring hand-tool performance to a new level. One word of warning, though: If you choose unsuitable Japanese chisels or you prepare them poorly, you will be disappointed.

Shop-worthy chisels

Though Japan is famous for high-quality goods, it also produces lots of cheap, inferior merchandise—chisels included. I have a few low-quality Japanese chisels that are brittle and unpleasant to work with. I wouldn't recommend them to



Remove the factory coating from blade and handle. Soak new chisels in lacquer thinner.



Hammer the hoop squarely on the handle using a slightly larger hoop as a driving ring.



Carefully mushroom the end—Using a household iron, the author steams the handle butt. With glancing hammer blows, he peens the end as he rotates the chisel.



Completed handle butt—After peening, the end of the handle should be a neat, shallow dome that feels comfortable in your palm.

anyone at any skill level. Even if you're just starting out, try to get decent chisels so that you'll always enjoy using them, no matter how experienced you become.

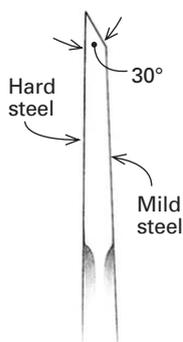
Quality can be a hard thing to figure, though. From rare and exotic to common and cheap, Japanese tool quality is wide-ranging. It's hard to keep track of all the various names, steels, forging methods and toolmakers' reputations.

Japanese wholesalers and exporters add to the confusion by routinely changing the brand names of tools. The same Japanese chisel might be sold under several different labels in the West. That's why it's best to buy Japanese chisels from knowledgeable specialty dealers (see the sources box on p. 61). Get their help in matching a good-quality tool to your skill level and the type of work you do. Large Western

GRIND AND HONE THE BEVEL



Grind the bevel to 30°. Use a jig and a flat waterstone grinder or a disc sander.



Once the bevel is re-established, hone the bevel on progressively finer waterstones. Keep pressure more toward the tip where the harder steel of the blade is.

tool retailers that sell Japanese tools as a sideline may not know much about them.

You also can ask woodworkers experienced with Japanese chisels for their suggestions. The ones I talked with steered me away from both the cheap chisels and the most expensive ones. They suggested basic, professional-grade chisels, made of durable, good-quality steel and plain oak handles, and common blade shapes. These everyday chisels, called *oire-nomi*, are great all-purpose tools, excelling at everything from musical-instrument making to timber-frame carpentry. They stand up to rugged use better than many of the more precious Japanese chisels that have ebony han-

dles and ink-patterned, hand-hammered blades.

The first time that I ordered some *oire-nomi* chisels (expect to pay from \$15 to more than \$25 apiece for decent ones), there was a handwritten note at the bottom of the invoice that said, "These are simple, but tough." I knew I had bought the right ones.

Getting a Japanese chisel ready for use

Like many hand tools, Japanese chisels usually aren't ready to use right out of the package. Before I began tuning up my chisels for the first time, I sifted through all the advice that I had read or heard and then worked out the methods that follow. They may not be tradi-

tional, but these methods will help you get the best performance from your chisels.

Remove the coating—The first thing to do with new Japanese chisels is strip off the thick, protective coating. Soak the chisels in a container of lacquer thinner for a half hour or so (see the top left photo on p. 59). Remove each chisel, and slip the metal hoop off the top of the handle. Wipe the residue from the hoops and tools with thinner and a rag. Use a respirator and gloves, and exhaust the fumes while you do this.

Seat the handle hoop—After the coating has been stripped off, the hoops need to be driven onto the handles to seat them firmly in place. Japanese chisels usually are struck with a steel hammer for chopping cuts. A well-seated hoop prevents the chisel handle from splitting under such pounding. If any of the hoops have ridges or burrs on the inside that would prevent them from seating properly, file them smooth first.

The handles and hoops are paired in graduated sizes to correspond with blade widths. If you start with your smallest chisel, you can use the hoop from one of the larger chisels as a driving ring to seat the smaller hoop. You could also use a piece of pipe or an electrical coupling. With the tip of the blade pushed into a scrap block on the benchtop, hammer the hoops onto the handles (see the top right photo on p. 59). Seat the hoops so the handle protrudes about 1/16 in. If a hoop won't seat down on the handle that far, pull it off, and sand or scrape the handle slightly. If a hoop seats too far down the handle, carefully sand the excess handle end.

Peen over the butt—Once the hoops are seated, I secure them by peening over the handle ends. This can be tedious, but the tool handles will be

more durable and pleasant to grip. The end grain of each handle has to be softened so that you can hammer it into a dome. Dab the handle end lightly with water (don't submerge the hoop), and then touch it on a heated, inverted clothes iron for a few seconds. The heat and steam will soften the fibers.

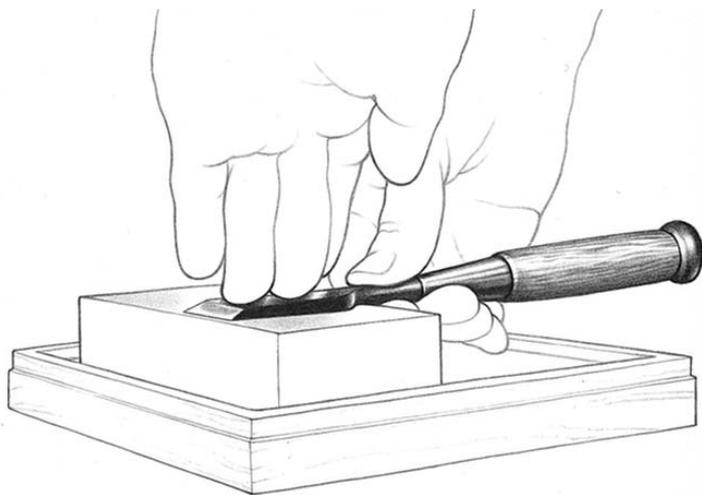
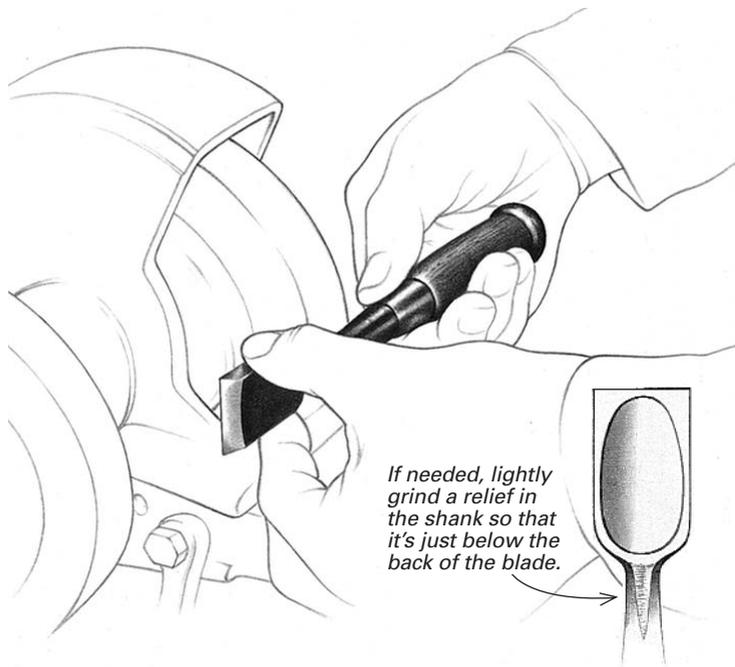
Jam the blade back into your wood scrap on the benchtop, and then start mushrooming the handle end evenly with light blows of a framing hammer (see the center photo on p. 59). Rotate the chisel as you go, and try to draw the wood from the center of the handle out to the edge with each stroke. Reheat the end of the handle often so that you can shape it neatly into a dome (see the bottom photo on p. 59) without mashing it into a pulpy mess. Let the peened-over ends dry out, and then give the handles two or three coats of Waterlox or Behlen's Salad Bowl oil.

Reshape the bevel—Most Japanese chisels have a bevel angle that's too low for kiln-dried hardwoods (about 25°). Re-establish the angle to about 30° (see the photo on the facing page). The exact bevel angle depends on the chisel and the kind of work that you do. The best guide is to raise the bevel angle until the edge no longer nicks or crumbles as you work.

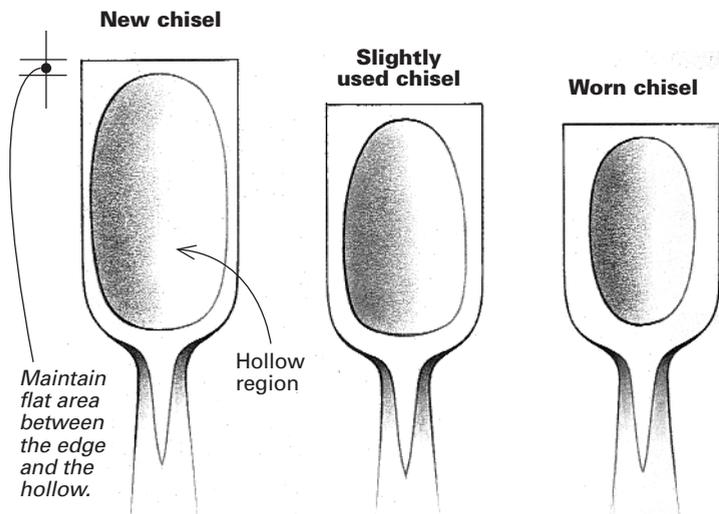
When you are changing the bevel angle, remember that Japanese chisels work best when the bevel is kept full and flat. Don't hollow grind the bevel, hone a micro-bevel or use other typical Western tool-sharpening methods. The Japanese chisel blade is a sophisticated sandwich of hard and mild steel. The hard, delicate edge steel on the back of the blade needs the full support of the mild steel behind it for durability.

Hone the edge—After shaping the bevel, hone it on water-

RELIEVE THE SHANK, AND FLATTEN THE BACK



Flatten the back on waterstones, working the blade at a right angle to the length of the stone. Start with coarse stones (220 or 400), and then follow with finer ones (700 and higher).



The back of a Japanese chisel should be flattened initially and redressed periodically. Each time the back is flattened, the thickness of the blade is reduced, so the hollow shrinks and never reaches the cutting edge.

stones. I don't use a honing jig because some blade shapes aren't suitable for jigs. Instead, I use a two-hand grip (see the drawing on the facing page). With practice, it's not that hard to keep the ample bevel of a thick Japanese chisel blade riding flat on a sharpening stone. It's also not tedious because Japanese waterstones cut fast. I begin with a fairly coarse stone and quickly proceed through progressively finer grits. While honing, focus pressure toward the tip of the blade. (Waterstones abrade the mild steel at the rear of the bevel faster than the hard steel at the tip.)

Dress the blade back—You have to flatten the back of a Japanese chisel blade before you use it. And you should redress the back from time to time to maintain a cutting edge. Before flattening, check the back of the shaft above the blade. It should be flush with the back or slightly shy of it.

The shaft often is left proud by the maker. This hinders the accurate flattening of the blade back and restricts the range of the chisel. If the back of the shaft is proud, relieve it until it is barely shy of the blade back

(see the top drawing at left). You can use a power waterstone wheel, a bench grinder or a 1-in.-wide belt sander, but don't touch the blade area itself. Relieving the shank slightly will not weaken the tool.

Hone the back of the blade until it's flat, starting with a coarse waterstone (220 or 400), followed by finer stones (see the center drawing at left). Rub the back on stones until the blade has an even, polished appearance overall.

Make sure that the hollow is encircled by a continuous rim of honed steel. This is critical at the tip of the blade, where repeated sharpening or bevel re-shaping can cause the back of the cutting edge to recede into the hollow area. If this happens, hone vigorously, beginning with your coarsest stone, until you re-establish a complete, flat rim of steel around the hollow (see the bottom drawing).

Once both sides of the blade are honed and brightly polished, lightly oil the blade with camellia oil or mineral oil. □

William Tandy Young is a furnituremaker and conservator in Stow, Mass.

Sources of supply



Aqua Sharpening Stone and Tool, Inc.,
819 Stannage Ave.,
Albany, CA 94706;
(510) 525-8948

Hida Tool and Hardware,
1333 San Pablo Ave.,
Berkeley, CA 94702;
(510) 524-3700

The Japan Woodworker,
1731 Clement Ave.,
Alameda, CA 94501;
(800) 537-7820