

Setting up your new Japanese chisel

PREP WORK AND SHARPENING ARE DIFFERENT WITH LAMINATED STEEL

BY JOHN REED FOX

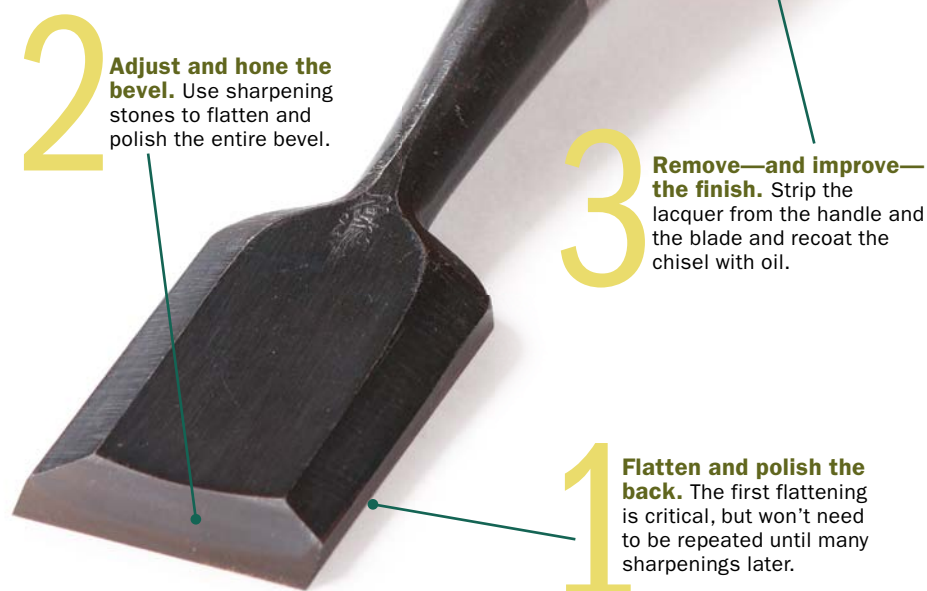
Japanese chisels come in what Westerners might think of as rather unfinished condition. Setting the hoop, creating the appropriate bevel angle, and flattening the back of the blade are left to the craftsman. I also strip the finish from the handles and blades of new chisels and replace it with a coat of oil. (For the rest of the story on these unmatched tools, see “Choosing and Using Japanese Chisels,” p. 60.)

Flatten the back

I begin setup by flattening the back of the blade. Unlike Western chisels, Japanese chisels have laminated blades: A thin layer of tough, high-carbon steel that can take a very sharp edge is fused to a thick layer of more malleable,

Four steps to a tuned-up tool

With its laminated blade and hooped handle, a Japanese chisel is built differently than its Western counterpart. And by tradition, a new Japanese chisel arrives with a fair amount of setup left to the individual craftsman.



4 Reset the hoop. Remove the hoop, file it smooth inside, then replace it and mushroom the top of the handle.

2 Adjust and hone the bevel. Use sharpening stones to flatten and polish the entire bevel.

3 Remove—and improve—the finish. Strip the lacquer from the handle and the blade and recoat the chisel with oil.

1 Flatten and polish the back. The first flattening is critical, but won't need to be repeated until many sharpenings later.

1. Flatten and polish the back

First flattening. Holding the chisel perpendicular to the long axis of a 2,000-grit stone, apply medium pressure on the area just behind the bevel.

It's essential that your sharpening stones are flat. For years I used King waterstones and flattened them with coarse sandpaper on granite. But 10 years ago I switched to Shapton stones, which are harder, cut faster, and stay flat longer. I use Shapton's diamond plate to flatten them.

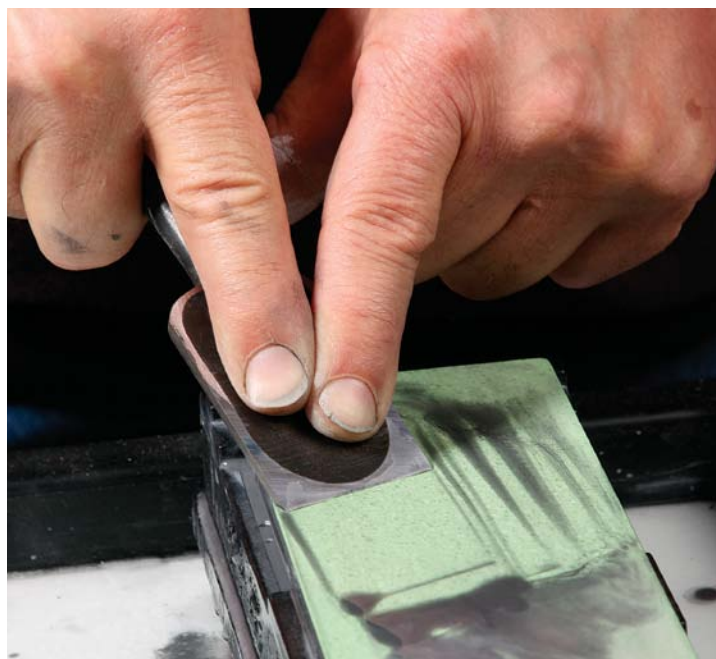


Make it flat around the hollow. The back of the blade is hollowed to make flattening easier. It's critical to flatten the front edge and most of the way up the sides, but not necessarily all the way up the back.

2. Work on the bevel

LOCK IN THE ANGLE

The bevel comes roughly prepared. But it needs help. Use sharpening stones—freehand (below), or with a honing guide—to adjust the bevel angle and flatten the bevel. To maintain a consistent stroke when freehand sharpening, be sure the chisel's handle is seated against your upper palm (right).



Check the new angle. Because the blade is mostly soft iron, altering the bevel angle on sharpening stones is fairly quick. Fox uses angle blocks to check that his new bevel is accurate.



HONE THE ENTIRE BEVEL



No microbevel on this blade. As you work through the finer grits, continue smoothing the whole bevel (left). A microbevel or hollow grind is not recommended on a laminated blade, as they reduce support for the brittle cutting edge. Hone the back with each grit (right) to remove the burr.



A good test for sharpness. You have a sharp chisel when you can make clean paring cuts in the end grain of softwood.



DON'T WORRY!

You may find that a Japanese chisel's edge chips easily at first. This is because it is difficult to fully harden the very tip. After several sharpenings, you'll be into fully hardened steel.

Prevent rust. Coat the blade immediately after sharpening with a rust preventer like camellia oil.

3. Prep the handle



Knock off the hoop.

Use a flat-sided hammer to remove the hoop. If you are working on more than one chisel, keep track of which hoop belongs to which chisel. Then use lacquer thinner to strip the finish from the handle and blade. Use a scraper if needed to finish the job, then apply a coat of oil.



Fine-tuning the hoop.

File away any burrs inside the hoop that might cut the handle's wood fibers. Then ease the inside edges at both ends of the hoop. The top edge should be a distinct chamfer, which will allow for a smooth mushrooming of the handle.



shock-absorbing iron, which comprises most of the blade. The thin layer of steel on the back of the blade is the critical part of the tool, and it is hollowed out to facilitate flattening.

When flattening the back, the goal is to get the edges surrounding the hollow flat and highly polished. While the area along the front edge must be completely flat, it is not necessary to have 100% of the area up the sides perfect. Just flatten enough area so that the back will lie flat on your stones and will serve as a flat reference surface when you are using the chisel. I start on a 2,000-grit stone and proceed through the finer grits.

Once the back is flat, you will not have to repeat the flattening process until you have sharpened the bevel so many times that it threatens to intersect the hollow. At that point, using a coarse stone will effectively move the hollow up the blade. For day-to-day sharpening, you'll just hone the back with your finer stones. If you work the back regularly on coarse stones, you will eventually wear through the layer of high-carbon steel.

Create the bevel

With the back flat, it's on to the bevel, which comes roughly shaped. Because of their laminated construction, Japanese chisels should be sharpened to a flat bevel, never hollow ground. The thin layer of hard, brittle steel depends on the backing provided by the iron body of the chisel for support. Hollow grinding, especially on a small wheel, removes supporting material where it is most needed and may cause the edge to break.

Because most of the blade is made of relatively soft iron, the bevel can be adjusted or honed quickly using sharpening stones only. I start with a 1,000-grit stone and make my way up through 5,000, 8,000, and 10,000. I find that for working domestic hardwoods, and even harder exotics like bubinga and rosewood, a bevel angle of 30° works well. If I am working soft woods like Alaskan cedar or Douglas fir, I might sharpen the bevel to 25° or 27°. The

4. Set the hoop

TIP GETTING A GOOD FIT



Hammer, don't file. If the fit is tight, try hammering lightly with the handle against a hard surface.



In case it's overlong. If the hoop seats down too far on the handle, you can saw off the end of the handle, leaving $\frac{1}{16}$ in. showing.

brittle cutting edge needs full support, so microbevels are not recommended either.

Set the hoop

The metal hoop encircling the end of a Japanese chisel acts as a retaining ring, enabling you to strike the chisel with a metal hammer without splitting the handle. Setting the hoop—adjusting its fit and mushrooming the wood to lock it in place—is another task left to the craftsman.

Start by removing the hoop. If it's tight, tap it off with a flat-sided hammer or a punch. If you want to remove the lacquer finish, this is the time to do it. I strip the



Set it with a socket. Use a socket (or a piece of pipe) just larger than the chisel's handle to direct your hammer blows to the hoop. After the hoop is hammered down, about $\frac{1}{16}$ in. of the handle should be showing above it.



Make a mushroom. Use light hammer taps with a pulling motion while gradually turning the chisel to create an even mushroom shape that will hold the hoop securely in place.

handle and blade with lacquer thinner and wipe on a coat of camellia oil.

After smoothing the inside of the hoop with a round file and easing the chamfers on either end, test the fit to the handle. The inside of the hoop is slightly tapered to mate with the handle, so it will fit better one way than the other. It should be a very tight press-fit most of the way on but require a hammer to get it fully seated. In the end, you'll want $\frac{1}{16}$ in. of the handle showing above the

hoop. Drive it on by striking the hoop but not the handle (difficult), or by using a socket just larger than the handle to direct the blow (easy). Then, with the hoop seated, lightly hammer around the end of the handle to bend the wood fibers and lock the hoop in place. Using light strokes and a pulling motion, form a nicely mushroomed top and you're ready to put your new chisel to work. □

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