Get sharp quickly. *Putting an edge on plane irons and chisels can be less time-consuming if you set aside the honing guide and hone freehand.*

Cut Your Honing Time in Half

Freehand technique is much faster than jigs and guides

BY HENDRIK VARJU

If it weren't for commercial honing guides, many a modern woodworker would have a tool chest full of dull chisels and plane irons. Those little clamp-and-roller devices make it easy to hone a blade by holding it at a consistent angle while it's pushed across a flat sharpening stone. The trouble is, honing guides add time to the sharpening process. And even though sharpening is time well spent, it's also time not spent woodworking. That's why I hone my chisels and plane irons freehand.

By setting aside the "training wheels" of a honing guide, I can work my way quickly through a half-dozen chisels and three or four plane irons in a single session. Working freehand allows me to move from the bevel side to the flat side of each tool—or to switch tools entirely—without setting up or removing a guide. In the same fashion, I can move from one grit to the next without slowing down.

The key to successful honing is maintaining a consistent angle so you can be sure each successive stone is reaching the very tip of the tool. A few basic techniques will help you maintain that angle without the help of a jig, cutting your sharpening time in half.

Choose a thick iron or a wide chisel for your first effort

At any given bevel angle, a thicker blade will have a longer bevel than a thinner one. This makes a thick blade much easier to balance during freehand honing. I suggest practicing at first with larger chisels, say 1 in. wide, and thicker plane irons. Once you perfect the techniques, move on to smaller chisels (say, ¼ in.) and thinner plane irons.

If you're sharpening a new chisel or plane iron, your first step should be to lap the back of the tool flat using medium- and fine-grit waterstones. Chisel blades should be dead flat on the back for at least the last inch or so before the tip; plane

A curved stone cuts a curved surface. *A grinding wheel creates a concave bevel at the tool's tip.*

Secret of success: hollow grinding

In my experience, a hollow grind on a blade's bevel is critical for honing freehand. A flat bevel rocks too easily, forming a convex shape that is nearly impossible to hold consistently against the stone. In contrast, a concave bevel has two contact points, so it is easy to maintain the correct angle (see facing page).

When honing freehand, the grinding and honing are done at the same angle. I prefer a 30° angle for most of my plane blades and chisels. I use a slow-speed, wet-wheel grinder and a tool rest that adjusts easily to the proper angle. The smaller the wheel, the deeper the hollow. I like the 6-in. wheel on my grinder. If you use a dry grinder, work with a light touch and pause often to cool the tip. (If the steel overheats and discolors, it won't hold an edge.) Continue to grind until the fresh surface reaches the whole bevel.

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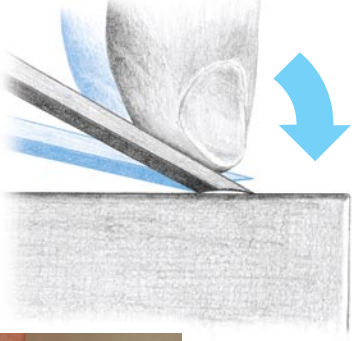
Hone the bevel



The hollow creates a stable platform. *Start by resting the bevel's heel on the stone (left), then rock forward (lower photo) until the tip makes contact as well.*

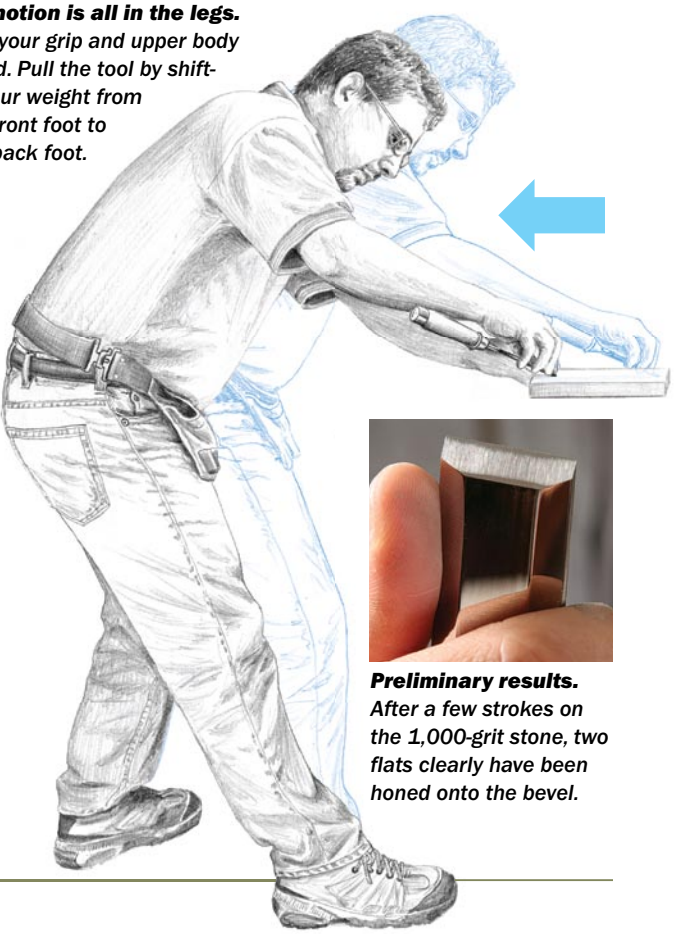
irons should be flat and smooth near the cutting edge.

After hollow-grinding the bevel on a chisel or plane iron (a crucial step, see facing page), it's time to hone. I use aggressive Norton waterstones, but oilstones or sandpaper on glass or granite also works. I start with a 1,000-grit stone, followed by 4,000 and 8,000 grits. Make sure the stones are flat before you start. I flatten stones by rubbing them against a 220-grit waterstone that I flatten on glass with silicon carbide powder.

Hone on the pull stroke—Place the bevel on the far side of the sharpening surface, heel down. Rock the bevel forward until you feel the tip touch as well. The hollow grind creates a concave surface that has two contact points on the stone: tip and heel. So it is easy to feel when the blade is sitting properly.

For best support, hold the blade with one or more fingers directly above the bevel area on the flat side. Also, hold the blade at an angle to the stone's long dimension—as much as 45°. This increases the contact area's footprint in the direction of travel, making it far easier to balance as you pull the

Hone on the pull stroke. *Maintaining the angle is easier this way, and prevents digging the edge into the stone. Keep one finger pressed directly over the bevel, and skew the edge 45° to the direction of travel.*



The motion is all in the legs. *Keep your grip and upper body locked. Pull the tool by shifting your weight from your front foot to your back foot.*

Preliminary results. *After a few strokes on the 1,000-grit stone, two flats clearly have been honed onto the bevel.*

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Remove the burr

Hone the back on the push stroke. *Again the tool is skewed to the direction of the stroke. This helps prevent the trailing edge of the tool from lifting off the stone.*

Come to a complete stop. *Don't lift the tool from the stone until you're done pushing forward. Otherwise you risk creating a microbevel that will complicate further honing.*

tool. When pulling the blade toward you, concentrate on locking your wrist, elbow, and shoulder in one position. Changing any of these angles during the stroke is likely to pull one contact point of the tool (usually the heel) off the surface. Instead, pull the tool toward you by leaning back with your upper body and shifting your weight in the process from your front foot to your rear foot.

Also, be sure to come to a complete stop on the stone before lifting the tool off the surface. Lifting the tool while still moving is a sure way to create a convex tip.

Use all of the stone to keep it from wearing unevenly. Take one stroke on the far left side, one in the middle, one on the right, and so forth. After a few strokes (usually only three to five with my waterstones), take a close look at the bevel. You may see a few remaining burrs on the tip if you removed much metal while grinding; don't worry about these. The key is that you should see a narrow band of flattened, polished metal at both the heel and tip of the bevel. The breadth of these bands is less important than making sure that the honed area reaches the edge. If in doubt, take a few more strokes. Avoid removing more metal than necessary, though; the goal is an edge that can be honed several times before you need to hollow-grind the tool again.

Don't forget the back—Before moving to the next grit, hone the flat back of the tool. This time, start at the near side of the stone and push the tool away from you.

On the push stroke, any burrs created by grinding and honing the bevel side are forced under the tool, cutting them off with

Subtle changes when honing a plane iron

A wide iron requires a different grip. *Apply pressure at the edge with your index and middle fingers. Use the same stroke as with the chisel.*

Honing a cambered iron. *A plane iron with a slightly convex cutting edge won't leave corner tracks in a wide panel. Use both fingers to concentrate pressure on each corner in turn for several strokes. Don't lift the opposite corner.*

The results. *After honing on a 1,000-grit stone, a cambered iron shows an undulating pattern that comes from increased pressure at the corners.*

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Is it sharp?

Two easy tests. *A keenly honed chisel will cleanly slice the hair from your forearm (right) or take a thin layer of end grain from a piece of pine (below).*

Ribbons of cherry are the prize for a sharp iron. *Hollow-ground and honed freehand, the blade in this No. 4 bench plane yields thin, wide, continuous shavings.*

just a few passes. In contrast, pulling the tool toward you folds these burrs back onto the bevel side, and you'll need more strokes to remove them. There's no need to lock your upper body as you did when honing the bevel; it is relatively easy to keep the blade's back flat on the stone, especially if you hold the blade on an angle to the path of travel. Holding the blade perpendicular to the long dimension of the stone can result in rocking, which leads to a convex back.

Also, avoid lifting the flat side of the blade off the stone while it's still moving. Doing so puts a microbevel on the blade's tip. This won't stop the blade from cutting, but it will effectively halt the process of honing the back. In future honings, you'll assume the tip is touching the stone on the back when it is, in fact, above the stone's surface.

To prevent this error, first come to a complete stop at the end of each stroke. Then lever the blade off of the surface by pushing down on the portion of the tool that's hanging off the edge of the stone. When I'm honing the flat side of a chisel, you'll hear the handle tap on the table next to the stone as I do this.

After a few strokes, feel the back with your finger, rubbing toward the tip to check whether the burr from honing the bevel side is gone. Once there are no remaining burrs on the back, you're ready to move to the next grit.

I then repeat this short process on my 4,000-grit stone, honing both bevel and back to reach an acceptable level of sharpness for most work. Repeating on 8,000-grit will bring the cutting edge to razor sharpness that will shave hair off your arm. Save this for plane irons and for working end grain with any tool.

A fresh edge is tops. *The iron on top is freshly hollow-ground and honed, ready for use. The iron underneath has been honed repeatedly until the hollow grind has all but disappeared. It is ready to be reground.*

Back to the grind

When your tool's edge gets dull, you'll begin to see small nicks or a tip that reflects light at its very edge (meaning it is slightly rounded). To get a fresh edge, repeat the above steps without the hollow grinding. At some point, though, you'll need to return to the grinder. This is because each time you hone a tool, you expand the polished, flattened surfaces at both the tip and the heel, filling in the hollow between them and leaving too much metal for your finest stones to handle.

Narrow chisels and thinner plane irons will need hollow grinding more often as the shiny areas at tip and heel will meet after fewer honings, but some of my larger blades can be honed many times in between grinding sessions. As long as some of the original hollow grind is left, I keep honing without regrinding. But once the two shiny areas meet, it's time to go back to the grinder and establish a new hollow. □

Hendrik Varju is a fine furniture designer/craftsman who operates Passion for Wood near Acton, Ont., Canada.

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