Sharpen and use a curved scraper

BY PETER GALBERT

Sharpening kit. *Used with a file and diamond hone, Galbert's jig quickly prepares the edge of a curved scraper.*

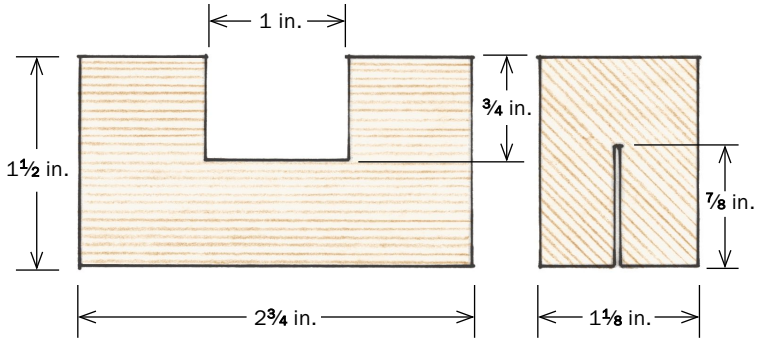
The card scraper is an indispensable tool in my shop. I was introduced to it as a tool for refining flat surfaces, but I now use it more as a shaping tool to fair curves and dial in complex shapes on chair seats. The soft metal is easy to grind to a curve, and with a simple shopmade honing jig I can maintain a high level of sharpness across the curved edge with speed and repeatability.

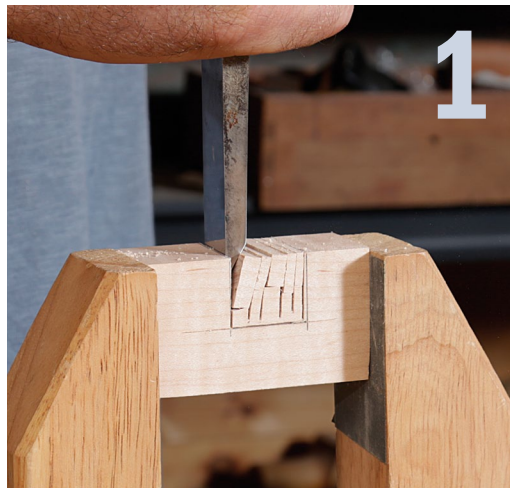
The cutting edge of any scraper, straight or curved, is a slightly deformed 90° meeting of the flat face of the tool and the edge. While much is said about "turning the burr," the real attention should be paid to establishing a perfect right-angle relationship between the face and the edge. If these surfaces meet at a sharp 90° angle, the scraper will take a good shaving even without a burr. Adding a burr improves the cutting action from good to beautiful. But if there is any rounding of the underlying edge, there will be little hope for success, regardless of your efforts with the burnisher.

Another important factor, besides having a sharp corner where the surfaces meet, is the condition of the surfaces. When you joint the edge with a file, you'll attain the correct geometry, but the edge will have grooves left by the file. This might be acceptable for rough work, but the scraped surface will

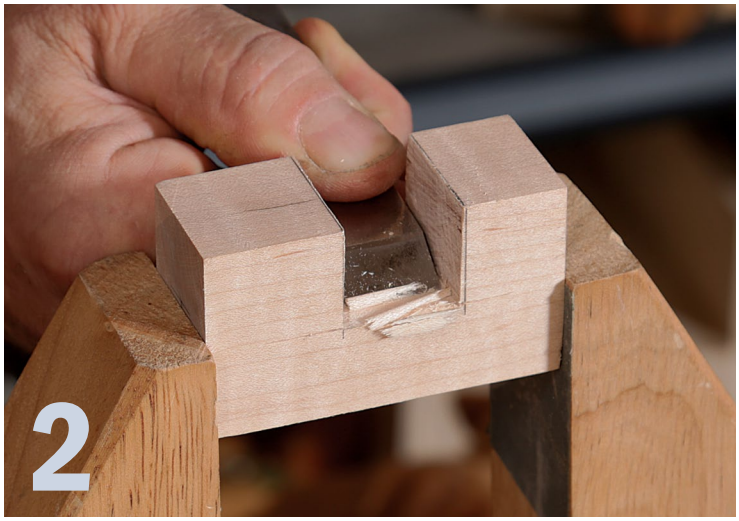
Photo, bottom left, and drawings: Michael Pekovich

Make a honing jig





Rough out the notch. *To create the jig's notch, start by cutting a handful of kerfs, then chisel out the waste.*



Pare the floor. *Use a wide chisel to flatten the bottom of the notch (above). Check with a square to be sure you pare the bottom of the notch 90° to the sides of the jig (right).*

have lots of small scratches. Refining the edge with a diamond hone will yield a smoother surface and a cleaner cut.

Making a curved scraper is simple: Draw a curve on the flat face of a scraper and grind to it. Take care not to let the heat build to the point where the edge blues. Overheating will soften the metal and reduce the life of the edge. After grinding, polish the flat faces on a freshly flattened stone or with fine sandpaper on glass. Then it's on to filing.

Once you've made the honing jig (above), put a sharp fine file in the notch and pinch the file against the bottom of the notch. Skew the file so it cuts on the diagonal. Insert the scraper in the slot and draw the jig toward you using very light pressure. If the edge has been burnished previously, the metal will be compressed and hard, and it may take a few strokes to reach the softer metal beneath. Small curly shavings will peel off the edge when you are through the tough stuff.

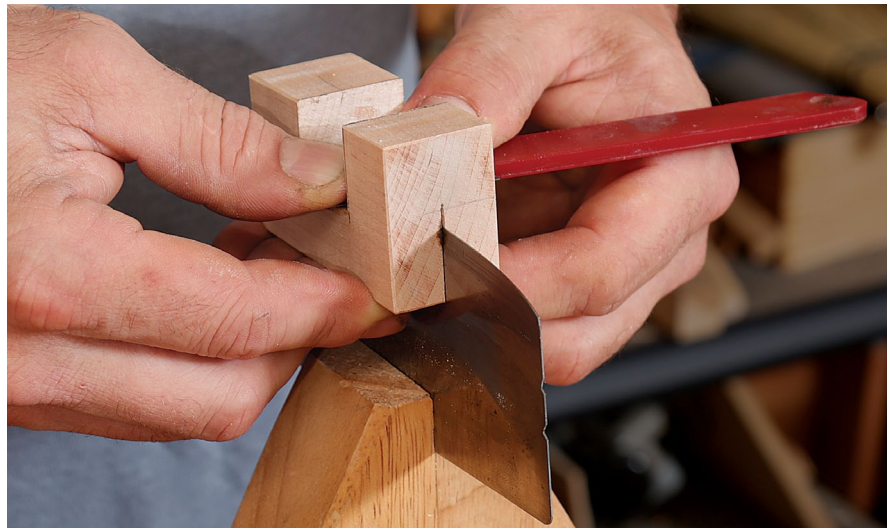
To refine the edge further, use the jig again, but now with a fine diamond hone. Then, with the scraper laid flat, use

One slice for the scraper. *Flip the jig upside down and cut a kerf to fit the scraper. The fit should be snug but still allow the jig to slide freely on the scraper.*

Photos, except where noted: Jonathan Binzen

Honing time

File comes first. *With a fine file held flat to the bottom of the notch and at a skewed angle, cut by drawing the jig and file toward you (left). Use a light touch. When you've filed into fresh metal you should be creating curly strands of steel (above).*



Oil and diamonds. *After filing the edge square, Galbert uses a fine diamond hone lubricated with camellia oil to create a super-smooth surface.*

Final flattening. *Use the fine diamond hone to flatten the face of the scraper, being careful never to tilt the hone. Then hone the edge again.*

the diamond hone on both sides, and use it on the edge once more with the jig.

Now turn the burr. Lay the scraper flat on a hard surface, press an oiled burnisher flat on the side, and take several passes. This step points the burr toward the edge. Next hold the scraper with the cutting edge up and position the burnisher 90° to the face. Draw the burnisher down the edge. On the next pass, tilt the burnisher a degree or two toward the side you are sharpening. It's the pressure of the tool, not an extreme angle, that turns the soft metal to a burr. Once you feel a tiny burr along the entire edge, stop and test the tool.

When this burr becomes dull, you can turn a new one. In subsequent burnishings the soft material will get harder, making a burr that lasts longer, but at some point it will get too difficult to distort into a fresh burr and the process must start again with the file to remove the hardened material. □

Peter Galbert is author of A Chairmaker's Notebook *(Lost Art Press, 2015).*

Create the burr

Turn a burr with a burnisher. *Using firm pressure and a few drops of oil, press a burnisher across the face of the scraper (above). Then hold the scraper upright and, using moderate pressure, draw the burnisher along the edge to create a burr (right). The burnisher should be tilted just slightly downward toward the side that is getting the burr.*

Now put it to use

Stand up straight. *Galbert finds the optimal scraping angle by starting at 90° to the work and gradually tilting the scraper into the direction of cut until he gets a shaving. It should still be nearly vertical when you are cutting.*

All thumbs. *For best control keep your thumbs right at the work surface. Push forward, not down into the work.*

Skewed logic. *Like other hand tools, the scraper cuts cleanly when the strokes are diagonal to the grain.*

Online Extra

To see Peter Galbert's sharpening process, watch the video at **FineWoodworking.com/271.**