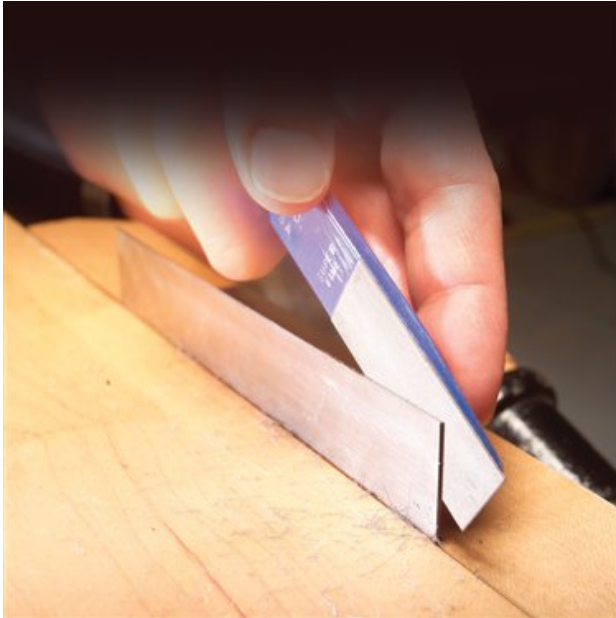


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Foolproof Scraper Sharpening

Make shavings like a pro with our new sharpening method.

By Tom Caspar

Scraping is quiet and efficient.

It's perfect for removing milling marks and shallow tear-out. I couldn't believe my eyes the first time I saw John Erickson, the woodworker I apprenticed with, scrape a piece of walnut. How could a mere piece of steel work so quickly? John didn't have to go through five grits of sandpaper to get a smooth surface. He'd take a board right from the jointer, scrape a few strokes, lightly sand with the finest paper, and that was it!

I was only a young apprentice in his shop. When it came time for me to sharpen my own scraper, all I got was dust, not those long shavings John made. How did he do it?

Although the old man never shared his sharpening system with me, I've developed my own approach using some modern twists. The best thing about it is that anyone can get great results. Once you get the hang of it, you can put a fresh edge on a scraper in five minutes, tops. All you need is some basic sharpening equipment, the world's simplest jig (a plain stick with one beveled side), a vise on the front of your bench and the patience to take the process one step at a time.

What you need

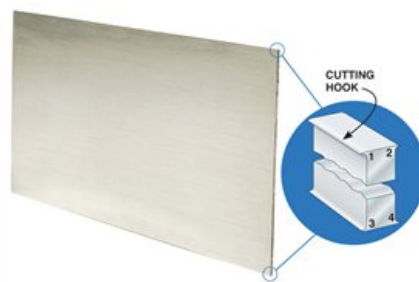
The Scraper

A card scraper is a rectangular piece of flat steel. Like a handsaw blade, the steel is soft enough to be filed, but hard enough to hold an edge. Scrapers have four cutting edges shaped like miniature hooks. The hooks are almost too small to see, but you can feel them with your fingers.

In the steps that start on page 4, we only tackle the top side of the scraper, making two cutting edges. To sharpen all four edges, flip over the scraper and repeat each step on the bottom side.

The Sharpening Kit

Click any image to view a larger version.



File. The handiest tool is a 10-in. combination mill file with a built-in handle. The double-cut side of the file has two crisscrossed rows of teeth for fast stock removal. The single-cut side has a single row of teeth. This side cuts slower but leaves a smoother surface. Actually, any 8- or 10-in. mill file will work, as long as it's sharp.



Honing Paddle. A diamond paddle cuts fast and stays flat. You can substitute a slipstone or small oilstone, but they're slower and score too easily. An extra-fine grit paddle is best, but a fine will work.

Burnisher. A burnisher is nothing more than a hardened and polished 3/8-in.-dia. steel rod. Most come with a handle, but you really don't need one.

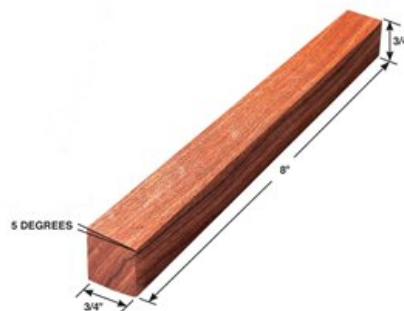
File Card. A file card cleans your file. If you don't routinely clean your file, metal debris caught in the file's teeth will put deep scratches on a scraper's edge.

Oil. Honing oil lubricates the burnisher. Household oil (such as 3 IN 1) works, too, but leaves your hands smelly.

See Sources, below, for information on where to buy these items.

The Jig

This beveled stick is all you need to hold the file, honing paddle and burnisher at the correct angles.



Flatten the Dull Hooks

Stroke the burnisher back and forth over each edge of a dull scraper. Smear a few drops of oil on the burnisher first, then press down lightly and rub until you no longer feel a hook. Two or three passes should do it. Hold the burnisher flat on the scraper, or lean it over the edge, as shown.



Remove the Dull Edge

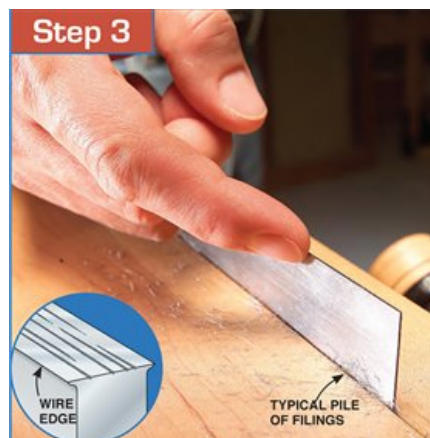
Push the coarse, double-cut side of the file down the full length of the scraper. Removing lots of metal is the key to success. Hold the scraper in a vise. Ride the knuckles of your hand along the benchtop to steady the file at about 90 degrees. You don't have to be precise, just aggressive. Don't drag the file back over the scraper on the return stroke, though, or you'll prematurely dull the file.



Test for Sharpness I

Feel for a very small ridge of excess metal on both sides of the scraper. This ridge is called a wire edge.

Pay special attention to the center section of the scraper, where it's the dullest. If you feel a wire edge here, move on to Step 4. If you don't, go back to Step 2.

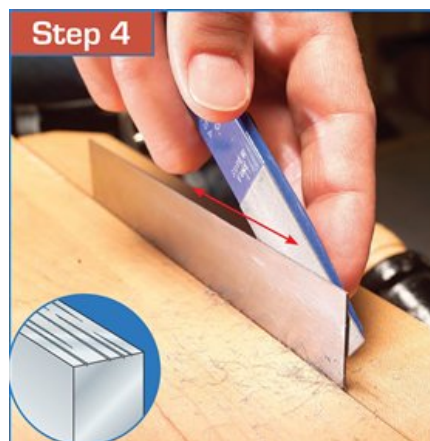


Remove the Wire Edge

Hone both sides of the scraper with the diamond paddle. Hold the paddle so most of its face is riding on the scraper's side.

Hone back and forth until you no longer feel a wire edge. It should only take a few strokes. Wipe the paddle on a damp rag to keep it clean and cutting efficiently.

Caution: Hold the paddle carefully so you don't cut your fingers on the scraper's sharp edge.



Level the Scraper with the Jig

Adjust the scraper in the vise so the full length of its top edge feels even with the jig stick. Make sure the beveled side of the stick faces away from the scraper.



File the Edge Square

File the edge again, this time using the finer, single-cut side. Support the end of the file with the jig stick. This guarantees that you'll make a 90-degree edge. Keep filing until you feel a faint wire edge on both sides, just like in Step 2.



Pushing the file at about 120 degrees is called draw-filing. This produces a smoother edge than pushing the file in line with the edge, as shown in Step 2.

Hone the Edge Square

Support the honing paddle with the jig stick to maintain a perfect 90-degree edge. Then hone both sides of the scraper, as shown in Step 4. Alternate honing the sides and the top sides and the top four or five times. This is the only way to completely remove the wire edge.

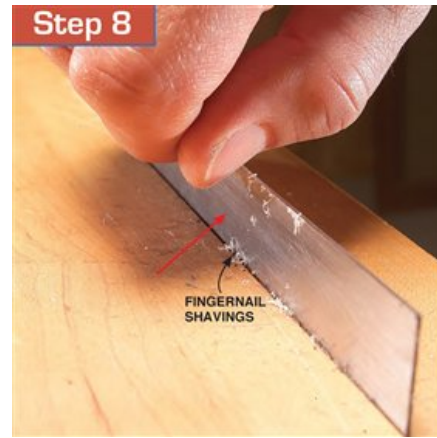


Test for Sharpness II

Check the edge to make sure it's sharp.

Pull your thumbnail across the center and both ends of the scraper. If you see small shavings, and the center feels as sharp as the ends, you're ready to go on to the next step. If not, repeat Step 7.

Caution: The edge and corners are very sharp!



Bend the Hook In

Burnish the edge into a concave shape.

Remove the scraper from the vise and lubricate the burnisher with a few drops of oil. Then lean the burnisher about 5 degrees and stroke it back and forth over the scraper's edge three or four times.

Press hard with your thumb directly over the edge. Flip the scraper over and burnish the other side.



Bend the Hook Out

Bend the cutting hook using the jig stick as a guide. Clamp the scraper back in the vise so it's level with the lower edge of the stick's bevel. Push the burnisher back and forth four or five times, applying hard pressure.



When you're done with one hook, place the jig stick on the other side of the scraper and repeat to form the second hook.

As you gain experience in burnishing, you'll find that you won't need a guide to get the angle right.

Try it out

Bend the scraper to stiffen the cutting edge. Place your thumbs near the bottom edge and pull back the ends with your fingers. Lean the scraper forward and push with your thumbs. It may take a bit of experimentation to figure out how much lean you'll need to make full-fledged shavings.



Re-sharpening a Dull Scraper

When you've worn out all four edges of your scraper and all you get is dust, not shavings, it's time to reburnish the edges. Chances are the hooks aren't dull, but simply bent back.

To re-form the hooks with your burnisher, repeat Steps 9 and 10. This usually works two or three times, but eventually the hooks get worn away and can't be re-formed. Then it's time to get out the file and start from the beginning.

Sources