



*The results obtained from a well-tuned scraper are evident here. The wide, fine shavings are indicative of the blade's sharpness. When the blade no longer produces these fine shavings, it's time to rehone its edge and form a new cutting hook.*

# Souped-Up Scraper

*Old-time hand tool challenges belt sander*

by Kelly Mehler

Whenever I run into my former apprentices, I'm always curious about whether any of the things I taught them have turned out to be valuable tools for making a living. Invariably, I'm told that one of the best tricks is how to tune-up a cabinet scraper—not the steel hand scrapers most woodworkers are familiar with, but the old metal-body ones with spokeshave-like handles and a reputation for not working. But I've found that once you learn how to handle this scraper, you can take wide, fine shavings off any hardwood with ease; it's especially effective on highly figured woods where you have cross-grain. With a well-tuned blade, you can smooth a tabletop faster than you can with a belt sander.

My scraper is a Stanley No. 80, pictured at the top of the facing page. You can order it or a similar version from most woodworking-supply houses. As with a plane though, you want to make sure your tool has a flat, smooth bottom. The scraper, as it comes from the manufacturer, is usually not flat or smooth enough to do a good job. My scraper has a sole that's  $3\frac{1}{4}$  in. by  $2\frac{3}{8}$  in., so it's not much of a job to flatten and polish the sole with a piece of fine

silicone carbide paper supported by a glass plate or other flat surface. The scraper blade itself is  $2\frac{3}{4}$  in. wide and  $2\frac{3}{8}$  in. long. It's held in position by a flat metal clamp and two screws. The only other part is a thumbscrew that bears against the blade to keep it from chattering and to flex it. The more the screw flexes the blade, the heavier the cut.

I started using this scraper years ago when it seemed I was sanding all the time and getting sick of the dust and noise. I also don't think a sanded surface finishes as well as a scraped one. I did a lot of reading to see how other craftsmen handle the problem and decided these old cabinet scrapers, which traditionally were used for smoothing after planing, offered a lot of possibilities. Many craftsmen are reluctant to use them, perhaps because of the perceived difficulty in tuning the tool: It's more complex than sharpening a plane blade or chisel, because it requires forming a hook, which does the scraping, on the blade edge after the blade has been sharpened. At first, I couldn't get the tool to work well. It took awhile to master the technique of getting the correct combination of bevel angle, straight edge and hook angle.



*The cabinet scraper used by the author is a Stanley No. 80. For a newly purchased tool, it's necessary to flatten and polish the sole and modify the scraping blade to produce the best smoothing results. A carefully tuned tool will produce a surface ready for finish-sanding.*

My procedure for preparing the blade is much like the one used with the more familiar hand scraper, except the blade for the Stanley No. 80 requires a beveled edge. The blade is square when it arrives from the factory, so I shape a 45° bevel using a bastard mill file. This angle permits a fine cut with hardwoods and is critical, because unlike a hand scraper, the angle formed by the clamped blade and the work surface is not adjustable. I've never used the scraper on soft woods, but I suspect that a lower angle and a blunter bevel might work best.

My vise is located near a wall. To gauge the bevel, I've penciled in a 45° line on the wall at a height where I can sight along the blade's edge as I file. The system is surprisingly accurate. You can also double-check your work with a combination square. The important thing when filing the bevel is to keep the bevel flat and straight. Always check for flatness with a straightedge, or put the edge on a flat surface, such as a bandsaw table, and check where light comes through between the blade and table. This flattening operation should create just a slight burr, barely large enough to feel with your finger.

I remove the burr by polishing the back side of the blade on a 1,000-grit waterstone, but a medium or fine Carborundum stone will work as well. It will probably take eight or nine strokes to remove the burr. I also polish the bevel itself on the stone using the angle on my combination square to check my progress. A really smooth edge is necessary to make the finest cuts. Polishing the bevel again raises a small wire burr, so I finish up with a few strokes on the back side to remove it.

The next step is to turn over a hook on the cutting edge; the hook does the actual cutting. As with a conventional scraper, I form the hook with an oval steel burnisher. With the blade lying on a flat surface, bevel side down, I first burnish the back side of the blade, keeping the burnisher flat but with a little additional pressure on the edge to "draw" the metal toward the edge. Next, I clamp the blade vertically in my vise. I start burnishing at a 45° angle, pulling the burnisher toward me using light pressure while keeping it in contact with the full surface of the bevel. I continue to burnish while gradually decreasing the angle and increasing the pressure. I stop when I reach a 15° angle, which I again gauge by referring to a line marked on the wall, as shown in the photo at right. By this point, I have shaped a sharp hook evenly along the length of the blade's edge.

I always put the blade into the scraper from the bottom, with the bevel side facing toward the thumbscrew. I set the body on a flat surface, such as a workbench, and push the blade down so it is even with the bottom of the scraper body. Then, I tighten the screws (but not the thumbscrew) to secure the blade. I hold the blade down as I tighten the screws, offsetting the blade's tendency to be forced up.

The thumbscrew is turned so it just touches the blade, exerting



*The final step in tuning the scraper is to form the cutting hook on the edge of the blade. The author is shown here burnishing the scraper's edge using a 15° line marked on the wall as a guide. Earlier, in preparation for forming the hook, the blade is flattened and its edge is made straight and filed to form a 45° bevel.*

almost no pressure. I take a few practice strokes to be sure the blade is scraping evenly across its entire width and make any necessary adjustments by tapping the blade's top edge. As scraping proceeds, the hook gets worn. You can compensate for this by tightening the thumbscrew, which causes the blade to flex and increases the hook's "bite."

Using the scraper is much like using a plane. Grab the scraper handles firmly, keep the sole flat on the surface and push. Take long strokes with even pressure. Lift the scraper on the return stroke to prevent dragging the blade and consequently dulling it. It's also a good idea to take skewed cuts with the scraper held at a slight angle to the cutting direction, as shown in the photo on the facing page, because this produces a smoother cut and prolongs the life of the hook. From then on, it just takes practice until you can produce a shaving as wide as the scraper body. When the shavings become crumbly, producing more dust than shavings, it's time to go back to the stone, rehone the blade's edge and burnish a new hook. □

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