



Woodsmith **PLANS**

HAND SCRAPERS



SMOOTHING WITH A HAND SCRAPER

Even for avid power tool woodworkers, there are a lot of good reasons to put hand scrapers to work in your shop.

When it comes to smoothing the surface of a workpiece, most of us probably reach for a random-orbit sander. But for generations, many woodworkers have relied on another tool for this job — a hand scraper. Although it's nothing more than a simple piece of steel with a cutting burr on the edge, it's hard to imagine a tool that gives you more bang for the buck.

A scraper excels at removing saw and planer marks. And for smoothing figured boards, like the bird's-eye maple shown in the photo, a scraper is the best way to avoid tearout.

A LOW-COST SOLUTION. One of the great things about scrapers is that you don't have to spend a lot to give one a try. You can buy a nice set with different profiles (like the one in the margin) for around \$15. For about the same price, you can pick up a burnisher, the hard steel rod used to form the burr on the edge.

SCRAPER TECHNIQUE

A scraper is more forgiving than most hand tools. It doesn't require



a fussy setup, so there's not a big learning curve involved. Once it's sharpened, there are a few simple techniques that will help you use a scraper successfully, but they're easy to learn. And when you scrape a surface, it's ready to finish — not clouded by sanding dust.

BOW THE BLADE. A scraper cuts when

you draw the sharp burr over a workpiece. For the burr to engage the wood, you'll need to bow the scraper very slightly. You can do this with just a little pressure from your fingers or thumbs.

PUSH OR PULL. How you bow the scraper depends on whether you are pushing or pulling it across the



▲ **Profiles.** Scrapers are often sold in sets with both straight and curved profiles.



Milling Marks. Band saw marks from the sawmill are common. But a hand scraper will smooth them out.



Saw Marks. A curved-profile scraper is best to remove saw marks from cove molding made on the table saw.



Plywood Edging. A scraper excels at leveling edging on plywood without damaging the veneer.

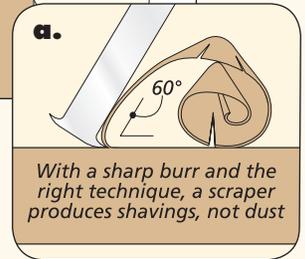
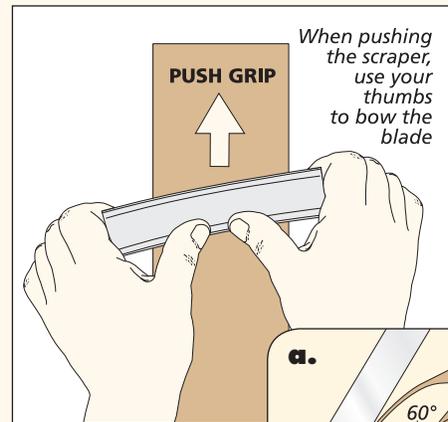
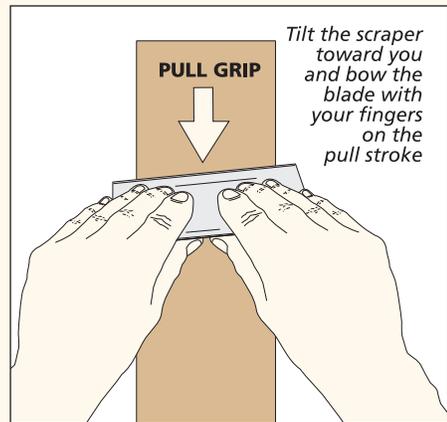
workpiece. The illustrations at right show the different hand positions. You can bow the scraper with your fingers when pulling, or your thumbs when pushing.

Either option works well, it's just a matter of preference. Personally, I like to push the scraper to get a deeper cut when I need to remove a lot of material. But I find I have better fine control when pulling.

IT'S ALL IN THE ANGLES. Whether pushing or pulling the scraper, however, you'll need to be mindful of two angles. First, you'll need to find the best cutting angle for the burr. Detail 'a' shows a typical cutting angle of about 60°. You'll develop a "feel" for finding the cutting angle as you use the scraper.

Second, it's usually helpful to skew the angle of the blade in relation to the grain. This also helps you keep the surface level as you remove high spots.

LOOK FOR SHAVINGS. Once you get the hang of sharpening and using a scraper, the cuts will result in thin, curled shavings, not dust. The main photo on the previous page shows you what I mean.



WHEN TO USE A SCRAPER

There are lots of applications for scrapers. Jointers and planers are great for flattening and thicknessing boards, but they can also cause tearout and leave small ridges in the surface. As you can see in the left photo on the previous page, milling marks left on the lumber from the sawmill are also a problem. All it takes is a few passes with a scraper to smooth the surface.

But one of my favorite uses for a scraper comes when I'm adding hardwood edging to plywood (right photo, previous page). I can cut the

edging a little wide and then scrape it flush with the surface of the plywood.

The big advantage a scraper has over a sander in this application is it minimizes the chances of damaging the thin veneer. You'll quickly see how much easier it is to control a hand scraper in this situation.

Once you've spent a little time and effort learning to sharpen and use a hand scraper, you'll be making thin shavings in no time. And when you see the results, you'll be putting the scraper to work on all of your projects. **W**

BURNISHING JIG



The hardest part of creating a burr on the edge of a scraper is holding the burnisher at a consistent and correct angle. One solution is a simple jig made from a piece of scrap wood and a drill bit, as shown in the photo at left.

To make the jig, start by drilling a 1/4" hole in a piece of 1 1/2"-thick stock. (The

hardened steel drill bit will also serve as the burnisher.) Then cut an angled rabbet so the drill bit protrudes slightly.

To use the jig, simply run the edge of the scraper over the drill bit to produce a uniform burr. Note: This jig works equally well on either square edge or beveled edge scrapers, see Figs. 2a and 2b.

