

Why you need a router plane

UNDERAPPRECIATED TOOL WILL MAKE YOU A BETTER WOODWORKER

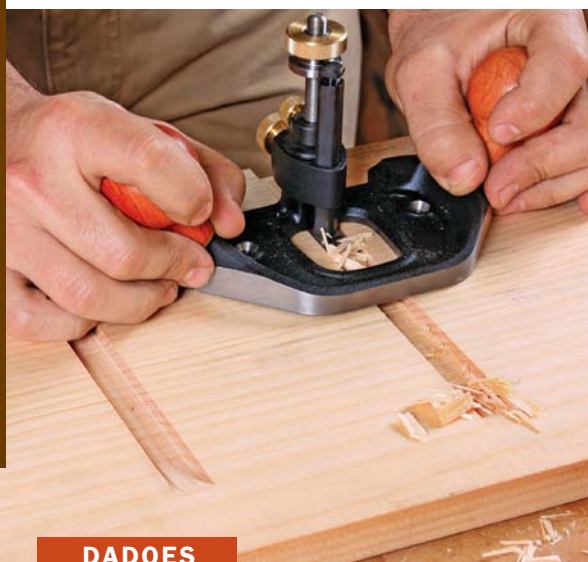
BY DAN FAIA



HINGE MORTISES

JUST A FEW OF ITS USES

A router plane does one thing well: It trims the bottom of a cavity flat and level. But that one thing makes it perfect for fine-tuning a hinge mortise (above), cleaning up a dado, even one with a stopped end (right), and fitting half-lap joints (far right), just to name a few tasks.



DADOES



HALF-LAPS

The router is one of the most common tools in the modern shop. You probably have one (or three). So you might wonder why anyone would need a router plane. After all, isn't a router plane just an obsolete, less-versatile ancestor of the router? In short, no. Router planes were never meant to perform those tasks where routers excel: cutting joinery and profiling edges. They are more like shoulder planes than routers, because their specialty is cleaning up and trimming the work of other tools.

The unique appeal of the router plane is that it planes one surface parallel to another and that its depth of cut can be controlled with precision. So, it's a great way to trim tenon cheeks, with the sole of the plane resting on the rail's face.

And if you've routed a hinge mortise just a hair too shallow, you can grab your router plane and remove that last bit of material. I also use mine to create mortises for inlaid panels (like those on Federal-style legs), to trim half-lap joints, and to correct the depth of dados cut into slightly cupped boards (dado sets and routers might not cut the dado to a consistent depth across the board).

There's no other tool that can do those jobs as well, so I find one indispensable. Actually, I find two indispensable: a large one for joinery work and a small one for inlay and hinge mortises.

Flatten the sole

To do its best work, a router plane must be properly tuned. Because the plane's primary function is cutting a surface

parallel to its sole, the cutting edge itself must be parallel to the sole. It often isn't, so I prep the plane as soon as I get it.

Start by flattening the sole. Use sandpaper attached to a flat surface with spray adhesive. Start with 80-grit paper and work up through the grits to 220-grit, switching grits when the scratch pattern is consistent.

Prepare the blade for parallel planing

Now that the sole is flat, you need to ensure that the cutting edge is parallel to it. If it's not, you won't get flat-bottomed dados, mortises, and so on. Surprisingly, not all blades are flat across the bottom, but truing the edge isn't hard. Here's the key: If the bottom of the blade is out of parallel, a trued-up cutting edge might actually look crooked from the top. In

Models new and old

You'll have no trouble finding a high-quality router plane, whether it's a used Stanley or Record, or a new Lie-Nielsen or Veritas. Faia prefers closed-throat models, which work better on narrow stock.



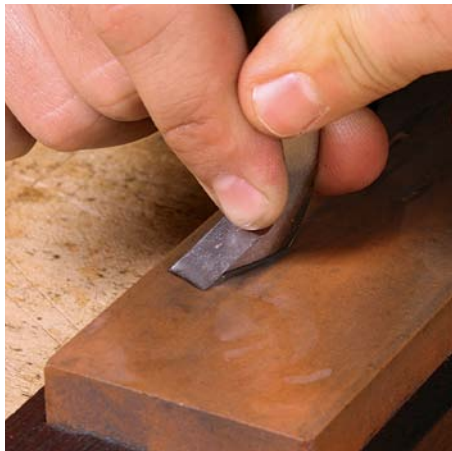
VINTAGE MODELS

Most used large models have an open throat. Stanley and Record overcame this difficulty with a shoe that bridges the gap. If you buy used, make sure it's included.

How to sharpen the blade

For a router plane to do its job properly, the bottom of the blade, or at least its leading edge, must be parallel to the sole. Don't assume that it is—many aren't. Fortunately, it's easy to correct a crooked edge with a shopmade jig and a sharpening stone.

Start by polishing the back. It might seem like a good idea to do it after correcting the cutting edge, but Faia has found that polishing can easily undo all the work you've done. Hone to 8,000-grit.



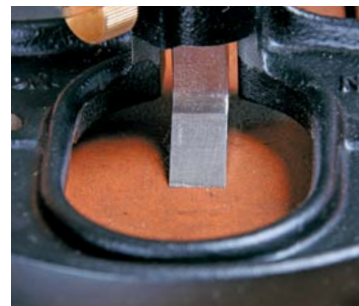
fact, it will not be 90° to the sides of the tool. But before you correct the angle of the cutting edge, flatten and polish the back of the blade, just like you do for chisels and plane irons.

Now here's how to find that "true" angle that creates a level cutting edge. Using the sole as your reference, hone a small flat on the bottom of the blade. Here's the cool thing: The line at the back of that flat is your true angle—and your reference for all the sharpening steps that follow. Turn the blade over and grind the bevel, maintaining that true, level angle as you go. Grind until the last of the flat disappears. Then hone the bevel freehand. Finally, remove the burr. You now have a sharp edge, perfectly parallel to the sole.

To hone that level flat on the underside, I use a jig with a plywood base and a cleat that goes in the bench vise. Attach hardwood runners to the base, spaced just far enough apart for your sharpening stone to fit between them. The runners should be taller than your stone, with top and bottom edges parallel to one another. Place the sharpening stone (I use a fine India oilstone, but a 1,000-grit waterstone works, too) between the runners. Adjust the blade's depth until it just touches the stone and begin honing. Continue until the flat reaches all the way across.



Make it ride on rails. On a plywood base, attach hardwood rails that are about ½ in. taller than your sharpening stone. Put a stop block at the far end to hold the stone in place as you push the blade over it.

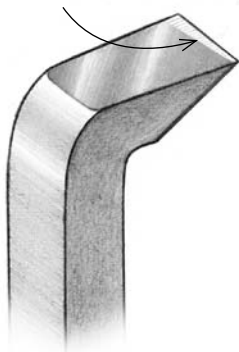


The blade just touches the stone. Don't worry if the blade's entire width isn't in contact; grind what does touch, lower the blade, and repeat until the entire width is level.

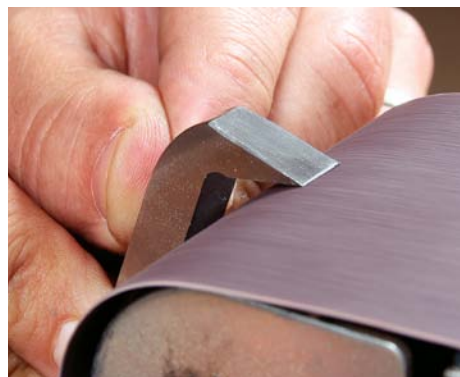


Grinding creates a flat. But the flat isn't important. You'll grind it away to get to the angled back line, which is parallel to the plane's sole and serves as a baseline for the blade's new cutting edge.

The back of the flat is your reference line.



Regrind the bevel. Use the front wheel of a belt or stationary sander to create a hollow bevel (right). Grind until the flat just disappears, while maintaining the angle at the back of the flat. Hone the bevel on the edge of a stone (far right).



Two routers are better than one

Just like the versatility you get from pairing a trim router with a standard one, you'll be able to do more and with greater ease by pairing a small router plane with a large one.



Set blade depth from a scribed line. Lower the blade until the cutting edge is aligned with the cut line left by a marking gauge.



Lock in the setting with the depth collar. They're standard in big planes and let you raise the blade to take lighter shavings but still get back to the final depth.

A belt sander is the right tool for regrinding the bevel. That might shock many of you, but it really works. Clamp the sander upside down and use the front wheel like a bench grinder. This creates the perfectly sized hollow.

To hone the bevel, stand your stones on edge and hone the blade on the narrow side. Go freehand, balancing the hollow-grind on the stone.

Many router planes have a second, pointed blade. I don't use it, but if you do, the blade doesn't need to be trued like the square one. Prepare it like you would a bench- or block-plane blade. □

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TRIM TWO TENONS AT ONCE

Tapered tenons result in doors and frames that aren't flat. Here's a fast, accurate way to trim and true them in one shot.



Get support on both sides of the blade. Set two rails end-to-end so that you can trim two tenons at once. With a large model, the sole is wide enough to bridge both tenons and rest on both rails (right).



GO SMALL FOR INLAY

The little brother to the standard size has a narrower blade that fits into tighter spaces, and its diminutive body won't obscure your view of the workpiece.



Use inlay to set depth. Set the blade just shy of the inlay's thickness. This leaves the inlay proud of the surface, so you can scrape and sand it flush.



Lock in the depth. Because small planes don't come with collars, use a drill-bit stop collar to do the job. Now you can work down to the final depth.



Support is important. The sole on both sides of the blade needs a surface to rest on, ensuring that it doesn't tip and plane an uneven bottom.