

Self-Centering MORTISING JIG

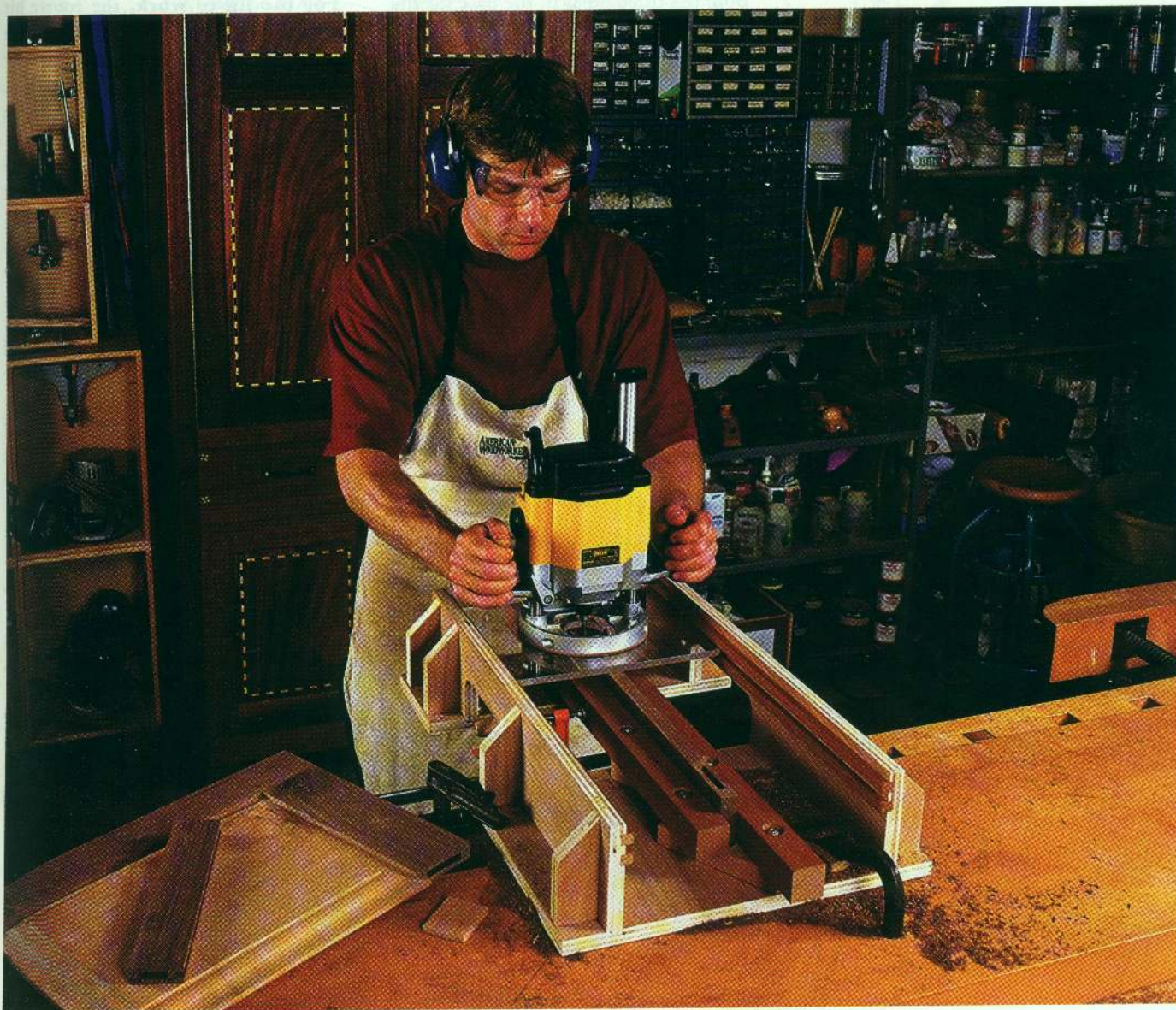
No measurement necessary—just clamp the workpiece and rout

by Andy Rae

Mention a method that makes mortising easier and you're sure to capture a woodworker's attention. So, when Barry Wood, a woodworker in southern California, showed us his mortising jig, we saw the possibilities right away.

We took Wood's prototype jig to the workshop, tweaked the design just a bit, and came up with the version shown here. Mortising has never been easier. With this jig and a plunge router, you can cut precisely centered or offset mor-

tises in both edges and end grain without a lot of fussy setup work. When you clamp your workpiece between the jig's clamping beams, your mortise is automatically centered in line with the router bit—all in one step! (See Fig. 1.) ▶



Just clamp and cut. Clamping the workpiece between the jig's parallel beams automatically centers the mortise. The router base rides on ledger strips attached to the jig's two fences.

PHOTOS BY JOHN HAMEL

You can rout edge mortises in stock up to 3 in. thick and 3¼ in. wide, and you can make end mortises in pieces up to 5 in. wide. With both edge- and end-mortising capability, this jig is ideal for loose-tenon joinery.

The key to the jig's self-centering capability is a pair of clamping beams, mounted on pivoting blocks that are attached to the base and centered between the two fences. (See Figs. 1 and 2.) The fences are fitted with ledger strips that support the router baseplate, so you can move the router back and forth over the work.

This jig is easy to make. We sized it to fit a 9¼-in. by 11¾-in. aftermarket router baseplate (item #151, available from Woodhaven, 800-344-6657). But you can adjust the dimensions to fit any rectangular baseplate.

Construction Tips

Use ¾-in. hardwood plywood for the base pieces, fences and support blocks. Make the pivot blocks, clamping beams and ledger strips from clear hardwood.

For the base pieces, start with an 18-in.-square plywood panel, cut the grooves for the fence, then cut the panel apart. The fences can also start out as a single length of plywood. Cut the two grooves for the ledger strips and rabbet the bottom edge so it will fit in the base grooves.



End cutting. Rout a mortise for a loose tenon by clamping the stock vertically.

Bore the three holes in the base for the center machine bolts before you glue and screw the fences on. (See Fig. 2.) These holes must be dead-center between the two fences.

It's also important to bore accurate and identically spaced holes in the pivot blocks. The holes should be precisely centered on the centerlines of the blocks, with the center holes exactly halfway between the outer holes. This ensures that the clamping beams will stay parallel and centered.

For the jig to work, the router bit must be centered on the length of the baseplate. If your router is already mounted on an aftermarket baseplate, make sure the bit is centered on the length of the plate. If not, adjust it.

If you decide to use a Woodhaven baseplate, you can order one of their template kits, matched to your router.

Using the Jig

This jig is wonderfully simple to use. Clamp it securely over the edge of your bench. Slide your router base into one of the three tracks on the jig, to fit your workpiece height. Square lines across the workpiece at the beginning and end of each mortise, and place the workpiece between the clamping beams—vertically through the gap in the base for end mortises, or resting horizontally on the pivot blocks for edge mortises. Raise the work to the underside of the router baseplate, and clamp it securely between the beams.

For offset mortises, insert a spacer strip twice as thick as the desired offset, between the work and one of the beams.

Now, set the depth of your plunge cut, and rout. Don't take too deep a bite in one pass; make successive cuts at deeper and deeper settings until you reach the bottom of the mortise. ▲

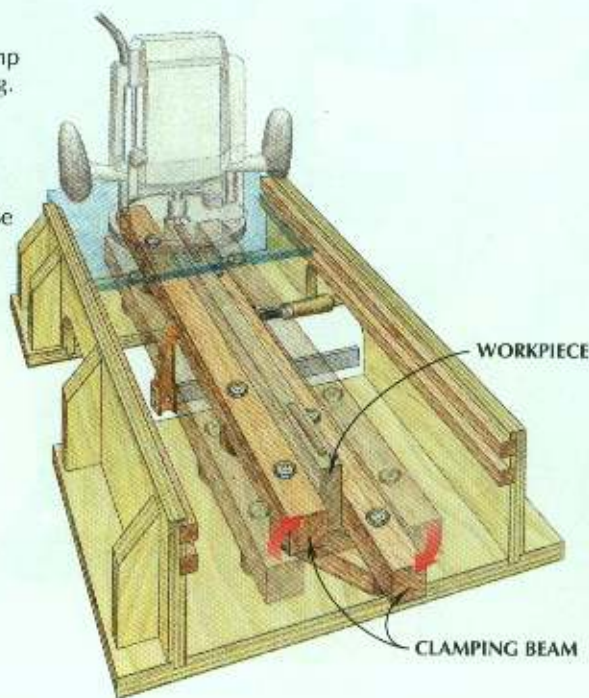
FIG. 1: HOW THE JIG WORKS

1. Clamp the workpiece.

Pivoting clamping beams center the workpiece automatically. A single clamp holds the piece for mortising.

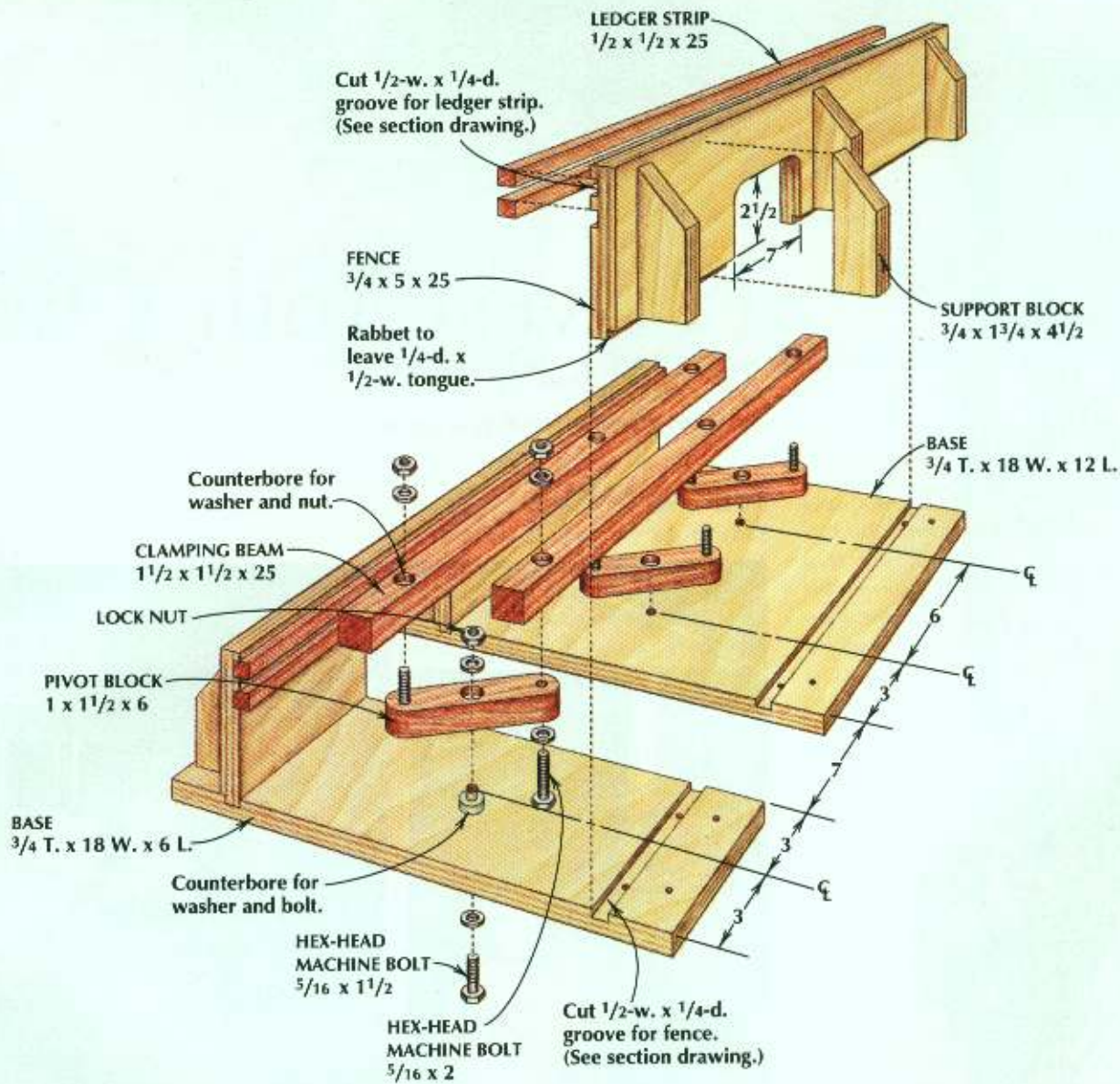
2. Rout the mortise.

The router baseplate rides on ledger strips attached to the fences. Cut the mortise by plunging the bit in increments and sliding the router back and forth.



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FIG. 2: MORTISING JIG



SECTION THROUGH JIG

