

Try This Versatile Mortising Jig

An adaptable clamping surface holds curved and straight parts alike

BY MICHAEL C. FORTUNE

One of the challenges when working with curved parts is how to cut joinery on them. When tapering solid stock, it's best to cut the joinery before cutting the taper, but this is not possible with laminated work, such as the bent, tapered laminations described in the previous article (pp. 68-73). A few years back, I created a simple jig that enables me to cut mortises in a variety of curved pieces. I've since discovered that the jig works equally well when mortising straight pieces, or cutting mortises in end grain.

The jig consists of a mounting block, a fixed vertical piece, and a sliding top surface. The mounting block is secured to the front edge of a workbench between two benchdogs. Alternatively, it can be screwed to a longer piece of plywood that is clamped to the top of the workbench.

It is important that the dados in the top surface and the mounting block are in matching locations to receive the 3/4-in.-thick ultrahigh molecular weight (UHMW) plastic slide bars.

The plastic and other hardware is available at www.rockler.com.

Lay out the mortise on the workpiece and then clamp it to the front vertical surface of the jig, touching the underside of the top. Now slide the top forward until the mortise is centered in the large viewing slot. Eyeballing it is sufficient, as once set up, the jig will cut matching parts identically. Now place the router on the jig and lower the bit until it just touches one end of the mortise. Slide the adjustable stop up to the base (round or square) of the router and tighten the wing nut. Repeat these steps at the other end.

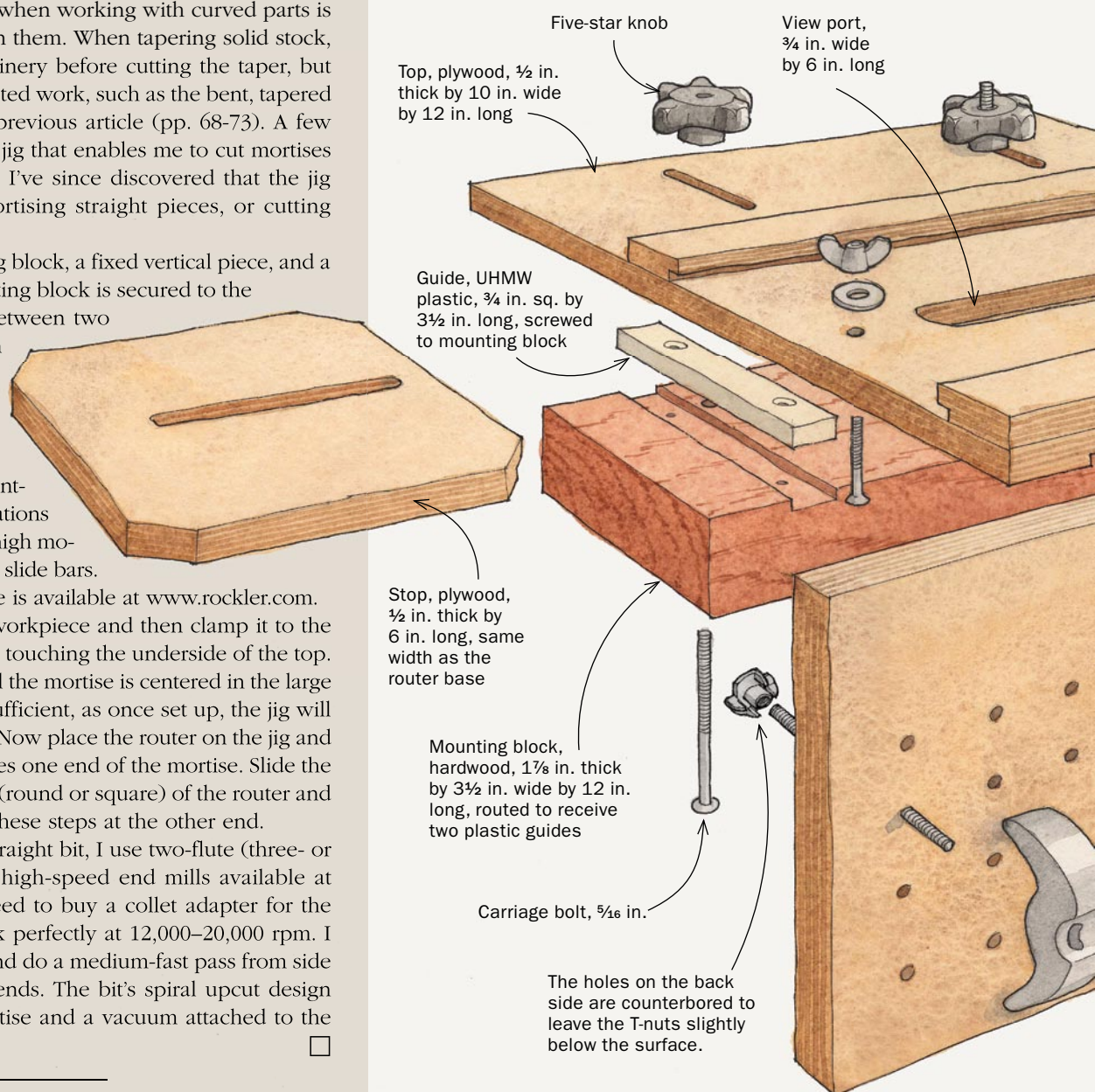
Although you can use any straight bit, I use two-flute (three- or four-flute bits won't plunge) high-speed end mills available at www.wttool.com. You will need to buy a collet adapter for the 3/8-in. dia. shaft. The bits work perfectly at 12,000–20,000 rpm. I plunge in a maximum 1/8 in. and do a medium-fast pass from side to side, not hesitating at the ends. The bit's spiral upcut design clears the chips from the mortise and a vacuum attached to the router removes them. □

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Setup in 3 steps

1

Clamp the piece to the jig. Center the mortise in the viewing port and tighten the hold-down clamps. If more than one piece is being cut, a stop block aids repeatability.



2



Adjust front to back and side to side. Slide the top so the view port is centered on the mortise (above). With the router bit just touching one end of the mortise (right), move the slide until it touches the router base and tighten the wing nut.

3



Guide rails and stops are rabbeted to avoid trapping sawdust while routing.

Slot, ¼ in. wide by 2 in. long

Dado, ¼ in. deep by ¾ in. wide

Guide rails, ½ in. thick by 1 in. wide by 12 in. long

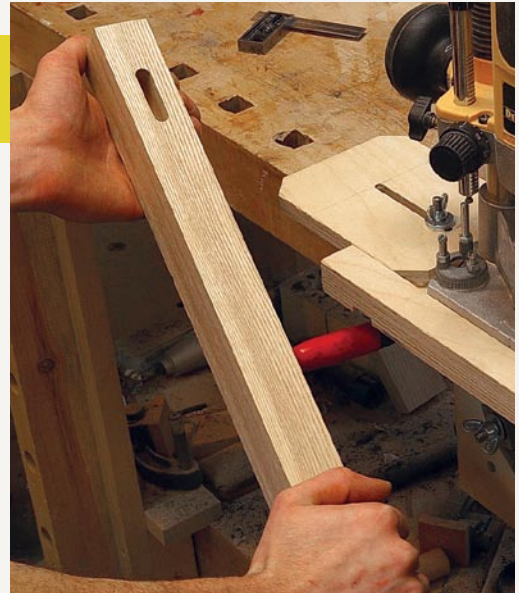
Hold-down clamps

⅝-in. holes, spaced 1½ in. apart

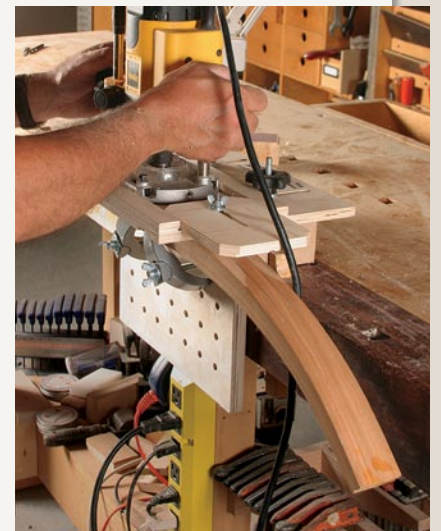
Vertical clamping surface, birch plywood, ¾ in. thick by 8½ in. wide by 12 in. long, glued to mounting block

Mortise 3 ways

On straight pieces. With the workpiece secure and the jig aligned, use a straight-cutting bit to excavate the mortise, increasing the depth ⅛ in. with each pass. You can either square up the mortise with a chisel or use a rounded loose tenon.



Into end grain. The jig is flexible enough to allow end-grain mortises to be cut, such as for slip tenons.



Curved pieces, too. The jig allows clean, accurate mortises to be cut on all sorts of curved pieces.