

# All-in-One Workstation

A simple stand holds the work for every step of the process



## No workbench? No problem

Although originally intended for routing the waste between dovetail pins, this stand provides a stable platform and secure clamping for tackling a variety of dovetail tasks without the need for a vise.

SAWING

# for Dovetails

BY MICHAEL PEKOVICH

**M**y work tends to require a lot of dovetailing, in white oak no less, which can be a chore. Because of that, one technique I've adopted to speed the process and save some wear on my chisels is to rout out the waste between the pins. To help with that, I made a simple stand to support the work vertically and provide a flat horizontal surface for the router to rest on. While this use alone makes it worth building, the stand can handle a number of other dovetailing jobs as well. In fact, if you don't own a bench with a vise, this stand can assist you through the entire process. If you have a sturdy work table and a couple of clamps, you can be cutting dovetails.

## Unexpected benefits of a smaller stand

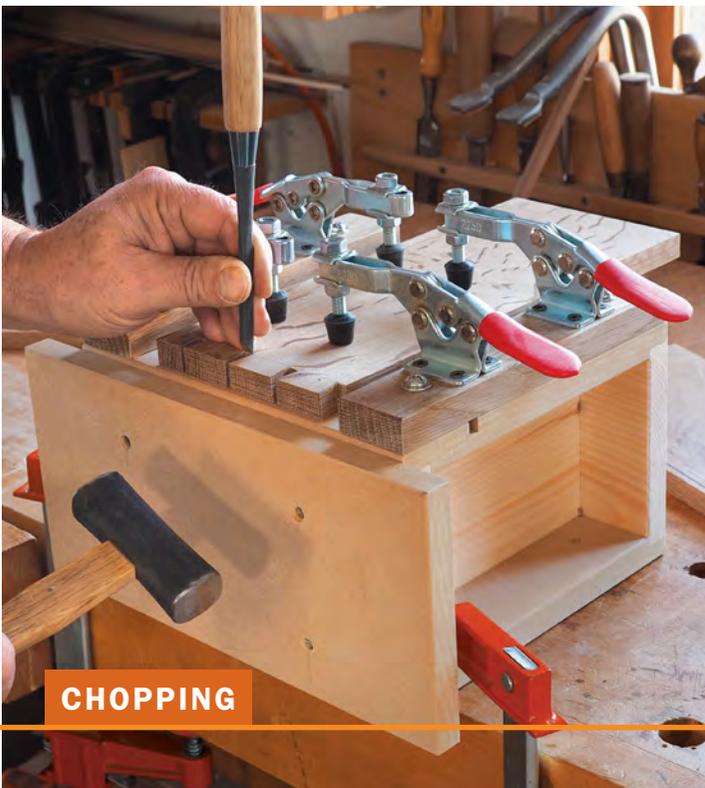
The router stand in this article is a smaller version of a design I've been using for years. When I began traveling frequently to teach, the original stand proved too heavy and bulky to bring along. So I set about making a smaller, lighter version inspired in part by a travel stand of Bob Van Dyke's, so credit goes to Bob as well. It performs the basic routing tasks just as well as the larger version, but its small size and lighter weight make it easy to reposition on the bench, and that in turn makes it easy to perform a number of additional tasks. If you flip the stand on its back, the stock can be secured parallel to the benchtop. That allows it to serve as

a workstation not just for routing, but also for scribing, sawing, and chopping.

## The structure is simple

Made from home center materials, and requiring only a couple of rabbets and dadoes, the stand goes together quickly. The joinery is there to help keep the parts aligned during assembly and you can skip it altogether if you wish. I used MDF for most of the stand because of its flatness and stability, but I went with pine for some parts because of its nail- and screw-holding ability. You'll also need some toggle clamps and T-nuts, which secure the bars the clamps are attached to.

This stand can handle parts up to 6 in. wide between the clamp bars, and you can accommodate up to 10-in.-wide boards by removing one or both bars and using regular clamps to secure the work instead. If you regularly work with wider stock, you may

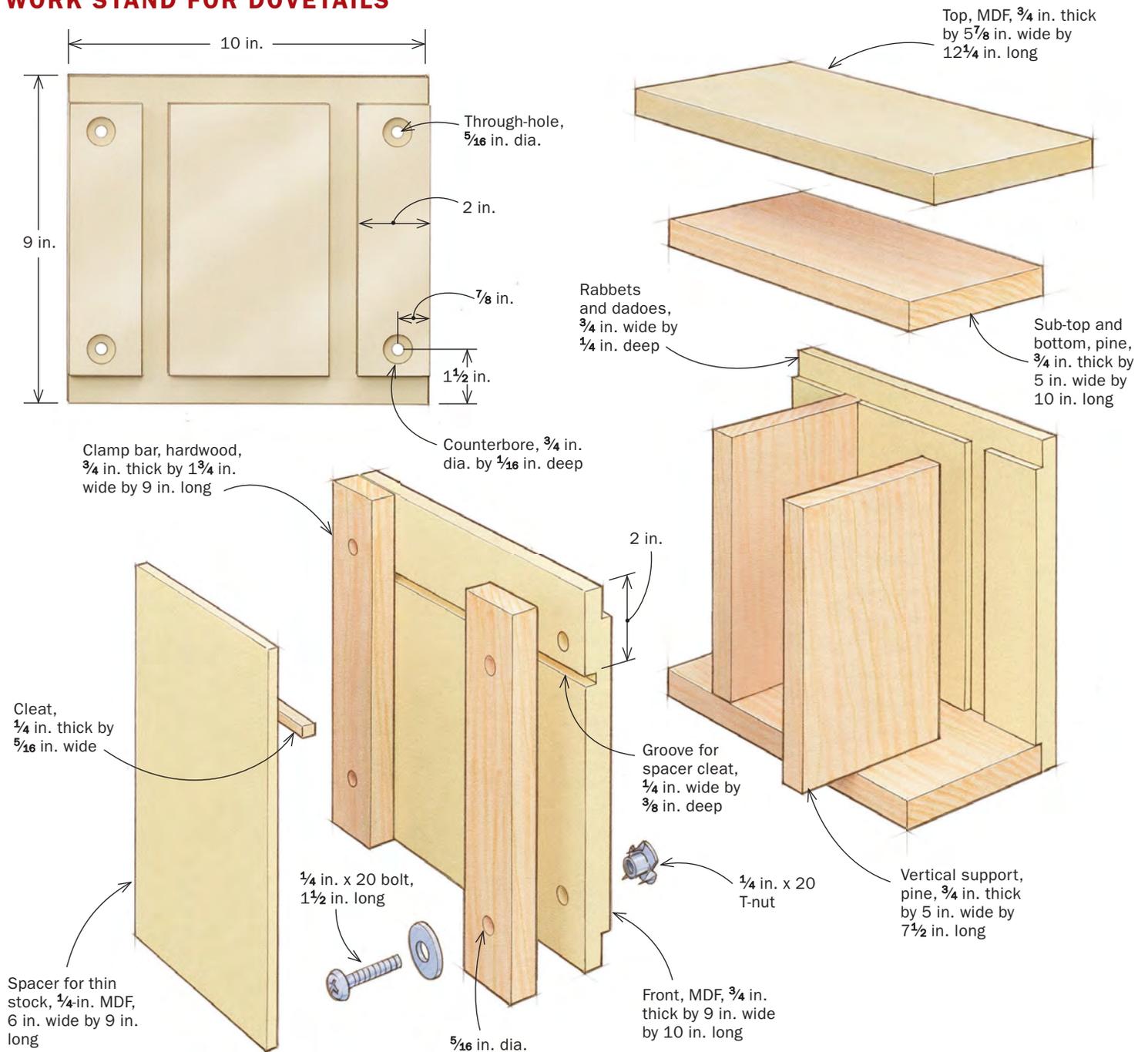


CHOPPING



ROUTING

## WORK STAND FOR DOVETAILS



want to make a wider stand. If you do make a wider stand, I would recommend additional rows of T-nuts on the face to allow repositioning of the clamp bars to handle narrow stock as well.

### Building a basic box

All of the joinery is cut into the inside faces of the front and rear panels. I use a dado blade to cut the dadoes for the vertical supports as well as the rabbets along the top and bottom edges for the sub-top and bottom. To cut the rabbets, attach a sacrificial fence to the rip fence and set it so the blade just skims it. The front panel is drilled and counterbored for T-nuts to attach the clamp bars.

Glue and nail or screw the base together. I use an 18-gauge brad nailer for the job. After the glue is dry, screw the top in place. Skip

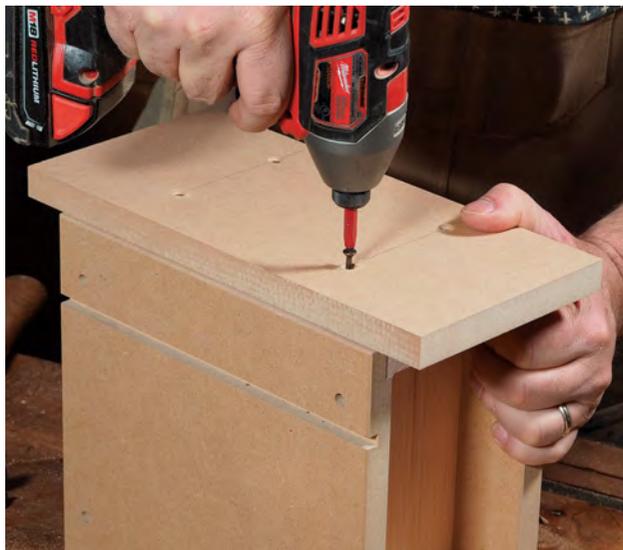
glue here in case you need to replace it at some point. Also make sure to drive the screws into the sub-top at the vertical support locations. The top is wider than the base to offer more support for the router when you are dovetailing wide pieces. The extra length also makes it easy to clamp the alignment plate in place when positioning the pin stock for routing. The alignment plate is a piece of MDF the same size as the top. I glue a 1/16-in.-thick strip of wood to the underside at the front edge, and that allows me to offset the workpiece 1/16 in. lower than the top when I need to.

The toggle clamps are screwed to clamp bars that bolt to the case. The bars are 3/4 in. thick, which is roughly the same thickness as the case parts and drawer fronts that I tend to dovetail. This ensures that the clamps can be adjusted to secure the workpiece.

# Making the stand is simple



**Rabbets and dados keep parts aligned.** Use a dado blade to cut the dados and rabbets, adding a sacrificial fence for the rabbets. Before assembly, drill the inside face for the T-nuts and tap them in place.



**Assembly is quick.** Glue and nail the stand together, then screw on the top without glue. Inset the top from the front face to provide clearance when routing and drive the screws at the vertical support locations.



**Add the clamp bars and toggle clamps.** The clamp bars are attached with bolts through the T-nuts, so they can be removed easily when working with wider stock. Then the toggle clamps are screwed to the bars.

# Cutting dovetails



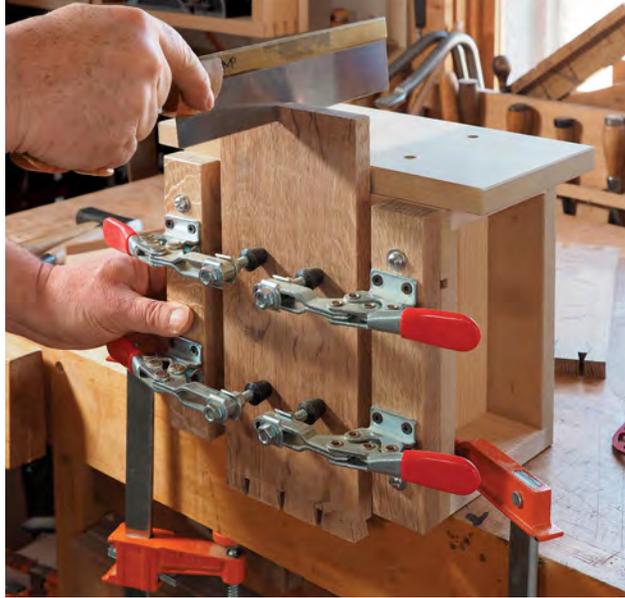
**Adjust the clamps to the stock.** Loosen the bolts that secure the pads and adjust for a snug fit. Don't over-tighten the clamps; the pressure should be just enough to keep the part from shifting.

**TIP**

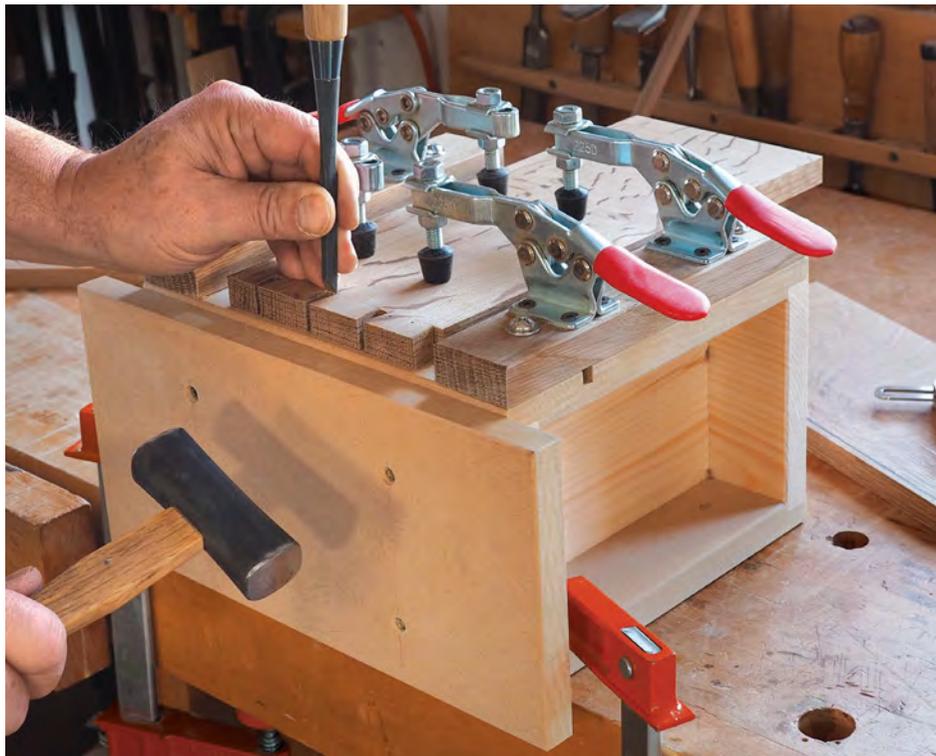
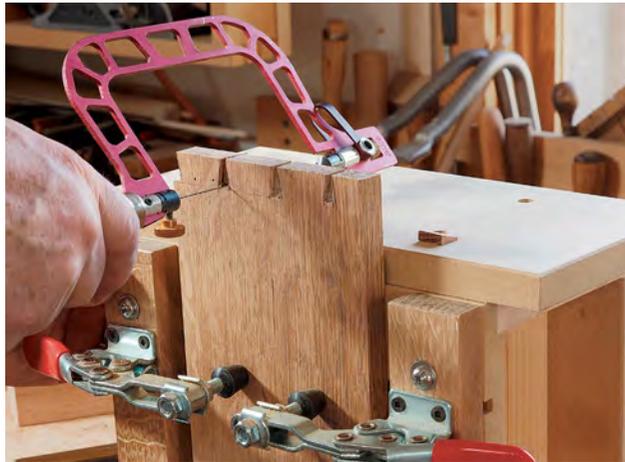
**ADD A SHIM FOR THIN STOCK**



When working with stock thinner than the clamp bars, add a shim between the stand and the stock. Glue a cleat to the back of the shim that fits into the groove in the face to secure it when the stand is in the vertical position.



**Clamp the stand vertically for sawing.** The stand supports the stock at a comfortable height for sawing the tails and coping the waste in between. Position it proud of the tabletop edge to allow clearance for working with longer parts. Use heavy clamps to keep the stand steady when sawing.



**Clamp the stand on its back for chopping.** Adjust the stock so that it's supported by the subtop when chopping. This transfers the chopping force directly to the tabletop and provides solid support.

# Sawing pins



**Scribing made easy.** To position the pin board while clamping it, use a flip block. This square block has a strip of wood glued to one face to create a lip to register the work. After clamping the stock (above), place the flip block at the back of the top to support the rear end for scribing (right).



I add a spacer for thinner stock. Make them out of a hardwood to ensure that the screws won't pull out under clamping pressure.

## Using the stand

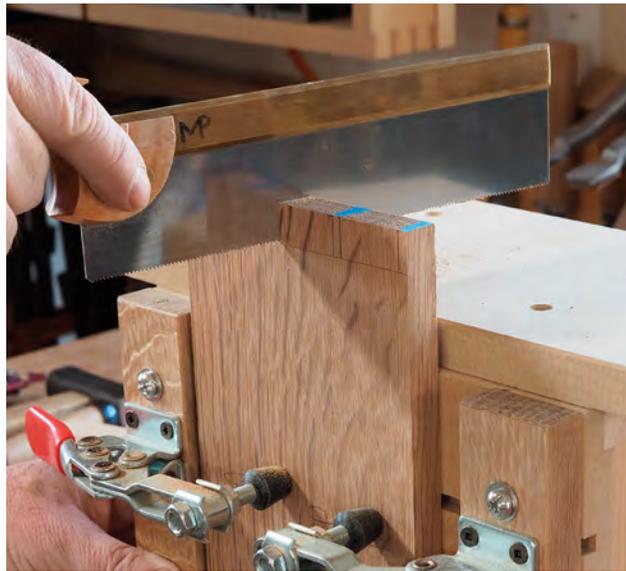
Start by adjusting the toggle clamps to the thickness of the stock. Laying the stand flat on the table makes the process easier. To cut the tails, turn the stand upright and clamp it to a sturdy work surface with its face slightly overhanging the edge of the tabletop. This will allow you to clamp longer boards in place.

Clamp the stock so it extends above the top and is parallel to it. The stand does a good job of holding the work securely while raising it up to a more comfortable height for sawing. Once the angled cuts are made, I remove most of the waste between the tails with a fretsaw to make chopping easier.

With the waste removed, reposition the stand so its front is facing up and the stock is horizontal. Slide the stock back so that the tails are supported by the stand and chop to the baseline with a chisel. The elevated surface helps while chopping.

## Transfer the pin locations

Clamp the stand back in the vertical position to scribe the pins from the tails. For this step I use a flip block, a square length of stock with a strip of wood glued to one face that creates a lip. Pinch the block to the stock with the lip tight to the top edge and lower the stock until the block is resting on the stand top. Now lock down the clamps. Then, to support the rear end of the tail board for scribing, move the block to the rear of the top with the lip overhanging the back edge. Leave the stock in the stand to saw the pins and cope out most of the waste. There's no need to saw too close to the baseline. The router bit will handle any



**Saw the pins.** Once again, the stand elevates the stock at a good height for sawing and gets the work closer to eye level.

TIP

## REMOVE THE CLAMP BARS FOR WIDE STOCK



By swapping out the toggle clamps for hand clamps, the stand can handle work up to 10 in. wide, which should cover most drawer dovetailing tasks.

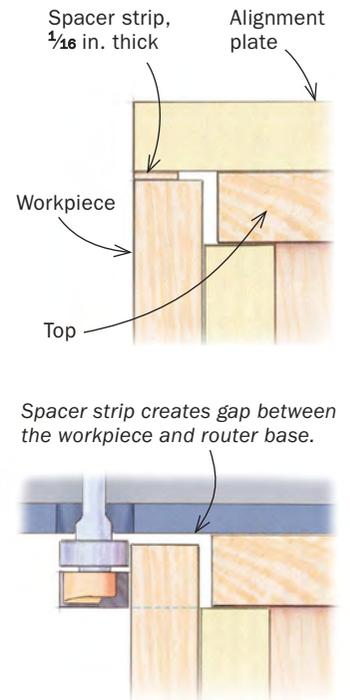
# Rout the waste



**Cope out the waste before routing.** There's no need to get too close to the scribe line. The router will take care of anything within  $\frac{1}{4}$  in. of the baseline.



**Stock height is critical to an even baseline.** Clamp an alignment plate to the stand and snug the workpiece against it while tightening the toggles. Pekovich uses tape on the end grain when dovetailing, so he added a strip to recess the stock below the surface. This prevents the tape from contacting the router base when routing.



**Extralong base keeps the router level.** Pekovich replaced the stock router base with a longer base, making it easier to keep the router flat and prevent it from dipping into the cut.



**Bearing-guided bit takes the stress out of the process.** A short straight bit with a bearing on the shank makes quick work of the waste. The bearing rides against the pin walls and prevents the cutter from cutting into the pins. Adjust the bit depth right to the scribe line and there's no waste left to clean up.

waste under  $\frac{1}{4}$  in. high. I aim for around  $\frac{1}{8}$  in., which leaves me a little cushion should I stray while sawing.

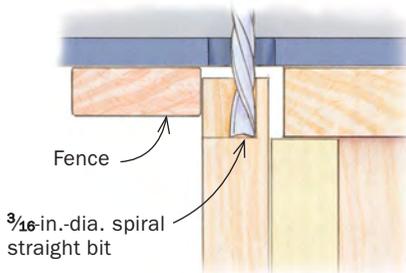
## Routing waste is where the stand shines

Even if you handle every task up to this point at the workbench, this task alone makes the stand worth having. Start by clamping the alignment plate to the stand's top with a spring clamp on each side. The plate should extend  $\frac{1}{2}$  in. or so past the front edge of the top. With the flat side of the plate facing down, you can set the stock flush with the top. Or, with the spacer strip side down, you can recess the stock slightly below the top. This is a handy option, because I add tape to the ends of the workpiece when scribing and I like

# Half-blind dovetails



**Add a fence to limit the depth of cut.** For half-blind dovetails, clamp a fence to the router base to create the inset for the dovetail socket lap.



to leave it in place while routing so I'll have a good guide for paring where the joint is a little too snug. However, the tape on the end grain can peel up when routing and gum up the bottom of the router base. I avoid this by recessing the stock so that the router base doesn't contact the end of the board.

Use a short bearing-guided bit to rout to the baseline. The bearing on the shank of the bit rides along the sawn walls of the pins and prevents the bit from cutting into them. Set the router bit to the baseline and work your way across the board. After you're finished routing, keep the stock in the stand, raising it up a bit, and pare to fit as needed.

## Half-blind dovetails are a little more work

The process is similar to routing regular dovetails, but unfortunately a straight bit is the only option for half-blind dovetails. Again, set the bit depth to hit the baseline. But this time, add a fence to the base to prevent routing past the lap line. Get as close to the sidewalls as you dare, but be prepared to do some chisel work to finish up the corners. Use a pair of skew chisels or a fishtail chisel to sever the end grain in the corners where the router bit couldn't reach, then pare the waste with a bench chisel. □

*Michael Pekovich is a woodworking teacher, author, and Fine Woodworking's creative director.*



**Stay clear of the pins and clean up by hand.** With no bearing to guide the way, you'll have to be careful not to rout into the pins. To clean out the waste after routing, start with a fishtail chisel or a pair of skew chisels and sever the end grain into the corners of the sockets where the router bit can't reach. Then pare the walls with a bench chisel. Leaving the tape in place during this process makes it easier to check your progress.

