

master class

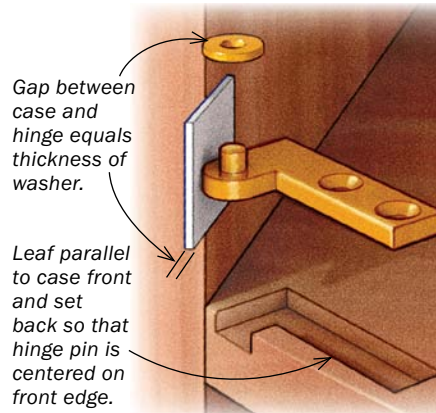
Installing knife hinges in curved work

BY MATT KENNEY



HINGE PLACEMENT

The L-shape of this hinge helps keep the door from binding, but proper location is critical.



Drawing: John Hartman

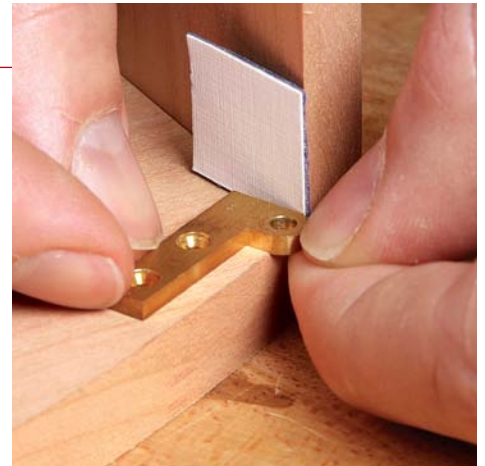
Layout on the case



Make a shim. Kenney thickens a business card with blue tape to match the thickness of the washer that goes between hinge leaves.



The hinge is its own template. Attach double-sided tape to the bottom of the hinge leaf for secure placement on the workpiece.



Align the hinge. Use the shim to set the gap between the hinge and case side. The hinge pin sits centered over the front edge of the case.

I chose knife hinges for my bowfront cabinet (pp. 30-37) for several reasons. The hinges are unobtrusive and elegant. They don't interrupt the curve, or pull attention away from the piece itself.

But installing knife hinges can be a challenge. The mortises must be precisely located to ensure that the doors close flush to the cabinet front. And much of this layout and mortising must take place before the cabinet is glued up.

Adding a curve to the front complicates things, but only a little. I'll walk you through it.

Start with the cabinet mortises

The L-shaped hinges I used on this cabinet are intended for full inset doors. Their offset pivot point allows the door to swing free of the case and avoid binding. There are three keys to layout: Establish the correct distance between the hinge and the case side, center the hinge pin on the front edge of the case, and make sure that each mortise is set back the same distance from the front of the case.

The case mortises must be cut before the cabinet is glued up because there is no room to rout them when the case is together. Dry-assemble the case and place it, top down, on your bench.

Set the gap between the hinge and cabinet side first. To do this, use a shim the same thickness as the washer that

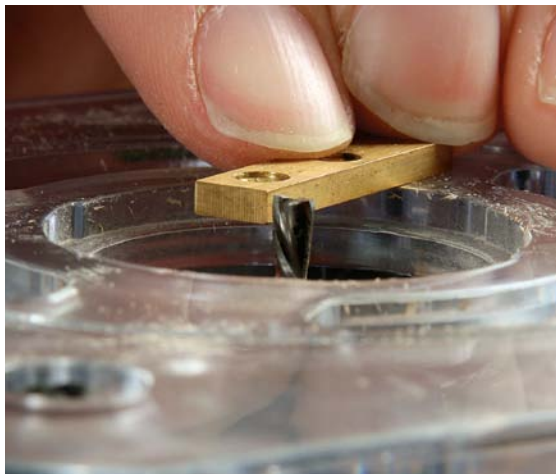


Scribe the layout. Use a knife to scribe around the hinge. Keep the flat face of the knife tight against the hinge.

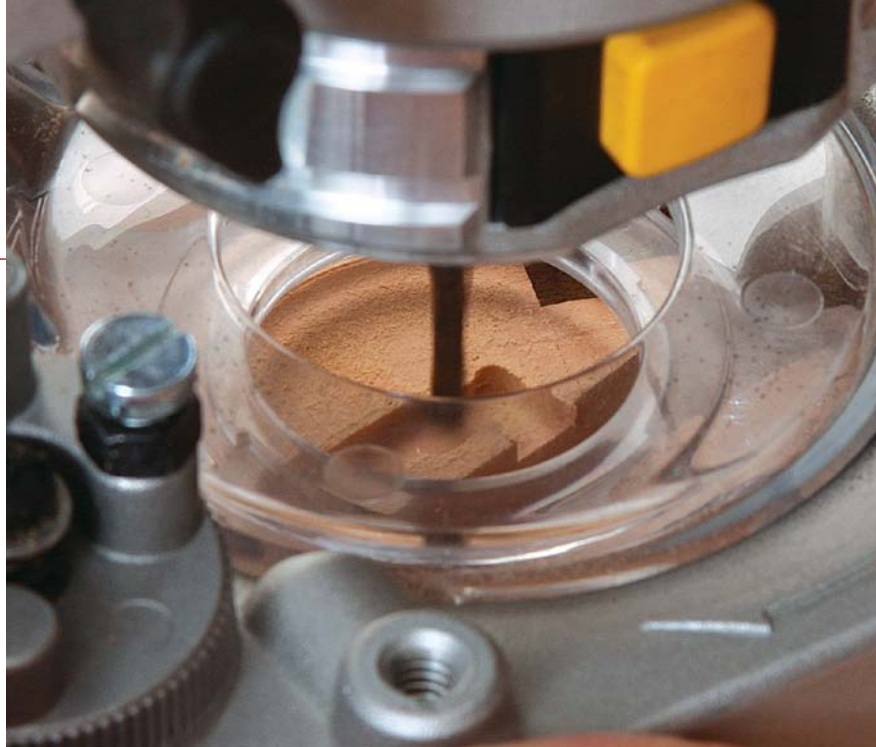


For future reference. Kenney looks down the length of the knife to ensure that its back is parallel to the line. Then he sets the square's blade against the knife, making sure that the end is flat on the knife's back. This distance is crucial; save the setting to use when marking the remaining mortises.

Mortise the case



Set the bit depth. Kenney uses the hinge leaf itself for the most precise reference when setting the router bit's cutting depth.



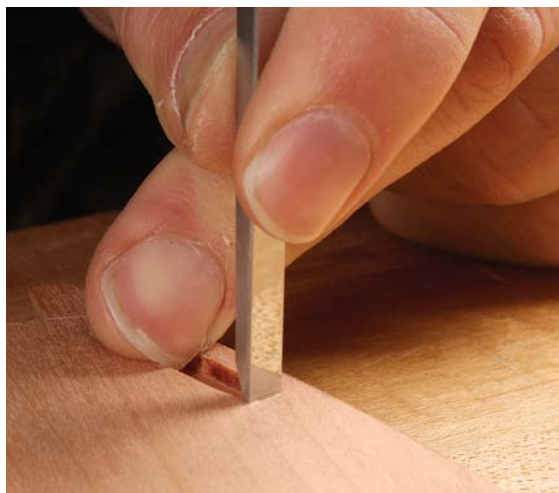
Rout cautiously, then clean up. The $\frac{1}{8}$ -in.-dia. bit allows room to maneuver the router, but use a slow, gentle motion to guide the cut.

separates the two hinge leaves (the washer can be too small to handle easily). In this way, the gaps on the sides will match the gap created by the hinge itself at the top and bottom.

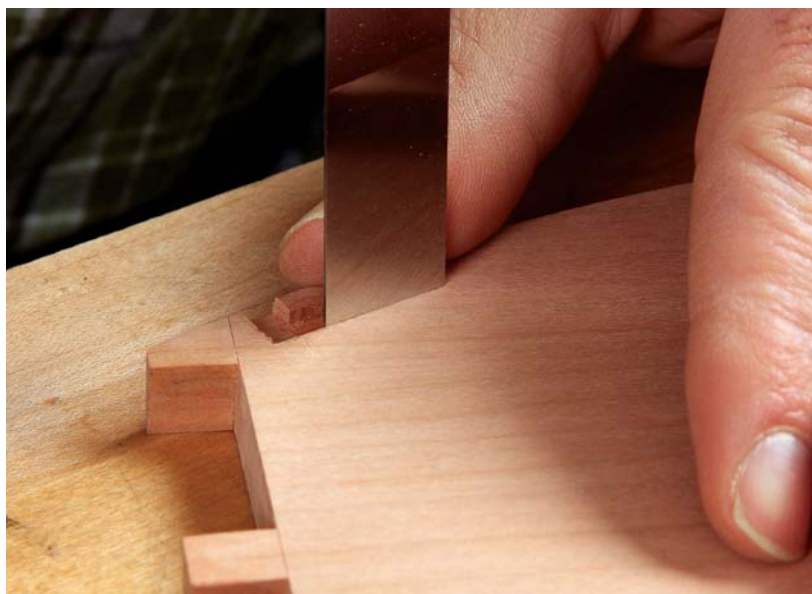
Put the shim against the cabinet side and push the hinge leaf—backed with double-sided tape—against it. The leaf should be angled so that it roughly parallels the front of the case. Now adjust the position of the leaf backward or forward so that the hinge pin is centered over the front edge of the case, and press the leaf into place. The hinge pin should sit half on and half off the cabinet so the door won't bind.

With the leaf secure, use a marking knife to scribe its outline on the cabinet top, and then remove the hinge.

For the doors to hang true and close flush, it's important to achieve a matching layout for the remaining mortises. To help do this, set a combination square off the back line you just scribed to capture



Chisel to the line. Use a narrow chisel to square the end of the mortise (left). Then use a wide chisel to pare to the knife lines (below).



Online Extra
To watch Kenney mortise and mount knife hinges on a curved door, go to FineWoodworking.com/extras.

the crucial distance between this line and the front of the case. You can then use the setting for laying out the other mortises at the same depth from the cabinet front,

once again using the tape-and-scribe method.

Once you've laid out the other mortises in the case, disassemble the cabinet and set up a trim router to remove the waste.

I use a $\frac{1}{8}$ -in.-dia. solid carbide spiral downcut bit. To set the bit's cutting depth, I turn over the router, put the hinge on its base, and then adjust the height

Mortise the door



Use the combo square. The saved setting lets you mark out for a mortise on the door that corresponds precisely to the one in the case.



Scribe around the hinge. Align the hinge to your knife mark and flush with the door's end.

flush with the top of the leaf. Rout out the waste freehand. Be careful. Clean up the edges and square the corners with a chisel, fitting as you go. Put the hinge in the mortise. Mark the screw holes, remove the hinge leaf, and then drill pilot holes.

Now mortise the door

The long leg of the hinge leaf should be perpendicular to the end of the door. The short leg should be flush with it.

Use the combo square to mark the back line. First, set the square on the door so that the top edge of the blade is flush with the end of the door. Put the knife against the end of the blade and push it in enough to make a little mark.

Take away the combo square. Put double-sided tape on the back of the hinge. Place the knife back in your mark, set the hinge leaf in place against it, aligning its short end flush with the edge of the door. Scribe around the hinge to



Rails support the router. With the workpiece held in a bench vise, Kenney clamps the door between two pieces of square stock to keep the router from tipping while cutting the mortise.

complete the layout. To rout the waste, I hold the door in my front vise and sandwich it with a pair of clamped-on pieces of straight stock for the router to ride on. After routing, I clean up and square the mortise with a chisel as before. Then I mark and drill pilot holes for the screws.

To install the hinges and doors after gluing up and finishing the cabinet, I first screw in the cabinet hinge leaves. Put the door leaves on the cabinet hinge leaves, and slide the door onto them. □

Matt Kenney is a senior editor at Fine Woodworking.



Two-step installation. To hang the doors, first screw the hinges to the case (left). Then slide the door onto the knife hinges and screw them in place (above).