

Easy Knife Hinges

Trouble-free method for installing this tricky hardware

BY CRAIG THIBODEAU



Knife hinges are perfect for the clean lines of the modern furniture I build. They are barely visible after installation and they're versatile, too. I've used them on small doors, large doors, flat doors, and even curved ones. Installing them can be difficult, because you must fit the door to its opening before you mortise for the hinge leaves, and even the smallest misplacement of the mortises can result in a door that doesn't swing properly and sits askew when closed.

I'll show you a simple method that's taken all the headaches out of the installation. I lay out the location with the hinge leaf sitting on a piece of blue tape. After cutting around the hinge, I pull up the tape to create a perfect template around the mortise that I use as a guide when routing out the waste and then paring the mortise walls. I'll show you how I do it using a straight knife hinge, which is used with doors that sit in front of the case sides.

Proper layout is the critical first step

The right time to mortise for a knife hinge is before the cabinet has been glued together. Make and assemble it dry, then make and fit the door. The gaps above and below the door are determined by the thickness of the washer that separates the leaves of the knife hinge.

Once the door has been fitted, set it aside and mortise the dry-assembled cabinet. The hinge's

Tape improves layout accuracy

A piece of blue tape on the cabinet becomes a template for the mortise, while double-sided tape ensures that the hinge leaf doesn't move when you cut around it.



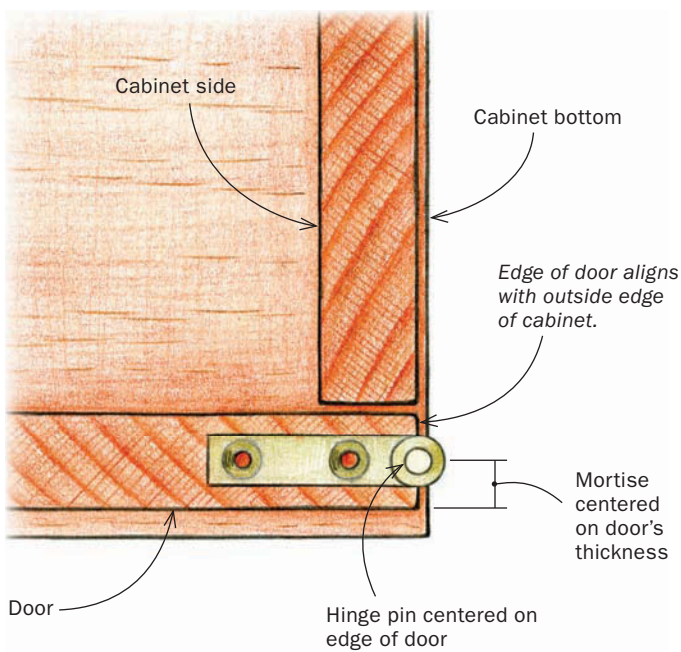
Blue tape sets the stage. Align the tape's back edge with the front edge of the cabinet side. It's OK for the tape to overhang the cabinet, but make sure that it's longer than the hinge leaf.



Mark for the door's side. After setting the door in place, trace along its edge. This line bisects the hinge pin.



Add a line for the setback. This represents the back edge of the hinge and mortise. Use a small double square or combination square, and reference off the cabinet's front edge so that you can repeat the setback for every mortise in the cabinet.



location on the cabinet is determined by the door's closed position in the completed cabinet. Half of the hinge pin should stick out beyond the door's edge, and it should be centered on the door's thickness. Don't forget to allow for a small clearance gap between the front edge of the cabinet sides and the back of the door,

so it can swing open without binding.

To mark the mortise's location on the cabinet, place a piece of blue tape over the area where it will be. Set the door into the cabinet, and adjust it to its closed position. Trace the door's outside edge with a narrow-tip marker on the tape. Remove the door, and then use



Tape the hinge to the cabinet. Press a piece of double-sided tape to the bottom of the hinge leaf (above). After exposing the tape's second sticky side, place the leaf on the cabinet, making sure that the line for the door's edge bisects the hinge barrel, and that the leaf is on the setback line (right).

a small double or combination square to mark the mortise's back edge, keeping in mind that the hinge should be centered on the door's thickness.

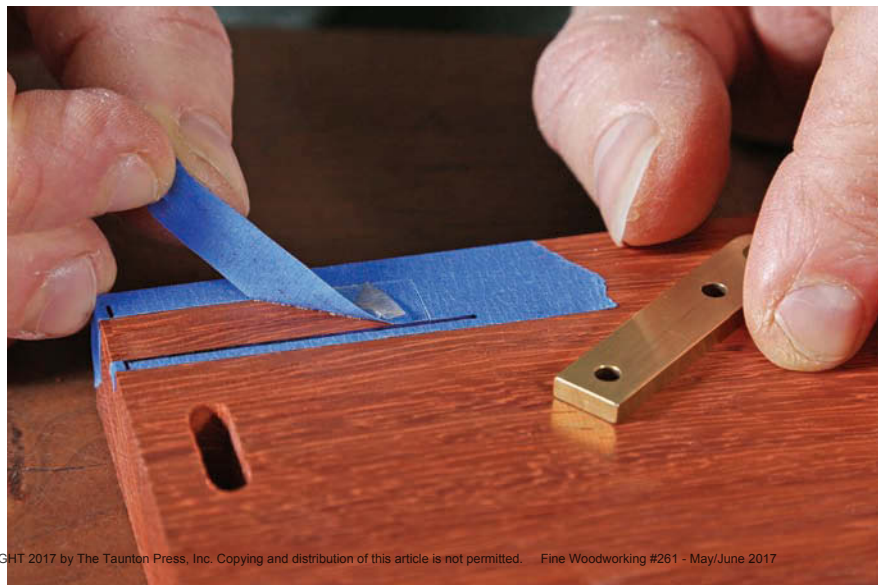
Now attach the hinge to the cabinet using double-sided tape. The hinge pin should be split by the line marking the edge of the door, and its back edge should sit on the line drawn with the small square. Next, cut around the perimeter of the hinge leaf. Pull up the hinge leaf, and then the area of blue tape that was beneath it. What remains on the cabinet is an outline of the hinge mortise. Disassemble the cabinet.

Clear the waste

I use a trim router with a $\frac{1}{8}$ -in.-dia. spiral downcut bit to rout the mortises. It's small and doesn't pull in any particular direction, so guiding the router is easy. Set the depth of the router to the exact thickness of the hinge leaf by placing four hinge leaves on the bench, putting the router base on top



Cut around the leaf. With a marking knife, follow the hinge's perimeter, cutting through the blue tape.



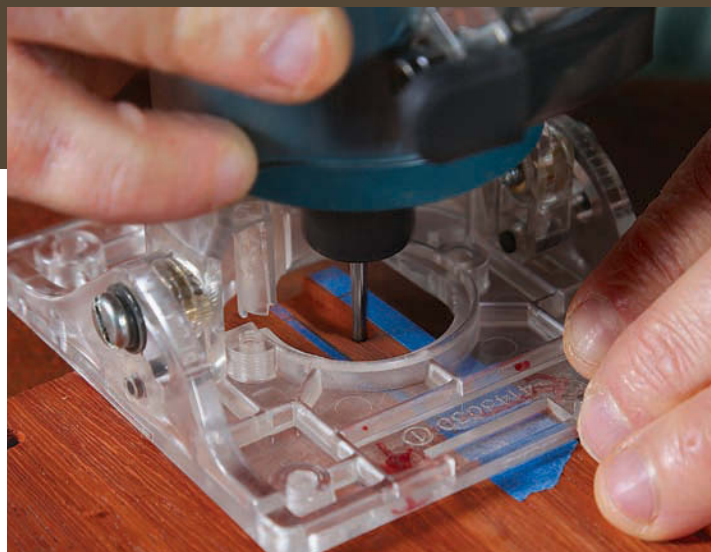
Pull up the tape. The remaining tape becomes an exact template for the hinge mortise, guiding you when routing the waste and paring the walls.

Route inside the lines

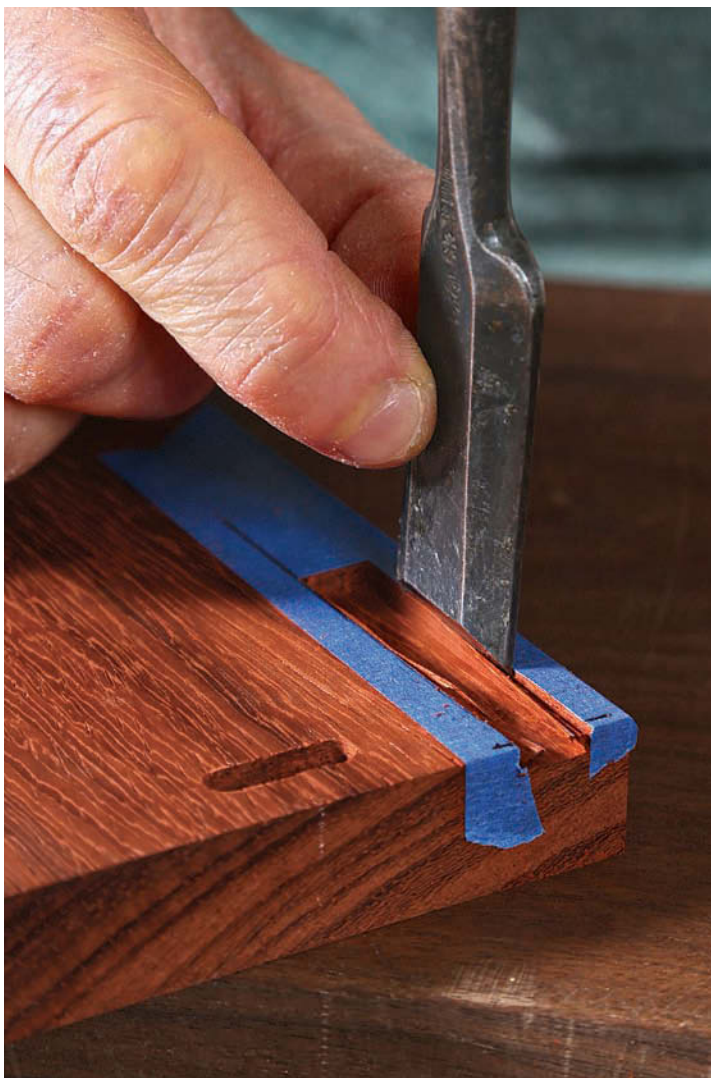
It's surprisingly easy to control a trim router when it's spinning a small bit. Cleaning out the waste is done quickly, and it's a snap to mortise to the correct depth.



Set the cutting depth. Rest the trim router on four hinge leaves, and then lower the bit to the benchtop. Don't worry about compensating for the thickness of the blue tape.



Route the waste. Use a narrow bit— $\frac{1}{8}$ in. dia. works well—to clear out the mortise. Get as close to the tape as you can, moving slowly to improve control over the router.



Pare to the tape. The tape's edge is like the line cut by a marking gauge. Put the back of the chisel against it and pare straight down (left). The hinge should slide in smoothly (above) but still fit snugly.

of them, and lowering the bit until it touches the bench.

Start routing in the center of the mortise and slowly work your way out to the perimeter, trying to cut just to the tape's edge. It's OK to play it safe at first and stay a bit inside the tape. After routing, pare the mortise walls with a chisel, using the tape as a guide. Work your way down the edges until you have clean vertical walls, then test the fit of the leaf, par-

ing areas that are tight. Work slowly so as not to overcut any areas. Once the hinge slides in and out with a snug fit, you are done.

After the cabinet mortises are done, cut the mortises in the door. To transfer the mortise location from the cabinet to the door, put blue tape on the top and bottom edges of the door, wrap it around the edge of the door, and put the door in place. Use shims to account for the



Mortise the door. With the hinge leaf in the mortise and blue tape on the door's edge, put the door in the cabinet and mark directly from the leaf's location. The process is the same as it was for the cabinet: Tape the leaf to the door, cut around it, remove the tape, rout the waste, and pare the walls.

Installing the door.

Start by screwing the case leaves in place, then place the door leaves on the hinge posts (right). Position the door on the bottom hinge with the top of the door tilted out to clear the upper hinge, slide it into place (far right), and screw the leaves to the door.



gap between the back of the door and the cabinet. Mark the mortise's location on the door's edge, and transfer this line to the door's bottom edge with a square. Follow the same process as for the cabinet mortises.

Do not drill holes for the screws until after you've tested the door's fit on the hinges and in the opening. If the door doesn't close smoothly and line up with the cabinet as it should, adjust the mortises until it does. Think carefully about this. For example: If the door sticks out at the bottom, pare from the front edge of the mortise in the door, and

add material to the back edge. This way the adjustments will be hidden. If you adjusted the lower cabinet mortise, the material added to the mortise would be visible.

After the door closes smoothly and aligns with the cabinet properly, drill holes for the screws. You can then continue with the cabinet's construction and finishing. When all is said and done, you'll have a door that opens smoothly and looks beautiful, riding on clean, modern hinges. □

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Drill pilot holes before assembling the case. A Vix bit automatically centers the hole, ensuring that the screw head seats properly in the hinge's countersunk hole.

