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## Flush-Mounted Doors

Follow our seven-step process for creating even reveals when hanging flush-mounted cabinet doors.

### Steps 1 & 2



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When you install a flush-mounted door, you simply place one rectangle inside another, right? Well, we all know that looks can deceive in the world of woodworking. Door installation can quickly zoom past "simple," and go all the way to "frustrating."

Ideally, your carcass has perfectly square corners, so does each door, and you fit them together with a perfectly even gap, or "reveal," all the way around. But don't count on it. Almost always, you'll have to compensate for small flaws that can add up to big problems. Here's how to handle the all-too-typical problems in a common two-door cabinet.



**1** First, build the doors to the exact size of the carcass opening. That gives you some extra wood to work with in the fitting process.

Set the cabinet up on your workbench, if possible, and make sure it's sitting level. Measure it carefully and, using a crosscut sled on your tablesaw, trim one door to a length  $1/16$ " less than the height of the opening. Now set the door in place, as shown above. Does the hinge-side stile sit tightly against the carcass? If so, you're off to a great start. But if you see space at one end, use cardboard or folded paper to make a shim that fits the gap an inch from the end of the stile. You'll use this shim in the next step.

**2** Go to the tablesaw to shave a bit off the bottom rail at a very slight angle. This will let you align the hinge stile, but won't ruin the look of the door as long as you don't have to trim off too much. To get the right trim angle, place your shim an inch from the end of the door that did not show a gap, as shown at **left**. Test-fit the door again, and trim some more if necessary. Be careful to remove very little stock with each trim.

### Steps 3, 4, & 5



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**3** Place the door in the opening with pennies as  $1/16$ " spacers on the bottom, as shown at **left**. Trim the top rail until you have a  $1/16$ " reveal there, too. Then stick a penny along the hinge stile and mark the knob stile's location on a piece of masking tape, also shown in the drawing. Now follow these first three steps again for the second door. When you mark the second door's knob stile on the masking tape, it probably will fall slightly beyond the first one. Mark halfway between the two to locate the center of the carcass opening. The doors should meet at that point before you make the final trim on the knob stiles.



**4** Establish the locations for your hinges, then cut mortises in your cabinet doors. Install the hinges, as shown at **left**. Here again, you want a  $1/16$ " reveal, so set your mortise depths accordingly. The surest method is to mortise



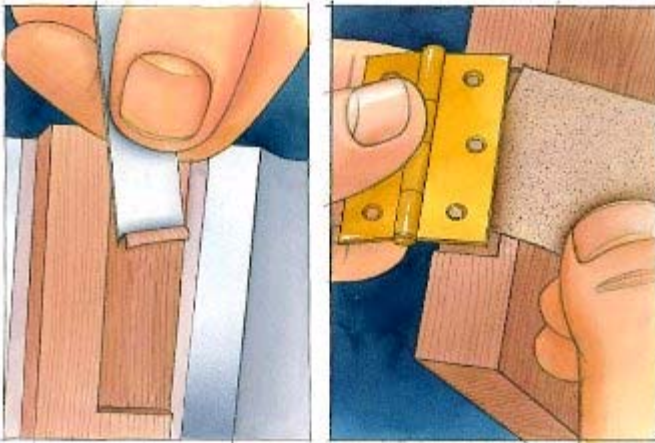
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a couple of pieces of scrap, install one of your hinges, and check the resulting gap. Caution: Even though you've found the perfect mortise depth for one hinge, that doesn't assure the same result for every other hinge. The dimensions can vary slightly, especially with handmade hardware.



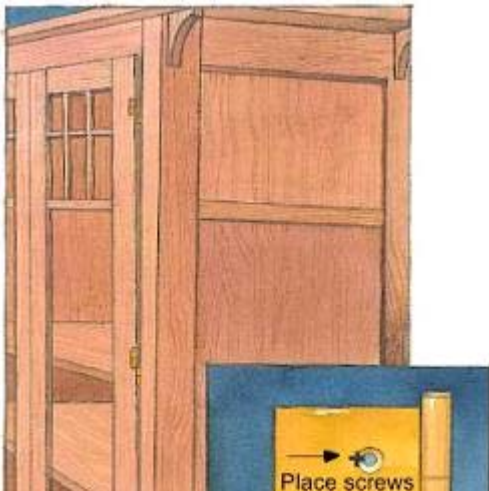
**5** To find the correct hinge locations on the carcass, put the door in place again with pennies underneath. Mark lightly with a sharp pencil at both ends of both hinge barrels, as seen at **left**. Remove the door, hold a loose hinge at each set of marks, and mark around the hinge plate. Using those marks as guides, cut mortises and install the door with just one screw in each carcass-side leaf. Repeat with the second door. If everything looks perfect, add the rest of the screws.

## Steps 6 & 7



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**6** Sometimes, after all that careful work, you still might find yourself looking at imperfect reveals. If the gap is too large at one end, you'll have to chisel a thin layer of wood out of the nearest mortise, as shown **above, left**. When a reveal is too slight, loosen the screw in the carcass-side hinge and slip a piece of paper, sandpaper, or cardboard into the mortise to bump the hinge out just a bit, as shown **above, right**. Tighten the screw, and check the reveal again.



**7** Another common problem: The reveal turns out fine, but the plane of the door doesn't line up with the face frame, as shown at **left**. Loosen the single screw placed in each carcass-side leaf, and place screws as shown in the inset. To shift the door out, put each screw against the outer edge of its hole. To pull the door in, put the screws against the inner edge. Once the door is lined up, remove the original screw entirely, fill the hole with toothpicks and glue, and drill a pilot hole after this plug hardens.

Finally, when everything is lined up just right, trim the knob stiles to produce a 1/16" reveal down the middle. Take the same amount off each door, using your tablesaw or a handplane, and bevel them slightly toward the inside. The bevel lets them swing open and shut without banging together at their inside edges.



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