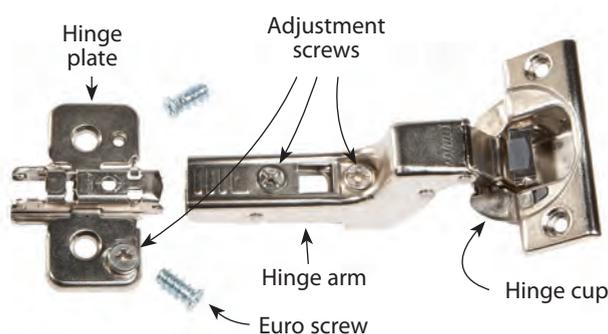


# How to Install a Cabinet Door

Dial in a perfect fit with even gaps all around.

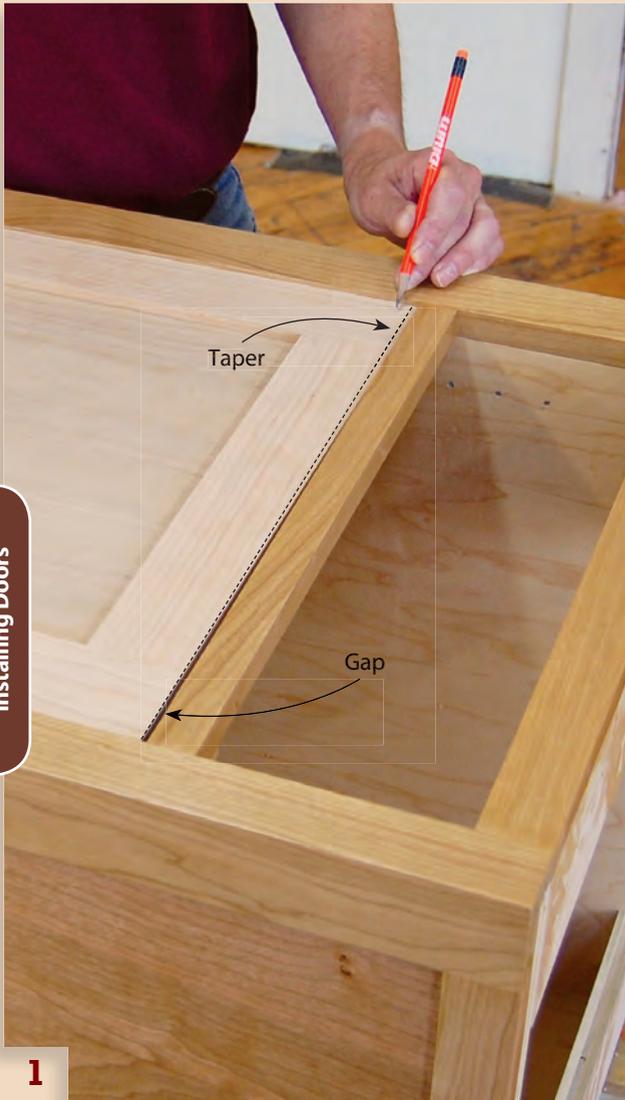
by Greg Larson

**IF YOU'VE EVER** installed cabinet doors using traditional butt hinges, you know what a pain in the butt they are to work with. That's why Euro-style hinges have become so popular in the cabinet industry. Euro hinges allow you to quickly adjust the gaps around an inset door, compensate for any irregularities and re-adjust the gaps in the future if the doors sag or the cabinets settle. Some hinges even come with an integrated soft-close feature, such as the Blum hinges we'll install (see "Euro Hinge Anatomy," below and Sources, page 47). Euro hinges are designed to work with the 32mm system, so if you follow the system rules for boring the mounting holes, your door installation will kick butt.



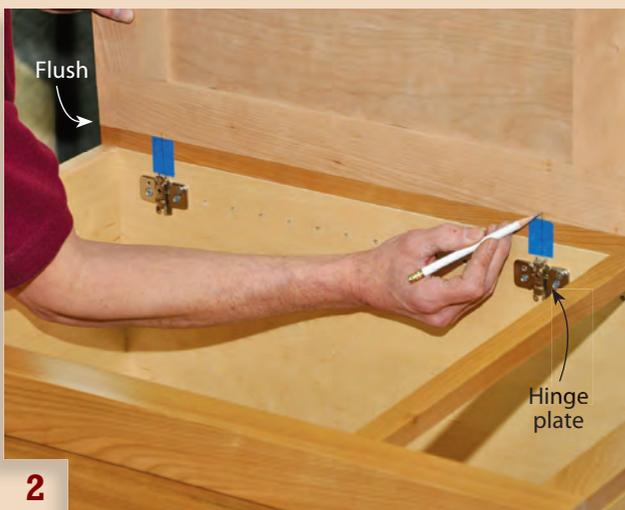
## Euro Hinge Anatomy

Two-part Euro-style hinges make it easy to install an inset door and adjust its fit in the opening. The hinge plates mount on the cabinet with Euro screws; the hinges mount on the door with #6 x 5/8" flat-head screws. To install the door you just snap the hinge arms onto the hinge plates. Once the door is installed, adjustment screws on the hinge arm move the door in and out and side to side. An adjustment screw on the hinge plate moves the door up and down.



1

**Fit the door** to the face frame. To eliminate an uneven gap like this one, simply taper the door's top edge in the opposite direction.



2

**Locate drilling locations** for the hinge cups. First, extend the hinge plate centerlines. Then stand the door on edge, flush with the bottom of the face frame, to transfer the lines.

## Fit the door

I always build inset doors to the same dimensions as the door openings and then trim them to fit, with even gaps all around. If the door or face frame openings aren't perfectly square, the doors have extra material for trimming, so that the gaps are even. Trust me, everyone will notice if the gaps are uneven, but no one will notice if the door isn't perfectly square. Industry standards allow gaps up to 1/8", but I prefer smaller 3/32" gaps.

Start by trimming the door to snugly fit the opening by jointing one or both of its stiles until it barely slips between the face frame without binding. Then check the door's fit: While holding one of its stiles flush against the face frame, butt the door up against the mid rail. If no gap appears, the door and opening are square.

If an uneven gap appears you'll need to trim the top of the door (**Photo 1**). Mark the top for tapering while holding the door in position as before, with one stile against the face frame. I use an edge sander to trim the top edge, as is common in a production shop. But you can also use your jointer or a router with a flush-trim bit and a board with a straight edge.

Remove as little as possible to make the uneven gap at the top disappear. Then trim the door until all the gaps are 3/32" wide and its bottom edge is flush with the bottom of the carcass. I use the jointer (set to remove 1/32" or less) for trimming and 3/32" thick spacers to verify that the doors are properly sized (see **Photo**, page 45, at top).

## Install the hinge plates

Euro hinges consist of a hinge plate and the hinge itself. Hinge plates come in different thicknesses to allow "building out" the hinge if the inside of the cabinet is recessed behind the face frame. The construction method shown here allows using #0 hinge plates, because the inside of the carcass is flush with the face frame (see "Cabinet-Building Essentials," page 32). Mount the hinge plates in the appropriate system holes using 5mm x 13mm Euro screws (see Sources). The system holes were drilled in the carcass sides prior to assembly; the Euro screws are designed to fit the system's 5mm holes. Before mounting each hinge plate, make sure its vertical adjustment is centered.

## Install the hinges

Most standard Euro hinges mount in a 35mm hole drilled into the door. This hole must be properly located for the hinge to function correctly and to insure adequate adjustment in all directions. Use the center point of each hinge plate to transfer the hole locations to the door (**Photo 2**). Use a square to extend the line to the edge of the face frame stile. Make sure the door is flush with the bottom of the face frame when you transfer the marks—this ensures the top gap will be correct. Use a square to extend the marks onto the door—they represent the center lines for drilling the hinge-cup holes. To mark doors for top cabinets, simply center them between the face frame's top and bottom rails.

Consult the hinge manufacturer's instructions to deter-

mine the appropriate distance from the edge of the door to the edge of the hinge-cup hole. Typically called the “tab,” this is the distance required to obtain the desired gap (or “reveal”) while allowing the hinge’s full adjustment. Note that this spec is measured to the edge of the hole, not to its center. To obtain the 3/32" gaps we want with the inset hinges we’re using, Blum specifies a 5mm tab.

Install a 35mm Forstner bit (see Sources) and use the specified tab to set the fence. Then index the fence at the bit’s center. With the machine off, lower the bit onto a piece of scrap until the bit’s center marks the wood. Without moving the scrap piece, use a square to transfer the mark to the fence. Then simply line up the marks on the door with the index line on the fence and drill holes deep enough to fully seat the hinge cup—usually 1/2" deep (**Photo 3**). I always drill a hole in a test piece, mount the hinge and test it on the cabinet to verify that there’s enough in-and-out and front-to-back adjustment before drilling the actual cabinet doors.

After drilling the holes, mount the hinges using a straight piece of scrap wood to align them parallel to the edge of the door (**Photo 4**). Drill pilot holes for the #6 x 5/8" mounting screws using a self-centering bit (see Sources).

## Mount the door

Clip the hinge arms onto the hinge plates and adjust the door’s fit (**Photo 5**). The hinge plates we’re installing have a cam adjustment that moves the door up or down, so it’s easy to make fine adjustments. Make sure to adjust both hinge plates. Adjust the side-to-side and in-and-out screws on the hinge arm as necessary until the gaps around the door are even and the door is flush with the face frame. The adjustment screws look like they have Phillips heads, but they’re actually Posi-drive screws, so use a Posi-drive screwdriver to avoid stripping them (see Sources).

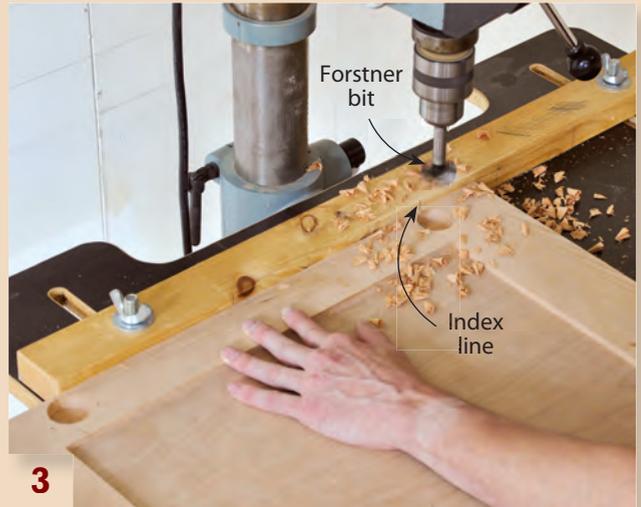
Remove the hinge cups before applying finish to the door. Mark both the hinge cup and the hole in the door, so that the hinge gets installed back in the same spot after finishing. This reduces the amount of readjustment you’ll have to do later.

### SOURCES

- McFeely’s, [mcfelys.com](http://mcfelys.com), 800-871-8158, Euro Screws, 5mm x 13mm, #0513-ECS-C, \$5.70 per box of 100 screws; Undercut Flat Head Screws, #6 x 5/8", #0605-FPU-C, \$2.65 per box of 100; Self-centering bit, #6, #VIX-0764, \$9.40.
- Woodworker’s Hardware, [wwhardware.com](http://wwhardware.com), 800-383-0130, Blum Clip-Top 110° Inset/Self Closing Hinge w/ Blumotion, #B071B3750, \$5.29 each; Blum Hinge Plate, Cam Ht. Adj., 0mm offset, #B173H9100, \$1.10 ea. (one required per Hinge); Blum #2 Pozi Screw Driver, #B POZI, \$8.33; 35mm Economy Carbide Bit, #MD1026, \$16.61.
- Kitchen Cabinet Hardware, [kitchen-cabinet-hardware.com](http://kitchen-cabinet-hardware.com), 800-530-8245, Delicate Pull, 96mm, #P84729-SN, \$3.29.



See how to mount inset doors using butt hinges  
[AmericanWoodworker.com/WebExtras](http://AmericanWoodworker.com/WebExtras)



**3** Drill holes in the door for the hinge cups. Align the index lines you’ve drawn on the door with a line on the fence that marks the bit’s centerpoint.



**4** Install the hinges. Insert each hinge cup in its hole. Then use a scrap board with a straight edge to align the hinges parallel with the edge of the door.



**5** Mount the door by clipping the hinge cup arms onto the hinge plates. Then use the adjustment screws on each hinge to center the door in the opening and make it flush with the face frame.

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