



6 Rules for Fast and Foolproof Cabinetmaking

A smart design, a few jigs, and some tactical advice will maximize output and minimize mistakes

BY SVEN HANSON

In my years as a cabinetmaker, I've found that it's rarely the big stroke of genius that makes the difference; rather, it's the avoidance of dumb mistakes. Simplifying cabinet designs and standardizing construction have made me feel a whole lot smarter. By making frameless cabinets, ordering the doors and drawer fronts from an outside vendor, and using production-oriented jigs, I've eliminated a lot of expensive router bits and stock preparation. Follow these guidelines, and you'll be able to go from shop drawings to finished cabinets quickly and accurately, with a minimum number of expensive tools and mistakes.

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Photos by Daniel S. Morrison, except where noted.

1 RULE

BUILD THE BOXES, BUT BUY THE DOORS Making cabinet doors is tedious and doubles the amount of time needed to build a kitchen, so I prefer to let someone else do it. Before I start building cabinets, I order doors and drawer fronts from an outside supplier. They're usually ready (sanded and finished) by the time I've completed the cabinet cases. It's hard for me to meet the quality/price ratio that a shop can deliver. For suppliers, see "Mix and Match: Mail-Order Cabinets" in *FHB* #159. Some other smart characteristics are shown below.

Upper cabinet

Doors and drawer fronts can be ordered in any size and in a wide variety of styles. Factory-applied finish is also an option, but may be hard to match to cabinet boxes.



Use concealed hinges. They are complex-looking and more expensive than other types of hinges, but they're adjustable in three directions, making the doors easier to install.



Simplify the joinery. Cabinet cases are made from 3/4-in. plywood. Assembly is done with glue and 1 5/8-in. trim screws. Use 1/4-in. plywood backs to square the cases.

Use applied end panels. Exposed screws in case sides will be hidden when cabinets are joined together. For end-of-run cabinet sides, use finished plywood panels.

The toe kick isn't part of the cabinet. Simplify case construction (and cabinet installation) by setting the cabinet box on a platform framed in 2x material.

Base cabinet

Eliminate shelves in base cabinets. Drawers and roll-out shelves make base cabinets more useful. With a drilling jig, drawer-slide hardware is easy to install.

Use full-extension drawer slides. For slightly sticky drawers, drawer width can be adjusted finely by sliding the drawer box through a tablesaw with the blade height set at about 2 in.

ONLINE EXTRA

To see a video of Sven Hanson making story poles for a kitchen-cabinet job, go to www.finehomebuilding.com.

RULE 2

FINISH BEFORE YOU START Edgebanding and applying a finish are best done to big pieces, but not too big. My usual strategy is to rip 4x8 sheets of plywood into 2x8 pieces, a size that's easy to finish and move. You'll have to go back and add a little edgebanding after all the parts are cut, but working on 2x8 sheets first will get the work done faster.

Iron on the edging. Using the plywood as a ruler, I snap off a bunch of 97-in.-long strips. With the help of a spring clamp, I balance a strip on the top edge of the plywood sheet so that it overhangs each end. With the iron on a hot (linen) setting, I tack down one end of the edgeband, then iron toward the other end. To ensure good adhesion, scuff the plywood edge beforehand with 80-grit sandpaper, then dust it clean with compressed air.



Trim one edge at a time. Edge trimmers normally trim both sides at once. That's fine for vinyl edging, but you'll get smoother results with wood if you show some respect for the grain. Pull the tool apart, and work one side at a time to avoid splits (www.virutex.com; 800-868-9663).



I like Parks Pro Finisher varnish (www.newparks.com; 800-225-8543). Before applying the varnish, it's a good idea to raise the grain with a damp sponge, then knock down the fuzzies with 220-grit sandpaper. This method speeds the process by requiring fewer coats to get a finer finish. I finish the banded edge and one side (the better-looking one) of each piece, which then becomes the inside of the cabinet. If you finish both sides, you're mostly wasting time on surfaces that you'll cover up later with adjacent cabinets, drawers, or end panels. After assembly, I finish any visible outer surfaces.



When the varnish has dried, I knock down the bumps before applying a second coat. Sandpaper works fine, but I like to smooth the finish with a cabinet scraper.



Tip: Single-edge razor blades make great scrapers for the edges.

3 RULE

STICK WITH BASIC DIMENSIONS

I begin the process by making a cutlist of all the parts I'll need (sides, tops, bottoms, backs, etc.) and note the dimensions both on the cutlist and on an unfinished end of the part (ballpoint ink will last). I use basic dimensions that divide well into a plywood panel. To account for the sawkerf, subtract $\frac{1}{8}$ in. from the following sizes: 6 in. and 9 in. work well for drawers and toe-kick stock; 12 in., 16 in., and 18 in. work well for varying depths of upper-cabinet sides, tops, and bottoms; 24 in. is good for base cabinets.



Cut plywood efficiently. To avoid making crosscuts in full-size sheets of plywood, I rip sheets lengthwise, then turn to crosscutting. My shopmade cross-cut sled rides in the table saw's miter-gauge slots, making precise crosscutting easy.

4 RULE

SPEED ASSEMBLY WITH SIMPLE JOINERY AND A LOW TABLE

Rarely do I rabbet cabinet backs or dado drawer bottoms. Instead, I fasten backs and bottoms directly to the edge of the plywood with polyurethane construction adhesive and nails or screws. When assembling, I use homemade corner blocks and a low assembly table to keep things square and at a comfortable working height.

Corner blocks are made with shop scraps. Plywood cutoffs with square corners and lipped sides work well for clamping cabinet sides together or, as shown, for drawer assembly. I use a drawer side as a gauge to space the blocks properly. Then, with front and back standing, I wedge a side between to keep them steady while fastening the other side.



The back is structural. With the drawer sides assembled, use the drawer bottoms to rack and hold the boxes square. I prefer plywood over hardboard or medium-density fiberboard for the bottoms (and cabinet backs) because of its light weight, durability, and ability to hold fasteners.



Tip: Sand off the finish that will be glued. A rabbeted sanding block allows me to do this quickly and neatly. With a piece of 80-grit sandpaper glued in the rabbet, I rough up the varnished surface that receives the butt joint.

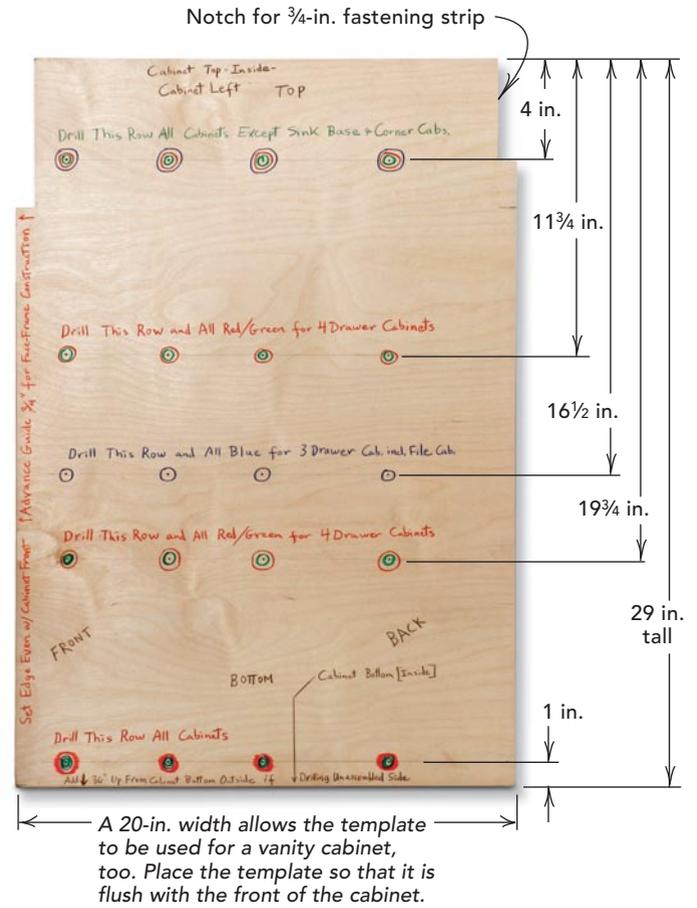


5 RULE

USE DRILLING TEMPLATES Because I think that base cabinets with shelves are a sin against common sense, I fill them with drawers or roll-out upgrades ("Improving Kitchen-Cabinet Storage," *FHB* #161). But installing all that drawer hardware can be finicky business. I avoid a lot of mistakes by using a full-size template made from 1/4-in. plywood or melamine. My template defines the positions of the holes for drawer slides in kitchen base cabinets (three- and four-drawer type), vanity cabinets, and file drawers, too. I simply color-code the holes to minimize mistakes.



Don't crawl into a cabinet to install drawer hardware. Do it on a bench instead. With the cabinet on its side and the template wedged in place, I drill all the holes for the drawer slides with a cordless drill. Flip the cabinet and template over, align the front edge, and drill holes in the other side.



For upper cabinets with adjustable shelves, I ensure accurate hole spacing by using a drilling template, which I made with a piece of melamine on a friend's line-boring machine. You also can buy a template from most woodworking stores for around \$25. This template's spacing ensures consistency and allows you to take advantage of the European cabinetmaking system if you want to.



Use a cordless drill to place shelf holes accurately. Set this template against the bottom of the cabinet, and work your way up. The template is symmetrical, but working from the bottom up avoids any problems caused by a cabinet side that may have been cut a bit shorter than the other.



Tip: Install the cabinet backs last after drilling holes and installing the hardware. This approach boosts your screw-driving comfort zone by allowing access from front or back.

RULE 6

INSTALL DOORS WITH A HINGE STICK

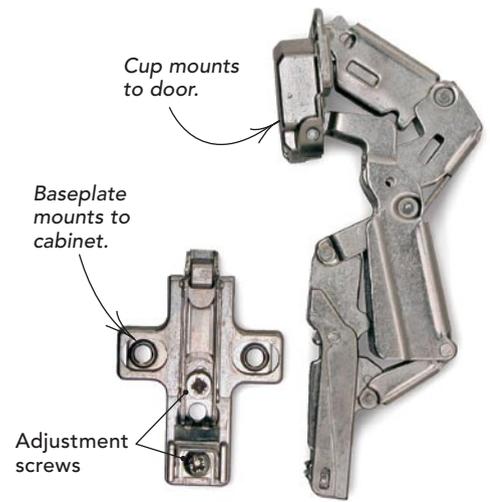
European-style hinges come in two pieces: a cup and a baseplate. The cup mounts to the door, and the baseplate mounts to the cabinet side. The two parts then snap or screw together. Because they're two-part hinges, it's crucial that the corresponding pieces line up, or they won't snap together. My hinge stick keeps the distance between baseplates and the setback from cabinet front consistent. To use it, insert cup hinges into the holes, and with hinges in the closed position, screw the baseplates to the cabinet side. Test the operation of the door stick. If all's well, adjust the bumpered screws to the distance between the open door and the cabinet. Now you can install all the baseplates with the stick in the open position.

The cup hole must be close to the edge of the door, or the door will rub against the cabinet when opened and closed. You almost can't get too close, but you certainly can get too far. About 1/8 in. will allow the door to overlay the cabinet frame fully without rubbing. With the cup hinge squarely in the hole, set one screw. This will ensure that all hinges are installed consistently.

Set the adjustable bumpers after the first set of hinges is in place and working happily.

Drill holes all the way through so that the stick can be used for left- or right-hinging and as a drilling guide.

Cup holes are drilled an equal distance from the end so that the stick can be flipped top or bottom.



Align the hinge stick with the top of the cabinet, drill pilot holes, and drive the baseplate screws. The bumpers ensure consistent setback on all the hinges.



The best way to bore the cup holes is to use a 1 3/8-in. Forstner bit with a depth stop in a benchtop drill press. Set up a fence with reference marks to ensure consistent alignment. Without a benchtop drill press, the hinge stick can make a good drilling template if clamped to the door.