

BUILDING Kitchen Cabinets IN PLACE



Use production
methods to create
a vintage-look
kitchen on site

Even with the vast selection of ready-made cabinet styles on the market, sometimes the only way to get the look

by Ron Girard

you're after is to build them yourself. I've been called on more than a few times to construct a kitchen from scratch as part of a restorative remodel of an antique Cape Cod

home. While the intent is to recapture the look and feel of an earlier era, this is homage, not true reproduction. These kitchens feature modern amenities such as hot and cold running water, high-end appliances, granite countertops, top-quality hardware, and carefully designed lighting — things the original builders never imagined. In this article, I'll explain how I site-build a vin-

tage-look cabinet to function in a modern kitchen.

Materials

Authenticity is important, but not as important as stability. Given my preference, I'll use $\frac{3}{4}$ -inch lumber-core birch plywood for the cabinet base and sides and $\frac{3}{4}$ -inch MDF (medium-density fiberboard) for the raised door panels. I also use $\frac{1}{4}$ -inch

MDF for drawer bottoms. It's stable, smoother than lauan plywood, and sufficiently strong for the job. I prefer solid 5/4 (1 inch dressed) maple for the face and door frames because it's stable, durable, and it takes paint beautifully. I do meet some resistance, however, when I recommend pricey maple face frames for a paint-grade cabinet. I can substitute a less expensive material, like poplar or pine, but pine isn't as stable as maple, and darkly striped poplar tends to bleed through a painted finish. For the kitchen described here, we knocked maple out of the budget and worked exclusively with 5/4 sugar pine for the exposed surfaces (see Figure 1).

Wide end panels are best made of stable, engineered material to avoid warps and splits. Unless the cabinets are to receive a clear finish, I'll simply use birch plywood for the end panels. For a clear finish, I'll overlay the plywood with the lumber of choice. The pine we purchased for this job came from a reliable source with a warranted maximum 6% to 8% moisture content on delivery. I carefully went through the select-grade lumber and selected the best, flattest stock for wide pieces, setting aside less desirable boards for rips and narrower components.

Layout

Rather than using an absolute, final design, I work from a general layout, some detail views, and on-the-spot input from my client. I want the appliances purchased and delivered so that I can work with precise dimensions. This also eliminates scheduling snafus down the line when we're ready to template the countertops, because we already have our hands on the drop-in cooktop, sinks, deck-mount faucets, and any other items that might require a cutout or accommodation. Moreover, this allows me to make final layout decisions as the job progresses. I draw the full-size cabinet plan on the floor and wall and walk my client through the design. At actual size, we can go



Figure 1. To match the budget, the author used clear, 5/4 sugar pine for the face frames on this job, although he prefers maple for its hardness, stability, and paintability.



Figure 2. AC plywood replaces the drywall behind the cabinets to provide uninterrupted fastening for the cabinets and beaded wall paneling.



Figure 3. The author installs the beaded paneling after fitting the cabinets to the wall, letting the beaded profile die neatly into the carcass. The wall cabinet sides drop beyond the bottom by 2 inches, forming stops for an undercabinet lighting valance.

through the motions of using the sink and appliances, reach for upper and lower shelves, and generally troubleshoot the layout. With this kind of participation, I always have happy customers at the end of the job because the kitchen has truly been customized for them. The process requires a good deal of flexibility and creativity on both our parts, but it's how I like to work.

Solid Backing

In the job shown here, cabinet construction began with the back wall. To provide a solid, universal attachment surface, I removed the drywall from the cabinet areas and replaced it with $\frac{5}{8}$ -inch AC plywood (Figure 2). In old homes like this one, framing centers are wide, eccentric, and insufficient for countertop cleats, cabinet spreaders, or the $5\frac{1}{4}$ -inch tongue-and-groove center-bead pine I use to cover the finished wall surface and cabinet backs.

Other quirks you can count on are an out-of-level floor and out-of-

plumb walls. I use a laser level to establish my horizontal lines, and, in this case, found discrepancies as great as $1\frac{1}{2}$ inches in the floor plane and a $\frac{7}{8}$ -inch lean to the walls.

Shimless Construction

Uneven floors are a challenge. I find the highest point in the layout and establish my finished countertop height (36 inches) there. I cut and install the cabinet sides first, so I can size the panel accordingly when I encounter a low spot in the floor — a simpler and neater solution than shimming a standard-length panel. I also scribe the panel to the wall, having allowed extra width for that purpose. The scribe removes the eccentric difference between the panel's projection when held plumb against the wall and the predetermined face line. Rather than using a compass, which can be tricky to hold absolutely parallel, I use a small wood block, ripped to the maximum width of the scribe, and trace it along the panel edge for perfect results.

All of these cabinets were built backless, relying on the wall for a finished surface. Even though the interior and back of a door-base cabinet gets little scrutiny and could be left as raw plywood, it's the little things that make a difference, so I paneled the wall below the countertop cleat line with the 1x6 beaded pine. When I built the wall cabinets, I carefully fit the beaded board around them, inside and out (Figure 3), taking care to keep the pattern aligned. Because the walls were far from plumb, I also scribed these cabinet sides to compensate for any unevenness. Applying the beaded board after the cabinets are in place lets the bead profiles die into a solid edge and makes the cabinets look truly built in, not hung there like pictures on the wall. I let the sides run long, 2 inches below the bottom, and notched them back to serve as stops for a dropped, recessed valance that would conceal undercabinet lighting. Instead of crowding the window, I held the cabinets back

about 10 inches and made a nice transition from cabinet to window casing with quarter-round, open shelves (Figure 4). I continued the valance strip all the way around to the wall, band-sawing the radius sections from a wide block of pine.

Reverse Toespace

Taking the cabinet face straight to the floor gives the kitchen a distinctive look, but you can't eliminate the toe-space without making it difficult to stand at the counter. One solution is to project the upper drawers and dead-panels instead, effectively giving the same ergonomic benefit. We overhung the faces at the sinks and stove, recessing the lower doors by about $2\frac{1}{2}$ inches (Figure 5). To help compensate for the slight awkwardness of the recessed doors, I built pull-out shelves on full-extension slides and installed a slide-out dishtowel rack under the sink.

Inset doors and drawers are distinguishing characteristics of this style of cabinet, but they're time consuming to install if you want nice, even reveals and flush surfaces. A secondary beaded strip lining the finished opening looks nice and helps conceal small deviations, but you can't get away with much. To make drawer installation and alignment as effortless as possible, I construct the drawer boxes and make a support frame of equal height surrounding each drawer (Figure 6). I use my framing square to gauge the positioning of the full-extension steel-roller-bearing Accuride (Santa Fe Springs, Calif.; 562/903-0200, www accuride.com) drawer slides I prefer. The 2-inch-wide blade determines placement on the frame, and the $1\frac{1}{2}$ -inch-wide tongue determines placement on the drawer sides. The resulting $\frac{1}{2}$ -inch offset gives plenty of clearance at the top of the drawer for the slight upward movement required by a self-closing slide. I can simply lower the drawer and frame assembly into the topless cabinets and adjust its location to true the drawer front in the opening,



Figure 4. Wall cabinet sides run long to support an undercabinet light valance, which returns around curved open shelving to the wall.



Figure 5. In place of a toespace, the dead-panel and upper drawer fronts stand proud of the doors below by $2\frac{1}{2}$ inches. Lower access is improved by the installation of pull-out shelves and a slide-out towel rack.



Figure 6. A support frame simplifies hardware installation and drawer alignment. The author premounts the slides on drawer and frame, then aligns and screws the sub-assembly into place before the countertops are installed.

which means I never have to climb inside the cabinet to install or adjust the hardware.

Face alignments. I install the drawer faces after the boxes are installed. Wood shims hold an even margin around the face while I shoot a couple of brads to fix the position (see photo, page 1) before opening the drawer and permanently securing the face from inside with four screws.

I make traditional frame-and-panel doors with the help of a few router bit profiles and a router table. (Incidentally, I make all of the crown moldings, sticking, and custom profiles I work with right on site, with nothing more than the router table and a portable surface planer.) The door stiles and rails are tenoned and pinned with 1/4-inch maple dowels. I use 3/4-inch MDF for the panels, which float in the frames. The stable MDF ensures that the door will remain flat — critical for an inset-style door. Even though I take pains to make the openings in the face frame plumb and square, the doors are trickier to fit than the drawers. Before the countertop is installed, it's pretty easy to reach inside and support the door while shimming the reveals. If necessary, I can plane a door edge to fine-tune the margins. For consistency, I mark the hinge locations with a site-fabricated jig before cutting the mortises in the door and frame with a freehand router. An off-center screw can throw the hinge — and therefore the door adjustment — out of whack, but a vix bit, made for predrilling hinge screw holes, makes screw centering automatic.

Painting. Before I turn my work over to the painters, I fill all the holes with wood dough, finish-sand the surfaces, and install all the finish hardware (Figure 7). That gives us one more chance to reposition a pull for better appearance, if need be, while still leaving time to repair the holes before the finish goes on. 

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Figure 7. The author prefers to install all finish hardware prior to painting, to determine the best appearance and eliminate the need to patch holes in the finish.