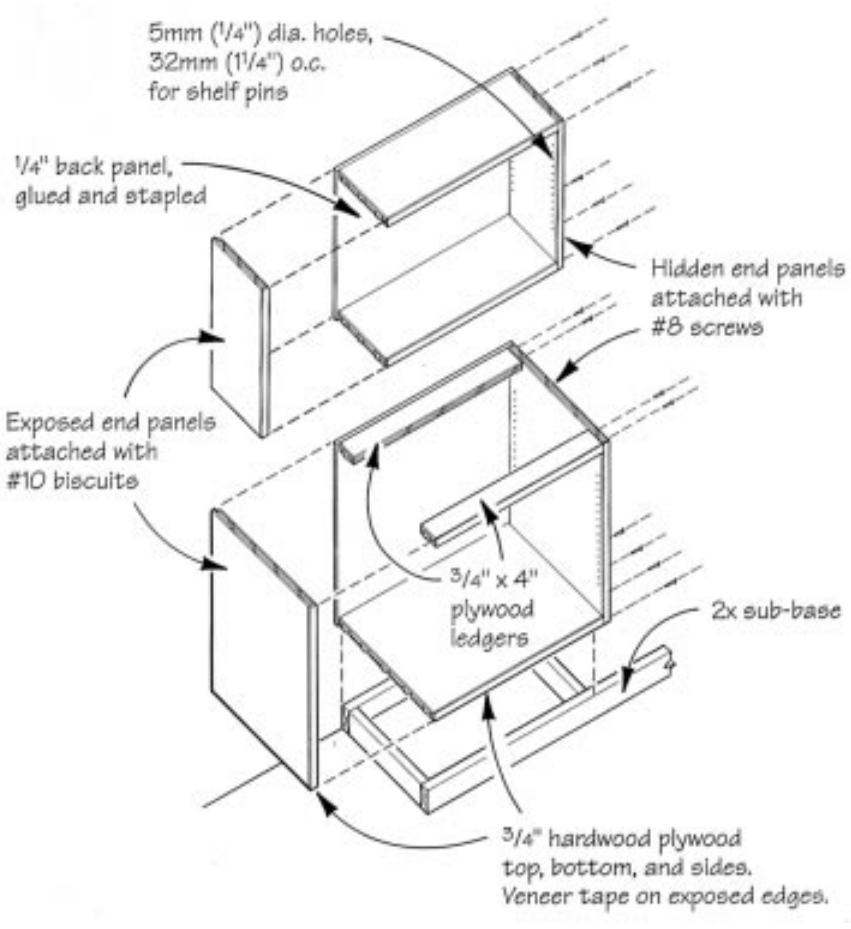
# Profiting From Frameless Cabinets

by Lee McGinley

Frameless, or Euro-style, kitchen and bath cabinets burst onto the scene in the mid-1980s and were predicted to take over the kitchen and bath industry. That never happened, but today frameless cabinets account for one-third of all kitchen and bath cabinets sold. As a small custom remodeler, I pitch frameless cabinets to my kitchen and bath customers, building at least one custom kitchen a year. Their simplicity and flexible hardware make them an ideal complement to a contractor's shop. And with simple equipment and outsourcing of doors and drawers, custom frameless cabinets can be a real profit center for the custom remodeler.

## Simple Cabinet Construction




Frameless cabinets are simple to build. Exposed plywood edges are banded with veneer tape or hardwood strips. Exposed ends can be attached with biscuits.

### 32mm System

You may have heard the term "32 millimeter" used in association with frameless cabinets. This refers to the spacing — about 1 1/4 inches — between holes for shelf support pins. These holes also double as pilot holes for hinge baseplates. But don't let the 32mm nomenclature scare you away. The system is easily adapted to the foot-inch measuring system.

Frameless cabinets have several advantages over their cousins, the traditional stile-and-rail cabinets:

- They can be easily built in a small shop without a lot of expensive equipment.
- The components are few: 3/4- and 1/4-inch hardwood plywood or melamine; edge banding tape; hinges and drawer slides.
- Rather than mortise and tenon or lap joints, frameless cabinets use butt joints.
- The hardware is infinitely adjustable; out-of-alignment hinges or drawer slides can be tweaked back into place with simple screw adjustments.
- There are no stiles and rails to restrict access to cabinet interiors — a good selling point with my customers. For example, a 12-inch-wide face-frame cabinet would allow 8 inches or less of free access space, while a frameless cabinet of the same width would allow 10 1/2 inches of free access.

Two other features attracted me to building custom frameless cabinets: Since most of my work is in older homes with uneven and out-of-level floors, I can build a rough base from 2-by material, and shim and scribe that to the floor for a level platform for the cabinets. This saves countless hours on my knees try-

Building the carcases and ordering the doors allowed the author to create this custom kitchen with simple tools. Note the doors used as end panels on the island.

ing to fit manufactured cabinets with built-in toe-kicks. I then cover the rough base with a finished kick.

Also, building the cabinets custom gives more flexibility in fitting them to the irregular spaces I work in without resorting to filler strips.

## Equipment

My shop setup is simple. Attached to my Delta 10-inch contractor's table saw, I have a Mule sliding table and a Paralok fence. These two pieces of equipment allow me to rip and crosscut plywood components to within 1/32 inch of square.

In addition, I use a Veritas 5mm hole boring jig for drilling holes for shelf support pins, a biscuit jointer for blind fastening, a 3/8-inch variable speed drill and Fuller screw bits for pilot holes, and a 1/4-inch pneumatic crown stapler for attaching backs. If pressed for time, I'll contract with a local millwork shop to precut panels and sometimes even to assemble the carcases.

## Assembly

Cutting components and assembling the cabinets is easy. Most of my jobs call for painted cabinets made from birch cabinet-grade plywood, but I've also used melamine. Recently, I used birch plywood with a clear UV-resistant prefinish on both sides; to my surprise, the product didn't scratch during fabrication, the finish was professionally applied, and I did not have to lug the carcases to a finisher to spray on a clear finish.

Cutting the components to size is a two-step process: From 4x8 or 4x10 sheets, I rough-cut the components with a circular saw and a 4- or 8-foot straightedge, always keeping one factory edge on the length and width to square the panels. I then cut the panels to actual size on the table saw, first ripping to width, then crosscutting to length. As I go along, I write on the backs of each piece a component number which corresponds with the cabinet layout; for example, the first wall cabinet in the run might be marked "W-1." I cut shelves 1/4 inch undersize in width and length.

I used to apply hardwood edge banding tape with an iron, but the results were poor (the tape might come loose or splinter). I subsequently outsourced the edge banding to a local millwork shop, which also gave me the option of using 1/4-inch solid wood edging instead of tape. This makes for a more durable edge, and creates a nice contrast on melamine cabinets. Edge banding isn't expensive — less than $100 for a typical kitchen, plus my time to pick up and deliver. I sometimes ask the millwork shop to run the edge-banded panels through a wide-belt sander to eliminate any ridge between the plywood panel and the edge banding.

Once back in the shop, I line bore. Again, after doing a few kitchens with the Veritas, I realized it was quicker and more accurate to have this work done by the millwork shop at the same time the edge banding was applied.

Next comes assembly. For cabinets with no exposed end panels, I predrill and screw the components (sides, top, and bottom) together with 2 1/4-inch square-drive screws spaced about 6 inches apart, starting 2 inches in from each end. For exposed end panels, I use a biscuit joiner. In some cases, I'll order extra doors to serve as end panels, attaching these with screws from inside the cabinets.

I cut the 1/4-inch-plywood backs 1/8 inch undersize in length and width. I use the backs to square the carcases as I glue and staple them in place with 1/4x1-inch crown staples.

Drawer slides are next. To avoid fighting the laws of gravity, install drawer slides either before the carcases are assembled or by laying the carcase on its side.

## Doors and Drawers

I order the doors and drawer fronts early from the Cabinet Factory (LaCrosse, WI; 800/237-1326), and have the doors prebored for cup hinges. Two or three weeks later they arrive at my shop, about the time I finish assembling the carcases. At the same time, I order maple dovetailed drawers from Eagle Woodworking (Tewksbury, MA; 800/628-4849).

I check the doors, drawers, and drawer fronts for size and finish when they arrive, but wait until the cabinets are hung before installing them. This reduces the possibility of damage to the doors and speeds installation. I screw the carcases to studs and use chrome connector bolts to join adjacent cabinets.

## Pricing

I charge $150 to $200 per linear foot, depending on material and door choices, plus installation. On my last custom kitchen, the materials ran $900, custom painting was $800, outsourced doors came in at $400, maple drawers and rollouts totaled $640, and edge banding and line boring added $120, for a total of $2,860. I billed the job at $8,400, including installation. Cutting and assembly took four days. Installation of wall and base cabinets, as well as an island, custom refrigeration panels, and custom end-panels (doors) ran six days.

***Lee McGinley** is an associate editor at the* Journal of Light Construction.