Staying On Top of the Kitchen

by Carl Hagstrom

I spent a number of years installing cabinets for a high-end shop in my area, and during that time I dealt with site mixups that ranged from minor glitches to major (and expensive) headaches. Interestingly enough, just about all the problems I observed could have been prevented had the contractor carefully thought about the kitchen plan during the construction process. Here are the most common problems I saw and strategies builders can use to avoid them.

You've Got to Have a Plan

There are no exceptions to this rule. If your customer hasn't chosen cabinets, appliances, lighting, and all the other kitchen-related items before the construction starts, I can almost guarantee that you'll be "readjusting" some of your work. Have the customer approve and initial the kitchen plans and specifications, and make sure you have installation sheets for all the appliances on hand at the start of construction.

Framing

Take a few minutes before diving into the framing process to compare the kitchen plan to the framing layout. If a downdraft range or cooktop is specced, you should be on red alert.

If you're lucky, a slight adjustment in floor joist layout may be all that's needed to provide an open joist bay directly under the downdraft duct outlet. If a flush floor beam is located between the appliance and the exterior wall, you may have to rethink your structural plan, or reconsider the kitchen plan. Ductwork that twists and turns to bypass obstructions can result in a "blow hard" exhaust system — one that makes a lot of noise but fails to vent the appliance.

If you plan to duct a downdraft appliance through a dedicated joist bay, make claim to the space before the mechanical subs show up. If you don't, you'll most likely be stymied by a maze of ducts, pipes, and wires when you attempt to install the exhaust ducting.

When a standard exhaust hood will be used over a range, center a stud bay at the range location. The duct connection on most hoods is centered, and you'll avoid chopping away at an interfering stud later on.

Consider installing blocking for the base and upper cabinets (see Figure 1). The material can be culled from framing scrap, and it takes less time to install the blocking than it does to find and lay out the stud location during installation. Typically, blocking for standard cabinets should be located 34 1/2 inches and 83 inches above the finished floor height.

Heating, Cooling, and Plumbing

Cabinets gobble up considerable exterior wall space, and baseboard heat or wall registers that would typically be located in the exterior wall are often relocated in the toe space beneath the base cabinets.

Toe-kick heaters and supply and return ducting must be carefully located under the appropriate cabinet. Communication with your mechanical subs is a must for this. Clearly mark on the floor where any heaters or ductwork must fall. I've arrived at more than one job site to find a toe-kick heater installed in the dishwasher opening. Avoid placing heaters or ductwork in sink base cabinets, appliance openings (stoves, dishwashers, and refrigerators), or cabinets housing downdraft appliances.

Don't forget that the location of air-conditioning supply registers can interfere with the upper cabinets. Again, communication with your sub and a clear cabinet boundary line will prevent conflicts.

Plumbing supply lines should be placed 3 to 4 inches from the back of the sink cabinet. This leaves plenty of room for storage in front of the piping but still provides room for adjustment when walls are crooked or out of plumb.

And don't forget: If the refrigerator has an ice maker, you'll need to run a small copper supply line to the refrigerator opening.

Switches and Receptacles

Switch and receptacle height for a typical kitchen (counters at 36 inches with a 4-inch backsplash) is 42 inches from the bottom of the finished floor to the bottom of the device box. Many electricians use a "story stick" to lay out the box height, but if the floor is out of level (often the case when remodeling),

Cabinet Blocking

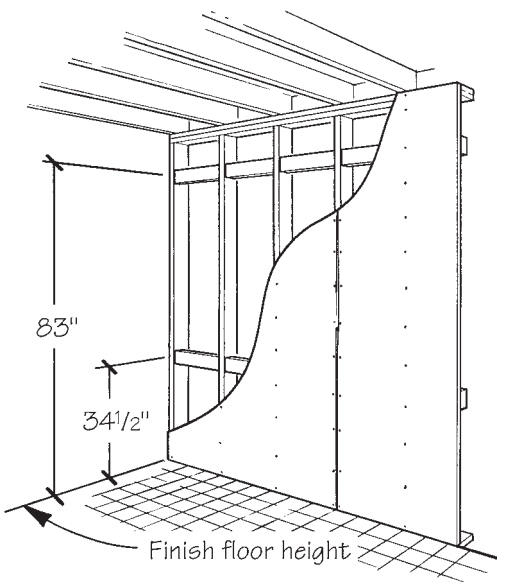

Figure 1. *For standard-height kitchen cabinets, locate blocking 34 1/2 inches and 83 inches above the finished floor height.*

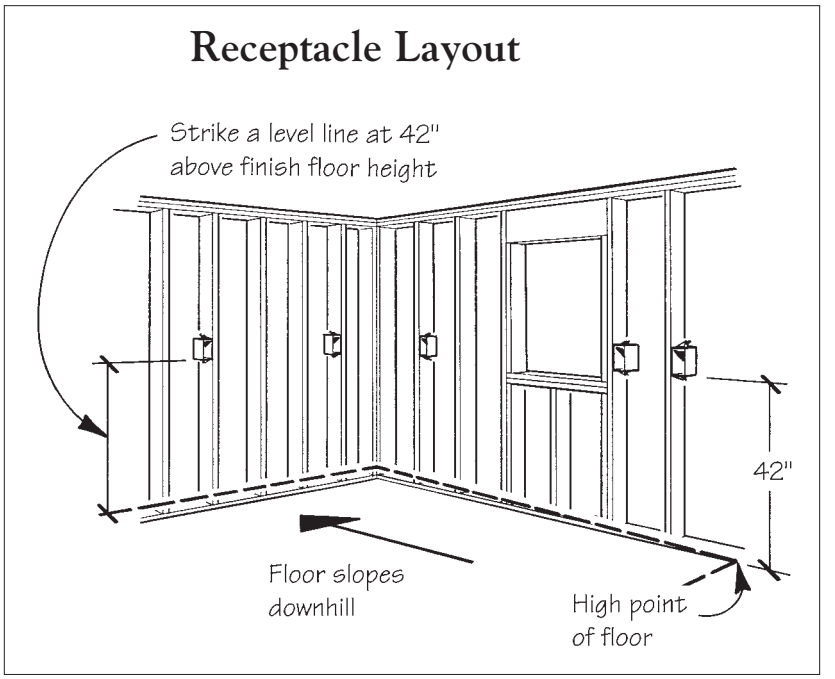

Figure 2. *Be sure to set kitchen device boxes to a level line. Measuring from the floor can result in a row of outlets that are out of level.*

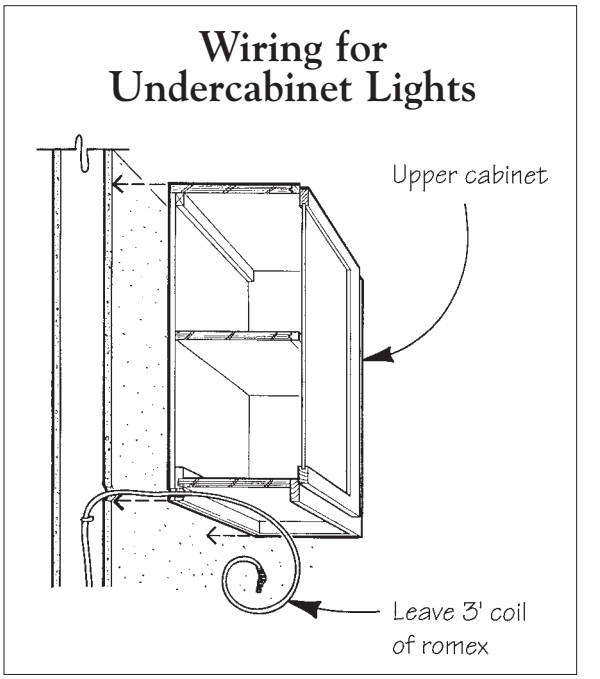

Figure 3. *Rough in feed wires for undercabinet lighting 2 inches above the bottom of the upper cabinet. Leave a 3-foot coil of wire to feed the fixture.*

and the box height is layed out by measuring from the floor, the outlets and switches will not be parallel with the level backsplash. I recommend marking a level line for your electrician that represents the bottom of the device boxes (Figure 2). If the floor is out of level, start your layout at the highest point of the floor system.

Your electrician also needs to know the reveal of the device box from the interior face of the stud. If tile will be used for a full-height backsplash, the reveal of the boxes will need to reflect the additional thickness of the setting bed and tile.

When positioning device boxes, most electricians will fasten the boxes to the nearest and most convenient stud. I've seen switches that have ended up in appliance garages, receptacles placed in hard-to-reach corners and refrigerator openings, and receptacle covers that conflict with wide window casings. You'll avoid trouble if you go over the location of the receptacles and switches with the electrician, and mark which side of the stud the device box should be placed on. If the box falls between two studs, mark the location on the exterior sheathing or write a note on the side of the closest stud.

Some appliances require specific receptacle locations. Many microwaves, for example, call for a receptacle to be placed inside the cabinet they're mounted to; Sub-Zero refrigerators limit the receptacle placement to a 6x7-inch area in the upper corner of the refrigerator opening. The installation sheets generally contain these special requirements.

Lighting

The best method I've found to feed the fluorescent strip lighting commonly placed on the underside of upper cabinets is to have the electrician staple the feed wire to a stud 2 inches higher than the bottom of the upper cabinet (Figure 3), and leave a 3-foot coil of wire hanging from the stud. The drywall crew cuts a small hole in the drywall and threads the wire through the hole as the sheet is installed.

The upper cabinet is installed in much the same way as the drywall. Drill a 1/2-inch hole in the back of the cabinet in the recessed area under the cabinet bottom, then thread the wire through the hole as you lift the cabinet into place.

When recessed lights are placed according to a specified lighting plan, take a few minutes during framing to compare the fixture layout to the ceiling joist layout. Rearranging the joists to accommodate fixture placement can save hours of whackin' and hackin' when you discover that a recessed light placement falls directly on a ceiling joist.

Cabinets or Flooring First?

Opinions will vary on this issue, and I've been involved in a few heated discussions on this topic. Here's my advice:

Tile. Give your tile sub a break, and let him at the floor before the cabinets go in. This will eliminate most of his cutting chores, he won't have to worry about tile mud and grout getting on the cabinets, and you should get a break on the cost.

Hardwood. Install the flooring before the cabinets, then sand and finish the floor after the cabinets are installed. Prefinished flooring can be installed ahead of the cabinets, but you'll need to be very careful not to scratch the floor during cabinet installation. Protect the floor with rosin paper.

Vinyl. Install the underlayment, but hold off installing the sheet goods until the cabinets are in. It's difficult to repair damaged vinyl flooring.

One last word of caution: When a customer makes a change in the kitchen plan, go over your change order carefully. The ripple effect created by a seemingly small change may affect many subtrades and add significantly to the cost. ■

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