Designing Better

KITCHENS

Sometimes you have to break the old rules to create safe, workable, and attractive kitchens

by Jim Krengel

Often I'll visit a recently finished home where the kitchen has obviously been given a lot of attention but doesn't really work well for the homeowners. Sometimes this is because the kitchen designer hasn't taken the time to ask the client some simple questions: For example, will the kitchen be used by a single cook only to prepare meals? Or is the kitchen the family's social center, where parents and children gather at the end of a busy day to catch up with one another? There's no "one size fits all" when it comes to kitchens, and getting the answers to such questions is the beginning of good design.

But sometimes the reason a kitchen doesn't work is because basic guidelines have been ignored. In this article, I'll share some of the most common errors I see in kitchen design — most of which I have made at one time or another. Hopefully I can help prevent you from doing the same. I'll also provide some design rules that I follow in my kitchen design work. Some deal with safety, some with appliance placement and work flow, and some with aesthetics.

Landing Space Minimums for Cooktops & Ovens

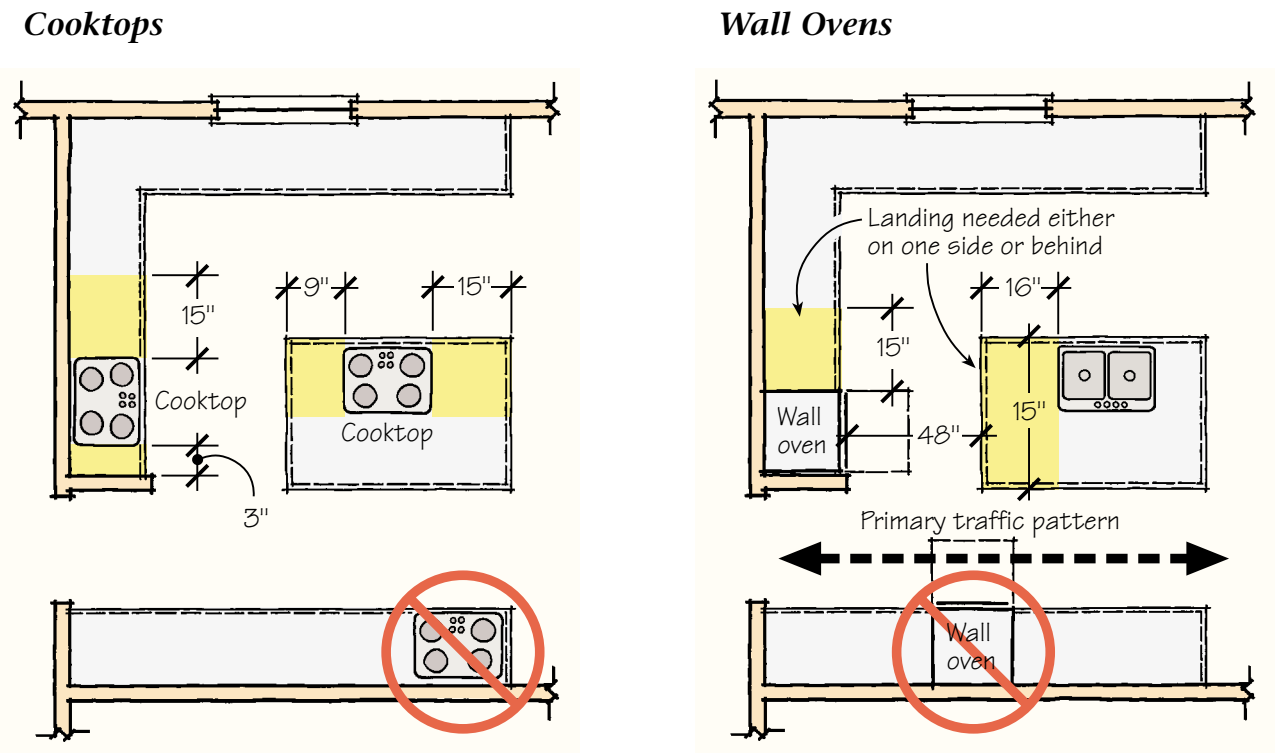


Figure 1. Always provide at least 15 inches of counter space next to a range, flush with the cooking surface. This allows the user to slide a pot off the burner without lifting. For open-ended counters, there should be 9 inches on the other side. This prevents pot handles from hanging over the counter edge. When the cooktop abuts a wall, maintain at least a 3-inch clearance, and protect the side wall with a flame-retardant material, such as ceramic tile. For safety, install the oven beyond the common traffic area, within 48 inches of a counter at least 15 inches wide.

Safe Cooktops & Ovens

My clients are usually concerned with aesthetics and convenience, but for me there's no issue more important than safety.

According to the National Kitchen and Bath Association (NKBA), a cooktop should have at least 9 inches of open countertop on one side and 15 inches on the other (see Figure 1, next page). This rules out installing a cooktop or range at the open end of a run of cabinets, where pot handles might hang out over the edge, leading to spills or scalding accidents. These dimensions are minimums. More counter space would be better, but it's not always possible in smaller kitchens.

Ovens require a 15-inch-wide landing surface on one side for receiving hot cookware, or 15 inches of landing no farther away than 48 inches across from the oven. The oven door shouldn't open into a major traffic area, since someone could come around a corner, run into the open door, and get burned.

Move That Microwave

Personally, I'm less than thrilled with microwave ovens installed above a cooking surface (Figure 2). While the NKBA guidelines clearly show that the microwave is too high in this location for comfortable use, there are also safety concerns. For example, a child climbing up on a chair to make microwave popcorn might rest a hand or knee on a hot burner.

Traffic Patterns

It's important to place a kitchen so the traffic doesn't go through the cook's work triangle. The kitchen shouldn't be a transitional space or a link between two other rooms. It should be located in a terminal or offset location, in order to prevent both accidents and aggravation.

I often see kitchens with work aisles as narrow as 36 inches (and sometimes less). The minimum practical allowance should be 42 inches, measured from countertop edge to

Locating the Microwave

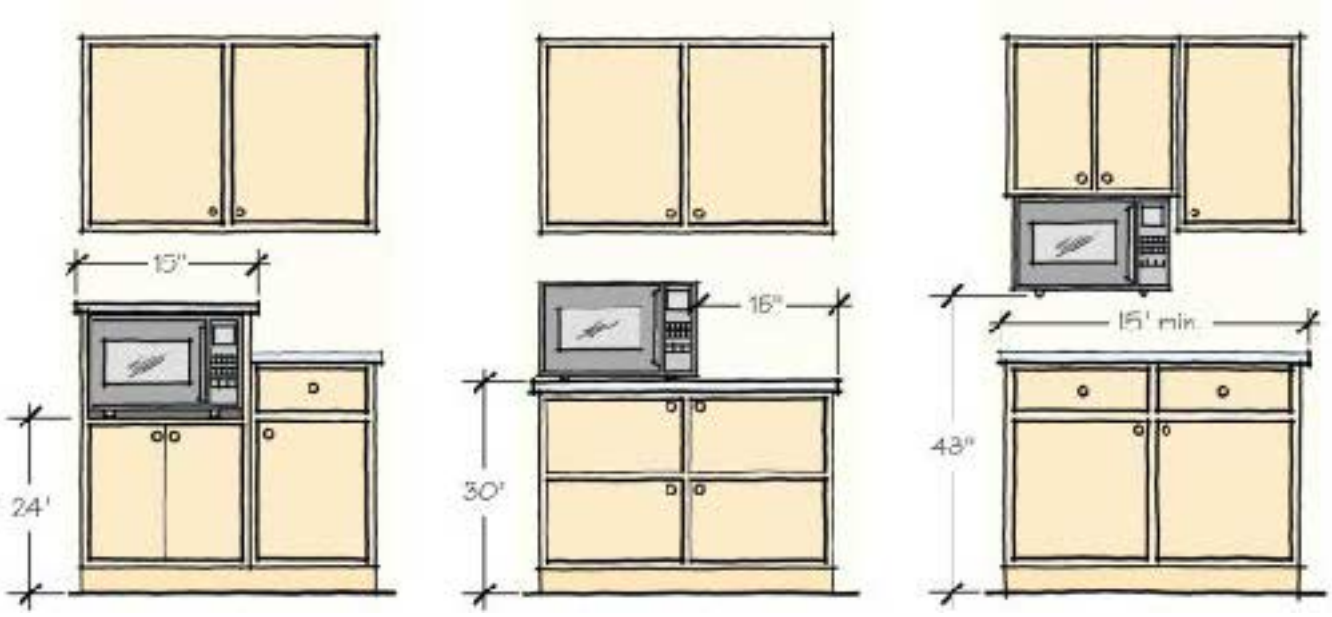


Figure 2. For easy access, the bottom of a microwave oven should be between 24 and 48 inches above the floor. Provide a minimum 15x16-inch landing area immediately above, next to, or below the appliance. Although it's often done, placing the microwave over a range risks injury to small users (see photo).

countertop edge.

Conflicts of interest. Appliances are often installed in such a way as to interfere with one another (Figure 3, page 4) For example, the dishwasher door will conflict with a refrigerator or oven door. This can usually be prevented with proper planning, regardless of kitchen size.

The refrigerator should be located so that it's equally accessible to food preparation areas as well as to the table, since it's used just as often in setting and clearing the table as it is during meal preparation.

The dishwasher is conventionally located to one side of the sink, based on the "handedness" of the user. Actually, it's better to place the dishwasher where it will be convenient to the table. With most new dishwashers, it isn't necessary to pre-rinse the dishes, so they can go directly from the table to the dishwasher, savings tons of time and water.

The microwave is often misplaced as well. Many designers incorrectly locate it near the oven, in spite of the fact that the oven is only used in 15% of meal preparation. Meanwhile, the microwave is used at virtually every meal. A location near the refrigerator makes more sense.

When two or more small appliances share a countertop, allowing 36 inches of space between them makes for a more comfortable work area.

Cabinet Considerations

Many kitchens are designed with good traffic flow and work triangles, but are equipped with too many narrow 9- and 12-inch-wide cabinets.

Small cabinets are difficult to use effectively, and cost more for the storage space provided. As a general rule, 18-inch and 36-inch cabinets offer the most usable storage, and create the best-looking kitchens.

Slide-outs. Almost everyone loves slide-out shelves. However, if installed in cabinets that are too small, they lose their effectiveness. I like to use slide-out shelves in 30-, 33-, and 36-inch cab-

A Kitchen With Conflicts

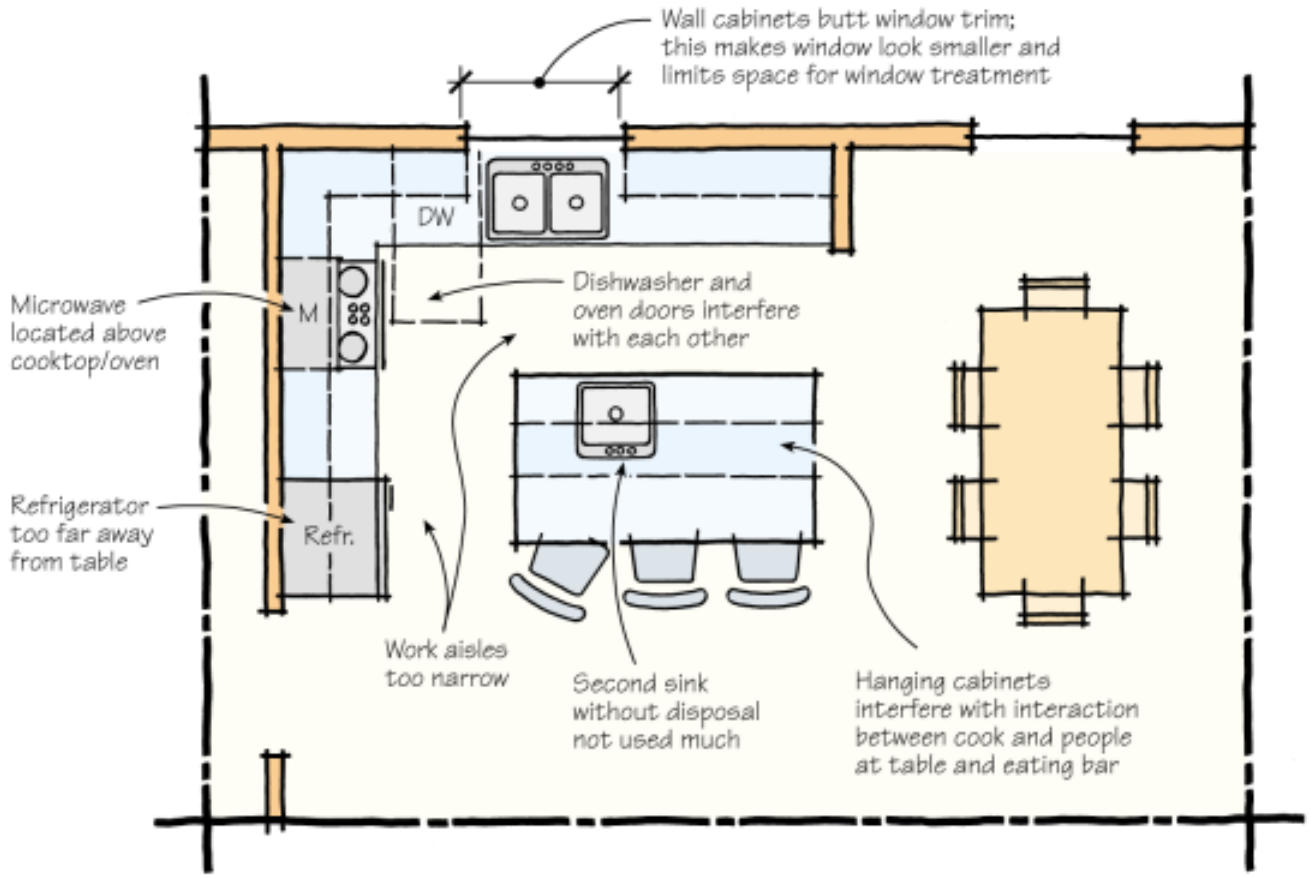


Figure 3. Planning a kitchen around the way it's actually used is the basis of good design. Narrow work aisles and crowded appliances interfere with functionality, while cabinets hanging above the island block social interaction (above). Rethinking the appliance locations and widening the work aisles makes the layout more accessible (next page).

inets, and try to avoid 21- to 27-inch cabinets altogether. If I have a cabinet that's 18 inches wide or narrower, I'll use a drawer-bank instead of slide-out shelves.

Pantry cabs. Some of the cabinets that consumers love to look at are in fact the worst. Take the swing-out multi-storage pantry: It's expensive, and because it's essentially made for canned goods, it can be a real space waster. As an alternative, I recommend a nominal 36-inch-tall base cabinet with five adjustable-height sliding shelves. It's less expensive, wastes no space, and is wonderfully adaptable, since it can be used to store pots and pans, plastic ware, canned goods, or just about any kitchen utensil.

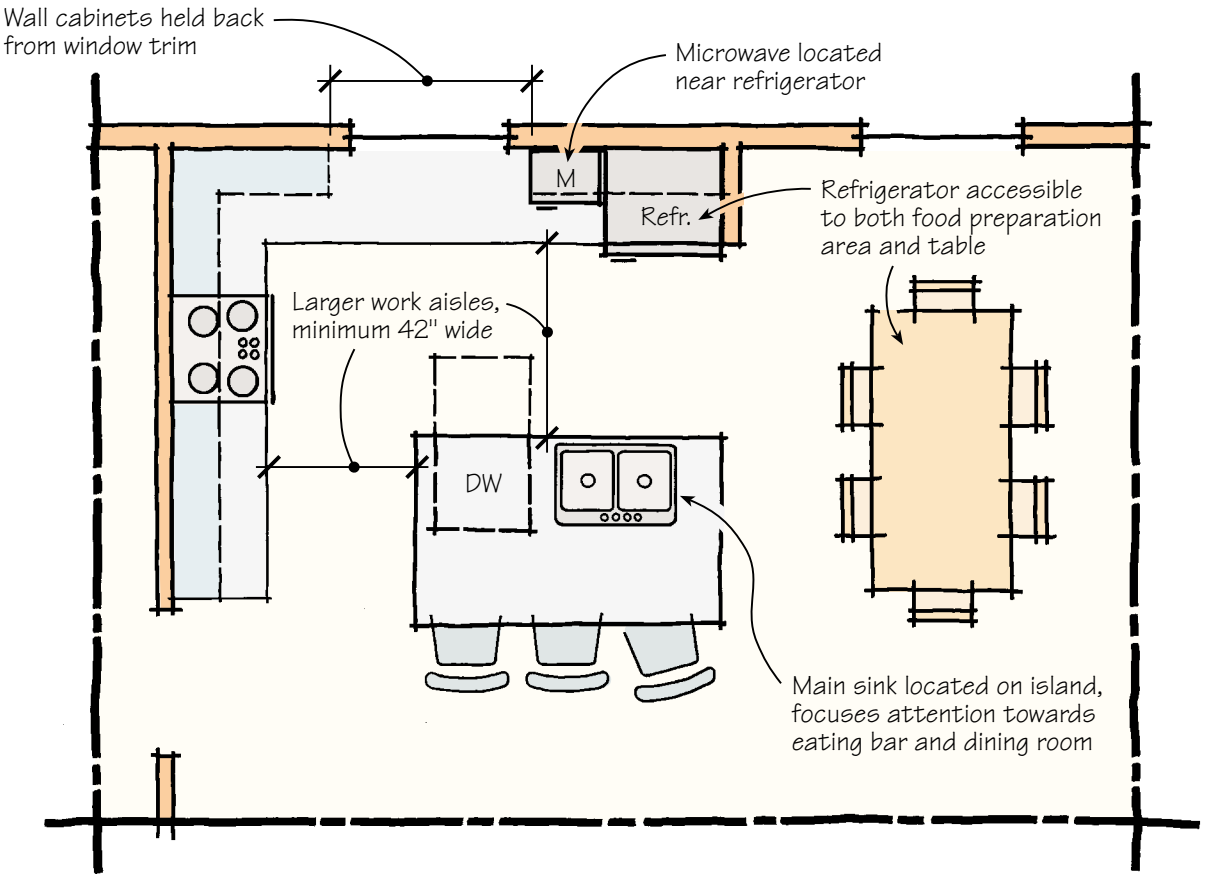
Peninsulas. I try to avoid hanging cabinets above a peninsula, unless storage is absolutely critical. Most peninsula cabinets get in the way of interaction between the cook and people on the other side of the counter. People find themselves constantly bending down to look under the cabinets in order to make conversation and eye contact. If the storage is a must, open shelving or cabinets with glass doors and backs can help.

Storage Strategies

If you don't question how a kitchen will be used, you may wind up installing the right cabinets but in the wrong locations. Good functional design sometimes has to break with preconceived notions to make sure items are stored near where they are used.

For example, pots and pans are traditionally

A Well-Thought-Out Kitchen



stored next to, underneath, or hanging above a range or cooktop. But, in fact, if they were stored near the sink, they'd be closer to the point of first and last use. Knowing how the various items in a kitchen will be used is key to good layout.

Antiquated Aesthetics

The old school of design held that it was a sign of quality to install cabinets snug against the casing, because it would be obvious that the cabinets were custom made. In fact, if the cabinets are held back from the trim a couple of inches or more, it makes the window look bigger. It also allows space for window treatments, and gives the designer a little more latitude in the choice of cabinet size.

Another old myth is that base cabinet doors and wall cabinet doors must line up vertically. There's no practical reason for this rule, and it can actually prevent good design. Wall cabinets and base cabinets should be viewed as separate items, although the doors used on each should be of a similar size.

Counter Intelligence

Most seating counters don't provide enough knee space (Figure 4, next page). Probably because of stock laminate sizes, the typical counter bar has just 10½ inches of overhang, not enough for long legs and big feet.

The overhang for a 30-inch, or table-height, counter should be 19 inches, a 36-inch-high counter should have a 15-inch overhang, and the

Knee-Space Minimums for Counter Overhangs

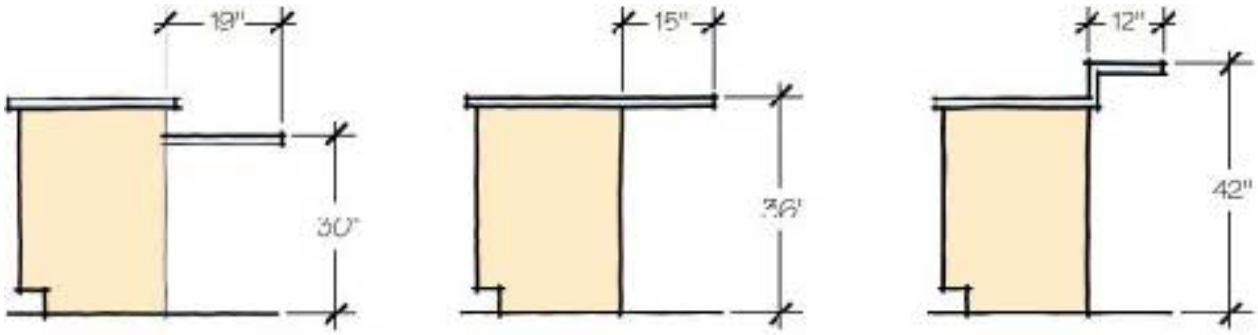


Figure 4. All too often, there's not enough knee space at eating counters. Provide a 19-inch overhang for table-height counters (left); standard counter height (center) requires 15 inches; and at bar height, a 12-inch overhang is necessary (right). Generally, a seat occupies 24 inches of counter length, but allow 30 inches for wheelchair access at table height.

typical 42-inch-high snack bar should have a minimum 12-inch overhang.

About That Kitchen Sink

We put the sink under a kitchen window as if obeying some unwritten law, when actually, a better location would be on an island or peninsula. Since we spend approximately 70% of our time in the kitchen at the sink, wouldn't it be better to be able to look at your spouse and children, rather than out the window? Putting the sink under a window ensures that we'll have our backs to the social action.

Two sinks aren't necessarily better. Second sinks installed in the kitchen often go unused, for a simple reason: We don't put waste disposers in the second sink. A second sink without a waste disposer forces the user to take the food scraps from that sink to the main sink to dispose of them. It becomes much easier just to work at the main sink.

Figure 5. To give kitchens a more streamlined look, the author prefers to use matching face panels for under-counter appliances. The addition of a matching face panel to the refrigerator allows it to blend in with the surroundings, reducing its visual bulkiness.

The Disappearing Refrigerator

Because an under-counter appliance can disrupt the visual flow of the cabinets, many appliances can now be fitted with a matching face panel. In particular, I like to see a matching front on the dishwasher and trash compactor. As a loose rule, when an appliance doesn't break the plane of the countertop, it ought to have a matching front. On this basis, refrigerators don't necessarily have to have a matching panel. In most cases, however, the addition of a matching panel, especially to a refrigerator, helps to diminish the apparent bulkiness of an appliance (Figure 5).

Along with a wood front, making the refrigerator appear to be built in is also helpful. While not everyone can afford a $4,000 built-in unit, a free-standing refrigerator can be made to look built in at a fraction of the cost, simply by adding wood side panels and a deeper cabinet above. Another solution is to recess the refrigerator into the stud space of an interior wall (Figure 6). You can pick up 3 to 5 inches

Recessed Refrigerator Details

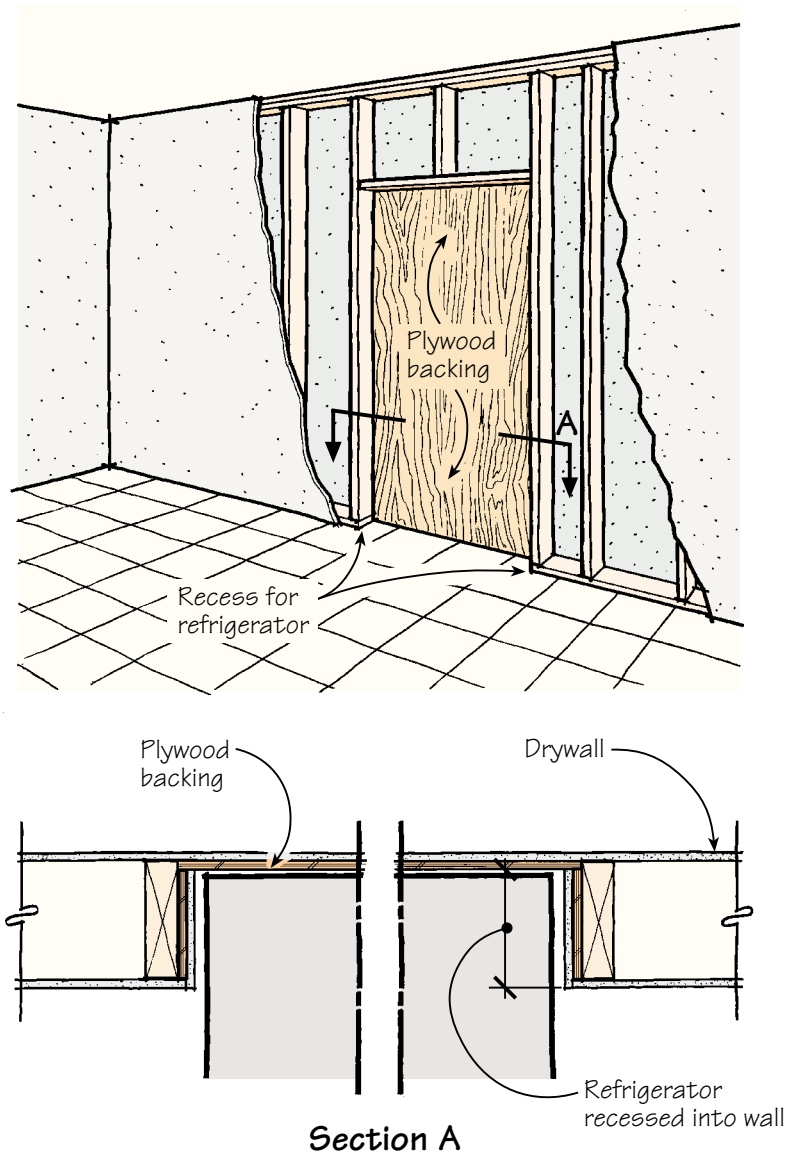


Figure 6. High-end refrigerators install flush with the cabinets. To make a standard refrigerator look built in, recess it into the framing of an interior wall. Adding matching side panels and an upper cabinet can also help create a custom look.

depending on the stud size. In some cases, I've been able to recess the refrigerator into an adjacent space, such as a closet or garage.

Provide Plenty of Ventilation

Ductless hoods are out! When it comes to effective ventilation, they're nothing more than noise with a light bulb.

Ventilation fans must be ducted to the outside, and should be capable of at least 150 cubic feet per minute of air displacement. To ensure good exhaust, keep elbows to a minimum, since every elbow introduced into the ductwork reduces the exhaust capacity by an amount equal to 10 feet of straight run.

So, for example, a hood that works well connected to a 30-foot straight run will essentially not work at all with three elbows in the line. You could use a more powerful fan to compensate for unavoidable elbows, but this introduces more noise. It's best to plan ahead for the shortest, straightest duct run possible. Always refer to the technical literature accompanying a new range hood for information on maximum duct lengths.

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