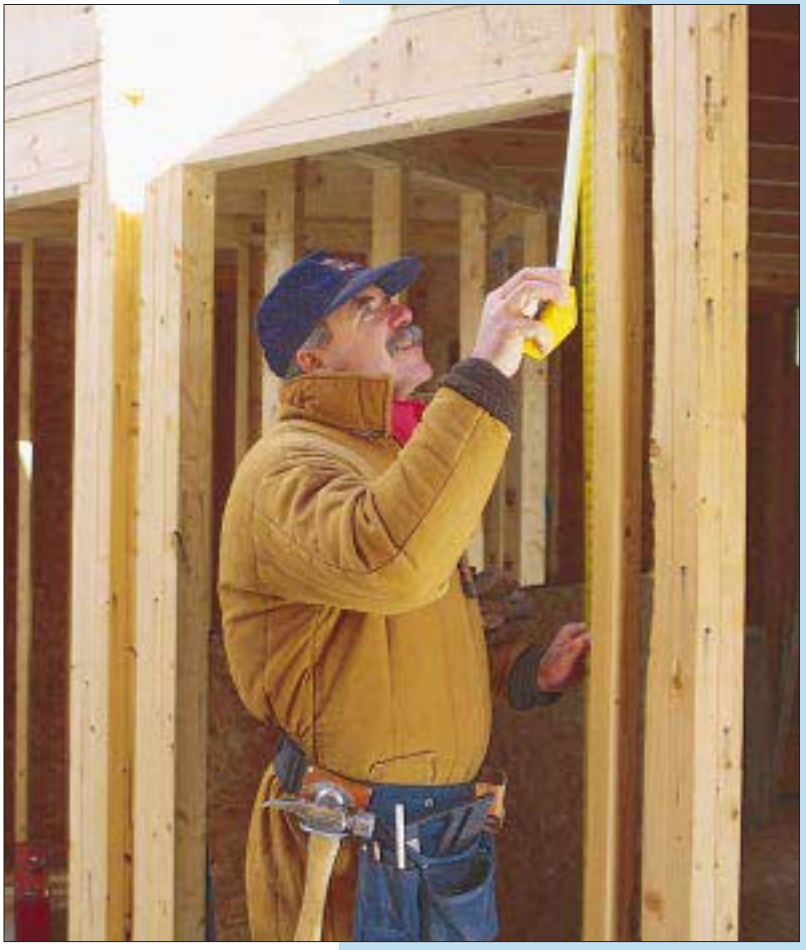
Layout Tricks for Rough Openings



C. BATES

The best time to avoid problems with finishes and trim is when you do the framing

by Carl Hagstrom

An experienced framer goes beyond the blueprints and knows how to detail the frame to make things easier for the subs who follow. In this article, I'll cover a number of tips for framing R.O.'s that save my company time and money.

Stairwell Openings

Explaining how to size rough openings for every stair design is beyond the scope of this article (and beyond the scope of any mortal being). But rough openings for straight-run stairs are fairly simple. If the stairwell opening is placed between an upper and lower flight of stairs (as when the main stairs are stacked over the basement stairs), make it 2 to 3 inches shorter than the total run of the stairs (see Figure 1,). Then make a seat cut at the bottom of the upper stringers to lock them into place.

To find the width of the stairwell opening for a closed stringer stair (one with a wall on each side), add the width of the finished stair assembly, including the skirtboard, if any, to the thickness of the finished wall surfaces on both sides of

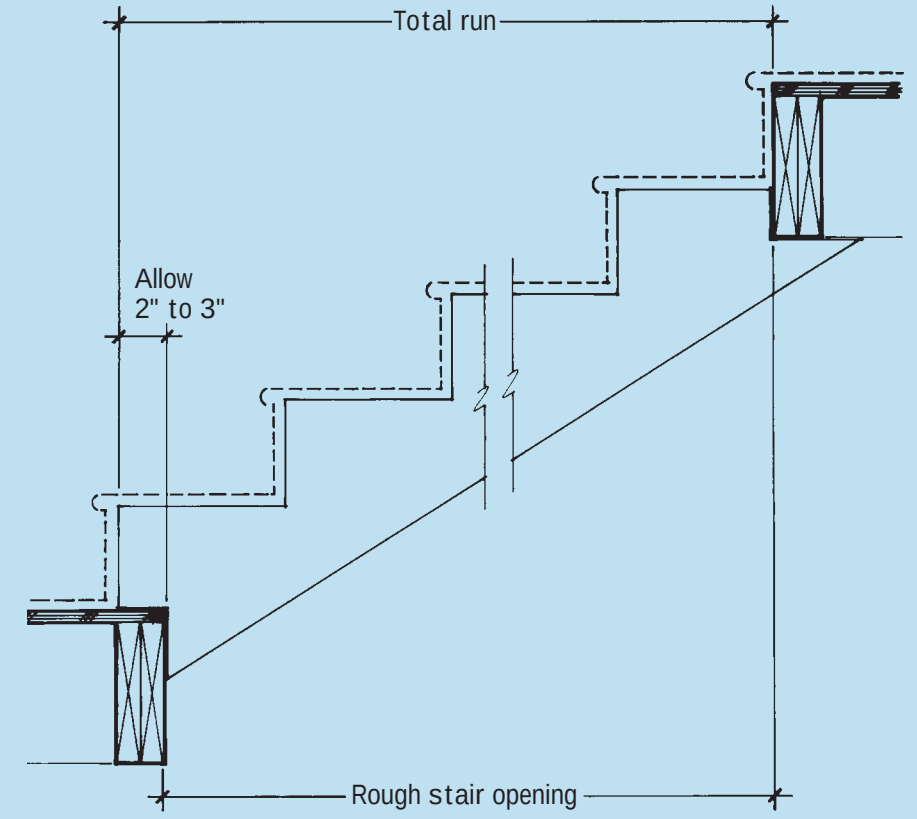


Figure 1. *When a flight of stairs lands on a stairwell opening, make the opening 2 or 3 inches shorter than the total stair run. Then notch the bottom of the stringers to lock them into place.*

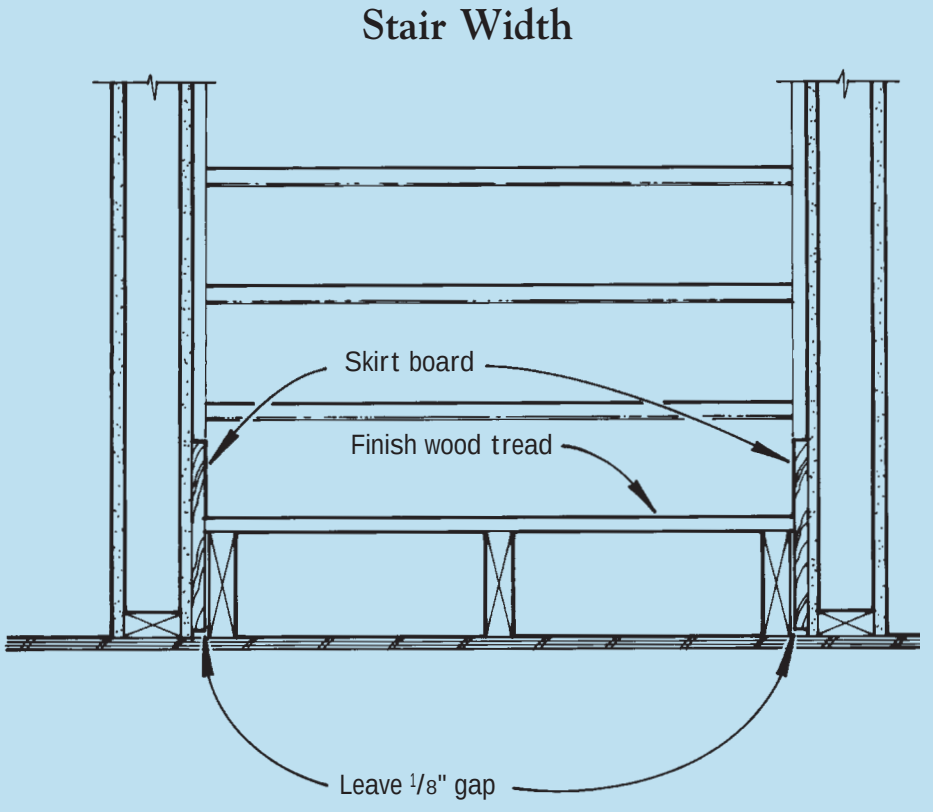


Figure 2. *To size the opening width for a closed stringer stair, the author takes the width of the finished stair assembly plus the drywall, then adds 1/4 inch working room.*

the stairs (Figure 2). Then add another 1/4 inch for play. This will leave enough room to drop a set of pre-assembled stairs through the hole, then to slip the drywall and skirtboards behind the stair stringers.

A word of caution: If the plans give a dimension for the stairwell opening, ignore it. Chances are, it's wrong. In the case of complicated stairs, the only rough opening dimensions I would rely on are those of the stair builders. If your only responsibility is as a rough framing sub, diplomatically ask the general contractor to verify the stairwell opening with the stair builder.

Interior Hinged Doors

Finding the rough opening width for a hinged door is pretty straightforward: Add 2 inches to the door size. This means that the rough opening width for a 2-foot 6-inch door will be 2 feet 8 inches. But finding the rough opening height can get tricky. Not only must you know the thickness of the finished floor (including any additional underlayment), but you have to decide how much space you want between the finished floor and the door bottom (Figure 3).

If the floor is to be finished with tile installed over a second layer of plywood and a layer of cement board, you'll have to increase the opening height accordingly. If the finish floor thickness varies throughout the house, you have to consider how different rough opening heights will affect the trim detail. If you want all of the head casings to align, I recommend figuring R.O. heights based on the lowest finish flooring height. Where the floor thickness is greater, you will have to trim the bottoms of the doors.

If you're not sure what the finished floor thickness will be, the tendency is to make the rough opening tall enough to accommodate any finished floor material. Think twice before doing this. Standard casing is only 2 1/4 inches wide; even when the door frame is held tight against the framing header, the casing will extend less than 1 inch beyond the opening. If you make the rough opening too high, the head casing may not cover the space between the head jamb and the rough header. It's best to take the time to get the right dimensions. If you can't, then follow the procedure in the previous paragraph for differing floor thicknesses.

Pocket Doors

Though the rough opening height for a pocket door depends on the track hardware, it's always taller than the opening for a standard hinged door. Rough opening heights vary from manufacturer to manufacturer. The pocket door hardware I use requires a rough opening height of 84 1/2 inches, and will accommodate a finished floor thickness of 3/4 inch. If you don't have the manufacturer's rough opening height, you need to know how much space is taken up by the track and wheel assemblies. Ask the door supplier for the required rough opening for the finish floor material you will be using. Better yet, get the track hardware before you start framing the opening. Then take your R.O. dimensions directly from the instruction sheet.

Garage Doors

These are about as easy as it gets. Ready? Frame the rough opening the same size as the door (Figure 4). The door size should be on the blueprints or in the door schedule. The finish jambs will then cover the edges of the door. If you use a steel I-beam as a framing header, you'll need to increase the rough opening height by 1 1/2 inches. When you fasten a 2-by nailer to the underside of the beam, the opening will be the correct height.

Window Walls

If you're faced with a long run of individual windows of equal height, be alert. A while ago, I installed a series of windows in a window wall, carefully leveling and plumbing each unit as I went. When I came back to trim them, I ran into trouble. Even though I had accurately leveled each window, I hadn't leveled them in relationship to one another. Not only was it impossible to get the sills and head casings to line up, but the horizontal siding on the outside met each window at a slightly different spot. The next time I faced this situation, I made the rough openings 3/8 inch taller, to allow a little more play. I also made sure that everyone was more careful when installing the windows.

Extended Extension Jambs

You can usually find rough opening dimensions for windows in the manufacturers' catalog. But there are some instances in which it may be better to deviate from these. One example is

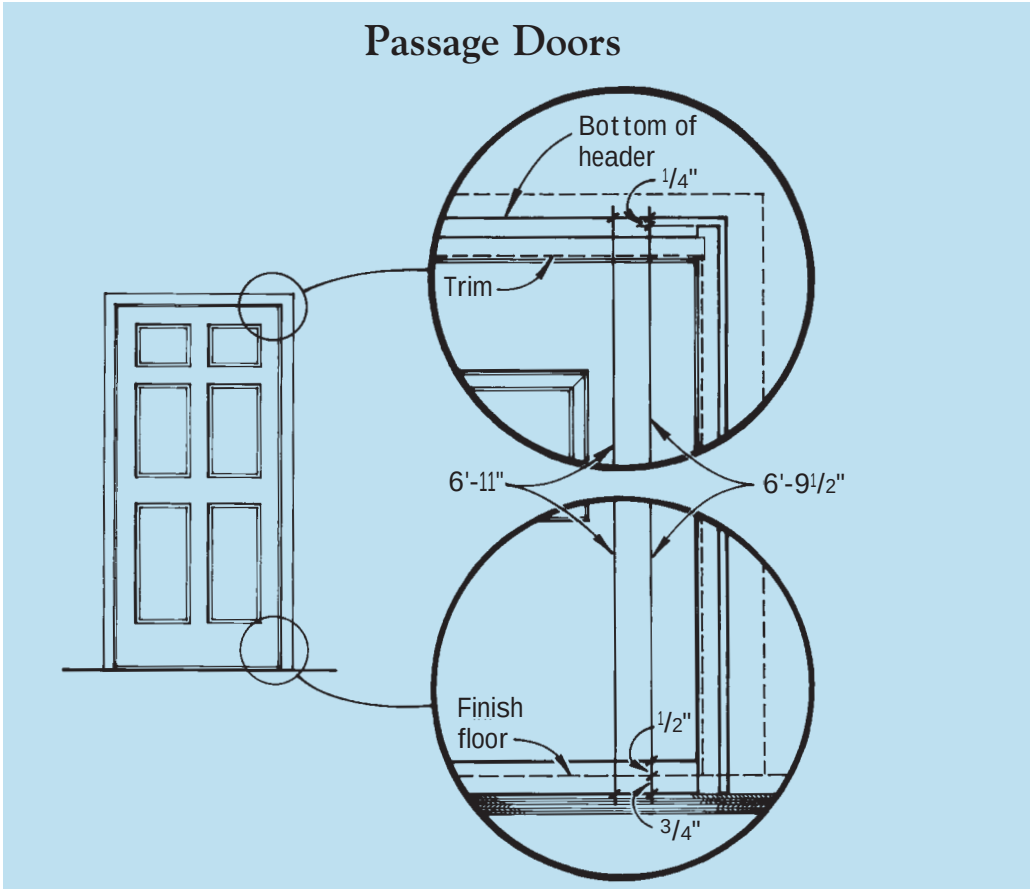


Figure 3. *To find the rough opening width for a hinged door, add 2 inches to the door size. To find the rough opening height, you must know the thickness of the finished floor, as well as the gap below the door. Start with 6 feet 9 1/2 inches — the height of the door plus the thickness of the head jamb and the "ears" of the side jambs that stick beyond. Then add the thickness of the finish floor (3/4 inch in this example), the desired gap below the door (here, 1/2 inch), and a 1/4-inch adjustment space for leveling the door head. The rough opening height in this case is 6 feet 11 inches.*

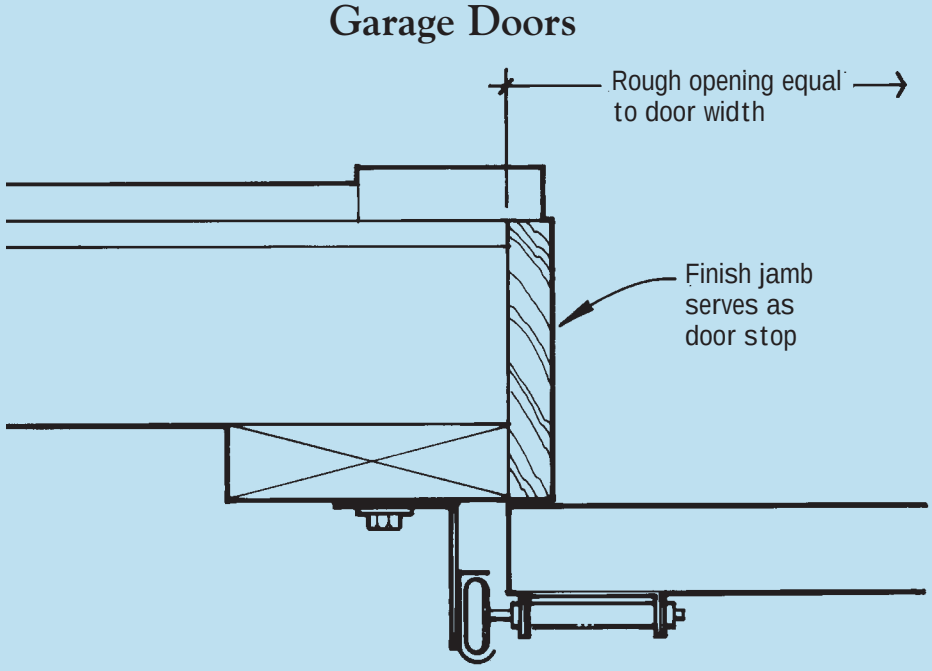


Figure 4. *Garage door openings should be framed the same size as the garage door. The finish jamb will then cover the edges of the door.*

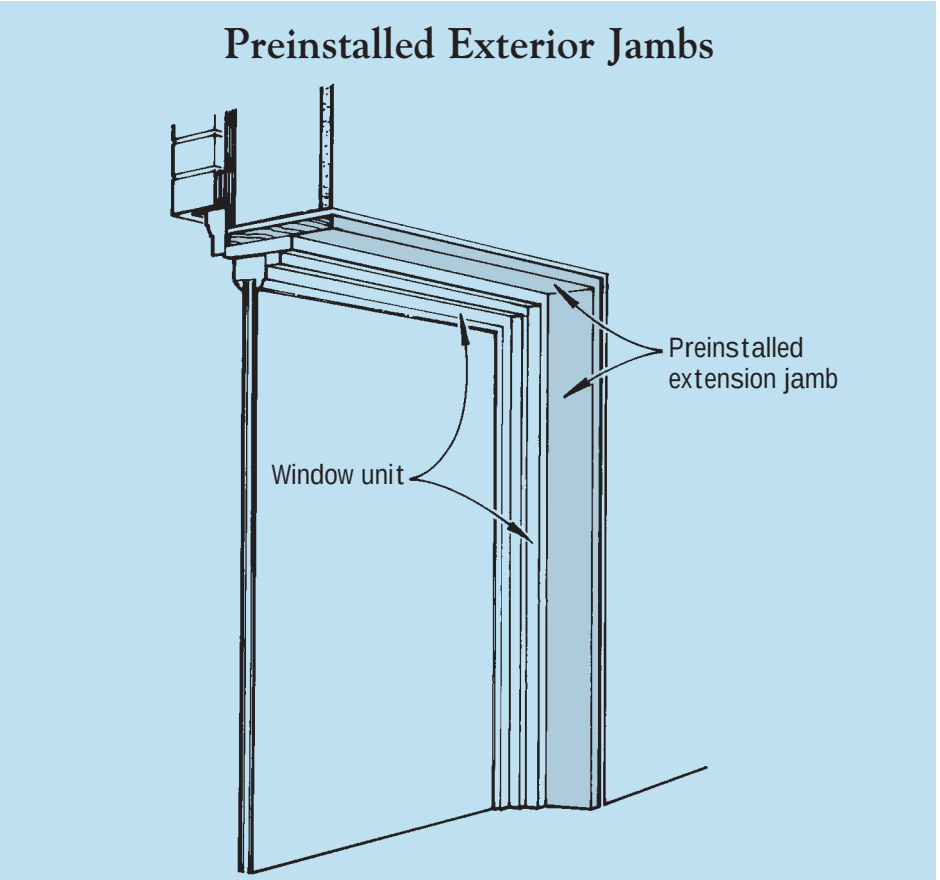


Figure 5. *To ease the process of installing extension jambs, the author oversizes window openings by 1 1/2 inches and wraps the window frame with a nailer.*

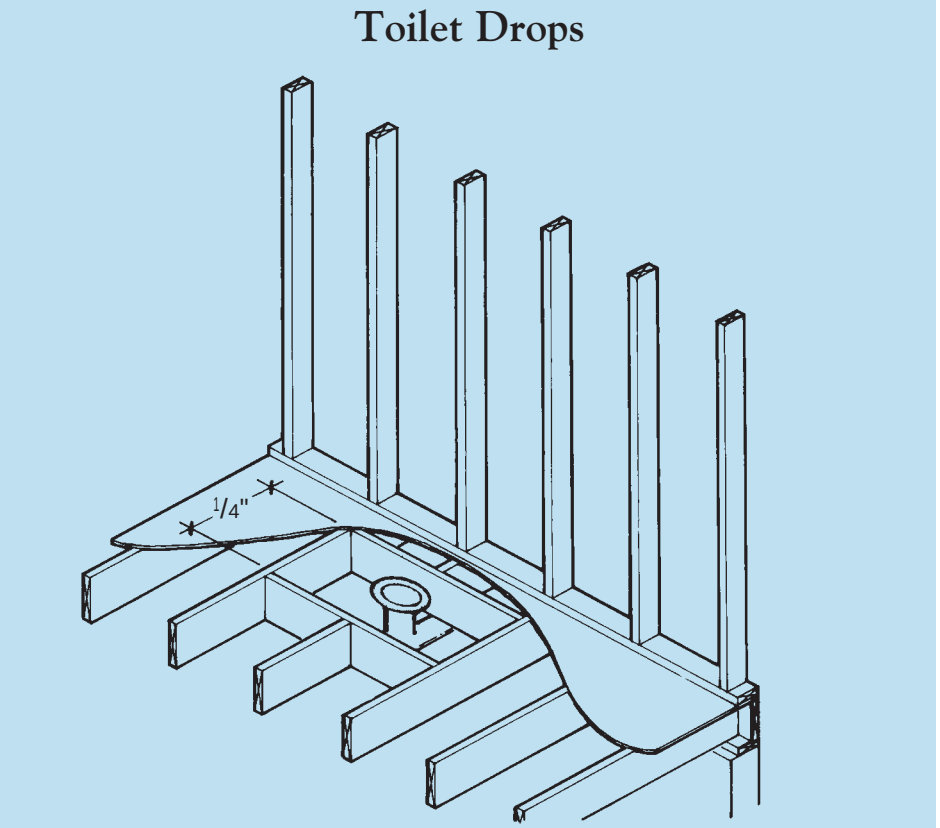


Figure 6. *The author frames toilet drops at the rough framing stage. This saves him from having to come back later and head off joists that the plumber has hacked off. Making the drop about 14 inches wide leaves the plumber enough room to adjust the pipe a few inches in either direction.*

where you'll need wide extension jambs. You can save time by wrapping the outside of the window frame with a nailer that will later provide something to fasten the extension jambs to. A second alternative is to install the extension jambs themselves on the window before you install it (Figure 5). Both techniques eliminate the labor-intensive blocking that's usually needed (an especially tough task in older masonry openings).

If you wrap nailers around the window, you'll need to increase the size of the rough opening by the combined thickness of the nailers. This presents a problem with windows that use narrow nailing flanges: Because the nails have to be placed at the outermost edge of the flange, the window won't sit solidly in the opening. Windows with brick mold work better because the brick mold is stiffer than an aluminum or vinyl nailing flange.

Tubs and Showers

When laying out wall studs on the fixture side of a tub or shower, be sure to center a stud bay on the centerline of the faucets so the plumber can rough them in. It's easy to forget this spot when you're caught up in the heat of framing. But if you do, you'll eventually have to move a stud. (This can be a real pain if the wall has rough wiring already running through it.) And don't forget to leave a large enough path into the bathroom for the tub/shower unit. While this is usually a simple matter of leaving out a couple of studs, it occasionally requires some real planning. I remember one job that called for a 3x6-foot cast-iron soaking tub. Rather than wrestle this beast through the house, we framed and temporarily sheathed an opening in the exterior wall that was big enough to slip the tub through. This made it easier to unload the tub, and allowed it to be delivered much later in the construction schedule.

Toilet Drops

Want to make a plumber happy? Sometimes all it takes is to frame the toilet drop (Figure 6). It can be tough to determine the precise location, so I take my best guess based on the floor plan and the particular model of toilet and head off an opening about 14 inches wide. This gives the plumber plenty of room to work, even if the rough opening misses the mark by a few inches. The alternative is to let the plumber remove the offend-

ing portion of the joist. Unfortunately, the result tends to look like it was cut with a dull chain saw, and someone has to come back and install a header anyway. When you consider that this often takes place in a confined space and can generate a torrent of swearing, it's a wonder that more builders don't frame toilet drops ahead of time.

Fireplaces

Fireplace and chimney openings are governed by code. The National Fire Protection Association calls for a minimum 2-inch free air space between combustibles and a masonry fireplace or chimney, and a 4-inch clearance at the back of the fireplace. Framing headers that support masonry trimmer arches or concrete hearth extensions should be at least 20 inches from the face of the finished firebox (Figure 7). However, it's best not to frame any fireplace or chimney openings until you find out what clearances your building inspector wants. Local codes vary, and inspectors may interpret portions of the code differently than you do. Unless you enjoy appealing decisions, follow your inspector's recommendations.

When a fireplace is on an exterior wall, the rough opening size is seldom called out on the plans. You'll need to get it from the mason (or from the general contractor if you're the framing sub). More often than not, no one really knows what size the opening should be, so call early, to give them plenty of time to scratch their heads. The mason will need to know the size and design of the finished face of the fireplace before calculating a rough opening size (Figure 8). In fact, without the finished fireplace design, any rough opening calculations will be, at best, a guess. If the design hasn't been settled on, get it done before you start framing.

Every mason I've ever known had their own technique when it came to building fireboxes, throats, and smoke chambers. If you don't have a mason lined up, then your only recourse is to oversize the rough opening. Later on, it will be easier to add material to the rough opening than to remove it after the masonry has been laid. ■

Carl Hagstrom, a builder from Montrose, Pa., is a contributing editor to the Journal of Light Construction.

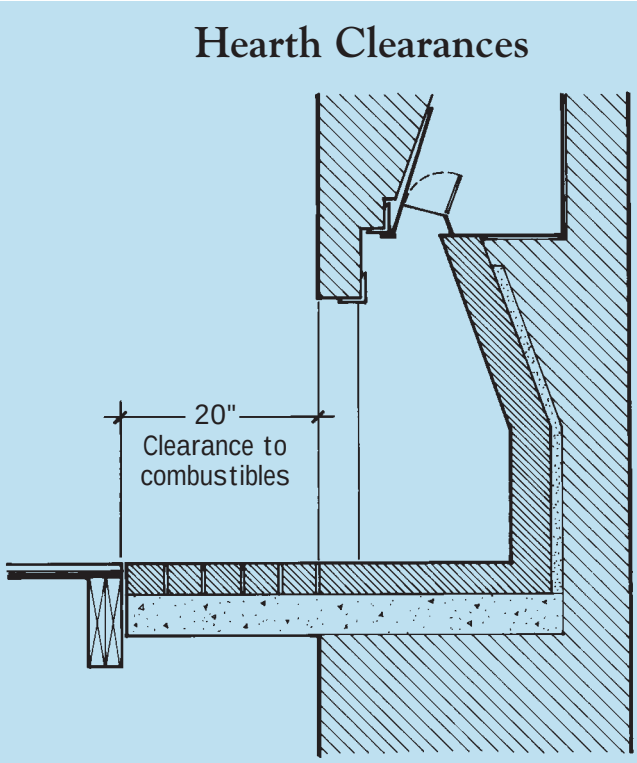


Figure 7. *Headers that support hearth extensions must usually be 20 inches from the firebox. Because fireplace openings are strictly regulated by code, the best policy is to run your plans by the local inspector so you don't have to frame the opening twice.*

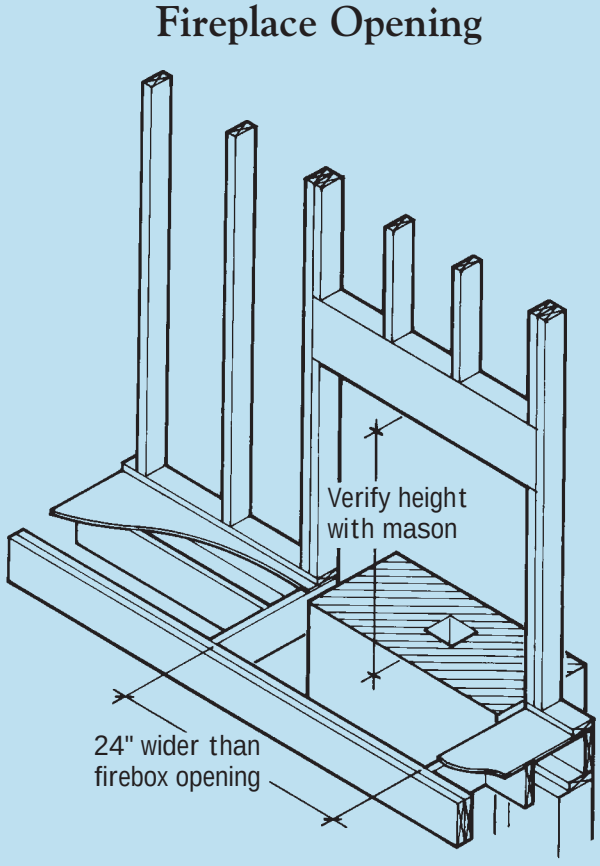


Figure 8. *The size of an exterior wall fireplace opening will depend on the dimensions and design of the finished face of the fireplace, as well as on the mason's methods of building fireboxes, throats, and smoke chambers. If you can't get this information, then oversize the rough opening and fill it in later.*