

# Framing Kitchen Soffits

Full-scale patterns on the floor and prefabricated sections help you to build these small dropped ceilings accurately and efficiently

BY RALPH HOLLOWAY

**M**om, the schoolteacher, said, "Foresight is blind, hindsight is 20/20." Dad, the carpenter, swore that "when foresight is blind, hindsight sure does get expensive."

I mainly work as a framing carpenter, but I often pick up side jobs doing builders' punch lists. These punch lists make clear the wisdom of my parents' words. And judging by the number of kitchen soffits that make it onto my punch lists, soffits are a common spot where foresight fails and hindsight kicks in.

Soffits are built for a number of reasons. Commonly, they fill the space between the tops of upper kitchen cabinets and the ceiling. They also are built to hide ducts, pipes or beams. Most of the bungled soffits I've fixed resulted from poor planning—for instance, the cabinet layout changed, and nobody told the framer. Or the mechanical contractor tore out the soffit because the framer built it too small to run ducts in.

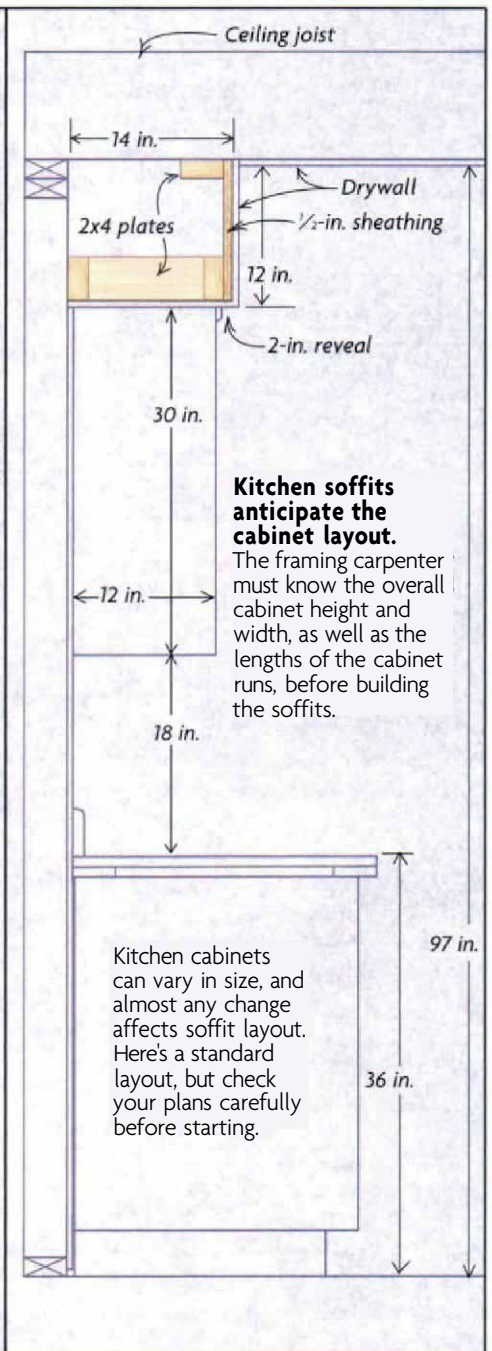
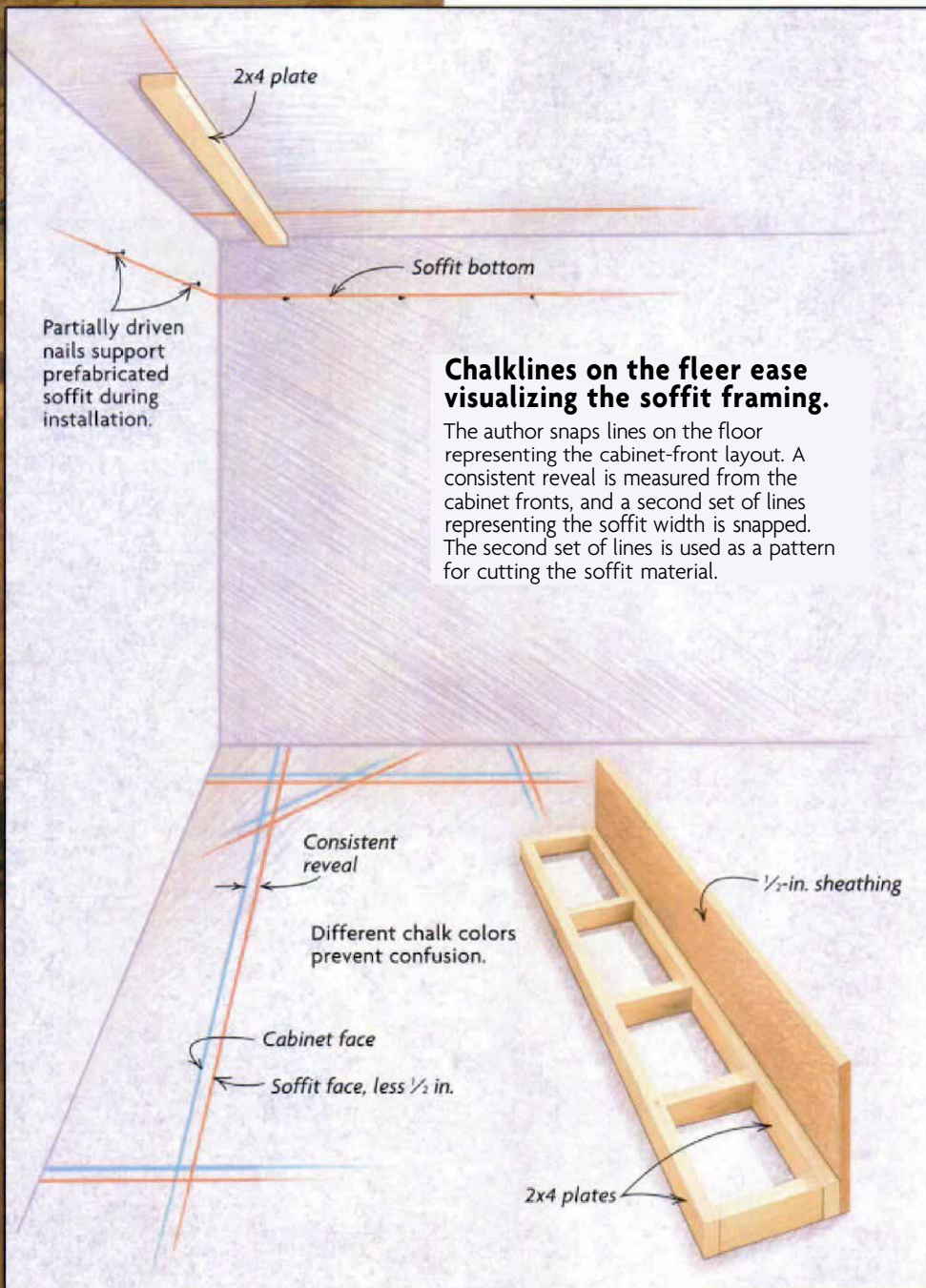
Soffits are common, and many framers don't give them much thought. But soffits affect so many trades that if I have any

doubts, I check with the builder before starting on them.

## Working backward

Planning soffits means mentally working backward. If they are to house ducts, you have to know how big the ducts will be (if that's all the soffit does, it's easiest to frame the soffit when the HVAC contractor has finished doing the rough-in work). If the plans call for recessed lights in front of the cabinets, you'll need to know what clearance they require.





If cabinets are to butt to the soffit, you need to know how tall and how deep the cabinets and their trim will be. For example, soffits above cabinets that are to be trimmed with a crown molding must be higher and deeper than soffits for the same cabinet with a narrow scribe molding. The depth of the soffit should be the sum of the wall-cabinet depth, the width of the trim and any reveal (drawing above). Thus, a 12-in. deep cabinet with 1-in. trim and a 1-in. reveal requires a 14-in. deep soffit. If the soffit doesn't end by butting into a wall, I add the trim and reveal

dimensions to the overall length of the cabinets to determine the soffit's length. It's not necessary to factor in the thickness of the drywall when calculating the soffit depth. That will be the same on the wall below and on the soffit's face, so the two will cancel each other out.

Standard soffits begin at 7 ft. 1 in. above the floor. This layout allows a 3-ft. high countertop, 30-in. high wall cabinets and 18 in. of space between the two. Add 1/2 in. for underlayment and 1/2 in. for drywall, and you're at 7 ft. 1 in. Of course, that standard is

subject to revision; cabinet heights and trim can vary.

### Chalklines on the floor make an accurate pattern

I build most soffits in two parts. The bottom horizontal section resembles a 2x4 stud wall laid flat. The face is nothing more than 1/2-in. sheathing—oriented strand board (OSB) or plywood (photo facing page). Although making the face and the bottom of sheathing would be easier for the carpenter, it would leave no access to the space within for the



"When working alone, I cut 2x4 props to hold up the front of the soffit until I can level and nail it."

mechanical trades. I first look to see if the soffit is parallel with the joists above. If it is, I install 2x4 nailers between the joists where the front of the soffit will fall (top photo). These blocks go on 2-ft. centers to support the soffit and to provide nailing for drywall. If the soffit is perpendicular to the joists, blocking isn't needed unless the soffit ends between joists.

After determining the soffit's dimensions, I snap chalklines on the floor that mirror the soffit's shape and location (drawing p. 87). I make these lines  $\frac{1}{2}$  in. shy of the soffit's finished depth and length. The  $\frac{1}{2}$ -in. deduction accounts for the sheathing face that I'll add.

Oddly shaped soffits, such as those that follow the form of an angled or curved corner cabinet, require another step. In addition to the line of the soffit, I snap lines representing the fronts of the straight cabinets on the floor. Then I draw in the odd cabinet. Maintaining a uniform reveal, I draw a line on the floor parallel with the odd cabinet's front. I'm now sure the angle is correct and that the reveal is even.

I snap a horizontal chalkline on each wall at the soffit height. Then I snap lines representing the face of the soffit, less  $\frac{1}{2}$  in., on the ceiling joists or blocking. These lines on the ceiling reflect those snapped on the floor.

It's easiest to install fire-blocking now, before the soffit is nailed to the wall. Fire blocks are made from the same material as the studs and are cut to fit tightly between them. I nail the blocks to the studs along the chalkline at the bottom of the soffit. The fire blocks prevent the stud cavities below from communicating directly with the soffit. This slows the spread of a fire from a stud cavity to the soffit and the ceiling framing above.

### Make plates from straight material

Most soffits use three plates: one each at the front and back of the soffit's bottom and one nailed to the joists to support the sheathing



**Blocking supports soffits that run parallel to the ceiling joists.** The soffit's top plate is then nailed to the blocking. Horizontal blocks between the studs slow the spread of fire to the soffit and the floor above.



front (bottom photo). Often, two soffits intersect in the corner of the room. When this happens, I run the first one to the wall and butt the second soffit to the first.

Anything less than a crisp, straight edge at the bottom corner looks unprofessional. To get a straight corner, it is important to use full-length, straight plate stock and to place the factory edge of the sheathing face down.

I mark the plates to length directly from the chalklines on the floor. Likewise, the first short member that runs between the bottom plates is marked in place and used as a pattern to mark and cut the rest. I usually space these pieces on 2-ft. centers.

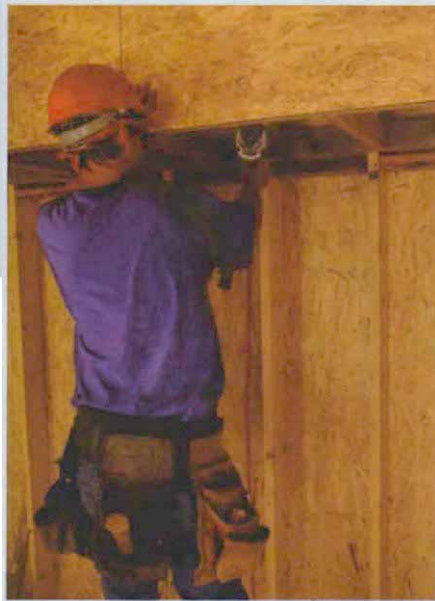
The  $\frac{1}{2}$ -in. sheathing for the soffit faces is ripped  $\frac{1}{4}$  in. narrower than the soffit face is to be. These cuts give me a little play in case





**Prefabricated soffit is lifted into place and supported on partially driven nails.**

The soffit is leveled, and the sheathing face is nailed to the top plate. The rear plate is then nailed to the wall with two 12d nails into each stud.



any of the joists hang below the general ceiling plane. Then, using the lines on the floor for reference, I cut the ripped sheathing to its final length.

I nail the lower frame together with 12d common nails. The third plate gets nailed to the ceiling joists or blocks on the wall side of the chalkline. I use two 12d nails per joint. The last thing I do before nailing the soffit

in place is partially set some nails just below the chalkline on the wall. These nails will temporarily support the lower soffit section as I set it in place.

**Prefabricate the soffit and install it as a unit**

Placing the soffit is simple. I nail the sheathing face to the bottom front plate with at



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**Most soffits aren't built to bear loads.** But frequently, particularly above islands and peninsulas, some cabinets hang from the soffits. In those cases, the author ties the soffit to the ceiling framing with framing hardware.

least 8d nails. Then I lift the prefabricated soffit into place, resting it on the nails I placed in the wall earlier. I check the bottom front to back for level (photo p. 89), then secure it by nailing through the sheathing face into the top plate that's secured to the ceiling (photo, p. 86).

I check the soffit for level in several places, nailing the face as I go along. When the front is nailed off, I nail the back of the soffit to the wall with two 10d nails in each stud (inset photo, p. 89). I hang intersecting soffits the same way, except that I also toenail them to the original soffit.

When working alone, I cut 2x4 props to hold up the front of the soffit until I can level and nail it. A pneumatic framing nailer is another great help when working alone.



**Inside corners can be angled or curved.** In either case, plates laid out from the chalklines on the floor are nailed to the intersecting soffits. Curved corners get plates of sheathing and 2x4 drywall blocking.



Without one, setting soffits is a three-handed job.

### **Sheathing faces work for soffits up to 24 in. high**

Sheathing faces over 24 in. high are too bouncy to provide good drywall attachment. I build the faces of these taller soffits like walls, with 2x4 studs on 24-in. centers.

Because there is no sheathed face in this case, the chalklines on the floor and on the ceiling joists are snapped to the full soffit width. Because I nail the face atop the bottom, I deduct the thickness of the bottom, 3½ in. for 2x4s, from the overall height to determine the height of the face wall.

As before, I prefabricate the soffit and partially set nails in the studs to support it dur-

ing installation. Then, usually with a helper because of the soffit's weight, I place the unit on the nails in the wall. It's then rolled into place and propped until it's nailed off.

Soffits that support cabinets, such as those over a kitchen island, need extra strength. This load can be considerable, and nobody wants to be responsible for a cabinet loaded with china crashing to the floor. In these cases, I reinforce the connections at each stud with a hurricane tie (photo left) such as a Simpson H-2.5 (Simpson Strong-Tie; 800-999-5099; [www.strongtie.com](http://www.strongtie.com)).

Because soffits built over islands or peninsulas don't jut out from a wall, they require an additional vertical face. I prefabricate these soffits and install them in a way similar to wall-mounted soffits. Because there is no



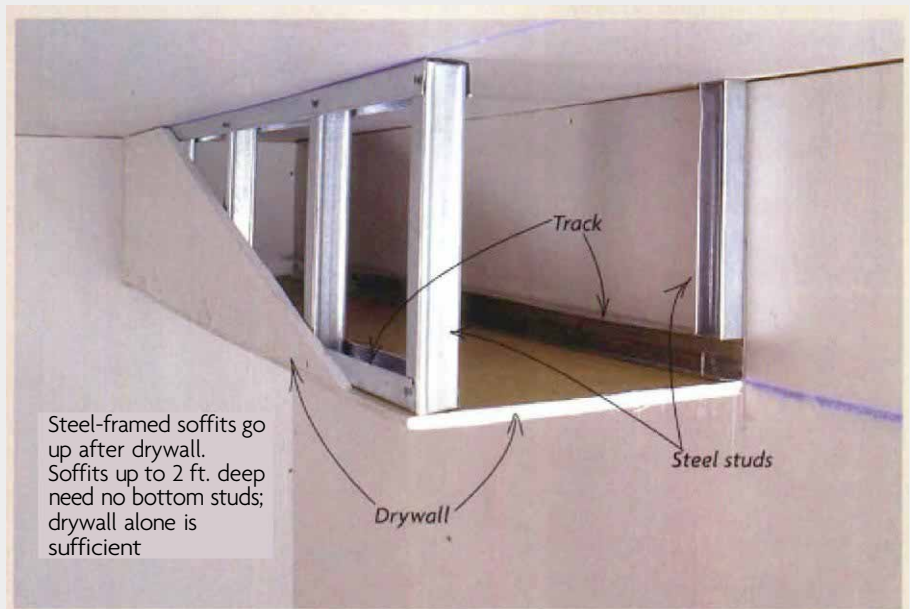
wall in which to place temporary support nails, lifting a hanging soffit into place usually requires help.

Corners where two soffits join with a transitional curve or angle are handled by first installing the intersecting straight soffits. Using the chalklines on the floor as a pattern, I cut out top and bottom plates at the appropriate angle or curve (photo above). I cut curved plates from sheathing (inset photo, facing page). They are nailed to the soffits. If an angle spans more than about 2 ft., I install intermediate studs or face it with sheathing. If the transition is a curve, I nail in studs about every 8 in. □

Ralph Holloway is a carpenter from Chandler, Arizona. Photos by Andy Engel.

## Framing soffits with steel studs

by Tom O'Brien



**I frame nonstructural soffits from 25-ga. steel studs and track. Track is a steel channel that the studs fit inside. It's usually used for plates. Steel is lighter, straighter and less expensive than wood (for more information on metal framing, see FHB # 97, pp. 72-77).**

**I make sure that adequate blocking for the soffits is in place, then drywall the house. I build soffits in place after drywalling but before taping. This method allows me to work on a flat, smooth surface.**

**I snap chalklines on the wall and ceiling where the soffit framing will go. These lines are 1/2 in. shy of the soffit's final dimension to allow for drywall. I cut three pieces of metal track to the full length of the soffit. One piece gets screwed to the ceiling and another to the back wall, on the chalklines, with 1 1/8-in. drywall screws. I lay out the ceiling track and the remaining loose track on 16-in. centers.**

**I cut the studs for the soffit face about 1/4 in. shorter than the height of the soffit frame. I screw studs to each end wall or hang them from the top track if the soffit doesn't end at a wall. Then the remaining track is clamped to the bottom of these studs with locking pliers and screwed in place.**

**To ensure this bottom track is perfectly straight, I hang a stud from the center of the top track. I hold the bottom track level with the back-wall track, clamp it to the stud and screw. Then I install the remaining studs.**

**If the soffit is more than 2 ft. wide, I stud out the bottom. I fasten 1/2-in. drywall to the face of the soffit with 1 1/4-in. drywall screws. Next, the drywall for the soffit bottom is cut, a few inches wider than the soffit's finished depth. I snap a chalkline on the back of this drywall at the soffit's final depth and screw it to the track on the wall. I line the soffit face up on this chalkline and screw the soffit bottom to the face. Unless the back wall has a terrible outward bow, the soffit will be perfectly straight. Finally, the bottom drywall is trimmed flush with the face.**

**If the soffit doesn't extend the full length of the room, the drywall must return to the wall. All that's needed to attach this drywall is a short piece of track on the ceiling and another on the back wall. Steel track is available only in 10-ft. lengths, so the bottom of longer soffits is often two or more tracks joined together on studs.**

—Tom O'Brien is a carpenter from Richmond, Virginia.