

Where Do You Want the Blocking?

Five tradesmen weigh in on where to put solid blocking for stair skirts, grab-bar anchors, and everything else the code leaves out

BY JUSTIN FINK

The final 5% of any good framing job is blocking. It makes work easier for the subsequent tradesmen and future homeowners, and it can be completed using cutoffs that would otherwise land in the Dumpster. So why doesn't every house have sturdy blocking behind towel bars, under stairs, and in closets? Some of it is eliminated to save time and money, and some is overlooked. It's also a good bet that lots of blocking is left out simply because nobody ever asked the right people where it was needed. But what if the plumber, the electrician, the drywall contractor, and the finish carpenter showed up on the job before the framers rode off into the sunset?

To explore this scenario, I asked five of our frequent contributors to help create a blocking wish list. Every house is different, of course, and this list isn't complete. It does, however, provide a useful road map to a desirable destination: solid backing for many of the fixtures, appliances, trim details, and other common features found in a typical house.

Justin Fink is an associate editor at *Fine Homebuilding*.



EVERY TRADE DEPENDS ON SOLID BLOCKING



Gary M. Katz
Finish carpentry



Mike Guertin
Framing and
general carpentry



Ed Cunha
Plumbing



Clifford A. Popejoy
Electrical



Myron R.
Ferguson
Drywall

Microwave blocking can be tricky

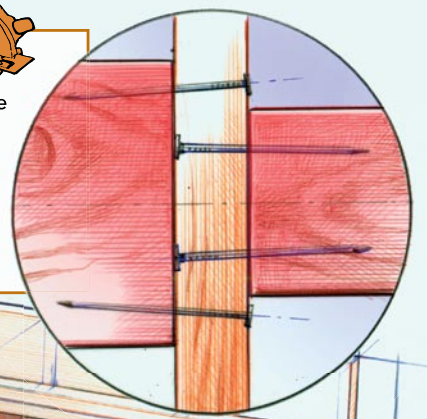
Microwaves have a mounting panel that needs to be secured to the wall. Although the panel can be attached to a stud, I feel more confident when it's screwed to blocking. If the microwave is over a cooktop, the key is to locate the blocking to avoid the area where exhaust-venting ductwork runs through the stud cavity. If the venting runs down through the wall, I put a block above the opening. If it runs up through the wall, I put a block below the opening. If it's direct vent (as shown in the inset drawing), I block above and below the opening. —M.G.

Photos: Roc A. Osborn (Katz, Ferguson); Justin Fink (Guertin); Tom Meehan (Cunha); Brian Pontolilo (Popejoy)

KITCHEN BLOCKING

Stagger blocking for wall cabinets

Wall cabinets need lots of support, especially along the top mounting rail. I use a combination of 2x4 and 2x6 blocks set at the height of the top of the cabinet. The 2x4s are nailed in every other stud bay; then 2x6 blocks fill the remaining bays. This way, I can through-nail the 2x6s rather than toenailing them, making a much stronger connection. —M.G.



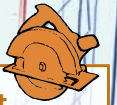
Don't forget the pot filler

This jumbo-size faucet is attached directly to the supply pipe that I install in the wall, so it's important to know the pot filler's location ahead of time so that I can add substantial support. A female 90° drop fitting (often used to attach showerheads) fastened to a 2x with screws works well. —E.C.



Support narrow and end-of-run cabinets

I make sure to install 2x blocking for narrow cabinets that miss stud locations and for the last cabinet in each run, whether this cabinet is narrow or not. Without this blocking, it can be difficult or impossible to pull the back of the cabinet snugly against the drywall. —M.G.



Anchor door stops solidly

How many times have you seen a hole or crack in a wall right where a doorknob lands? Fastening a doorstop to lightweight baseboard with a 3/4-in. screw is a short-term fix, especially if you're trying to stop a heavy entry door. Back up that stud bay with a solid block, and you can stop any type of door with certainty. —G.M.K.



Plywood backing works for surface-mounted fluorescent fixtures

Solid backing for 4-ft. or 8-ft. fluorescent lights is a real time-saver for me, especially when I have to run the fixture parallel with the framing and it lands in a joist bay. To get strong backing for screws, I mount a strip of 3/4-in.-thick plywood or oriented strand board (OSB) to some 2x crosspieces, setting the plywood or OSB flush with the bottom edge of the framing. Backing should be 10 in. to 12 in. wide for a two-lamp fixture and a bit longer than the length of the lamp. —C.A.P.

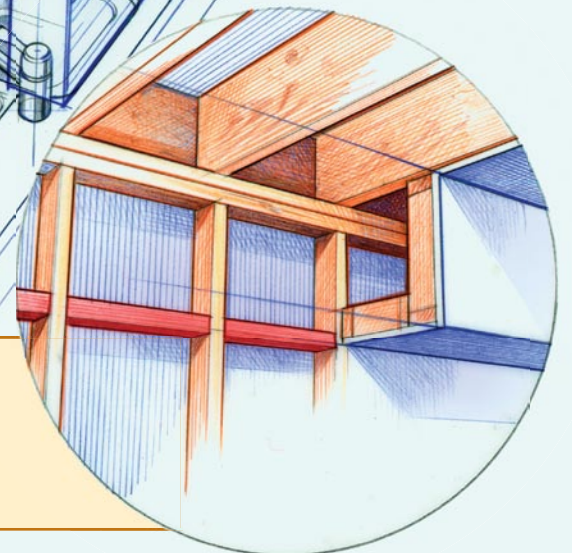


BLOCKING BY CODE



Soffits require fire blocking

Any time a wall cavity is directly connected to a ceiling cavity, codes require fire blocking to be installed. This blocking separates the adjoining areas so that flames can't rise through the structure of the building. —M.G.



BATHROOM BLOCKING

BLOCKING FOR THE FUTURE

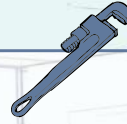
Plan ahead for handicap accessibility

It makes sense to install bathroom blocking that helps to meet guidelines set forth by the Americans with Disabilities Act (www.ada.gov). According to ADA regulations, there should be a 36-in.-long grab bar behind the toilet and a second 42-in.-long grab bar alongside the toilet, both between 33 in. and 36 in. from the finished floor. These rules don't have to be followed to the letter for residential applications, but they do provide good guidelines. —G.M.K.

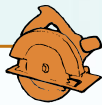


Toilet-paper holders take a lot of abuse

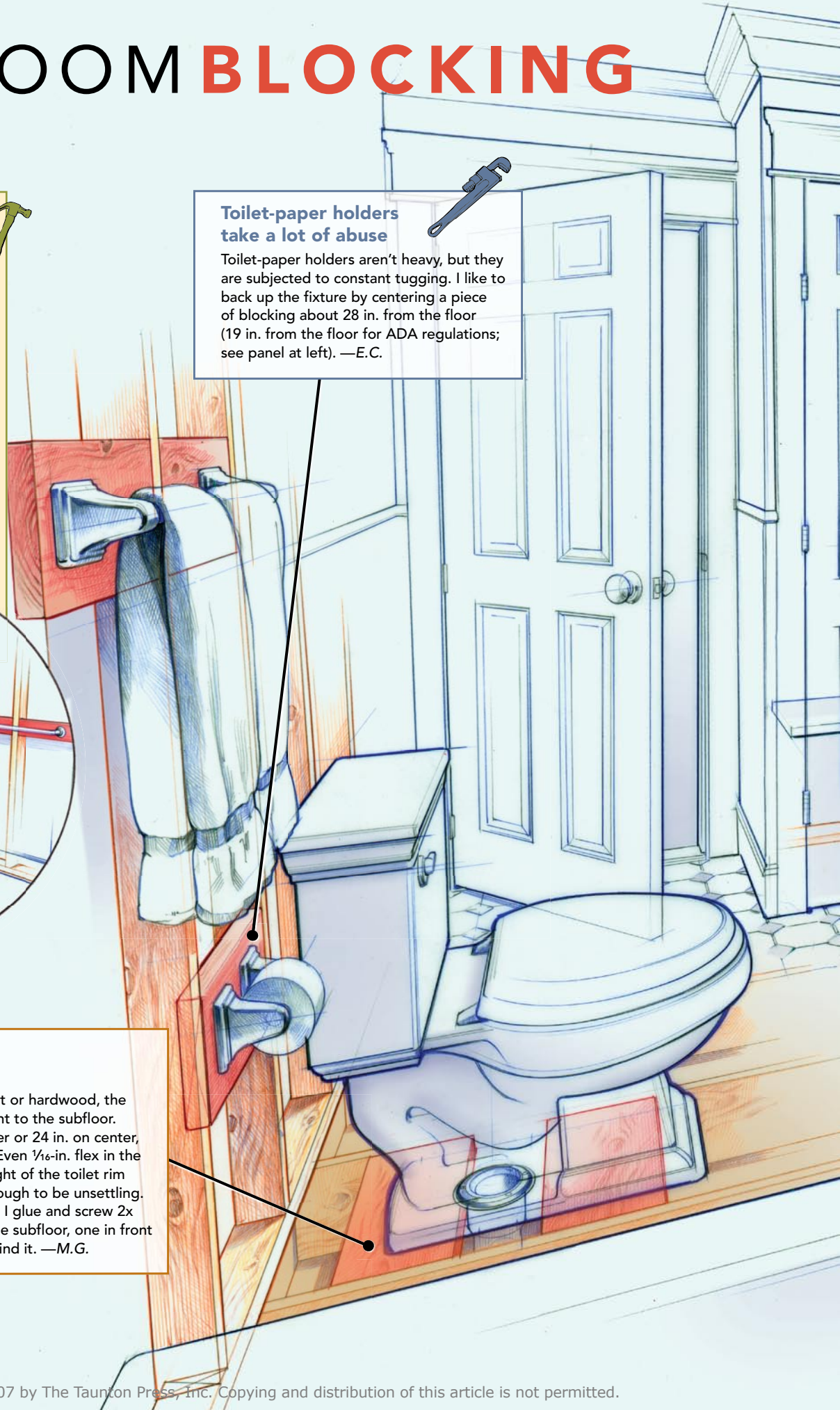
Toilet-paper holders aren't heavy, but they are subjected to constant tugging. I like to back up the fixture by centering a piece of blocking about 28 in. from the floor (19 in. from the floor for ADA regulations; see panel at left). —E.C.



Watch out for bouncy toilets




On floors without tile underlayment or hardwood, the toilet flange and toilet simply mount to the subfloor. With joists spaced 19.2 in. on center or 24 in. on center, the subfloor is more likely to flex. Even $\frac{1}{16}$ -in. flex in the subfloor is accentuated by the height of the toilet rim and feels like $\frac{1}{4}$ in.—more than enough to be unsettling. Before the plumbing is roughed in, I glue and screw 2x blocking flat to the underside of the subfloor, one in front of the waste pipe and another behind it. —M.G.





Standard closets get a standard treatment

Unless the homeowner has a specific shelving layout in mind, I reinforce all the usual trouble spots in a closet. For a standard 2-ft.-deep closet, this means 2x4s on the flat about 12½ in. out from the back wall to support closet-rod cups, and sister blocks on the back-wall corner studs, starting 18 in. off the floor and extending to about 1 ft. below the ceiling, to help support shelving. —M.G.



Install light fixtures right where they belong

I like to place the box for a light fixture in the right spot, not just on the closest ceiling joist. To do this, I fasten the electrical box to a 2x4 block, then nail or screw that block between the joists. I do the same for wall-mounted fixtures like sconces: nail on the box, and toenail the block between the studs. —C.A.P.



Plan for pedestal sinks

Blocking for a pedestal sink isn't just for convenience. I need to anchor the bolts on the back of the sink to something solid to keep the pedestal upright. Installing blocking after the drywall is hung is difficult; if the walls are tiled, it's near impossible. If you plan to have a pedestal sink, put a 2x8 between the studs behind the sink, centered at about 26 in. above the height of the finished floor. Just in case the fixture specs change, there is enough meat to accommodate most pedestals. —E.C.




Towel racks need proper support

Towel racks are often installed with hollow-wall anchors, and that's why they often fall off the wall. Wet towels are heavy, and these bars take abuse; use solid 2x blocking. —E.C.



Provide support for horizontal electrical receptacles

In some cases, like a bathroom backsplash with a mirror above, there might not be enough height for a standard switch plate in the traditional vertical orientation. Laying the box on its side is often the best solution. Most single-gang electrical boxes are set for side-nailing, so I just toe-screw or toenail a 2x on the flat between the studs and fasten the box to the blocking as if it were a normal vertical stud. —C.A.P.



Use vertical backing for the tub surround

An extra vertical 2x is a good idea for most tub surrounds, or tubs that will have tile backer installed above. Locating the blocking 30 in. out from the corner will work for average tubs, but check your plans to be sure. —M.G.

LIVING ROOM



Big crown molding needs wide support

I've installed miles of traditional crown molding by cross-nailing into the ceiling in spots where I couldn't find a joist, and I've never had a joint fail. On some jobs, though, the built-up crown molding can project nearly a foot across the ceiling. In these cases, having solid 2x4 or 2x6 blocking in all joist bays helps to speed up the finish work enormously. —G.M.K.



Fireplace surrounds are often forgotten

Anyone who has ever installed a mantel knows there's never any more than a stud or two on either side of the fireplace; that's a real problem when it comes to attaching the wide pilasters for a fireplace surround. Although it isn't that tough to install plywood or OSB on top of drywall with plastic plugs and adhesive caulking, having solid horizontal blocking sure makes the job easier. —G.M.K.

BLOCKING BY CODE



Keep fire blocking high and flush

Codes require fire blocking in walls that are 10 ft. tall or more. But when the blocking is installed 4 ft. or 8 ft. off the floor, it lands right behind the long seams of drywall and causes the joint to ridge out. Instead, I like this blocking set at 6 ft. so that it lands in the middle of a sheet of drywall. If the blocking is toenailed, make sure the nails are set flush. —M.R.F.



Back up low-voltage accessories that don't use boxes

Security-system hardware, doorbell chimes, and other low-voltage electrical accessories don't mount in electrical boxes. To install these fixtures properly without relying on hollow-wall anchors, I toenail in a piece of 2x4 blocking. Also, I drill a 1/4-in. hole in the block to route the cable, then wrap it around a nail or screw and secure it with electrical tape so that the drywall contractors are less likely to cover it up. —C.A.P.



Plan for vertical wainscoting

Lots of guys like to install tongue-and-groove wainscot on top of plywood or OSB, but because of fire codes in my area, I install it over 5/8-in. drywall—a poor substitute for blocking. I also like to sit the wainscot on top of a solid backerboard an inch or two above the baseboard, which means I can't nail the wainscoting into the bottom plate. So, I like a row of blocks at the bottom of the wall and a second row where the top of the wainscot and the chair rail will land. —G.M.K.



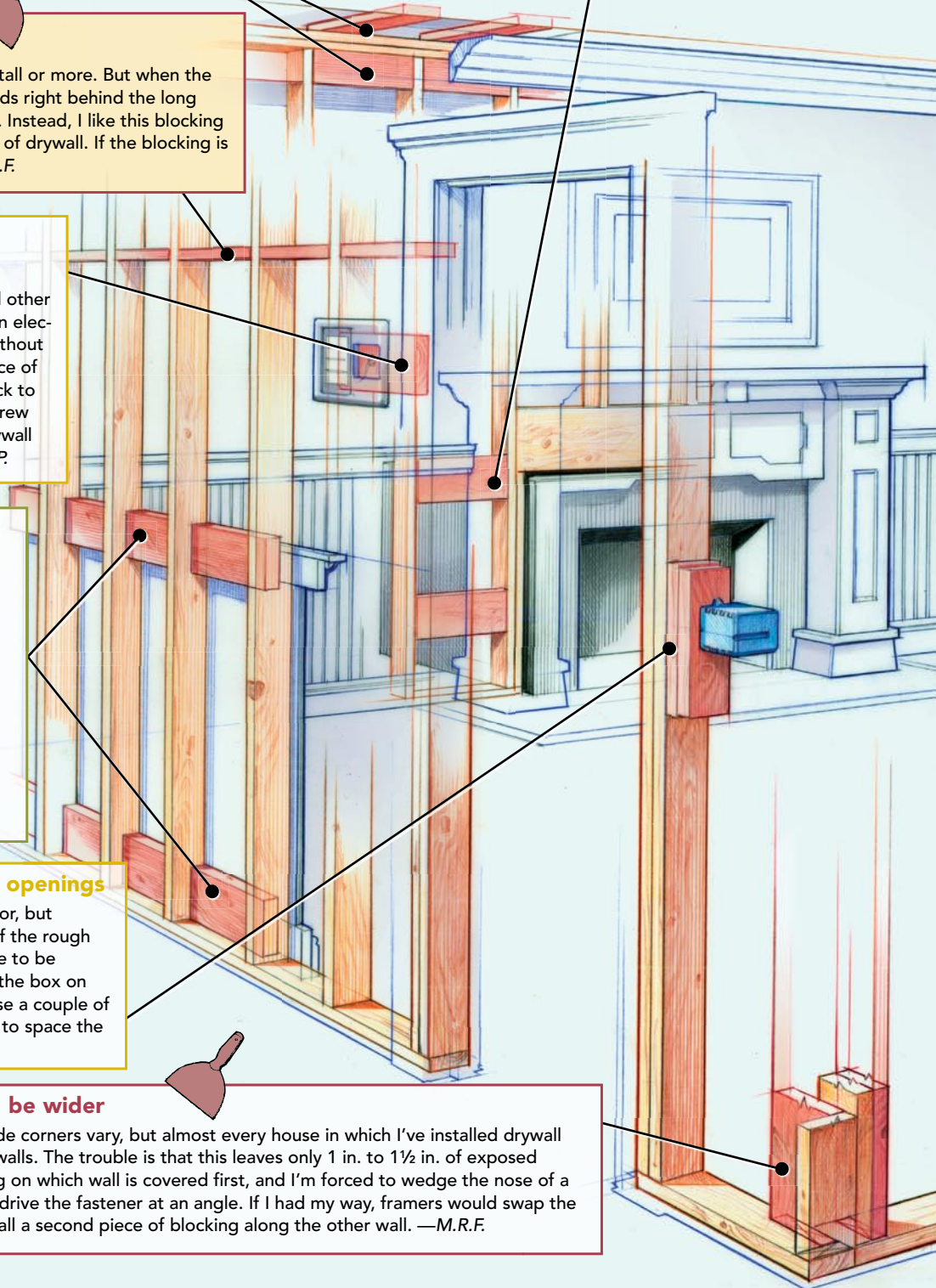
Fur out switch boxes near trimmed openings

Light-switch boxes are usually placed at the door, but attaching the box to the king stud that's part of the rough opening might put the switch plate in the space to be occupied by the door casing. Sure, I could put the box on the far side of the stud bay, but I more often use a couple of long 2x blocks set about 48 in. above the floor to space the box clear of the trim zone. —C.A.P.



Corner blocking should be wider

The stud configurations of inside corners vary, but almost every house in which I've installed drywall has 2x4 blocking for 2x4 stud walls. The trouble is that this leaves only 1 in. to 1 1/2 in. of exposed surface to fasten to, depending on which wall is covered first, and I'm forced to wedge the nose of a screw gun into the corner and drive the fastener at an angle. If I had my way, framers would swap the normal 2x4 for a 2x6, then install a second piece of blocking along the other wall. —M.R.F.



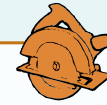
BLOCKING



Allow for custom curtain rods and valances

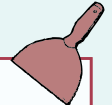
Exterior doors and windows always have headers above them, so there's plenty of backing for standard curtain rods and hangers, but not for a long valance. For curtains that hang in rod-pocket valances, I always install flat blocking at the height of the header in the bays on each side of the opening. —G.M.K.

Split newels and rosettes need extra attention



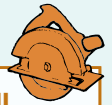
Split newels and rosettes where handrails and guardrails terminate at a wall take a lot of daily abuse. These blocking locations aren't just for the convenience of the railing installer, but for the safety of the homeowners. Rather than relying on nails, I always mount these blocks using screws and construction adhesive. —M.G.

Drywall can't span between stair stringers



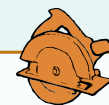
Whenever possible, I like to cover the underside of a stairway with one long piece of drywall. But if the stair has only two stringers, the distance between them is too much to span. I need an additional 1x3 or 2x4 running up the center. —M.R.F.

Studs are too small a target for handrail brackets



Handrails should never be installed with hollow-wall anchors. Still, locating studs precisely to install a handrail bracket is a challenge. Even if I do manage to find the dead center of a stud, one of the top pair of screws used to secure the handrail bracket just grazes the edge of the stud and ends up worthless. I like to mount blocks for rail brackets (again with structural screws) every 3 ft. to 4 ft. along the run of the handrail. —M.G.

Stair trim needs blocking on a diagonal



Because the skirt and cap moldings used to trim stairways run the same diagonal as the stairs, the span between solid-wall framing is greater than the on-center spacing of the studs. If the studs are spaced 24 in. on center, I'm looking at 28 in. to 30 in. between studs. I like to compensate by installing solid 2x blocking all the way up the stairway, and especially where the baseboard meets the skirtboard. —M.G.