Simple Tools for Faster Framing

An expert framer describes how to get more done in less time with the help of patterns, templates and jigs

by Larry Haun

When I was a child, long western-Nebraska winters kept me inside and close to the kitchen stove. In the 1930s, with no television and no department stores, there wasn't much to do except help my mother sew. It was then that I learned to make patterns and templates.

Some years later, when we built the roof on the first house I worked on, the master carpenter laid out and cut a full-length common rafter that became the pattern. Its outline was marked, one board at a time, on a pile of 2x rafter stock. As with my mother's clothing patterns, the hardest part was making the first one.

In this article, I'll describe some devices, patterns, templates and tools that I've used to make repetitive work easier. Some you might have seen before, some not. Either way, these examples might spark your own ingenuity. On any decent-size framing job, it's productive to make a template. A simple tool takes a few minutes to make, but it'll save you time in the long run.

Inexpensive, easy-to-use tools. From left to right: rafter-cutting templates for three different types of rafters; anchor-bolt markers (two with strap handles and one with a rod handle); a hold-down template and a hold-down bracket; and two corner and channel markers (one metal, one wood).

Mark anchor-bolt locations with a simple steel tool—When framing on a concrete slab or foundation, I mark locations of anchor-bolt holes in the sill with a bolt-hole marker. These markers are available commercially (Pairis Enterprises, 27574 Commerce Center Drive, Unit 133, Temecula, Calif. 92590; 909-676-3038) but are easy to make (drawing left, facing page).

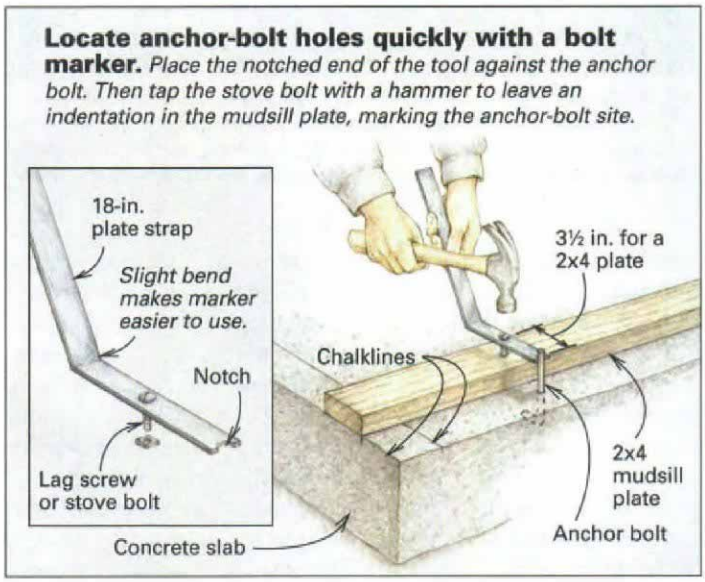
To use the bolt marker, place the mudsill plate on the foundation with the edge of the sill temporarily on the opposite side of the chalkline from where it normally would go. Check to make sure the plate is positioned directly on the line and that the end of the plate is in the right spot. Hold the notch in the bolt marker against the anchor bolt and perpendicular to the plate. Tap the screw or bolt in the tool with a hammer to leave an indentation on the sill, marking the location to be drilled. Drill the holes, and drop the mudsill over the bolts. The mudsill should fall in place right on the line.

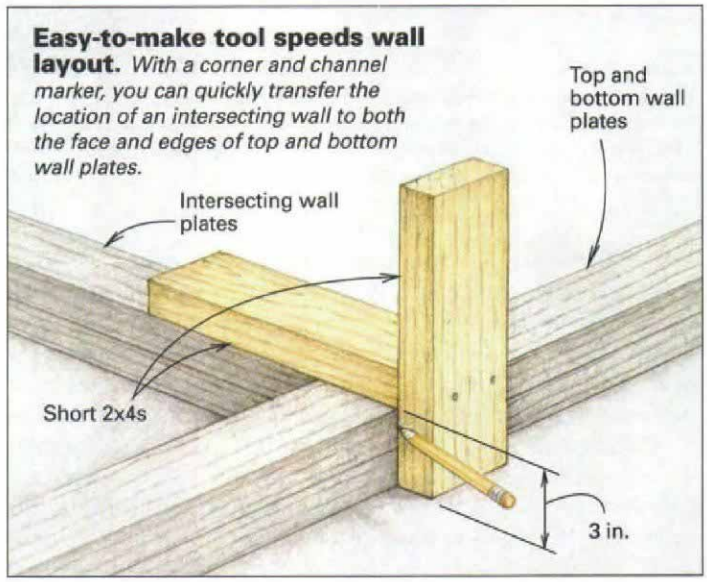
Layout stick quickly marks stud location—The layout stick has been around as a simple framing tool for 50 years. It's used to lay out the locations of studs (photo top left, facing page). Mine was made of aluminum, but you can make

Drawings: Kathy Bray

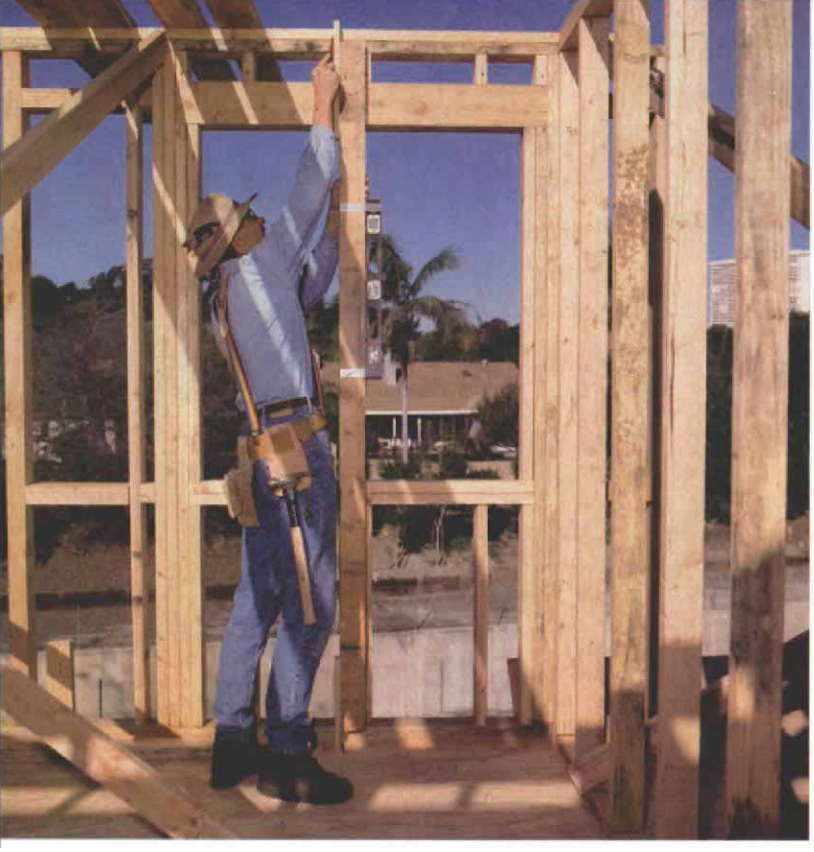
A homemade template speeds stud layout. Using a layout stick to mark stud locations can be faster than measuring 16in. increments with a tape. Metal layout sticks will last longer, but scrap plywood works fine in a pinch.

Drilling guide locates bolt holes. A simple template makes fast work of drilling holes for hold-down brackets.

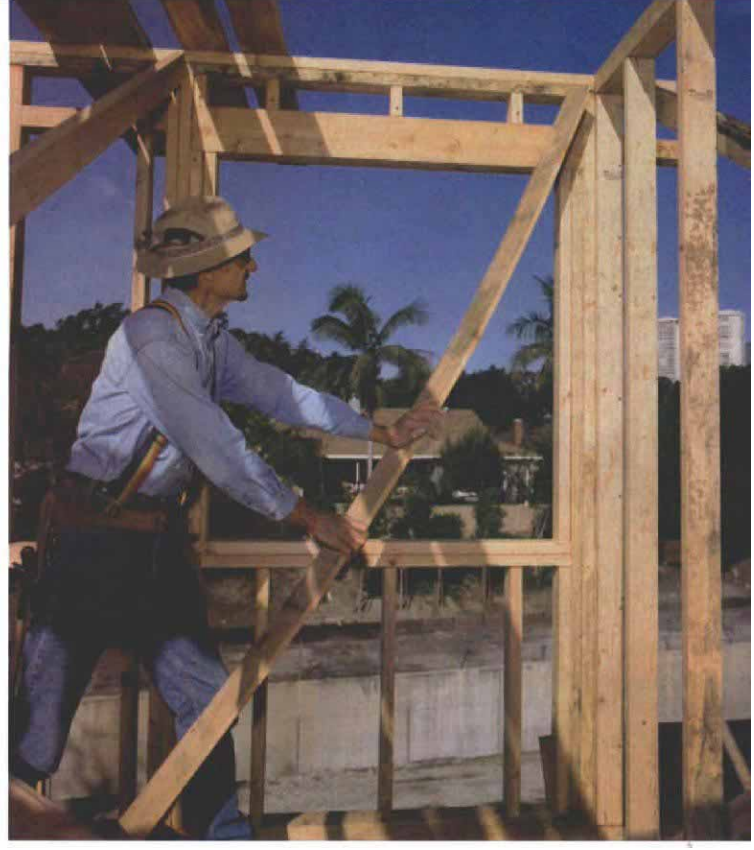




Cutting blocking is quicker with a graduated bench. One method the author uses to cut blocking is to build a simple bench from dimension lumber, supporting one end from an interior partition wall and propping up the other. The blocking is cut by siting along marks made across the bench every **14½**in.



Fix an inaccurate level with a plumb stick. To check a plumb stick for accuracy, mark the stick's location against the top and bottom plates. Then flip the stick around and put it back on the marks. If the level is off, correct it with a shim between the level and the stick.



Gain leverage with a push stick. To plumb a newly framed wall, cut a 1x4 or 1x6 about 2 ft. longer than the wall studs. Wedge the top of the stick against the top plate, then bend it by pushing down and holding it in place with your foot. As you pull up on the stick, the wall will move.

a good one from wood. Cut a strip of ¾in. plywood or 1x stock 1½ in. wide and 49½in. long. (That's the dimension, outside to outside, of four studs 16 in. o. c., and this length seems to be the most manageable.) To this stick, attach strips of plywood 1½ in. wide arid 9½ in. long at 16 in. o. c., or whatever spacing the layout calls for. Let the strips overhang 3 in. on one side and 5 in. on the other. The 3-in. legs allow you to mark stud locations on the edges of top and bottom plates at the same time. The 5-in. legs make it easy to mark two plates laid side by side or two plates and a header at the same time.

Corner and channel marker—When you're laying out stacked top and bottom plates, the location of studs at intersecting walls, which form a channel, can be marked rapidly on the plates with a comer and channel marker (drawing right, p. 65). You can nail a wooden one together in about a minute.

Place this tool on the plate where one wall intersects another, and mark both bottom and top plates on all edges and on the face of the top plate. These lines show where to locate backing studs for drywall and where to cut the second top plate so that the walls can interlock.

Installing hold-downs—Hold-downs are metal brackets bolted to the foundation and to 4x posts in wall framing (photo top right, p. 65). Hold-downs help keep a house stable and tied to its foundation in an earthquake or in high-wind country. When a job has multiple hold-downs, I make a small L-shaped template from plywood or 1x stock. The holes in the template match the holes in the hold-down. The template acts as a guide for drilling the posts.

Cut blocking quickly on a graduated bench—When a radial-arm or sliding miter saw is not available, blocking can be cut rapidly with a circular saw. First, nail an 8-ft. or 10-ft. length of 2x to a windowsill or to a wall stud, about 3 ft. off the floor (bottom photo, p. 65). Prop up the other end with a 2x leg. Starting at the wall and moving out, make a series of lines, 14½ in. apart, for instance, across the face of the bench. Place a piece of stock, long or short, on this 2x, and make a cut at every mark. Remember that blocks usually don't have to be cut with great precision. If one block is a hair short, the next will be a bit long, and they will all average out.

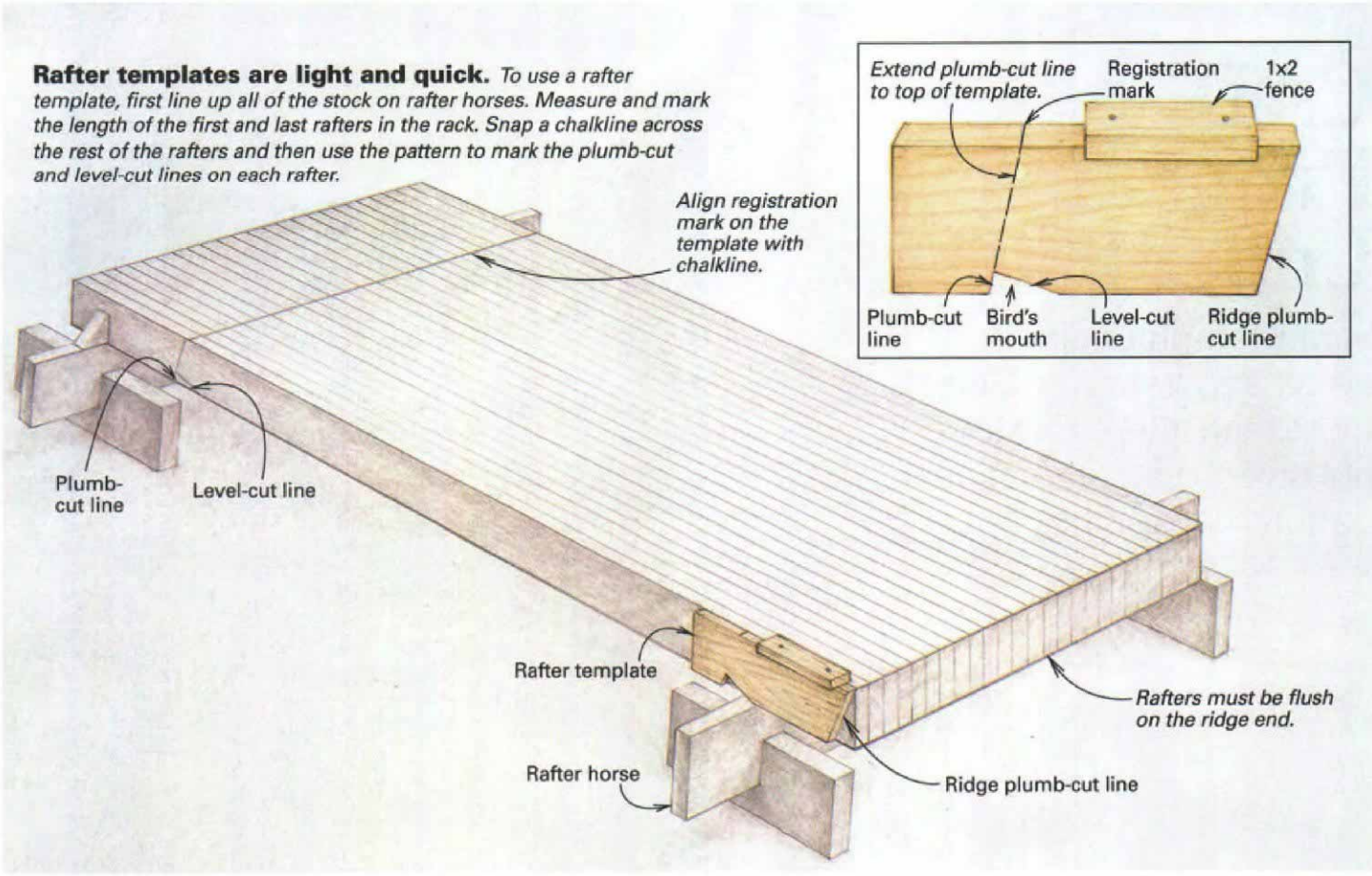
New life for an old level—There are a lot of fancy levels on the market today. My experience with a good level is that it doesn't stay good for long on most framing jobs. I learned early on how to take a battered 2-ft. level and make it into an accurate plumb stick (photo top left).

Nail two pieces of 1x2, about 16 in. long, to the edge of a straight, lightweight stud, one piece on each end. Let the sticks overhang the stud ends 3 in. or 4 in. Overhanging allows the plumb stick to rest against the top and bottom plates and not against a bowed stud that could produce an inaccurate reading. Attach the level to the opposite edge of the stud with duct tape or heavy rubber bands, high enough so that the bubble in the vial will be at eye level.

To check the plumb stick for accuracy, hold it upright with the face of the stud flat against the wall and the 1x extensions touching the bottom and top plates. Move the top of the stick back and forth until the bubble is centered exactly in the vial, and mark along the 1x extensions. Now turn the plumb stick around so that the opposite face of the stud is flat against the wall, and line the extensions up with the marks on the plates. If the bubble returns to the exact center of the vial, the plumb stick is accurate.

If the bubble is not centered in the vial, the level needs to be adjusted. Stick a wooden shim, a folded piece of paper or even an 8d nail under one end of the level and check the plumb stick again. Keep adjusting the shim until the bubble is centered both ways.

Move walls with a push stick—When plumbing and lining a house frame, I like to use what I call a push stick to rack walls end to end and make them plumb (photo top right). Pick out a knot-free 1x4 or 1x6 and cut it about 2 ft. longer



Rafter templates are light and quick. *To use a rafter template, first line up all of the stock on rafter horses. Measure and mark the length of the first and last rafters in the rack. Snap a chalkline across the rest of the rafters and then use the pattern to mark the plumb-cut and level-cut lines on each rafter.*

than height of the wall you're working on. Place the upper end of the stick under the top plate, against a stud. To gain the most leverage, the stick needs to be as close to parallel with the wall as possible. Bend the stick down, holding the bottom end against the floor with one foot. Now pull the middle of the stick up. As the board straightens, the wall will move.

Rafter-cutting templates–If you've read my articles on roof framing, you know I use rafter templates to scribe the ridge plumb-cut line and the bird's mouth cutlines on rafters (drawing above) (*FHB* #60 pp. 83-87, #93 pp. 56-59 and #98 pp. 90-95). Using a rafter template is much faster than using a full-length rafter as a pattern.

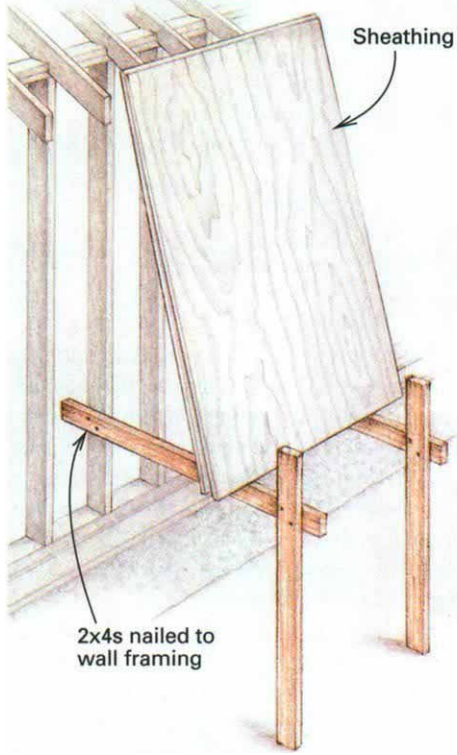
To make a template, start with a 2-ft. long piece of plywood or 1x stock the same width as the rafters. I use a small triangle square to mark the template, but you can do the same with a framing square.

Use the square to mark the ridge plumb-cut line at one end of the template and the level- and plumb-cut lines of the bird's mouth at the other end. Cut along these lines, and then nail a 1x2 fence to the upper edge of the template. The fence lets you place the template on the rafter and transfer the marks rapidly and accurately.

If you load all of the rafter stock on edge on wide, sturdy rafter horses, you can then use the template to mark the ridge plumb-cut line quickly on each rafter, sliding the boards out of the way as you go.

To mark the bird's mouth cuts, keep the rafter stock lined up and on edge. Instead of using a tape measure to mark each rafter individually, mark the length of only the first and last rafters in the rack. Then, with a chalkline, snap a line across the rest of the rafters. With the chalkline as a reference, use the template to mark each bird's mouth.

Platform holds plywood near the roof. *To help get sheathing to the roof, build a 2x4 staging platform. Nail two 2x4s into the wall framing about 3 ft. apart, supporting the ends with legs that reach the ground.*



A simple platform helps to get plywood to the roof–When I don't have a forklift to raise sheathing to the roof, I build a staging platform out of 2x4s (drawing left). Nail two studs on edge into the wall framing about 3 ft. apart, extending out from the building about 5 ft. Support the studs with legs that reach the ground. Place sheets of plywood on the studs and tip them up so that they rest against the rafter tails or fascia board. Now all you have to do is reach down from the roof, grab a sheet and pull it up.

On two-story houses, sometimes you can build a platform on a balcony and then move the sheathing up in stages. For another approach to two-story houses, see "Tips," p. 30. □

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