
THE ULTIMATE STICK-BUILT WALL

BY BILL NEBEKER



To avoid the dangers of working from scaffolds and ladders, the author finishes walls while they are lying flat on the deck. Even heavy gable walls — complete with siding, windows, rake trim, and wood chimneys — can be lifted with wall jacks or a crane.

To avoid the hazards and delays of scaffold work, install siding and windows before you raise the wall

In the mountains of southern California, where I work as a framing subcontractor, we build most of our houses on stepped footings that follow the grade of the hillside. We start by framing a “buildup” from the footings to a point that provides a level base for the first-floor deck. On many sites, this buildup can be 18 or 20 feet high on the downhill side.

When you’re working at the very top of a house like this, it’s pretty scary looking down. If you have to set up scaffolding or get up on big ladders to put windows or siding on those high walls, it can be a real nightmare. So during 13 years of framing in these hills, my crew and I have developed



Figure 1. Since the finished wall can't be racked after siding is applied, it's crucial to check diagonals to square the wall. When the wall is raised on a level deck, it will stand plumb.



Figure 2. The author nails a gable truss to the top plate. The plan is to raise an entire second-floor gable wall, complete with windows, siding, and rake trim.



Figure 3. Applying shear-panel sheathing moves quickly when the wall is lying on the deck. Instead of pulling dimensions or figuring angles, the plywood is simply nailed in place and the excess cut off.

some tricks for completing most of the exterior work while the walls are still lying flat on the deck. We've gotten to the point where when we stand a wall, it's almost finished — siding, windows, window trim, even chimneys and fascia are all done (see photo, page 33). About the only work we have to do from ladders is apply the corner trim on the walls.

The routine we've worked out is based on the materials we use. Most of our houses get T1-11 or hardboard lap siding. If you're using another kind of siding, you might have to adapt these techniques for that material.

Square Plus Level Equals Plumb

It's important to start with a level floor deck. If your deck is level and your wall is square, when you stand the wall the corners are sure to be plumb. We start by nailing the bottom wall plate on edge to a chalk line that marks the inside surface of the wall. We shoot 16d air nails at an angle through the plate every 3 feet or so to keep the plate from slipping around while we frame and square the wall.

As soon as our wall is framed up on the deck, we check the diagonal measurements from corner to corner to make sure the wall is square (Figure 1). Then we tack the top plates to the deck in a few places, to hold it square until the siding is on. This procedure is the same on a balloon-framed gable end. If we're using trusses, the last step before sheathing and siding is to nail the gable truss to the wall plate (Figure 2).

Strap anchors. The toe-nails in the bottom plate might not hold a heavy wall from slipping over the edge when we go to raise it. Some people nail a vertical 2x4 block to the outside of the building to stop the wall from kicking out over the edge, but I don't have much confidence in that method. Instead, we use the metal banding used to bundle lumber. We cut a foot-long length of banding, slip it under the plate, and bend it in an L-shape. We nail one leg of the metal strip into the bottom of the wall plate, then nail the other into the deck. We use two or three straps for a small wall, and four or more for a big heavy wall. When the wall's going up, the straps bend, allowing the bottom plate to rotate, but they won't let the wall slip. Just

remember to get the straps in place before you cover up the wall with plywood — after that it's too late.

Windows

Once the wall is framed and squared, we move on to the windows. On walls that get hardboard lap siding, we first nail plywood shear-panel sheathing to the studs for seismic strength (Figure 3), then staple on housewrap and install the windows. If we're using T1-11 siding, we first staple housewrap to the studs, then install the windows; the T1-11 will hold the wall square and provide the racking resistance required by the seismic code.

Sometimes we have to make adjustments. For example, the windows for the house shown in these photos were shipped late: We couldn't wait, so we raised the wall without windows. Usually, however, we put the windows in, too, because it's so much easier than installing them from a scaffold.

With the materials we generally use, the routine is pretty simple. The windows come with a nailing flange that nails to the rough opening, either directly to the wall framing or through the shear panel into the framing. We hold the bottom of each window down on the rough sill and nail the two bottom corners of the window flange to the framing. Then we square the window the same way we squared the wall — by checking the cross-diagonals and making sure they're the same. The high-quality windows we're using are almost always square, but occasionally one needs to be moved a sixteenth or so. When we're satisfied that the window is square, we nail off the rest of the flange.

Siding

Next, we lay out the siding by snapping lines on the housewrap to mark the stud locations. If the siding is T1-11, we make a layout mark for the first piece by squaring up from a seam in the T1-11 on the wall on the story below.

If we're using lap siding, the starter course needs to be offset so that when we stand the wall, the first piece will hang down just the right distance to lap over the last piece on the wall below. For example, if the last piece on the wall below stops 2 inches below the floor, we set the first piece on the upper wall so that it will hang down



Figure 4. Aligning, fastening, and caulking the siding is a breeze when the wall is lying flat (top). As with sheathing, the author lets the siding run wild at the ends, then snaps a line along the edge and cuts off the excess (above).



Figure 5. Before lifting the wall, the barge rafter for the rake is fastened and the rafter tail is laid out and cut in place.



Figure 6. The author and another carpenter use wall jacks to slowly raise the heavy wall (top). Jacks must be placed to bear over a floor joist so they don't punch through the plywood. As the wall moves toward the vertical (above), permanent braces are nailed to the studs. The wall jacks can be removed after the wall plate is nailed off and the wall is securely braced to the floor.

about 1⁷/₈ inches. That extra 1/8 inch allows for just a little bit of play so that if something's off just a hair when we stand the wall, the siding won't be too tight.

The lap siding we use has a shallow tongue-and-groove edge that makes it easy to lay up (Figure 4, previous page). When the starter course is nailed on just right, it guides the placement of succeeding courses. The siding is prefinished, so when it's nailed on, it's done.

We keep plenty of high-quality, all-purpose silicone caulk on hand, and caulk any joint where water might get in. The siding gets caulked at the butt joints, and we leave a 1/8-inch gap

around the windows that gets caulked carefully, too. Also, as we trim out the windows (usually with square-edge 1x6), we apply a bead of caulk over the top of the head trim.

It's easy to do a nice neat job when everything is lying flat and within easy reach. Lately, we've even been framing up the gable-end roof overhang while the wall is lying down. The ladder-shaped barge rafter gets nailed right to the gable-end truss (Figure 5, previous page).

Lifting the Wall

With all of this material nailed in place, the wall is heavy to lift. We sometimes lift small walls by hand, but usually we use Proctor wall jacks (Proctor

Products, P.O. Box 697, Kirkland, WA 98083; 206/822-9296). Two wall jacks are enough to lift most walls.

There are a few things to keep in mind when you use wall jacks. First, make certain each jack is securely attached to the wall framing at a point that is structurally strong (Figure 6). Those attach points have to be strong enough to support the whole wall. Also, make sure that the base of each jack is bearing directly over a joist; otherwise, when you start cranking, the foot of the jack could bust right through the plywood.

As you raise the wall, make sure all the jacks lift slowly and continuously at the same time. Don't move in jerks, and don't let one guy get ahead of any other. And don't let the cable build up on one side of the spool as you crank — when it slips off, there will be a sudden jerk that you'd just as soon avoid.

When the wall moves past 45 degrees and heads toward vertical, you can feel the weight coming off the jacks. At that point, someone should step under the wall and quickly nail a brace onto a couple of studs. Use a single nail so the brace can rotate as the wall rises. Don't spend long doing this — standing under the wall isn't the safest place to hang out.

When the wall is vertical, get the level on it and make sure it's plumb, then get some more nails into the top of the braces, and nail the brace bottoms to a block that's nailed to the deck. (Make sure the block is nailed into a joist, not just to the plywood.) When the braces are securely fastened and the wall plate is nailed to the deck, you can get on a ladder and remove the wall jacks.

If a wall is really huge, we get a crane on site. When you're lifting with a crane, pay attention to attach points just as you do when using wall jacks. Often, we leave off a piece of siding near the top of the wall so that the lifting straps for the crane can go through the wall and wrap around a gable truss member. Each wall is different, but each has some way to make a strong lifting connection. Pay attention — if a strap lets go, it could be a disaster. ■

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