Raising a Gable Wall

Framing the entire gable while it's flat on the deck is fast and easy. Raising it is a challenge and a danger.

BY JOHN SPIER

There is no easy way to set up the staging for building the gable wall of a house. Most approaches involve pump jacks, wall brackets, an assortment of ladders and too much time. Even a simple gable can be tough to stage, and I've seen gables with their peaks 40 ft. off the ground and others that had to be built above another roof that were nearly impossible. One of the scariest staging jobs that I ever saw was for a gable that was built over a large greenhouse.

Fortunately, there is a way to avoid staging altogether: If you build the gable walls on the deck, you can raise them into place (photo below). Often, when I raise a gable wall, it has been framed, sheathed,

sided, trimmed and painted. The closest anyone has to get to that gable again is when the roofer looks over the edge.

The gable is laid out on the deck

In some cases the gable walls that I build and raise include a full-height wall or a kneewall below the triangular portion of the gable. For the Cape-style home in this article, the top floor was to be under a simple gable roof with dormers on both sides, so we built and raised only the triangular section of the gable wall.

After I've built the uppermost floor of the house, I snap chalklines for the perimeter walls. If the floor isn't perfectly square, I make a few minor adjustments to get the sides parallel and the ends square, a procedure that will simplify the roof framing immeasurably. The next step is to snap lines representing the peaks of both gable-end walls.

I start by snapping the centerline, or ridgeline of the house, and the tops of the sidewalls, if any. Then, using the distance from the centerline to the sides, along with the roof pitch, I calculate the height of the peak and snap lines for the top of the gable wall (photo right). These lines represent the bottoms of the rafters, which are also the top-plate lines. Even if the two gable-end layouts overlap in the middle of the deck, I snap them. As a final check, I measure the four top-plate lines. If they're not all the same, I figure out why and fix the problem.

At this point, I use the length of the top plate to lay out and cut a pattern rafter. I check it for fit by laying it down in place on the gable-end chalklines. I then make four rafters for the gable walls, label the pattern clearly and set it aside for framing the rest of the roof.

Steel bands act as hinges

Before I start assembling the wall, I lay out a few more things on the floor. I locate any interior walls that intersect with the gable so that I can include partition posts. Any other items that require a nailer, such as a tub or shower or closet shelves, are also located and marked. Finally, I locate the windows and snap lines on the floor at the insides of the king studs. Now I'm ready to start framing.

First, I cut and assemble the plates. To hold the plates straight, I use short 2x blocks ripped to 2 in. for 2x4 plates and 4 in. for 2x6 plates and nail them to the deck every 6 ft. or so to hold the plates straight. The blocks are nailed to the floor on edge above the plates, where they serve double duty by temporarily supporting the gable rafters. The plates are then tacked to the blocks (photo top left, p. 90).

For the bottom plates, I use 12-in. ridge ties or short lengths of metal banding that act as hinges when the wall is lifted (photo bottom left, p. 90). The bands are nailed through the floor sheathing and into a joist, block or other framing below. The plates are set on top of the steel band, and the band is bent up and nailed to what will be the underside of the plate. These "hinges" are essential to stop the bottom of the wall from kicking out during the raising. After the wall is in position, I cut off the inner part of the band with a reciprocating saw.

Next, I install the king studs for the windows and add the trimmers, headers, sills, sill jacks and cripples. If there is no window in the center, I install a full-length center stud or post to carry the ridge. If there is a center window, I put in the ridge post above the header. The

Finding the peak. The first step is laying out the upper plates and snapping chalklines for other framing details.

studs are then laid out and installed for the gable wall using the same spacing that I established on the first floor, which keeps the framing neatly in line from foundation to peak (photo below). After the studs are cut and nailed in, I add blocking, fire-stops, nailers and any other framing that might need to go in the wall. If there are gable louvers or other vents, they are framed in, too.

The next step is adding the rafters that sit on the gable-end plates. I lay the rafters on top of the blocks holding the plates straight and nail the rafters to the plates. The top ends of the rafters get shaved slightly so that the ridge will slide in easily after the walls are up. I also make sure the bird's mouths will fit the sidewalls after the gables are raised, and I pull the nails holding the plates to the blocks.

## Add the sheathing, housewrap, trim and shingles

With the framing complete, I turn my attention to sheathing the wall (top photo, facing page). I leave the appropriate amount of sheathing extending beyond the bottom plate to meet the sheathing of the wall below, subtracting ½ in. from my exact measurement to allow for shrinkage, settling, compression of the floor and carpenter error. If there is a lot of loose plywood hanging out beyond the edge of the house, I mark it so that no one walks out and falls through.

I finish sheathing the entire gable and cut out window openings. As you might expect, nailing off the sheathing while the wall is lying flat gives us a big advantage in terms of time, effort and accuracy. The housewrap also goes on much quicker and easier while the wall is horizontal (center photo, facing page).

After the housewrap, I nail on the felt-paper splines for the windows. Another strip of felt paper goes along the top of the wall, and sometimes a piece is needed for a box return or other trim detail.

Now I'm ready to tackle the rake detail. If there is an overhanging rake, I use the pattern rafter to cut the fly rafters, adding half the ridge thickness to each so that they meet in the middle. The fly rafters are installed on lookout blocks usually at 24 in. o. c. A framing square on the floor helps us to keep the overhang in the proper roof plane during assembly. There was no gable overhang with this project, so we simply nailed a sub rake on top of the felt-paper strips.

Studs

Edge blocking for sheathing
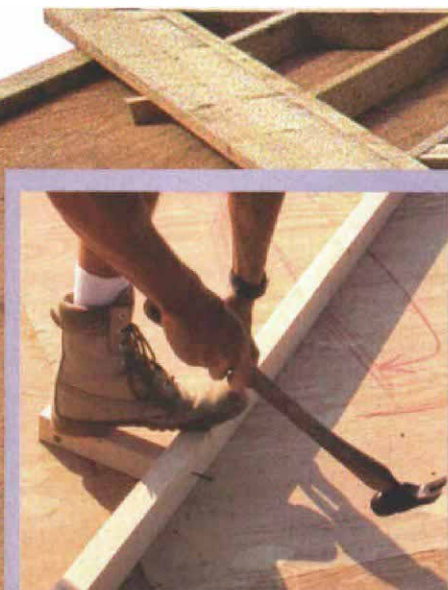
Blocks keep the plates straight. Top plates are tacked to 2x blocks that have been ripped to 2 in. The blocks will also support the gable rafters.

Metal straps act as wall hinges. Nailed to the floor framing and then to the bottom plates, straps keep the wall from slipping off the deck's edge.

Blocks support the rafters during gable assembly.

Bring on the sheathing. The completed gable frame—including rafters, studs and blocking—lies on the deck, ready for sheathing. Horizontal edge-blocking for the sheathing is required for this high-wind area.

At this point, we can install most of the trim. If there are cornice returns, we build them and start our trim there. If not, we just leave the rake boards long to be cut and fitted when the rest of the roof is framed and trimmed (bottom photo).

To save weight for the lift, we usually leave out the windows. A course line for the shingles is established above the finished window height, and we shingle up from there. (For smaller gables, we install the windows and shingle the entire wall.) We nail the lowest course near the tops of the shingles so that the courses below can be slipped in underneath. (An inconspicuous row of stainless-steel nails will secure them later.) We also build our bow vents at this time (sidebar p. 92). Finally, if time and weather permit, we fill nail holes, caulk and put three coats of paint on all the trim,

The gables are raised in stages

Some of the heaviest gables we've ever stood up were 30 ft. long and 16 ft. high, and framed with 2x6s. Usually about six or eight people are required to raise walls such as these. Of course, a crane or com-
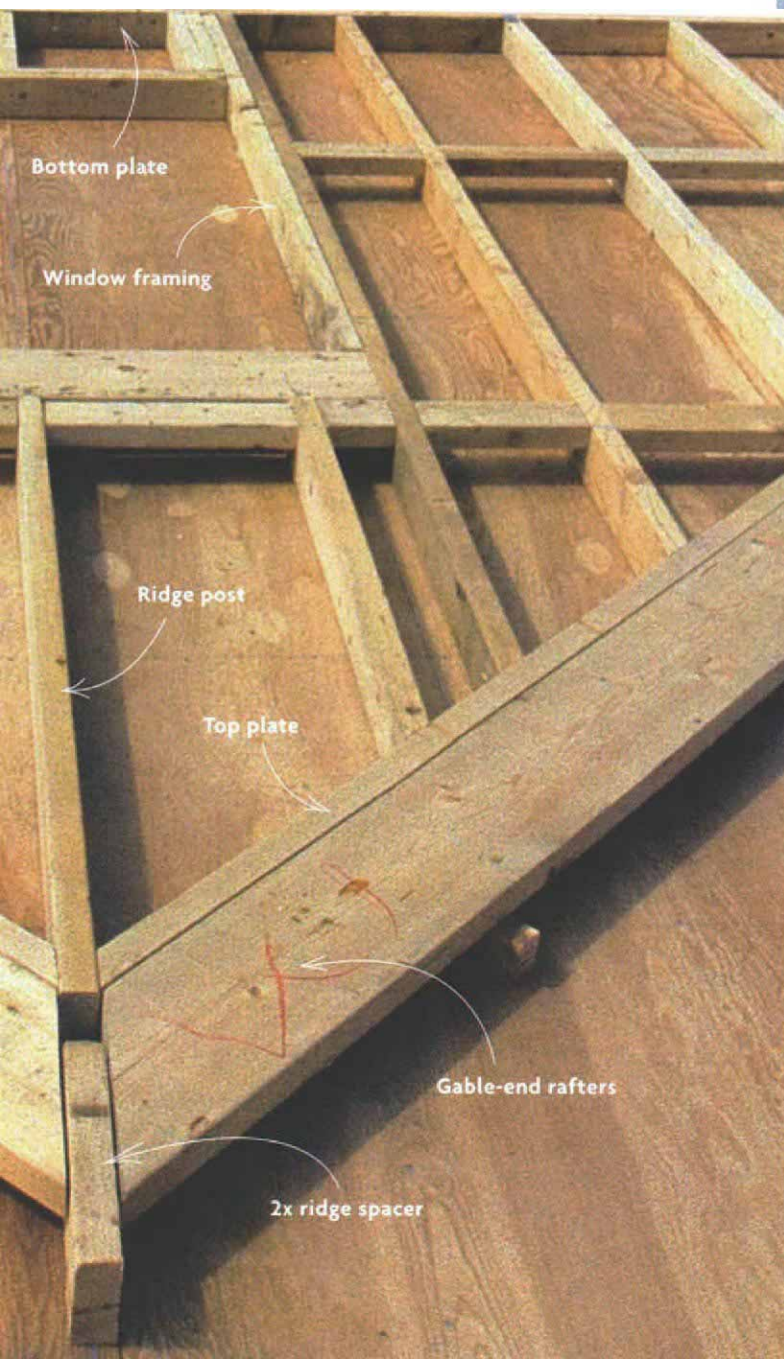
It sure beats carrying plywood up an extension ladder. Sheathing the gable wall while it's flat means that sheathing doesn't have to be held in place while it's being nailed. Cutting and nailing also go much quicker horizontally.

Gift-wrapped gable. With the wall lying flat, the housewrap can be stretched out and stapled without wrinkles.

Fitting gable trim in comfort. Instead of working off tall ladders or awkward staging to get all the trim cuts right, the author fits all the trim perfectly with the wall lying flat.

Bottom plate

Window framing

Ridge post

Top plate

Gable-end rafters

2x ridge spacer

mercially available wall jacks could make the job easier, but I don't happen to have either. The trick is not to raise a really big or heavy wall all in one motion.

We start with a couple of strong sawhorses standing by and lift the peak enough to kick the horses underneath. For this stage, everyone is lifting close to the peak for maximum leverage. With the wall resting safely on the horses, we next get a couple of 2x6 studs ready for props and lift the wall enough to prop it at the window headers, usually about 45°. The gables shown in this article were small enough to be lifted directly to the 45° position.

At this point, the heaviest lifting is done, and control becomes our biggest concern. We nail in two or three braces near the top of the wall (photo left). The braces have to be long enough so that they will be at a 45° angle with the wall standing plumb. By angling several spikes through the brace and into a stud, a strong attachment is made that still allows the brace to pivot as the wall is raised.

The final lift is made using the braces to help push and control the top of the wall (photo below). Once it is upright and has been plumbed, the braces are nailed off to blocks nailed through the floor sheathing and into the joists. Sometimes we add a few additional braces to keep the rakes straight

or for peace of mind overnight. When the wall is up and braced, the bottom plate and the overlapping part of the sheathing can be nailed off (photos facing page), tying the gable to the rest of the house.

A couple of additional tips

If the peaks of the gable walls overlap by a little in the middle of the floor, we often build the first gable and lift it onto the sawhorses so that it is out of the way for building the second. This method allows both gables to be painted at once and means assembling extra hands for just one big lifting party.

Keep an eye on the wind while you're lifting the gables. If you're lifting into the wind, it's no problem. Just don't get squashed if you lose control of the wall. If the wind is behind you pushing the wall up and out, secure a safety rope to stop the wall before it goes beyond plumb.

Last, when the siding and painting subs show up, drive a hard bargain. The toughest part of their jobs has already been done. ☐

John Spier and his wife, Kerri, have a general-contracting and renovation business on Block Island, Rl. Photos by Roe A. Osborn.

Braces help with the lift. With the wall held in place at about a 45° angle, 2x braces are nailed high up on the studs (photo above). The braces then help to control the final push (photo right) and finally are nailed to blocks attached to the floor framing.

Tying the gable to the house. Once the gable is braced in position, the bottom plate is nailed off (top photo), and the sheathing that was left overhanging is nailed to the house framing (bottom photo).

Gable vents for high-wind areas

The storms that buffet Block Island are typically accompanied by gale-force winds blowing in off the water. Precipitation in these storms travels horizontally, forcing its way into even the smallest openings. Traditional louvered gable vents inevitably leak.

The bow vent (photo facing page) is a decorative but functional solution. This vertical eyebrow arrangement admits air for ventilation but shields the opening from rain or snow. Local codes may vary in determining vent size, but for this job, we cut 2-in. by 24-in. openings on both gables (top photo). We then staple copper or bronze screen over the opening. Two bow-shaped nailers are then cut out of pressure-treated or cedar 2x stock—one large bow about 2 ft. wider than the opening and another proportionately smaller bow, both with slight angles on the tops for the angle of the shingles. The center of the larger nailer is cut out, leaving a hole the same size as the vent opening. The solid upper nailer stiffens the shingles and limits the space in the vent to discourage birds and insects. The nailers are then attached to the gable wall above and below the opening (center photo). After shingling up to the lower 2x nailer, we shingle over both nailers starting in the middle and working to the sides (bottom photo). A starter course under the bottom course ensures a weathertight vent. We continue shingling to the peak, blending bow shingles with wall shingles.

These vents work best in conjunction with a small attic space, soffit vents and vent baffles. When correctly sized and built, bow vents provide adequate ventilation even on fair-weather days. —J.S.

A hole for air but not water. A bow vent begins with a hole cut in the wall properly sized for the area to be vented.

The bow is framed with 2xs. Beveled nailers are attached above and below the vent opening.

Shingles fellow the line of the bow. Shingles are nailed to the nailers using a stretched string as a guide.