BY GREG AND SUE BURNET

Snapping Layout Lines for Walls

The first step in framing walls is to lay out "plate lines" that will help you place the walls straight and square. Framers snap out these lines with a chalk line on the top of foundation walls or at the edges of a structural slab to guide the placement of the mudsills. Over some foundation walls (for full basements or crawlspaces), they build a floor frame, or "deck," on top of the mudsills and snap a second set of lines to keep the wall plates true.

In this article, we show the layout and squaring process on the deck, but it's the same if you're doing it on a slab or on the top of foundation walls (see "Mudsill Layout for a Complex Foundation," May/14). In each case, you need to be as accurate as possible; otherwise, you wind up with an out-of-true frame that will haunt you and every tradesperson on the project for the rest of the job.

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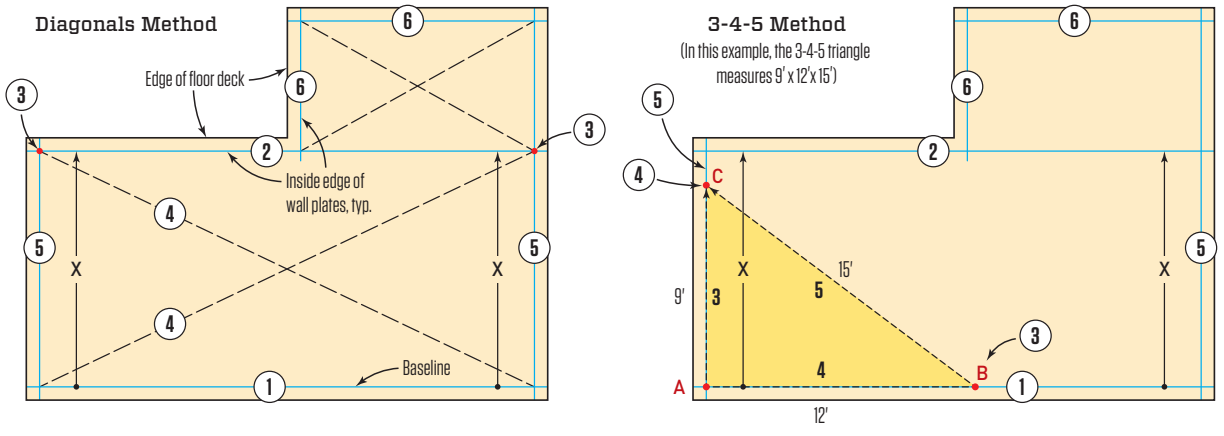
Two Ways for Snapping Square Lines for Wall Layout



Step 1 Mark corners using a gauge block (scrap piece of 2x plate material) and snap chalk line for the longest wall (baseline).

Step 2 Place the gauge block on the edge of the floor deck to find distance **X**, and use that distance to snap the parallel wall.

Step 3 Use the gauge block on the sides of the floor deck to mark the approximate corner points.

Step 4 Measure diagonals and adjust corners until measurements match exactly.

Step 5 Snap lines for perpendicular walls through the adjusted corner marks.

Step 6 Measure and snap lines for smaller rectangle; check with diagonals.

Step 1 and Step 2 Same as "Diagonals Method".

Step 3 Starting at corner point **A** on the baseline wall, measure 12' and mark point **B**.

Step 4 Stretch a tape from corner **A** toward the parallel wall, and a second tape from point **B** along the diagonal. Where the 9'- and 15'-measurements meet, mark point **C**.

Step 5 Snap a chalk line from corner **A** through point **C**, extending the line to the parallel wall. The baseline and the side A-C are now perfectly square. Measure from side A-C chalk line to define the opposite wall, similar to step 2.

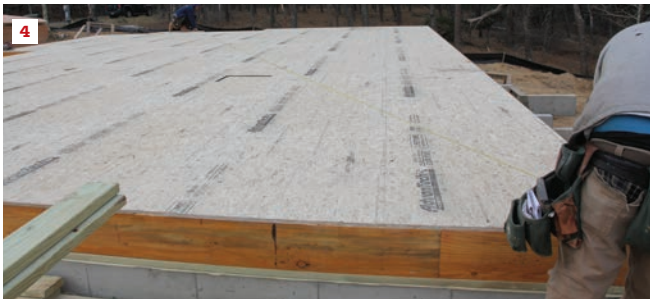
Step 6 Measure and snap lines for smaller rectangle using diagonals or the 3-4-5 method.

Illustration by Tim Healey

Layout Lines for Wall Framing

Before building the walls of a house, the crew has to snap layout lines to keep the walls straight and the corners square.

The first line is for the longest wall, or baseline wall, of the house. Using a gauge block made from the plate stock, draw inside corners at both ends of the wall **(1)**. Check the measurement to confirm that the wall length is correct, then snap a line between the corners. From both ends of the baseline wall, measure out for the longest parallel wall (which establishes the largest rectangle on the floor deck), again marking the inside of the gauge block **(2)**.



Make an approximate corner mark on one end of the parallel wall and then measure over the length of the wall to mark the corner on the other end. Take diagonal measurements between the corners, first in one direction **(3)** and then in the other **(4)**.

Adjust the corner marks until the diagonal measurements are exactly the same **(5)**. Note that the lighter pencil mark in the photo is the original (approximate) corner mark made before the adjustment. Snap a line between the adjusted marks and the corners of the baseline wall **(6)**. Those walls should be perfectly square to the baseline wall. Lay out the other walls using the established lines as reference and double-checking for square with diagonal measurements.

Photos by Roe Osborn