

Building Simple Stairs

Interior and Exterior Stairs
for Utility Applications

P
L
U
M
B
B
O
B
P
R
E
S
S

A man with glasses and a mustache, wearing a red and blue plaid shirt and a brown tool belt, is shown in a workshop setting. He is holding a string line taut in his right hand, with a wooden bob hanging from it. He is looking towards the camera with a slight smile. In his left hand, he holds a yellow and blue level. The background consists of wooden walls and beams.

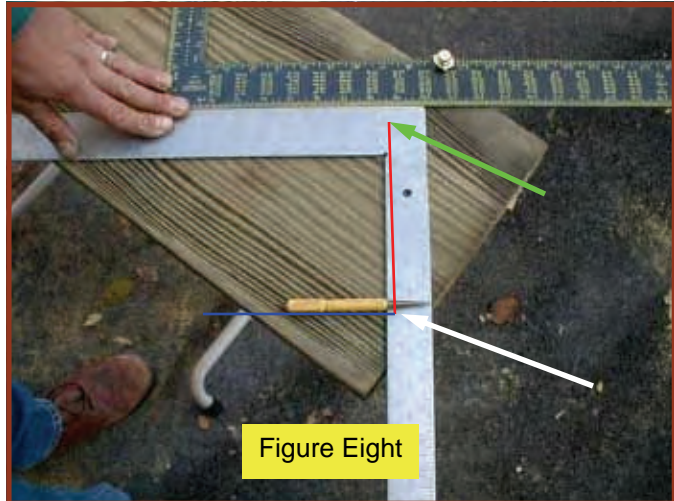
Tim Carter

Chapter Three - How to Build Your First Riser and Bottom Seat Cut

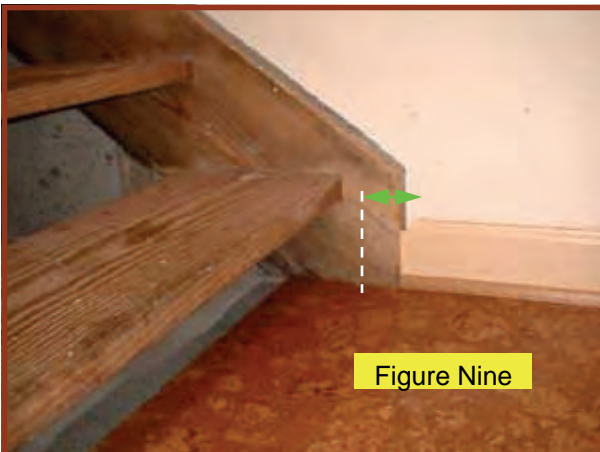
Figure Eight illustrates how you determine where the top of your first tread begins so that you have no waste of lumber. With the stair gauges set on the black framing square I can slide it down towards the end of the 2x12. Keep in mind that the bottom edge of the black square actually represents the **top of the treads**. Refer back to Figure Seven to confirm this.

Since we want 7.5 inch high risers (or whatever you determine the risers will be in your stairs), you use another framing square that is upside down. With the bottoms of the two squares touching you slide them down the stringer until the actual riser height on the tongue of the lower square matches what you need. In my case it was 7.5 inches.

But there is one other critical thing you must take into consideration to make the steps look right. Remember in Figure Six I told you to create the green setback line of 1.5 inches. A similar 1.5 inch border needs to be added to the front of the first riser. You can see a similar border added in Figure Nine. The distance of the border in Figure Nine is more



than the border distance from the tips of the treads to the top edge of the stringer. I cut it this way for this set of stairs so that the vertical face would not be too terribly high. On outdoor stairs, I prefer to have the distance between the tips of the two green arrows the **same as the distance between the tips of the treads to the top edge of the stringer**. In the stairs we are building now, I will make this distance 1.5 inches.



The white dashed line in Figure Nine is the actual riser height. You could make your vertical plumb cut of the steps here, but I think you can see how unattractive that might be. The vertical cut would continue up until it intersected the top

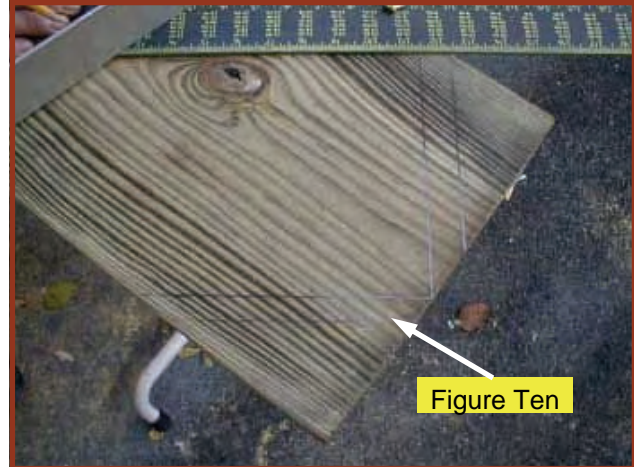
edge of the stringer.

Refer back to Figure Eight. To account for the 1.5 inch border, you need to slide the bottom aluminum square to the right until its corner is at the 11.5 inch mark of the black square. I say 11.5 inches because I am using a 10 inch tread ($10 + 1.5 = 11.5$). If your tread depth is different, you would add your tread distance plus 1.5 inches. Holding the two squares in position like this, you now slide both **at the same time** until the bottom aluminum colored square measurement on the outer edge of its tongue **equals your riser height**. In Figure Eight, the tip of the white arrow and the yellow nail set are pointing to the 7.5 inch mark on the aluminum framing

square.

With the aluminum square out of the way, you can see the pencil lines. The horizontal pencil line that is parallel with the bottom of the black square was made after I drew the vertical pencil line. I simply flipped the aluminum square around and drew the horizontal line at a 90 degree angle to the vertical line.

The tip of the white arrow once more shows you that the two lines intersect right at the end of the 2x12 so there is no waste of lumber. I drew parallel pencil lines on either side of the actual lines just to draw attention to the actual cut lines. You do not need to do this. If you look very closely you can see the vertical pencil line touches the bottom of the black framing square



just at 11.5 inches. Furthermore, if you could put a tape measure on this same pencil line, it would be 7.5 inches long from where it touches the framing square to where the tip of the white arrow is. Once again, **your riser height may be different!**

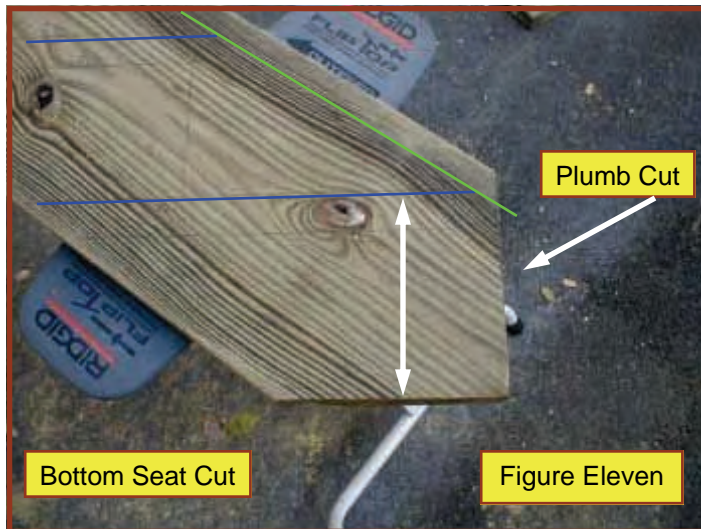


Figure Eleven shows you the bottom of the stringer once I have cut along the pencil lines. This photo is actually a little out of order as it shows the layout lines of the treads already complete. I am just about to show you how to do that. But I wanted you to see how the cuts make sense.

The plumb cut is parallel with any and all risers. The bottom seat cut that will rest on the concrete pad is parallel with any and all treads. I have taken the liberty to draw a blue line that overlays the pencil line indicating the top of each tread. You should be able to clearly see that the blue tread lines are parallel with the bottom seat cut. What is perhaps even more important is the first blue line above the seat cut is actually 7.5 inches up from the seat cut. The white line with two arrow points shows where I am getting this measurement. This same white arrow line represents the first riser. Don't confuse the vertical plumb cut as the first riser. The length of this plumb cut is greater than 7.5 inches since it extends up to the top edge of the stringer.

