

# **Broom Handle Transit**

## **By George Porter**

There is an old saying, “By your students you will be taught.” It apparently has been true in my case, because I have never given a seminar when I didn’t learn something from the class. My latest tidbit of knowledge is just too good not to pass on. On the second day of my seminar, I sometimes show people how to layout a foundation using strings, batter board, and a water level. The purpose is to demonstrate how you can use a water level to create a perfectly level foundation, even though the home is sitting on individual footings. For years I had been measuring from the string down to the top of the concrete in the hole so all the footings will be at the same level and the home can be very easily blocked. I advocate using this method because it is much easier to work standing up, walking around in a fairly open area, than to be crawling around under a home dragging in 3” and 4” concrete blocks, and possibly running out of them and then looking for chunks of lumber, smooth flat river rocks, or whatever else is in the area in order to fill up the gap between the footing and the home.

There are many, many advantages to starting off with a very level foundation. However, not long ago, a fellow in Kentucky showed me a new and better way to go. Still using the string and batter boards to lay out the basic location of all the footings, I then switch to a broom handle and the water level. Set up the water level anywhere you like around the foundation and tape the water level in the upper and lower portion of the broom handle so most of the bottom part of the broom handle is able to go into the holes you have dug for the footings. Then make an estimate of how high you want the concrete to be in one of the holes, and put the bottom of the broom handle at that level. Now make a mark on the broom handle where the fluid in the water level comes to. Then make a series of marks on the broom handle every four inches above and below the original mark. As long as you pour the concrete in the hole to the bottom of the broom handle with the handle held so the water level is level with one of the marks you made, you will be a four or eight inch block increment away from having all the piers level at the top where the home will rest.

What you are doing is using the water level like a transit. Depending on the lay of the lot some footings will be made with the extra four inch block and some might have an eight inch block. There will be many footings that are exactly the same level. However it works out, the home will be much easier to install and you will not need a multi-thousand dollar transit to do the job. If you already have a water level then get a broom handle and you are fully equipped. You could also use a surveyor’s pole in place of the broom handle, but a broom handle has more character, don’t you think?