

# Checking Your Transit

Working with an inaccurate transit or builder's level can have serious consequences, especially if you're pouring concrete or building stairs. If you share a transit among several users,

there's no way to know for sure if it has been treated with care, so many builders will send their transit out periodically for cleaning and a checkup. This is a good idea, and generally less

expensive than a layout mistake, but not something you'll want to do very often. Between trips to the transit doctor, here's how you can check the accuracy of your instrument:

Find an area about 220 feet long and as level as possible. Place two matching leveling rods about 200 feet apart. Any two stationary references will work; I've used the side of a dumpster and a rod at the other end of the lot, or you could use two pieces of strapping driven into the ground.

Position and level the instrument between the two reference points so that the measured distance from the instrument to each rod is the same (Step 1). Take a reading on each rod (or have a helper mark each piece of strapping where the crosshair is sighted). Record the readings as A and B. Next, move the instrument to another point in line with, and about 20 feet past, one of the two leveling rods (Step 2). Level the instrument, take readings again on both leveling rods and record the readings as A' and B' (or remark the two pieces of strapping with the new crosshair sightings). The difference between both readings on the respective rods should be the same (A minus A' should equal B minus B'). If they are not, the discrepancy between A minus A' and B minus B' is the instrument error at 200 feet.

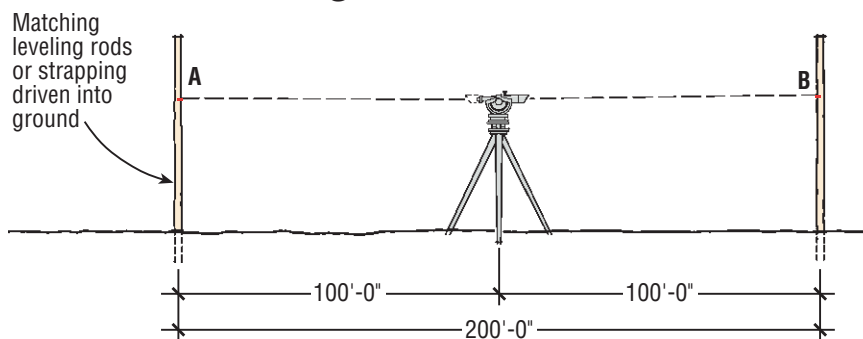
Correction of instrument error should be performed by a competent repair technician. Recheck the instrument periodically to assure continued accuracy.

*This article was adapted with the permission of CST/Berger.*

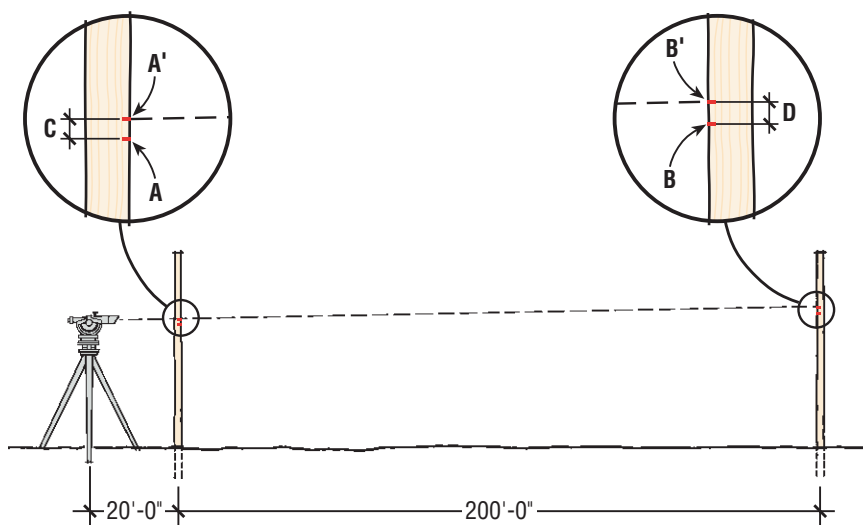
## Finding Instrument Error

Reading A	4'-7 <sup>9</sup> / <sub>16</sub> "	Reading B	3'-1 <sup>5</sup> / <sub>16</sub> "
Reading A'	6'-3 <sup>7</sup> / <sub>16</sub> "	Reading B'	4'-11 <sup>1</sup> / <sub>16</sub> "
A - A' = C	1'-7 <sup>7</sup> / <sub>8</sub> "	B - B' = D	1'-9 <sup>3</sup> / <sub>4</sub> "
Instrument Error = C - D = 1'-7 <sup>7</sup> / <sub>8</sub> " - 1'-9 <sup>3</sup> / <sub>4</sub> " = 1 <sup>7</sup> / <sub>8</sub> "			

## Finding Instrument Error



Step 1



Step 2