Total Station Vertical and Horizontal field check

This quick and easy check will allow you to check and verify that the Vertical and Horizontal angles are within the manufactures specifications.

Set up your Total Station and a target at least 100 meter apart. It will work better if can use a prism and if available activate the auto lock so the instrument will auto lock to your Prism.

If not you will need to accurately aim of a fixed target and align the cross hairs on your target.

If you have Access or Survey Pro you will need to open the section that will allow you to view the Raw value for the Vertical Angles and the Horizontal Angles.

Aim accurately to your fixed target or allow the instrument to auto lock to the prism and log both values for Vertical and Horizontal.

Change face 180 degrees on both axis and log the raw Vertical and Horizontal angles for phase 2

Now that we have the values we can do the math to verify that both the Vertical and Horizontal angles are within the Manufactures Specifications.

Example:

The first angel should be about 90.00.00 for Face 1 on Vertical and 270.00.00 for Face 2 Vertical.

Math:

F1 HA 110.30.43

VA 86.25.50

F2 HA 290.34.04

VA 273.34.04

F1 VA 86.25.50 +(add) F2 VA 273.34.04 = 359.59.54 subtracted from 359.59.59 = .05 divide by 2 observations F1 VA and F2 VA=.03 Ark Seconds for Vertical

F1 HA 110.30.43 –(subtract) F2 HA 290.31.04 = 180.00.21 subtracted from 179.59.59 =.22 divide by 2 observations F1 HA and F2 HA = 11 Ark Seconds for Horizontal

On this example the Vertical angle closed with in Specifications but the Horizontal angle closed at 11 seconds and the Total Station is a 3 second instrument we now know that the instrument is out of calibration on the Horizontal angle.