

SURVEY WORKFLOW GUIDE

HOW TO CHECK A BACKSIGHT

Total Station – Check Backsight

To update the total station setup orientation during a survey is a best practice, as the tripod can rotate somewhat during a day's work; it is affected from the heat of the sun and other weather related causes.

For this we have the **Check Backsight** option in the Trimble Access (TA), Trimble Survey Controller (SC) and Trimble Digital Fieldbook (TDFB) field software programs. From the Measure Topo menu, you can measure, store and reorient your station setup (update orientation).

In the case of resection (free station) the user can establish a backsight after the resection is completed. This is accomplished from the Measure Topo screen by measuring and storing one point.

Then select **Station Setup Plus**. This is done through **pressing the instrument icon** (Instrument functions, or Ctrl + I or the Trimble symbol on SC) and **enter the numeric value 20**.

Now the display offers different selections of Station Set Up, select **Station Setup Plus**. This will suggest the same station name as previously established with resection; just **confirm this station name** and **select the newly measured reference point** (as indicated above) as back sight. Select **angles only, measure and store the results**. This "new" back sight can now at any time be used for back sight check.

In the Measure Topo menu press **Check (shortcut is CTRL+K)> Chk BS> Turn to the point> Measure> Select action: Store and Reorient> Store the point**.

All this can also be easily done in Robotic mode. If the resection is done with fixed control points, one of these can be used as the Check BS point. Then before doing the **Station Setup Plus** measure a **Check Shot** and **Turn** to this point to get the instrument aimed to the point that will become the backsight. This enhances the process, especially in robotic mode.

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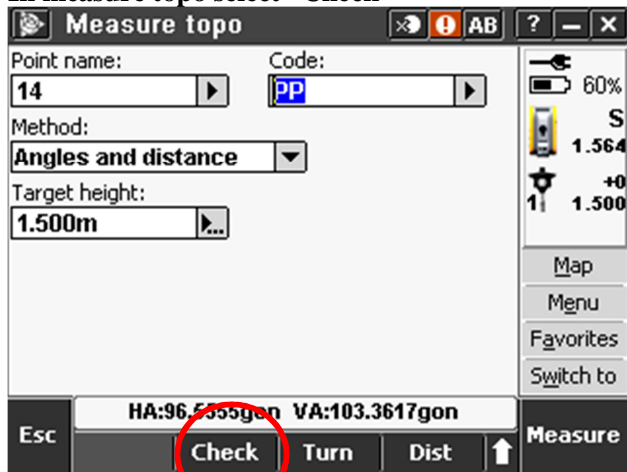
Survey Division, 10368 Westmoor Drive, Westminster, CO 80021, USA

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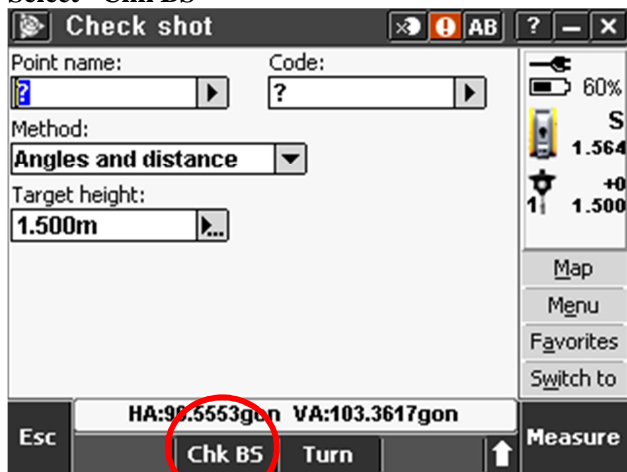


How to Check a Backsight with Trimble Access

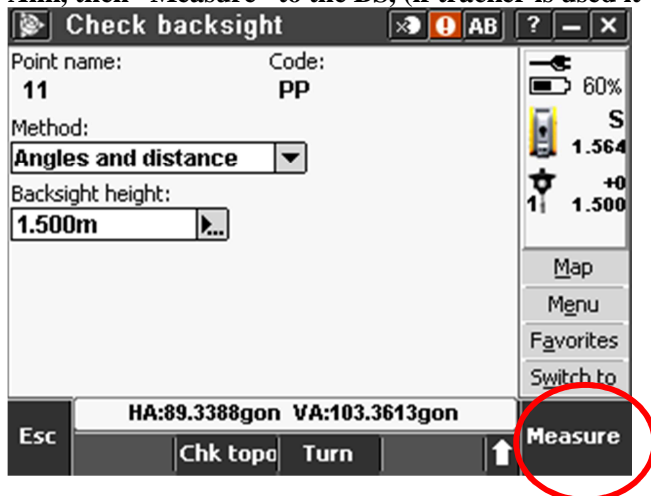
In measure topo select “Check”



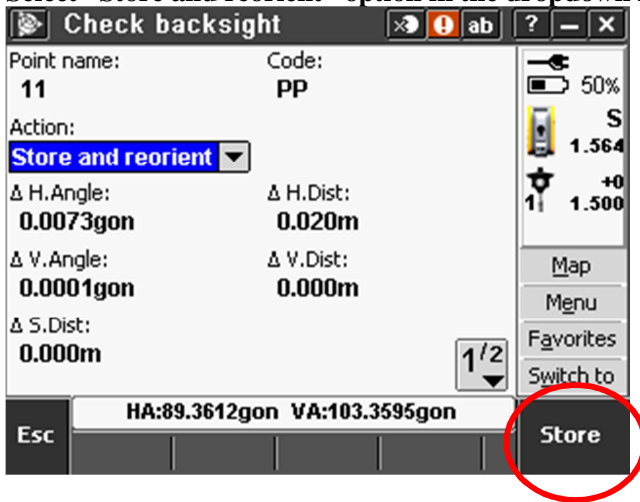
Select “Chk BS”



Aim, then “Measure” to the BS, (if tracker is used it will aim automatically)



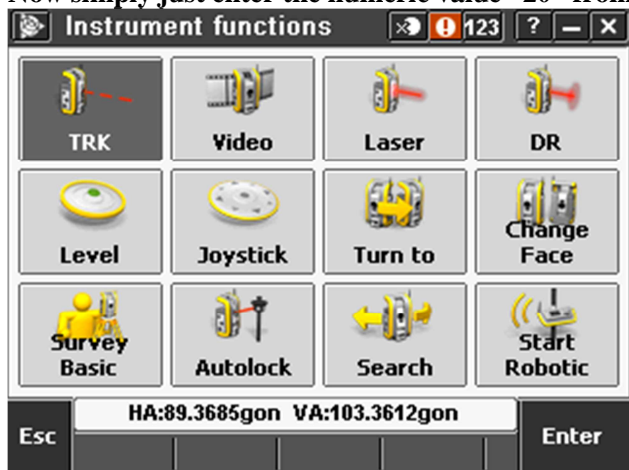
Select "Store and reorient" option in the dropdown menu, then "Store"



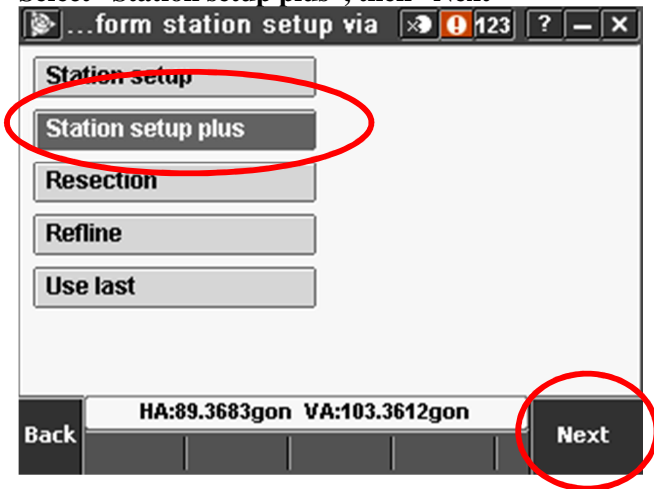
To be able to check the BS after a resection you should complete a station plus after resection. This is easily accomplished by tapping the instrument icon.



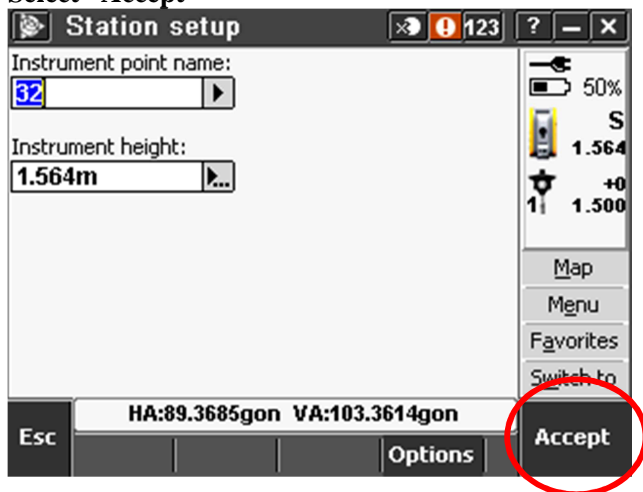
Now simply just enter the numeric value "20" from the keypad of the controller unit.



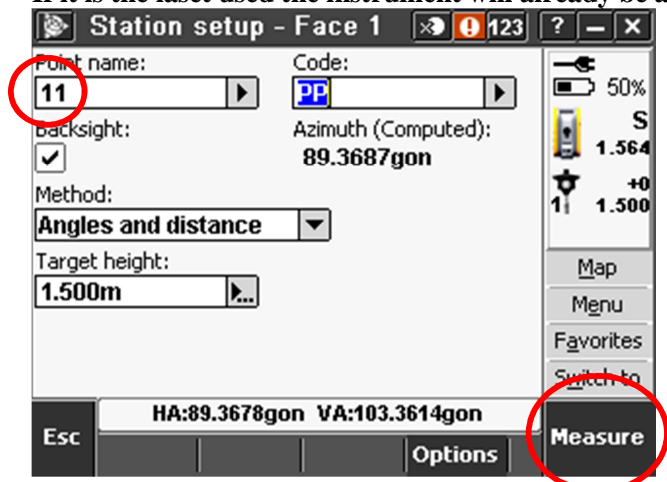
Select "Station setup plus", then "Next"



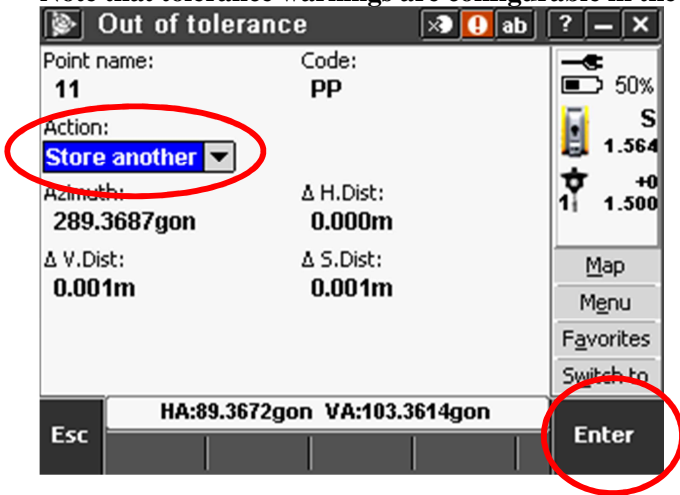
Last resection point name and instrument height will automatically be filled in. Select "Accept"



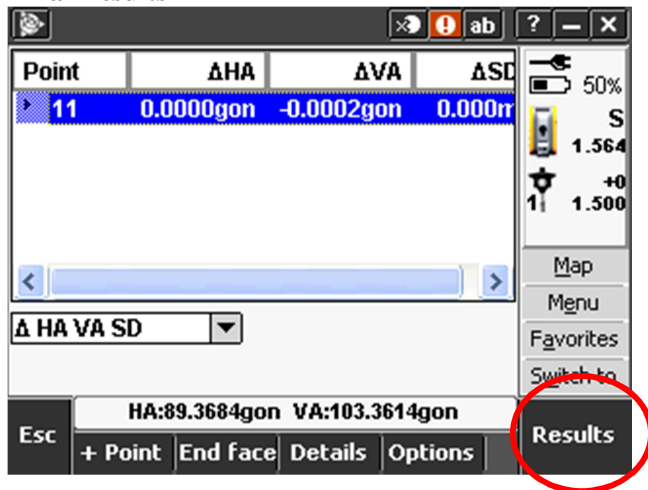
Key-in the point you want to use as back sight, aim to and measure that target. If it is the last used the instrument will already be aimed to that point.



Note that tolerance warnings are configurable in the job file and will affect display notifications.



Final Results



Store the station setup.

