

Topcon GPT-7500 Series preliminary SOP

Equipment needed:

Tripod
Measuring tape
Prisms, prism backs
Prism pole
Total station
Charged TS batteries

Setting up the unit:

1. Set-up the tripod and screw the total station on top
2. Level the total station using the bubble level and thumb screws on the sides of the tribrach base.
3. Look through the optical plummet on the side of the total station and place a monument or mark in some fashion the position of the instrument.
4. Press the green button on the side of the total station to turn the power on. The stylus is located on the side of the instrument.
 - a. The main screen shows a Windows mobile desktop with several icons on it.
5. To adjust the tilt, double tap “Standard Measure” with the stylus.
 - a. Tap “Meas” and touch the function button labeled “P1” (F40 once, this scrolls to the next menu page
 - b. Press the F1 button to adjust the Tilt.
 - c. Use the thumb screws on the tribrach to adjust the X and Y values until they are less than 30” each.
 - d. Press “Exit” when finished adjusting the tilt.
 - e. Press “Esc” button to exit back to the main screen desktop

Surveying

1. To begin surveying, double tap the “TopSurv” icon on the desktop.
2. Tap the “Job” → ”New Job”
 - a. Enter details for the job using the stylus and the on screen keyboard
 - i. To access the keyboard, press the second green button from the bottom right corner of the instrument, below the number pad. The button has the outline of a square with a dot in the center printed on it.
 - b. Tap “Create” when finished
3. Backsight Setup
 - a. Tap “Set-up” → “Backsight” to enter the backsight set-up menu
 - b. Name the occupation point “Occ. Point” (Ex. ip1) or select a previous point from the dropdown menu.
 - c. Leave the fields “BS Azimuth” and “BS Circle” set to 0.00
 - d. Measure the height of the instrument to the dot mark on the side of the total station
 - i. Enter it in tenths of feet in the field labeled “HI”
 - e. Measure the prism rod height to the center of the prism
 - i. Enter it in tenths of feet in the field labeled “HR”
 - f. Orient the instrument to face approximately north

- g. Tap “HC Set”
 - i. A message will pop up saying that the point “ip1” was not found and ask to create it- click “OK”
 - h. Tap “Close” when finished, the main menu for TopSurv will be displayed
4. Shooting points
- a. Tap “Survey” → “Topo” to begin.
 - b. Enter point attributes in the point, code, and string fields
 - i. A button labeled with P, NP, or LNP will be visible on the right side of the screen, ensure that this button reads “P: which shooting with the prism. Tap the button to cycle through the different options.
 - c. Sight the prism through the eyepiece
 - d. Tap “Measure” when ready
 - i. “<<<” will appear in the lower left corner of the screen showing the progress of the reading
 - e. A beep will sound, confirming a successful reading
 - f. Tap “Close” when finished shooting points