This procedure for leveling up a T16 with a single axis compensator or a T1610 with a single axis compensator allows the operator to more accurately level the instrument and also allows the operator to level up if the level bubbles are in error.

1. Level instrument, approximately, by eye (or use bull's eye bubble) as compensator must be within it's set range to work.
   Compensator is in range (instrument is approximately level) only when the vertical angle display can be changed/updated with any and/or all foot screws.
   Another way to test if the compensator is in range (or whether or not is can swing freely) is to lightly tap a leg of the tripod and, if it is in range, you will see how the line of sight swings about the field of view and always steadies back at the same point.
2. Align telescope parallel with line formed by any two foot screws.
3. Lock vertical movement.
4. Use vertical tangent screw to set vertical angle to something even or easy to work with.
5. Read vertical angle.
6. Rotate telescope horizontally 180º (do not plunge telescope – leave it locked).
7. Read vertical angle.
8. Average two vertical angles.
9. This average vertical angle will be your benchmark.
10. Leaving vertical movement locked, twist the same two foot screws (used in step 2) in opposite directions to adjust vertical angle to the calculated average.
11. Rotate telescope horizontally 90º.
12. Leaving vertical movement locked, twist the third foot screw to adjust vertical angle to the calculated average.
13. Rotate telescope 90º.
14. Check vertical angle.
15. If vertical angle is not the same as the calculated average – continue to refine by repeating procedure (and establishing a new benchmark, if necessary) until displayed vertical angle = calculated average vertical angle.

Notes:

- The horizontal angles in this procedure are approximate.
- An instrument with a dual axis compensator can be leveled up, with the electronic bubble, without having to turn it through 90º or 180º.