

# 22.CHECKS AND ADJUSTMENTS

GT is a precision instrument that requires fine adjustments. It must be inspected and adjusted before use so that it always performs accurate measurements.

- In addition, the instrument should be inspected with special care after it has been stored a long time, transported, or when it may have been damaged by a strong shock.
- Make sure the instrument is securely set up and stable before performing checks and adjustments.

## 22.1 Circular Level

The bubble tube is made of glass, so it is sensitive to temperature changes or to shock. Check and adjust it as outlined below.




- Be careful that the tightening tension is identical for all the adjusting screws. Also, do not over-tighten the adjusting screws as this may damage the circular level.

### PROCEDURE Checking and adjusting

1. Level while checking <Tilt>.

☞ "7.2 Levelling" Step 3 to 4

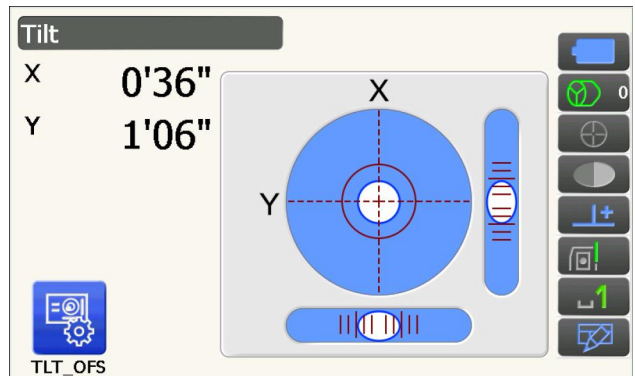
Note

- Tap Tilt angle compensation icon  in the Status icon or in Starkey mode to display electric circular level.



- If the tilt sensor is misaligned, the circular level is not adjusted correctly.

☞ "22.2 Tilt Sensor"



2. Check the position of the bubble of the circular level.

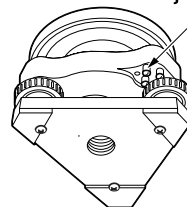
If the bubble is not off-center, no adjustment is necessary.

If the bubble is off-center, perform the following adjustment.

3. First confirm the off-center direction.  
Use the adjusting pin to loosen the circular level adjustment screw on the side opposite to the direction the bubble is displaced to move the bubble to the center.



Circular level adjusting screws



4. Adjust the adjusting screws until the tightening tension of the three screws is the same to align the bubble in the middle of the circle.

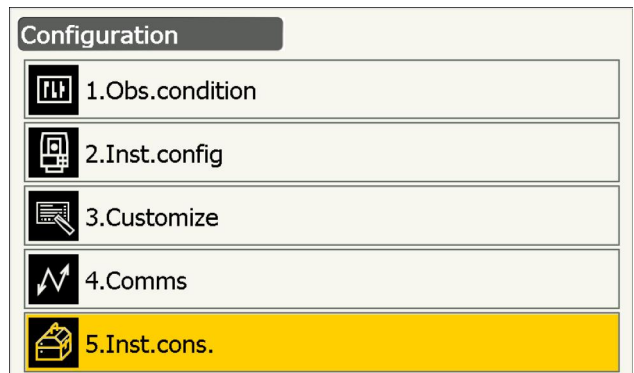
## 22.2 Tilt Sensor

If the tilt angle shown on the display shifts from tilt angle 0° (zero point), the instrument is not correctly levelled. This will adversely affect angle measurement.

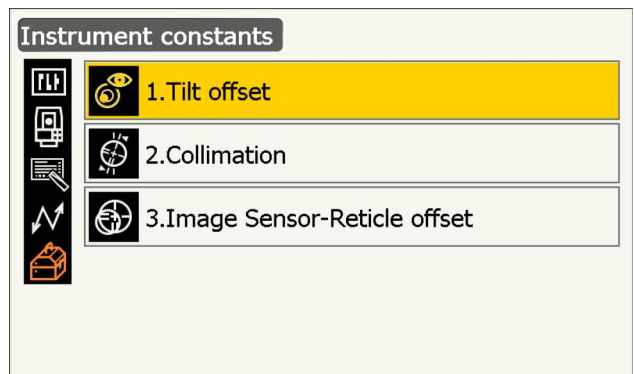
Perform the following procedures to cancel the tilt zero point error.

### PROCEDURE Checking and adjusting

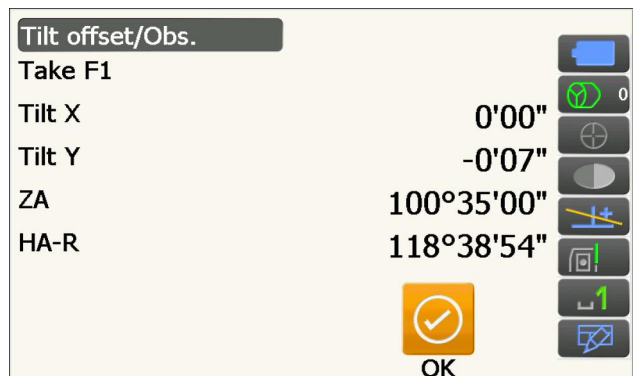
- Carefully level the instrument. If necessary, repeat the procedures to check and adjust the bubble levels.
- Select "Inst. cons." in <Configuration>



- Select "Tilt offset".

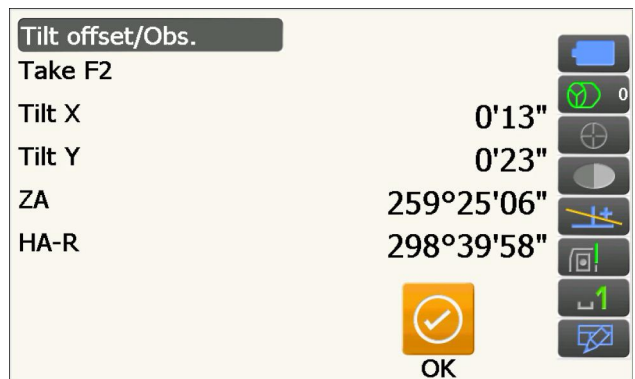


- Level the instrument again until the X/Y tilt angles are  $\pm 1'$ . Wait a few seconds for the display to stabilize.

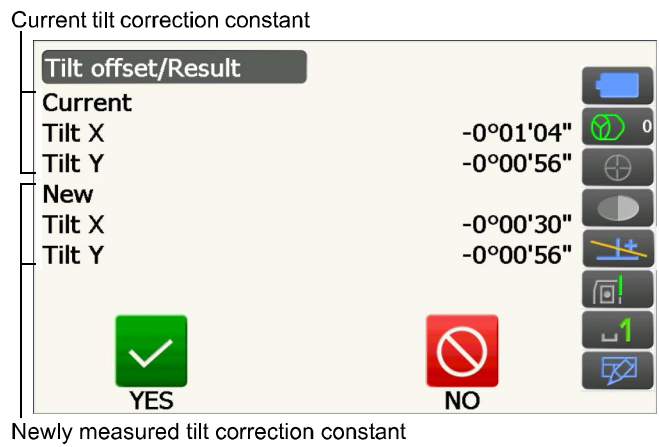


- Press [OK]. The top of the instrument and telescope rotate 180° from the current position. Wait a few seconds for the screen to stabilize.

6. Press **[OK]** to automatically rotate the top of the instrument and telescope through 180°.



7. Newly measured tilt correction constant is displayed.  
 Compare current "Tilt X" and new "Tilt X".  
 Compare the constants of "Tilt Y" as well.  
 If each difference is within the range of  $\pm 1'$ , press **[YES]** to renew the correction angle. <Instrument constants> is restored.  
 If the values exceed the above range, press **[NO]** to cancel the adjustment and contact your local dealer to perform the adjustment.  
 When entering this screen only for checking constants, press **[NO]** to return to <Instrument constants>.



### 22.3 Reticle

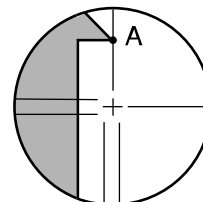
With this option you can check the perpendicularity of the reticle and the horizontal/vertical positions of reticle lines.



- Check the telescope reticle by sighting the target.

#### PROCEDURE Check 1: Perpendicularity of the reticle to the horizontal axis

1. Carefully level the instrument.
2. Align a clearly visible target (the edge of a roof for example) on point A of the reticle line.



3. Use the fine motion screws to align the target to point B on a vertical line.  
 If the target moves parallel to the vertical line, adjustment is unnecessary. If its movement deviates from the vertical line, have our service representative adjust it.

