Laser Calibration Check

Checking Calibration of the Y- and X-Axes

1. Set up the tripod 30 m (100 ft) from a wall and make sure the tripod head is leveled.

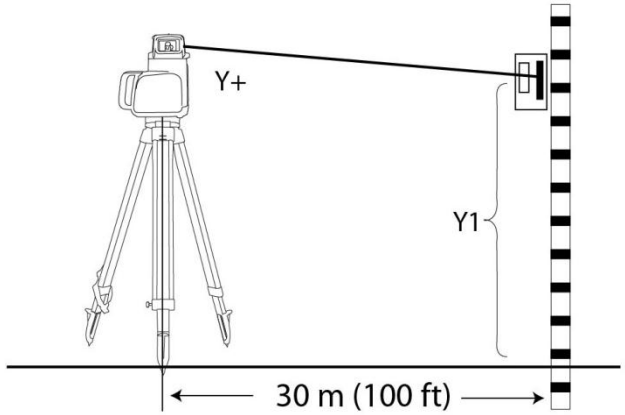
2. Attach the laser to the tripod with the handle pointing into the opposite direction of the wall.

   Note: Make sure that all three plastic or rubber feet are touching the tripod head.

3. Turn on the laser and allow it to level.

   Note: Let the laser run for 5 minutes to warm up the leveling system.

4. If HI appears at the LCD, the calibration check can be performed.



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Laser Calibration Check

5. Raise/lower the receiver until you get an on-grade reading for the +Y axis.

6. Using the on-grade marking notch or the flat surface on top (right above the photocell) as a reference, make a mark on the wall.

   Note: For increased precision, use the CAL settings by pressing the power and sensitivity buttons simultaneously during power up on a HL receiver or the fine-sensitivity setting (1,5 mm // 1/16 in.) on a standard receiver.

In order to avoid wrong markings caused by the deadband of standard receivers, always adjust the receiver to the on -grade position coming from the same side (bottom or top)!

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Laser Calibration Check

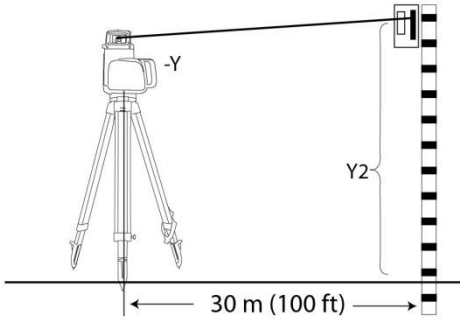
7. Rotate the laser 180° (-Y axis toward the wall) and allow the laser to re-level.
   Note: Make sure that all three plastic or rubber feet are still touching the tripod head.

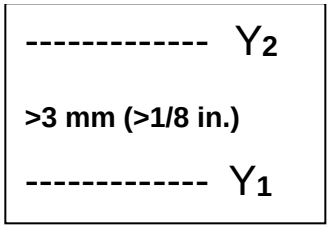
8. Raise/lower the receiver until you get an on-grade reading for the –Y axis and make a second mark on the wall.

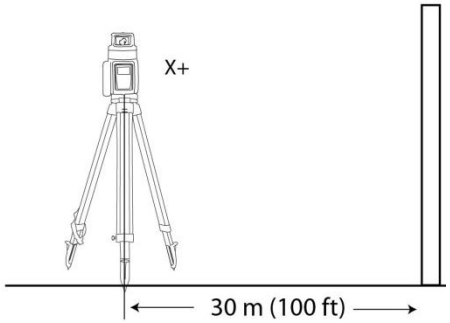
9. The distance between the two marks (Y_1 and Y_2) determines the calibration error. If they differ more than 3 mm (1/8 in.) (UL633/GL622/GL612) at 30 m, the laser needs calibrating on the Y axis.

10. After checking the Y-axis, rotate the laser 90°. Repeat the above starting with the + X axis facing the wall.

11. When made the mark for the +X axis, rotate the laser again 180° (-X axis toward the wall) and allow the laser to re-level. Make the next mark at the wall and check the difference between the two X axis marks.







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Laser Calibration Check (Z)

Checking Calibration of the vertical (Z) Axis

To check vertical calibration, you need a plumb bob with at least 10m (30 ft) of string.

1. Suspend the plumb bob in front of a house i.e., attached to a window frame whose window height is at least 10m (30ft).

2. Set up the laser in vertical so that the laser beam strikes the receiver's on-grade position at the top of the string.

3. Look for any deviation moving the receiver from the top of the string to the bottom of it. If the deviation is more than 1mm (<1/16 in.), the vertical axis needs calibrating.

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UL633 Calibration Procedure

Calibration of the unit is accomplished using the service menu.
The following instructions describes the public service function for “Calibration X”.

The calibration for the Y and Z vial works in the same manner.

The public service function “Calibration X” and “Calibration Y” is available in horizontal laser direction.
The public service function “Calibration Z” is available in vertical laser direction.

The calibration process for UL633, GL622 and GL612 is the same.

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UL633 Calibration Procedure

Note: For best result, place the unit on a level platform or a leveled tripod to begin calibration.

1. **Enter the main menu with button 1, select service and press button 4 to open the service menu.**

2. **Select Calibration X with a short press of button 4**

Note: Laser is levelling and then determines the X vial min/max target limits.

Note: The laser is now levelling to the calculated X vial middle target value.

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UL633 Calibration Procedure

Note: The laser is now levelling to the calculated X vial middle target value.

3. **Raise/lower the receiver until you get an on-grade reading for the +X axis.**

4. **Using the on-grade marking notch or the flat surface on top (right above the photocell) as a reference, make a mark on the wall.**

5. **Rotate the laser 180° (-X axis toward the wall) and allow the laser to re-level.**

6. **Raise/lower the receiver until you get an on-grade reading for the –X axis and make a second mark on the wall.**

7. **The distance between the two marks (X_1 and X_2) determines the calibration error. If they differ more than 3 mm (1/8 in.) (UL633/GL622/GL612) at 30 m, the laser needs calibrating on the X axis.**

---------- X_2

>3 mm (>1/8 in.)

---------- X_1

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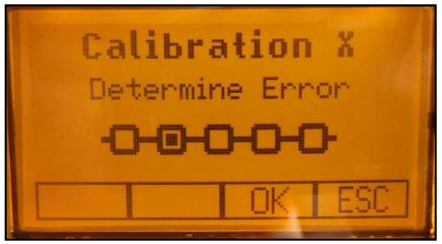
UL633 Calibration Procedure

8. Determine the new X- On-Grade –Target - Mark at the middle between the two marks on the wall and press OK (button 3).
9. Laser regulation is switched off.

   Now adjust the laser using the up/down arrow buttons to the determined X- On- Grade- Target-Mark.

   If the adjustment is complete, press the “OK” button.



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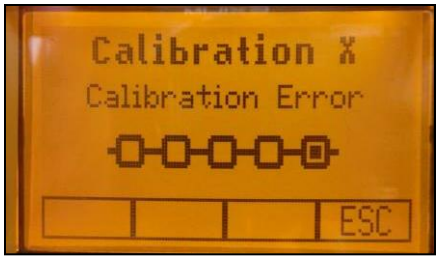
UL633 Calibration Procedure

10. The laser now checks if the new X vial target value is within the calculated X vial min/max target limits.

- If the target value is within the allowed limits → Laser stores new X vial target value and switches back to normal automatic mode (standard display).
- If the target value is outside the allowed limits → "Calibration Error" is shown.



Reasons for an error:

- Calculated vial min/max target limits out of range.
- New vial target value out of range.
- Unstable environment conditions.

Please repeat calibration process.

If the calibration error occurs again, the laser has to be moved to a service center.

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