

EXCAVISION

ExcaVision Installation in 7 Steps

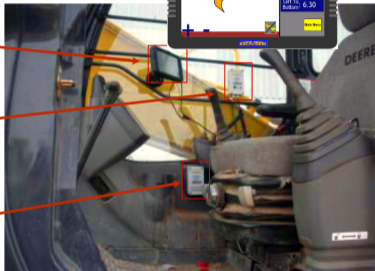


1 Start here

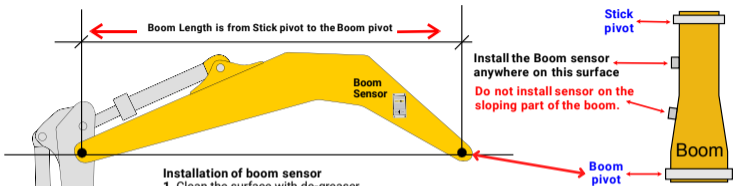
1) Install the display: clean the window with a de-greaser. Make sure the display will not be in the way of sliding window. Peel of the backing from the mounting base and press the bracket firmly to the window.

2) Install the receiver box where it gets good reception from the sensors, for example on front window or right hand side window of cab. Clean the window with a de-greaser, peel off the backing from the Velcro and press receiver box firmly to the window.

*3) To install the **optional** body sensor: clean the surface with a degreaser, make sure the sensor is parallel to the boom sensor. Peel off the backing from the mounting plate and press sensor firmly to the surface.



② Boom sensor installation and boom length



Installation of boom sensor

1. Clean the surface with de-greaser
2. Peel the backing off the boom sensor mounting plate and press the sensor firmly to the boom.

Measure boom length

Measure the length between boom pivot and stick pivot (use feet or meters as unit, for example 9.35). If using feet, use hundreds of a foot (NOT INCHES). Write the length on the calibration sheet.

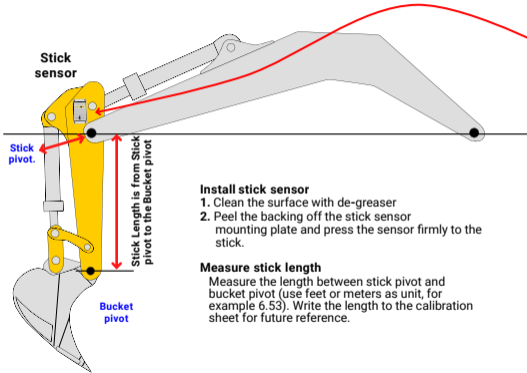
Note: If measuring tape is in inches, divide length by 12 to obtain feet. Example: 106 inches is 8.833 feet.



Clean surface before gluing the mounting plate



③ Stick sensor installation and stick length



Clean surface before gluing the mounting plate

Install stick sensor

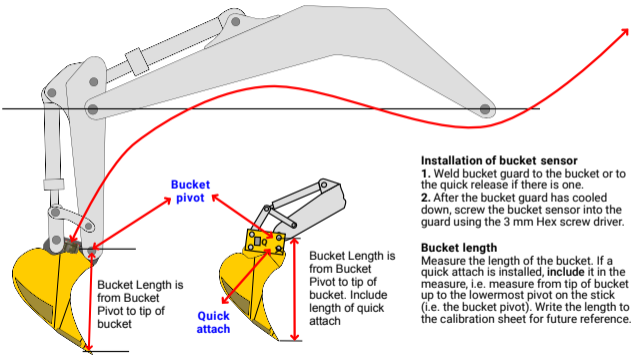
1. Clean the surface with de-greaser
2. Peel the backing off the stick sensor mounting plate and press the sensor firmly to the stick.

Measure stick length

Measure the length between stick pivot and bucket pivot (use feet or meters as unit, for example 6.53). Write the length to the calibration sheet for future reference.



④ Bucket sensor installation and bucket length



Bucket Length is from Bucket Pivot to tip of bucket

Bucket pivot

Quick attach

Bucket Length is from Bucket Pivot to tip of bucket. Include length of quick attach



Weld the Bucket Guard to the side of the bucket close to the pivot, or on the quick release.

Installation of bucket sensor

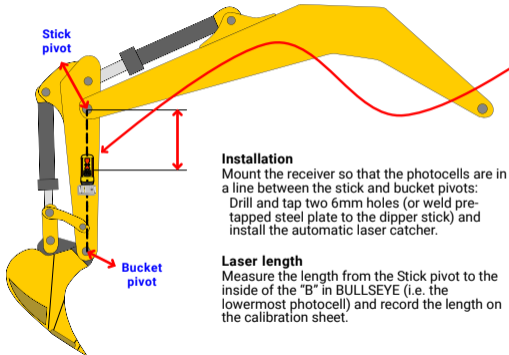
1. Weld bucket guard to the bucket or to the quick release if there is one.
2. After the bucket guard has cooled down, screw the bucket sensor into the guard using the 3 mm Hex screw driver.

Bucket length

Measure the length of the bucket. If a quick attach is installed, include it in the measure, i.e. measure from tip of bucket up to the lowermost pivot on the stick (i.e. the bucket pivot). Write the length to the calibration sheet for future reference.



5 Installing the Automatic laser catcher



⑥ Calibrating the system

Calibration is essential for accurate reading.

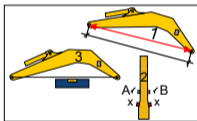
Once done correctly, calibration will hold for years.
The settings needed are:

Boom, stick and bucket: 1. Length, 2. Side of sensor (A is left, B is right), and offset.

Laser: Laser length, laser offset.

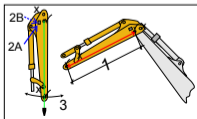
To enter calibration mode:

Main Menu - Settings - Machine Configuration - Modify.



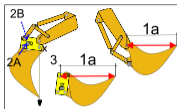
Select **Boom**.

1. Enter boom length;
2. Press **Left** or **Right** for side of sensor.
3. Position boom horizontal and press **Auto Offset**.

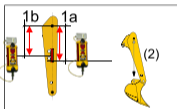


Select **Stick**.

1. Enter stick length; 2A. Press **Left** or 2B. **Right** for side of sensor on stick.
3. Position stick plumb and press **Auto Offset**.



Select **Bucket**. 1a. Enter bucket length (include quick release (1b) if installed). 2A. Press **Left** or 2B **Right** for side of sensor on bucket.
3. Position bucket plumb and press **Auto Offset**.



Select **Laser**. Enter laser length, 1a for Automatic catcher or 1b for other receivers. If laser photocells are on a line between the stick and bucket pivots, press **Use Stick Offset**. Otherwise, plumb laser as in (2) and press **Auto offset**.

Quick test before step 7

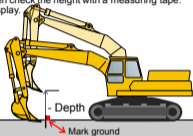
Go to measuring mode. Check that the excavator arms on the screen look about the same as in reality. If not, go over calibration again. Move boom up. If it goes down, go to calibration and change side of boom sensor. Open bucket and bucket on screen should open. If it closes, go to calibration and toggle Bucket Sensor Side. Open stick and stick on screen should open. If not, go to calibration and change side of stick sensor

⑦ Last step: check the calibration accuracy

If any of the tests fail, (the number on the display does not match the measured length), you will have to re-check the calibration. Most likely there is an error in the offsets, but check the lengths of boom, stick, and bucket as well.

1. Depth test

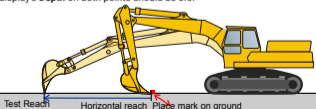
Test depth accuracy: Place tip of bucket on the ground and press **Zero on Bucket**. Lift the bucket by about 3 ft, then check the height with a measuring tape. Tape should show same reading as display.



Test depth accuracy

2. Reach test

Test horizontal reach : Place the tip of the bucket on the ground and press **Zero On Bucket**, then move the bucket forward about 4ft, then check with measuring tape. Tape should show same as **Reach** on display. If ground is horizontal, then the display's **Depth** on both points should be 0.0.



Test Reach

Horizontal reach

3. Laser test

Test Receiver Calibration

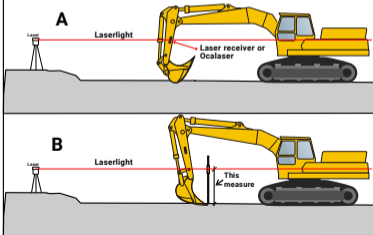
Press **Main Menu - Laser as Reference - Measure**.

A. Lift boom so that laser receiver is in the laser light, as in figure A. Display will beep and then show **"Rebenched"**.

B. Place tip of bucket on ground. Measure the depth of that place with a laser rod. Measure should agree with the ExcaVision display.

Note: The dipper stick does not have to be vertical during rebenching but for best results have dipper stick as vertical as possible.

Note: To work properly, the basic calibration has to be correct. If the unit passes the depth and reach tests and the laser receiver calibration fails, then go into calibration (**Main menu - Settings - Machine Configuration - Laser**) and recheck "Laser distance from stick pivot" and "Laser offset". (Laser offset is usually the same as stick offset).



ExcaVision Installation-Basic Calibration Sheet

Machine / Bucket Name:			
	Length	Side	Offset
Boom			
Stick			
Bucket			
Laser		X	

Machine / Bucket Name:			
	Length	Side	Offset
Boom			
Stick			
Bucket			
Laser		X	

To get to calibration mode: Press **Main Menu - Settings - Machine Configuration**. To create new preset (for another bucket or machine): Press **Create New Preset**, Key in bucket name and press **Enter**.

Press **Modify - Bucket - Length**, key in the length of new bucket, then press **Left** or **Right** for sensor side. Plumb the bucket and press **Auto Offset**, write the offset angle on this sheet, Press **Accept - Main Menu - Measure**.

To change presets: In Measuring mode: Press the Machine/bucket name the upper right corner and choose from the list.



For more information please visit www.excavision.com

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