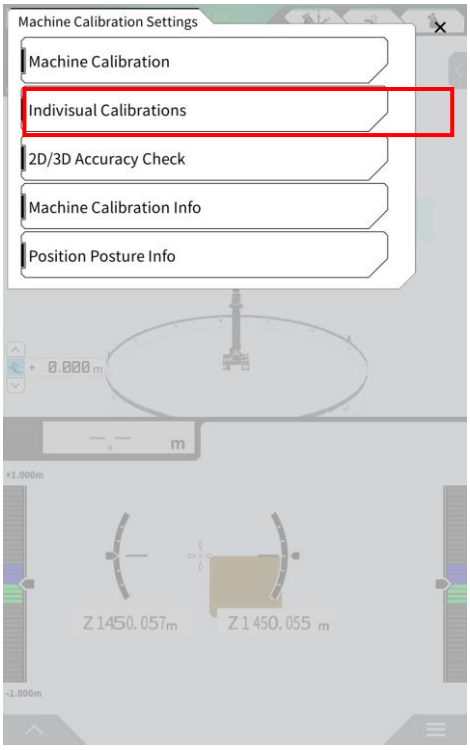
V1.0.05　Calibration without TS

Introduction

This function performs work equipment calibration without using a total station (TS). Swing boom models and extension arms are not supported.
To perform this calibration, select Menu>Machine Calibration Settings>Indivisual Calibrations.
For the values of the Basic Machine Settings and the length of the work equipment, use the actual values measured with a tape measure.



If you are using a two piece boom, turn the function on in the application settings.

Preparing the equipment

Please prepare the following equipment

- Retrofit Kit（Includes tablets and WiFi)
  SC Pilot app v1.0.05 or later versions.

- Plumb bob
- Spirit level
- Tape measure
- Magnet

01

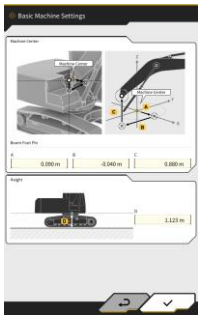
Chapter

How to calibration

1.1 Basic Machine Settings

1. Select the Basic Machine Settings and enter the 'Makes', 'Machine Name' and 'Machine ID'. The values entered for 'Machine Name' and 'Machine ID' are used for machine management on the server side and must be entered correctly.

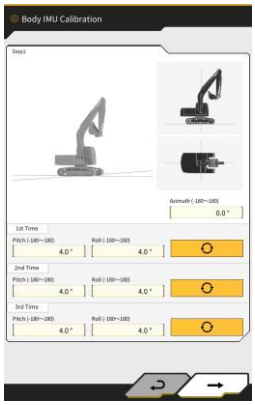
2. Tap the "➡" to proceed.
3. Check boom foot pin and height values.



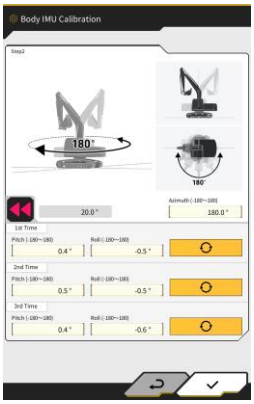
4. Tap the " ✓ " to complete the Basic Machine Settings.
5. If successful, the following screen is displayed.

1.2 Body IMU Calibration

1. Position the machine on a stable roadbed. Move the upper structure and each of the work equipment cylinders so that they are in the position illustrated on the tablet device.
2. After tapping on “ ” for 1st to 3rd Time, check that the each IMU value has been measured.



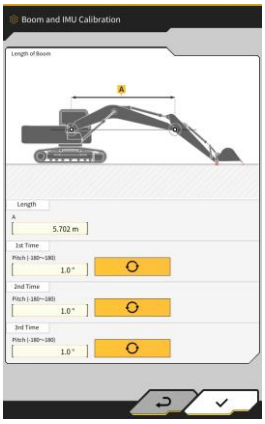
3. Tap the "➡" to proceed. If an error occurs, measure again.
4. Without moving the work equipment, turn the upper structure 180° while watching the angle of the “ ” and then stop the equipment with this kit for approximately 10 seconds.
5. Tap “ ” again, starting from 1st in sequence, to measure the IMU value three times. After the measurement is completed, tap the “ ✓ ” to complete the Body IMU Calibration. If an error occurs, measure again from step 1.



1.3 Boom and IMU Calibration

1. Move each of the work equipment cylinders so that they are in the position illustrated on the tablet device.
○Standard： Operate the work equipment to level the boom foot pin and the boom top pin. Check that they are level with a spirit level.
○ Two piece Boom ： Operate the work equipment to make the boom foot pin and the boom top pin vertical. Check that the boom foot pin and the boom top pin are in a vertical position using a plumb bob.
Ground the bucket to prevent the work equipment from falling down spontaneously during measurement.

2. Enter the length. After tapping on “ ” for 1st to 3rd Time, check that the each IMU value has been measured.



Standard

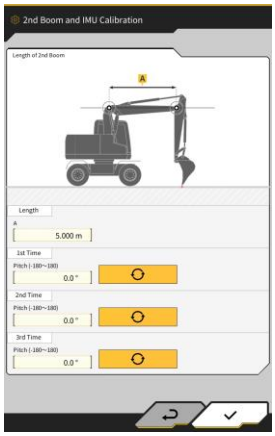
Two piece Boom

3. After the measurement is completed, tap the “ ✓ ” to complete the Boom and IMU Calibration.

1.4 2nd Boom and IMU Calibration（Two piece Boom only ）

1. Move each of the work equipment cylinders so that they are in the position illustrated on the tablet device.
Operate the work equipment to level the boom top pin and the 2nd boom top pin. Check that they are level with a spirit level.
Ground the bucket to prevent the work equipment from falling down spontaneously during measurement.

2. Enter the length. After tapping on “ ” for 1st to 3rd Time, check that the each IMU value has been measured.

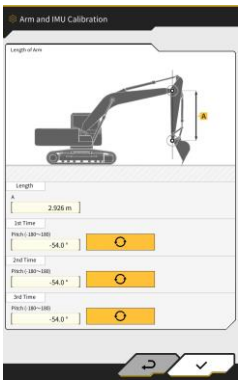


3. After the measurement is completed, tap the “ ✓ ” to complete the 2nd Boom and IMU Calibration.

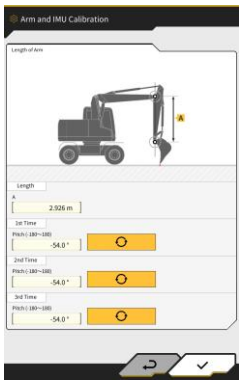
1.5 Arm and IMU Calibration

1. Move each of the work equipment cylinders so that they are in the position illustrated on the tablet device.
Operate the work equipment to set the arm vertically.
Check that the boom top pin(or 2nd boom top pin) and the arm top pin are in a vertical position using a plumb bob.
Ground the bucket to prevent the work equipment from falling down spontaneously during measurement.

2. Enter the length. After tapping on “ ” for 1st to 3rd Time, check that the each IMU value has been measured.



Standard

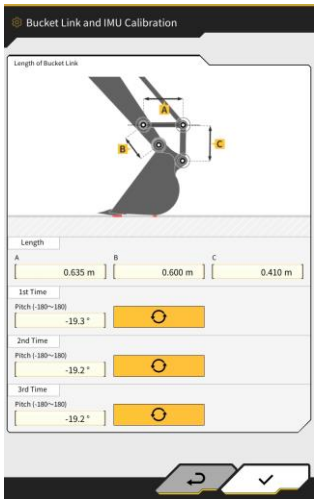


Two piece Boom

3. After the measurement is completed, tap the “ ✓ ” to complete the Arm and IMU Calibration.

1.6 Bucket Link and IMU Calibration

1. Ground the bucket so that the bucket links are horizontal, referring to the picture on the tablet. Check that they are level with a spirit level.
2. Enter the length of each link. After tapping on “ ” for 1st to 3rd Time, check that the each IMU value has been measured.



3. After the measurement is completed, tap the “ ✓ ” to complete the Bucket Link and IMU Calibration.

Contact information

Inquiries about products and defects:

EARTH BRAIN Co., Ltd.
Support site inquiries :
Europe
US
Australia
Asia