Tilt Bucket Calibration Manual

EARTHBRAIN

Introduction

Machine guidance with the tilt bucket is available by calibrating the tilt bucket according to this manual.

For normal use of the tablet application, please refer to the manual on the support website.

Preparation

・ Magnetic pole jig
・ plum bob plumb
・ Convex
・ Digital angle meters

The same preparations as for normal bucket calibration are required.

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Function activation

1.1   Function activation

Please keep the tablet app and controller FW up-to-date.
As of 2023/8/1 Tablet app v1.0.04.2
Controller FW v1.7.1 is the latest.

Activate the tilt bucket function in the Application settings of the tablet application.

1. Launching the tablet app
2. Machine Guidance > ⚙Menu > Guidance Settings
   ＞Application Settings
3. " Tilt Bucket Function " : ON
4. Tap ✓ button for saving setting
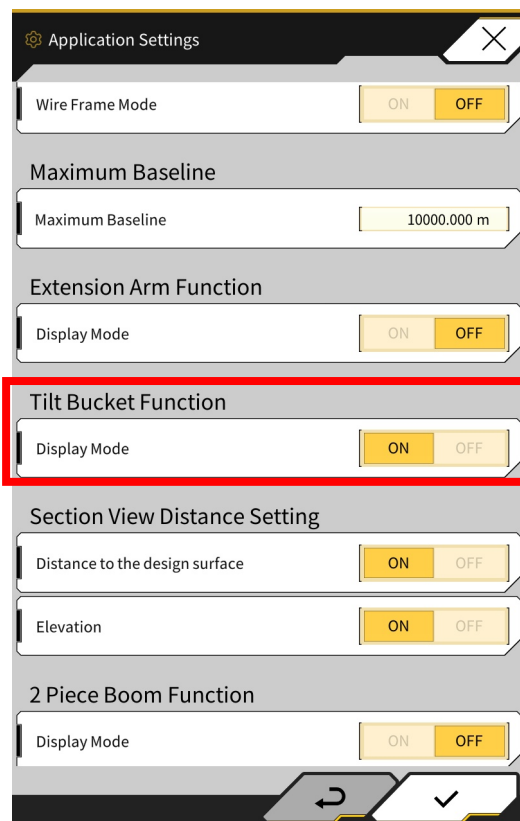
02

Chapter

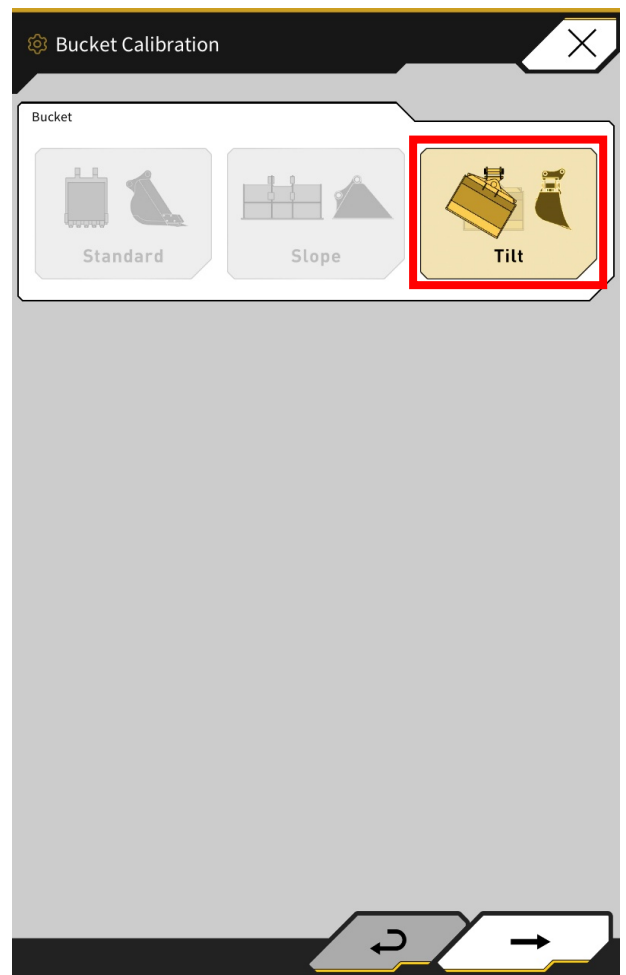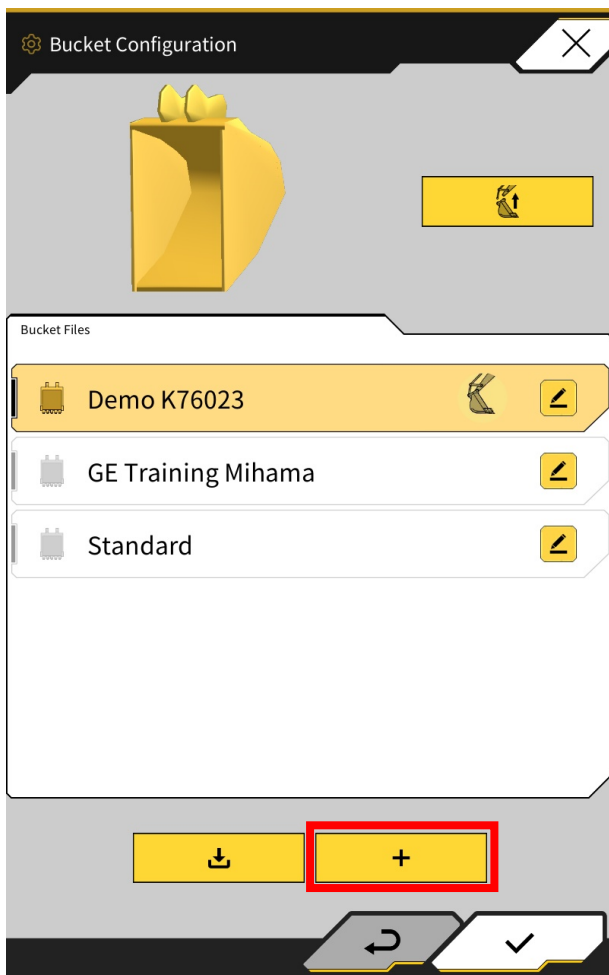# Bucket calibration

2.1　Bucket calibration

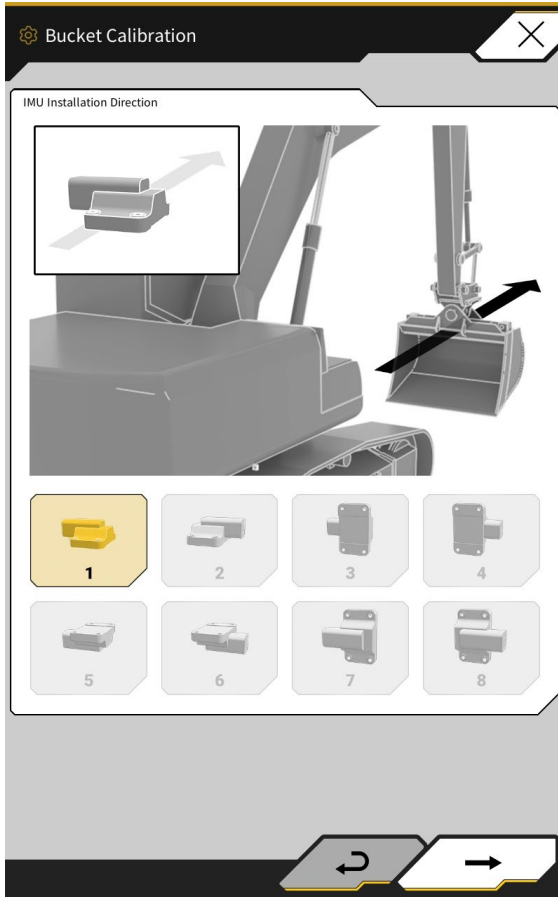As with normal buckets, please carry out bucket calibration to use tilt buckets.
Machine Guidance ⚙Menu > Bucket Configuration
1. Tap `   +   `
2. Select "Tilt" and tap ⟋ →
3. Enter dimensions, angles, bucket（coupler）weight
　 > Tap ⟋ →

2.1 Bucket calibration

5. Follow the screen to select the installation location and orientation of tilt IMU and tap ⟋ → ⟍.

【Attention】
Part numbers (settings) differ depending on the mounting orientation of tilt IMU.
Only corresponding part number can be used.
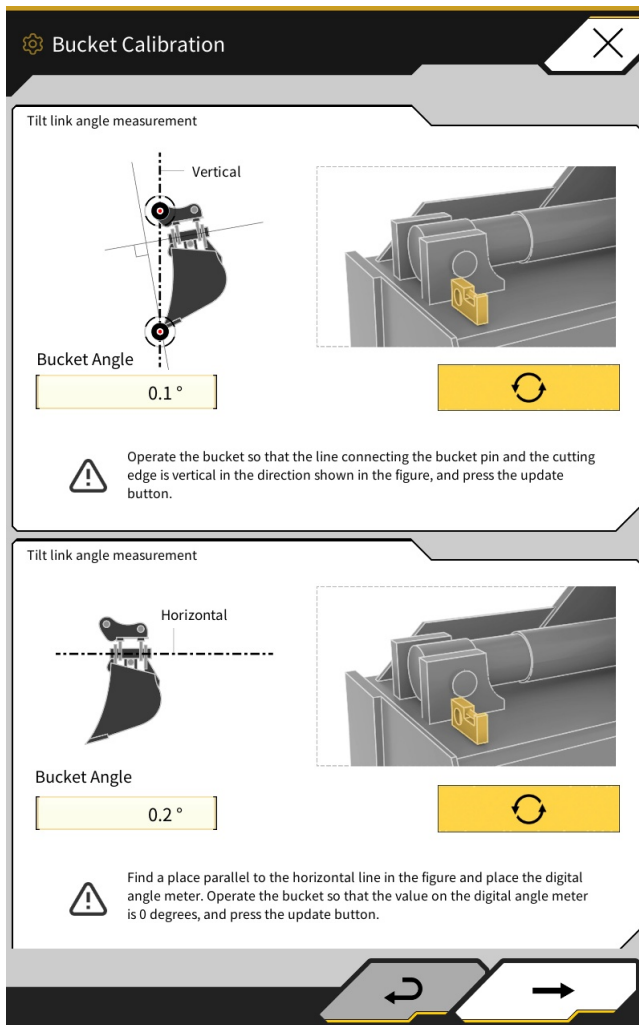
1, 2, 5, 6:
2AB-06-11250
3,4,7,8:
2AB-06-11260

Label surface	Connector	No.
upward	leftward	1
upward	rightward	2
forward	leftward	3
forward	rightward	4
downward	leftward	5
downward	rightward	6
backward	leftward	7
backward	rightward	8

2.1 Bucket calibration

6. Follow the screen to perform bucket and tablet operations > Tap [✓] to save

Tap [⟳] to get IMU value.

Use a digital angle meter to operate the bucket.

2.2 Bucket tooth calibration

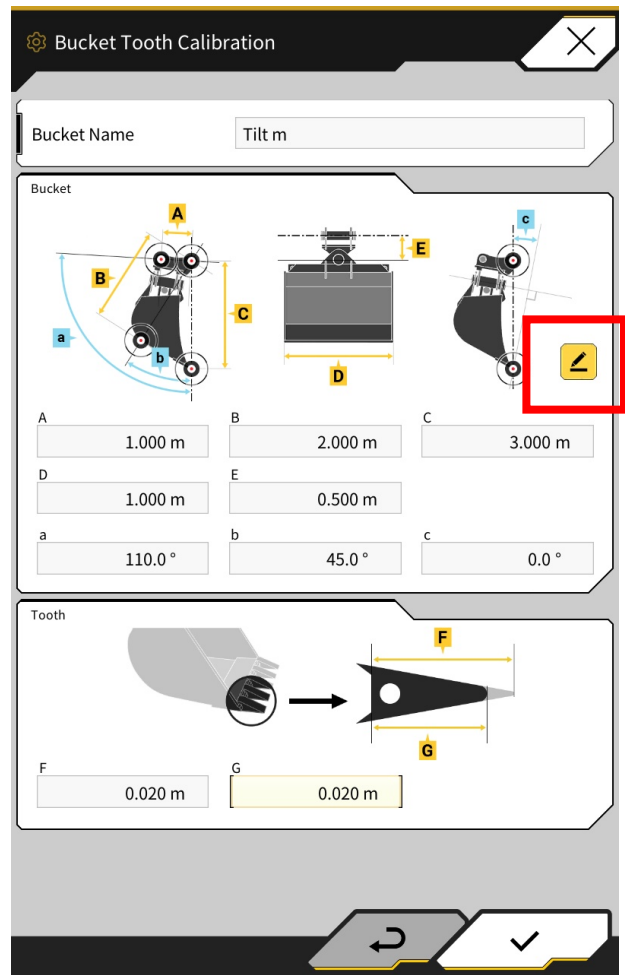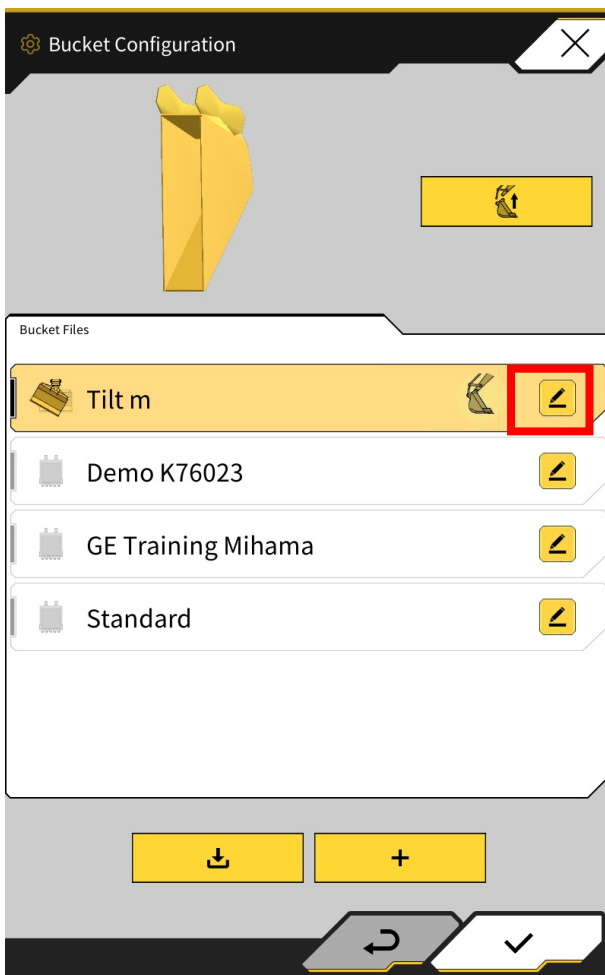As with normal buckets, it is possible to edit bucket dimensions etc. and calibrate tooth length.

1. Tap ✎ on the target bucket in the bucket configuration
2. Tap ✎ and edit each value
   （Including angle measurement of the tilt link）
3. Tap ✓ to save

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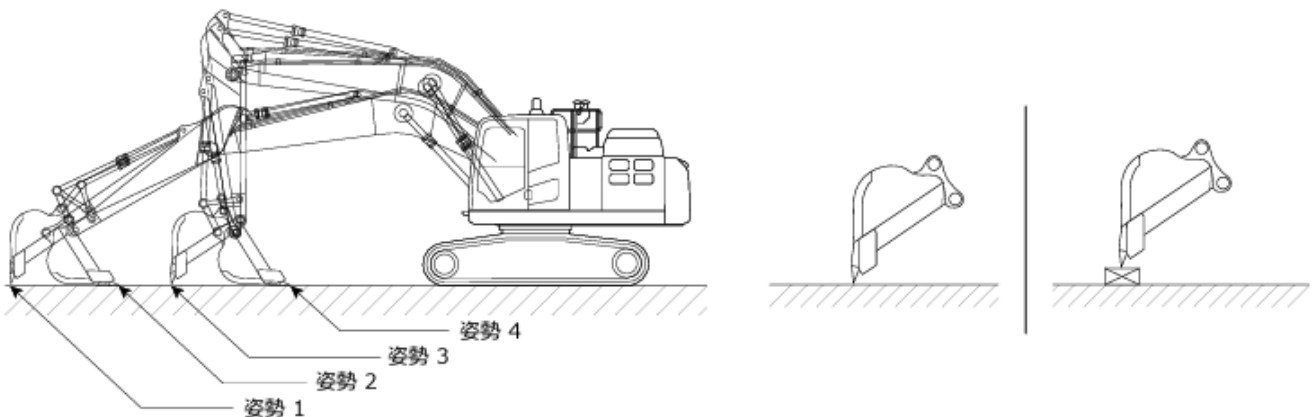## Chapter

Check cutting edge accuracy

3.1 Check cutting edge accuracy

After tilt bucket calibration, please carry out cutting edge accuracy check.
If the calibration is successful, machine guidance is possible using the tilt bucket.
For more information on cutting edge accuracy check, please refer to the manual of the tablet application.

*Please note that too large a tilt angle may result in low cutting edge accuracy.
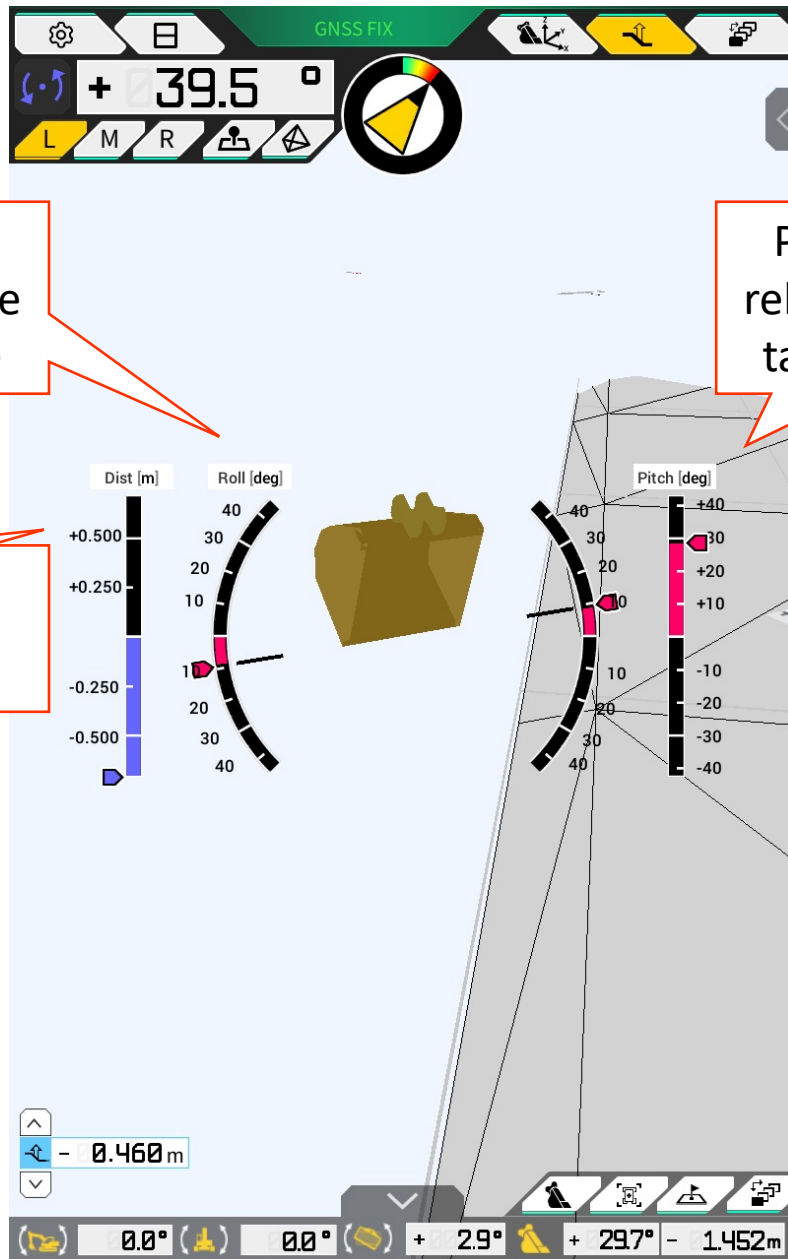

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Chapter

Machine guidance display

4.1   3DMesh

After setting up the tilt bucket file, the '3DMesh' view can be selected in the guidance screen.
Please make use of this view according to your application. (Other views can also be used)

Roll angle relative to the target plane

Pitch angle relative to the target plane

Distance to target surface

Contact information

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