INSTALL MANUAL

EQSS Model6253 – OverWatch
Liugong LSxxxxEC Series

**** Failure to follow this installation manual will void warranty ****

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DOCUMENT ABSTRACT:
This manual details the instructions for installing the Model6253 OverWatch on a Liugong LSxxxxEC Series electric crawler scissor lift.

PRODUCT NAME:
Model6253 OverWatch Operator Detection System

REFERENCE DOCUMENTS:
DO0001195 Model6253 OverWatch User Manual

CURRENT DOCUMENT REVISION:
1.2

REVISION INFORMATION:

- 1.0 Initial Document Creation for installation on a Liugong LSxxxxEC Series control box
- 1.1 Update of system test procedures to include OverWatch App
- 1.2 Inclusion of sensor mounting angle

Important Information

Information contained in this publication regarding this device's applications and the like, is provided only for your convenience and may be superseded by updates. It is your responsibility to ensure that the application or our equipment meets with your specifications.

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N23041

This is a class A product certified to AS/NZS CISPR 22:2006. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Preparation

Required Tools

The OverWatch has been designed to be fitted using basic workshop tools. Shown below is a list of tools required to complete the installation

Item	Tool / Description
1	Electric Drill
2	Centre punch
3	Hammer
4	Side Cutters
5	Drill 3.2mm
6	Drill 5.0mm
7	Step Drill (5 – 30mm)
8	Metric sockets or spanners
9	Needle nose pliers
10	Screw drivers

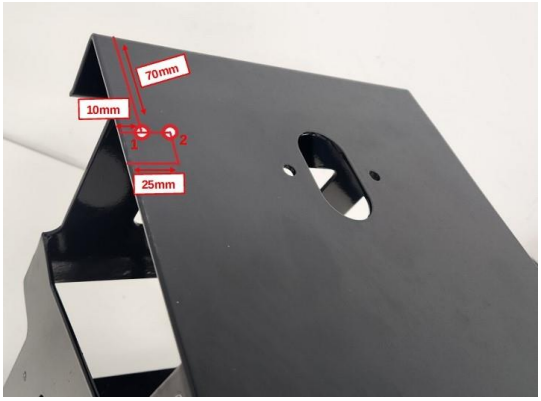
Installation Time

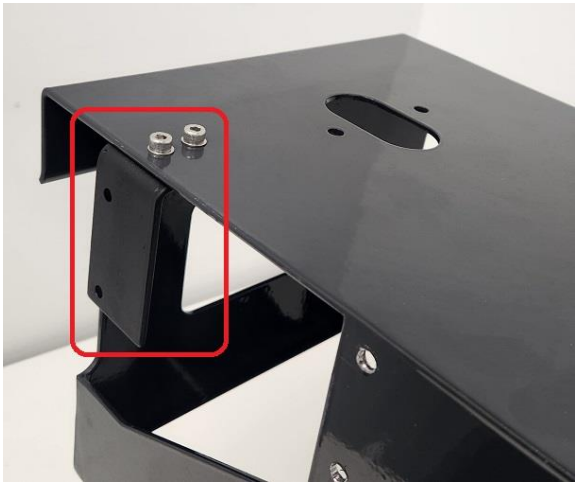
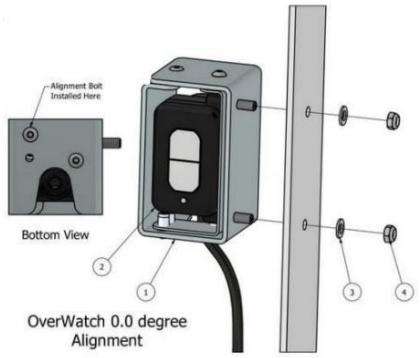
The suggested time required to install the OverWatch is as detailed below

Task	Estimated Time (Minutes)
Drilling of all mounting holes for the various components	10
Mechanical assembly	5
Electrical assembly	10
Post installation system tests	10
Total	**35**

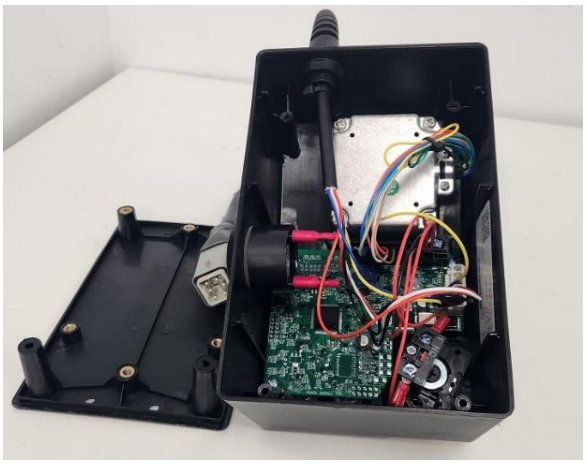
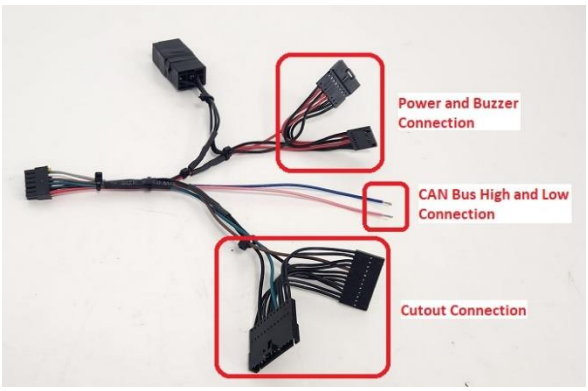
Installation Instructions

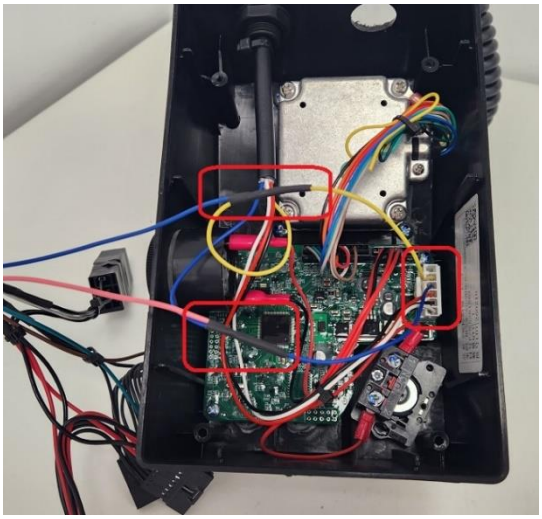
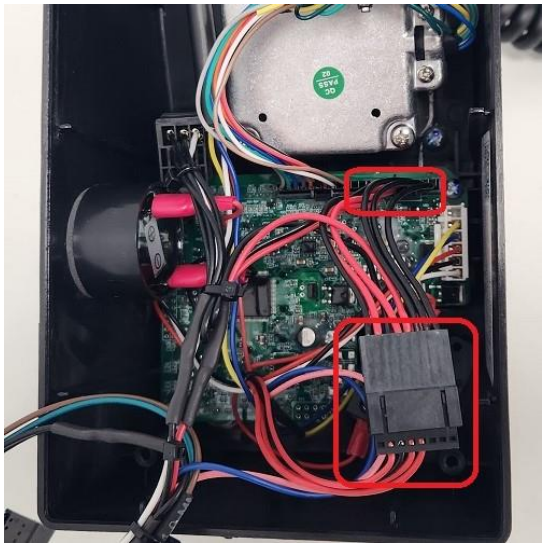
Operator Sensor

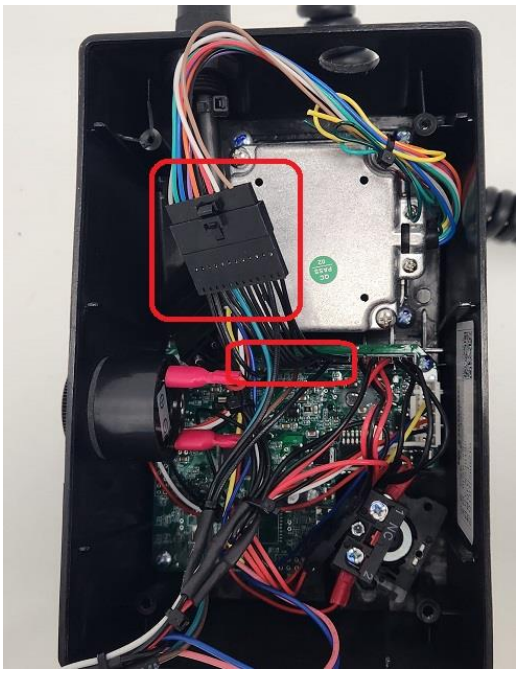
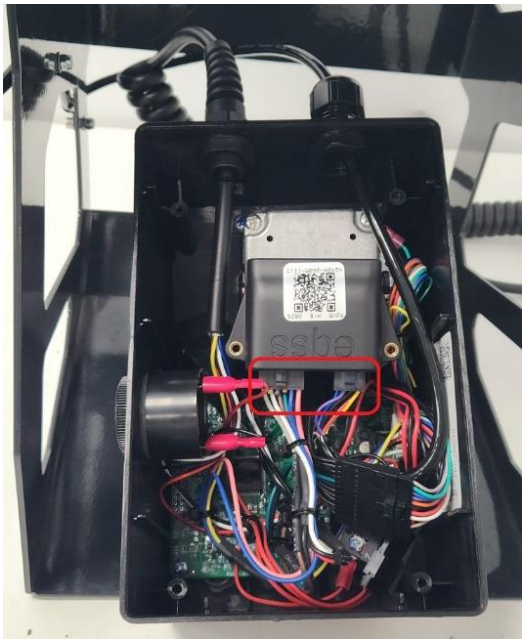
Step	Description	Diagram
1.	Remove the joystick controller from the metal housing.	
2.	Drill two **5.2mm** holes in the top of the metal housing at the positions shown in the image. These holes are required to mount the right-angle bracket.	
3.	Drill one **5.2mm** hole for the P-clip as shown in the image.	

4.	Mount the right-angle bracket (ME001909), using the following hardware from the kit. 2 x M5 x 12mm socket Head Screw 2 x M5 Lock Nuts 4 x M5 Washers	
5.	**Sensor Mounting Guard** Attach the operator sensor and guard to the mounting bracket (ME001890) at the 50-degree position using the M5 nuts and washers. Make sure that the sensor is on the 0.0-degree angle, such that it is **not** twisted away from the joystick. **The 0.0-degree angle is achieved by using the bolt hole as show in the image.**	PARTS LIST ITEM / QTY / PART NUMBER / DESCRIPTION 1 / 1 / AS002326 / Sensor Mounting Guard V2 2 / 1 / AS002406 / OverWatch Operator Sensor 3 / 2 / FA001174 / Washer, Plain, M5, 304 St. St. 4 / 2 / FA001219 / Nut, Hex, M5 x 0.8mm, Nylock 
6.	Mount the operator sensor bracket to the right-angle adapter bracket, using the supplied nuts, bolts and washers. Use the following hardware from the kit. 2 x M5 x 12mm Socket Head Screws 2 x M5 Lock Nuts 4 x M5 Washers Secure the sensor cable to the metal enclosure using a P-clip.	

Control Module

Step	Description	Diagram
1.	Remove the bottom plastic cover from the joystick to expose the inside wiring and electronics.	
2.	Drill a **20mm** hole to run the operator sensor M20 Gland into the plastic joystick enclosure. The position of the hole is detailed as in the image. It is recommended to use a step drill for this hole, as it is running through plastic material.	
3.	Wiring connections are made with the **AS002557** harness.	

4.	**CAN Bus High & Low Connection:** Splice and solder the **Pink** and **Blue** wires from the OverWatch harness into the CAN Bus **Blue** and **Yellow** wires coming from the control box connector. Ensure the CAN bus wires are correctly identified and isolated. These wires are connected to pins **4** and **5** of the 6-pin circuit board connector inside the control box. **Pink wire to Blue (CAN High-Pin 4)** **Blue wire to Yellow (CAN Low-pin 5)** Use heat shrink to secure the soldering joints.	
5.	**Power and Buzzer Connection:** Disconnect the 8-pin connector from the circuit board and install the OverWatch harness connectors in series.	

6.	**Cutout Connection:** Disconnect the 12-pin joystick connector from the circuit board and install the OverWatch harness connectors in series.	
7.	Mount the OverWatch ECU inside the box using adhesive Velcro tape. Run the operator sensor cable through the predrilled 20mm hole and secure the cable gland. Connect the 8-pin connector from the operator sensor and the 12-pin connector from the overwatch loom to the ECU. Secure the relay and using Velcro tape as shown in the image.	

8.	Re-assemble the joystick control box and mount to the metal shroud. Make sure the operator sensor cable runs clear to the joystick enclosure and tighten the M20 gland to seal the cable entry point.	

Device Configuration

After the system has been installed it must be configured with the parameters to suit the machine. Follow the instructions below to configure the OverWatch.

Install the OverWatch App

The OverWatch App is available for download on the Apple App Store and the Google Play Store. The App is used to replace the tradition web browser method for software updates, diagnostics and configuration of the EQSS OverWatch Secondary Guarding System. Search for the “EQSS OverWatch” App or download using the QR codes below

Download on the App Store

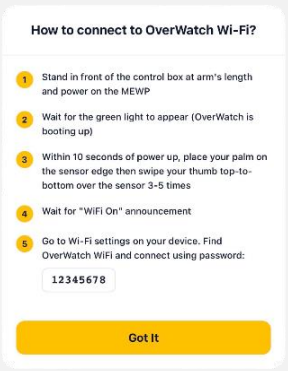
GET IT ON Google Play

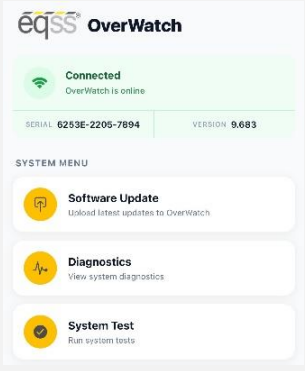
Open the App

Open the EQSS OverWatch App on your device, when the App starts it will automatically download the latest OverWatch software from the web.

Enable Wi-Fi on the Overwatch

The OverWatch connects to the App via Wi-Fi. Follow the onscreen instructions under **Connect to OverWatch Wi-Fi** in the App

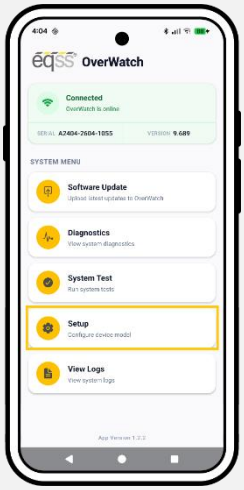


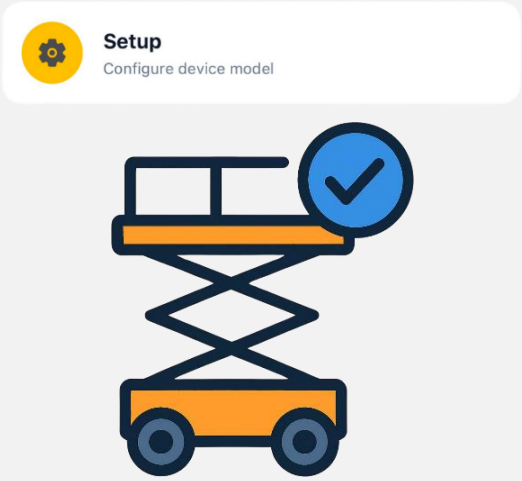


Machine Setup

Set the Machine Model to Liugong LSxxxxEC Series

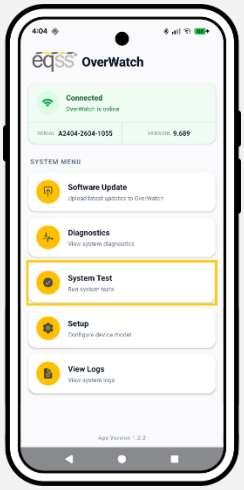
After a new kit installation or a software update, the OverWatch must be told what machine model it is installed on. Each machine model has unique settings such as input thresholds from the electronics and parameters relating to the sensor mounting position. When the OverWatch is connected to the App on Wi-Fi, select setup to select the scissor lift model. Refer to the specific machine installation manual for more information.

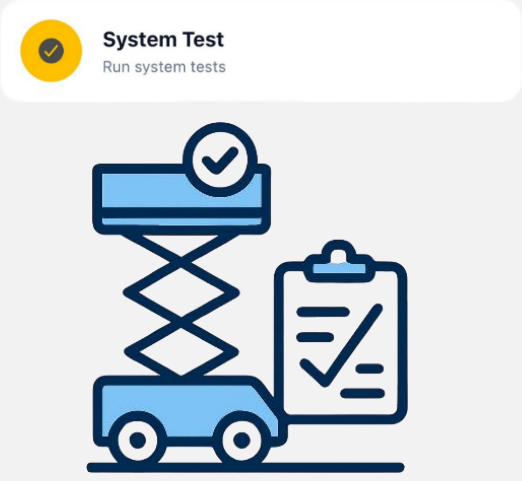




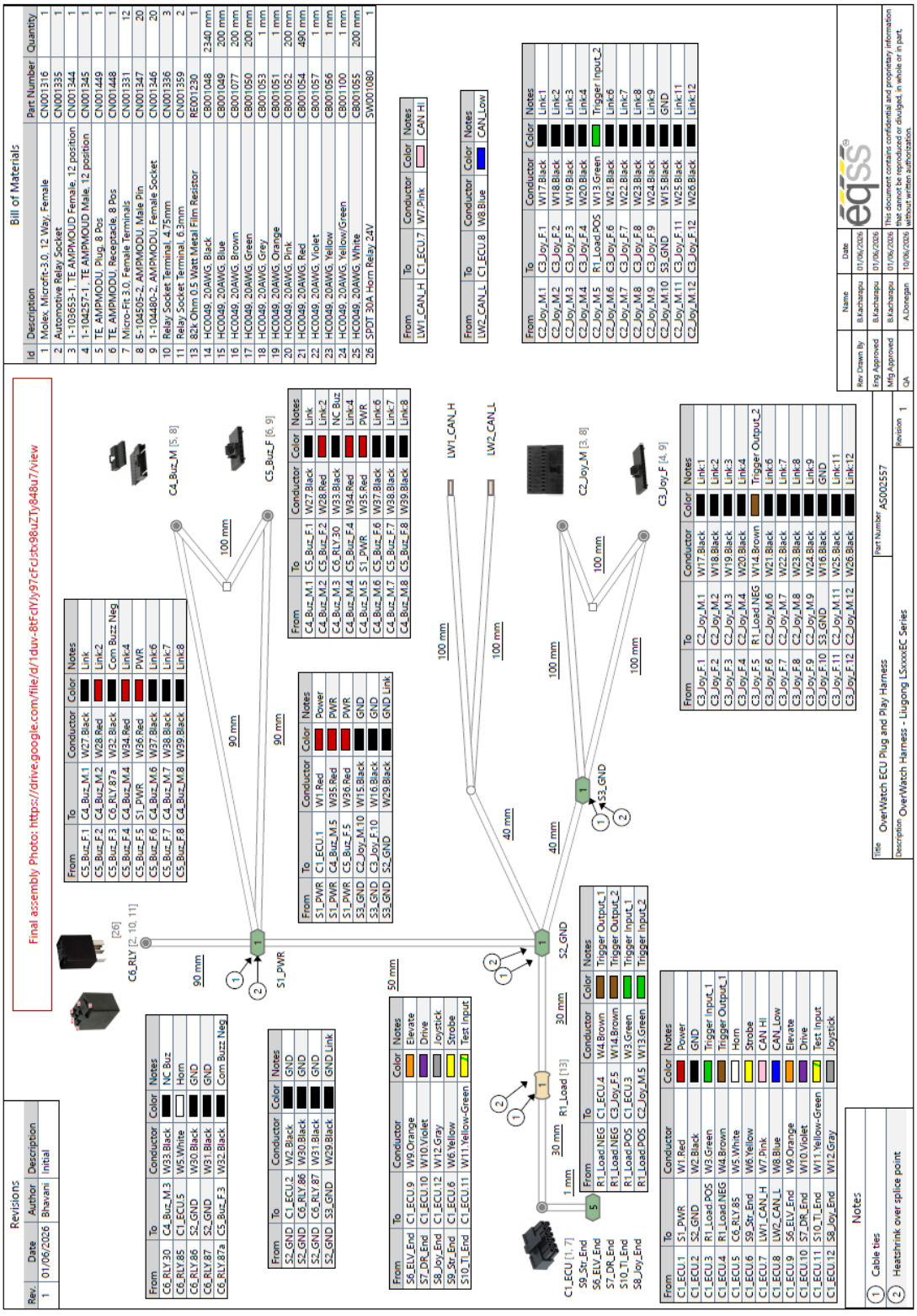
System Test

The system test is used to verify the OverWatch is installed correctly and all signals are working. The system test is used on a new installation or after a software update. The onscreen prompts will guide the test process, and the test must pass for the OverWatch to become operational.





Harness Drawing AS002557



Replacement Parts

Replacement parts for this OverWatch kit are available from EQSS, for all inquiries please email sales@eqss.com.au
Shown below are the part numbers for the major components included in this model specific kit.

Part Number	Description
AS002556	OverWatch - Complete kit for Liugong LSxxxxEC Series Control Box
AS002406	OverWatch - Operator Sensor with M20 gland
AS002404	OverWatch - Electronic Control Unit (ECU) – Hybrid CAN configuration
AS002557	OverWatch –Liugong LSxxxxEC Series Harness
AS002326	OverWatch - Sensor Guard V2
ME001890	OverWatch - Sensor Bracket 50 Z Shape
ME001909	OverWatch - Right Angle Adapter Bracket