INSTALL MANUAL

EQSS Model6253 – OverWatch
NOBLELIFT SCxxEC Series
Toyota Material Handling

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

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DOCUMENT ABSTRACT:
This Installation Manual details the instructions for installing the Model6253 OverWatch on a Toyota SCxxEC Series electric slab 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 Toyota SCxxEC Series control box
- 1.1 Update on Manual Title for Noblelift Toyota Material Handling
- 1.2 Update device configuration to include OverWatch app.

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in this publication regarding this device's applications and the like, is provided only for your convenience and may be superseded by updates.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
11	Paint - Orange

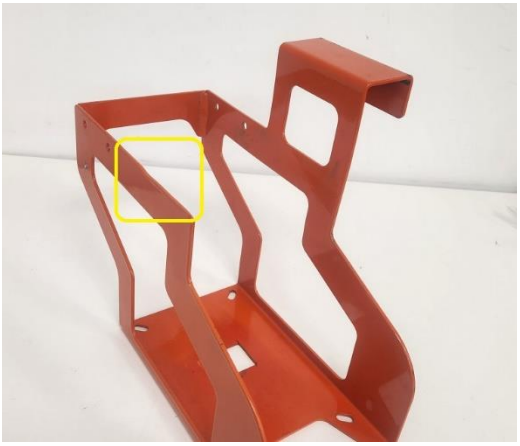
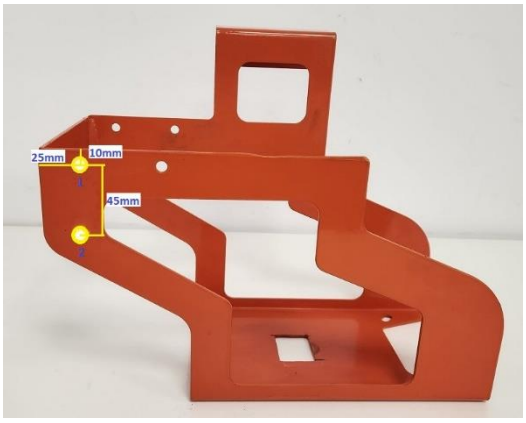
Installation Time

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**

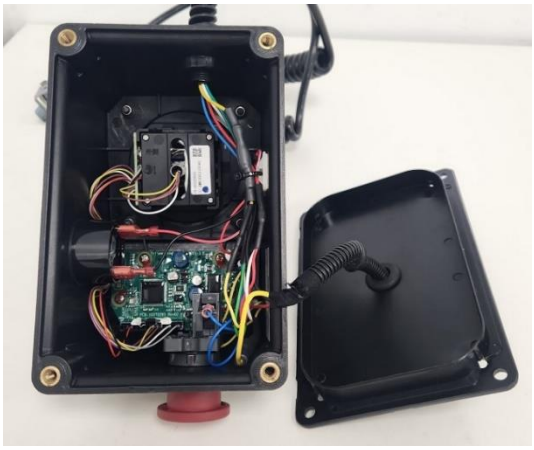
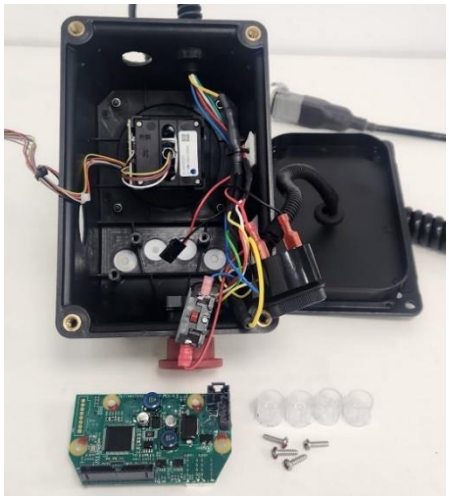
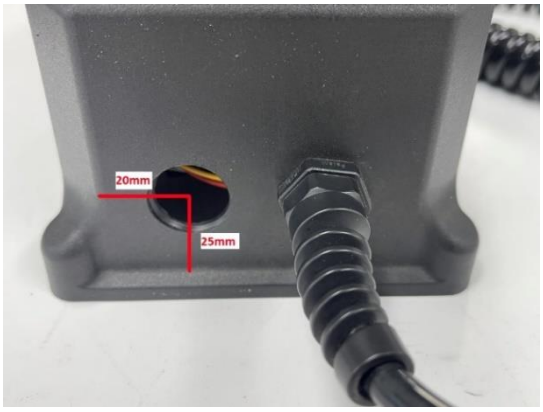
Installation Instructions

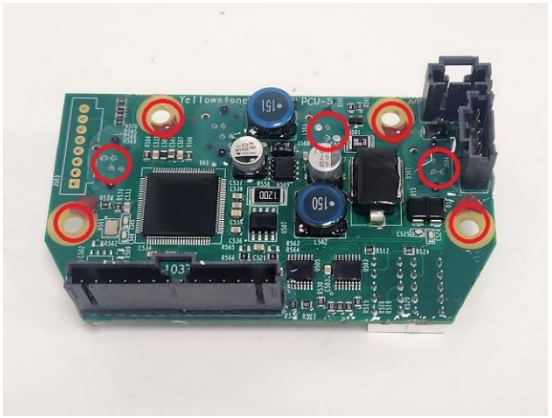
Operator Sensor

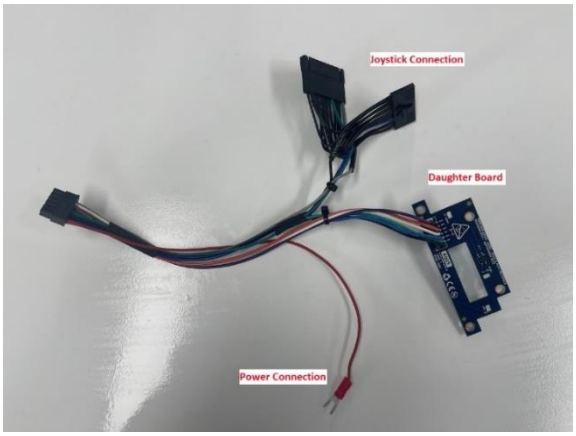
Step	Description	Diagram
1.	Remove the Joystick controller from the metal housing.	
2.	Modify the metal housing by removing the Left-Hand Side mounting rail, trim the rail off and paint the cut joint. This needs to be done to make room for the OverWatch operator sensor.	
3.	Drill two **6.2mm** holes into the metal housing in the position as shown in the image. These holes are required to mount the operator sensor bracket.	

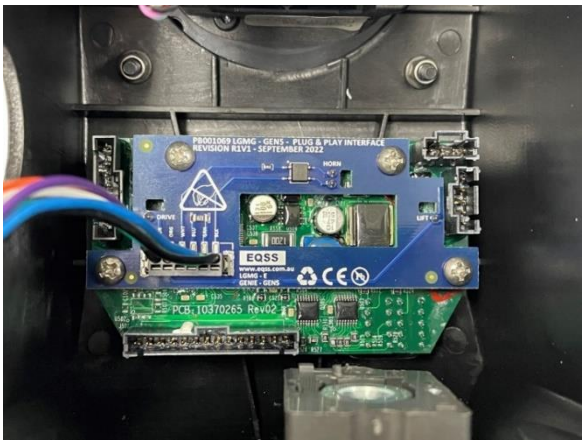
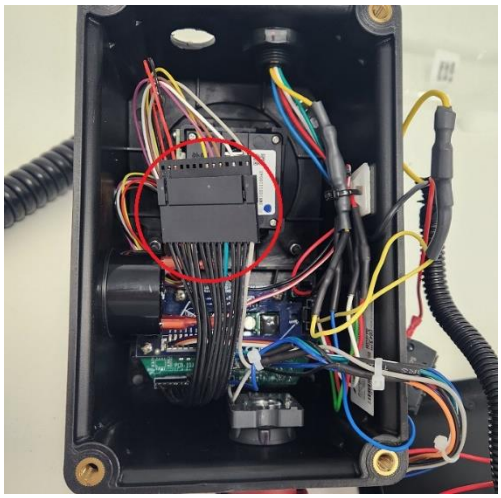
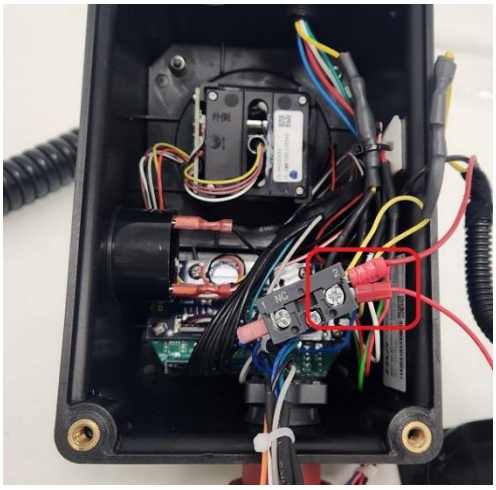
4.	**Sensor Mounting Guard** Attach the operator sensor and guard to the mounting bracket (ME001890) at the 50-degree position using the M5 nuts and washers. Make sure that the sensor is on the 7.5- degree angle, such that it is twisted outwards from the joystick controller. **The 7.5-degree twist is achieved by rotating the sensor inside the assembly and using the bolt hole as show in the image.**	PARTS LIST ITEM | QTY | STOCK NUMBER | DESCRIPTION 1 | 1 | AS002326 | Sensor Mounting Guard V2 2 | 1 | AS001910 | OverWatch Operator Sensor 3 | 2 | FA001174 | Washer, Plain, M5, 304 St. St. 4 | 2 | FA001219 | Nut, Hex, M5 x 0.8mm, Nylock
5.	Mount the operator sensor bracket to the metal enclosure using the supplied nuts, bolts and washers. Use the following hardware from the kit. 2 x M6 x 16mm bolts 2 x M6 Lock Nuts 4 x M6 Washers	

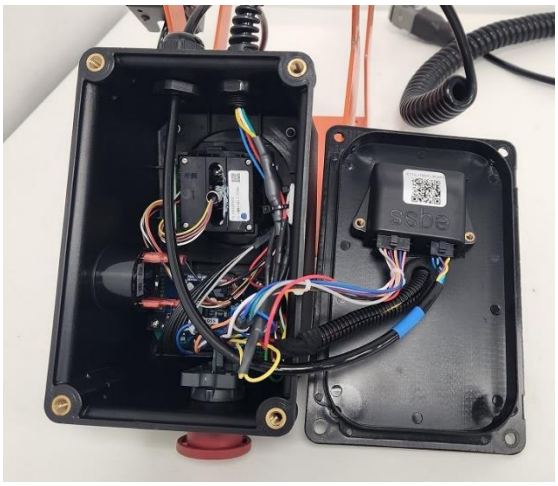
Control Module

Step	Description	Diagram
1.	Remove the bottom plastic cover from the Joystick to expose the inside wiring and electronics.	
2.	Remove the Buzzer, E-Stop, and the controller circuit board from the plastic enclosure.	
3.	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.	

4.	Use a fine metal pick to clean the area shown in the red circles, on the adjacent image, to allow access to the pins. This process removes the conformal coating on the PCB and allows electrical access to the drive, elevate and horn connections on the circuit joystick board.	
5.	Use a fine pair of side cutters to trim down the signal pins. These connections must be trimmed to be as flat as possible so that the spring pin from the plug and play board can make suitable contact with the terminal.	
6.	Trim down the **Elevate** signal pin. This pin is located as displayed in the image. Using a fine pair of side cutters make sure that the pin is trimmed flat.	

7.	Trim down the **Drive** signal pin. This pin is located as displayed in the adjacent image. Using a fine pair of side cutters make sure that the pin is trimmed flat.	
8.	Trim down the two **Horn** signal pins. These pins are located as displayed in the adjacent image. Using a fine pair of side cutters make sure that the pins are trimmed flat.	
9.	Wiring connections are made with the AS002221 harness.	

10.	Mount the Overwatch circuit board on top of joystick circuit board. Using the provided screws and spacers in the kit. Make sure that the board is sitting in the correct position and the spring pins are contacting the joystick circuit board signal pins. Use the cut-outs next to each spring pin to inspect that the contact is solid with the joystick board.	
11.	Install the Overwatch joystick connectors in between the joystick and the control box circuit board. Visually check that all pins from the original joystick connector have a corresponding cable on the Overwatch harness. Reconnect the other connectors, which were disconnected in step 1 to the control box circuit board.	
12.	At the back of the Estop, install the OverWatch Red Power cable to terminal 2 of the E-Stop. *Note: This cable might need to be changed to terminal 1 if the Overwatch is powered with the E-stop pushed in.*	

13.	Mount the OverWatch ECU inside the joystick control box, the ECU is mounted to the bottom plastic using the 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.	
14.	Re-assemble the joystick control box and mount to the metal shroud. Use a cable tie to secure the cable to the metal enclosure. 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

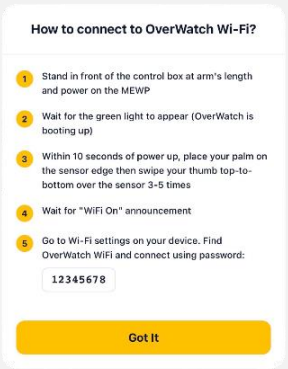
GET IT ON Google Play

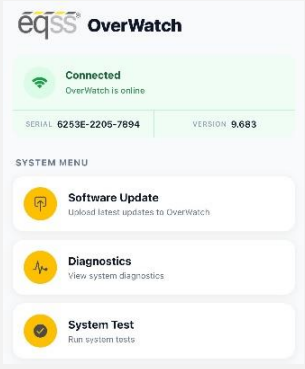
Open the App

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

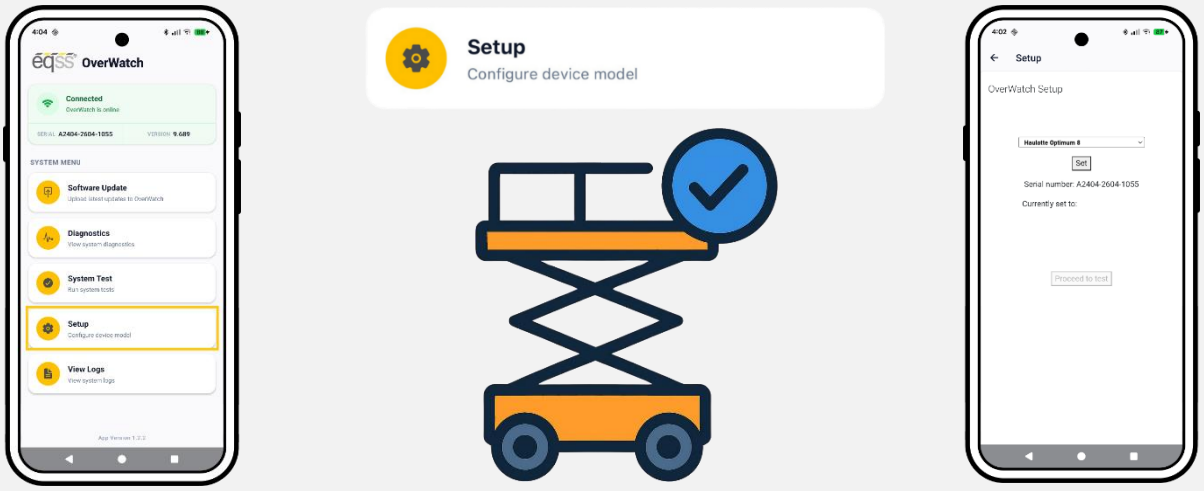




Machine Setup

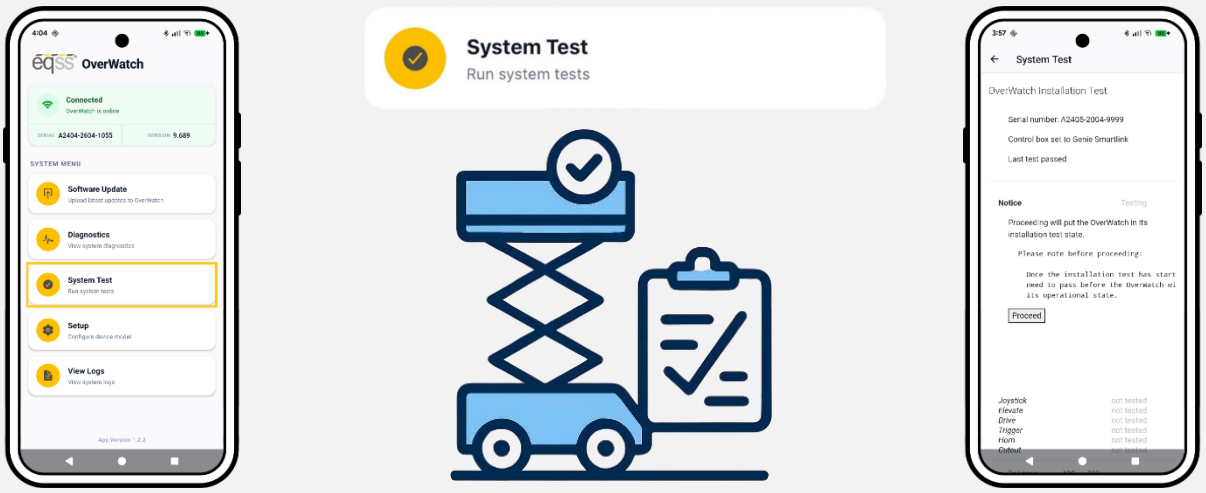
Set the Machine Model to Toyota SCxxEC Series

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.

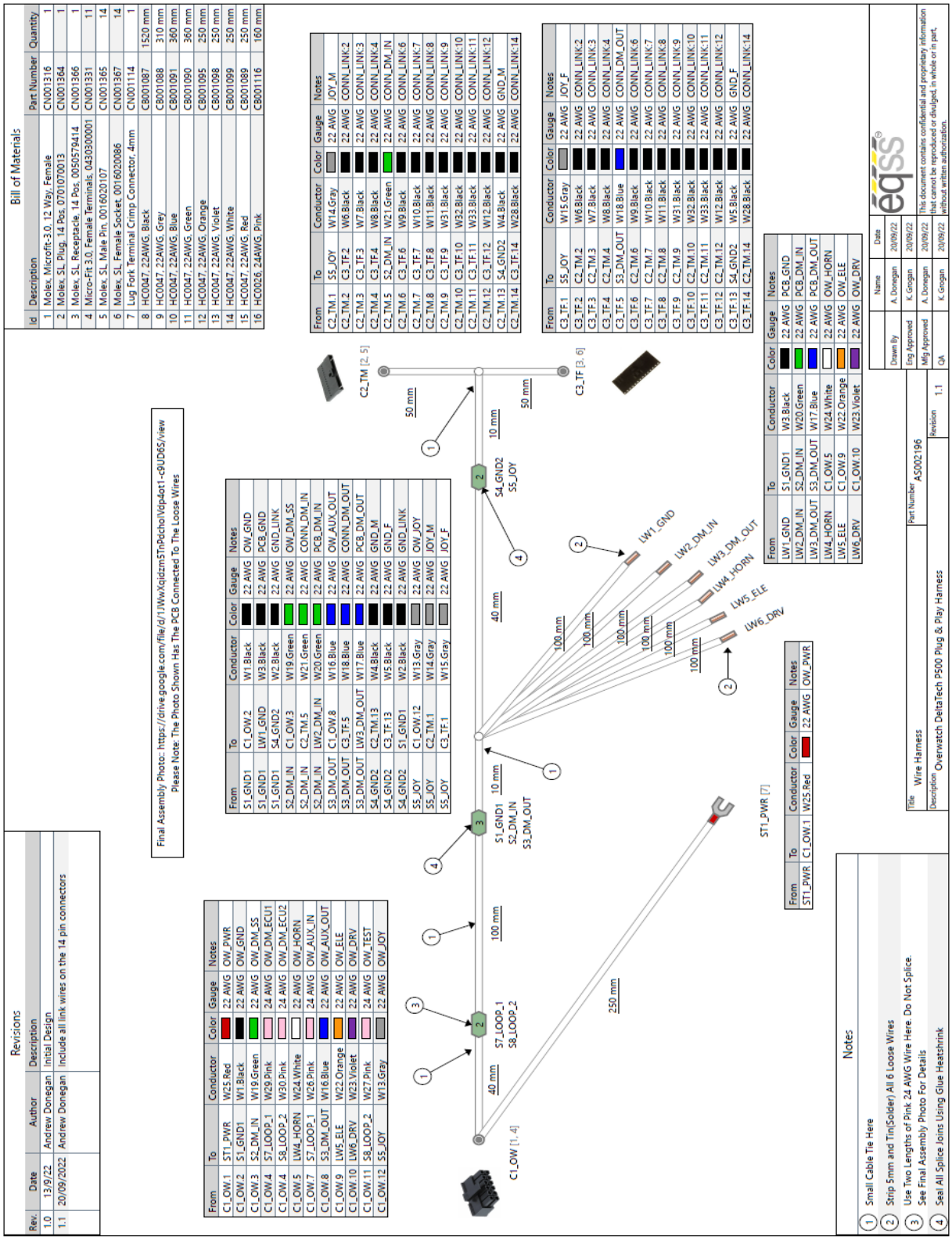


System Test

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 AS002221



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
AS002531	OverWatch - Complete kit for Toyota SCxxEC Series Control Box
AS001910	OverWatch - Operator Sensor with M20 gland
AS001916	OverWatch - Electronic Control Unit (ECU)
AS002221	OverWatch – Toyota SCxxEC Series Harness
AS002326	OverWatch - Sensor Guard V2
ME001890	OverWatch – Sensor Bracket