INSTALL MANUAL

EQSS Model6253 – OverWatch™ Haulotte Compact Slab Scissor

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

AUTHORS:	AUTHORISED BY:	CHECKED BY:
Kieren Grogan	Kieren Grogan	Andrew Donegan

DOCUMENT ABSTRACT:
This Installation Manual details the manufacturer's installation instructions for installing the Model6253 OverWatch on a Haulotte Compact Slab Scissor lift.

PRODUCT NAME:
Model6253 OverWatch Operator Detection System

REFERENCE DOCUMENTS:
DO0001195 Model6253 OverWatch User Manual

CURRENT DOCUMENT REVISION:
1.3

REVISION INFORMATION:

- 1.0 Initial Document Creation for installation on a Haulotte Compact Slab Scissor.
- 1.1 Update to include sensor guard V2 and update of model configuration instructions.
- 1.2 Inclusion of machine harness schematic.
- 1.3 Update for cable gland hole size.

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this publication regarding this device's applications and the like, is provided only for your convenience and may be superseded by updates.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

Table of Contents

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 5.2mm
6	Drill 6.0mm
7	Metric sockets or spanners
8	Needle nose pliers
9	Screw drivers

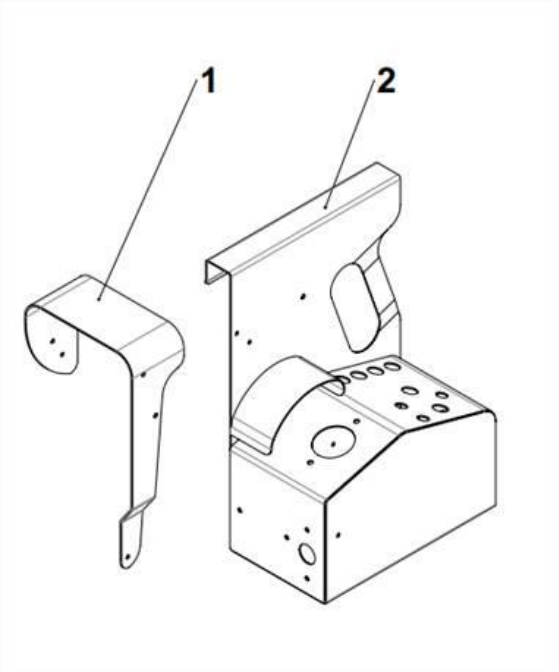
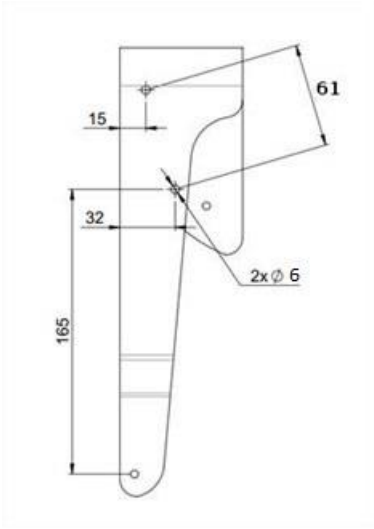
Installation Time

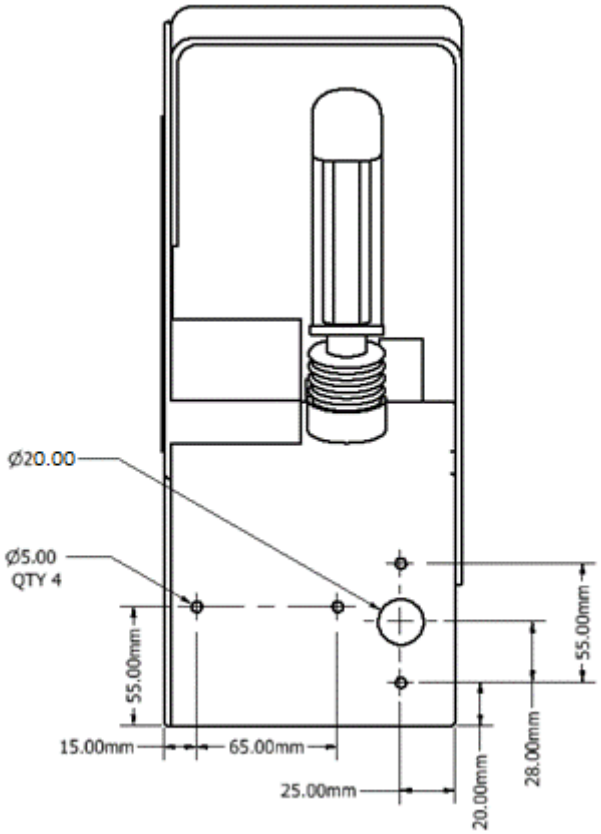
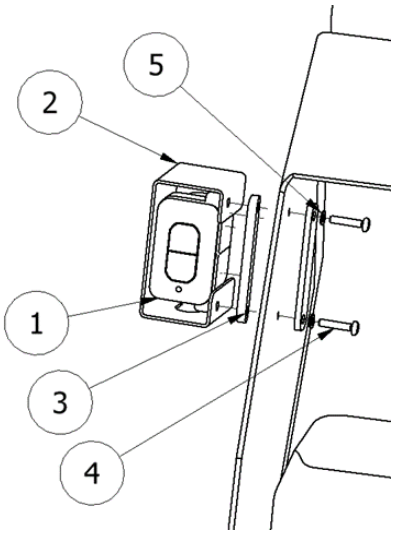
The suggested time required to install the OverWatch is as detailed below

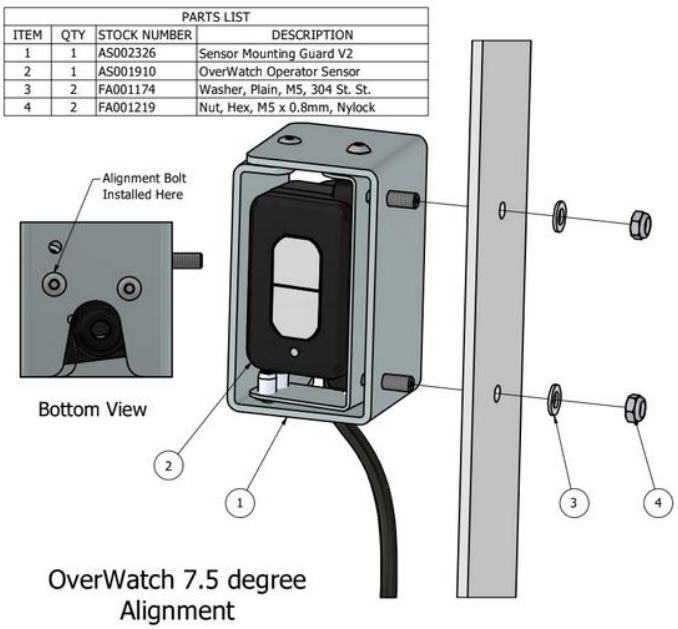
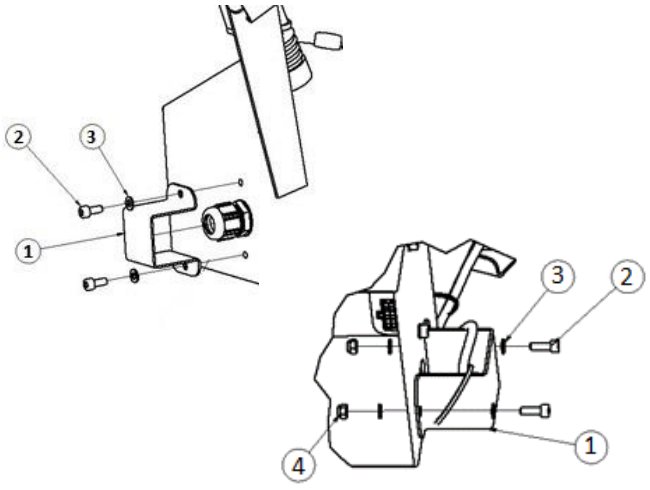
Task	Estimated Time (Minutes)
Open the operator control box	1
Drilling of all mounting holes for the various components	13
Mechanical assembly	10
Electrical assembly	10
Post installation system tests	10
Close the operator control box	1
Total	**45**

Installation Instructions

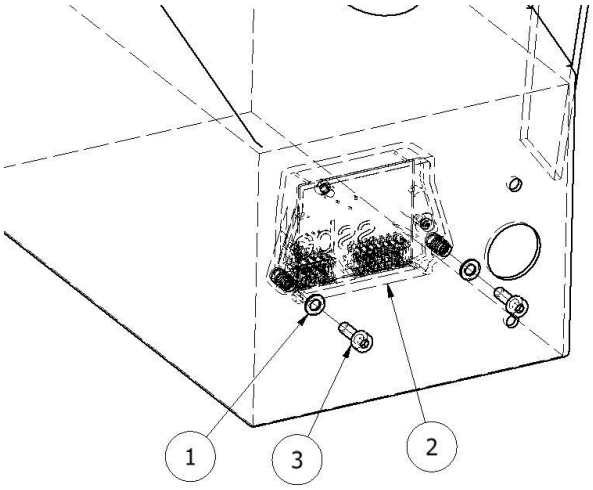
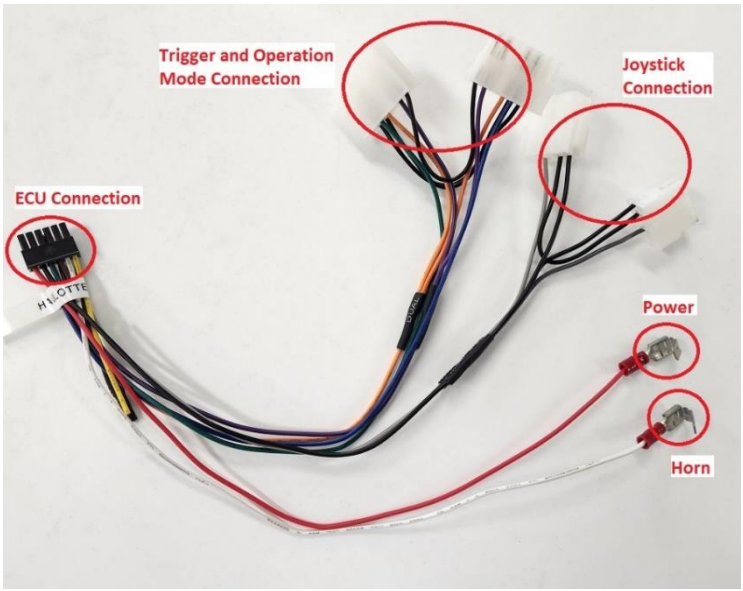
Operator Sensor

Step	Description	Diagram
1.	The platform control box has two main components: **1.** Joystick shroud **2.** Control box	
2.	On the joystick shroud drill two **6.00mm** holes 61.00mm apart in the locations shown in the image. The location of these holes is critical for the operator sensor to be mounted at an angle of **30 degrees from the vertical** **Note: The operator sensor must be mounted at an angle of 30 degrees from the vertical, this is critical for correct system operation**	

3.	Remove the bottom cover from control box. And drill the necessary holes as per the adjacent drawing. **2 x 5.00mm holes** spaced 65.00mm apart (ECU Module) **2 x 5.00mm** holes, spaced 55.00mm apart (Cable Gland Guard) **1 x 20.00mm** hole (M20 Cable Gland) ****Warning**** Keep the control box standing upright during drilling to avoid swarf going in the middle of wiring and electronics. ****Warning**** Clean swarf before going further in the installation.	
4.	**Sensor Mounting Guard V1 (ME001794)** Mount the operator sensor in the **30-degree position** by using the wedges, sensor guard, bolts, and washers. The orientation of the wedge blocks is critical for the correct positioning of the operator sensor. Make sure that the sensor is angled, such that it is **twisted outwards** from the joystick controller. Mount the sensor in position using the positioning wedges, sensor guard, M4 washers, and bolts.	PARTS LIST ITEM | QTY | PART NUMBER | DESCRIPTION 1 | 1 | AS001910 | OverWatch Operator Sensor 2 | 1 | ME001794 | OverWatch Operator Sensor Guard 3 | 2 | ME001798 | Operator Sensor Alignment Wedge 4 | 2 | FA001422 | M4 x 20mm Security Screw 5 | 2 | FA001235 | M4 Plain Washer 

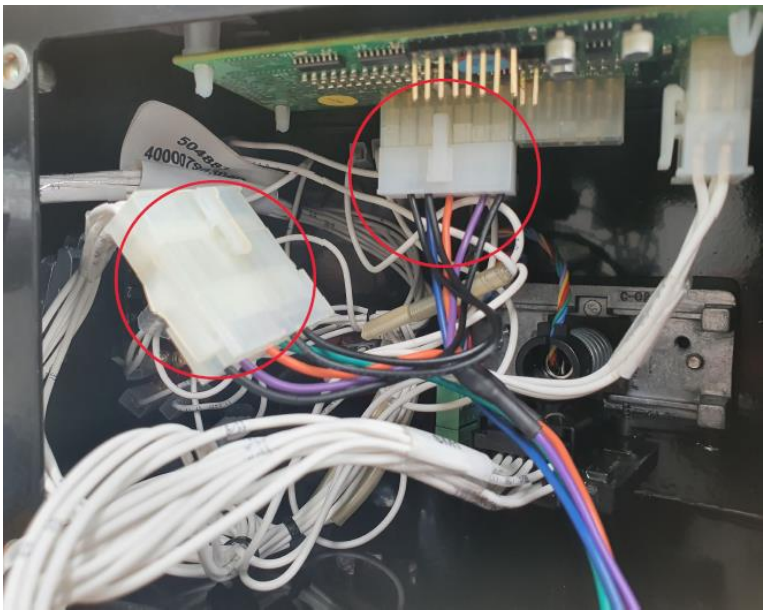
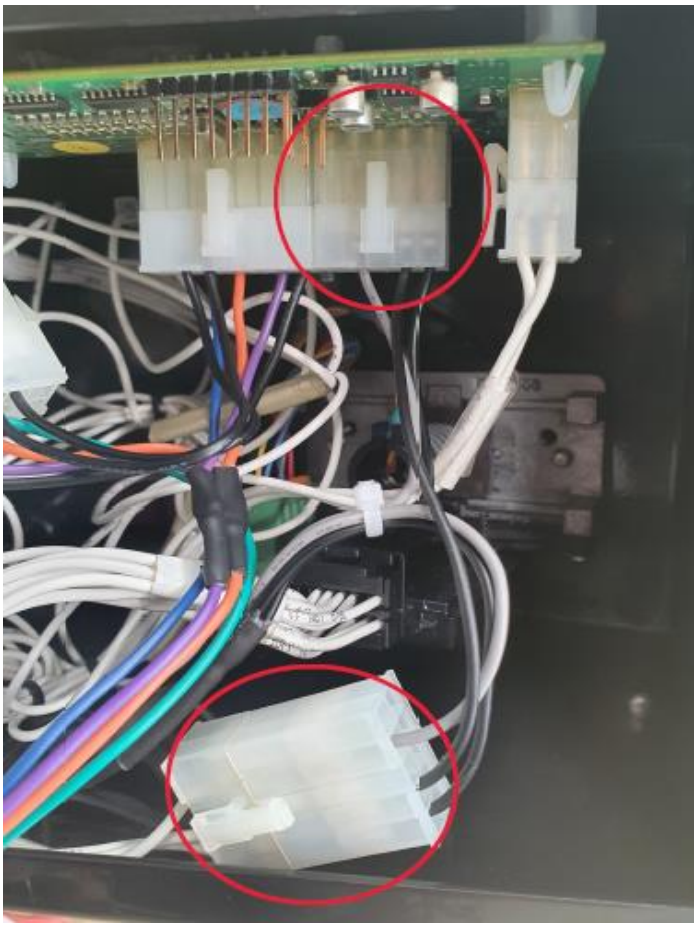
5.	**Sensor Mounting Guard V2 (AS002326)** This guard (AS002326) supersedes the original V1 design. Attach the guard in position using the M5 nuts and washers. Make sure that the sensor is on the 7.5-degree angle, such that it is twisted outwards from the joystick controller. **The 7.5-degree twist is achieved by rotating the sensor inside the assembly and using the bolt hole as show in the image.**	 OverWatch 7.5 degree Alignment
6.	Install the cable gland and cable gland guard in the pre-drilled holes.	 DETAIL A SCALE 1 / 2 **PARTS LIST** **ITEM QTY PART NUMBER DESCRIPTION** 1 1 ME001793 Cable Gland Guard 2 2 FA001211 M4 x 12mm Socket Head Screw 3 4 FA001235 M4 Plain Washer 4 2 FA001223 M4 Nylock Nut

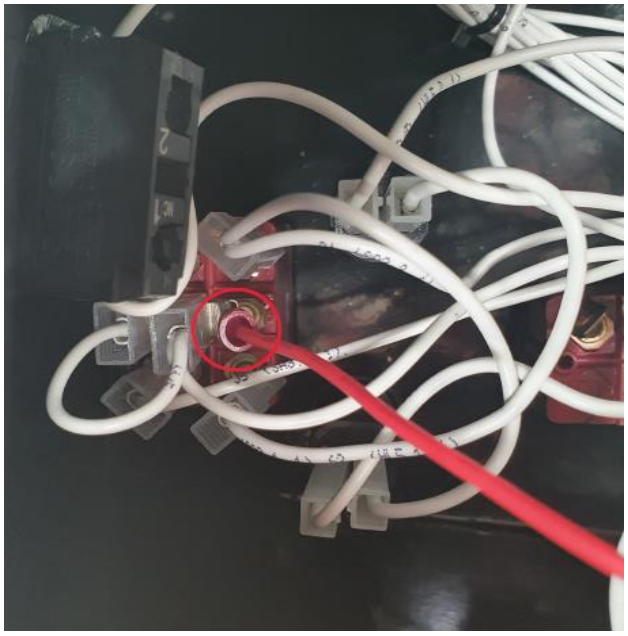
Control Module

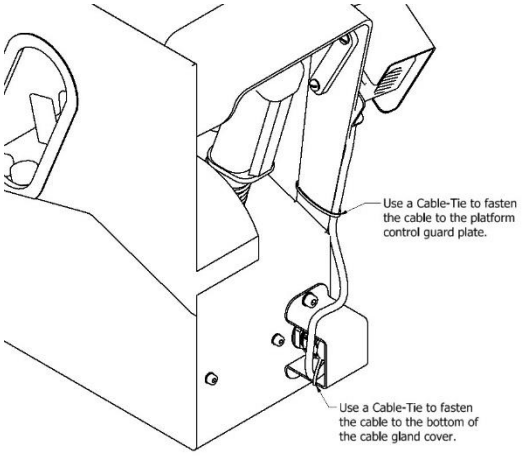
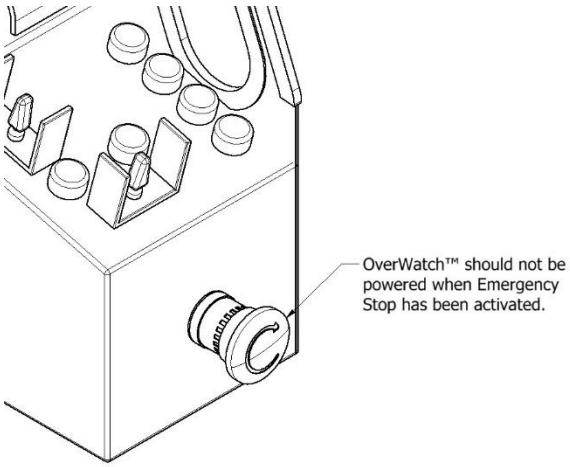
Step	Description	Diagram
1.	Using the M4 bolts and washers, mount the ECU inside the joystick enclosure. Ensure connectors are facing downwards.	
2.	Wiring connections are made with the **AS001974** harness.	

PARTS LIST

ITEM	QTY	STOCK NUMBER	DESCRIPTION
1	4	FA001235	Washer, Plain, M4, 304 St. St.
2	1	AS001916	OverWatch™ ECU Module
3	2	FA001211	Socket Head Cap Screw, M4 x 0.7 x 12mm

3.	**Trigger, drive and elevate connection:** Disconnect the 7-pin connector from the circuit board and Install the OverWatch harness connector in series.	
4.	**Joystick Connection:** Disconnect the 5-pin connector from the circuit board and Install the OverWatch harness connector in series.	

5.	**Power Connection:** At the back of the drive/elevate selection switch locate wire **ID 11**. install the OverWatch red power wire using the piggy back spade connector **Note: Check that the connection is tight, use needle nose pliers to squeeze the connection if necessary**	
6.	**Horn Connection:** At the back of the horn switch locate wire **ID 36**. install the OverWatch white horn wire using the piggy back spade connector **Note: Check that the connection is tight, use needle nose pliers to squeeze the connection if necessary**	

7.	Connect the 8-pin connector from the operator sensor, and the 12-pin connector from the harness into the ECU. Install the cover back onto the bottom of the joystick enclosure.	
8.	Route the operator sensor cable as shown in the image and secure the cable using cable ties.	
9.	After installation, power the machine for platform controls and press the emergency stop. While the emergency stop is active the OverWatch should be switched off. If the OverWatch remains powered, check that the correct side of E-Stop has been used for the OverWatch power.	

Post Installation Configuration

Overview

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.

Minimum system requirements

Any smart phone, tablet or laptop that meets the following requirements:

- The device can connect to a Wi-Fi access point
- The device has an up to date web browser installed. Firefox, Chrome or Safari are recommended.

Wi-Fi Connection & Web Page Access

To enable the Wi-Fi connection on the OverWatch to complete the configuration follow the steps below.

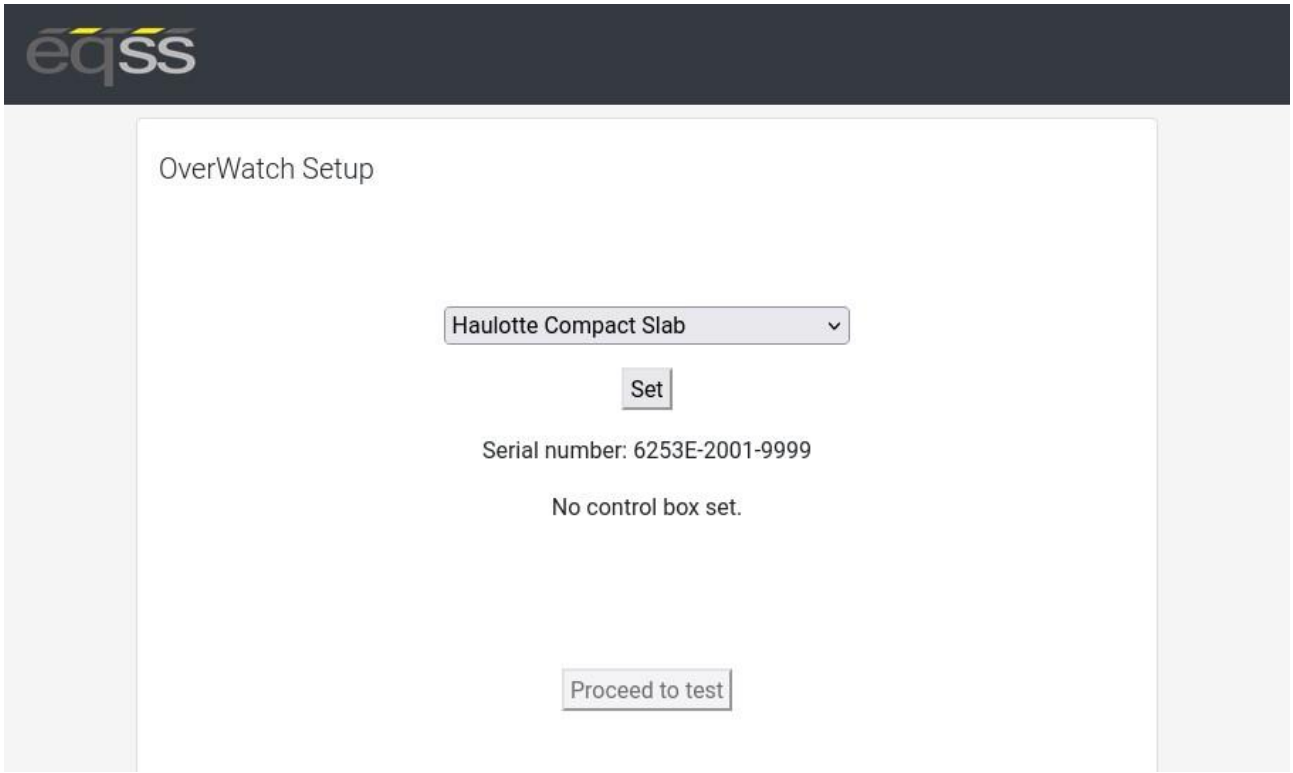
1. Power down the platform control box with the ESTOP
2. Wait 5 seconds
3. Power up the platform control box with the ESTOP
4. While standing **in front of the operator sensor**, switch on the OverWatch
5. As the welcome chime starts to play, cover the sensor. The LED will flash white then black to acknowledge.
6. Remove your hand from the sensor. The LED will flash white then black to acknowledge.
7. After covering then uncovering the sensor this way 2 more times, "Wi-Fi On" will be announced
8. On your Wi-Fi enabled device (laptop, tablet, smartphone, etc), show the available wireless networks
9. Select the wireless network (starts with “overwatch”) to connect to the OverWatch
10. When prompted, enter the **password 12345678**
11. Open your preferred web browser (Chrome, Firefox, Safari)

Enter the following into the address bar http://192.168.4.1 to open the OverWatch main page

Machine Model Selection

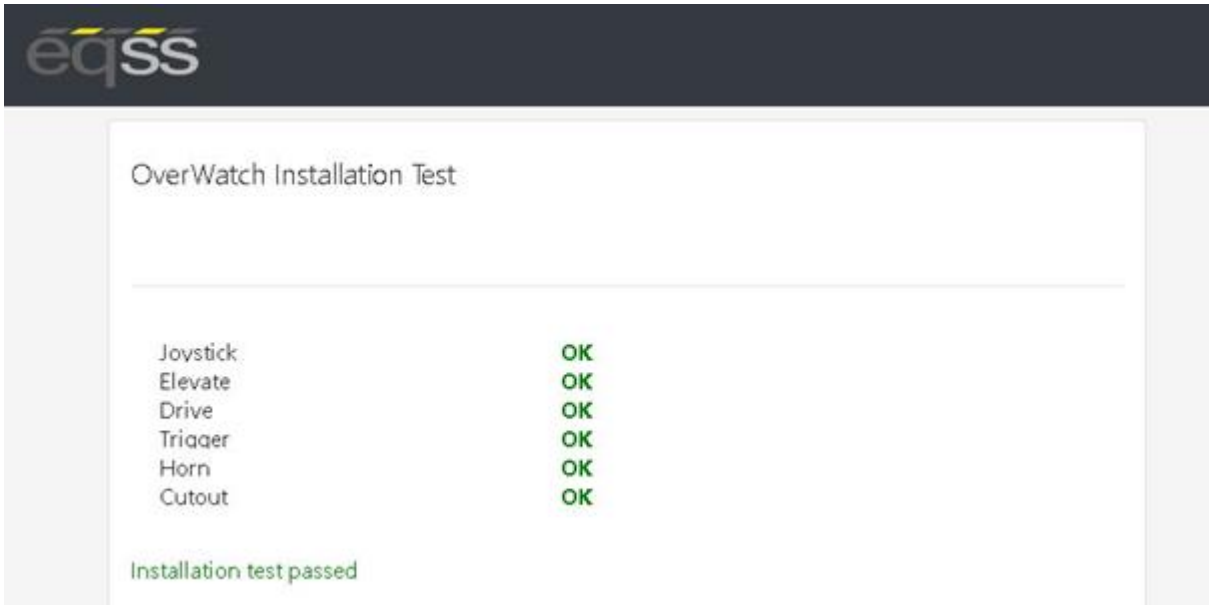
Follow the instructions below to configure the OverWatch.

1. Select the Setup option
2. If there is a password field at the bottom of the page, follow the instructions in Change Model Configuration to obtain the password and enter the password field
3. Select the EWP Model from the drop-down list and click Set
4. Click on Proceed to test to begin the installation test



Installation Test

After the model configuration has been set or updated an Installation Test must be performed. This will ensure the installation has been correctly performed and the OverWatch is functioning correctly. Follow the instructions on the web page to complete the Installation Test.

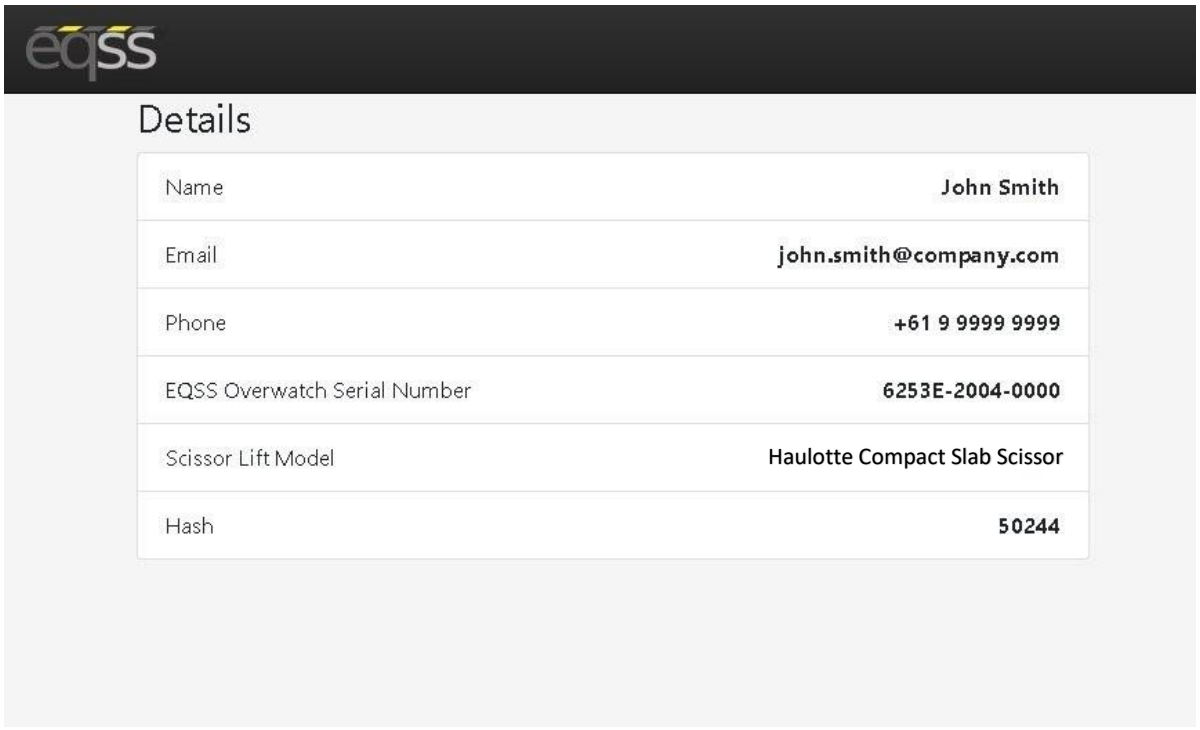


Change Model Configuration

To reconfigure the OverWatch for a different model requires an authorisation password. The authorisation password is generated from the EQSS website. The EQSS website requires a login username and password, contact EQSS for these details.

Follow the instructions below to obtain an authorisation password. It is important to note that each ECU has a unique serial number and a unique password.

1. Open your web browser and enter the following into the address bar http://www.eqss.com.au/overwatch to open the Login page
2. Enter your username and password
3. Enter the EUC serial number which is shown on the setup page or on the ECU serial number sticker, also enter the owner and model details of the EWP and then click Generate Hash
4. The generated Hash code or password can be used to change the model configuration.



System Settings

Default Parameters

The OverWatch is configured with the following default parameters.

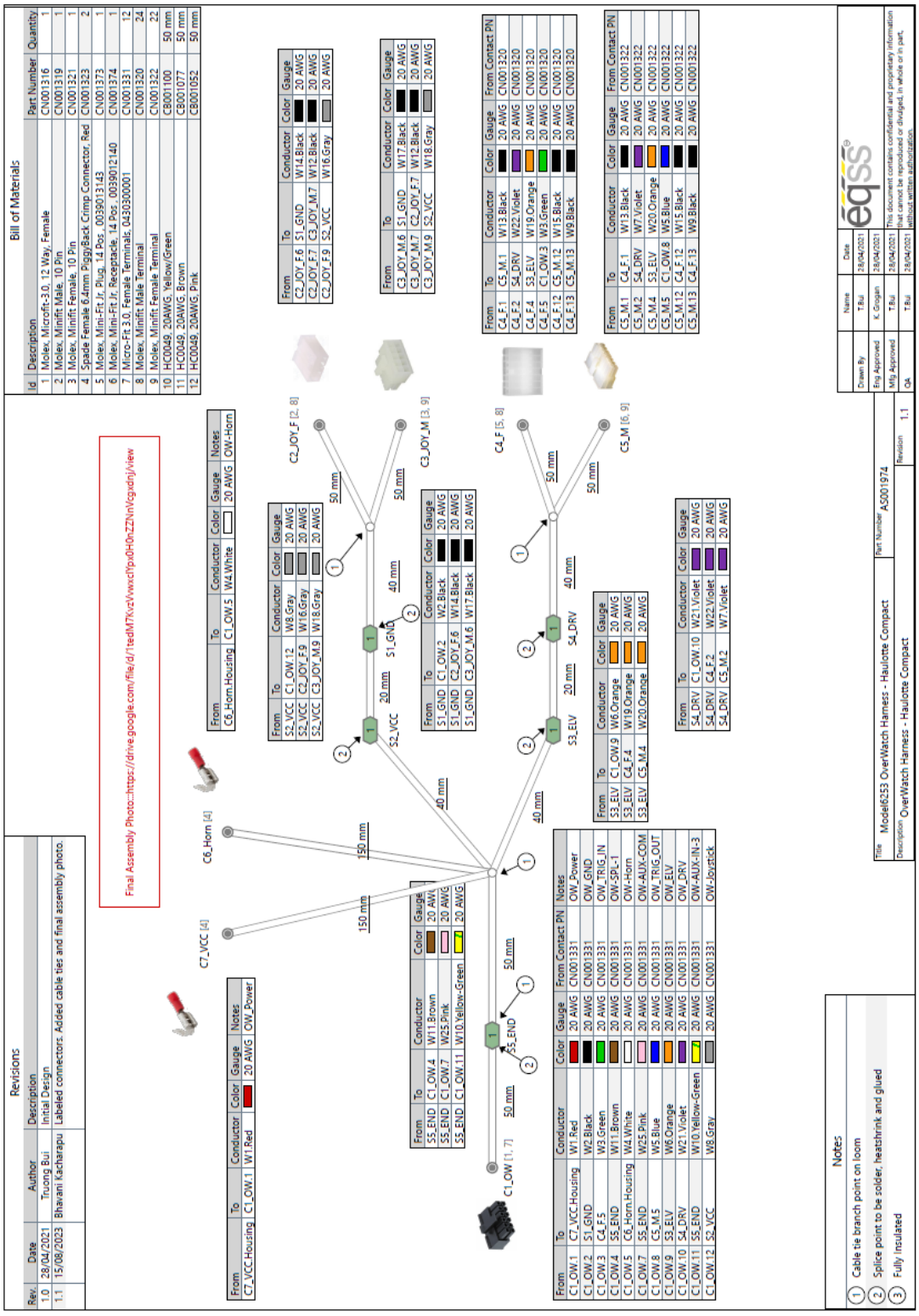
Setting Name	Description	Default
max_safe_velocity	This is the velocity threshold for the cutout in cm/s for drive mode.	95
max_safe_displacement	This is the maximum permitted distance in cm the operator may be away from the calibration position in drive mode.	50
max_safe_velocity_elevate	This is the velocity threshold for the cutout in cm/s for elevate mode.	75
max_safe_displacement_elevate	This is the maximum permitted distance in cm the operator may be away from the calibration position in elevate mode.	50
fwddispadj	The proportion of the calibration distance toward the sensor permitted to the operator.	0.7
fwdveloadj	The coefficient to apply to the maximum allowable velocity when the movement of the operator is toward the sensor.	1.0
zone_obstruction	If the lidar sensor reading is below this, the lidar is considered to be obstructed (with paint or thick coat of dust) and the system is cutout until the obstruction is cleared.	5
zone_minimum	The minimum calibration distance. If the operator is closer to the sensor than this “operator zone” will be announced.	17
zone_maximum	The maximum calibration distance. If the operator is further from the sensor than this “operator zone” will be announced.	120
adc_elevate_threshold	Threshold value for the elevate ADC input.	2200
adc_drive_threshold	Threshold value for the drive ADC input.	2200
adc_trigger_threshold	Threshold value for the trigger ADC input.	2000
adc_joystick_fwd_threshold	Forward threshold value for the joystick ADC input.	1600
adc_joystick_bwd_threshold	Backward threshold value for the joystick ADC input.	1400
throttle_time	Period after the trigger is pressed (ms) during which initial velocity reading is computed.	500
driving_state_timeout	Mode selection switch timeout (ms)	7000

Polarity and Input Style

The table below describes each setting

Setting Name	Description	Default
joystick_drive_forward	Direction of joystick to move machine forward	forward
joystick_elevate_upward	Direction of joystick to move machine upwards	forward
elevate_polarity	Direction of signal logic	high
drive_polarity	Direction of signal logic	high
trigger_polarity	Direction of signal logic	high
joystick_polarity	Direction of signal logic	high
driving_state_input	Direct or timer based	direct

Harness Drawing AS001974



Replacement Parts

Replacement parts for this OverWatch kit are available from EQSS, 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
AS001973	OverWatch - Complete kit Haulotte Compact
AS001910	OverWatch - Operator Sensor with M20 gland
AS001916	OverWatch - Electronic Control Unit (ECU)
AS001974	OverWatch - Haulotte Compact Harness
AS002326	OverWatch - Sensor Guard V2