INSTALL MANUAL

EQSS Model6253 – OverWatch™
Haulotte Compact DX

**** 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 DX Rough Terrain 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 DX Rough Terrain Scissor
- 1.1 Update on operator sensor mounting angle
- 1.2 Inclusion of operator sensor guard V2 mounting instructions
- 1.3 Update to model configuration instructions

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this publication regarding this device's applications and the like, is provided only for your convenience and may be superseded by updates.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

EQUIPMENT SAFETY SYSTEMS MAKE NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER EXPRESSED OR IMPLIED, WRITTEN OR ORAL, STATUTORY OR OTHERWISE, RELATED TO THE INFORMATION, INCLUDING, BUT NOT LIMITED TO, IT'S CONDITION, QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR PURPOSE.

Equipment Safety Systems disclaims all liability arising from this information and its use. Use of Equipment Safety Systems' products as critical components in life support systems is not authorised except with express written approval by Equipment Safety Systems. No licenses are conveyed, implicitly or otherwise, under any Equipment Safety Systems intellectual property rights.

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™ can 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 5.0mm
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

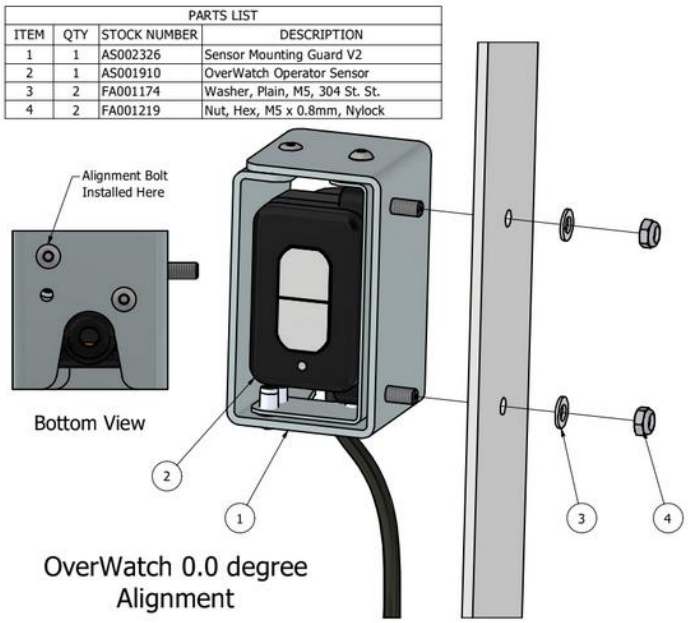
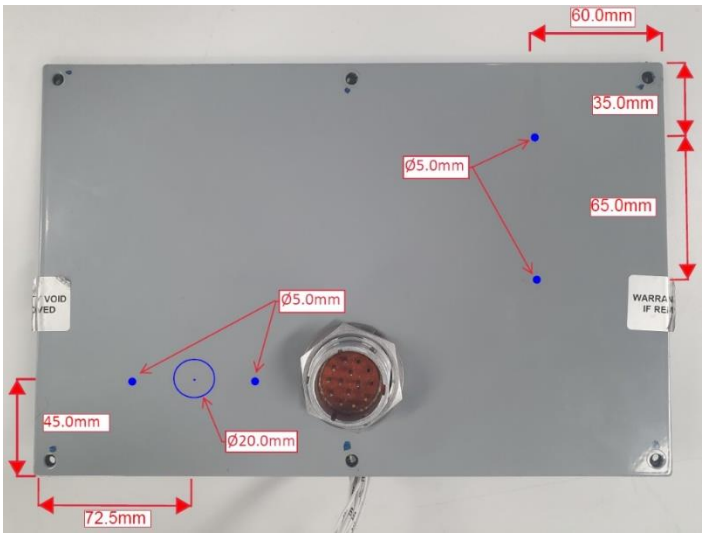
Task	Estimated Time (Minutes)
Open the operator control box	1
Drilling of all mounting holes for the various components	13
Mechanical assembly	10
Electrical assembly	10
Post installation system tests	10
Close the operator control box	1
Total	**45**

Installation Instructions

Operator Sensor

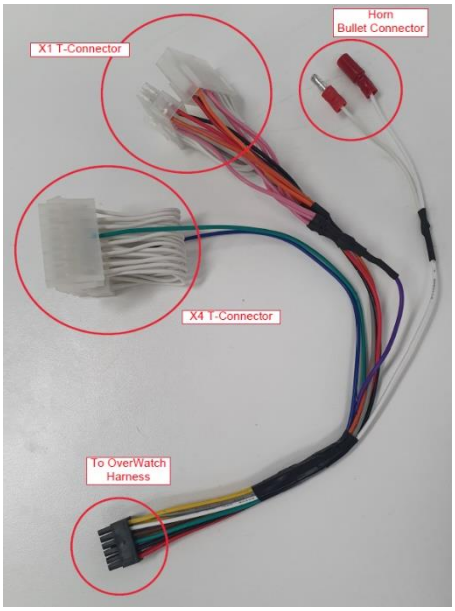
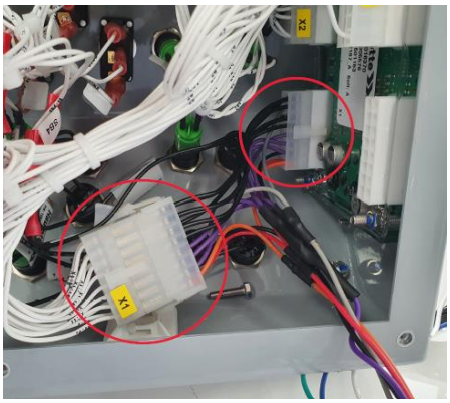
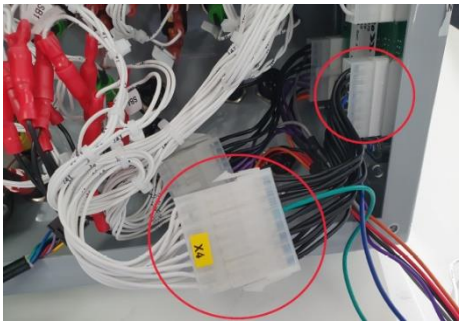
Step	Description	Diagram
1.	Drill two 5.2mm holes to mount the sensor bracket in the located as shown in the adjacent image. Secure the sensor bracket in place using the M5 nuts, bolts and washers.	
2.	**Sensor Mounting Guard V1 (ME001794)** Mount the operator sensor in the **45-degree position** by using the sensor guard, bolts, and washers.	

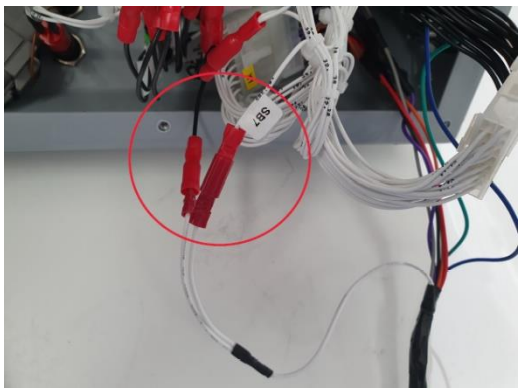
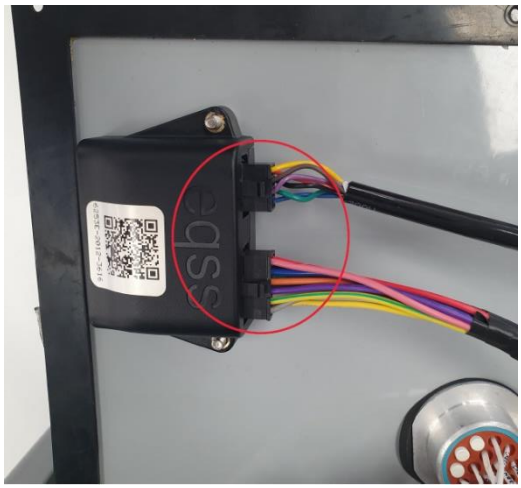
PARTS LIST			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	AS001910	Overwatch™ Operator Sensor
2	1	ME001794	Overwatch™ Sensor Guard
3	2	FA001417	M4 x 12mm Butt screw
4	2	FA001235	Washer, Plain, M4, 304 St. St.
5	1	ME001818	Operator Sensor Mounting Bracket

3.	**Sensor Mounting Guard V2 (AS002326)** This guard (AS002326) supersedes the original V1 design. Mount the operator sensor in the **45-degree position** on the mounting bracket using the supplied M5 washers and nuts. 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.**	
4.	Remove the bottom cover of the control module and drill the following holes, referring to the image on the right for hole locations: 2 X 5.00mm holes spaced 65.00mm apart (ECU Module) 2 X M5 (Tapped) holes, spaced 55.00mm apart (Cable Gland Guard) 1 X 20.00mm hole (Cable Gland) **Warning** Keep the bottom panel away from the joystick control box to avoid swarf getting into the internals	

5.	Install the cable gland and cable guard making sure that the cable exits in the direction as shown in the adjacent image.	
6.	Apply cable ties along the operator sensor cable that runs into the to the joystick control box.	

Control Module

Step	Description	Diagram
1.	Wiring connections are made with the **AS001979** harness.	
2.	**Joystick Connector:** Install the OverWatch connector **X1** in location. **Warning**: **Check that the X1 plug is connected to X1 and not to X2, X3 or X4 to avoid damage to the circuit board.**	
3.	**Trigger Connection:** Install the OverWatch connector **X4** in location. **Warning**: **Check that the X4 plug is connected to X4 and not to X1, X2 or X3 to avoid damage to the circuit board.**	

4.	**Horn Connection:** At the back of the horn push button switch, install the red bullet connectors inline from the OverWatch loom to the connector with wire ID **SB7**.	
5.	Using the supplied M4 screws and washers, mount the ECU inside the platform control box as shown in the adjacent image. Connect the 8-pin connector from the operator sensor, and the 12-pin connector from the OverWatch harness into the ECU.	

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.

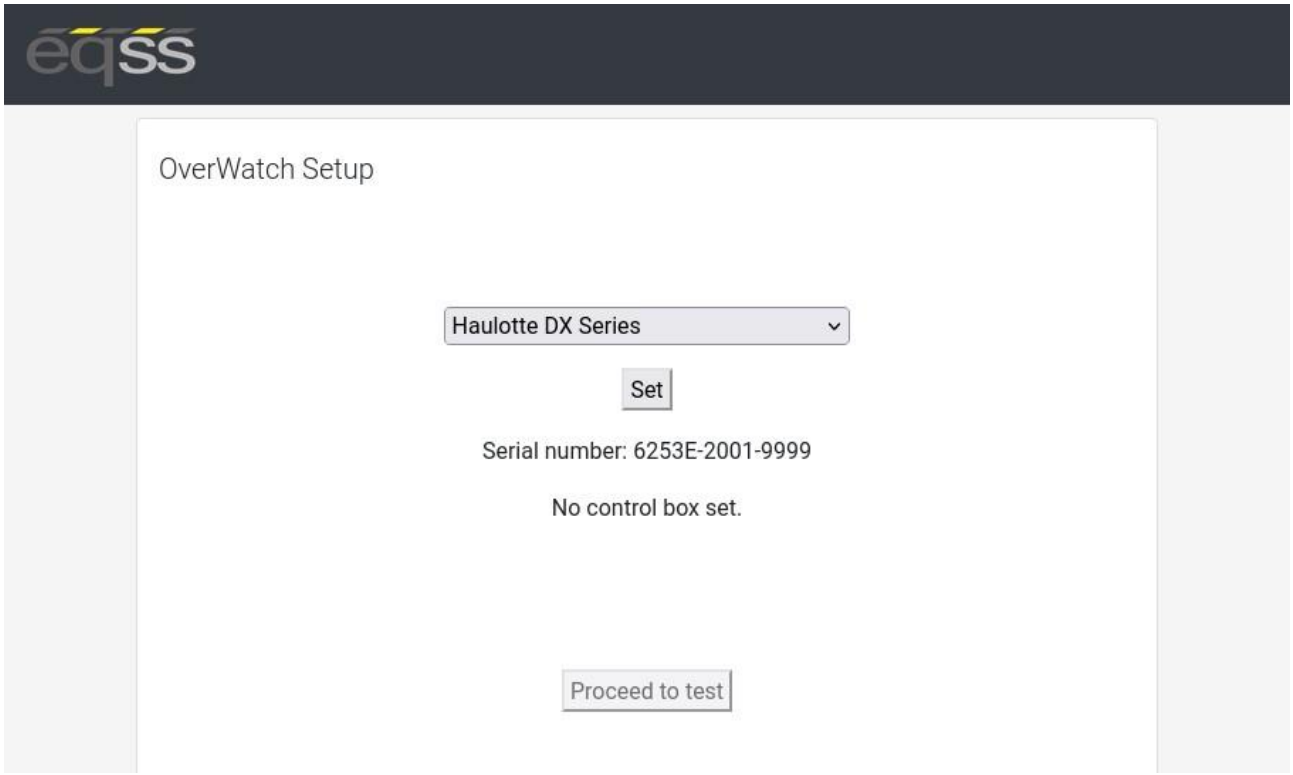
1. Power down the platform control box with the ESTOP
2. Wait 5 seconds
3. Power up the platform control box with the ESTOP
4. While standing **in front of the operator sensor**, switch on the OverWatch
5. As the welcome chime starts to play, cover the sensor. The LED will flash white then black to acknowledge.
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



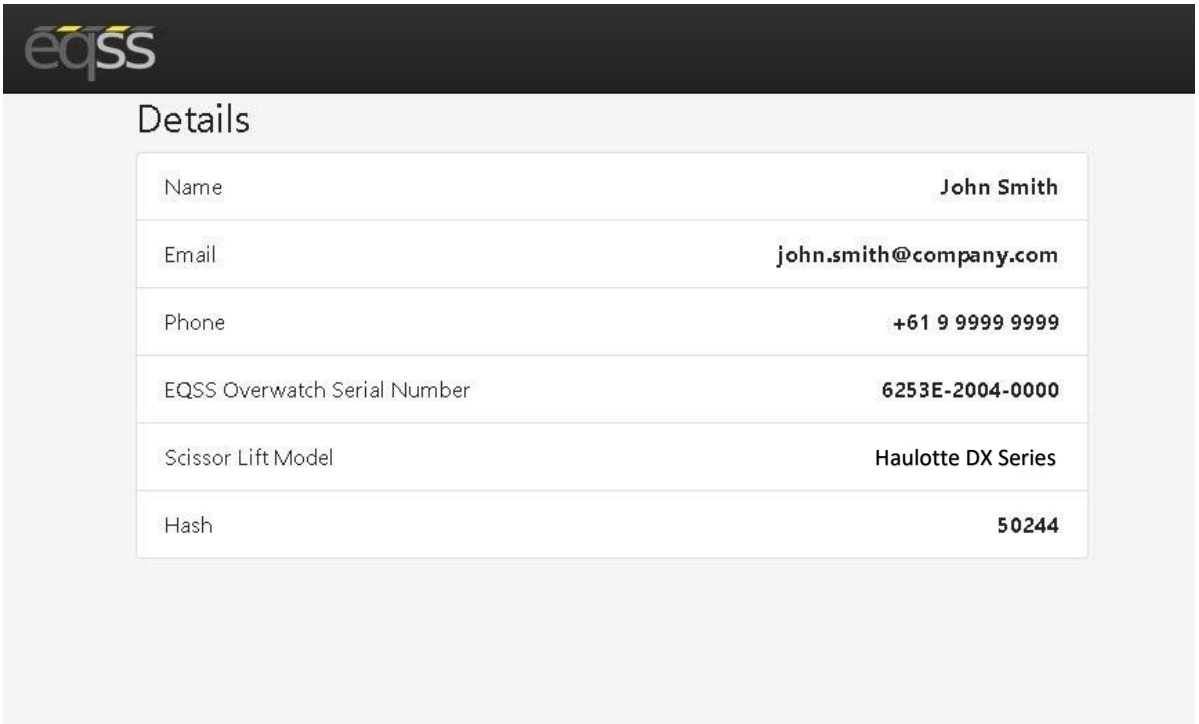
Installation Test

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 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.

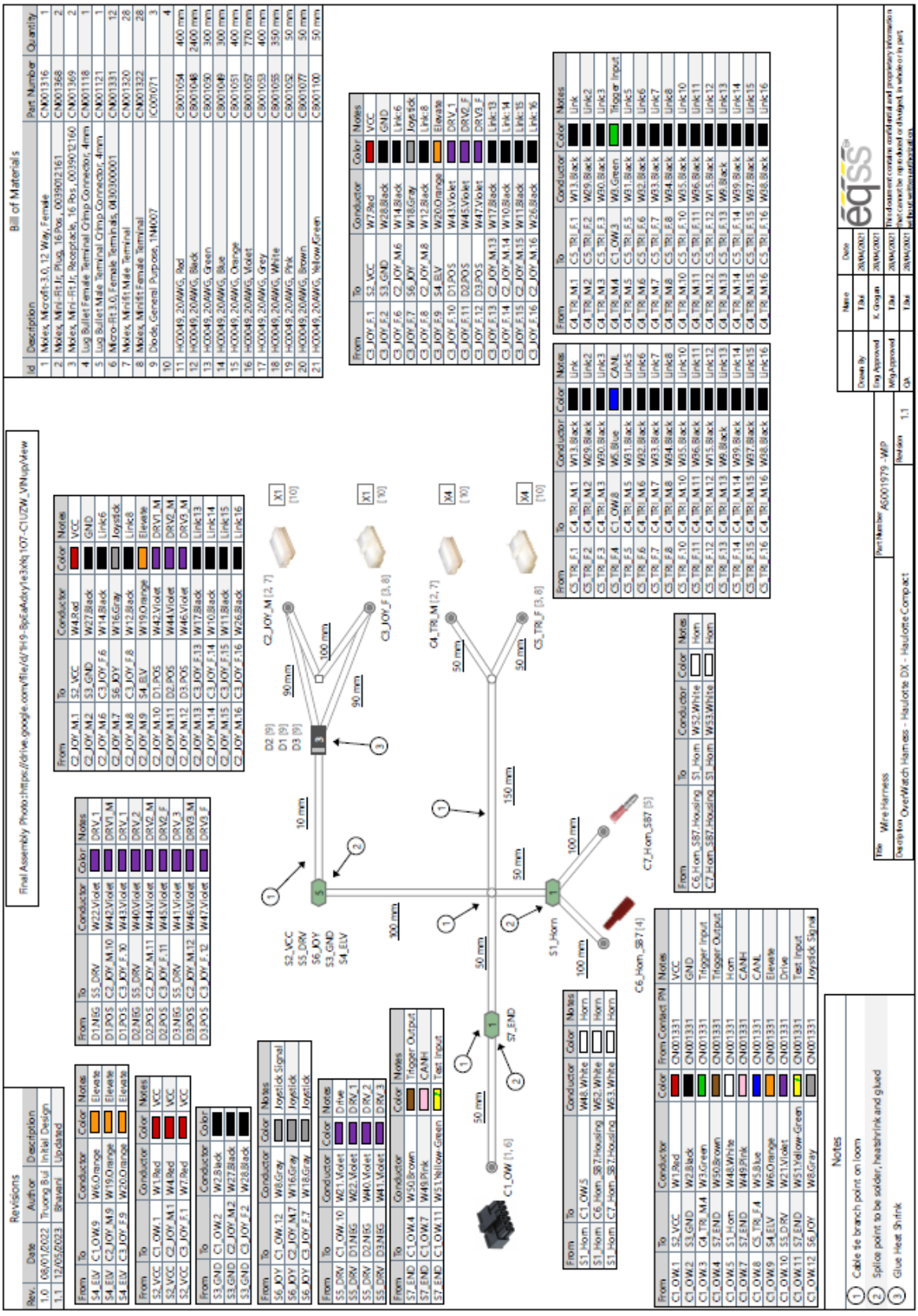
Setting Name	Description	Default
max_safe_velocity	This is the velocity threshold for the cutout in cm/s for drive mode.	95
max_safe_displacement	This is the maximum permitted distance in cm the operator may be away from the calibration position in drive mode.	50
max_safe_velocity_elevate	This is the 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.	0.65
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.	30
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.	110
adc_drive_threshold	Threshold value for the drive ADC input.	110
adc_trigger_threshold	Threshold value for the trigger ADC input.	110
adc_joystick_fwd_threshold	Forward threshold value for the joystick ADC input.	1550
adc_joystick_bwd_threshold	Backward threshold value for the joystick ADC input.	1350
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)	1500

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	timer

Harness Drawing AS001979



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
AS001978	OverWatch - Complete kit for Haulotte DX Series
AS001910	OverWatch - Operator Sensor with M20 gland
AS001916	OverWatch – Electronic Control Unit (ECU)
AS001979	OverWatch – Haulotte DX Harness
AS002326	OverWatch - Sensor Guard V2
ME001818	OverWatch – L Bracket 30/45