



eqss™ Gen-3 LMS Telehandler Load Management System

Installation Manual for SR626 Electric



WARNING!
DO NOT HIGH PRESSURE
WASH ANY OF THE GEN3
COMPONENTS. FAILURE TO
FOLLOW THIS WARNING
WILL VOID WARRANTY

*****Do Not Swap Components between Gen3-LMS kits*****

When installing multiple Gen3-LMS kits, make sure the serial number on the sticker matches the serial number on the machine.

*****Failure To Follow Installation Manual Will Void Warranty*****

Documentation Conventions

The list below highlights important documentation conventions.



Text presented in this manner is intended to provide the user with some general information. The user should ensure information presented in this manner is clearly understood.



Text presented in this manner provides the user with information to assist in completion of the current procedure being explained.



Text presented in this manner indicates that a failure to follow directions could result in damage to equipment, loss of information, bodily harm, or loss of life.

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in this publication regarding this device's applications and the like is provided only for your convenience and may be superseded by updates.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

Table of Contents

Tools Required for Installation.....	5
Installation Index.....	6
Covers.....	9
Cable Reeler Installation.....	11
Cable Reeler Mounting Position.....	13
Pressure Sensor Installation.....	14
Main Pressure Sensors.....	14
Compensation Pressure Sensors.....	16
Reverse Camera.....	18
Forward Camera.....	20
Signal Light Installation.....	22
Can Pressure Input Module (CPIM).....	24
External Cable Completion.....	25
Display Installation.....	27
User Input Control.....	28
Can Cabin Interface Module (CCIM).....	29
Cabin Loom.....	30
Machine Connections.....	32
Finalisation.....	34
Set Time & Sensor Calibration.....	37
Schematics.....	40
Appendix A: Attaching Display Connectors.....	43
Appendix B: Reattach Ferrites.....	47
Indexes and Tables.....	48

Tools Required for Installation


The tools required to perform the installation of the Gen3-LMS are listed below

- Pencil or Texta
- Drill
- Drill bits
 - 3.3 mm
 - 4.5 mm
 - 5 mm
 - 6.8 mm
 - 8.5 mm
- Centre punch
- Tap T-Handle
- Taps
 - M6
 - M8
- Drill and tap oil
- Metric Allen keys
- Phillips Head screw driver
- Spanners and sockets
 - 7 mm
 - 8 mm
 - 10 mm
 - 13 mm
 - 17 mm
- Loctite thread locker
- Side cutters
- Stanley knife
- Crimpers
- Wire strippers

Installation Index

The components and cables of the Gen-3 Telehandler Load Management System are outline in the tables below. The following pages show where the components are installed and the cable routing.

See the appropriate manual section for a detailed installation description for each component.



Refer to this section for any component placement or cable routing issues

<i>Item</i>	<i>Component Description</i>
1	Cable Reeler
2	Main Lift Cylinder Pressure Sensors
3	Compensation Cylinder Pressure Sensors
4	Can Pressure Input Module (CPIM)
5	Cutout Connection
6	Forward Camera
7	Signal Light
8	Rear Camera
9	Can Cabin Interface Module (CCIM)

Table 1: Component Installation Index

<i>Colour</i>	<i>Cable Description</i>
Light Purple	Boom Cable
Dark Green	Main Cylinder Pressure Sensor Cables
Dark Blue	Compensation Cylinder Pressure Sensors Cables
Red	Cutout Cable
Light Green	Forward Camera Cable
Brown	Signal Light Cable
Light Blue	Rear Camera Cable
Dark Purple	CCIM Cable

Table 2: Cable Installation Index

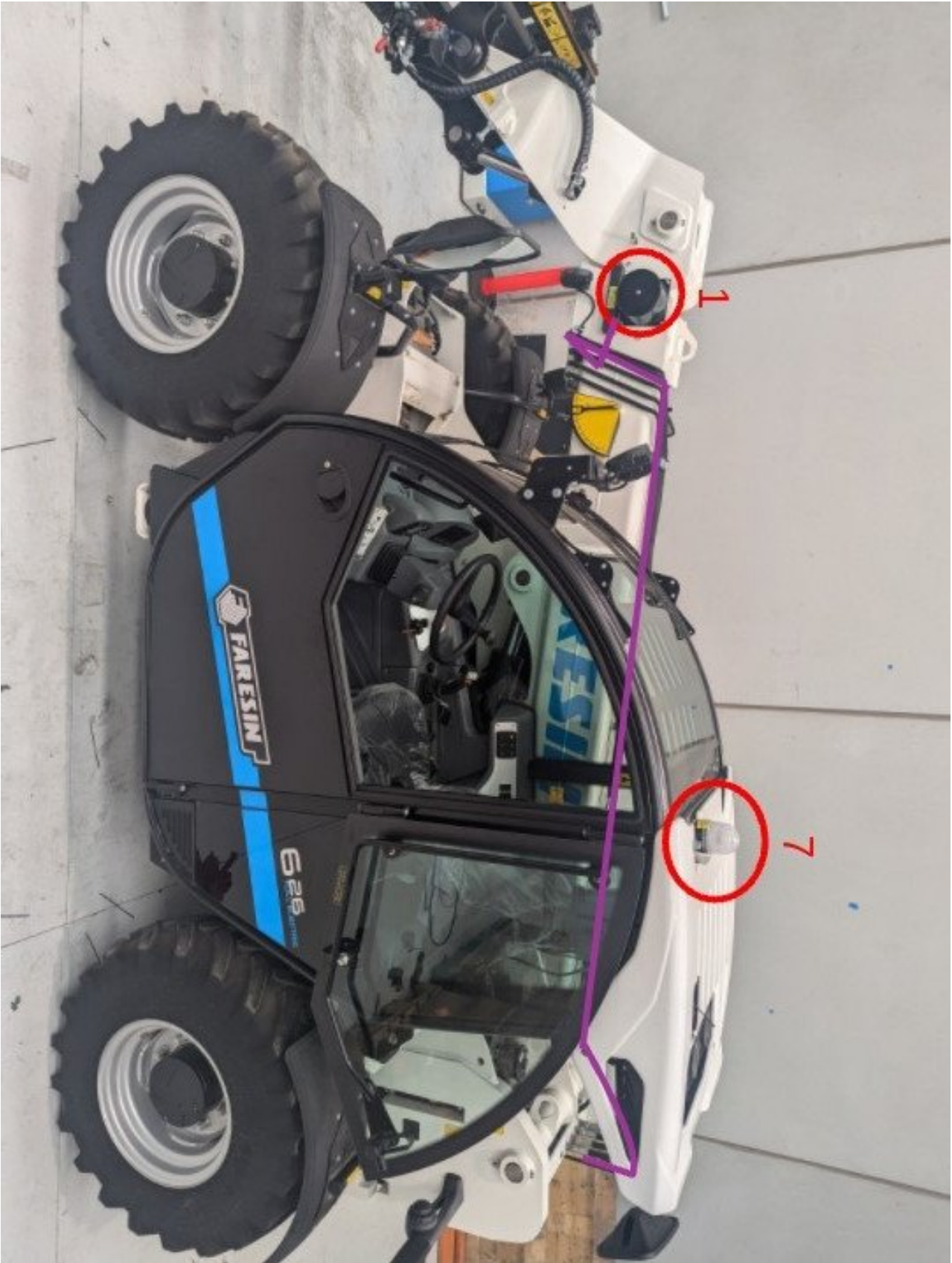


Illustration 1: Machine Boom

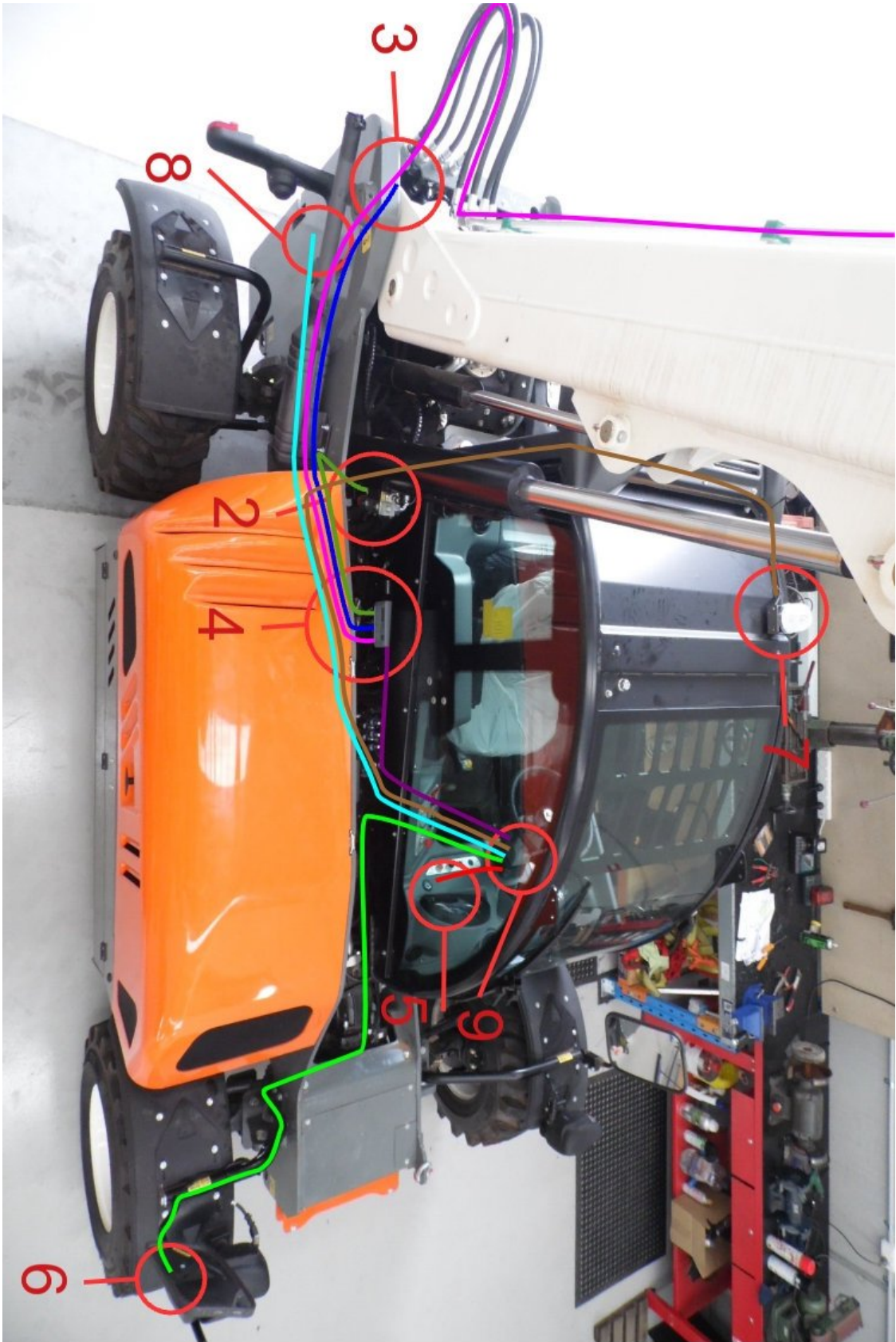





Illustration 2: Machine Chassis

Covers

Remove the following covers before starting the installation

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Remove the rear cover and disconnect the license plate light.	
2.	Remove the side panel next to the cabin and the covers under the boom.	
3.	Inside the cabin, remove the dashboard display cover and the switch panel.	



<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	Remove the Lmi box from the dashboard panel.	
5.	Inside the cabin remove the fuse holder board protection panel located in the lower left part of the dashboard.	

Table 3: Cover removal

Cable Reeler Installation

The cable reeler is used to measure the boom extension to determine the maximum lifting capacity.



A false N07 fault can occur if the boom jumps off the stow switch due to pressurising the hydraulic system and without operating the boom extension control. Ensure the stow switch arm is correctly adjusted to prevent this error.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill and tap the holes for the cable reeler according to the mounting diagram on page 13.</p> <p>Mount using the supplied M6×12 mm bolts and washers.</p>	
2.	<p>Drill and tap an M8 hole for the cable anchor. Ensure the cable anchor is positioned so the cable runs in line with the boom.</p> <p>Mount the cable anchor and attach the cable.</p> <p>Drill and tap the M6 holes for the stow switch trigger. Ensure the stow switch is pressed when the boom is retracted.</p> <p>Mount the stow switch trigger using the supplied M6 x12 mm bolts and washers.</p>	




<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	Connect the supplied M12 10 metre cable (CB001027) into the cable reeler connection.	
4.	<p>Run the cable along the hydraulic pipes running down the boom and secure using cable ties every 150 mm to 200 mm.</p> <p>Cable tie to the flexible hydraulic hoses down to the chassis. Make sure the cable isn't pinched or stretched when the boom is raised or lowered.</p> <p>Run the remainder of the cable towards the cabin and secure to the other cables during External Cable Completion on page 25.</p>	

Table 4: Cable Reeler Installation


 For further details on running the boom cable refer to the Installation Index on page 6

Cable Reeler Mounting Position

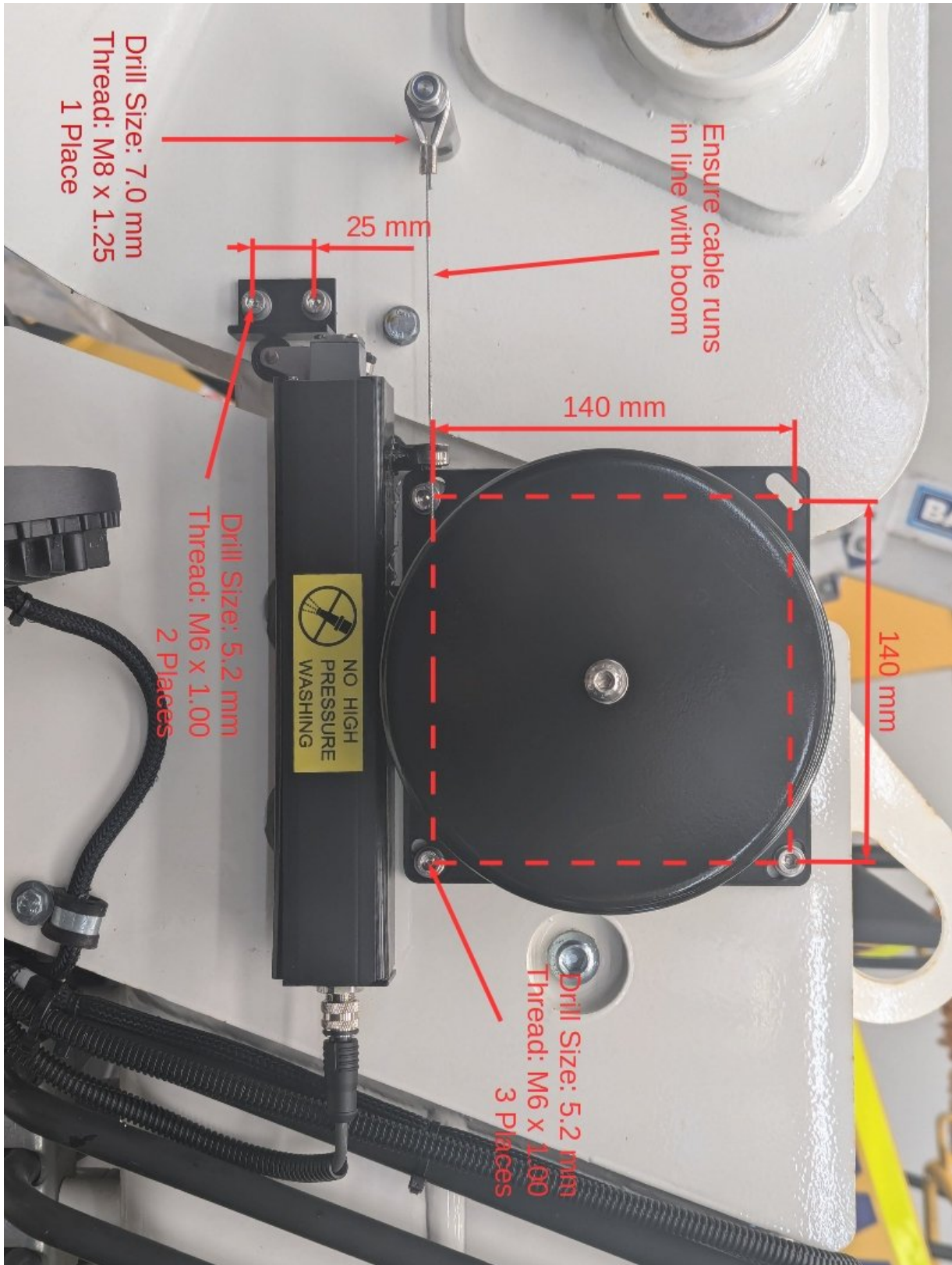
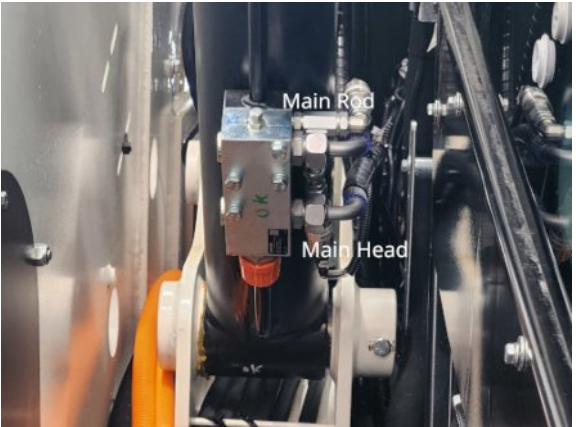


Illustration 3: Cable Reeler Mounting Position

Pressure Sensor Installation

The hydraulic pressure sensors are used to measure the lifting load of the telehandler.

Main Pressure Sensors

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Raise the boom to approximately 40 degrees.</p> <p>Support and secure the boom using an A Frame or similar apparatus. It must support at least 2 tons.</p> <p>Apply the handbrake and insert chock under wheels.</p> <p>Remove the hydraulic hoses connected to the manifold block to allow access to the blanking caps.</p> <p>Release the two blanking caps on the side of the hydraulic manifold.</p> <p>Removing the blanking cap will release the hydraulic pressure which may result in a spray of oil.</p> <p>Install the supplied head and rod pressure sensor hydraulic fittings and ensure it is tightly sealed.</p> <p>Start the machine, pressurise the boom and check for leaks.</p>	

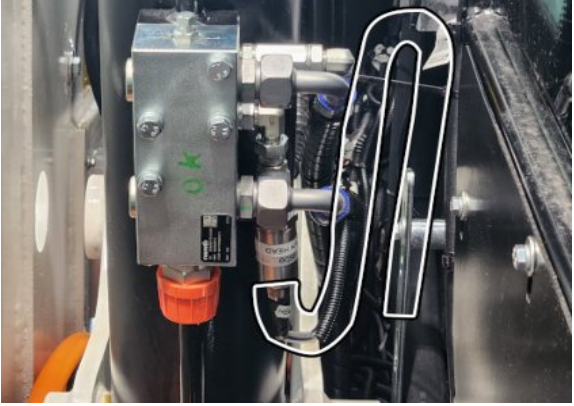


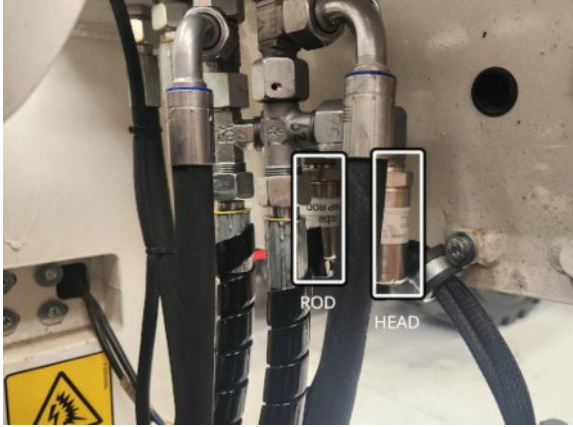
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
2.	<p>Connect the supplied M12 4 metre cables (CB001026) into each of the pressure sensors.</p> <p>Cable tie the head and rod pressure sensor cables to the flexible hydraulic hoses connected to the main lift cylinder. Make sure the cable isn't pinched or stretched when the boom is raised or lowered.</p> <p>Run the cables towards the cabin and cable tie with the other cables during External Cable Completion on page 25.</p> <p>Raise and lower the boom and ensure the pressure sensors and cables do not collide with the boom and chassis structures and the cables do not stretch or pinch.</p>	

Table 5: Main Pressure Sensor Installation



For further details on running the pressure sensor cables refer to the Installation Index on page 6

Compensation Pressure Sensors

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Locate the tee connections on the chassis where the compensation cylinder hydraulic lines tee into the tilt cylinder lines at the rear of the machine.</p>	 <p>Location of the tee connections behind the chassis</p>
2.	<p>Undo the hydraulic connection for the head compensation onto the run of the existing tee connector.</p> <p>Install the supplied tee piece, elbow and pressure sensor.</p> <p>Undo the hydraulic connection for the rod compensation onto the run of the existing tee connector.</p> <p>Install the supplied tee piece, elbow and pressure sensor.</p> <p>Start the machine, pressurise the boom and check for leaks.</p>	




<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Connect the supplied M12 4 metre cables (CB001026) into each of the pressure sensors.</p> <p>Run the snake tube and cables towards the cabin and cable tie with the other cables during External Cable Completion on page 25.</p> <p>Ensure the pressure sensors and cables do not collide with the boom and chassis structures and the cables do not stretch or pinch when the boom is raised and lowered.</p>	


Table 6: Compensation Pressure Sensor Installation

 Angle the tee connections to ensure the hydraulic connections and pressure sensor do not hit the boom when the boom is lowered

 For further details on running the pressure sensor cables refer to the Installation Index on page 6

Reverse Camera

The rear camera video is displayed on the screen when the machine is in reverse gear to allow the operator to see behind the telehandler while reversing.

 Do not disconnect the camera power connection while the system is operating as this can damage the fuse.



<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill a 31mm hole in the rear cover in the location shown. Making sure to leave enough room for a license plate</p> <p>Insert the camera through the hole and adjust the angle using the alignment washers.</p> <p>Connect the camera power and signal connectors to the supplied 5m camera cable (CB001032).</p> <p>Note; The white connector is not used.</p> <p>Cable tie the camera cable to the adjacent hydraulic lines.</p> <p>Run the remainder of the cable towards the cabin and cable tie to the other cables during External Cable Completion on page 25.</p> <p>Place the supplied No High Pressure Wash sticker above the camera.</p>	

Table 7: Reverse Camera Installation

 The camera's viewing angle may need to be adjusted once the system is installed and the display is operational.




Once the cable has been tied to the license plate light cable disconnect the cable cable to remove the rear cover until the installation is finalised



For further details on running the camera cable refer to the Installation Index on page 6

Forward Camera

The forward camera video is displayed on the screen when the machine is in forward gear to allow the operator to see past the boom to obstructions that would damage the right front tyre.



Do not disconnect the camera power connection while the system is operating as this can damage the fuse.


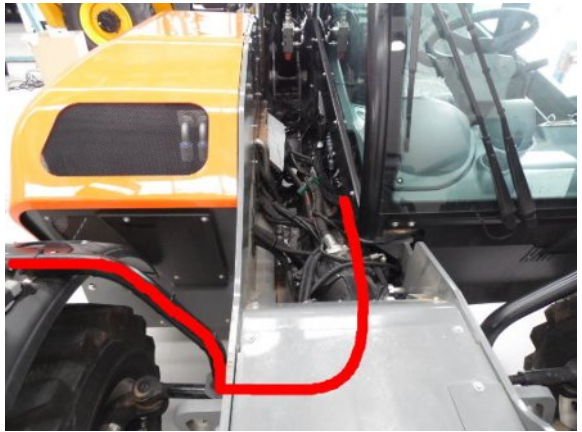
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Mount the camera to the side mirror using the p-clips as shown.	
2.	<p>Connect the camera power and signal connectors to the supplied 5m camera cable (CB001032).</p> <p>Note; The white connector is not used.</p> <p>Run the cable along the same path as the headlight cable, run it through the headlight post, then under the chassis to the side of the cabin. Cable tie to the headlight cable every 150 mm to 200 mm.</p> <p>Complete the cable installation during External Cable Completion on page 25.</p>	

Table 8: Forward Camera Installation



The camera's viewing angle may need to be adjusted once the system is installed and the display is operational.





For further details on running the camera cable refer to the Installation Index on page 6

Signal Light Installation

The signal light warns other workers when the telehandler is lifting loads close to its maximum capacity.



Ensure the power supply voltage is greater than 13.5V otherwise the signal light may not illuminate correctly.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Mount the signal light on the top of the roof past the roof window towards the cabin door.	
2.	Run the cable along the roof towards the rear of the cabin. Cable tie to the air conditioning connections towards the boom side of the roof.	


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Run the cable underneath the hose cover running down to the chassis.</p> <p>Note: It might be necessary to remove the hose cover to run the cable.</p> <p>Cable tie with the other cables during External Cable Completion on page 25.</p>	

Table 9: Signal Light Installation

Can Pressure Input Module (CPIM)

The CPIM is responsible for processing the information send from the pressure sensors.



Accidentally swapping the pressure sensor connections will not damage system and can be determined if the display is showing a negative load.



Do not plug the pressure sensor cable into the far right side boom cable. This will damage the system.





<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill and tap two M8 holes for the CPIM bracket in the cab side panel.</p> <p>Mount using the supplied M8×12mm bolts and washers.</p>	
2.	<p>Connect the cables for the pressure sensors and boom cable to the CPIM according to the picture shown.</p> <p>Note: The CCIM cable will be installed during External Cable Completion on page 25.</p>	

Table 10: Can Pressure Input Module (CPIM) Installation

External Cable Completion

All external cabling is completed in this step.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Cable tie the pressure sensor, boom, reverse camera and signal light cables together up to the CPIM</p> <p>Coil up the additional cabling for the pressure sensor and boom cables and store it underneath the CPIM.</p>	
2.	<p>Connect the supplied M12 4 metre cable (CB001026) into the connection out of the right side of the CPIM for the CCIM cable.</p>	


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Run the CCIM, cutout (Diesel version), signal light and camera cables up through the hole into the cabin under the dashboard for the servo command pressure indicator.</p> <p>Note: Only pull enough of cable through into the cabin as required, excess cable will be stored under outside the cabin under the cabin entry hole.</p>	

Table 11: External Cable Completion

Display Installation

The display shows the current safety status of the telehandler.


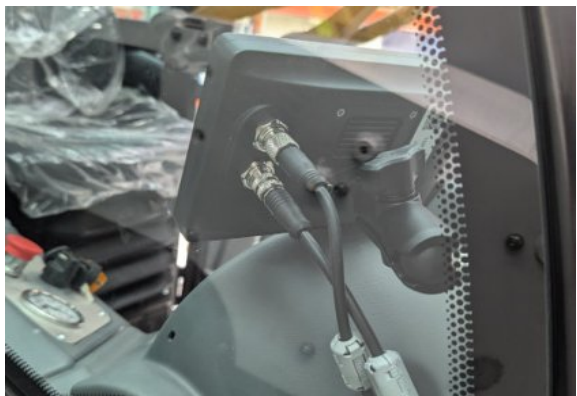
Step	Description	Diagram
1.	<p>Secure the display bracket base to the existing holes in the cabin frame using M6 X 20mm screws. Insert the supplied mounting ball into the bracket base.</p> <p>Attach the display to the bracket and tighten the grub screw to secure in place.</p>	
2.	<p>Run the 8 pin cable from the CCIM and the 5 pin cable from the user control dial out between the dashboard and cabin plastic mounts and attach to the connectors in the back of the display.</p>	

Table 12: Display Installation



Adjust the display bracket for optimal viewing angle once the display is powered



If the M12 screw lock connectors on the display are over tightened it will twist the connector pins attaching the connector to the PCB. See Appendix A: Attaching Display Connectors on page 43 for the correct method of attaching to the display connectors.

User Input Control

The user input control consists of a single dial switch mounted in the dashboard.


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill a 39 mm hole into the dashboard.</p> <p>Install the user input control dial in the dashboard, aligned so the Enter cap is facing up.</p> <p>Secure using the supplied nut.</p>	

Table 13: User Input Control Installation



If the M12 screw lock connectors on the display are over tightened it will twist the connector pins attaching the connector to the PCB. See Appendix A: Attaching Display Connectors on page 43 for the correct method of attaching to the display connectors.

Can Cabin Interface Module (CCIM)

The CCIM connects the system into the machine electronics.



<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Position the CCIM on top next to the fuse holder board under the steering wheel located in the left lower part of the dashboard using double sided velcro tape.</p> <p>Remove the CCIM from the velcro to allow the connections to be completed. Reattach to the velcro in the section Finalisation on page 34.</p>	


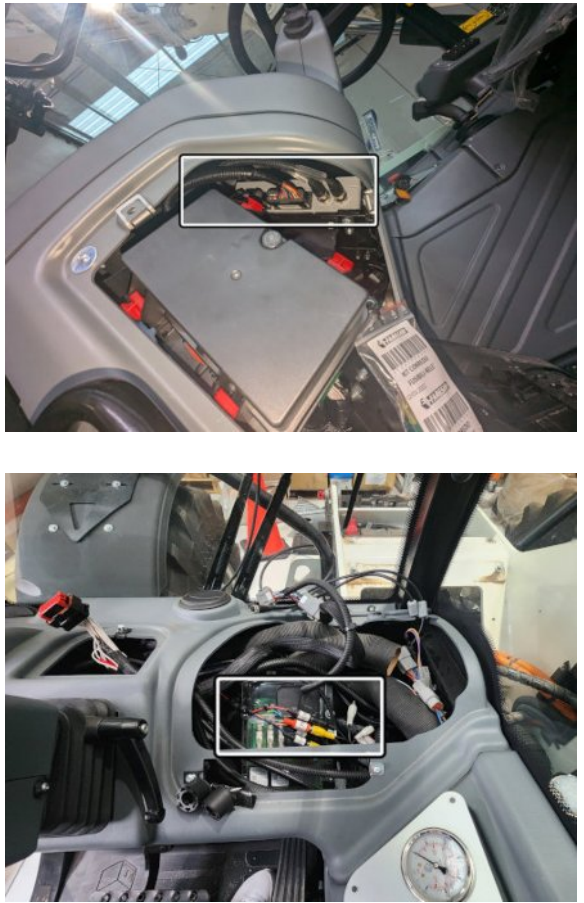
Table 14: CCIM Installation

Cabin Loom

The cabin loom connects the CCIM to the machine connections and the other modules of the system.



Do not disconnect the camera power connection while the system is operating as this can damage the fuse.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Connect the CCIM and signal light cables to the M12 connectors on the CCIM.</p> <p>Note: It doesn't matter which of the M12 connectors the CCIM and signal light cables are plugged into.</p>	
2.	<p>Connect the Power/Camera and I/O harnesses to the CCIM bulk head connectors.</p> <p>Connect the camera power and signal cables to the cabin loom.</p> <p>Note; The white connectors are not used.</p>	




<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Run the 8 pin cable from the CCIM and 5 pin cable from the user control through the gap between the window and the dashboard.</p> <p>Note: The plastic dashboard cover will need to be filed down to make a hole for the cables.</p> <p>Run both cables through snake tube and attach to the connectors to the back of the display.</p> <p>Place cable tie points on the side of the cabin frame.</p> <p>Cable tie the snake tube to the cable tie points.</p> <p>Connect the cables to the display. Do not over_tighten the connectors.</p>	


Table 15: Cabin Loom Installation


 If the M12 screw lock connectors on the display are over tightened it will twist the connector pins attaching the connector to the PCB. See Appendix A: Attaching Display Connectors on page 43 for the correct method of attaching to the display connectors.



 If the clip-on ferrites were removed from the CCIM and user control cables. See Appendix B: Reattach Ferrites and page 47 for the correct reattachment position.

Machine Connections

The following procedures connect the safety systems to the existing electronics in the machine.

 Isolate the main battery before starting the machine connections

 After completing the machine connections the boom can not be moved until the installation is complete

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Secure the CAN I/O module on top of the fuse box inside the cabin dashboard using velcro tape.	
2.	Connect the 12 pin tee connectors from the CAN I/O module harness into the dashboard display connector X26.	







<i>Step</i>	<i>Description</i>	<i>Diagram</i>										
3.	Locate the connector X31 inside the dashboard LMI indicator.											
4.	<p>Cut the following wires from the LMI indicator connector X31 and join with the CAN I/O harness with the Override and Cutout signals.</p> <p>Secure the wire joins with electrical tape.</p> <table border="1" data-bbox="309 981 823 1164"> <thead> <tr> <th><u>Wire Colour</u></th> <th><u>Wire Number</u></th> </tr> </thead> <tbody> <tr> <td>Black</td> <td>X31-17</td> </tr> <tr> <td>Blue</td> <td>SW-17</td> </tr> <tr> <td>Yellow</td> <td>X31-5</td> </tr> <tr> <td>Violet</td> <td>SW-5</td> </tr> </tbody> </table>	<u>Wire Colour</u>	<u>Wire Number</u>	Black	X31-17	Blue	SW-17	Yellow	X31-5	Violet	SW-5	 <p>Note: This image is before the electrical tape has been applied.</p>
<u>Wire Colour</u>	<u>Wire Number</u>											
Black	X31-17											
Blue	SW-17											
Yellow	X31-5											
Violet	SW-5											
5.	<p>Locate the key switch terminal X132 and joystick connector X47 in the removable dashboard panel.</p> <p>Connect the 6 pin tee connection on the power harness into the X132 and 8 pin tee connection into the X47 connector for the ground connection.</p>	 <p>View behind dashboard panel</p>										

Table 16: Machine Connections

Finalisation

This section will complete the final power connections to power the system and finish any additional items.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Connect the 6 pin and 4 pin connectors from the CAN I/O harness into the I/O harness.</p> <p>Note: The 2 pin and 12 pin connectors from the I/O harness are not used.</p>	
2.	<p>Connect the 3 pin connector from the power harness into the Power/Camera harness.</p> <p>Note: The spade lugs on the Power/Camera harness are not used.</p>	
3.	<p>Coil up the extra cable from the CCIM, signal light and camera cables and store behind the dashboard cover.</p>	


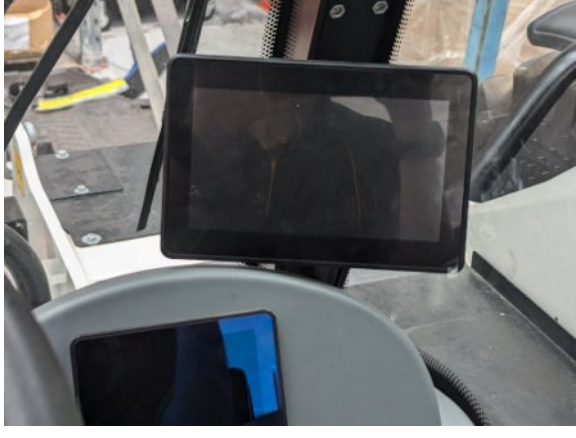
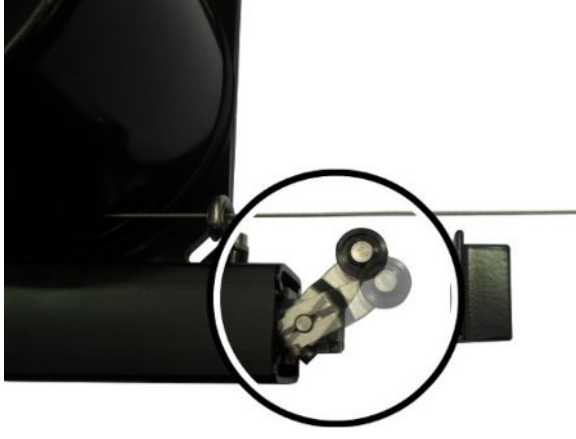

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	<p>Reconnect the main battery from the isolation switch.</p> <p>Turn the machine onto first stage /accessories and ensure the system is activated.</p>	
5.	<p>Adjust the display bracket for optimal viewing</p> <p>Set the machine into forward gear to activate the forward camera. Adjust the forward camera so the front right wheel is visible.</p> <p>Set the machine into reverse gear to activate the reverse camera. Adjust the reverse camera so the video is level.</p>	
6.	<p>Operate the boom movement controls to test if a false N07 fault occurs.</p> <p>If a N07 fault does occur, adjust the arm on the stow switch forwards towards the stow switch trigger.</p> <p>Note: The actual switch arm orientation may differ from the picture.</p>	
7.	<p>Perform a final check on all the cabling and sensors.</p> <p>Replace all the covers</p>	


Table 17: Finalisation



Complete the system checklist once installation has been completed.

Set Time & Sensor Calibration

Once the installation is complete, the time will need to be set and the sensors will require calibration.



A sensor calibration must be performed once the cable reeler and CPIM have been mounted. If the cable reeler or CPIM have been moved/repositioned a recalibration must be performed

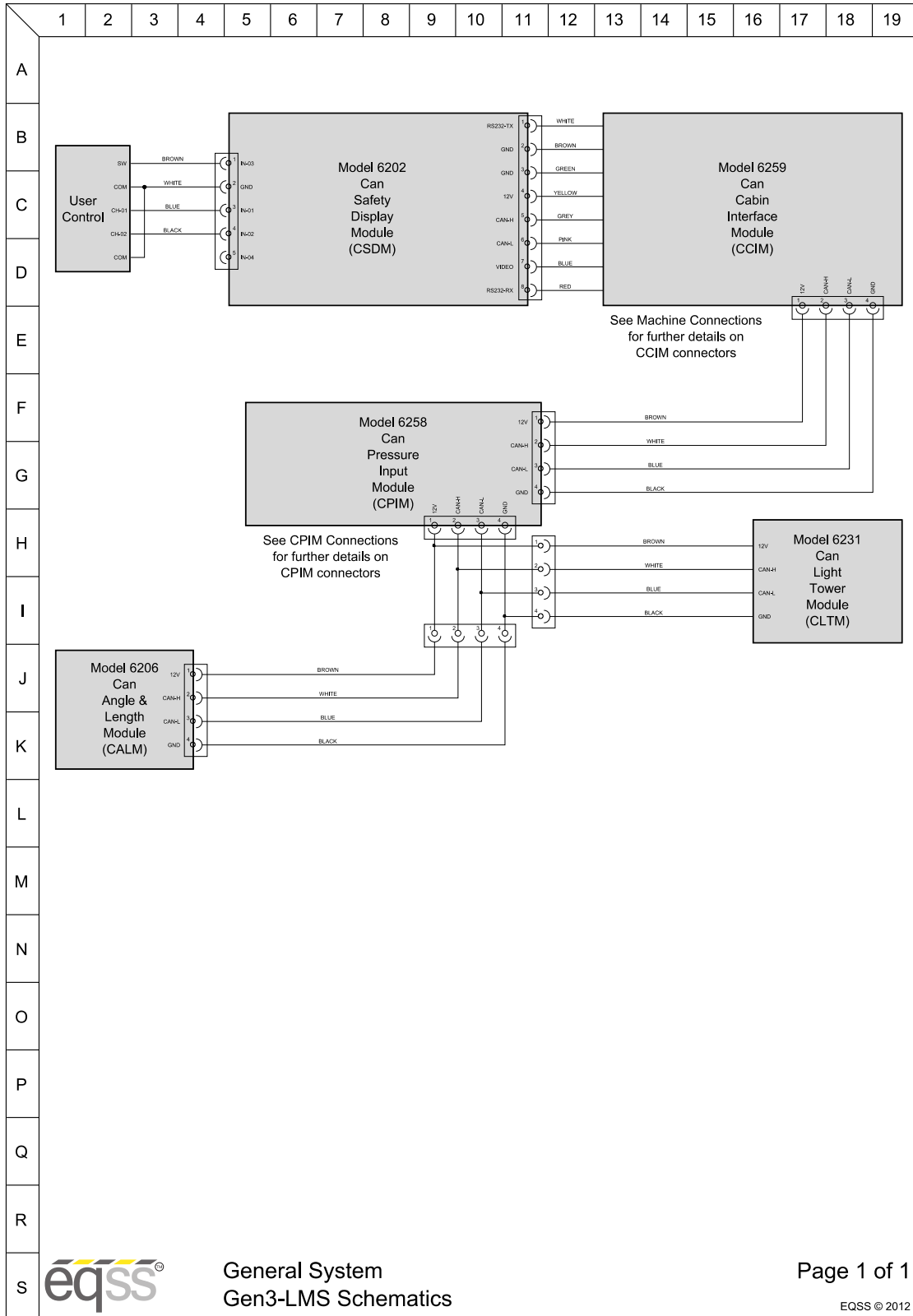
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Press Enter on the user control dial to enter the menu system.</p> <p>Press the arrow buttons to select System Menu.</p> <p>Press Enter to select the menu.</p>	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;"><small>Main Menu</small></p> <hr/> <p style="text-align: center; margin: 0;">Attachment Selection Menu</p> <div style="background-color: #4a7ebb; color: white; text-align: center; padding: 5px; margin: 5px 0;">System Menu</div> <hr/> <p style="text-align: center; margin: 0;">Exit Menu</p> <hr/> </div>
2.	Select Advanced Menu	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;"><small>System Menu</small></p> <hr/> <p style="text-align: center; margin: 0;">Volume / Brightness</p> <hr/> <p style="text-align: center; margin: 0;">Status Menu</p> <hr/> <p style="text-align: center; margin: 0;">Diagnostics Menu</p> <hr/> <p style="text-align: center; margin: 0;">System Tests</p> <div style="background-color: #4a7ebb; color: white; text-align: center; padding: 5px; margin: 5px 0;">Advanced Menu</div> <hr/> <p style="text-align: center; margin: 0;">Return to Main Menu</p> <hr/> </div>

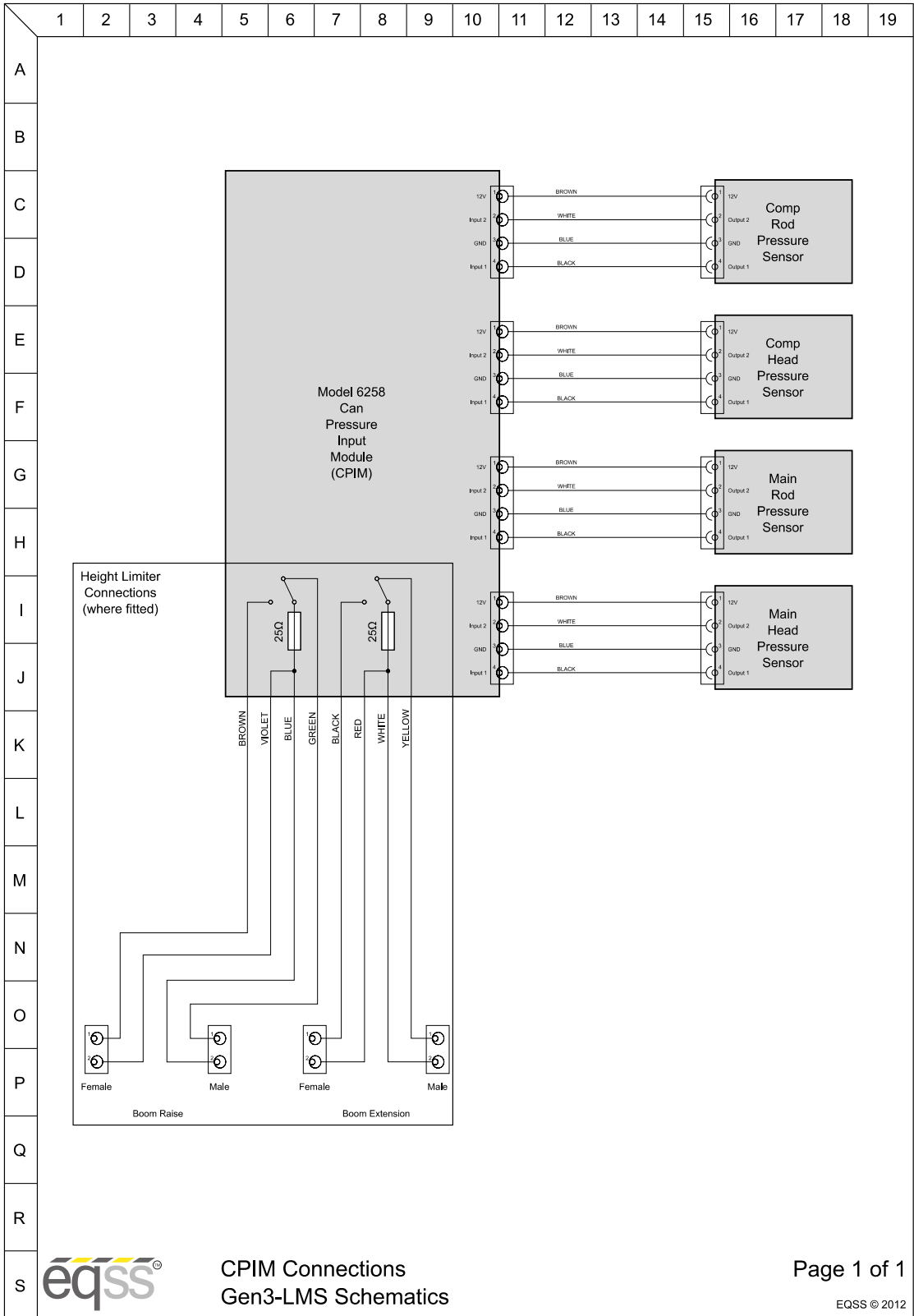
<i>Step</i>	<i>Description</i>	<i>Diagram</i>														
3.	Enter the password (Default Password: 2-8-4)	<table border="1"> <thead> <tr> <th colspan="2">Enter Password</th> </tr> </thead> <tbody> <tr> <td>Number 1</td> <td>2</td> </tr> <tr> <td>Number 2</td> <td>8</td> </tr> <tr> <td>Number 3</td> <td>4</td> </tr> <tr> <td colspan="2">Submit Password</td> </tr> <tr> <td colspan="2">Return to System Menu</td> </tr> </tbody> </table>	Enter Password		Number 1	2	Number 2	8	Number 3	4	Submit Password		Return to System Menu			
Enter Password																
Number 1	2															
Number 2	8															
Number 3	4															
Submit Password																
Return to System Menu																
4.	Select Set Time / Date	<table border="1"> <thead> <tr> <th colspan="2">Advanced Settings</th> </tr> </thead> <tbody> <tr> <td colspan="2">Set Time / Date</td> </tr> <tr> <td colspan="2">Sensor Calibrations</td> </tr> <tr> <td colspan="2">Change Language</td> </tr> <tr> <td colspan="2">Change Password</td> </tr> <tr> <td colspan="2">Return to System Menu</td> </tr> </tbody> </table>	Advanced Settings		Set Time / Date		Sensor Calibrations		Change Language		Change Password		Return to System Menu			
Advanced Settings																
Set Time / Date																
Sensor Calibrations																
Change Language																
Change Password																
Return to System Menu																
5.	<p>Enter the correct time and date for your area.</p> <p>Press the arrow keys to select a time/date parameter</p> <p>Press Enter and the parameter will change to red, press the arrow keys to change the value and then press the Enter key to store the value.</p> <p>Note: The hour parameter is in 24 hour clock</p> <p>Repeat for the rest of the time values</p>	<table border="1"> <thead> <tr> <th colspan="2">Set Time / Date</th> </tr> </thead> <tbody> <tr> <td>Hour</td> <td>15</td> </tr> <tr> <td>Minute</td> <td>54</td> </tr> <tr> <td>Day</td> <td>10</td> </tr> <tr> <td>Month</td> <td>2</td> </tr> <tr> <td>Year</td> <td>2016</td> </tr> <tr> <td>Region</td> <td>Melbourne</td> </tr> </tbody> </table>	Set Time / Date		Hour	15	Minute	54	Day	10	Month	2	Year	2016	Region	Melbourne
Set Time / Date																
Hour	15															
Minute	54															
Day	10															
Month	2															
Year	2016															
Region	Melbourne															

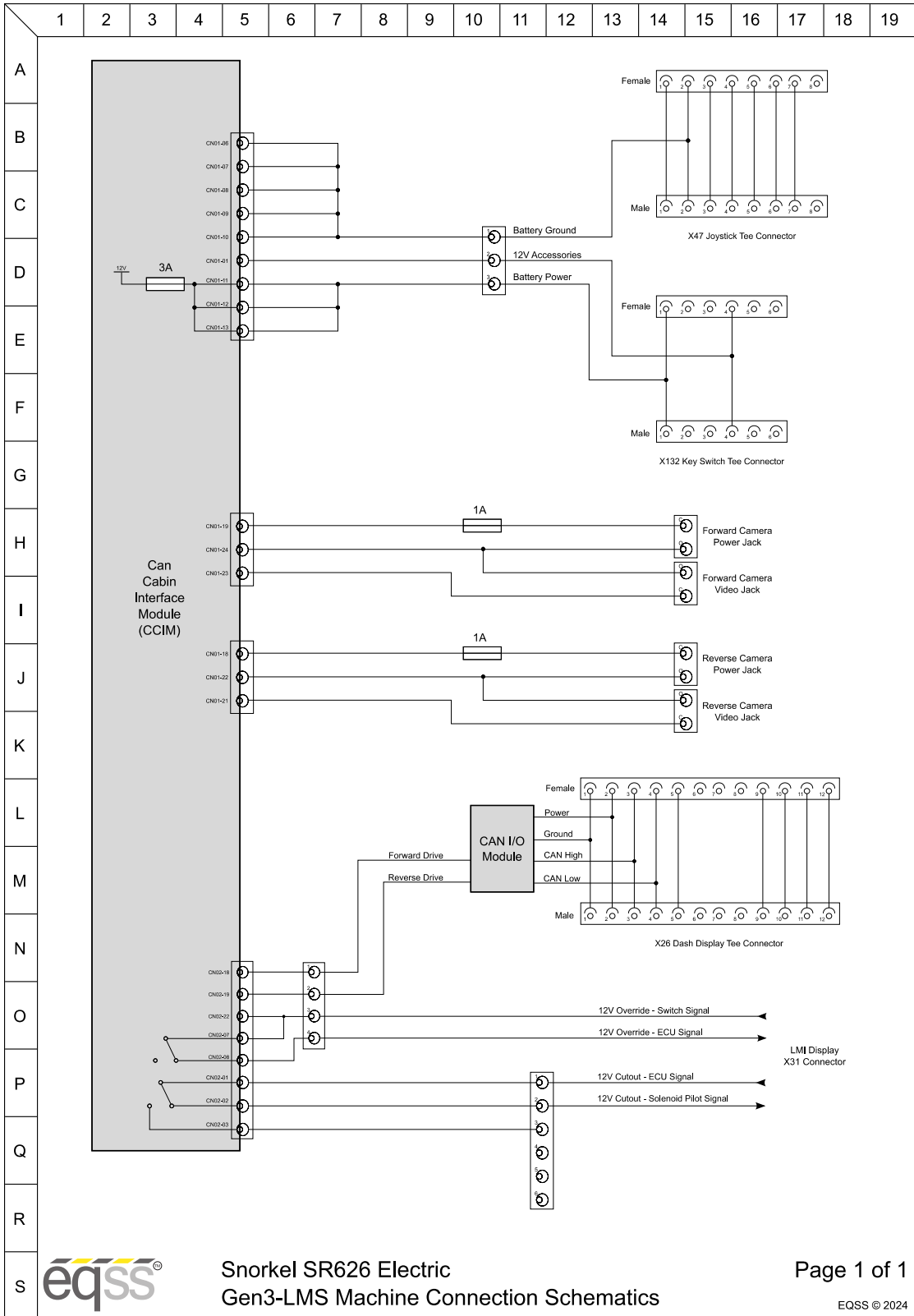
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
6.	Scroll to the next page and select Save to store the new time/date and return to the Advanced Menu.	<p>The diagram shows a menu with a blue highlighted button labeled "Save" and a text option below it labeled "Return to Advanced Menu".</p>
7.	Select Sensor Calibrations	<p>The diagram shows a menu titled "Advanced Settings" with options: "Set Time / Date", "Sensor Calibrations" (highlighted in blue), "Change Language", "Change Password", and "Return to System Menu".</p>
8.	Select Calibrate Carrier Angle and then follow the instructions on the screen to complete the calibration. Repeat for Calibrate Boom Angle and Calibrate Boom Length.	<p>The diagram shows a menu titled "Sensor Calibration Menu" with options: "Calibrate Carrier Angle" (highlighted in blue), "Calibrate Boom Angle", "Calibrate Boom Length", and "Return to Advanced Menu".</p>

Table 18: Sensor Calibration

Schematics







Appendix A: Attaching Display Connectors

The procedure below describes the correct method of attaching the cables to the screw lock connectors on the display.



If the M12 screw lock connectors on the display are over tightened, it will twist the connector pins attaching the connector to the PCB.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Connect the cable from the user control to the top 5 pin connector on the display.</p> <p>Connect the cable from the CCIM to the bottom 8 pin connector on the display.</p>	
2.	<p>Line up the alignment hole on the cable connector with the alignment notch on the display connector.</p>	




<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	Push the female connector from the cable into the male connector on the display.	
4.	Rotate the nut on the female connector by hand in a clockwise direction, until the tension on the nut starts to increase.	
5.	Push the cable in again and repeat steps 3 and 4 until the connector is secure.	

Table 19: Install Display Connector Procedure



The method to correctly secure the cable is to push-twist-push-twist until the connector is fully inserted and secure. This will minimise the twisting force applied to the connector.

Below is a picture of a damaged connector on the PCB inside the display. This damaged occurred because the connector was over tightened.

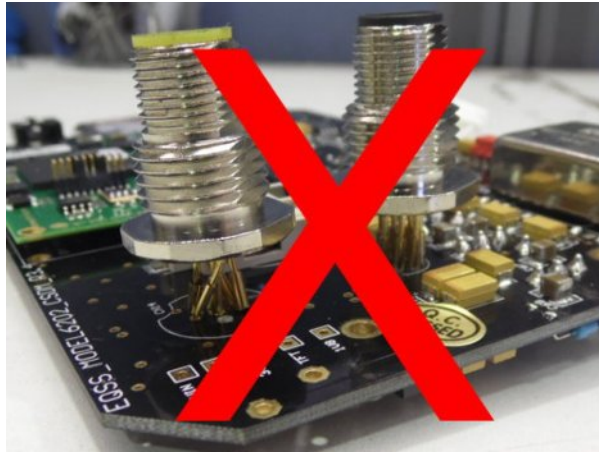


Illustration 4: Damaged Display Connector



Do not use any tools to tighten the connector.



Illustration 5: Do Not Use Tools To Tighten Connector



Do not over-tighten the nuts on the back of the display connectors. These nuts should only be hand tightened. If the nuts are overtightened it will damage the PCB inside the display.




Illustration 6: Do Not Over Tighten Nuts



Damage to the display connectors is not covered under warranty.

Appendix B: Reattach Ferrites

If the clip-on ferrites on the displays are removed during installation, they will need to be reattached as shown in the procedure below.

 If the ferrites are not reinstalled or attached in the specified location the Gen3-LMS kit will not meet the AS/NZS CISPR 22:2006 certification.


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Attach the two clip-on ferrites at a location of 60 mm and 260 mm from the start of the connector to the start of the ferrite.</p> <p>Do this for both the CCIM and user control cables that plug into the display.</p>	

Table 20: Reattach Ferrites Procedure

Indexes and Tables

Illustration Index

Illustration 1: Machine Boom.....	7
Illustration 2: Machine Chassis.....	8
Illustration 3: Cable Reeler Mounting Position.....	13
Illustration 4: Damaged Display Connector.....	45
Illustration 5: Do Not Use Tools To Tighten Connector.....	45
Illustration 6: Do Not Over Tighten Nuts.....	46

Index of Tables

Table 1: Component Installation Index.....	6
Table 2: Cable Installation Index.....	6
Table 3: Cover removal.....	10
Table 4: Cable Reeler Installation.....	12
Table 5: Main Pressure Sensor Installation.....	15
Table 6: Compensation Pressure Sensor Installation.....	17
Table 7: Reverse Camera Installation.....	18
Table 8: Forward Camera Installation.....	20
Table 9: Signal Light Installation.....	23
Table 10: Can Pressure Input Module (CPIM) Installation.....	24
Table 11: External Cable Completion.....	26
Table 12: Display Installation.....	27
Table 13: User Input Control Installation.....	28
Table 14: CCIM Installation.....	29
Table 15: Cabin Loom Installation.....	31
Table 16: Machine Connections.....	33
Table 17: Finalisation.....	35
Table 18: Sensor Calibration.....	39
Table 19: Install Display Connector Procedure.....	44
Table 20: Reattach Ferrites Procedure.....	47

Equipment Safety Systems Pty. Ltd. ABN: 31 061 789 151
75 Naxos Way, Keysborough 3173, Victoria, Australia

Tel: +61 3 8770 6555
Fax: +61 3 8770 6590
Web: www.eqss.com.au