



# eqss™ Gen-3 LMS Telehandler Load Management System

## Installation Manual for T40170 – 2012 Model



### **PLEASE NOTE:**

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in this publication regarding this device's applications and the like is provided only for your convenience and may be superseded by updates.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

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# Table of Contents

Tools Required for Installation.....	6
Installation Index.....	7
Covers.....	11
Cable Reeler Installation.....	12
Cable Reeler Mounting Position.....	16
Pressure Sensor Installation.....	17
Pressure Manifold.....	17
Pressure Manifold Components.....	19
Compensation Pressure Sensors.....	20
Reverse Camera.....	22
Forward Camera.....	24
Light Tower Installation.....	26
Stabiliser Switches.....	27
Can Pressure Input Module (CPIM).....	28
External Cable Completion.....	30
Display Installation.....	32
User Input Control.....	33
Can Cabin Interface Module (CCIM).....	34
Cabin Loom.....	35
Machine Connections.....	37
Finalisation.....	40
Set Time & Sensor Calibration.....	43
Man Platform.....	46
Schematics.....	48

Appendix A: Attaching Display Connectors.....51

Appendix B: Reattach Ferrites.....55

Indexes and Tables.....56

# Tools Required for Installation

The tools required to perform the installation of the TSS 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
  - 10 mm
  - 13 mm
- Locktite 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	Forward Camera
6	Light Tower
7	Rear Camera
8	Can Cabin Interface Module (CCIM)
9	Display Module
10	Cabin Fuse Box
11	Stabiliser Switches
12	User Control Dial

*Table 1: Component Installation Index*

<i>Colour</i>	<i>Cable Description</i>
Yellow	Boom Cable
Dark Green	Main Cylinder Pressure Sensor Cables
Dark Blue	Compensation Cylinder Pressure Sensors Cables
Light Blue	Forward Camera Cable
Violet	Light Tower Cable
Aqua	Rear Camera Cable
Dark Purple	CCIM Cable
Dark Yellow	Stabiliser Harness
Brown	Display Cable
Orange	User Input Control Cable

*Table 2: Cable Installation Index*





Illustration 1: Machine Chassis



Illustration 2: Cabin



# Covers

Remove the following covers before starting the installation






<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Remove the rear cover behind the machine.	 <p>A photograph showing the rear of a Bobcat skid steer loader. The machine is orange and white. A white rear cover is attached to the back. The cover has a license plate that reads 'C78841' and the Bobcat logo. A yellow sticker on the left side of the cover says 'LEFT HAND DRIVE'. A warning label on the cover reads 'DANGER KEEP CLEAR OF SWING AREA'. The machine is parked on a dirt surface next to a white truck.</p>
2.	Inside the cabin undo the bolts attaching the dashboard and instrument panels.	 <p>A photograph showing the interior of the Bobcat cabin. The view is from the driver's perspective, looking towards the dashboard and instrument panels. The dashboard is white and features several gauges and switches. The instrument panels are also white and feature several gauges and switches. The steering wheel is visible in the foreground.</p>
3.	Remove the fuse panel cover behind the joystick.	 <p>A photograph showing a close-up view of the fuse panel cover behind the joystick. The cover is white and has several warning labels. The labels include 'DANGER', 'WARNING', and 'DANGER'. The joystick is visible in the foreground.</p>



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.

 When mounting the cable anchor ensure it is mounted on the first extendable section not on the last section. If mounted on the last section the cable reeler will be damaged when the boom is extended.


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Weld the cable reeler mounting brackets to the boom according to the mounting diagram on page 16.	
2.	<p>Drill and tap the four M6 holes to mount the cable reeler, use the cable reeler as a drilling template.</p> <p>Mount the cable reeler to the mounting brackets and secure using the supplied M6 x 12 mm bolts and washers.</p>	

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Weld the stow switch and anchor mounting bracket to the first extendable section, in position that will trigger the stow switch when the boom is retracted.</p> <p>Note: Ensure the mounting bracket is welded on the first extendable section not on the last section. If welded on the last section the cable reeler will be damaged when the boom is extended.</p>	
4.	<p>Drill and tap a M8 hole for the cable anchor.</p> <p>Mount the cable anchor to the bracket and attach the cable.</p>	
5.	<p>Connect the supplied M12 10 metre cable (CB001027) into the cable reeler connection.</p>	

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
6.	Run the cable up to the top of the boom and secure using the supplied p-clip.	
7.	<p>Place cable ties down the top of the boom as shown.</p> <p>Cable tie the boom cable to the cable tie points down the boom.</p>	

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
8.	<p>Cable tie to the flexible hydraulic hoses from the end of the tube 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 cable tie with the rest of the cables during External Cable Completion on page 30.</p>	 <p>View from behind the machine down the length of the chassis</p>

*Table 4: Cable Reeler Installation*


 For further details on running the boom cable refer to the Installation Index on page 7



# Cable Reeler Mounting Position

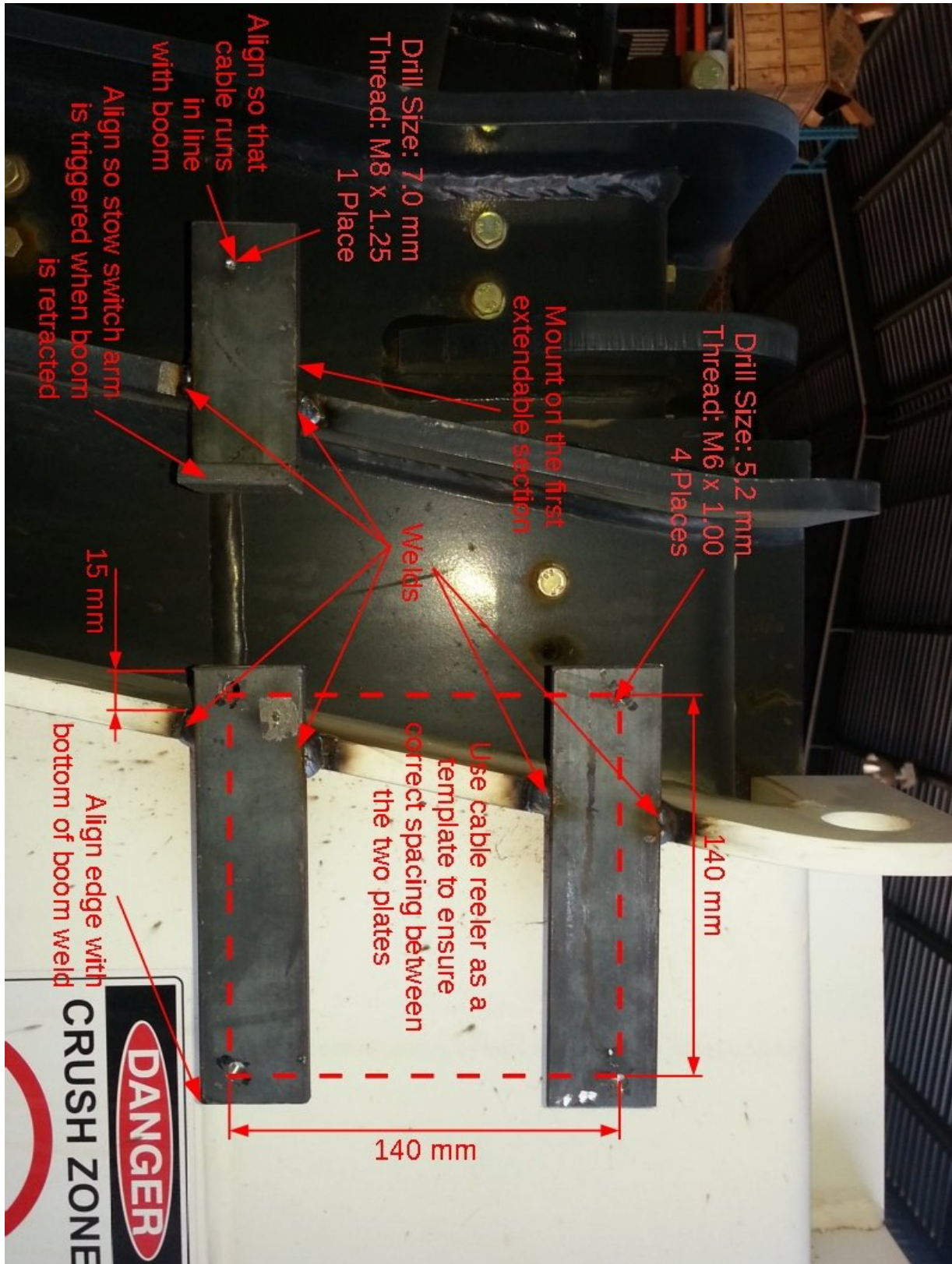


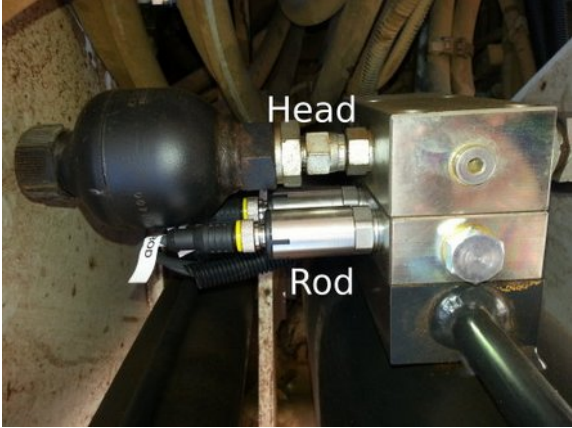
Illustration 3: Cable Reeler Mounting Position




# Pressure Sensor Installation

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

## Pressure Manifold

<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. <b>It must support at least 2 tons.</b></p> <p>Apply the handbrake and insert chock under wheels.</p> <p>Remove the counterbalance valve on the side of the hydraulic lifting ram.</p> <p><b>Removing the counterbalance valve will release the hydraulic pressure which may result in a spray of oil.</b></p> <p>Secure the pressure manifold using the bolts and seals described on page 19.</p> <p><b>Start the machine, pressurise the boom and check for leaks.</b></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 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 snake tube and cables towards the cabin and cable tie with the other cables during External Cable Completion on page 30.</p>	

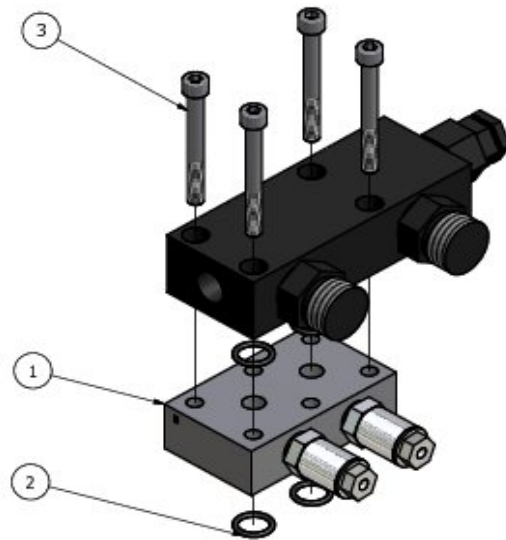
*Table 5: Pressure Manifold Installation*



For further details on running the pressure sensor cables refer to the Installation Index on page 7

# Pressure Manifold Components

Parts List					
ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	STOCK NUMBER
1	1	MT1440SLT-TTCCV1-100	Tool Tilt Cylinder Control Valve Manifold	MA001072 (Bar, Steel 1020, 100mm x 40mm)	ME001053
2	4	SE001006	O-Ring, OR 15mm x 2.5mm, N70	Nitrile (N70)	SE001006
3	4	FA001266	Socket Head Bolt, M8 x 1.25 x 70mm, Grade 8.8 High Tensile, Zinc Silver	Steel, High Strength Low Alloy	FA001266



*Illustration 4: Pressure Manifold Components*

# Compensation Pressure Sensors



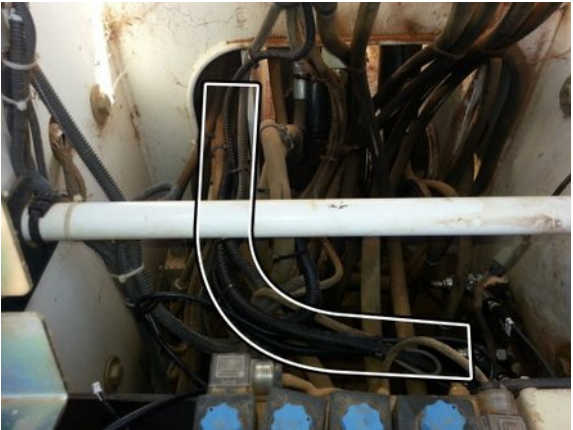

Step	Description	Diagram
1.	<p>Undo the hydraulic connection for the head compensation into the manifold block at the rear of the machine.</p> <p>Install the supplied tee piece and pressure sensor in line with the hydraulic connection.</p>	 <p>View from behind the machine</p>
2.	<p>Undo the hydraulic connection for the rod compensation into the manifold block at the rear of the machine.</p> <p>Install the supplied tee piece and pressure sensor in line with the hydraulic connection</p> <p><b>Start the machine, pressurise the boom and check for leaks.</b></p>	 <p>View from behind the machine</p>
3.	<p>Connect the supplied M12 4 metre cables (CB001026) into each of the pressure sensors.</p> <p>Run the cables towards the cabin and cable tie with the other cables during External Cable Completion on page 30.</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 7

# 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>	
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>Cable tie the camera cable to the license plate light cable.</p> <p>Run the remainder of the cable towards the cabin and insert into snake tube with the boom cable during External Cable Completion on page 30.</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.




For further details on running the camera cable refer to the Installation Index on page 7



# 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.	<p>Mount the camera to the side mirror using the p-clips as shown.</p> <p>Secure using two M6 nuts.</p>	
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 30.</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 7

# Light Tower Installation

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


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill and tap two diagonal M6 holes required to mount the light tower bracket to the left of the headlight post as shown.</p> <p>Secure using the supplied M6 bolts and washers.</p> <p>Run the cable through the gap between the chassis along the cabin towards the rear of the machine.</p> <p>Complete the cable installation during External Cable Completion on page 30.</p>	

Table 9: Light Tower Installation



For further details on running the light tower cable refer to the Installation Index on page 7

# Stabiliser Switches

The stabiliser switches indicate to the system when the stabilisers are lowered providing extra stability.


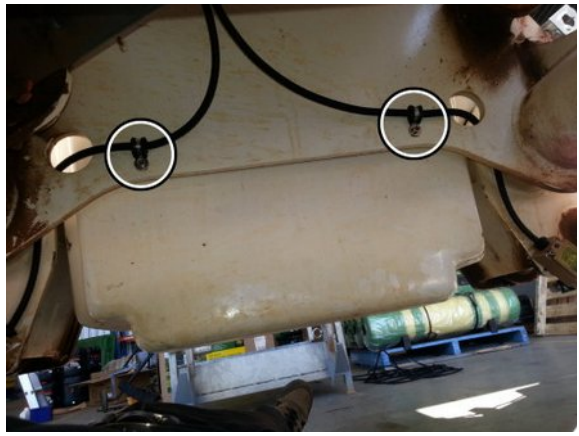
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Mount the limit switches to each of the stabiliser legs as shown.</p> <p>Adjust the switch arm so the switch is triggered when the stabiliser is lowered.</p>	
2.	<p>Mount two p-clips underneath the chassis to secure the limit switch cables.</p> <p>Cable tie the limit switch cable to the stabiliser hydraulic lines leading towards the middle of the chassis.</p> <p>Complete the cable installation during External Cable Completion on page 30.</p>	

Table 10: Stabiliser Switch 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.	The CPIM is mounted under the chassis at the location shown	
2.	<p>Drill and tap two M8 holes for the CPIM bracket in the side of the chassis.</p> <p>Mount using the supplied M8 x 12mm bolts and washers.</p>	




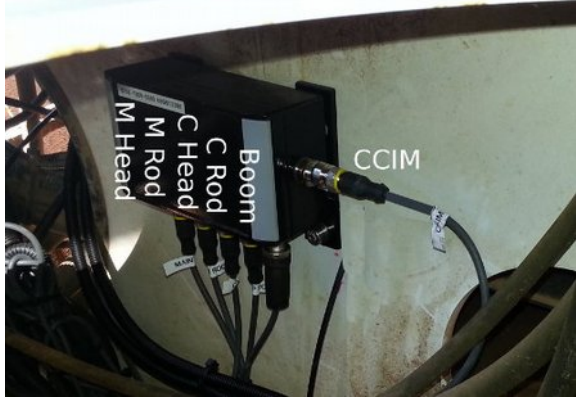

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	<p>Connect the cables for the pressure sensors to the CPIM according to the picture shown.</p> <p>Note: The CCIM and boom cable will be installed during External Cable Completion on page 30.</p>	

Table 11: Can Pressure Input Module (CPIM) Installation

 For further details on running the height limiter cable refer to the Installation Index on page 7

# External Cable Completion

All external cabling is completed in this step.

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Cable tie the rear camera, boom and pressure sensor cables up to the CPIM	
2.	Connect the boom cable to the CPIM according to the picture shown.	
3.	Coil up the additional cabling for the pressure sensor and boom cables and store under the boom near the CPIM.	






<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	Cable tie the forward camera, stabiliser and light tower cables together up to the CPIM	
5.	Connect the supplied M12 4 metre cable (CB001026) into the free tee connection out of the right side of the CPIM for the CCIM cable.	
6.	<p>Insert the CCIM, light tower, stabiliser and both camera cables through the hole into the cabin near the fuse box.</p> <p>Note: Pull only enough of the cables through into the cabin to reach the fuse box, store the remaining cable under the boom next to the CPIM.</p>	

Table 12: External Cable Completion



For further details on running the cables refer to the Installation Index on page 7

# Display Installation

The display shows the current safety status of the telehandler.


Step	Description	Diagram
1.	<p>The display needs to be mounted to the top of the curved dashboard cover in the location shown.</p> <p>Remove the base of the mounting bracket and bend to suit the curve of the dashboard.</p> <p>Drill two 7 mm holes to secure the bracket to the dashboard.</p> <p>Reassemble the mounting bracket and attach the display to the bracket and tighten the grub screw.</p>	

Table 13: 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 51 for the correct method of attaching to the display connectors.



# User Input Control

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


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill a 34 mm hole into the dashboard below the machine flash cards.</p> <p>Install the user input control dial in the dashboard, aligned so the Enter cap is facing up.</p>	

Table 14: 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 51 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 in front of the fuse box and secure to the side wall of the cabin using velcro tape.</p> <p>Mount the backup battery on top of the CCIM enclosure using double sided velcro tape.</p> <p>Remove the CCIM battery from the velcro to allow the connections to be completed. Reattach to the velcro in the section Finalisation on page 40.</p>	



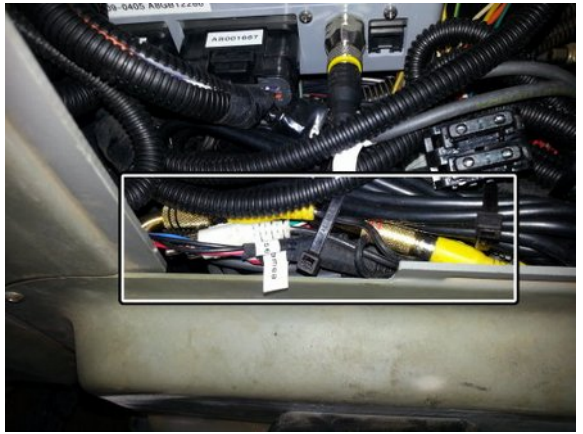
Table 15: CCIM Installation

# 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 light tower 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 cabin loom to the CCIM bulk head connectors</p>	
3.	<p>Connect the camera power and signal cables to the cabin loom.</p> <p>Note; The white connector is not used.</p>	


<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	<p>Run the 5 pin user control cable and the 8 pin cable from the CCIM through the gap between the window and the dashboard.</p> <p>Note: It might be necessary to file a hole in the dashboard plastic to run the cables.</p> <p>Connect into the 5 and 8 pin connectors into the display</p>	

Table 16: 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 51 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 55 for the correct reattachment position.

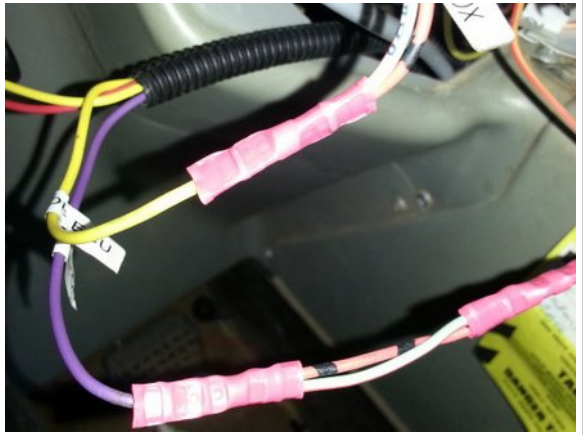

# Machine Connections

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.	<p>Locate the 6 pin left column switch connector XCG252 underneath the instrument panel in front of the steering wheel.</p> <p>Splice the following wires from the column switch connector into the wires from the cable with the 4 pin connector for the forward and reverse signals.</p> <table border="0"> <tr> <td>XCG252</td> <td>EQSS</td> </tr> <tr> <td><u>Pin / Wire Colour</u></td> <td><u>Wire Colour</u></td> </tr> <tr> <td>4 / Blue-Green</td> <td>Black</td> </tr> <tr> <td>5 / Brown-Black</td> <td>Blue</td> </tr> </table>	XCG252	EQSS	<u>Pin / Wire Colour</u>	<u>Wire Colour</u>	4 / Blue-Green	Black	5 / Brown-Black	Blue	
XCG252	EQSS									
<u>Pin / Wire Colour</u>	<u>Wire Colour</u>									
4 / Blue-Green	Black									
5 / Brown-Black	Blue									

<i>Step</i>	<i>Description</i>	<i>Diagram</i>																
2.	<p>Cut the two brown and red/black wires from the override switch (X271) and join into the wires from the cable with the 4 pin connector for the override signal.</p> <table border="0"> <tr> <td>X271</td> <td>EQSS</td> </tr> <tr> <td><u>Wire Direction</u></td> <td><u>Wire Colour</u></td> </tr> <tr> <td>To Switch</td> <td>Violet</td> </tr> <tr> <td>To ECU</td> <td>Yellow</td> </tr> </table>	X271	EQSS	<u>Wire Direction</u>	<u>Wire Colour</u>	To Switch	Violet	To ECU	Yellow									
X271	EQSS																	
<u>Wire Direction</u>	<u>Wire Colour</u>																	
To Switch	Violet																	
To ECU	Yellow																	
3.	<p>Cut the following wires going into the joystick disable switch (X143) and join the wires from the cable with the 6 pin connector for the cutout signal.</p> <table border="0"> <tr> <td>X143</td> <td>EQSS</td> </tr> <tr> <td><u>Pin 3 Wht/Blk</u></td> <td><u>Wire Colour</u></td> </tr> <tr> <td>To Connector</td> <td>Blue</td> </tr> <tr> <td>From Connector</td> <td>Blue</td> </tr> </table> <table border="0"> <tr> <td>X143</td> <td>EQSS</td> </tr> <tr> <td><u>Pin 6 Org/Wht</u></td> <td><u>Wire Colour</u></td> </tr> <tr> <td>To Connector</td> <td>Green</td> </tr> <tr> <td>From Connector</td> <td>Green</td> </tr> </table>	X143	EQSS	<u>Pin 3 Wht/Blk</u>	<u>Wire Colour</u>	To Connector	Blue	From Connector	Blue	X143	EQSS	<u>Pin 6 Org/Wht</u>	<u>Wire Colour</u>	To Connector	Green	From Connector	Green	
X143	EQSS																	
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From Connector	Blue																	
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<u>Pin 6 Org/Wht</u>	<u>Wire Colour</u>																	
To Connector	Green																	
From Connector	Green																	



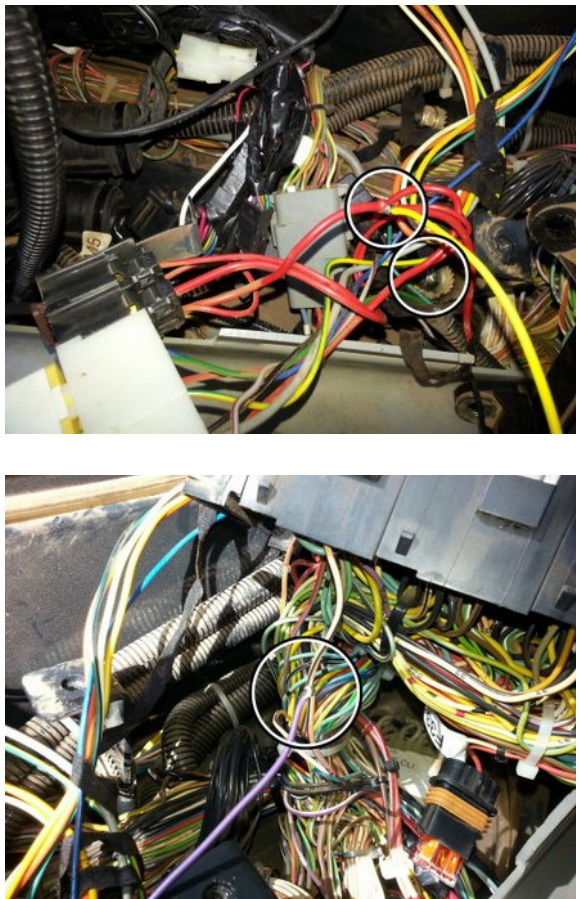



<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	<p>Using the 3 pin connector for system power.</p> <p>Connect the black wire with the ring lug to the rest of the ground lugs near the fuse box.</p> <p>Splice the yellow battery wire into the 15A fuse (F4) for the high beam.</p> <p>Splice the purple ignition wire into the 15A fuse (F20) for the windscreen wiper.</p>	


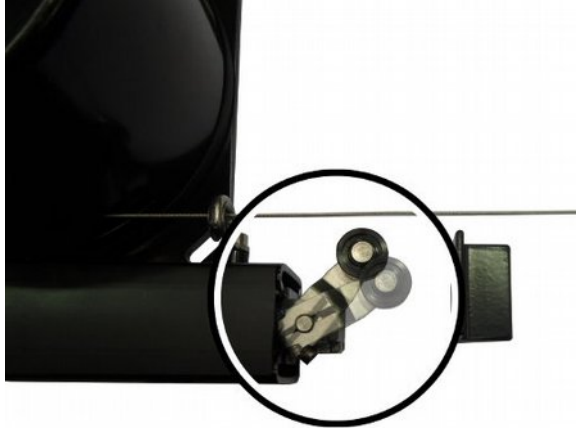

Table 17: Machine Connections

# Finalisation

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

<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	Connect the 2 pin, 3 pin, 4 pin, 6 pin and 8 pin connectors into the cabin loom.	
2.	<p>Connect the spade lug on the black wire to the negative (black) battery terminal.</p> <p>Connect the spade lug on the blue wire to the positive (red) battery terminal.</p>	
3.	Attach the backup battery and CCIM to the velcro strips installed earlier.	



<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> <p>Adjust the display bracket for optimal viewing</p> <p>Set the machine into forward gear to active the forward camera. Adjust the forward camera so the front right wheel is visible.</p> <p>Set the machine into reverse gear to active the reverse camera. Adjust the reverse camera so the video is level.</p>	
5.	<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>	
6.	<p>Lower the stabilisers and adjust the limit switches, so the display shows the stabilisers are lowered</p>	




<i>Step</i>	<i>Description</i>	<i>Diagram</i>
7.	Perform a final check on all the cabling and sensors.  Replace all the covers.	

Table 18: 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> <hr/> <div style="background-color: #4a7ebb; color: white; text-align: center; padding: 5px; margin: 0;">System Menu</div> <hr/> <p style="text-align: center; margin: 0;">Exit Menu</p> <hr/> </div>
2.	<p>Select Advanced Menu</p>	<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> <hr/> <div style="background-color: #4a7ebb; color: white; text-align: center; padding: 5px; margin: 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"><b>Enter Password</b></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"><b>Submit Password</b></td> </tr> <tr> <td colspan="2">Return to System Menu</td> </tr> </tbody> </table>	<b>Enter Password</b>		Number 1	2	Number 2	8	Number 3	4	<b>Submit Password</b>		Return to System Menu			
<b>Enter Password</b>																
Number 1	2															
Number 2	8															
Number 3	4															
<b>Submit Password</b>																
Return to System Menu																
4.	Select Set Time / Date	<table border="1"> <thead> <tr> <th colspan="2"><b>Advanced Settings</b></th> </tr> </thead> <tbody> <tr> <td colspan="2"><b>Set Time / Date</b></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>	<b>Advanced Settings</b>		<b>Set Time / Date</b>		Sensor Calibrations		Change Language		Change Password		Return to System Menu			
<b>Advanced Settings</b>																
<b>Set Time / Date</b>																
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"><b>Set Time / Date</b></th> </tr> </thead> <tbody> <tr> <td><b>Hour</b></td> <td><b>15</b></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>	<b>Set Time / Date</b>		<b>Hour</b>	<b>15</b>	Minute	54	Day	10	Month	2	Year	2016	Region	Melbourne
<b>Set Time / Date</b>																
<b>Hour</b>	<b>15</b>															
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.	
7.	Select Sensor Calibrations	
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.	


Table 19: Sensor Calibration

# Man Platform

When a man platform is in use the safety bar must be inserted to ensure the platform can not inadvertently detach from the head. When the safety bar is not inserted the man platform controls are disabled.

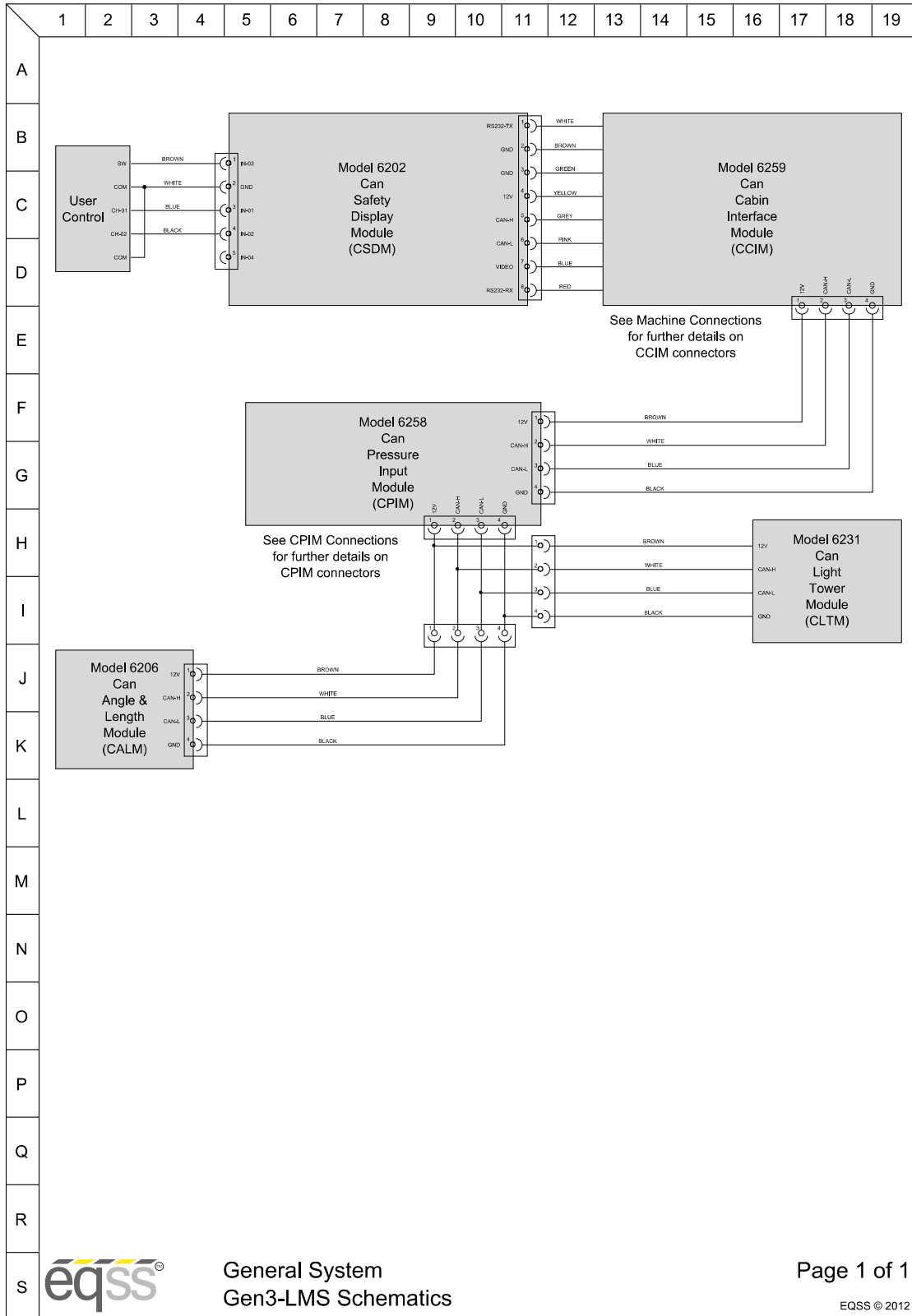
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Drill two diagonal M5 holes to mount the limit switch.</p> <p>Make sure the limit switch is positioned to trigger when the safety bar is inserted.</p> <p>Mount on the supplied 5 mm spacers to ensure the switch arm can move freely.</p>	
2.	<p>Run the cable from the limit switch along the frame of the platform towards the control box and secure using cable ties.</p>	
3.	<p>Remove the cover from the control box and insert the cable through the large cable gland on the left.</p>	



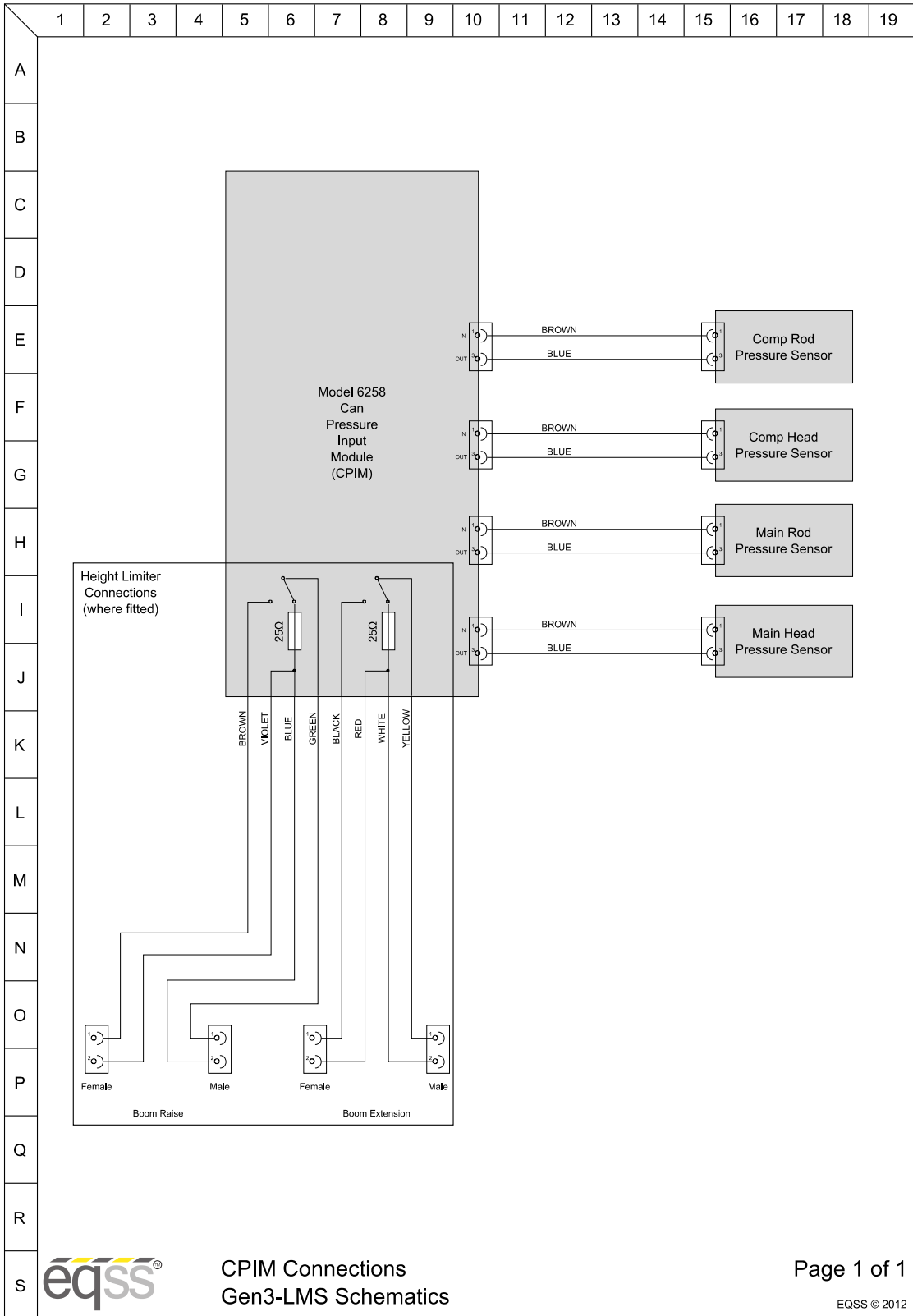
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
4.	<p>Cut the black wire labelled 1 from the emergency stop switch and join onto either end of the cable.</p> <p>Reattach the cover.</p>	

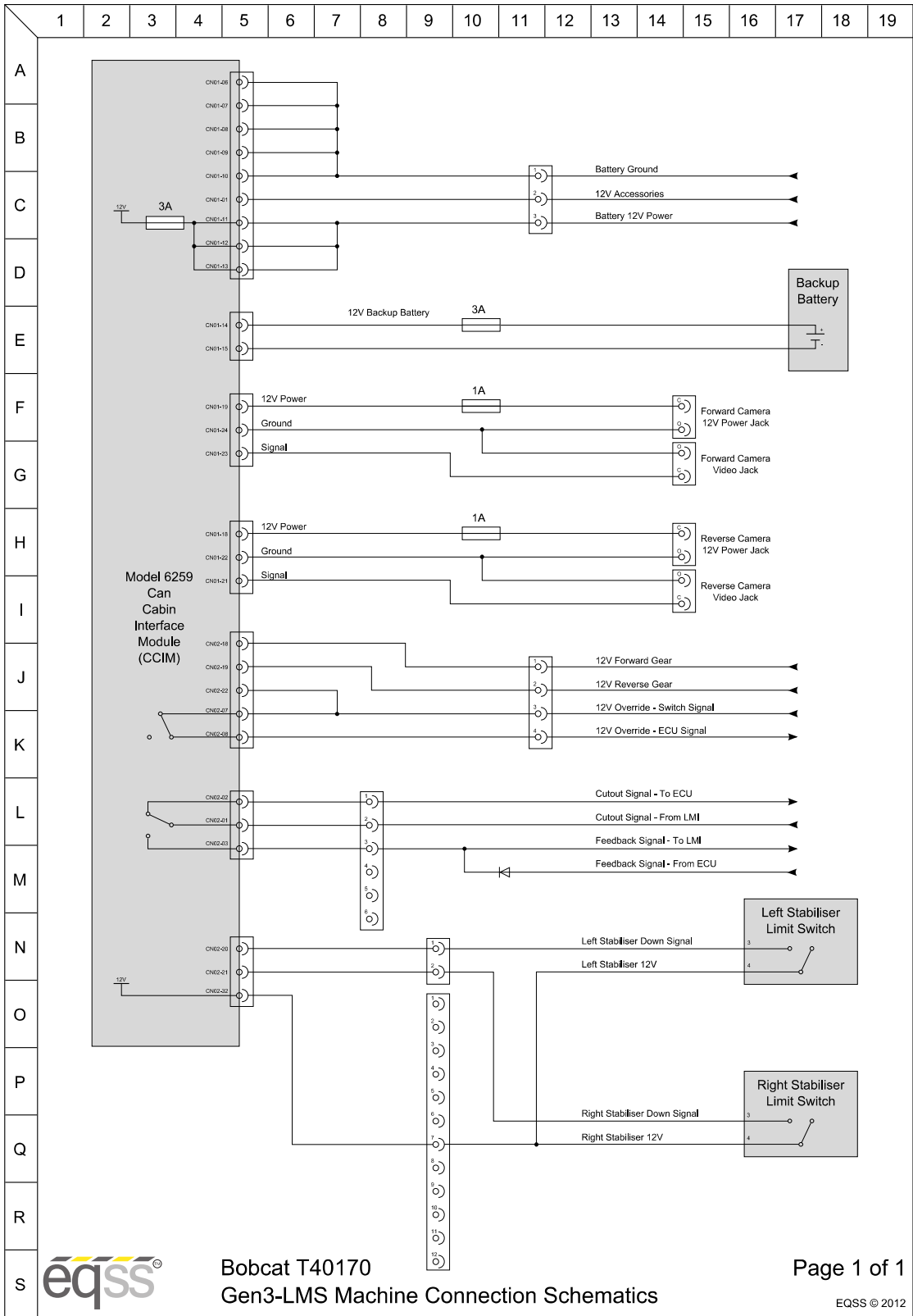
*Table 20: Man Platform Installation*

# 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>	




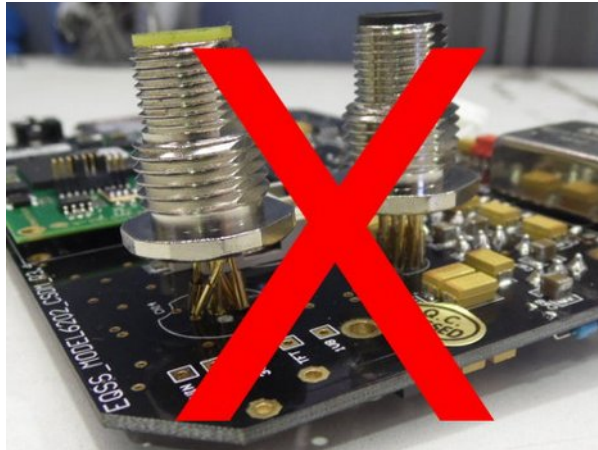
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
3.	Push the female connector from the cable into the male connector on the display.	
4.	Rotate the nut on the female connector by hand in a clockwise direction, until the tension on the nut starts to increase.	
5.	Push the cable in again and repeat steps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

Table 21: 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 5: Damaged Display Connector*



Do not use any tools to tighten the connector.



*Illustration 6: 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 7: 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.

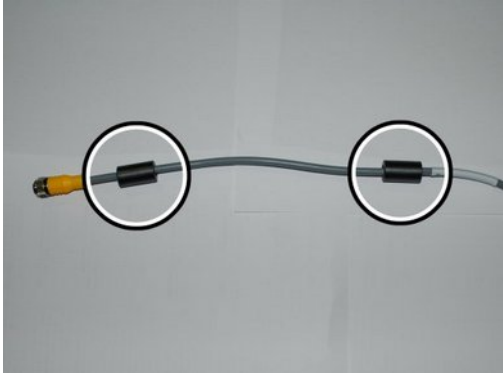
<i>Step</i>	<i>Description</i>	<i>Diagram</i>
1.	<p>Attach the two clip-on ferrites at a location of 60 mm and 260 mm from the start of the connector to the start of the ferrite.</p> <p>Do this for both the CCIM and user control cables that plug into the display.</p>	

Table 22: Reattach Ferrites Procedure



# Indexes and Tables

## Illustration Index

Illustration 1: Machine Chassis.....	9
Illustration 2: Cabin.....	10
Illustration 3: Cable Reeler Mounting Position.....	16
Illustration 4: Pressure Manifold Components.....	19
Illustration 5: Damaged Display Connector.....	53
Illustration 6: Do Not Use Tools To Tighten Connector.....	53
Illustration 7: Do Not Over Tighten Nuts.....	54

## Index of Tables

Table 1: Component Installation Index.....	7
Table 2: Cable Installation Index.....	8
Table 3: Cover removal.....	11
Table 4: Cable Reeler Installation.....	15
Table 5: Pressure Manifold Installation.....	18
Table 6: Compensation Pressure Sensor Installation.....	20
Table 7: Reverse Camera Installation.....	22
Table 8: Forward Camera Installation.....	24
Table 9: Light Tower Installation.....	26
Table 10: Stabiliser Switch Installation.....	27
Table 11: Can Pressure Input Module (CPIM) Installation.....	29
Table 12: External Cable Completion.....	31
Table 13: Display Installation.....	32
Table 14: User Input Control Installation.....	33
Table 15: CCIM Installation.....	34
Table 16: Cabin Loom Installation.....	36
Table 17: Machine Connections.....	39
Table 18: Finalisation.....	42
Table 19: Sensor Calibration.....	45
Table 20: Man Platform Installation.....	47
Table 21: Install Display Connector Procedure.....	52
Table 22: Reattach Ferrites Procedure.....	55

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