OILQUICK®

INSTALLATION MANUAL

OQC65 - OQC90

OilQuick Safety System
OQC OQSS

Esteemed OilQuick user

We congratulate you on the purchase of your new OilQuick quick coupler and OilQuick Safety System!

OilQuick OQC is a quick coupler system for material handlers with lifting capacities up to 68 metric tons.

OilQuick Americas products fulfill the applicable ISO safety regulation for quick coupler safety. It is important that all safety requirements are observed during installation, use and repair of OilQuick products. This applies to the safety regulations in this manual, the safety regulations in the base machine manual, and any local safety regulations that apply for the area in which the machine is used.

The OilQuick Safety System is an electronic control system specially developed for use with material handlers equipped with the OilQuick quick coupler system. This manual provides information about the basic functionality and use of the OilQuick quick coupler and OQSS. Read this manual carefully before the OQSS system is installed and used.

The job of a machine operator comes with great responsibility. The operator is responsible for the operations of the machine itself, and more importantly, for their own personal safety and that of any other people near the machine. Therefore, the machine operator must take personal responsibility to familiarize themselves with and understand the machines they operate and their functions.

We have developed OQSS to increase machine and jobsite safety when changing attachments. While OQSS is a monitoring and control system that gives information and guidance, it can never relieve you of your responsibilities to be aware and operate responsibly.

The OilQuick coupler with OQSS has been designed and proven to make your work simpler and more productive as a machine operator. Changes may only be made to OilQuick products with the permission of OilQuick Americas. Any non-factory approved modifications to the OilQuick quick coupler, components, or the OQSS control system will void the manufacturer's warranty and may invalidate adherence to ISO specifications for quick coupler safety.

Please complete and send your warranty card to us as soon as possible.

We hope that you enjoy and benefit from using OilQuick equipment.

1. Important information

Text in boxes as below must be read with extra care because it is important information about certain procedures. If the information is not followed, accidents or injury/damage to persons or property may occur.

Warning box example

Text in boxes as below must be read with extra care because it is important information about important matters.

Information box example

We retain the right to make technical changes and revisions for any errors.

2. Preface

This manual applies to models: OQC65 - OQC90.

Certain parts of the manual can refer to equipment and details that are options and not installed in your system. We request that you ignore these sections if that is the case. A safety conscious user that follows all safety instructions and care for the equipment, minimizes the risk of any injuries and accidents.

Read this manual carefully and check that the installation details with applicable options for installation of the quick coupler system are correctly filled in and signed by the installer before the quick coupler system is taken into operation.

The quick coupler and OQSS may only be used by people who have read this manual and follow the instructions given in the manual.

Transport and lifting of persons using the quick coupler or connected attachments is strictly prohibited!

When shunting, loading and moving attachments, they must be connected and disconnected according to the applicable instructions in this manual. Attachments may not under any circumstances be moved when hanging from the front pin only, regardless of whether the quick coupler is open or closed.

WARNING! Installation: The main task of the OQSS is to control and monitor the open and close functions of the quick coupler. It is of the greatest importance that it is installed by trained personnel. Installation and service may only be carried out by authorized service personnel. Failure to follow this principle can lead to failures in function, damage to property and personal injury.

WARNING! Components: Bear in mind that OQSS is an electronic application. The electronics in the OQSS are very robust and can tolerate large stresses during operation in the most demanding material handling applications. Damage occurs almost exclusively due to mechanical or external forces and care must therefore be taken when changing attachments and in other situations where electronic components are exposed.

3. Intended Use

OilQuick quick couplers have been developed for material handlers, to quickly and safety connect /disconnect of
mechanical and hydraulic attachments / tools.

The quick coupler must be adapted to the appropriate machine size, attachment dimensions on the material handler, intended use, and the local conditions for use.

Any attachment connected to the quick coupler must be approved for use with the material handler and fitted with the appropriate attachment frame/adapter from OilQuick.

Short term use of the quick coupler under water is permitted provided the coupler is not equipped with a thru electrical coupling to the attachment connection (ex V90). The coupler is rated to IP67, meaning it can be submerged at a depth of 1 meter for a period of thirty (30) minutes.

A material handler with connected quick coupler must only be used at a workplace that is protected or restricted.
For more information about requirements for the material handler, see OQC User manual.

The user bears all responsibility for damage that occurs through inappropriate use and the manufacturer accepts no liability.

Unauthorized modifications or additions to the quick coupler entail a risk of accidents resulting in severe personal injury or fatality.

- **Only use the quick coupler on a material handler approved for the coupler (see type plate and the OQC User manual) and in a workplace that is protected or cordoned off.**
- **Do not use the quick coupler to hammer, tear, smash or stamp using the attachment or for other purposes it is not intended for.**
- **Do not use the quick coupler to lift people.**
- **Only use the quick coupler if it is in fault-free condition.**

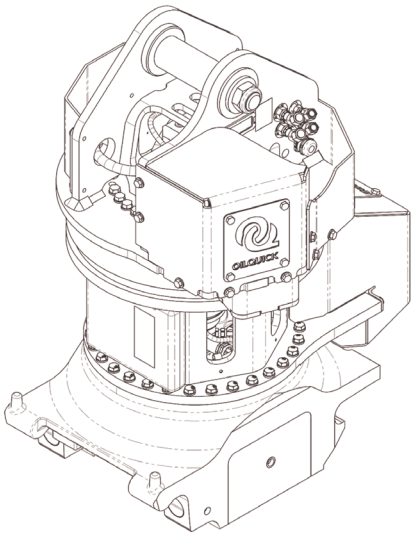
4. Table of Contents

4. Table of Contents - *continued*

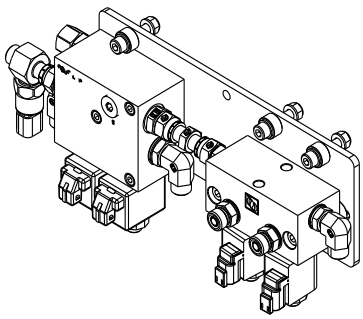
5. Delivery

Shown below is the material that is included in the standard delivery. Depending on the machine type and choice of equipment, other materials may also be included.

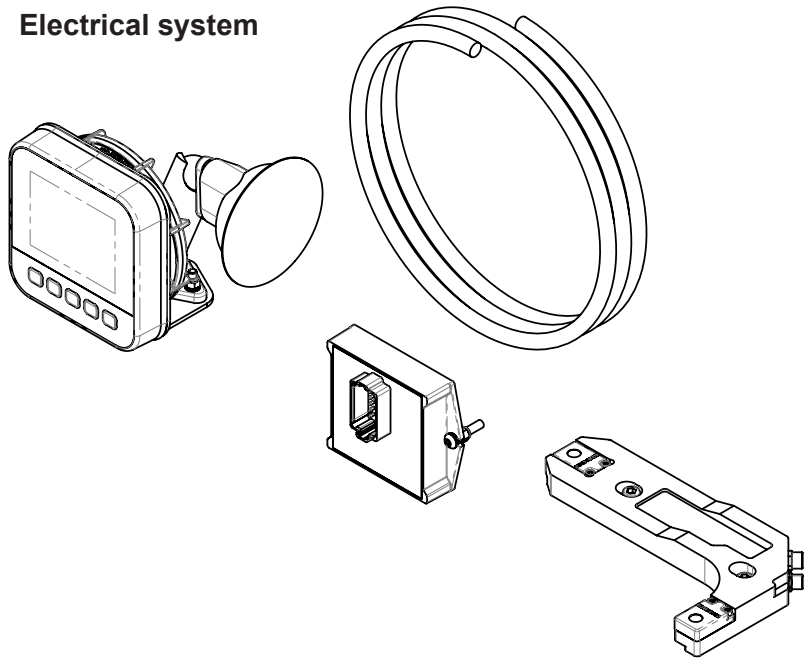
Quick coupler



Valve package



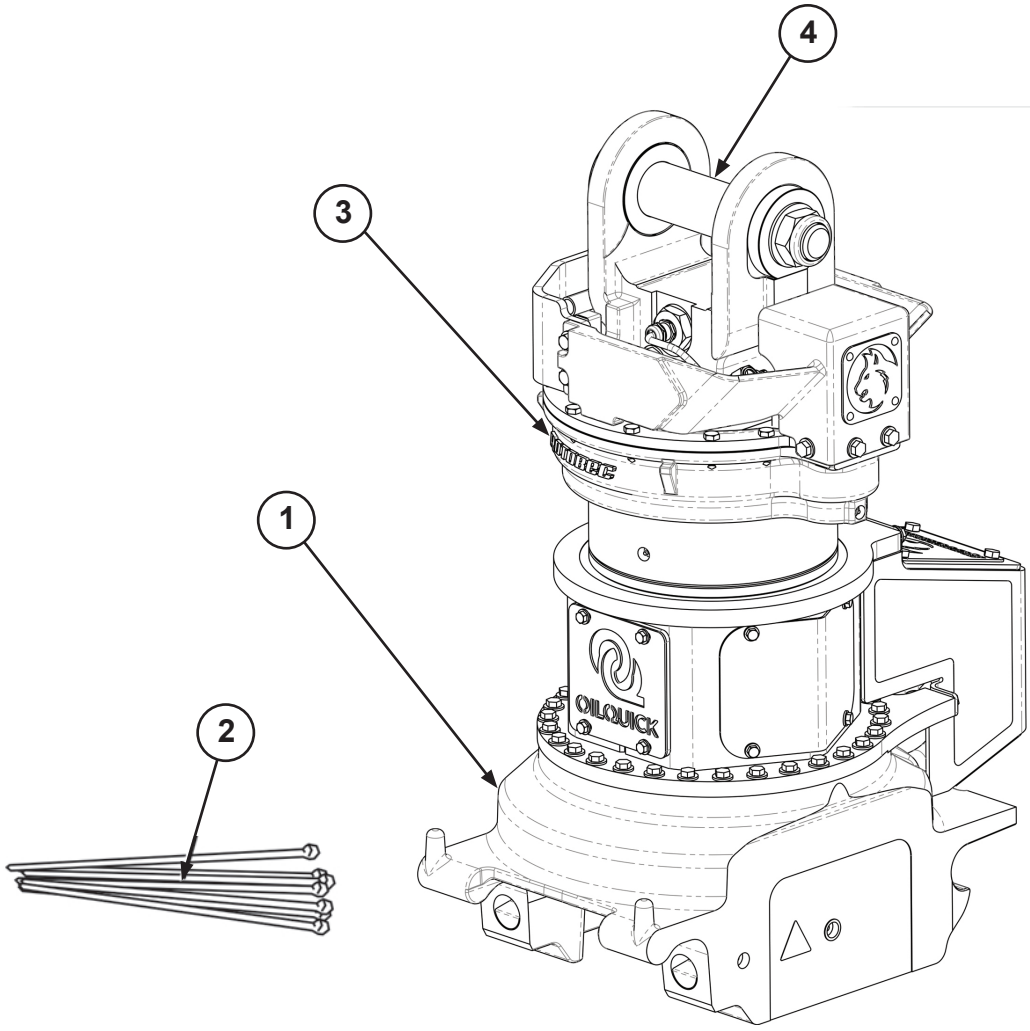
Electrical system



6. Quick coupler

NOTE!
Before the quick coupler is installed on the material handler, the machine supplier must be contacted for instructions regarding suitable connection points for hydraulics and electronics.

Material



Item	Qty	Description	Notes
1	1	Quick coupler OQC	
2		Cable ties	Consumables
3	1	Rotator OQC	
4	1	OQC Pin / Shims	

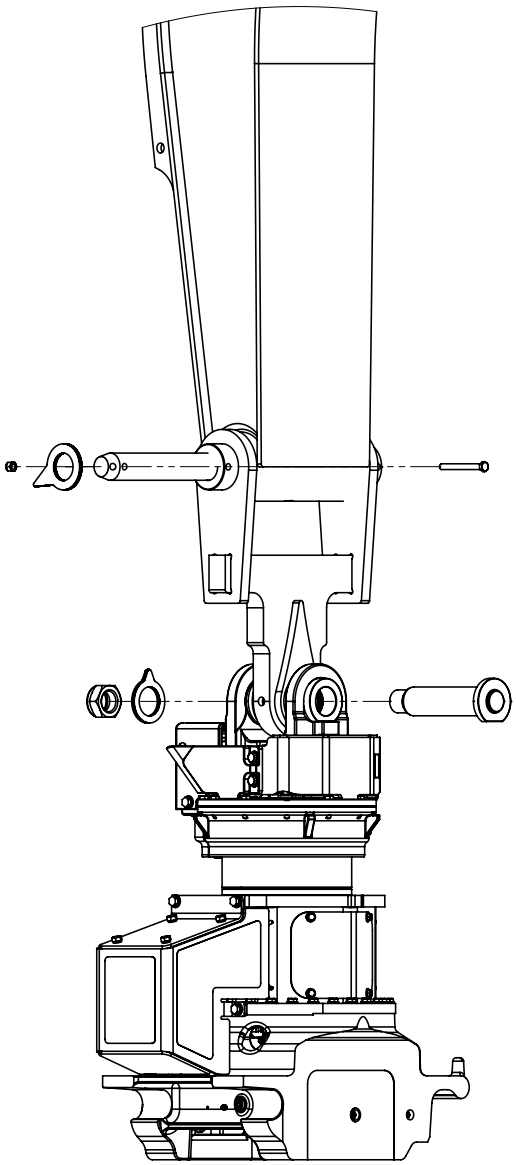
7. Installation

WARNING!
There is a risk of crushing.

1. Remove existing attachment / hanger (if applicable).

2. Position machine stick tip above OQC coupler.

3. Attach hanger to OQC coupler using supplied pin and shims (shim pin equally on both sides to minimize play). Attach hanger to stick using machine manufacturer supplied pin and shims (shim pin equally on both sides to minimize play).

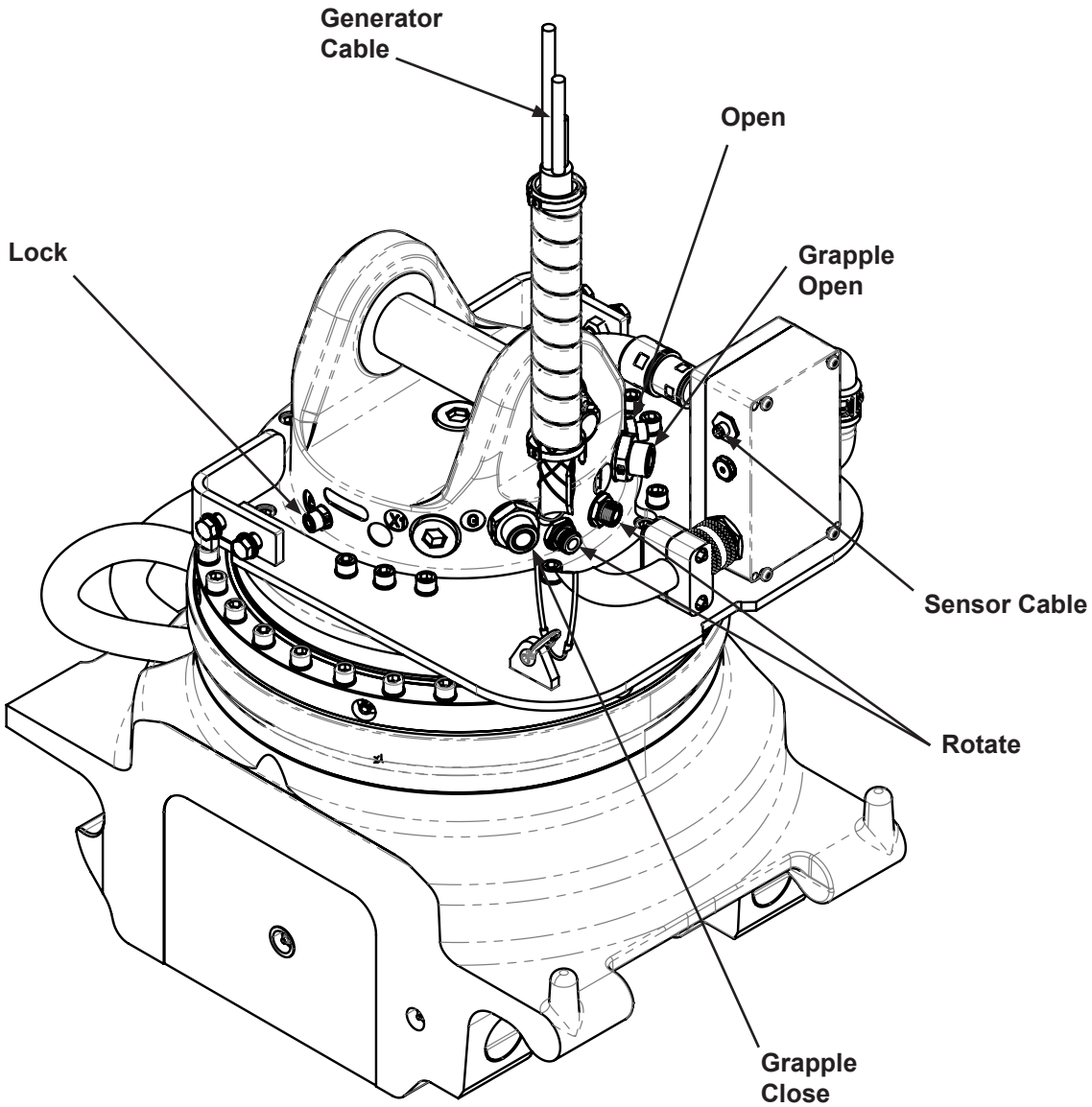


8. Coupler hydraulic / electrical connections

When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

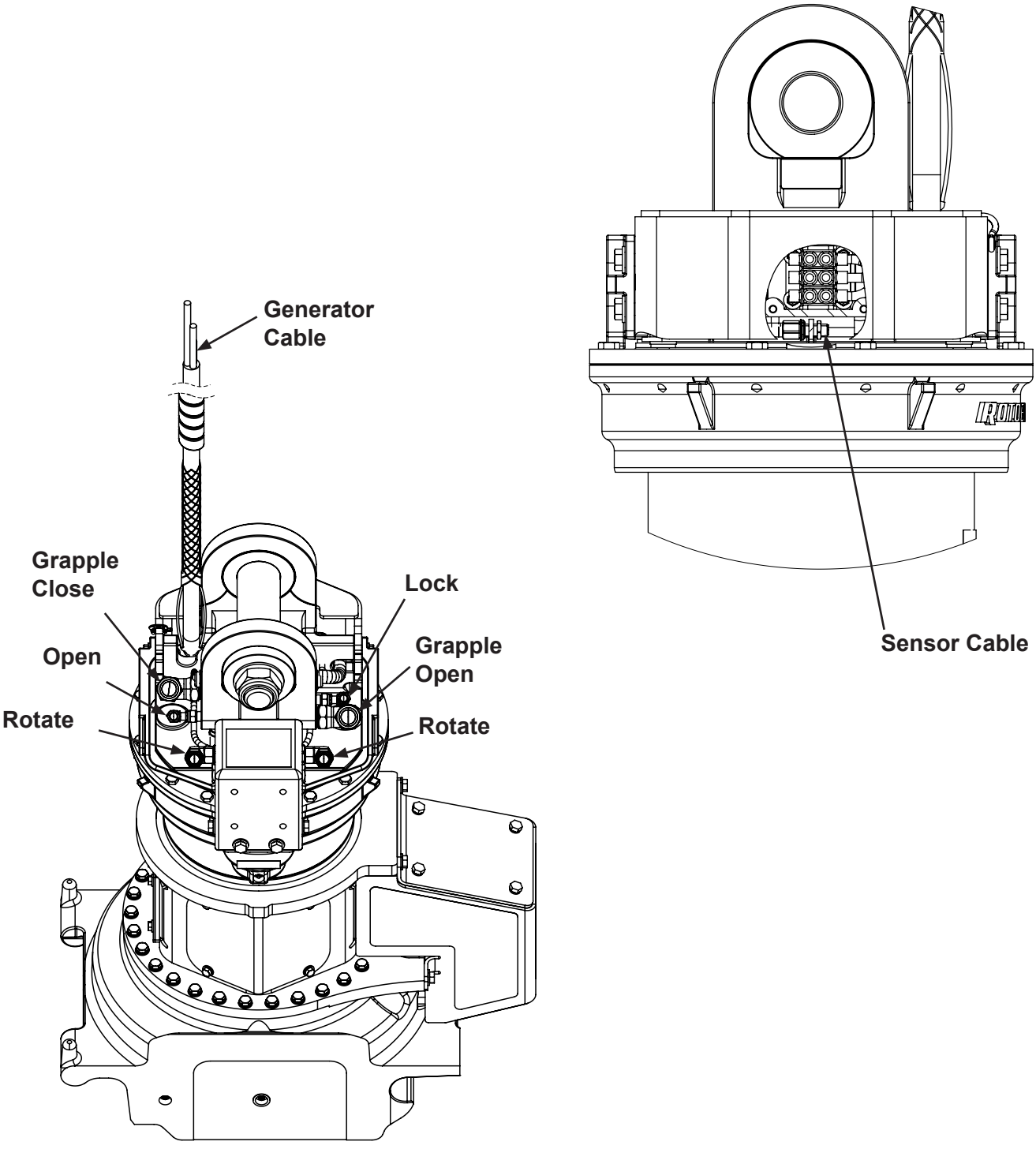
Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.

8.1 - OQC65-I20 - Connections



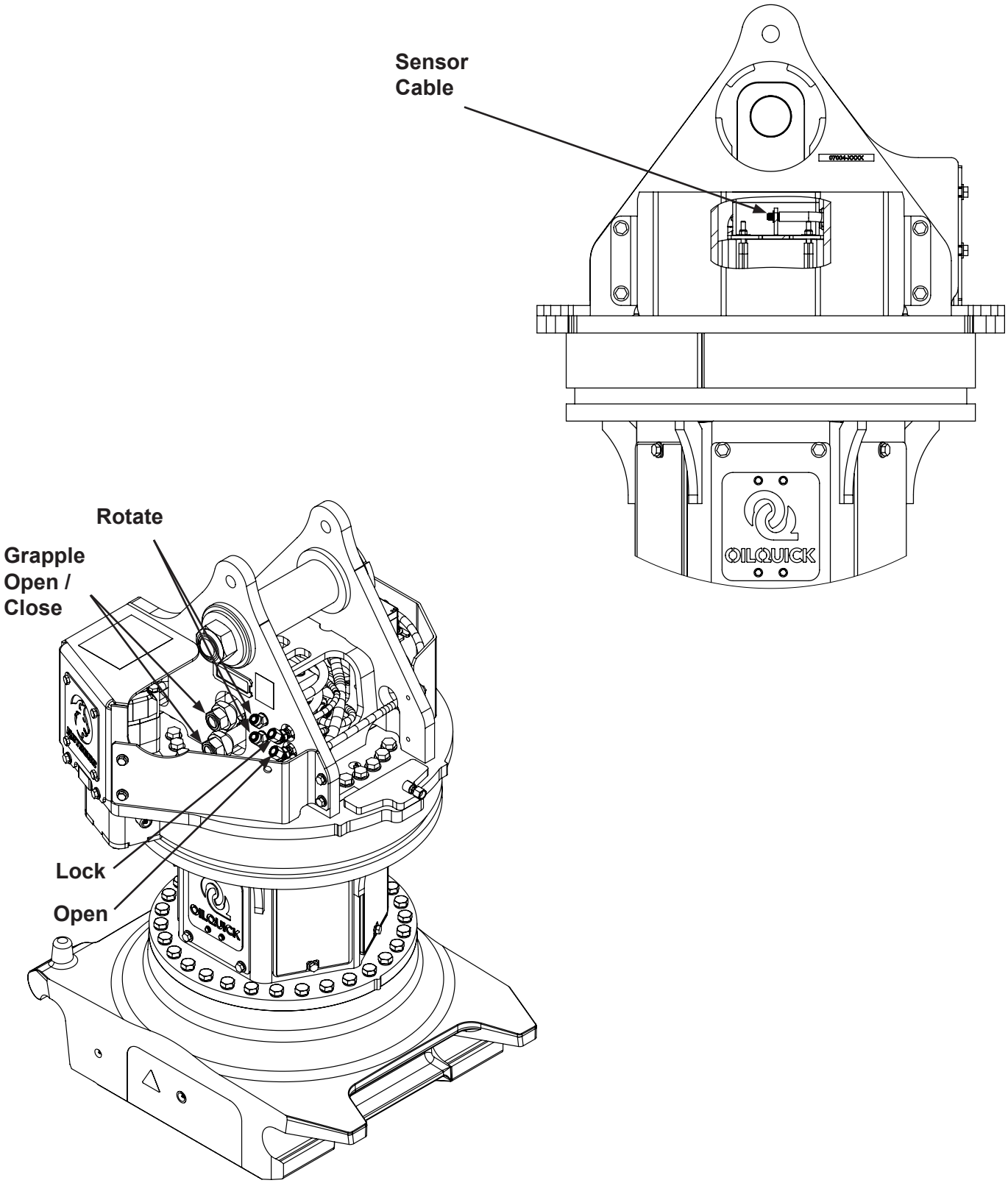
8. Coupler hydraulic / electrical connections - *continued*

8.2 - OQC65-R20/R25 - Connections



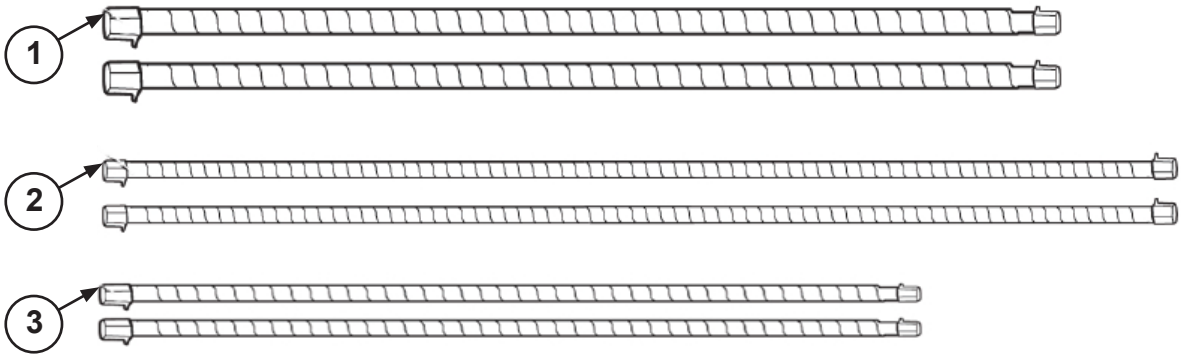
8. Coupler hydraulic / electrical connections - *continued*

8.3 - OQC70/55-R35 & OQC90-R68 - Connections



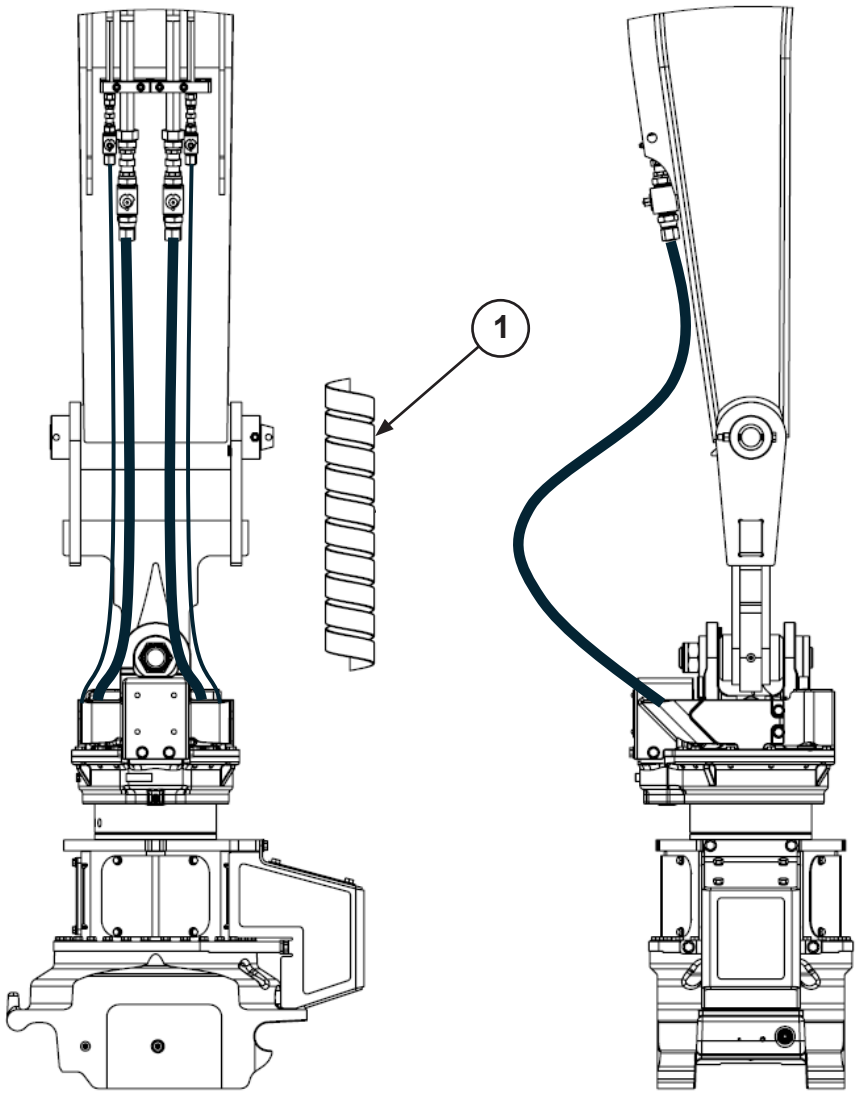
8. Coupler hydraulic / electrical connections - *continued*

8.4 Hoses



Item	Qty	Description	Notes
1	2	High Flow Auxiliary	High Pressure (Grapple Open / Close)
2	2	Low Flow Auxiliary	Medium Pressure (OQC Rotate)
3	2	Lock / Open	Full System Pressure (Coupler Lock / Open)

8.5 Attachment of the quick coupler



1. Secure the hoses and cables in a safe manner. Ensure that the hoses and cables are long enough so as not to be stretched or trapped in the outer positions. Start the machine to verify this.

2. Route the sensor cable in a safe manner and secure with cable ties.

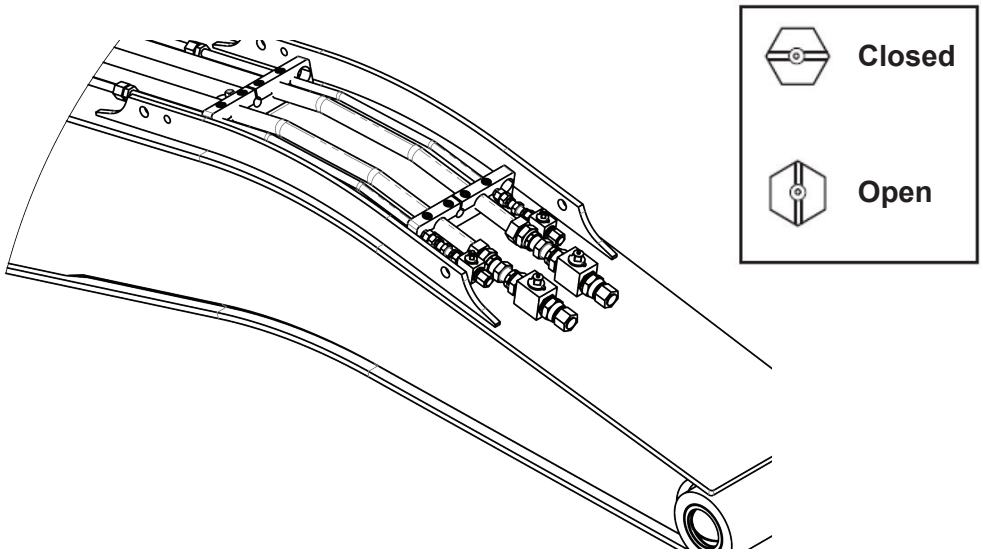
3. Install 3-1/2" spiral (1) wrap over hoses and sensor cable.

9. Hoses for attachment hydraulics

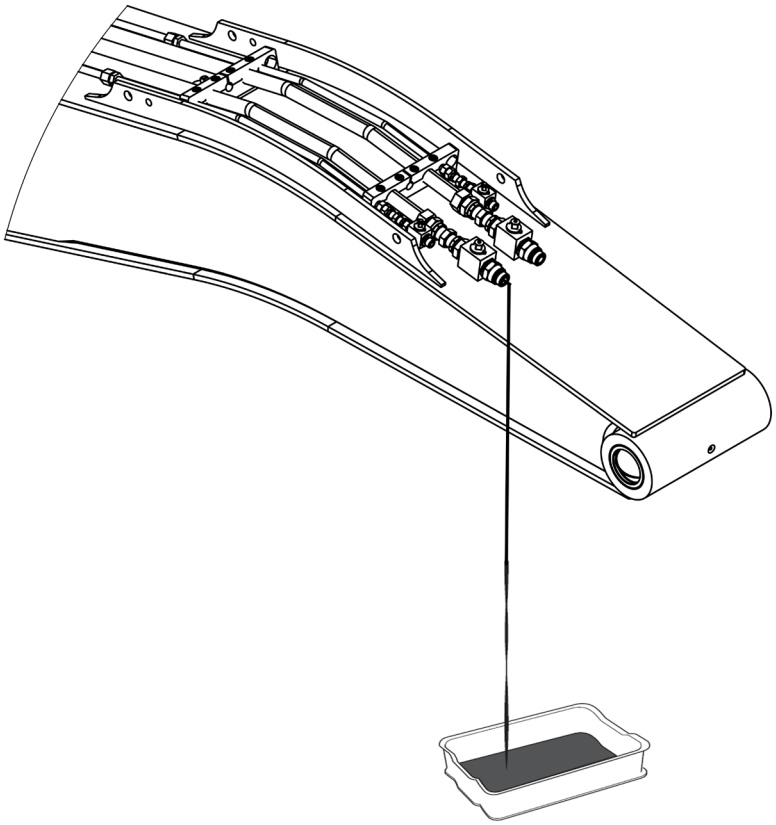
9.1 Connection to attachment hydraulics

Before the hoses can be connected, the pressure in the system must be relieved.

1. Undo the screws on the valve's cover on the stick and remove it.



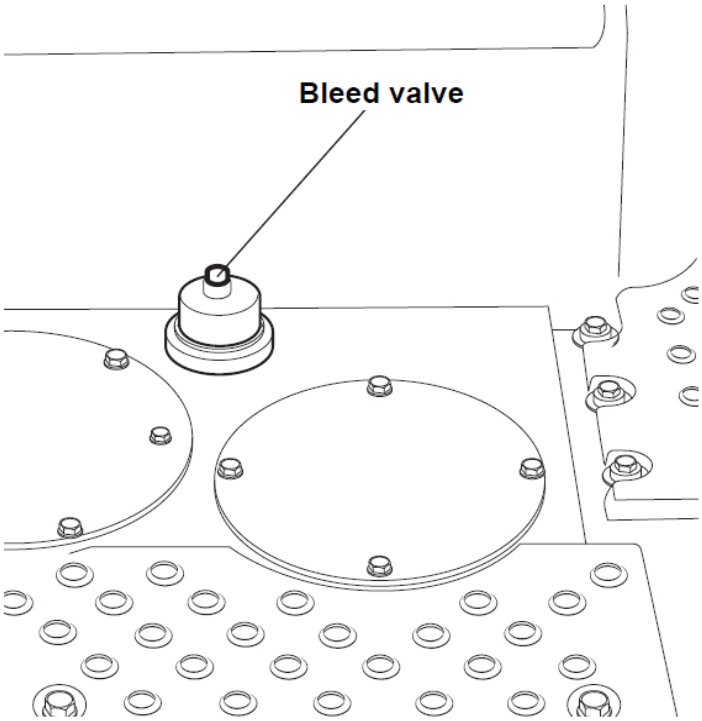
2. Place a container on the ground under the valve.
3. Open the valve and allow the oil to run down into the container.



4. Repeat steps 1-3 for the valve on the opposite side.

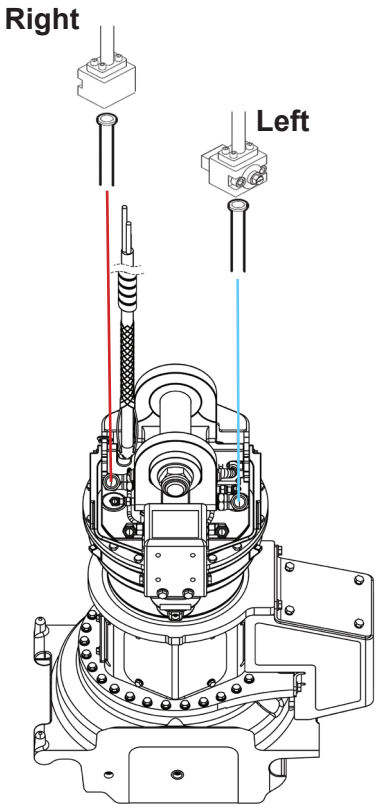
9. Hoses for attachment hydraulics - *continued*

9.1 Connection to attachment hydraulics - *continued*



5. Release the remaining pressure through the relief valve on the tank.

6. Close the valves on the stick.

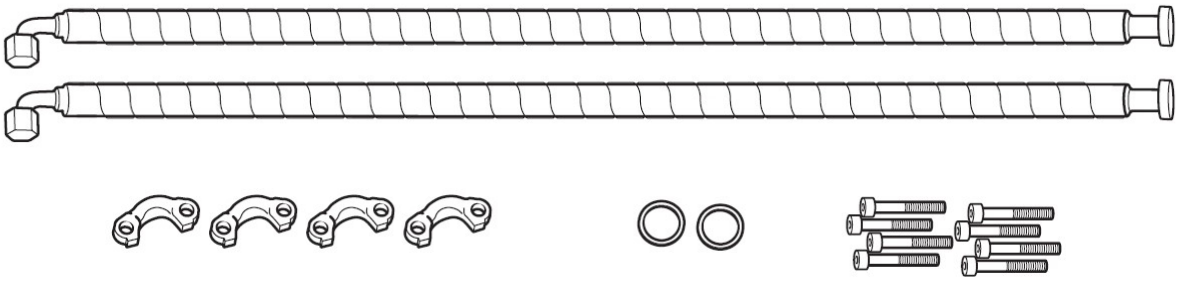


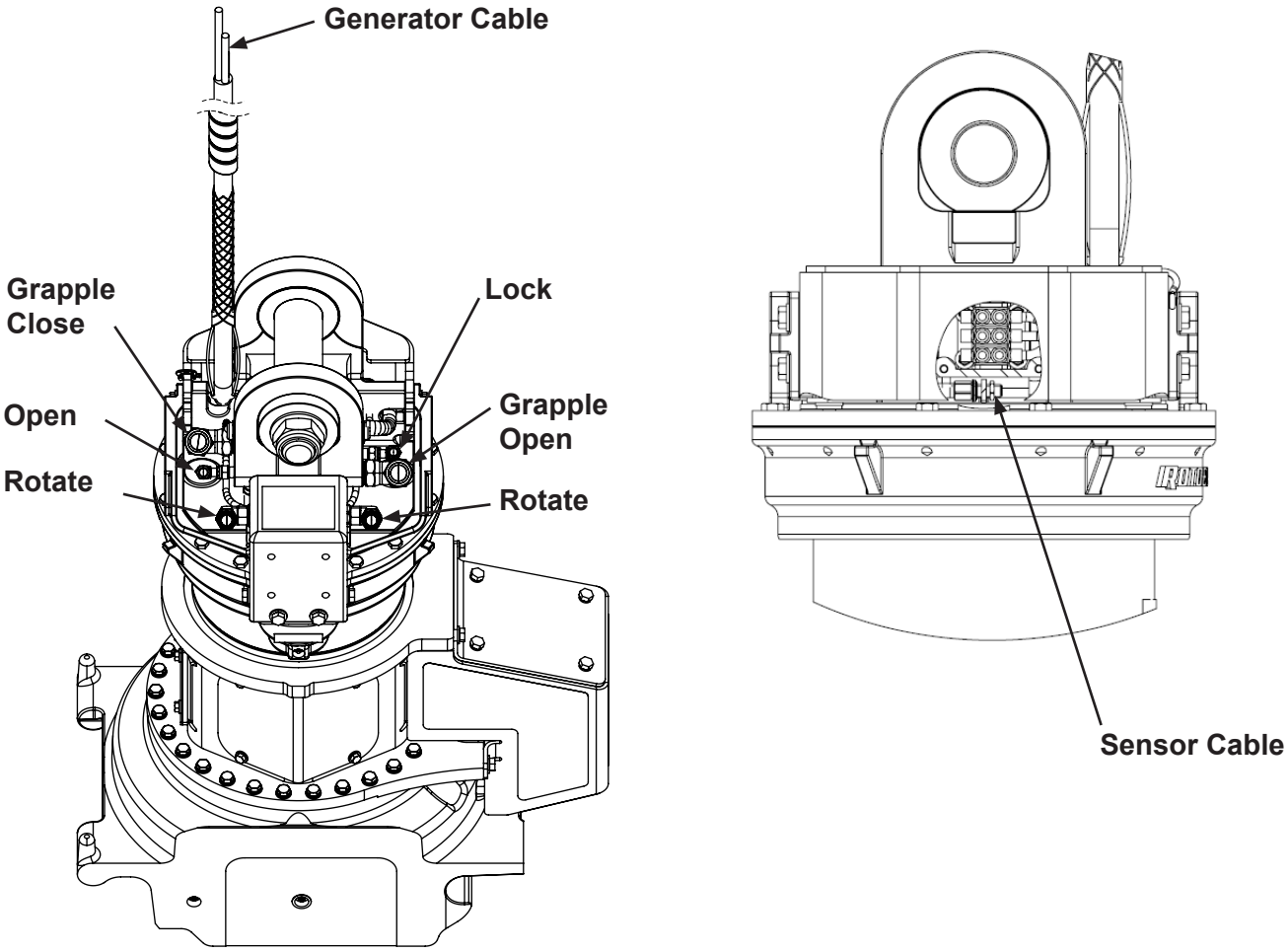
9. Hoses for attachment hydraulics - *continued*

9.2 Hoses

When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.





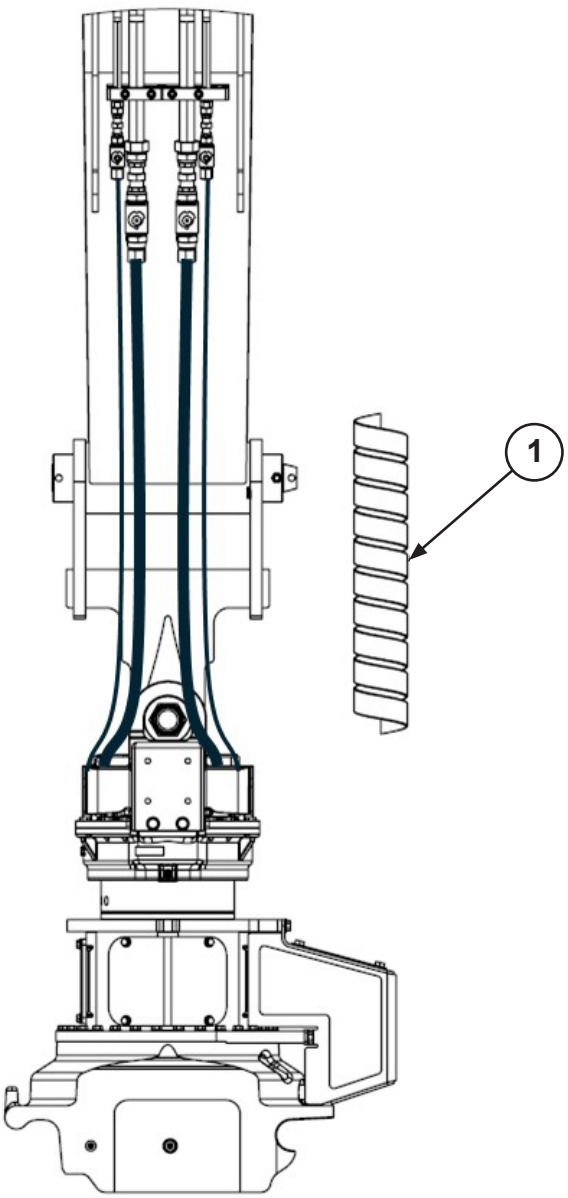
1. Connect the hoses to the quick coupler's connections. Connection location / type varies by coupler size and machine make / model (OQC65-R25 shown for reference, see section 8 for specific coupler connections).

9. Hoses for attachment hydraulics - *continued*

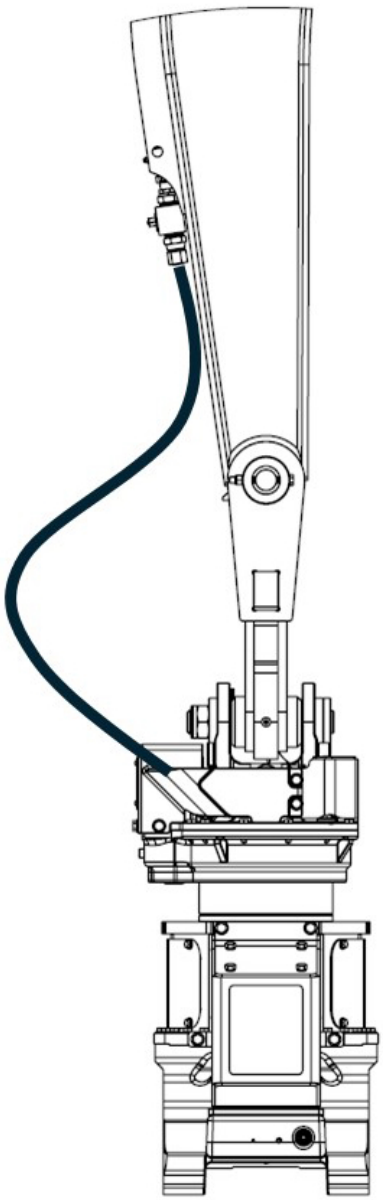
9.3 Adjustment of the position of the hoses

1. Adjust the position of the hoses so that the hoses can follow all the movements of the machine without being stretched or catching on other parts of the machine.

1



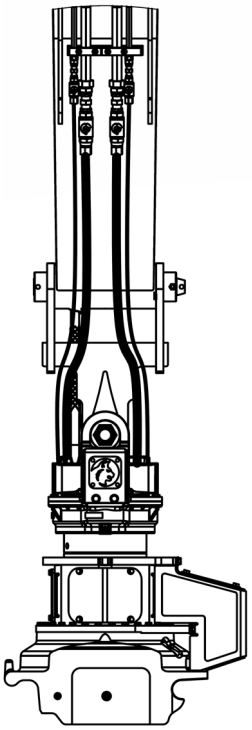
2



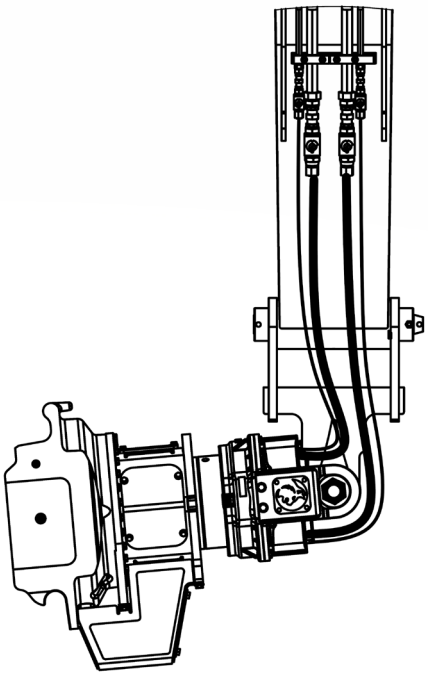
9. Hoses for attachment hydraulics - *continued*

9.3 Adjustment of the position of the hoses - *continued*

3



4



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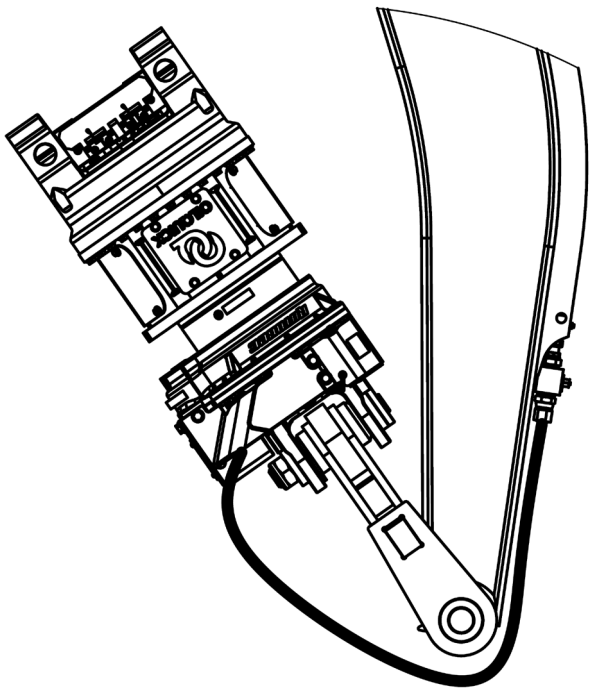

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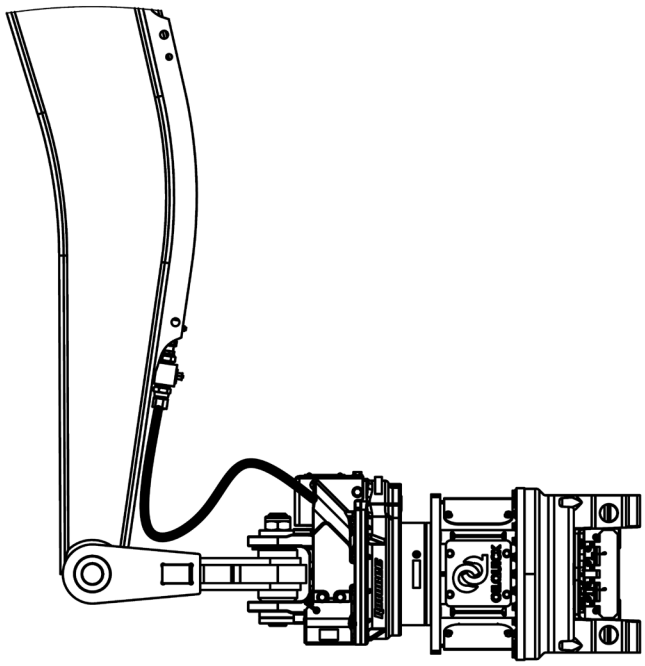
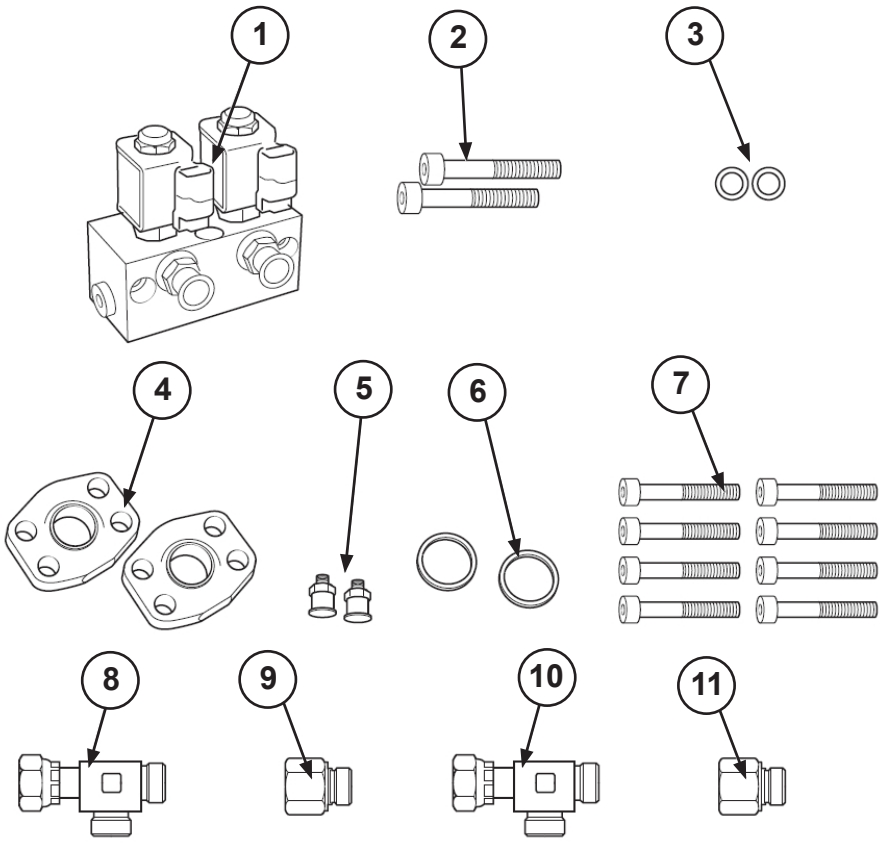


10. Relief valve

When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.

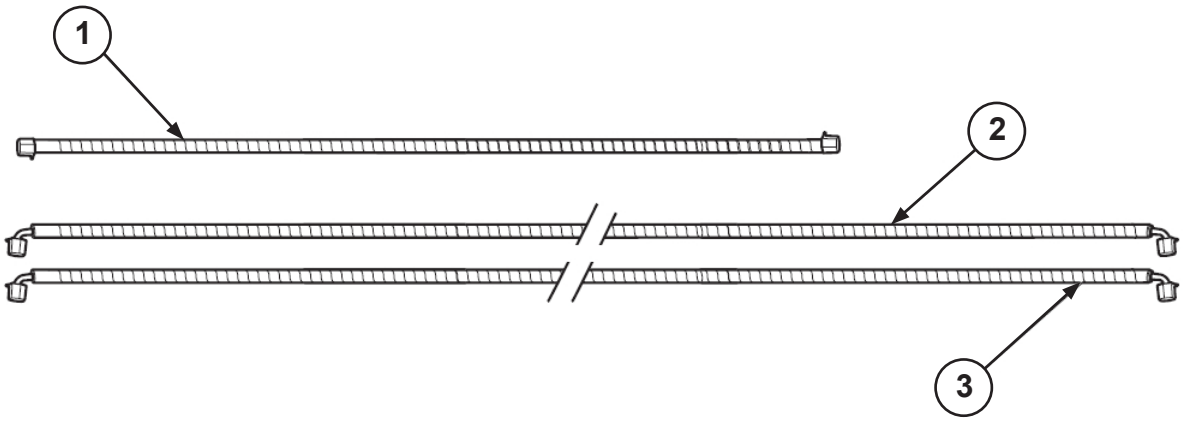
10.1 Material



Item	Qty	Description	Notes	
1	1	Relief valve		Included in delivery
2	2	Allen bolt M8	Relief valve	Included in delivery
3	2	Washer M8	Relief valve	Included in delivery
4	2	Intermediate flange		Not included *
5	2	Adapter	Intermediate flange	Not included *
6	2	O-Ring	Intermediate flange	Not included *
7	8	Allen screw	Intermediate flange	Not included *
8	1	Tee-connector	Tank	Not included *
9	1	Reduction	Tank	Not included *
10	2	Tee-connector		Not included *
11	2	Reduction	Tee-connector	Not included *

10. Relief valve - *continued*

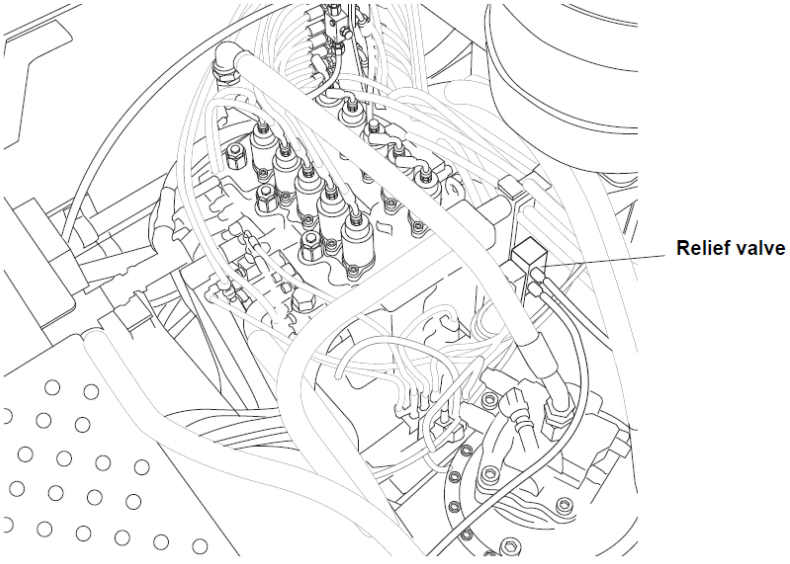
10.2 Hoses



Item	Qty	Description	Note
1	1	Tank to valve	Not Included *
2	1	X1 to relief valve, right	Not Included *
3	1	X1 to relief valve, left	Not Included *

10.3 Installation of relief valve

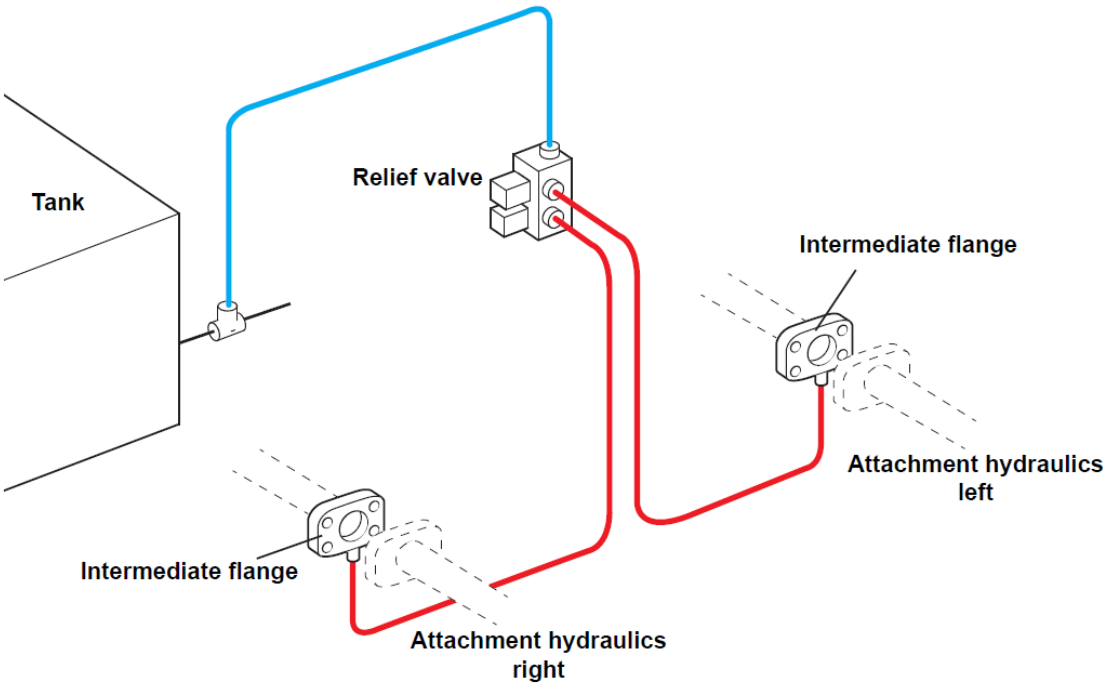
The relief valve is attached in a safe manner close to the material handler valve. Image shows position example.

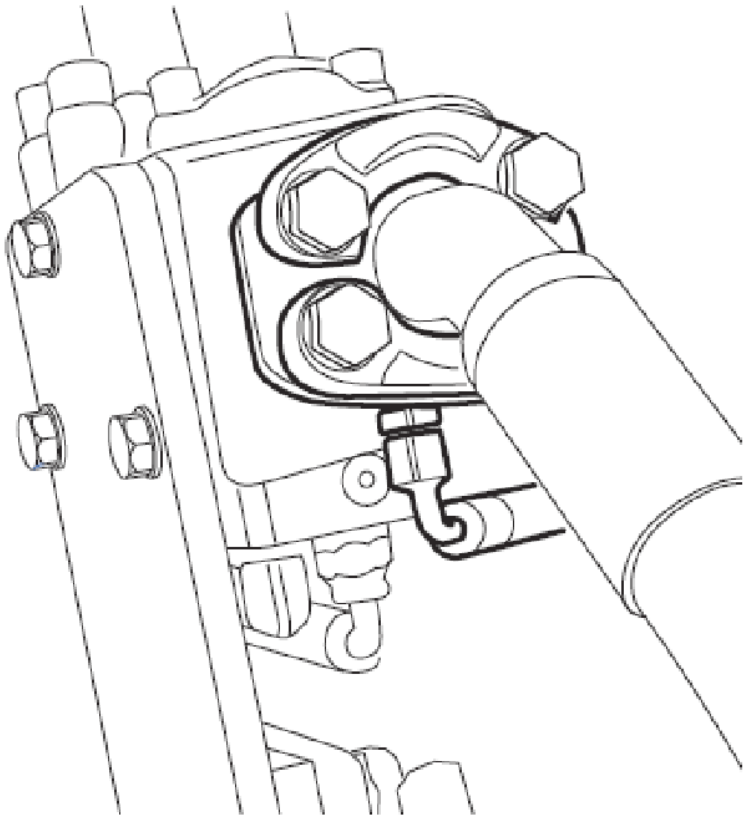


10. Relief valve - *continued*

10.4 Connection

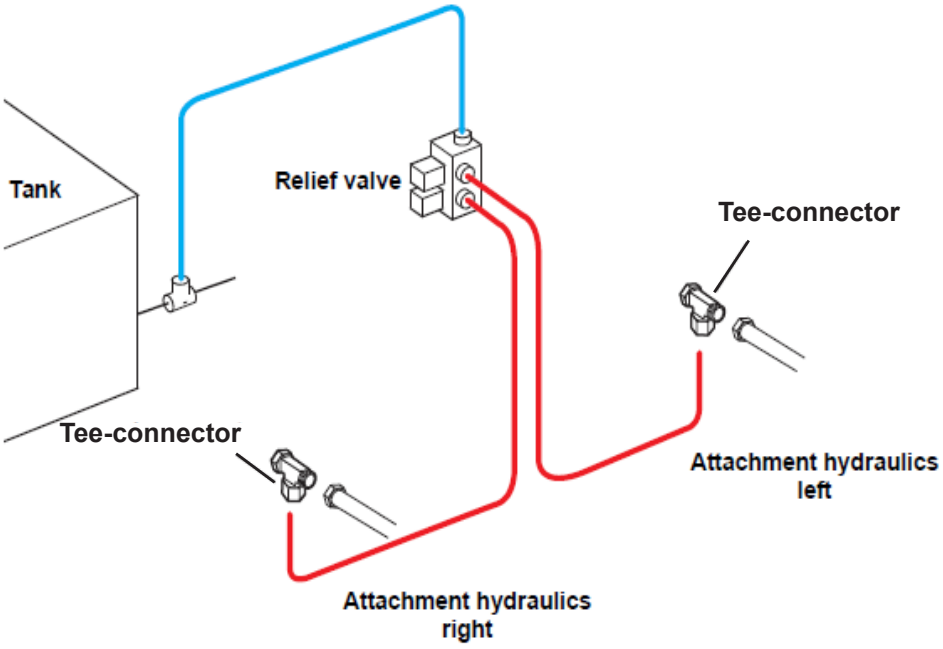
Connection of hoses between the relief valve and the attachment hydraulic hose coupling is carried out with either an intermediate flange or an Tee-connection depending on the machine design.

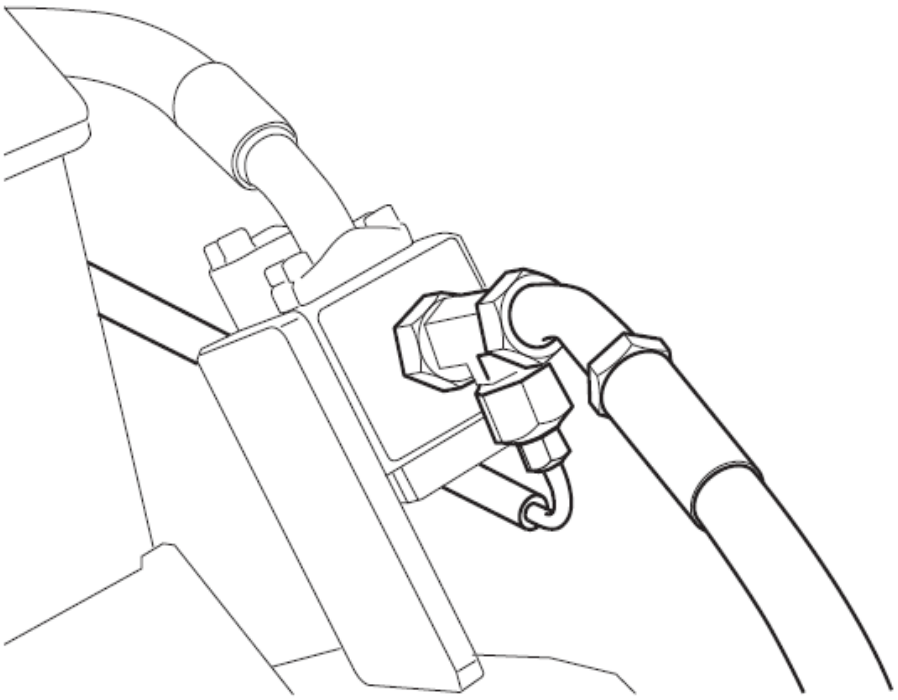




10. Relief valve - *continued*

10.4 Connection - *continued*





10. Relief valve - *continued*

10.5 Connection to tank

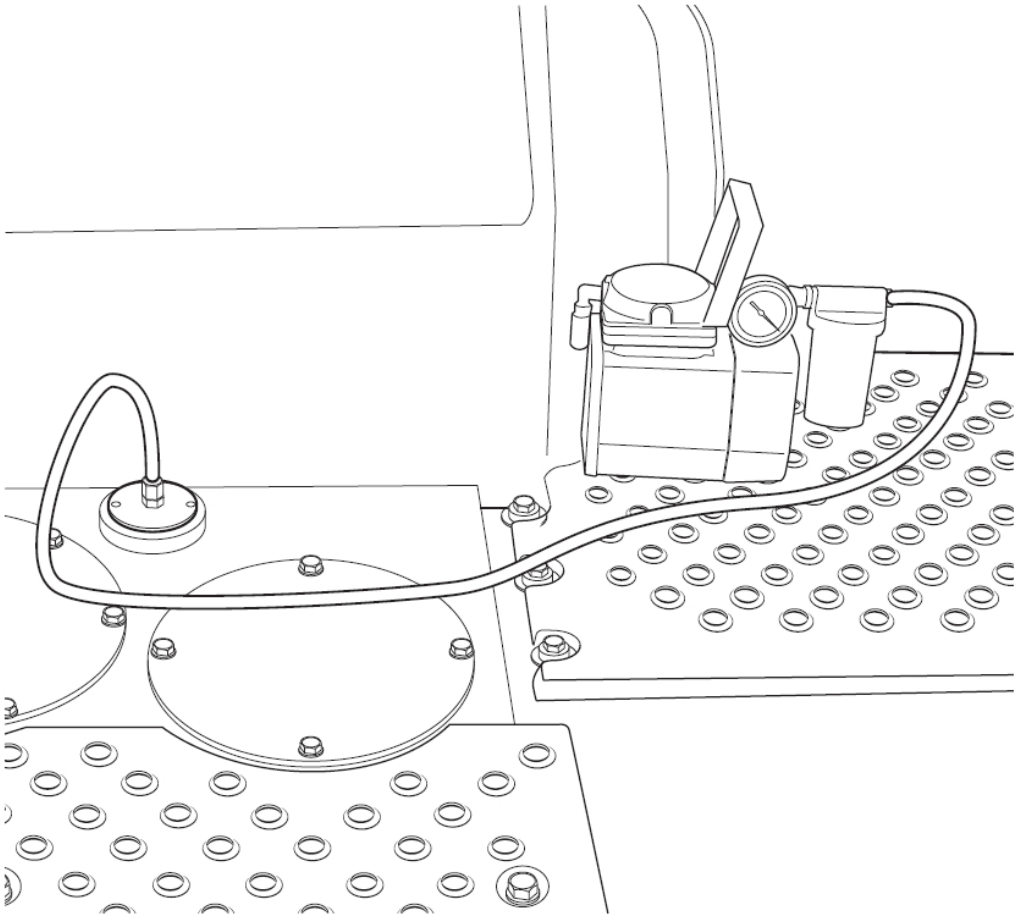
When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.

Before the hose between the relief valve and the tank can be connected, the pressure in the tank must be reduced.

1. Remove the bleed valve from the tank.

2. Connect the vacuum pump to the tank.



3. Start the pump to lower the pressure in the tank.

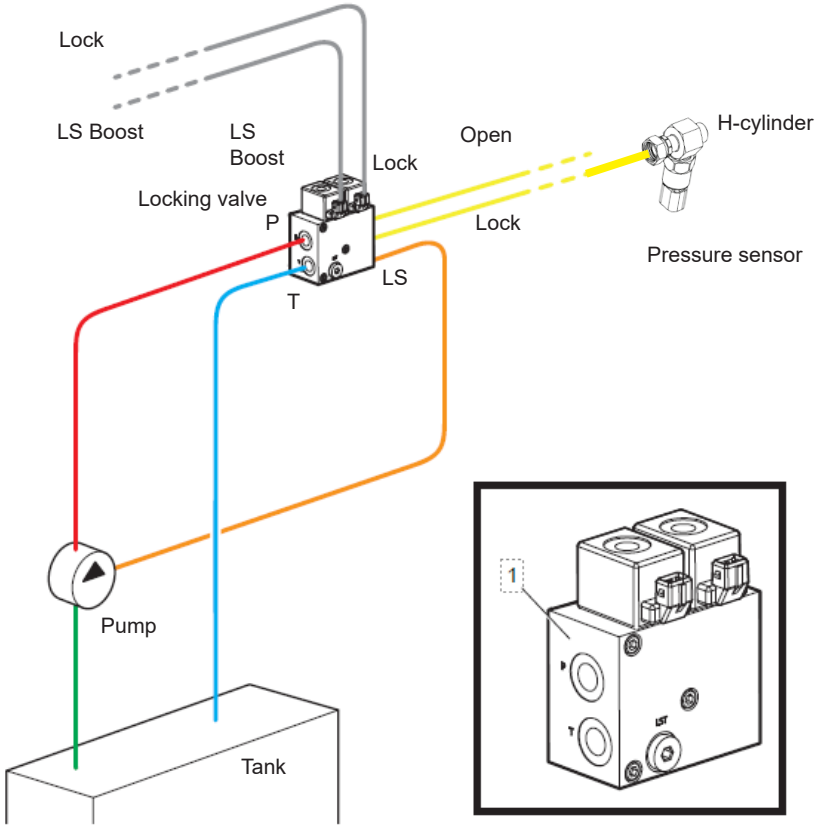
4. Connect the return hose from the relief valve to the tank in a suitable manner.

5. Switch off the vacuum pump and remove it from the tank.

6. Reinstall the relief valve on the tank.

11. Installation of locking valve

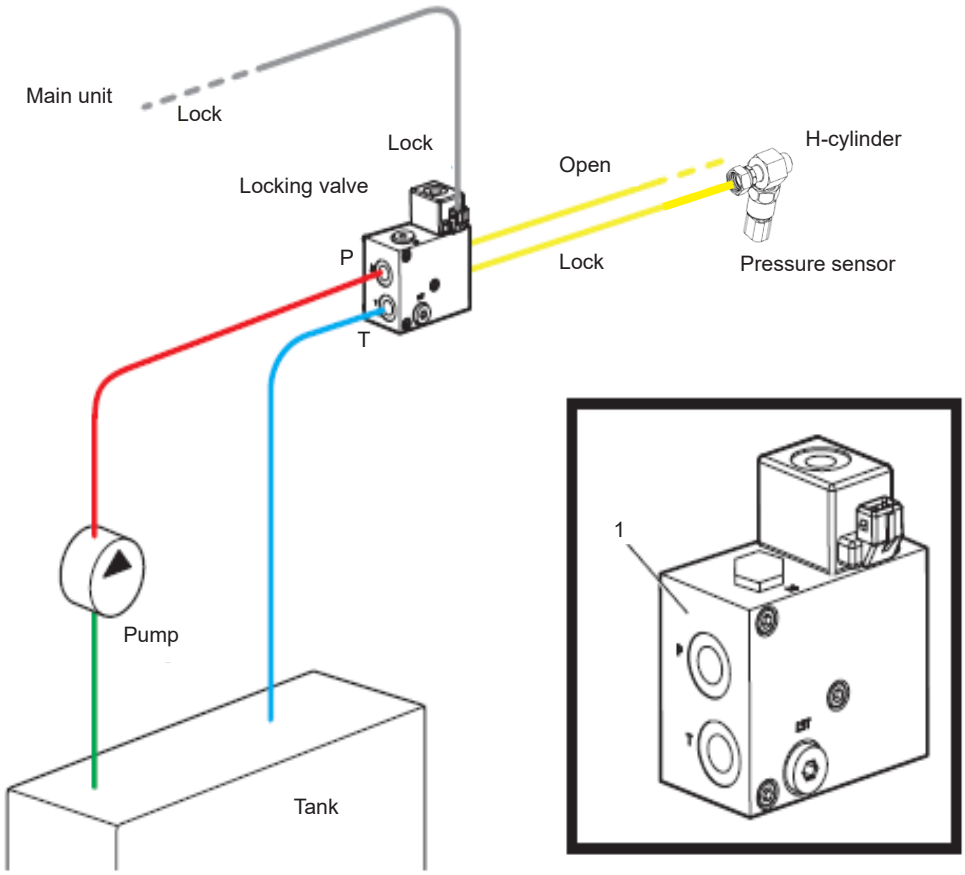
11.1 Locking valve with LS control (Standard)



Item	Qty	Description	Note
1	1	4120613	Locking valve

11. Installation of locking valve - *continued*

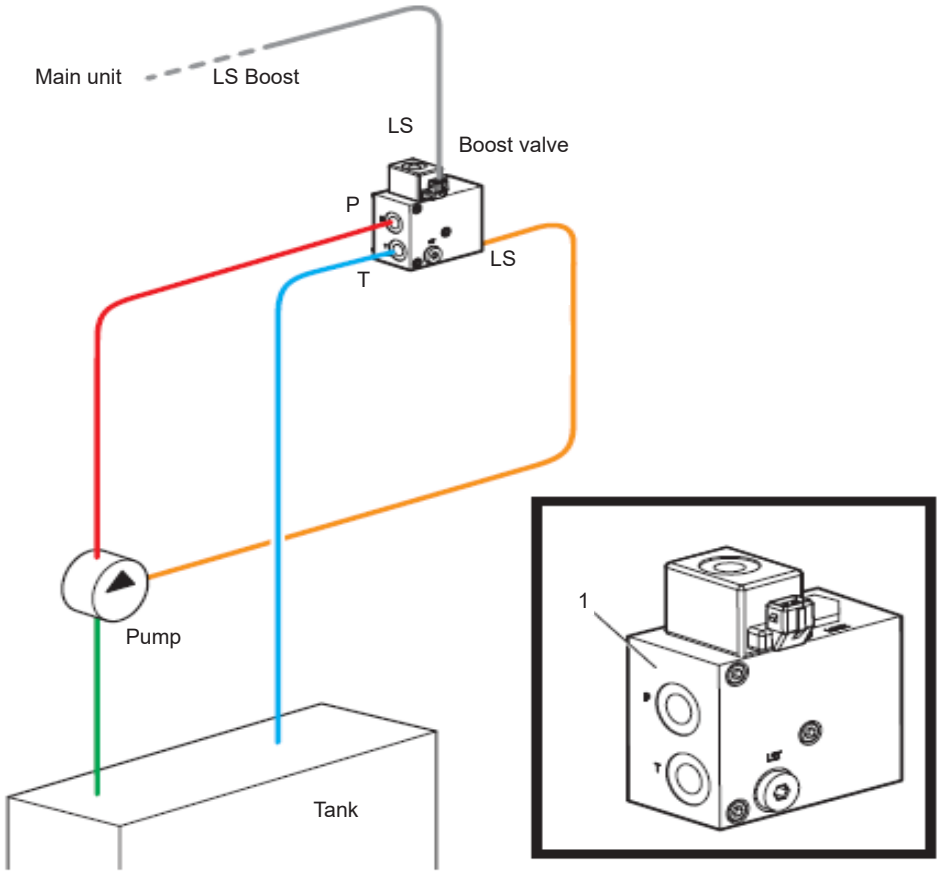
11.2 Locking valve without LS control



Item	Qty	Description	Note
1	1	4124046	Locking valve

11. Installation of locking valve - *continued*

11.3 Valve with LS control

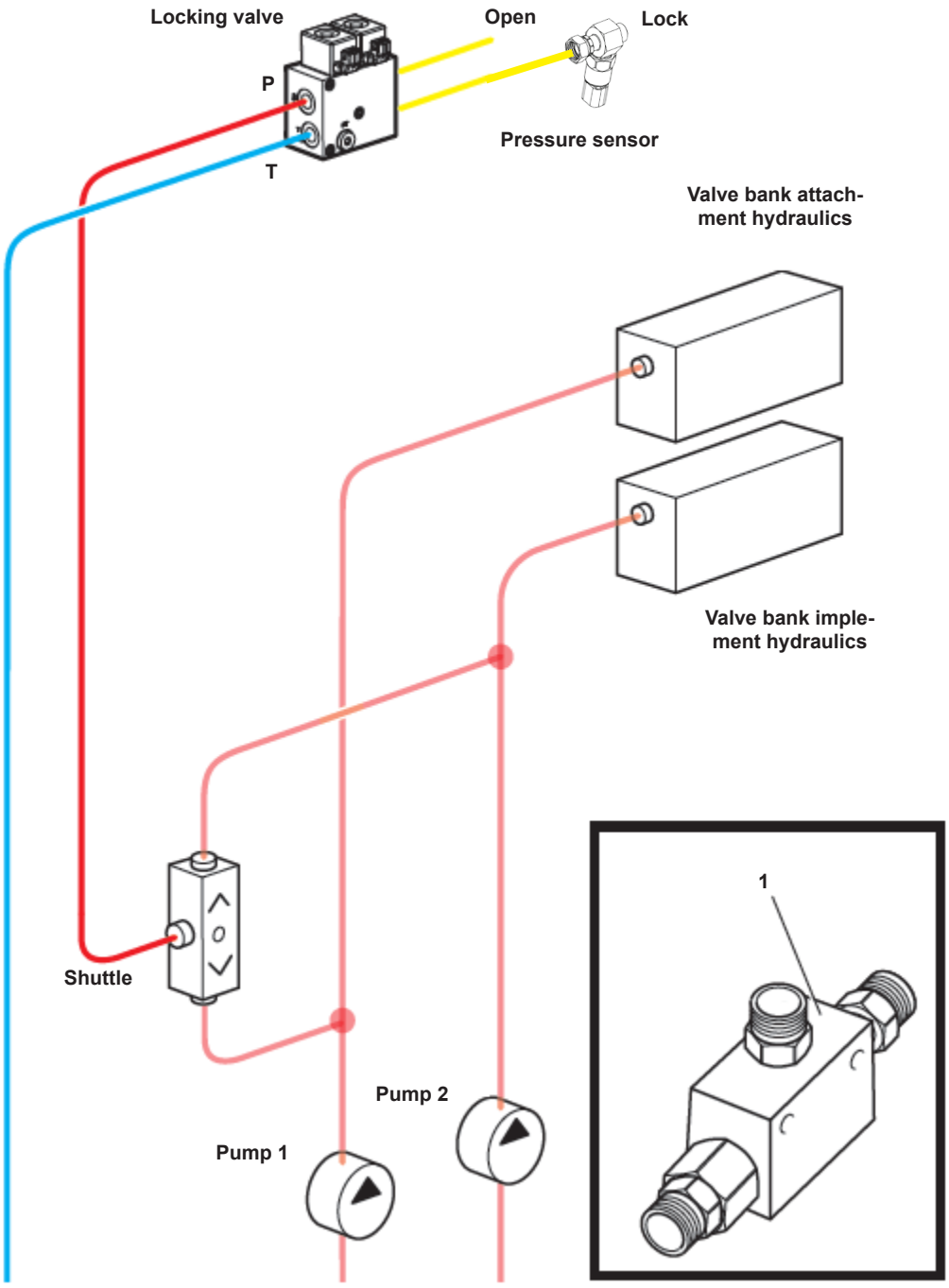


Item	Qty	Description	Note
1	1	4124326	Locking valve

11. Installation of locking valve - *continued*

11.4 Installation of locking valve on machines with double pumps

To ensure that the machine maintains the highest system pressure in all circumstances, the pumps must be connected to a shuttle. A spring-loaded ball inside the shuttle controls the oil flow to the locking valve which opens the flow at the specified oil pressure.

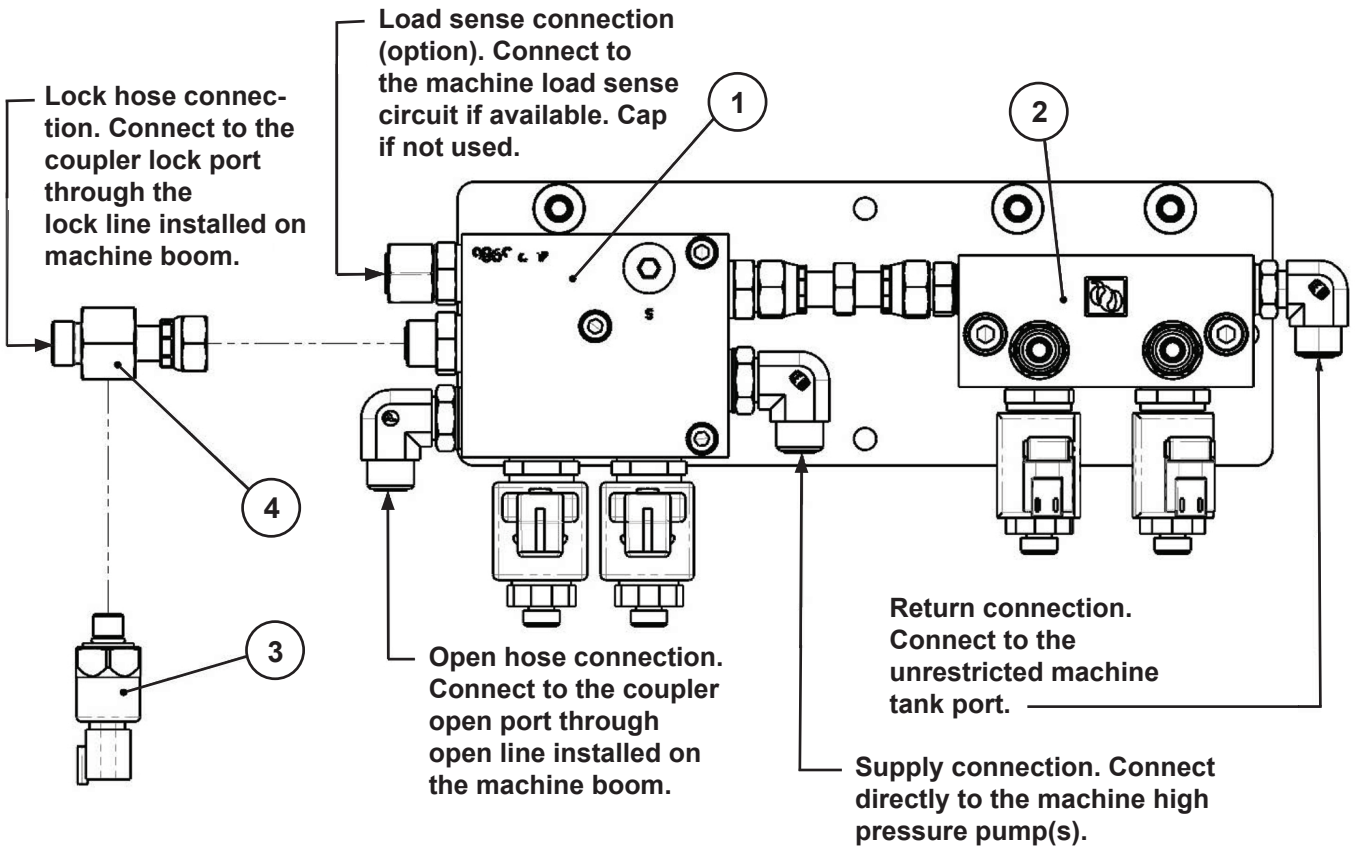


Item	Qty	Description	Note
1	1	OQE01759	FTG-HYD SHUTTLE VLV 06FB-06FB-06FB

12. Installation of OQSS System

12.1 Locking valve connections

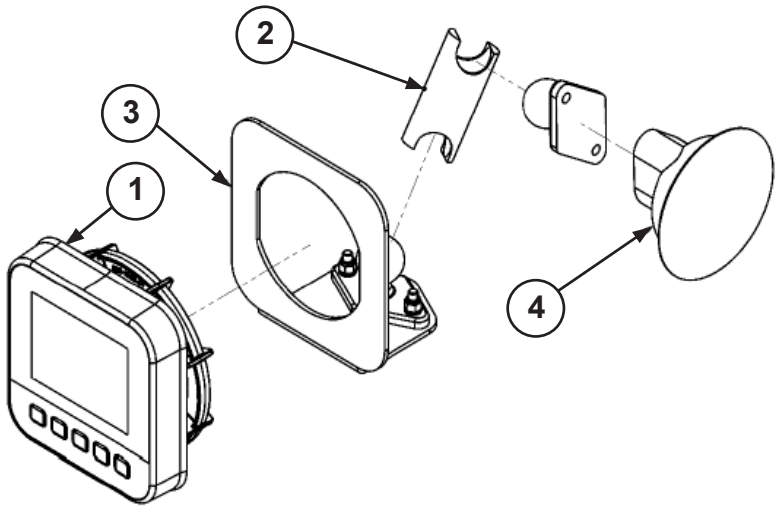
OilQuick combination Lock and Pressure Boost Valve with Pressure Sensor.



1. Combination Lock / Pressure Boost Valve.
    a. Connect lock / open hoses, machine pump supply hose, and load sense hose (if used). If machine is not equipped with load sense, cap the load sense port with the supplied -06 ORFS cap and do not connect a valve cable to the Pressure Boost Valve.
2. Aux Relief valve.
    a. Connect hoses to tees in high flow aux circuit lines. Connect return line to unrestricted machine tank port or return line.
3. Pressure sensor.
    a. Install using tee (4) between lock valve and lock hose connected to boom lock line.
4. Lock hose connection

12. Installation of OQSS System - *continued*

12.2 Display module



1. Install display module (1) in display bracket (3).

2. Assemble Ram mount suction base to Ram ball (4).

3. Connect display ASSY to Ram suction base with Ram arm (2).

4. Affix completed display assembly to cab side window and adjust to position within arm's reach of operator (typical installation is below machine display).

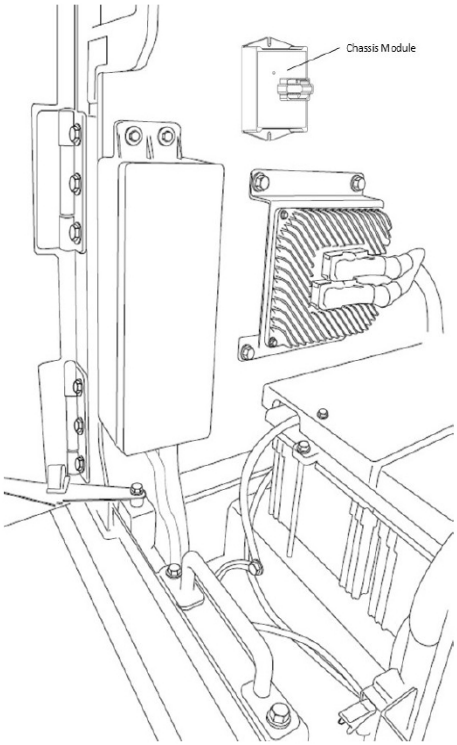
5. Connect HARNESS DISPLAY, to plug on back of display module and route harness behind seat (make connections per included wiring diagrams, connection for cab cable should be close to an exit hole in the cab).

6. Connect buzzer ASSY to display harness as described in wiring diagram. Secure to harness with zip ties.

12. Installation of OQSS System - *continued*

12.3 Chassis module

Install chassis module (below) to machine frame (typically in battery compartment). Installation hardware is included with installation kit (M5 button head cap screws, nordlock washers, and nyloc nuts). Typical installation is to drill mounting holes in an easily accessible frame member behind the cab in the battery compartment.



12. Installation of OQSS System - *continued*

12.4 Wiring (Chassis and cab)

1. All cables and wire harnesses are labeled with part numbers and a brief description of the connection point on each end. Reference the wiring diagram for detailed connection information. OQSS wire harnesses incorporate a red stripe in the braiding for easy identification.

2. Connect HARNESS CHASSIS MODULE, to chassis module (do not tie harness to frame in this step).
   a. All cables must be secured with zip ties after installation is complete and coupler is properly functioning. Note that not all extension cables will be used in every install. Keep any extra cables for spare parts.

3. Install all harnesses and cables; connecting power, ground, cab, sensor, pressure sensor, valve cables, and buzzer assembly as shown in wiring diagram and electrical schematic included at the end of this book.
   a. Power connection must be made to keyed machine power and fused at the point of connection with the provided 10 AMP inline fuse.
      i. There are two red power leads within the OQ harness package. One in the control module harness, and one in the cab / display harness. Power can be connected using either of these leads. Ensure that unused power lead is tied or or trimmed and is heat shrink sealed.

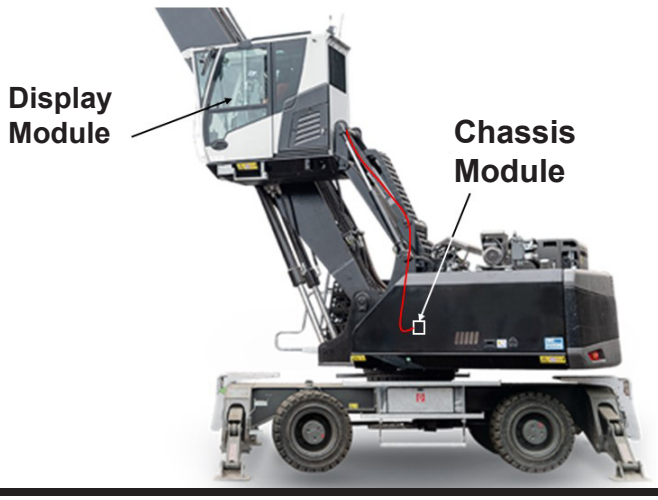
      ii. The unused power lead must be sealed with heat shrink and secured. Ground connection must be made directly to machine chassis ground. Ground lead (black) is in the control module harness. Ensure that unused power lead is tied or or trimmed and is heat shrink sealed.

      iii. Install split loom over power / ground leads. Use supplied red zip ties to secure loom to power lead and black zip ties to secure loom to ground lead.

   b. Cab / display harness is installed completely inside cab and connected to display module and buzzer assembly. Cab cable and extensions (if needed) connect between chassis module and display har ness (below).

   c. Valve cables are installed between chassis module harness and solenoid valve coils. Connect the end with the clear lighted plug to the valve solenoid. The plug lights green when energized when energized to show that there is a connection. Install dust plugs in unused valve cable leads on chassis module harness.

   d. Pressure sensor cable is installed between the control module harness and pressure sensor mounted to the lock valve.

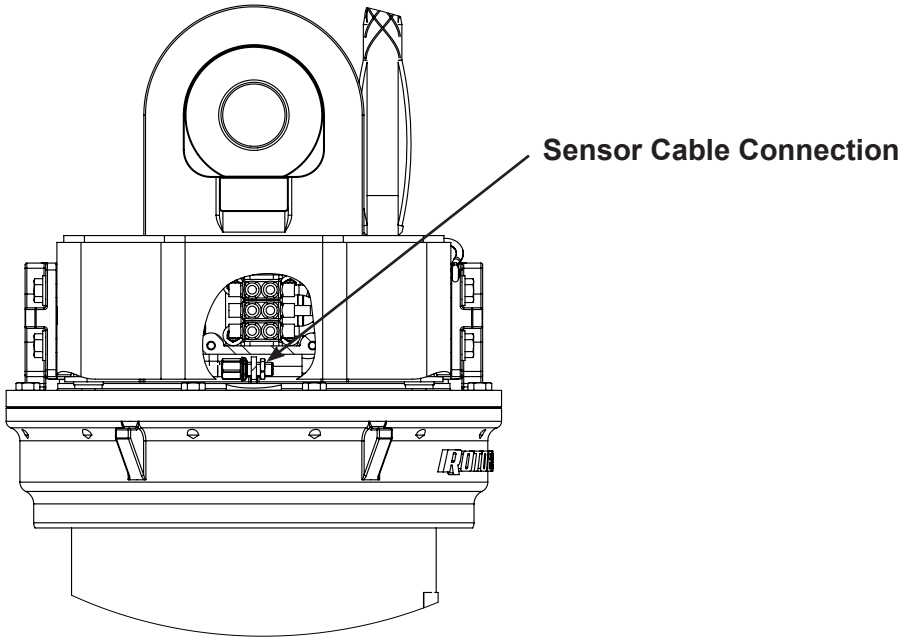


12. Installation of OQSS System - *continued*

12.5 Wiring (Coupler and boom)

e. Lock sensor cables connect between the control module harness and OilQuick coupler sensor plug.

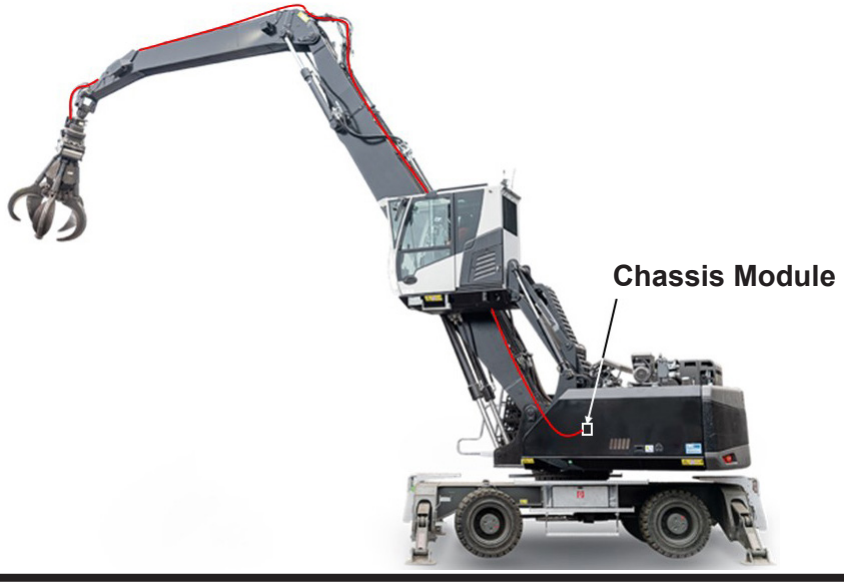
i. Connect Sensor Cable to coupler sensor plug. Example location of coupler sensor cable connection below:



ii. Leave a small “service loop” in this cable before the connection point to the next sensor cable. Install extension cables as needed following the boom back to the chassis module.

iii. Best practice is to start at the coupler, making that connection and working your way down the stick and boom to the chassis module connection.

iv. Sensor cables are typically zip tied to boom/stick tubes for securement. All other cables must be secured once installation is complete (below).



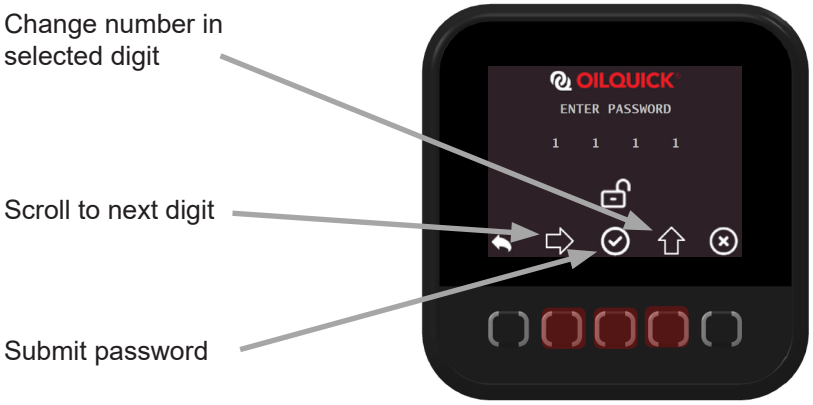
13. OQSS System Setup

The OQSS system setup interface is intended to be used to configure settings during installation and should only be needed to adjust screen brightness and language during normal operation. All necessary system parameters can be adjusted through this interface to properly set up the OQSS system for your machine. Screen images in this section show default factory settings.

Main Menu

- From the main menu screen select SYSTEM SETUP and press the button below the checkmark icon.
- Password is required to change all parameters but DISPLAY BRIGHTNESS.

Enter Password Screen



- Password page will appear after selecting parameter to adjust if not currently in system setup mode.
- Enter password (default is ”1111”) using button below up arrow icon to change number, and button below right arrow icon to go to the next digit.
- Press button below the checkmark icon to submit the password.

Edit Parameter Screen

- The edit parameter screen allows adjustment of parameters
- Settings that have been changed are saved in memory and will be retained unless changed again.
- Use the buttons below the up / down icons to scroll thru the options (or increase / decrease value in the instance of numeric parameters).
- Press the button below the checkmark icon to save the new setting.

13. OQSS System Setup - *continued*

Settings Screen

- Page 1/4 – SETTINGS screen is used to select brightness and language and indicates software version.
- **DISPLAY BRIGHTNESS** and **LANGUAGE** can be changed from this screen.
- Available languages are English, Español, and Français
- Use buttons below up / down arrow icons to navigate between items.
- Press button below checkmark icon to select variable to adjust.
- The OQSS software P/N and version are listed above the navigation icons.

Lock / Open Settings Screen

- Page 2/4 – **LOCK / OPEN SETTINGS** screen adjusts system parameters related to coupler opening and closing.
- The default values will work for most installations. Adjustments may be required based on machine performance.
- **ON TIME(s)** is the duration in seconds that the open and close cycles are active. This time may be shortened or extended based on speed of couplermovement during opening and closing.
- **LOCK SENSOR MAINTAIN(ms)** sets the amount of time the coupler must belocked into an attachment after a lock command before the “LOCKED” state can be indicated.
- **OPEN BOOST TIME(s)** sets the duration the load sense valve remains energized after an open cycle.
- **CLOSE BOOST TIME(s)** sets the duration the load sense valve remainsenergized after a close cycle.
- **VALVE MONITORING** (ON/OFF) enables or disables fault monitoring of system solenoid valves.
- **NOTE** - Valve fault monitoring can be disabled if the valve signal is used as an input to the machine control system or is running a relay.
- **AUTOLOCK** (ON/OFF) enables or disables automatic coupler locking when an open cycle fails to complete.

Option Settings Screen

- Page 3/4 – OPTION SETTINGS screen turns optional settings on and off.
- Correct parameters must be selected based on installation.
- **PRESSURE BOOST** (ON / OFF) enables or disables the feature
- **RELIEF VALVE 1** (ON / OFF) enables or disables the feature
- **RELIEF VALVE 2** (ON / OFF) enables or disables the feature
- **CONTROL INTERLOCK** (ON / OFF) enables or disables the feature
- **GEN INTERLOCK** (ON / OFF) enables or disables the feature

13. OQSS System Setup - *continued*

Factory Settings Screen

- Page 4/4 – FACTORY SETTINGS allows customization of owner password
- and settings store / reset.
- **OVERRIDE PROTECTION** (ON / OFF) enables or disables password protection to enter emergency operation.
- **DOUBLE PRESS (ON/ OFF)** enables or disables double press requirement to initiate a coupler opening sequence.
- **CUSTOMER PASSWORD** allows the default password (“1111”) to be customized. The process will be explained in the next image.
- **RESTORE ORIGINAL SETTINGS** resets machine parameters to the settings that were created if a factory OilQuick installation was performed.
- **FACTORY RESET** reverts all system settings to the defaults that have been shown in this section.
- **SAVE SETTINGS** is used by OilQuick personnel when performing a factory installation.

Edit Password Screen

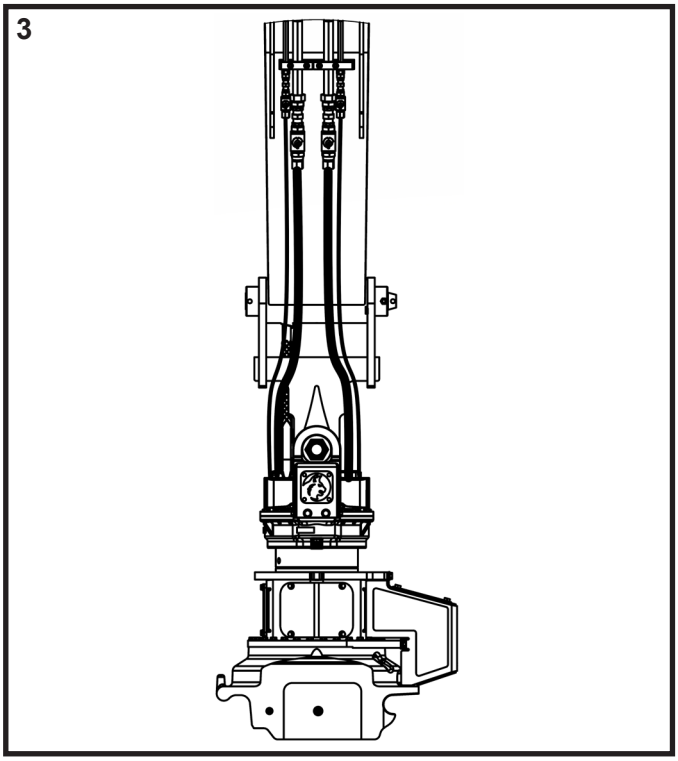
- To edit your password, select **“CUSTOMER PASSWORD”** from the **“FACTORY SETTINGS”** page. You will be prompted to enter your current password (factory default is “1111” if it has not been changed) before the **“EDIT PASSWORD”** screen is displayed.
- Press the button below the up arrow icon to change the number, and the button below the right arrow icon to scroll to the next digit.
- Once your new password is created, write it down and press the button below the checkmark icon. The screen will display **“SUCCESS”** to confirm password change
- New OQSS customer password:

After adjusting any system parameters, proper operation of the OQSS system must be tested to ensure that all settings are appropriate. Couple in and out of attachments multiple times, watching the OQSS control panel for any possible faults. Before returning the machine to service and after testing, view the fault logs to ensure that no faults were caused by the adjustments.

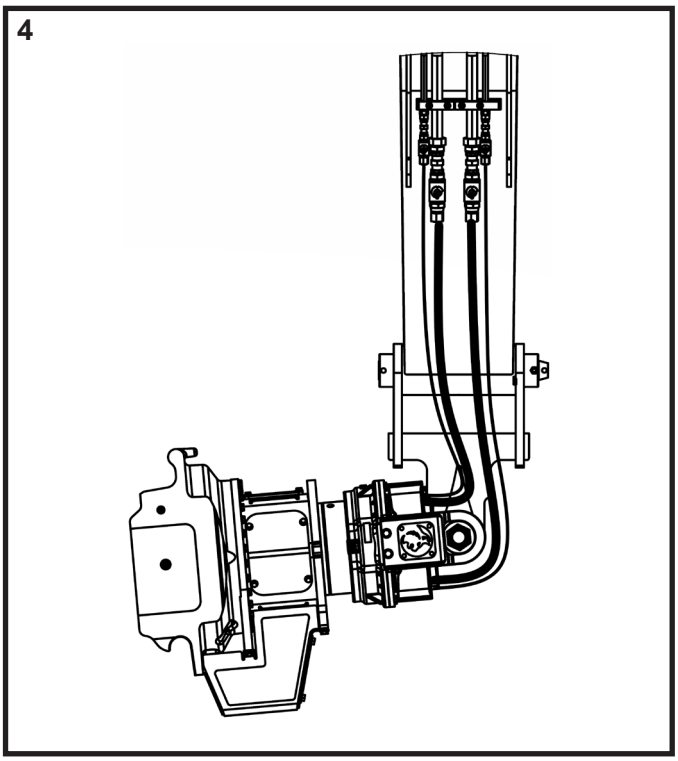
14. Checks

14.1 Checking hose and cable routings

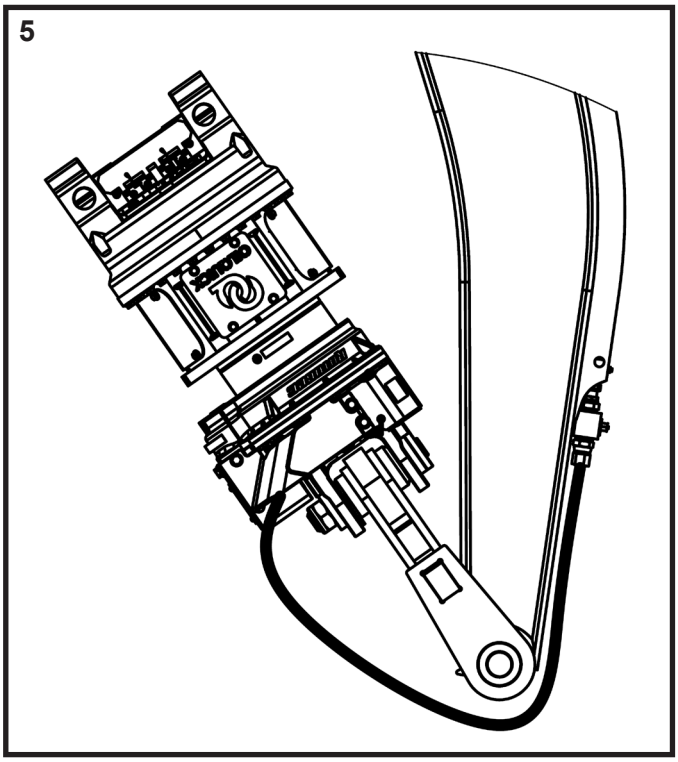
3



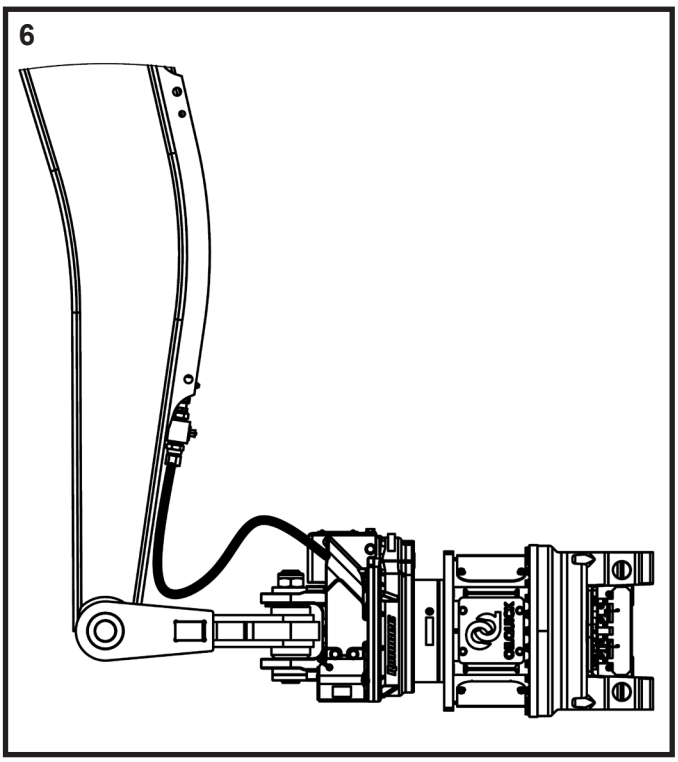
4



5



6



Checking cable routings

Check that all hoses are safely routed and cannot be damaged by machine movements.

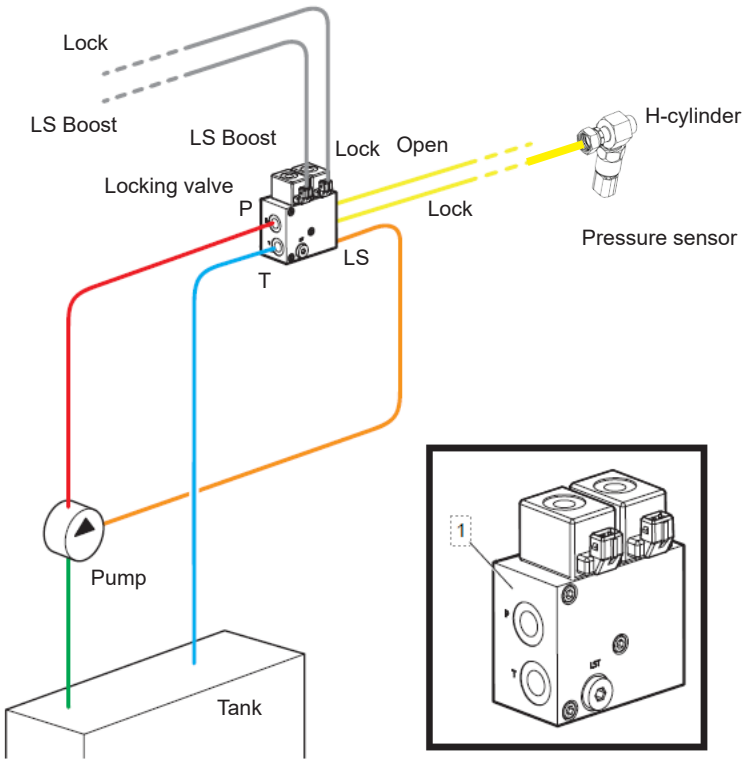
Checking connectors

Check that all connectors are correctly connected.

14. Checks - *continued*

14.2 Checking locking pressure

1. Insert a tee in the lock line at the lock valve.
2. Connect a pressure measuring device.



3. Start the machine.

4. Check that the locking pressure increases to full pressure working pressure when the pressure on the attachment hydraulics increases.

5. Machine pressure is measured and displayed by the OQSS system. Pressure can be viewed in the system status screens. Always verify pressure with a physical guage at the initial installation.

14. Checks - *continued*

14.3 - Hydraulic Components in the Quick Coupler

Hydraulic Oil	
Viscosity classes	ISO VG 32, 46 & 68
Mineral oil	ISO 6746-4, HM AND HV ; SS 155434, AV AND BV ; DIN 51524 HVLP
Environmentally friendly oil	DIN 51524 part 3 ; SS 155434, AV AND BV
Oil temperature	–25°C TO +80°C
Ambient temperature	–25°C TO +80°C

This quick coupler has two (2) parallel hydraulic cylinder, the following technical data applies.

Model	Max Operating Pressure (PSI)	Load Holding/ Rupture Valves	Pressure Reducing Valves	Piston/ Piston rod diameter (mm)	Stroke Length (mm)
OQC65 I20, R20, R25	5075/6090	Yes	Yes	40/20	65
OQC70/55 R35	5075/6090	Yes	Yes	55/30	75
OQC90 R54	5075/6090	Yes	Yes	60/35	100
OQC90 R68	5075/6090	Yes	Yes	60/35	100

* Generation 2.0 H-cylinders are rated for a max operating pressure of 42 Mpa.

The following technical data applies to quick coupling

Coupling dimensions	Oil flow at 0.3 Mpa (43.5 PSI) pressure drop (GPM). Stated value only applies to quick couplings.	Max continuous operating pressure (PSI)
3/8”	10	5075
1/2”	20	5075
3/4”	37	5075
1”	66	5075

11.4 - Rotator Pressure / flow specifications

Model	Maximum Flow (GPM)	Maximum Speed (RPM)	Maximum Pressure (PSI)	Recommended Pressure (PSI)
OQC65-I20	10	20	3600	3000
OQC65-R20	9	25	5000	3000
OQC65-R25	8	20	5000	3000
OQC70/55-R35	12	15	5000	3000
OQC90-R68	13	15	5000	3000

Coupler must be rotated 90° and back a minimum of once for every 6-8 hours of operation.

15 - Troubleshooting - Quick coupler

Fault	Possible cause	Action
Quick coupler cannot be closed.	No function in OQSS.	Check according to OQSS troubleshooting.
	The hydraulic pressure in the locking circuit is too low to close the quick coupler.	Check the pressure in the lock circuit. If this is too low, check the lock valve function. If the lock valve is correct the fault is in the machine.
	Dirt guard is not opened and presses against the male coupling. Dirt guard opening bar is missing.	Install new opening bar.
	One or several male couplings have moved out of position and do not fit the female couplings.	Contact OilQuick service.
Quick coupler cannot be opened.	The hydraulic pressure in the locking circuit is too low to open the quick coupler.	Check the pressure in the lock circuit. If this is too low, check the lock valve function. If the lock valve is correct the fault is in the machine.
	One of the two pilot operated check valves in the H-cylinder is defective and will not open.	Contact OilQuick service.
	Pressure relief valve defective.	
Oil leakage from quick coupling when attachment is connected.	Nose seal missing or damaged.	Replace nose seal.
	Leakage due to uneven pressure in the shuttles or low pressure in the machine due to long inactivity.	Check that hydraulic components move at given pressure. Replace nose seal.
Oil leakage from quick coupling when attachment is not connected (female connection)	The quick coupling is dirty or damaged.	Clean or install new quick coupling.
Oil leakage from quick coupling on the attachment (male connection)	The quick coupling is dirty or damaged.	Clean or install new quick coupling.
Attachment hydraulics do not function.	No function in OQSS.	Check according to OQSS troubleshooting.
	The machine does not give the attachment the pressure and/or flow that the attachment requires.	Check the manual for the machine or contact the supplier of the machine.
	Male couplings out of position.	Contact OilQuick service.
	Fault in the attachment's hydraulic and/or electrical systems.	Check the manual for the attachment or contact the supplier of the attachment.
	Correct machine pressure or full machine pressure has not been achieved.	Check that correct pressure has been reached in the machine and attachment.
Attachment's hydraulic and/or electrical systems do not function.	Defective electrical coupling between quick coupler and attachment.	Check the wiring and electrical couplings. Replace or repair defective parts. Refer to the manual for the electrical couplings.

16 - Troubleshooting - OQSS

Fault	Possible cause	Action
Control panel does not start on machine start	Faulty power connection / wiring	Check voltage at keyed power connection with a multimeter. If machine voltage is present, inspect fuse. Check chassis module power light. If this is lit, the chassis module is receiving power. Inspect wire harness between chassis module and display module.
	Faulty fuse at power connection	Inspect fuse at power connection.
	Faulty OQSS display module	Test power and ground connections to the OQSS display module (test for machine voltage at display connector (pin 7, wire ID 2007), and check continuity between wire harness display plug ground (pin 1. wire ID 2001) and chassis ground connection.
Buzzer fault	Faulty buzzer, Faulty wiring	Enter “Troubleshooting Mode” in OQSS control panel and force buzzer on. If the buzzer is sounding, back probe pin 5 on OQSS display plug (wire ID 2005). Machine voltage should be present. If not, inspect wire 2005 from display module to buzzer. If buzzer does not sound, unplug and test for voltage at buzzer plug pin 2. If machine voltage is present replace buzzer ASSY.
Lock valve fault	Faulty valve cable, Faulty coil	Enter “Troubleshooting Mode” in OQSS control panel and force faulted valve on. Look at lighted plug on affected valve solenoid. If it is lit green, replace coil. If it is not lit unplug and test for voltage at pin 1. If voltage is present replace coil and cable (LED in plug has failed as well as the coil). If there is no voltage, test continuity of valve cable / Harness Control Module and replace as needed.
Boost valve fault		
Relief valve 1 fault		
Relief valve 2 fault		
Lock pressure fault	Machine inactivity, Low supply pressure, Incorrect connection	Open “SYSTEM STATUS” and read lock pressure while operating excavator. If it does not rise above 2,200 PSI check connection between pump and OQ lock valve. Verify that the excavator has correct max pressure when a function is stalled. If supply pressure is correct, check to see if the fault is cleared. This fault will appear after thirty minutes of machine operation below 2,200 PSI as a reminder to boost the lock pressure periodically.
Pressure sensor fault	Faulty lock sensor, Faulty wiring	Check power and ground at pressure sensor plug (pin 2 power, pin 1 ground). If power and ground are verified to be good, test continuity between pressure sensor cable plug pin 4 (wire ID 1010) and chassis module plug pin 10. If continuity is confirmed, determine if faulty wire is in sensor cable or HARNESS CONTROL MODULE. Replace or repair harnesses as needed.

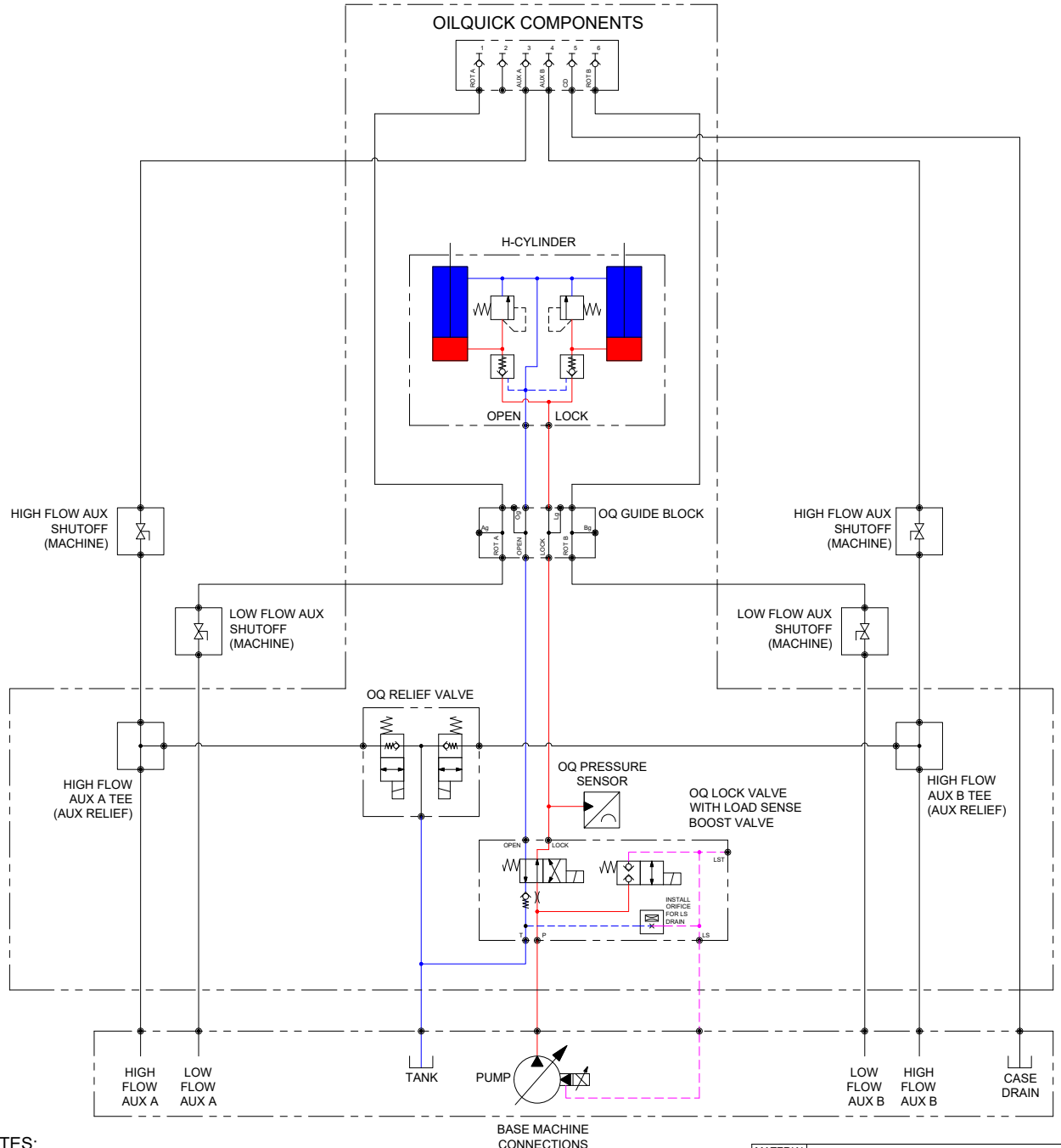
16 - Troubleshooting - OQSS - *continued*

Fault	Possible cause	Action
H-Cylinder Sensor Fault	Faulty lock sensor, Faulty wiring	With the machine keyed on and someone in the cab observing the monitor, manually actuate H-cylinder sensor and rear pin sensor by putting a piece of metal against the individual sensors. If both sensors indicate in the cab inspect the interface between sensors and rear pin / H-cylinder. If only one sensor lights, inspect the connection between coupler and chassis module (H-cylinder - wire 1006 - M12 coupler connector pin 4 / rear pin - wire 1005 - M12 coupler connector pin 1). If no indication is shown on the display, check power and ground connections between base of machine and coupler (PWR - wire 1012-4 - M12 coupler connector pin 1 / GRD - wire 1001-4 - M12 coupler connector pin 3).
Rear Pin Sensor Fault		
Can bus fault	Faulty chassis module, Faulty canbus harness, Faulty terminating resistor	Check active faults, if communication with chassis module has failed all valves and sensors will be in fault state. Remove chassis terminating resistor and test resistance on harness between pins A and B. this tests continuity of the CAN wires, along with the cab terminating resistor. If resistance is within spec, test between pins A and B on the removed resistor. Both tests should read 120 ohms. If resistance is within spec, unplug harness from display module and chassis module. Test plug to plug continuity between display plug pin 3 and chassis plug pin 11 (green wire); and display plug pin 4 and chassis plug pin 2 (yellow wire). If harness all wiring tests are within spec, replace the chassis module.

Notes

17 - Hydraulic schematic (OQE06747)

REVISIONS				
REV	ECN	DESCRIPTION	DATE	BY
A		ORIGINAL RELEASE	10/23/2024	JPB
B				
C				



NOTES:

1. COMPLETE OILQUICK SYSTEM INCLUDING BASE MACHINE CONNECTIONS SHOWN

2. COMPONENTS VARY DEPENDANT UPON MACHINE SIZE AND CONFIGURATION

3. TYPICAL COUPLER CONFIGURATION SHOWN. COUPLER CONNECTIONS VARY BASED ON SPECIFIED CONFIGURATION AND COUPLER SIZE

4. LOAD SENSE BOOST NOT TYPICALLY USED IN EXCAVATOR INSTALLATIONS. LS DRAIN PLUG CAN BE REPLACED WITH ORIFICE FOR LS DRAIN

5. HIGH FLOW AUX A / B TEES AND OQ AUX RELIEF VALVE OMITTED IN OQ40 / OQ45

MATERIAL

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN INCHES, ALL THREADS TO BE CLASS 2 FIT.
ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM.
ALL MACHINED EDGES TO BE DEBURRED.

OILQUICK® SUPERIOR, WI USA

TOLERANCES UNLESS OTHERWISE SPECIFIED	
DECIMAL X.XX	±.030
DECIMAL X.XXX	±.005
FRACTIONAL	±1/16
ANGULAR	±0.5°
SCALE: NTS	
WEIGHT: LBS	

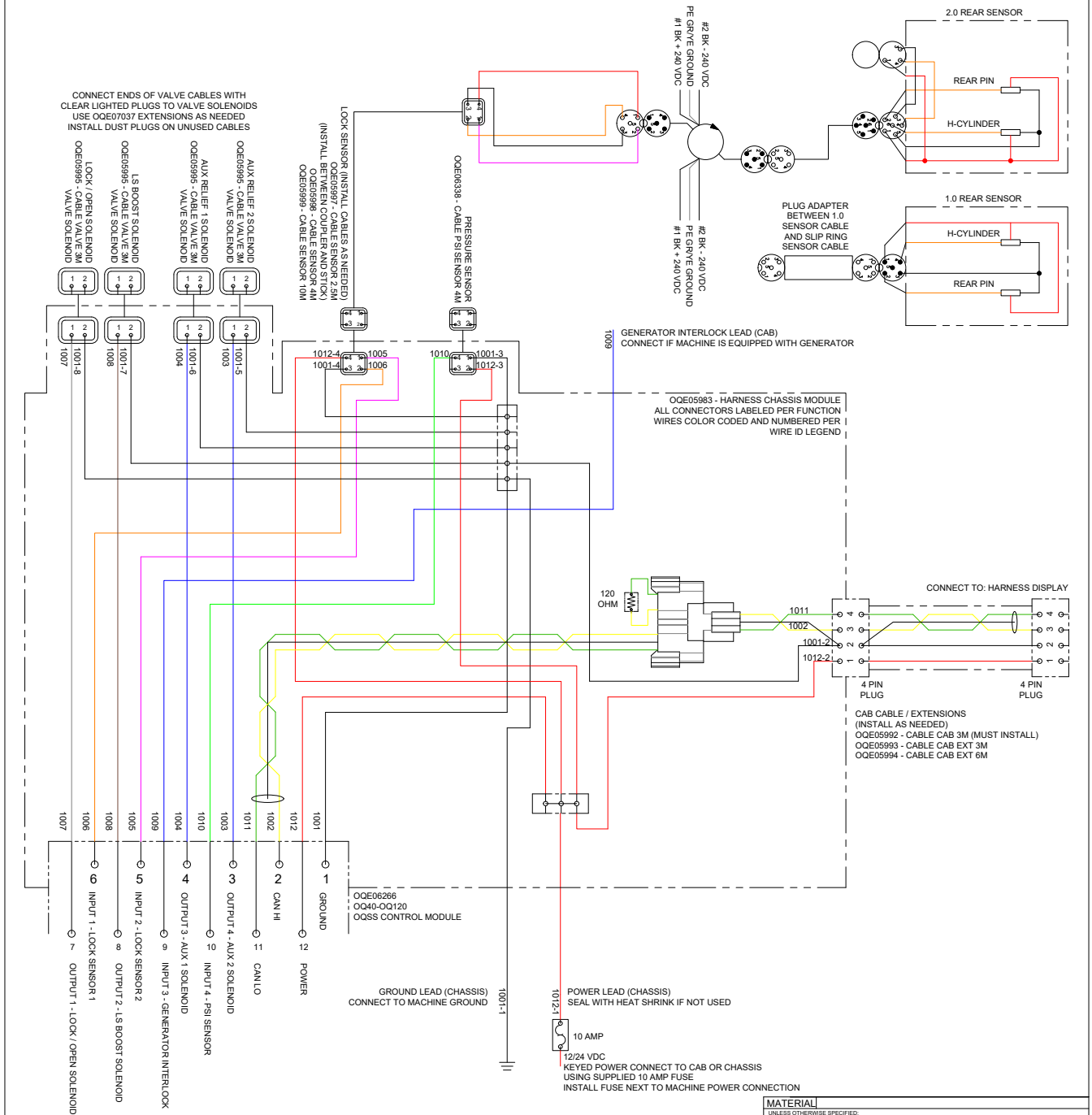
DRAWN BY: JPB DATE: 10/23/2024
THIRD ANGLE PROJECTION SHEET 1 OF 1
DESCRIPTION: HYDRAULIC SCHEMATIC OQSS

SIZE	PART NO.	REV.
A	OQE06747	A

18 - Electrical schematic (OQE07434) - sheet 1

CHASSIS WIRING

REVISIONS				
REV.	ECN	DESCRIPTION	DATE	BY
A		ORIGINAL RELEASE	06/20/2025	JPB
B				
C				



WIRE ID LEGEND			VOLTAGE SPECS (VDC)			
			PLUGGED IN		UNPLUGGED	
ID	DESCRIPTION	COLOR	ON	OFF	ON	OFF
1001	GROUND	BLACK	0	0	0	0
1002	CAN HI	YELLOW	2.5-3.5	N/A	2.5-3.5	N/A
1003	AUX RELIEF SOLENOID 2	BLUE / WHITE	+VDC	2-3	+VDC	+VDC
1004	AUX RELIEF SOLENOID 1	BLUE / WHITE	+VDC	2-3	+VDC	+VDC
1005	LOCK SENSOR INPUT 2	PINK	+VDC	0	1/2 +VDC	N/A
1006	LOCK SENSOR INPUT 1	ORANGE	+VDC	0	1/2 +VDC	N/A
1007	LOCK / OPEN SOLENOID	GRAY	+VDC	2-3	+VDC	+VDC
1008	LS BOOST SOLENOID	BROWN	+VDC	2-3	+VDC	+VDC
1009	GENERATOR INTERLOCK	BLUE	+VDC	0	1/2 +VDC	1/2 +VDC
1010	PSI SENSOR INPUT	GREEN / YELLOW	.5-4.5	N/A	1/2 +VDC	1/2 +VDC
1011	CAN LO	GREEN	2.5-3.5	N/A	2.5-3.5	N/A
1012	POWER	RED	+VDC	+VDC	+VDC	+VDC

MATERIAL

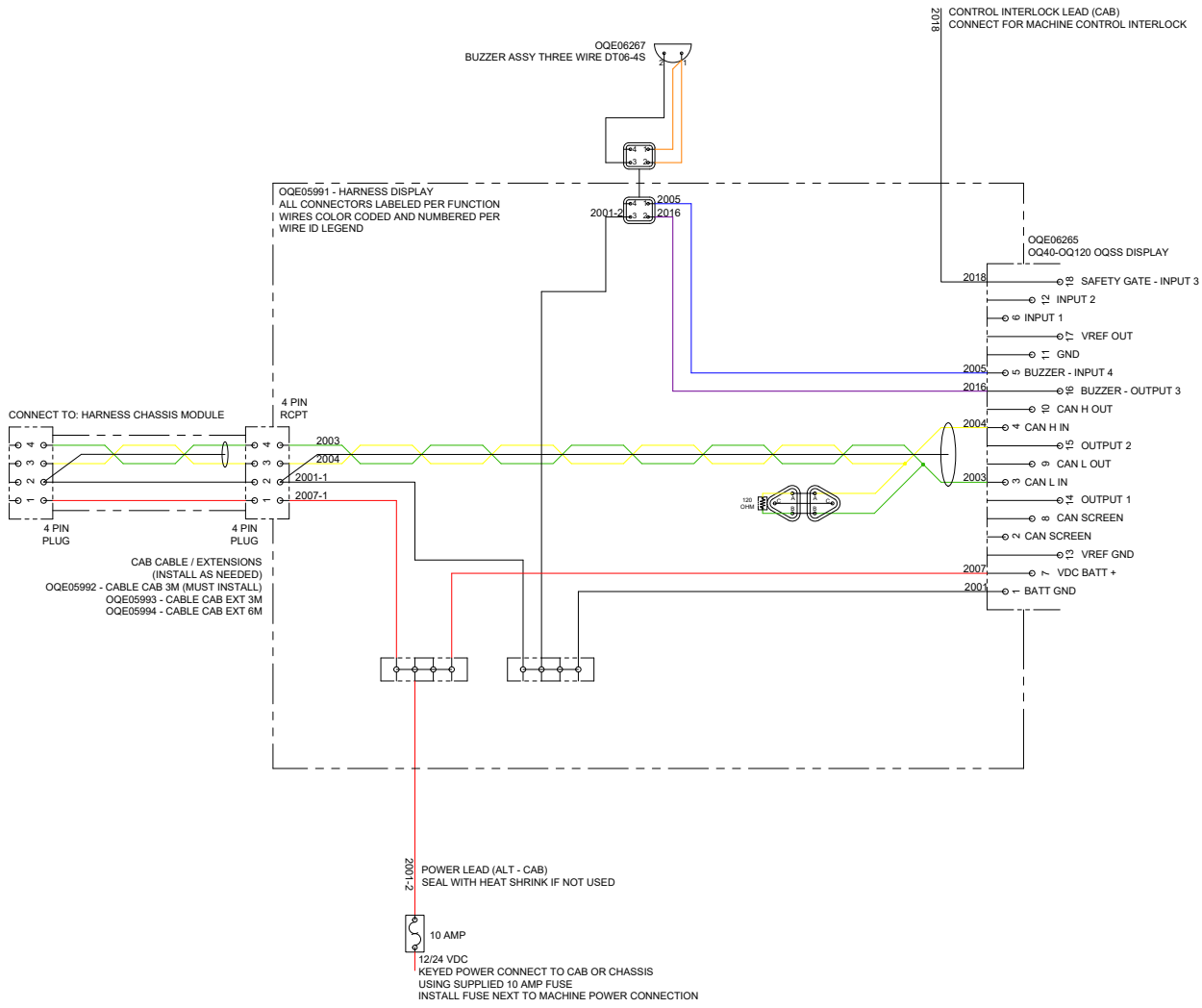
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN INCHES, ALL THREADS TO BE CLASS 2 FIT.
ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM.
ALL MACHINED EDGES TO BE DEBURRED.

OILQUICK® SUPERIOR, WI USA

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY: JPB	DATE: 06/20/2025
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 1 OF 2
DECIMAL X.XXX	±.005	DESCRIPTION: OQC OQSS ELECTRICAL SCHEMATIC CHASSIS CONNECTIONS	
FRACTIONAL	±1/16		
ANGULAR	±0.5°		
SCALE: NTS		SIZE A	PART NO. OQE07434
WEIGHT: LBS			REV. A

18 - Electrical schematic (OQE07434) - sheet 2

IN CAB WIRING



WIRE ID LEGEND			VOLTAGE SPECS (VDC)			
			PLUGGED IN		UNPLUGGED	
ID	DESCRIPTION	COLOR	ON	OFF	ON	OFF
2001	GROUND	BLACK	0	0	0	0
2003	CAN LO	GREEN	2.5-3.5	N/A	2.5-3.5	N/A
2004	CAN HI	YELLOW	2.5-3.5	N/A	2.5-3.5	N/A
2005	BUZZER INPUT	BLUE / WHITE	+VDC	0	0	0
2007	POWER	RED	+VDC	+VDC	+VDC	+VDC
2016	BUZZER OUTPUT	PURPLE	+VDC	0	+VDC	0
2018	SAFETY GATE	WHITE	+VDC	0	0	0

MATERIAL

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN INCHES, ALL THREADS TO BE CLASS 2 FIT.
ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM.
ALL MACHINED EDGES TO BE DEBURRED.

OILQUICK® SUPERIOR, WI USA

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY: JPB	DATE: 6/20/2025
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 2 OF 2
DECIMAL X.XXX	±.005	DESCRIPTION: OQC OQSS ELECTRICAL SCHEMATIC CAB CONNECTIONS	
FRACTIONAL	±1/16		
ANGULAR	±0.5°		
SCALE: NTS			
WEIGHT: LBS		SIZE A	PART NO. OQE07434
			REV. A

Notes

18 - Electrical schematic (OQE07434) - sheet 2

18.1 - Wiring diagram (OQE07435) - sheet 1

FULL SYSTEM INSTALLATION SHOWN
COMPONENTS SUPPLIED AND INSTALLED DEPENDANT UPON COUPLER SIZE AND MACHINE CONFIGURATION

1. HARNESS LABELS DESIGNATE CONNECTION TO BE MADE AT EACH END.

2. OQE05997 MUST BE CONNECTED TO COUPLER AT STICK TIP.

3. HARNESS KITS VARY PER COUPLER SIZE AND CONFIGURATION.

5. HYDRAULIC VALVES SHOWN FOR REFERENCE.

- TYPICAL MATERIAL HANDLER INSTALLATION SHOWN.
- INSTALL ITEM 20 IN OPEN VALVE SOLENOID PLUGS OF CHASSIS MODULE HARNESS.
- OQE07037 CABLE DT PL/RCPT VALVE EXT 3M SUPPLIED UPON REQUEST.

REVISIONS

REV.	ECN	DESCRIPTION	DATE	BY
A		ORIGINAL RELEASE	06/20/2025	JPB
B				
C				

ITEM	PART#	NAME	QTY	UOM
1	OQE07425	OQC OQSS DISPLAY	1	EA
2	OQE06266	OQ40-OQ120 OQSS CHASSIS MODULE	1	EA
3	OQE06267	BUZZER ASSY THREE WIRE DT06-4S	1	EA
4	OQE05983	HARNESS CONTROL MODULE	1	EA
5	OQE05991	HARNESS DISPLAY	1	EA
6	OQE06338	CABLE DT PL/PL PSI SENSOR 4M	1	EA
7	OQE05995	CABLE DT PL/PL VALVE 3M	1–3	EA
8	OQE05992	CABLE DT PL/PL CAB 3M	0–1	EA
9	OQE05993	CABLE DT PL/RCPT CAB EXT 3M (OPTION)	0–2	EA
10	OQE05994	CABLE DT PL/RCPT CAB EXT 6M (OPTION)	1	EA
11	OQE05998	CABLE DT PL/RCPT SENSOR 4M	1–3	EA
12	OQE05999	CABLE DT PL/RCPT SENSOR 10M	1–3	EA
13	OQE07381	CABLE PLUG/M12 FEMALE STICK 3M	1	EA
14	30-00864	HEAT SHRINK 22-18 RING TERMINAL, 10-24	2	EA
	30-00865	HEAT SHRINK 22-18 RING TERMINAL, 1/4"	2	EA
	30-00866	HEAT SHRINK 22-18 RING TERMINAL, 3/8"	2	EA
	30-00879	HEAT SHRINK 16-14 RING TERMINAL, 10-24	1	EA
	30-00880	HEAT SHRINK 16-14 RING TERMINAL, 1/4"	1	EA
	30-00881	HEAT SHRINK 16-14 RING TERMINAL, 3/8"	1	EA
15	30-00465	16-14 AWG Blue Crimp Butt Splice	3	EA
	30-00801	22-18 AWG Red Crimp Butt Splice	3	EA
16	30-00862	INLINE FUSE HOLDER MINI	1	EA
17	30-00863	FUSE 10 AMP MINI	1	EA
18	30-00877	CONNECTOR DUST PLUG AT06-2S-SS01	1–3	EA
19	OQE06340	SENSOR PRESSURE 7500 PSI 04MB DT	1	EA
20a	OQ4120613	VALVE - LOCK/OPEN POWERBOOST	1	EA
20b	OQ4129351	LOCK VALVE/POWER BOOST 12V (OQ40 / 45-5)	1	EA
21a	OQ4123124	VALVE - DEPRESSURIZATION 24V DT (OQ60-5 - OQ120)	1	EA
21b	OQ4123125	DEPRESSURIZATION VALVE DOUBLE, 12V (OQ60-5 - OQ120)	1	EA
22	30-00894	CORRUGATED SPLIT LOOM .125" ID	30	FT
23	30-00892	ZIP TIE .098" X 3.9" BLACK	15	EA
24	30-00893	ZIP TIE .098" X 3.9" RED	15	EA
25	OQE07037	CABLE DT PL/RCPT VALVE EXT 3M	0-3	EA
26	OQE05906	GEN ENABLE INTERLOCK KIT	1	EA

MATERIAL

UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN INCHES, ALL THREADS TO BE CLASS 2 FIT.
ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM.
ALL MACHINED EDGES TO BE DEBURRED.

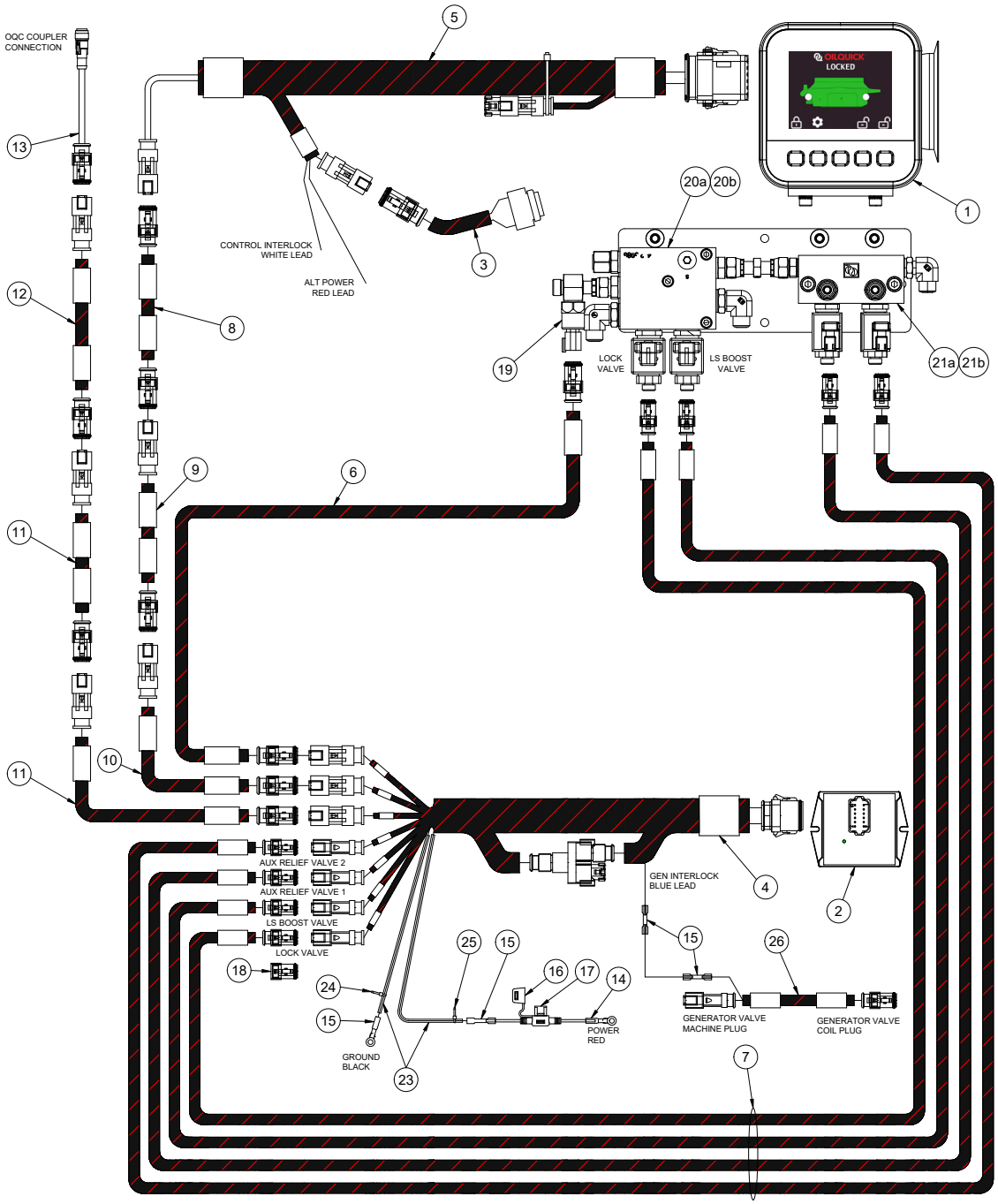
OILQUICK® SUPERIOR, WI USA

TOLERANCES UNLESS OTHERWISE SPECIFIED	
DECIMAL X.XX	±.030
DECIMAL X.XXX	±.005
FRACTIONAL	±1/16
ANGULAR	±0.5°

DRAWN BY: JPB DATE: 06/20/2025
THIRD ANGLE PROJECTION SHEET 1 OF 2
DESCRIPTION: OQC OQSS WIRING DIAGRAM
SCALE: NTS
WEIGHT: LBS
SIZE A | PART NO. OQE07435 | REV. A

18 - Electrical schematic (OQE07434) - sheet 2

18.1 - Wiring diagram (OQE07435) - sheet 2



MATERIAL			
UNLESS OTHERWISE SPECIFIED: ALL DIMENSIONS IN INCHES, ALL THREADS TO BE CLASS 2 FIT. ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM. ALL MACHINED EDGES TO BE DEBURRED.			
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OILQUICK®			SUPERIOR, WI USA
TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY: JPB	DATE: 06/20/2025
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 2 OF 2
DECIMAL X.XXX	±.005	DESCRIPTION:	
FRACTIONAL	±1/16	OQC OQSS WIRING DIAGRAM	
ANGULAR	±0.5°		
SCALE: NTS		SIZE A / PART NO. OQE07435	REV. A
WEIGHT:	LBS		

Notes

19 - OQ Product warranty registration

OilQuick Product Warranty Registration

Thank you for your recent purchase of an OilQuick Automatic Quick Coupler.

Completion of the form below will activate the warranty of the product.

The product warranty for your OilQuick product is dependent on the correct installation on machine and attachment.

By completing the registration form below you are immediately registered as warranty holder for the product.

Unless otherwise agreed, the warranty conditions apply as stated in the product manual. The requested information regarding product type and serial number is stated on the product identification plate.

Information regarding other questions in conjunction with this can be referred to machine dealers or installer.

Purchased from machine dealer: _____

Name and address of end customer: _____

Telephone: _____

Email: _____

Type of OilQuick Coupler: _____

Serial number of coupler: _____

Machine Type: _____

Machine hours at coupler install: _____

Machine weight: _____

Installation Date: _____

Mail the completed warranty form to:
OilQuick Americas
155 Main Street
Superior, Wisconsin 54880

Or complete online via the QR code:
https://exodusglobal.com/oilquick-americas-warranty

Cut along line to remove

Notes

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