OILQUICK®

INSTALLATION MANUAL

OQ 40 – OQ 120

OilQuick Safety System
OQSS

Esteemed OilQuick user

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

OilQuick is a quick coupler system for excavators between 1 and 120 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 excavators 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: OQ 40 - OQ 120.

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 situations such as chiseling and demolition. 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 excavators, 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 excavator, intended use, and the local conditions for use.

Any attachment connected to the quick coupler must be approved for use with the excavator 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.

An excavator with connected quick coupler must only be used at a workplace that is protected or restricted.
For more information about requirements for the excavator, see “Technical data”.

The attachment coupler must not be used for work (aside from lifting per section 4) without a connected attachment.

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 an excavator approved for the coupler (see type plate and the ”Technical data” section) 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. Hoisting Hook and Ring (optional)

The quick coupler can be equipped with a hoisting hook/ring as an option. This hoisting hook/ring may only be used to lift weights using appropriate and approved lifting items (chains or lifting straps). The lifting aid is hooked onto the hoisting hook or ring.

Information about the maximum lifting capacity is shown on the hoisting hook/ring.

Use the hoisting hook/ring on the quick coupler for purposes that it was not intended, entails a risk of accidents resulting in severe personal injury or fatality.

- **Use the hoisting hook/ring together with a suitable and approved lifting aid.**
- **Do not exceed the maximum load of the hoisting hook/ring.**
- **Only use the hoisting hook/ring if it is in fault-free condition.**

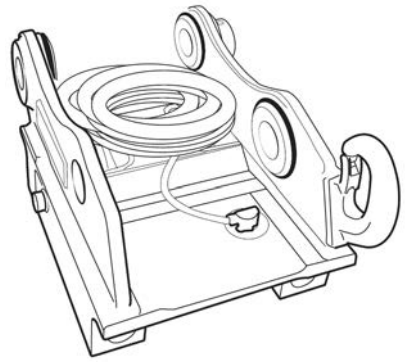
5. Table of Contents

5. Table of Contents - *continued*

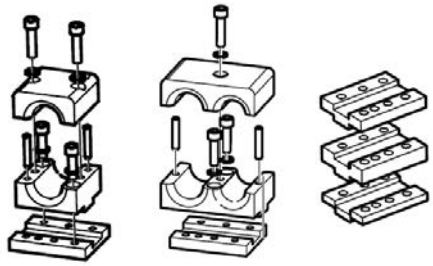
6. Delivery

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.

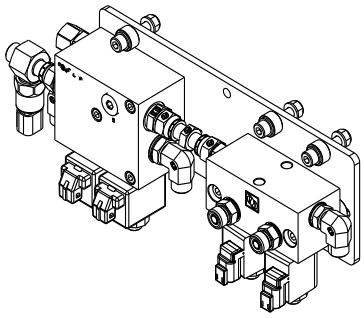
Quick coupler



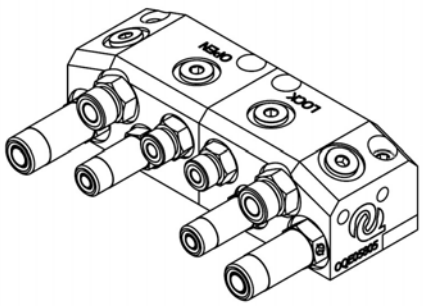
Hose clamp and spacers



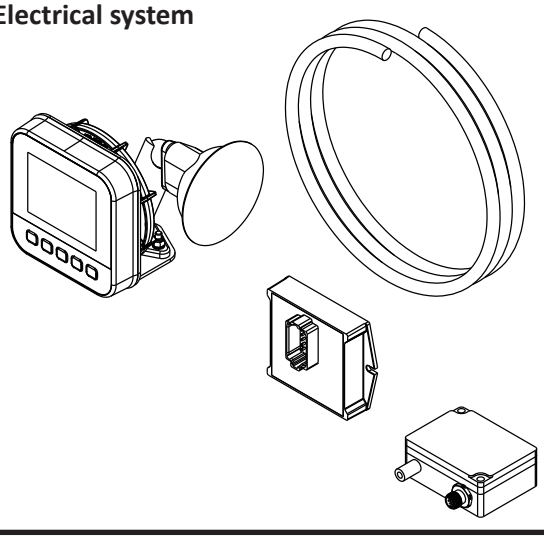
Valve package



Guide block



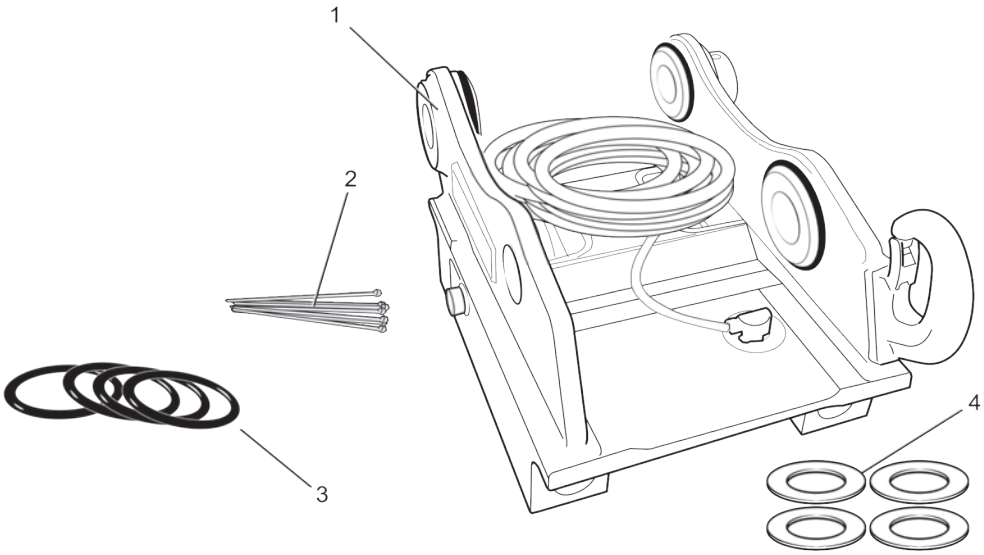
Electrical system



7. Quick coupler

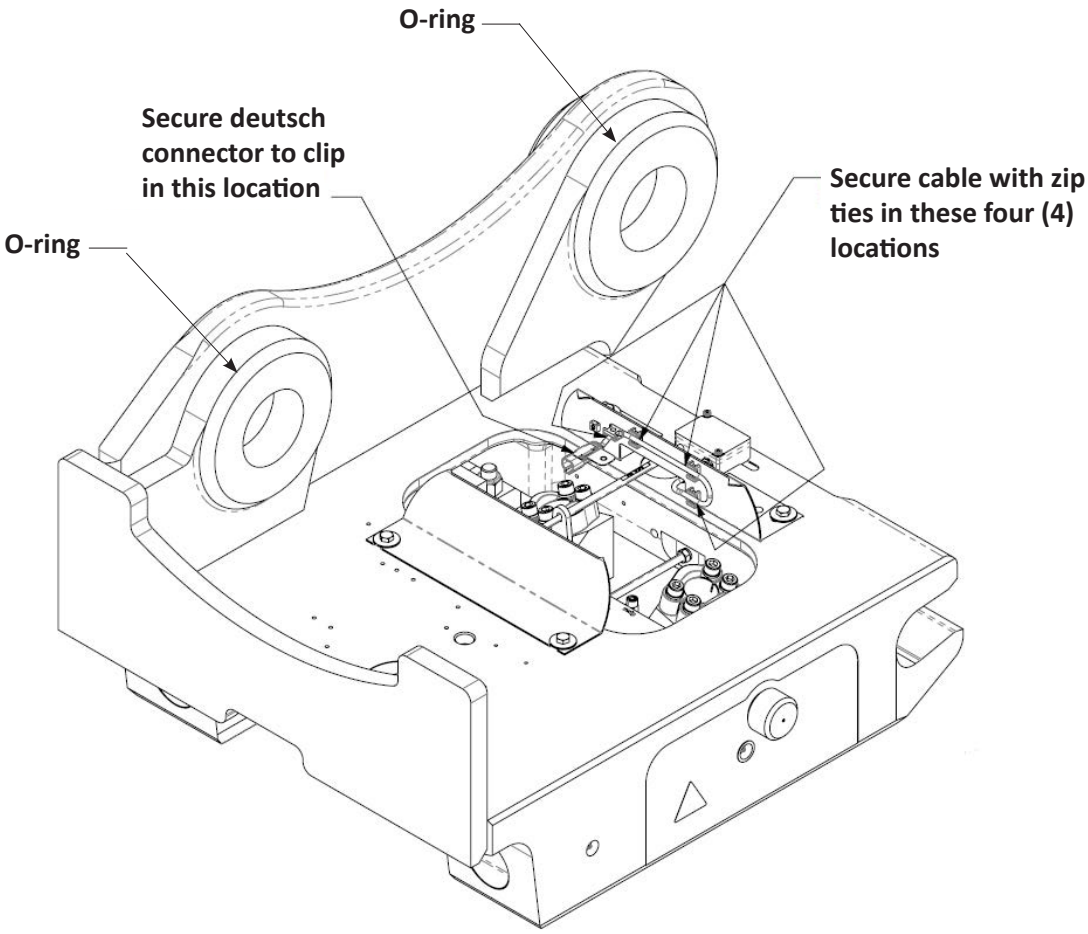
NOTE!
Before the quick coupler is installed on the excavator, the machine supplier must be contacted for instructions regarding suitable connection points for hydraulics and electronics.

Material



Position	Quantity	Designation	Note
1	1	Quick coupler OQ	
2		Cable ties	Consumables
3	4	O-ring	
4	4	Shim kit coupler	

8. Wiring



1. Check that the cables are in a secure position as illustrated.

2. Install the O-rings supplied by excavator manufacturer on the quick coupler.

9. Installation

WARNING!
There is a risk of crushing.

1. Remove the delivery supports from the dipper stick.

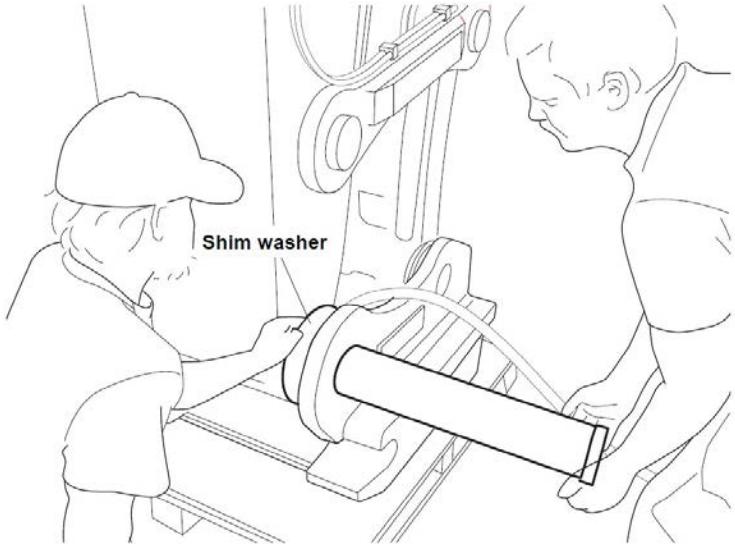
2. Remove the pins from the dipper stick.

3. Place the quick coupler on a pallet lift.

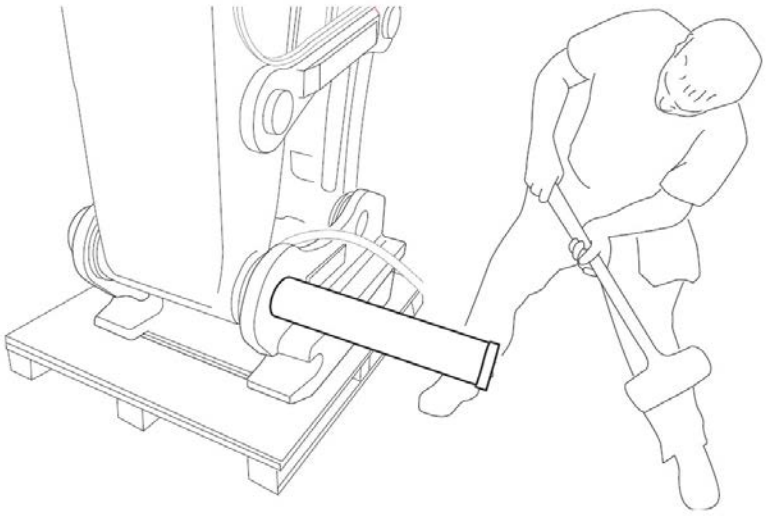
4. Lower the dipper stick towards the coupler. Adjust the position of the pallet until the quick coupler's and dipper stick's pin holes are parallel.

5. Insert the pins through the quick coupler's side plate.

6. Install the necessary number of shim washers between the dipper stick and the quick coupler.



7. Insert the pins through the coupler and dipper stick by hitting the pins with a plastic mallet with care.



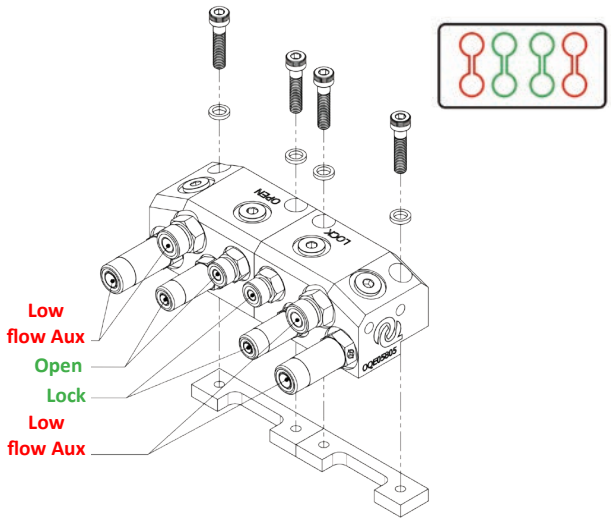
8. Move the O-rings to the space between the quick coupler and the dipper stick.
9. Lock the pins in the quick coupler.

10. Guide block

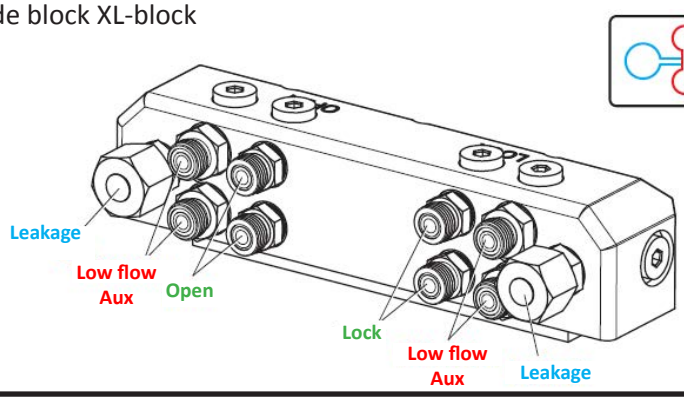
When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

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

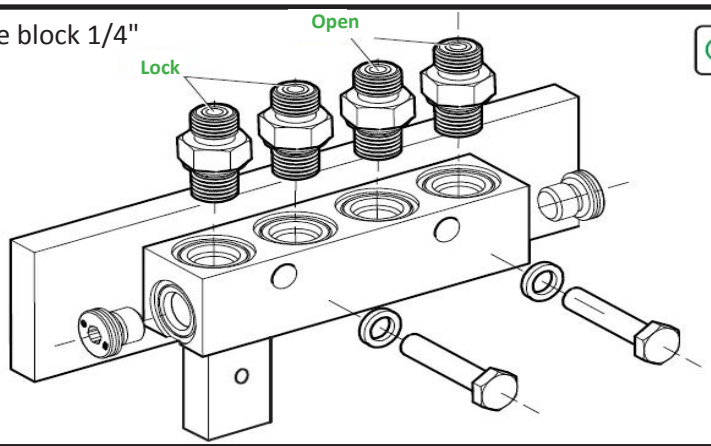
Guide block 1/2"



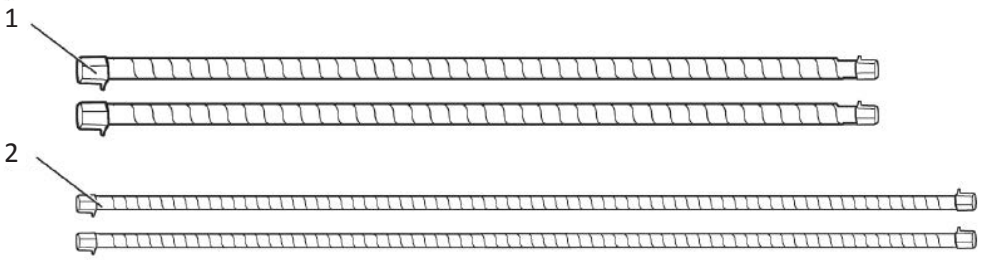
Guide block XL-block



Guide block 1/4"



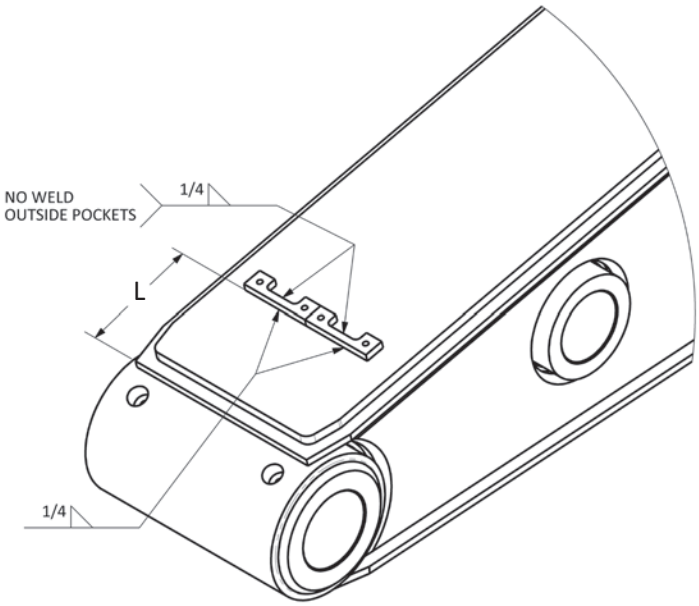
10.1 Hoses



Position	Quantity	Designation	Note
1	2	Extension hose	Rotation line- guide block OQ 65+
2	2	Lock hoses	Guide block- quick coupler

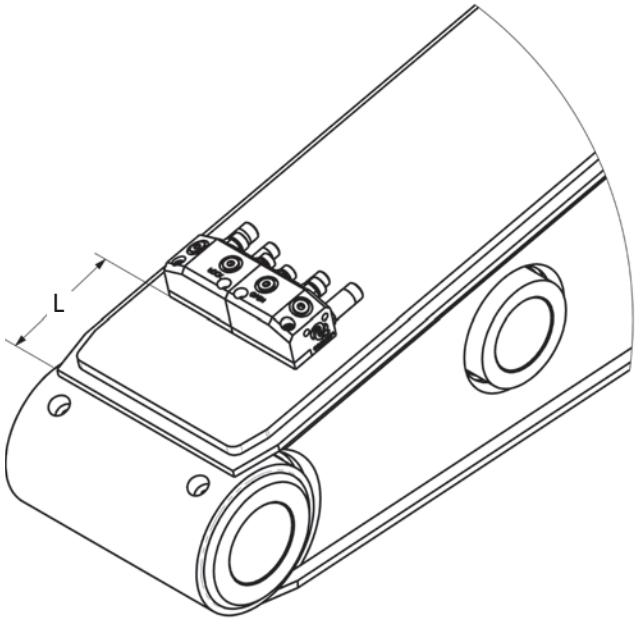
10.2 Installation

NOTE!
The guide block must be welded securely. Machine manufacturers discourage all drilling in the dipper stick.



1. Measure out the location for the guide block, approx. 3" - 7" from the lower edge of the stick tip (machine dependent). The guide block must be positioned so that cables and hoses can follow all the movements of the machine without being stretched or catching on other parts of the machine.

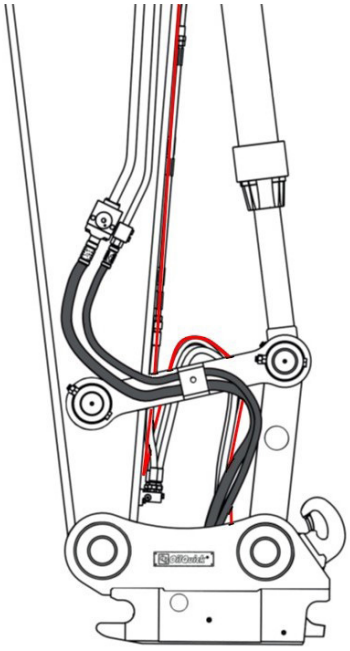
2. Grind paint off of stick in area to be welded. Tapped plates are coated with weld-thru primer and do not need any preperation prior to welding.

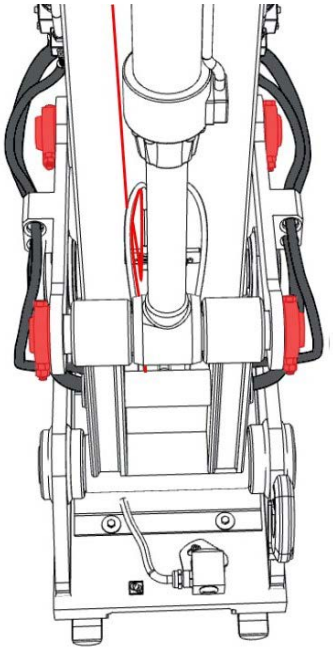


3. Weld the tapped plates securely, rust-proof and paint in the color of the machine.

4. Screw the guide block into place.

10.3 Attachment of the quick coupler

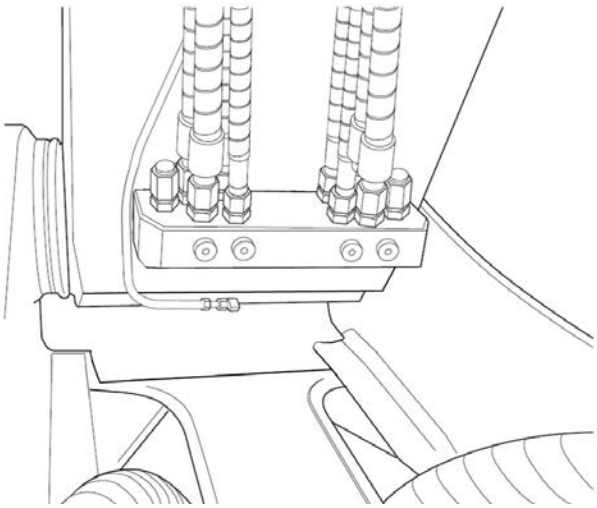




1. Secure the cables in a safe manner. Ensure that the cables are long enough so as not to be stretched or trapped in the outer positions. Start the machine to verify this.

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

10.4 Connection of hoses



. Connect the hoses to the quick coupling.

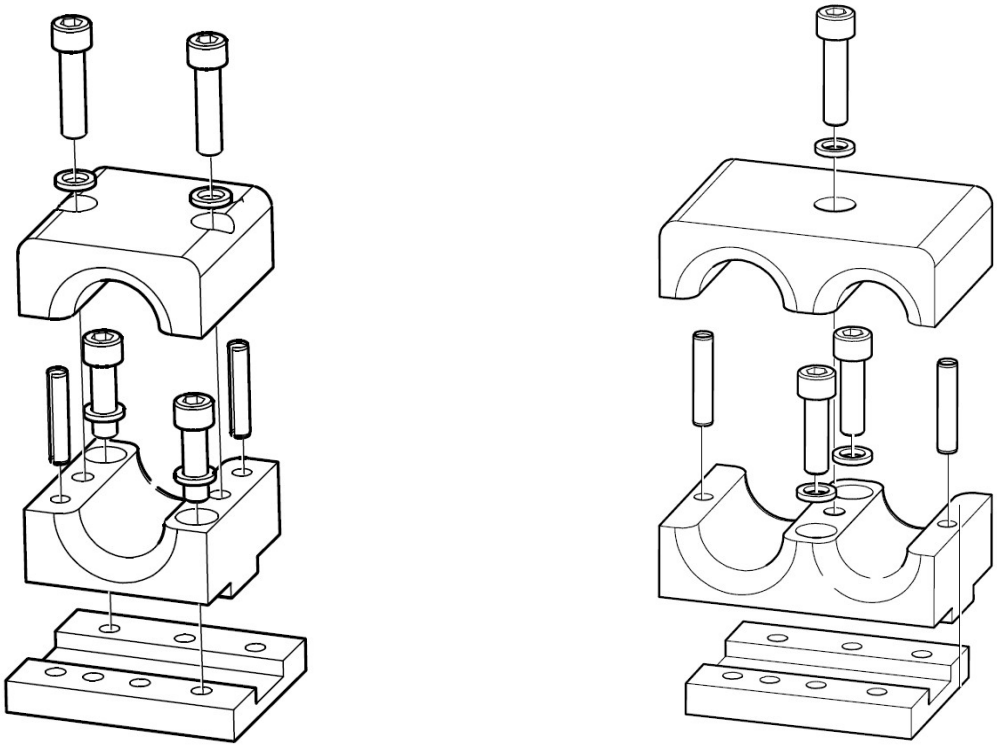
. Connect the hoses to the guide block.

. Wipe up any oil spillage.

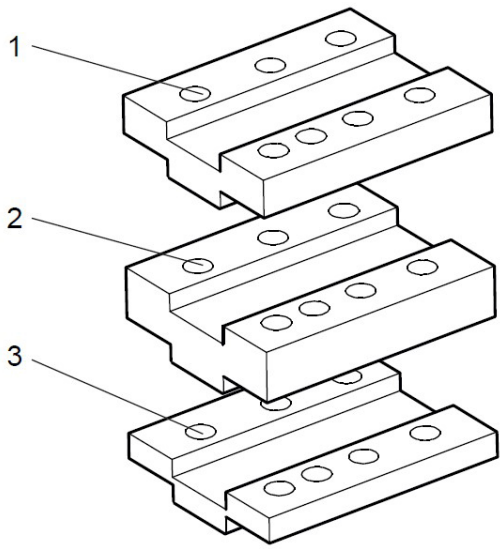
NOTE!
Ensure that all connections to the extension hoses are securely tightened.

11. Hose clamps

11.1 Hose



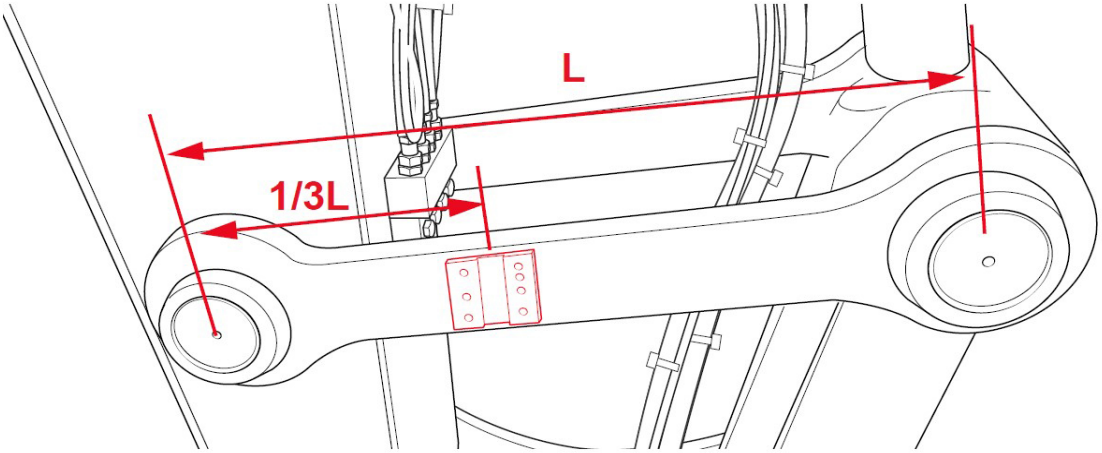
11.2 Spacers



Position	Quantity	Designation	Note
1	2	Spacer	10 mm
2	1	Spacer	15 mm
3	1	Spacer	20 mm

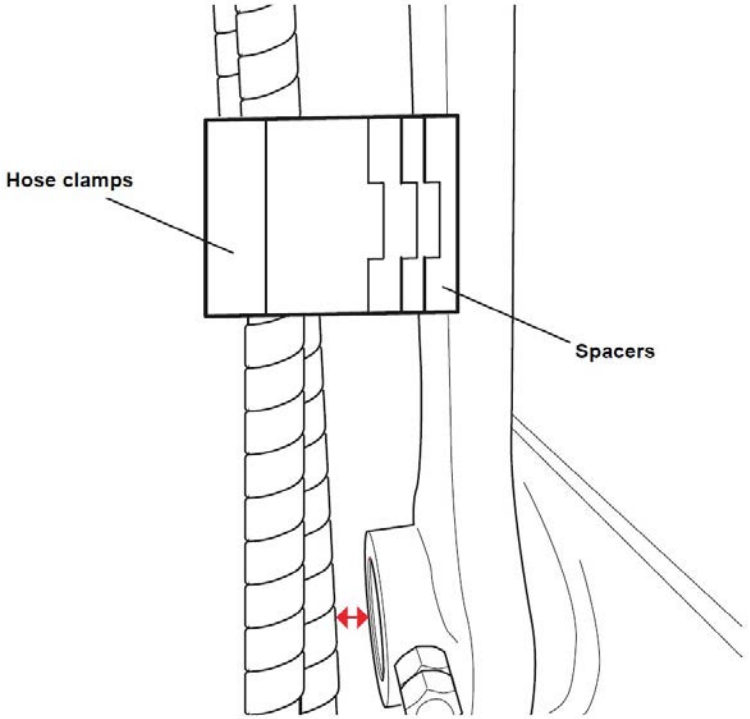
11.3 Installation

1. Measure the length of the link as illustrated. Place the hose clamp's welding plate 1/3 of the length from the centre of the attachment. If the link is designed so that the welding plate cannot be placed at this measurement, it is preferable that it be placed closer to the dipper stick than farther away.



2. Weld the welding plate on the link. Rust-proof and paint.

3. Install the necessary number of spacers to prevent the hoses from rubbing against the link.



4. Screw the hose clamp's lower section into place with screw and locking washer.

5. Install the sprung tubular pins.

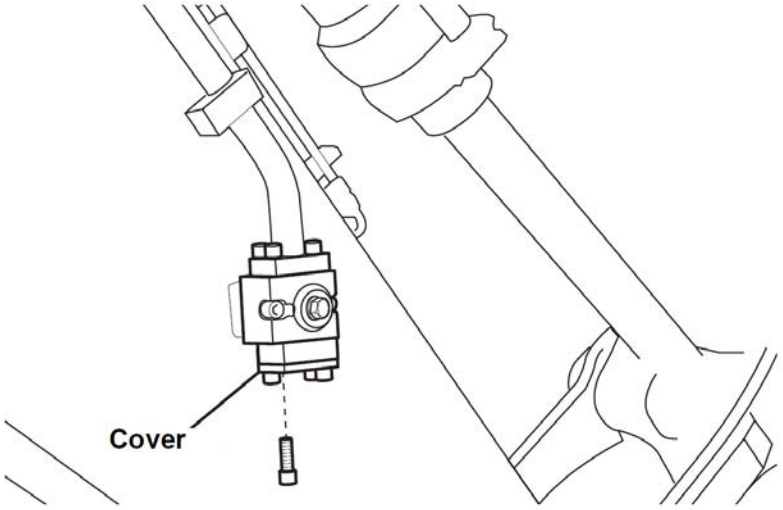
6. Screw the hose clamp's upper section into place with screw and locking washer.

12. Hoses for attachment hydraulics

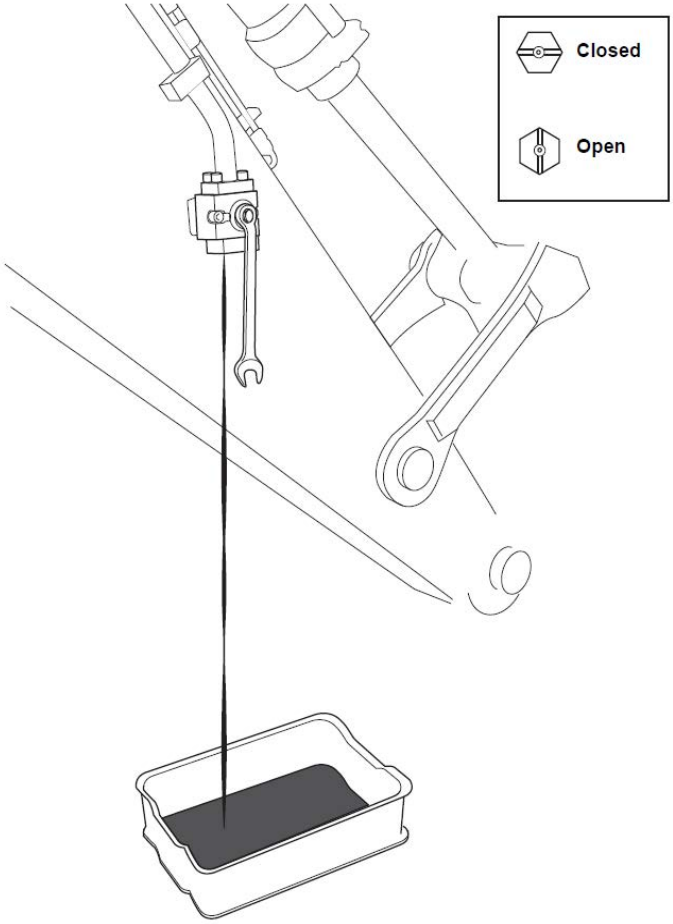
12.1 Connection to attachment hydraulics

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 dipper stick and remove it.

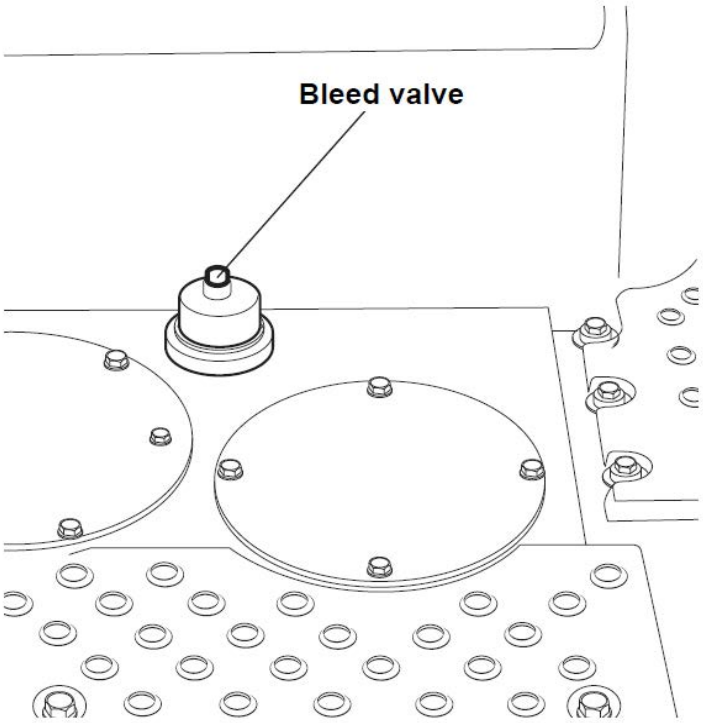


2. Place a container on the floor under the valve.
3. Open the valve and allow the oil to run down into the container.



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

12.1 Connection to attachment hydraulics - *continued*



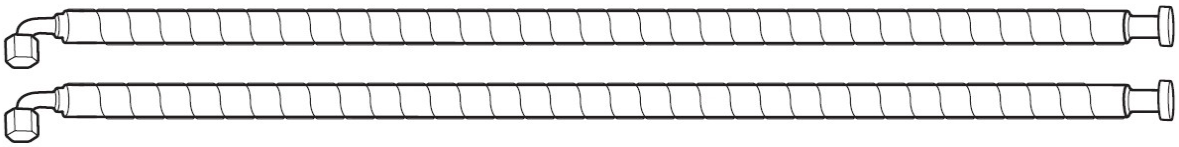
5. Release the remaining pressure through the relief valve on the tank.

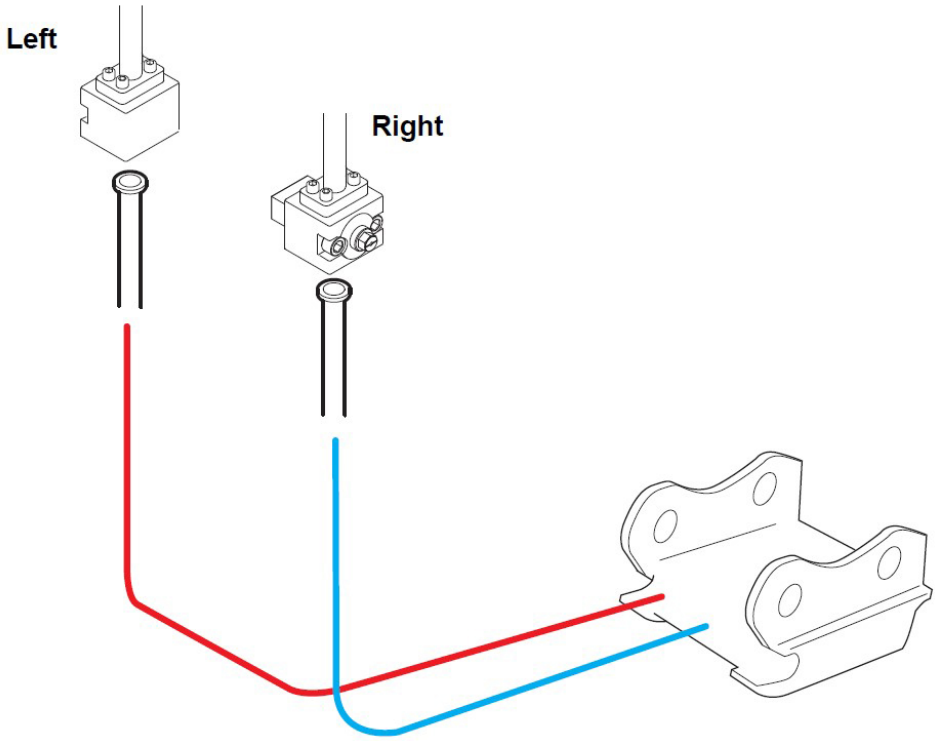
6. Close the valves on the dipper stick.

12.2 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.

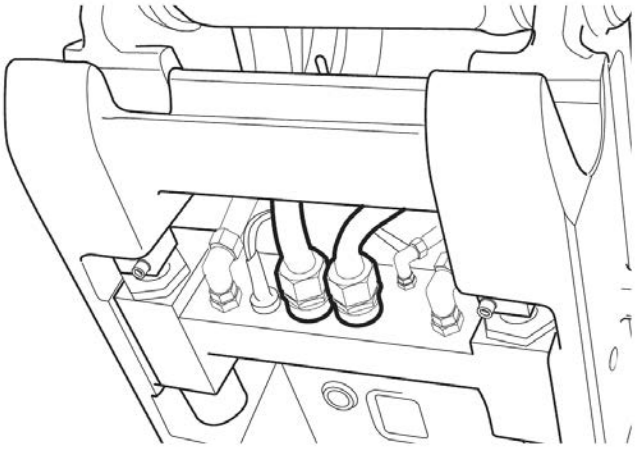
Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.



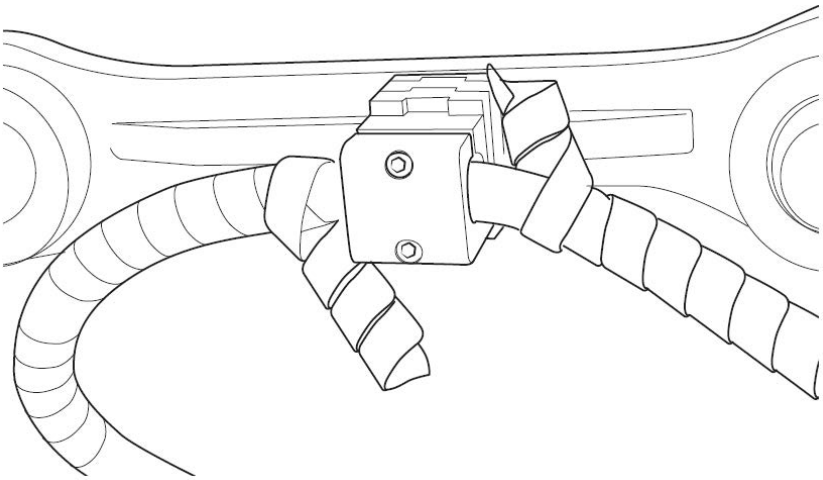


1. Connect the hoses to the quick coupler's connections. The configuration for the connections differs between different models.

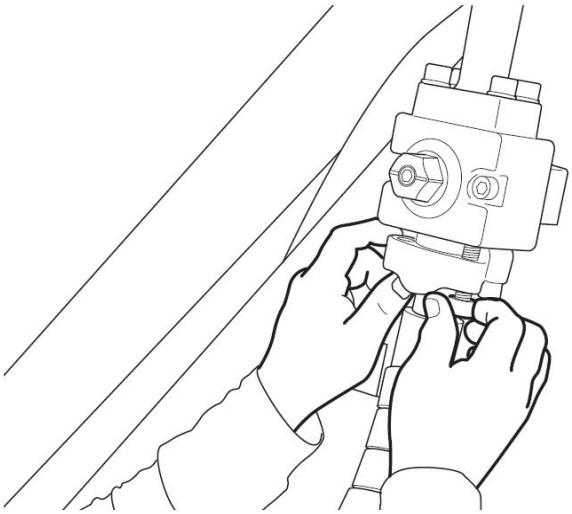
12.2 Hoses - *continued*



2. Split the hose guard and place the hose in the hose clamp and screw the upper section loosely so that the position of the hoses can be adjusted.



3. Connect the hose to the machine's quick coupling for attachment hydraulics.



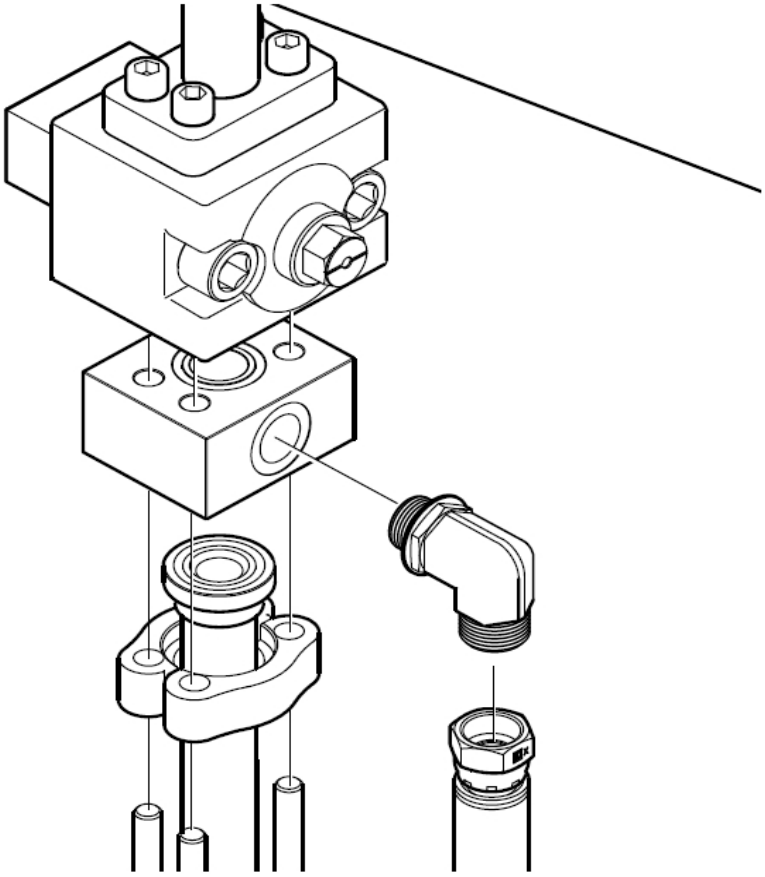
4. Repeat steps 2-3 for the hose on the opposite side.

12.3 Connection of double-connected return (option)

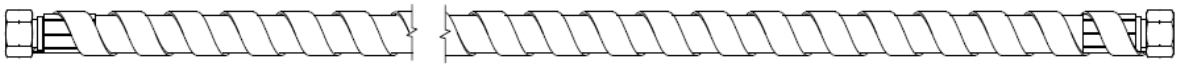
When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

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

Material

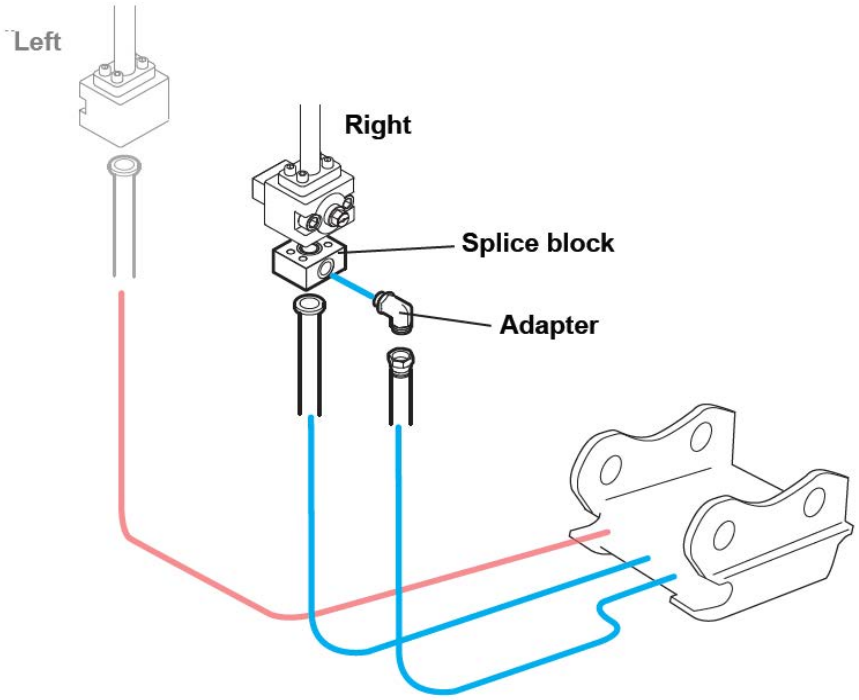


Hoses

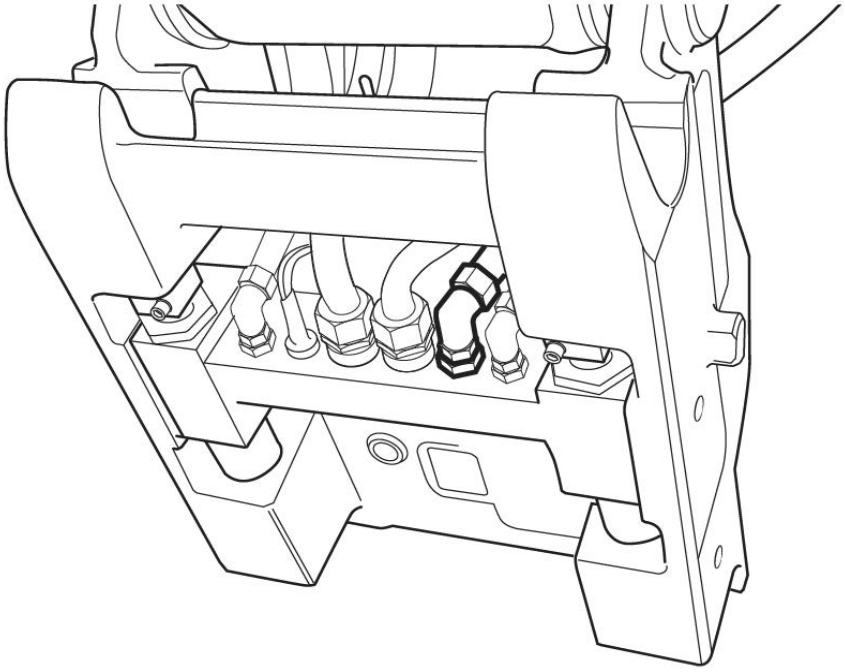


Position	Quantity	Designation
1	1	Extra return X1-hose

12.3 Connection of double-connected return (option) - *continued*



1. Connect the extra return hose to the quick coupler.



2. Split the hose guard and place the hoses in the hose clamp and screw the upper section loosely so that the position of the hoses can be adjusted.

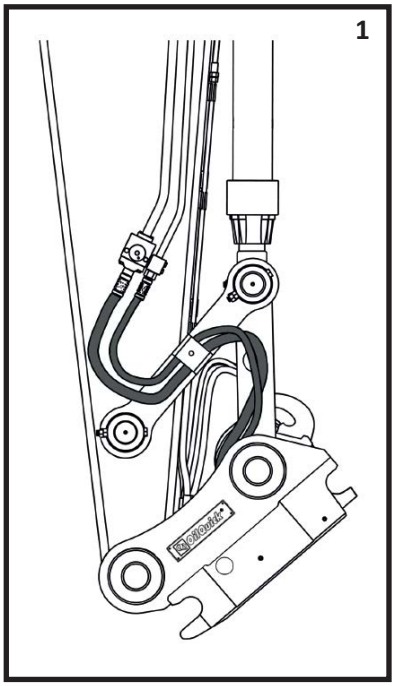
3. Screw the splice block securely to the machine's quick coupling.

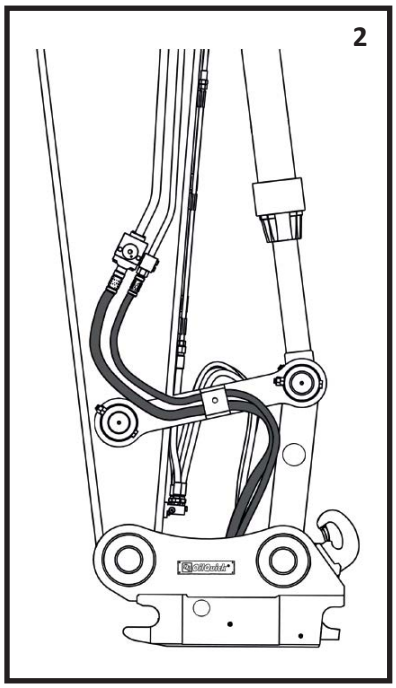
4. Screw the adapter to the splice block.

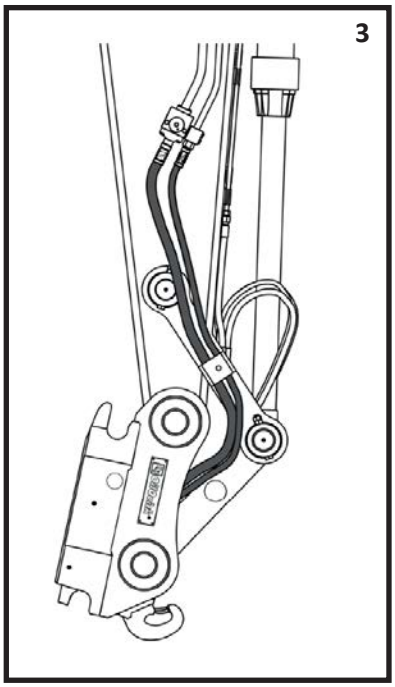
5. Connect the hose to the adapter.

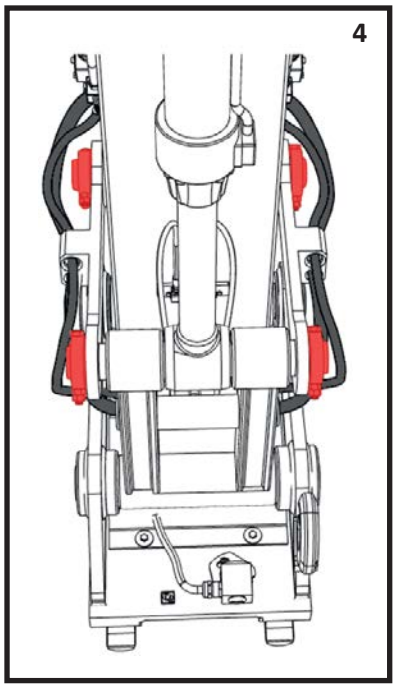
12.4 Adjustment of the position of the hoses

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.









2. Screw the upper sections of the hose clamps into place and secure the hoses.

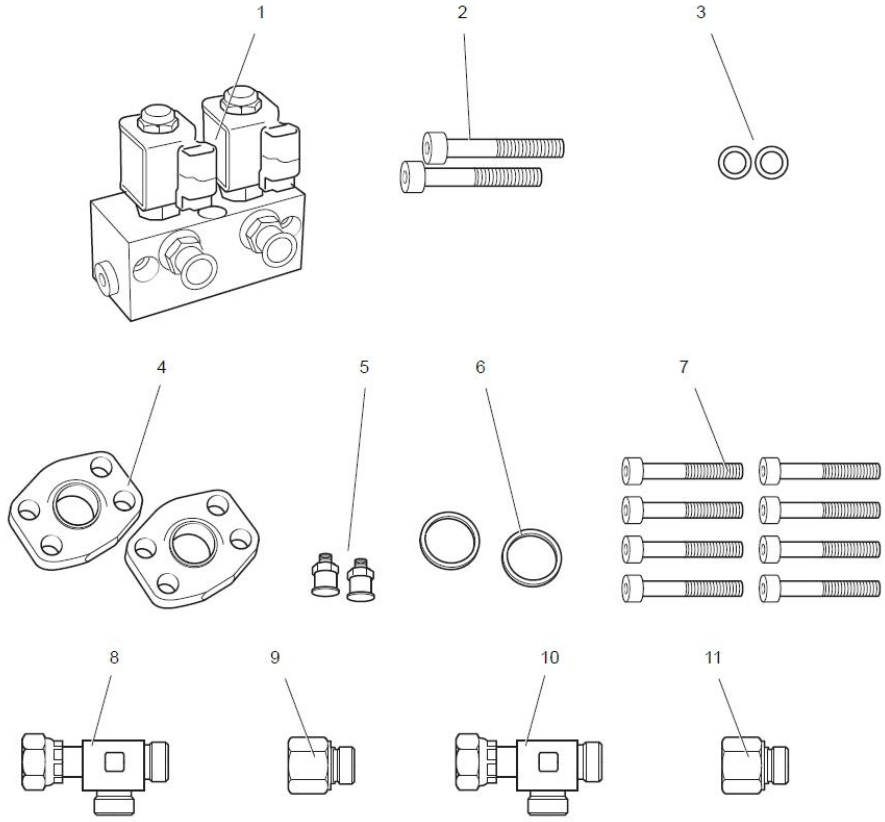
3. Remove excess hose protection.

13. 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.

13.1 Material

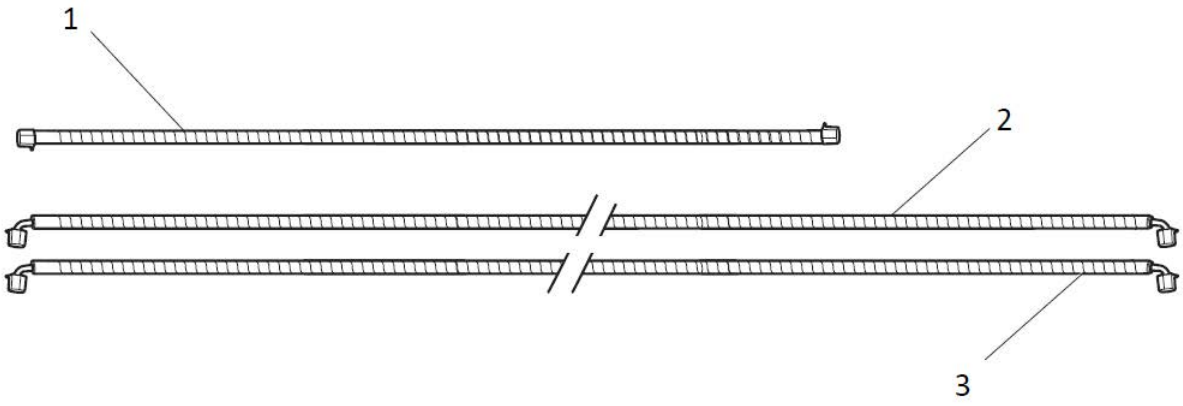


Position	Quantity	Designation	Note	
1	1	Relief valve		Included in delivery
2	2	Allen bolt M8	Relief valve	Included in delivery
3	2	Washer M8	Relief valve	Included in delivery
4	2	Intermediate flange		Not included *
5	2	Adapter	Intermediate flange	Not included *
6	2	O-ring	Intermediate flange	Not included *
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 *

* Not included in the delivery. Obtained based on the machine version.

13. Relief valve - *continued*

13.2 Hoses

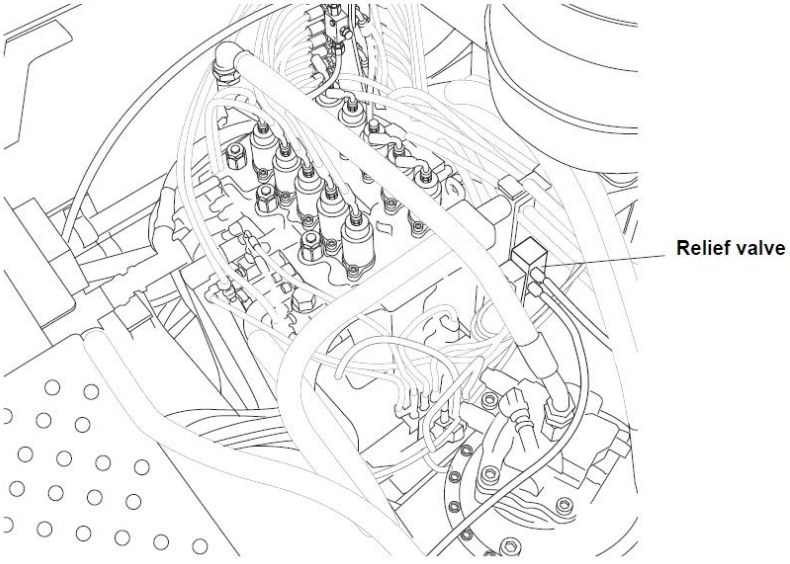


Position	Quantity	Designation	Note
1	1	Tank to valve	Not included *
2	1	X1 to relief valve, right	Not included *
3	1	X1 to relief valve, left	Not included *

* Not included in the delivery. Obtained based on the machine version.

13.3 Installation of relief valve

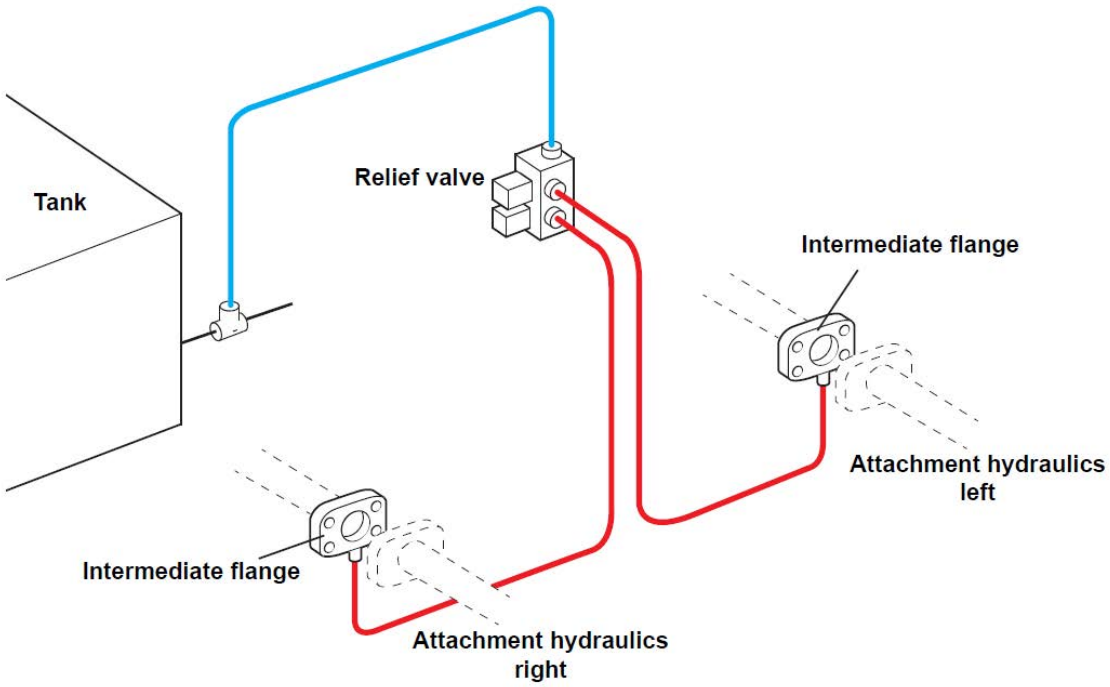
The relief valve is attached in a safe manner close to the excavator valve. Image shows position example.

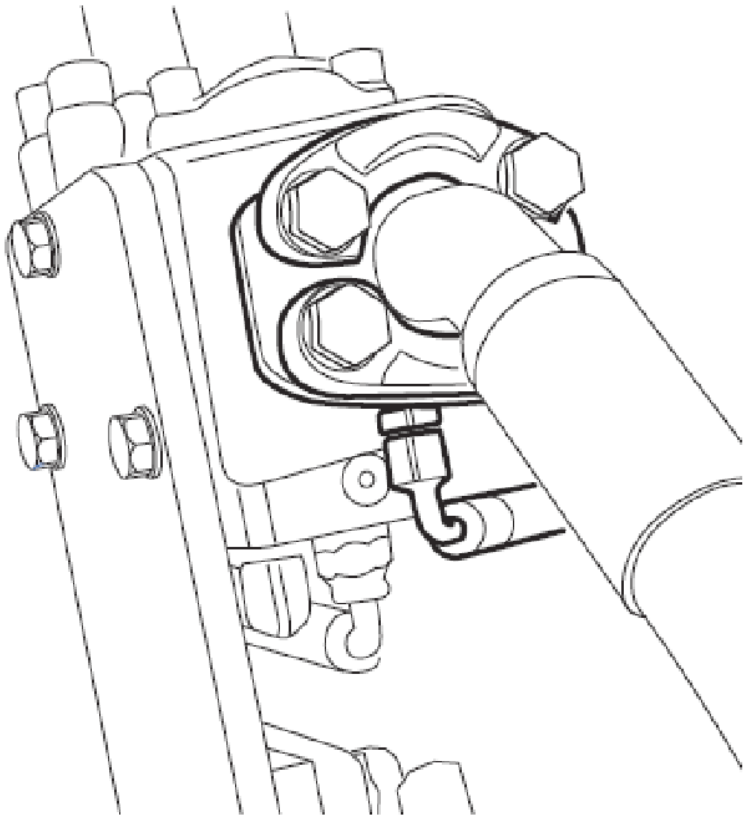


13. Relief valve - *continued*

13.4 Connection

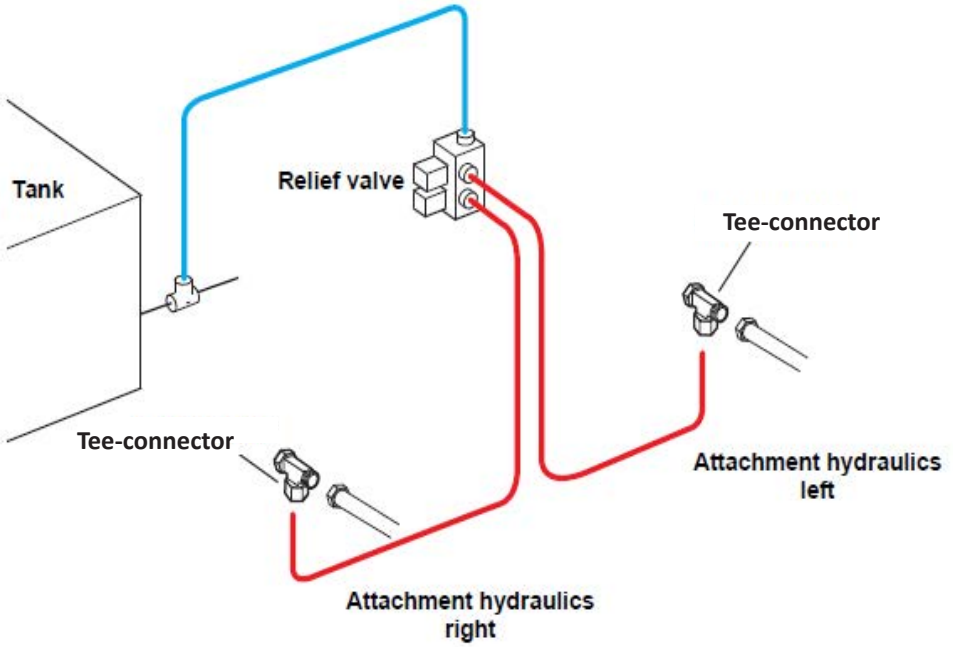
Connection of hoses between the relief valve and the attachment hydraulic hose coupling is carried out with either an intermediate flange or an Tee-connection depending on the machine design.

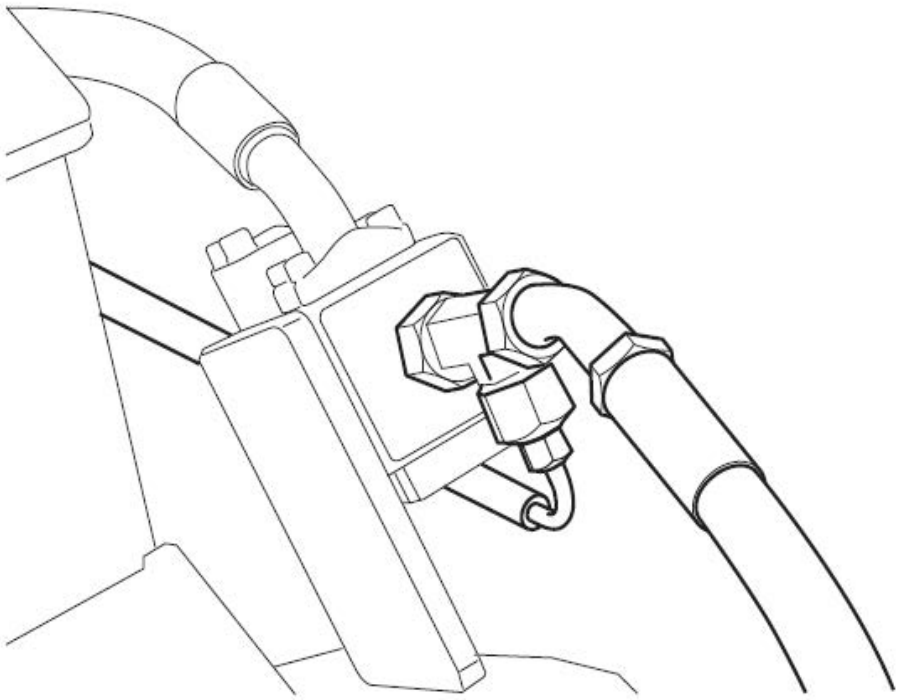




13. Relief valve - *continued*

13.4 Connection - *continued*





13.5 Connection to tank

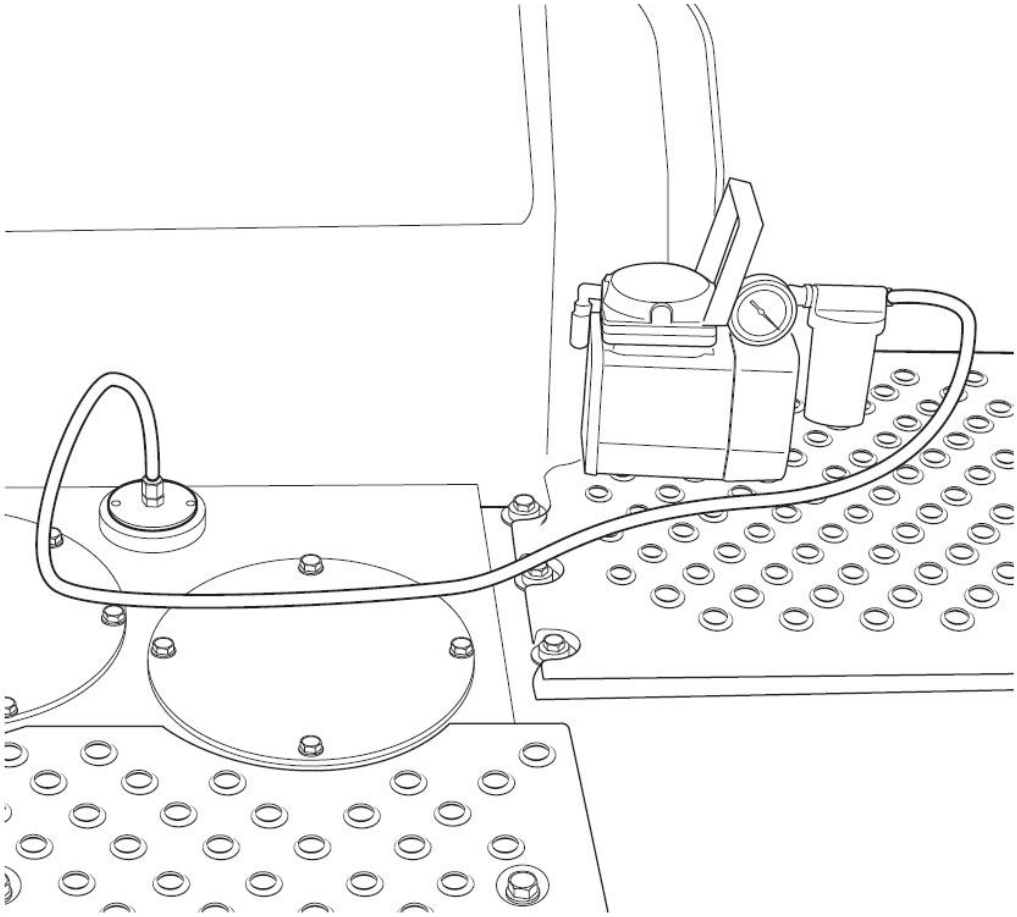
When working with hydraulic oil, protective gloves must be worn to avoid direct skin contact with the hydraulic oil. There is a risk of skin irritation and allergies. Be aware of and protect the environment. Collect all waste oil and clean up any spillage.

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.

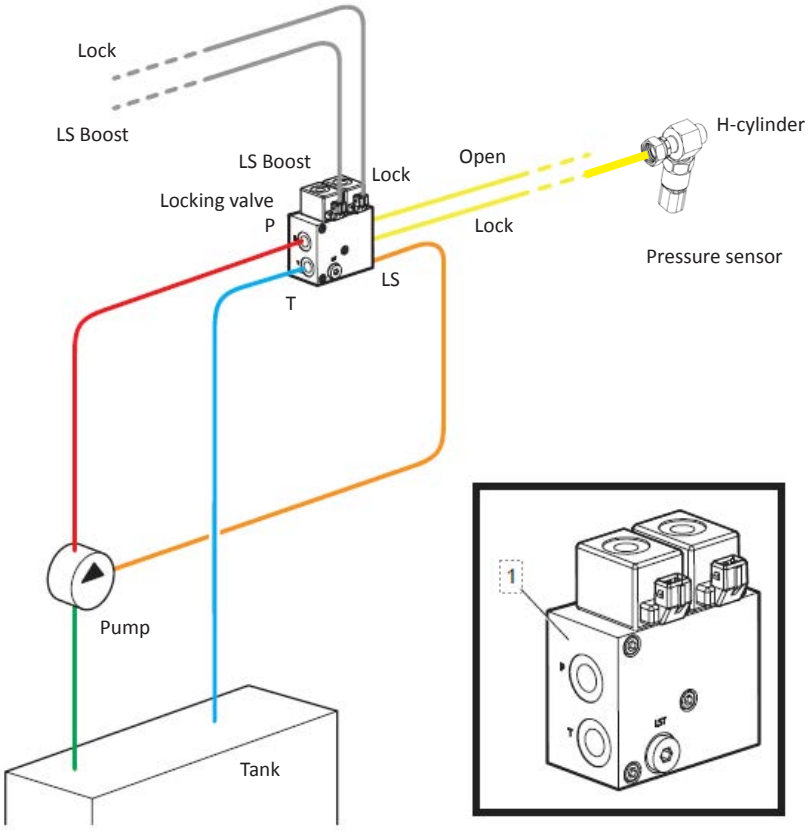
4. Connect the return hose from the relief valve to the tank in a suitable manner.

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

6. Reinstall the relief valve on the tank.

14. Installation of locking valve

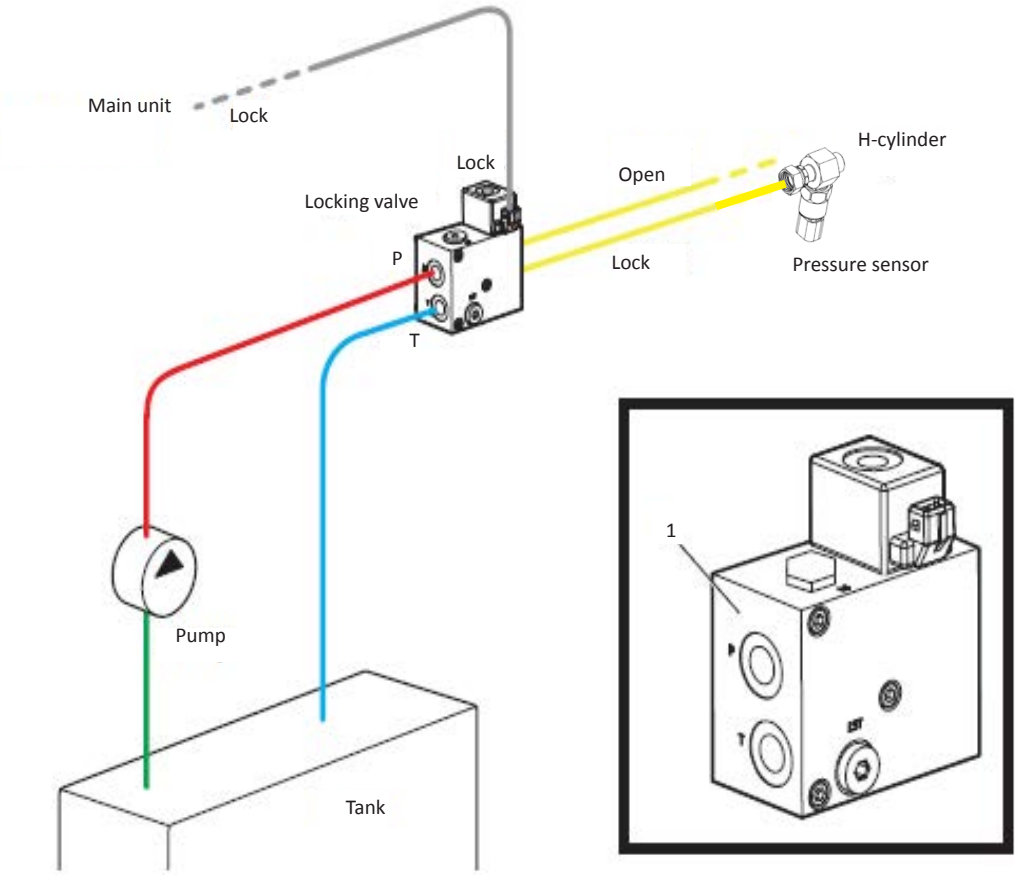
14.1 Locking valve with LS control (Standard)



Position	Quantity	Article number	Designation
1	1	4120613	Locking valve

14. Installation of locking valve - *continued*

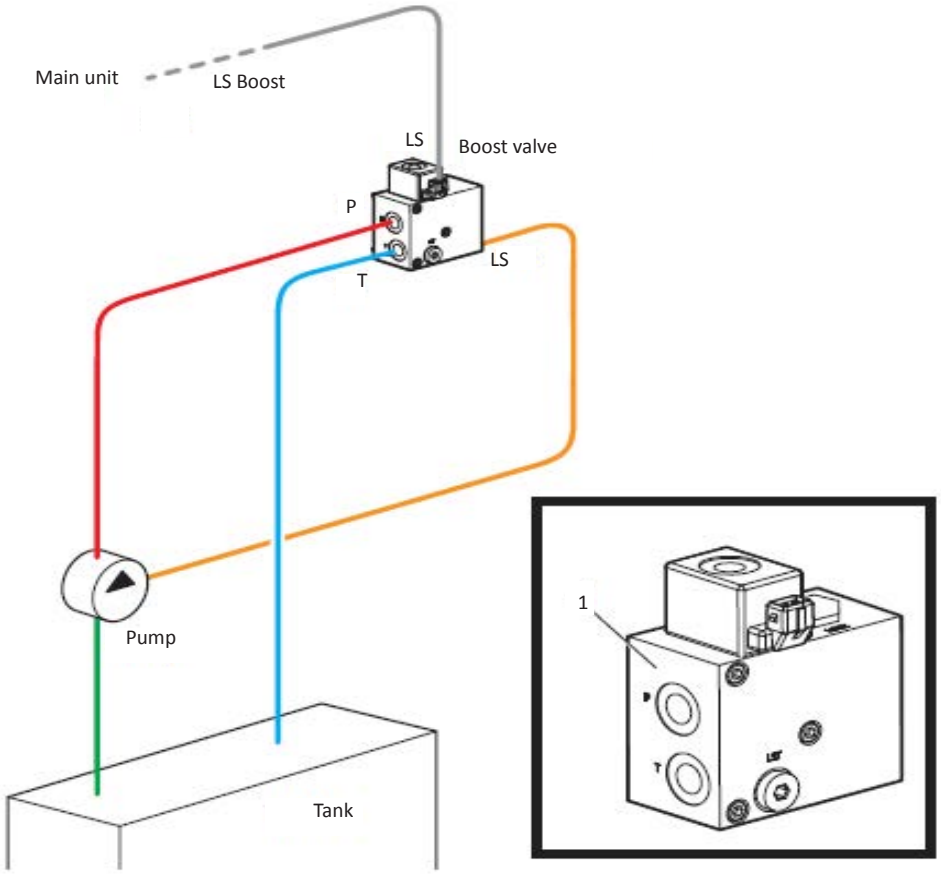
14.2 Locking valve without LS control



Position	Quantity	Article number	Designation
1	1	4124046	Locking valve

14. Installation of locking valve - *continued*

14.3 Valve with LS control

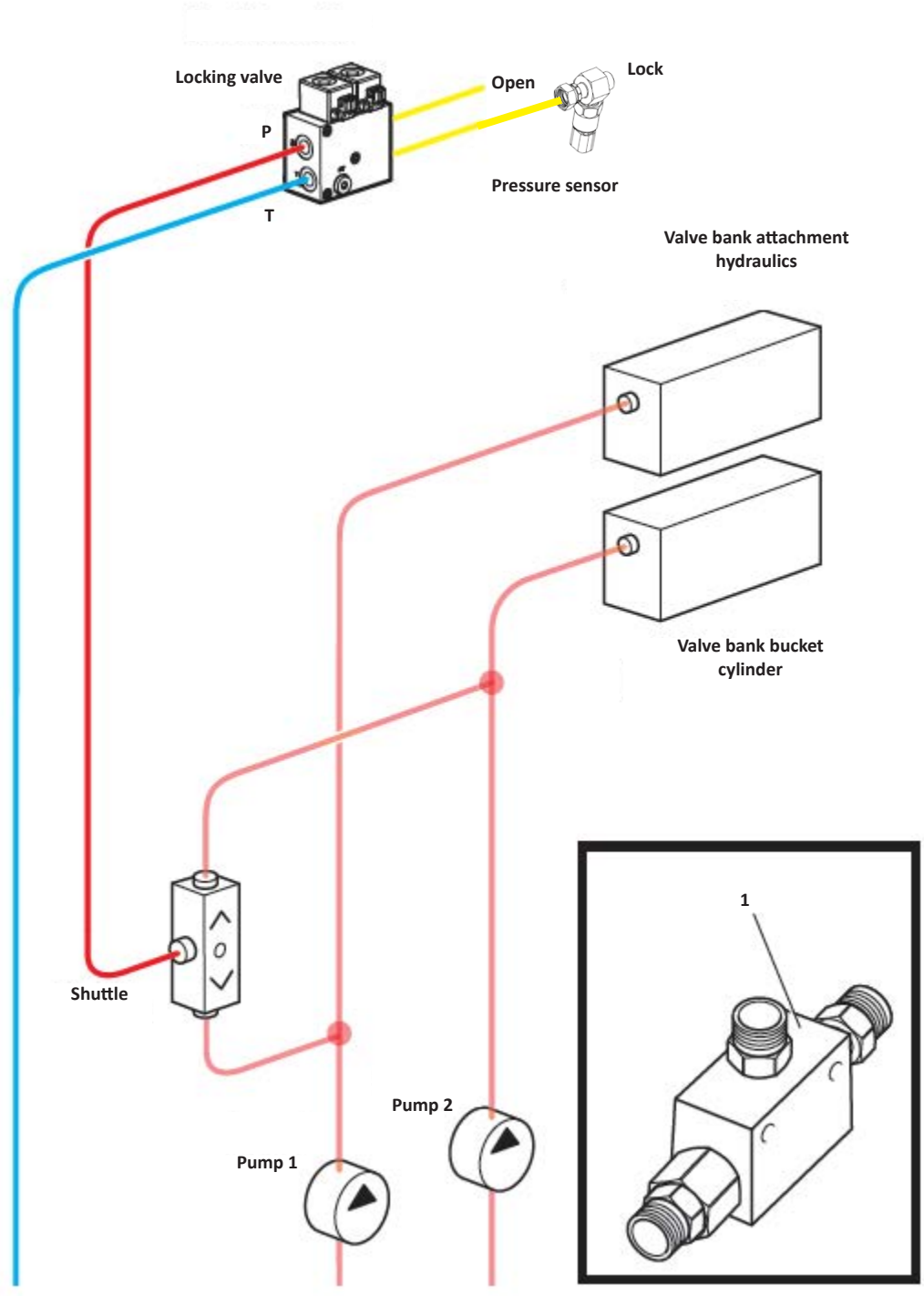


Position	Quantity	Article number	Designation
1	1	4124326	Locking valve

14. Installation of locking valve - *continued*

14.4 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.



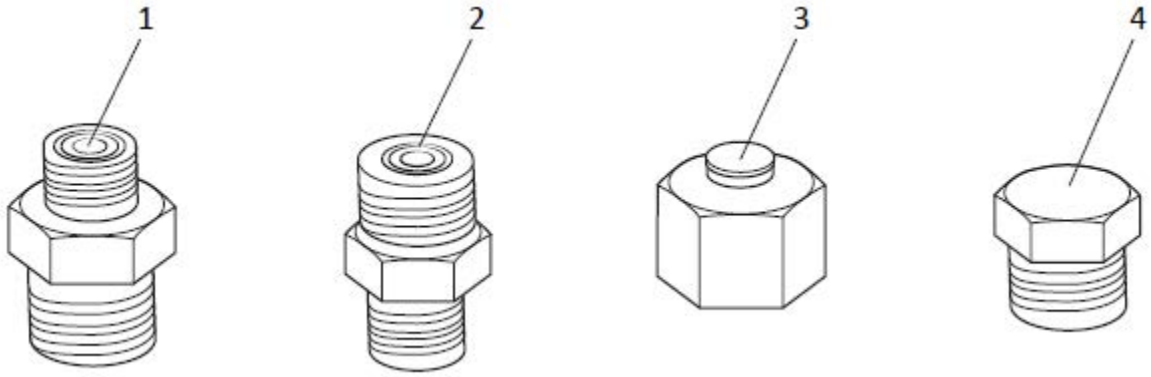
Position	Quantity	Article number	Designation
1	1	OQE01759	FTG-HYD SHUTTLE VLV 06FB-06FB-06FB

15. Locking valve (VOLVO)

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.

15.1 Material



Position	Quantity	Designation	Note
1	1	Adapter straight	Not included *
2	1	Adapter straight	Not included *
3	1	Plug	Not included *
4	1	Plug ORFS O6	Not included *

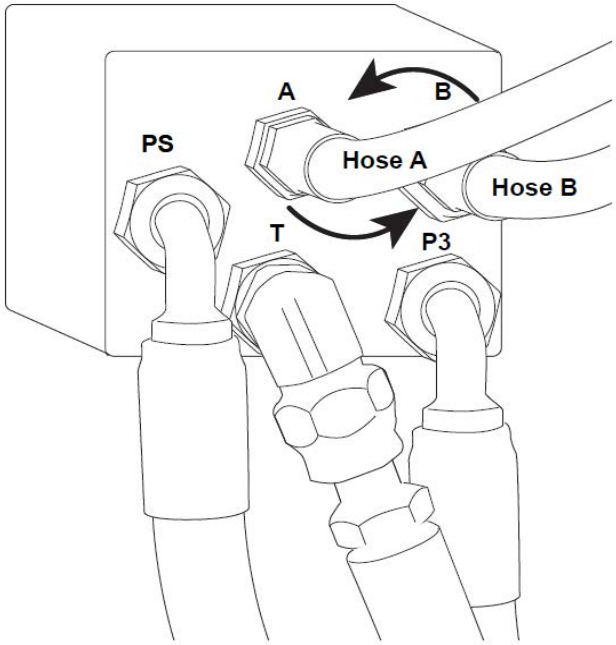
* Not included in the delivery. Obtained based on the machine version.

The aim of modifying the locking valve is to obtain full pressure on both the A and B port regardless of work load.

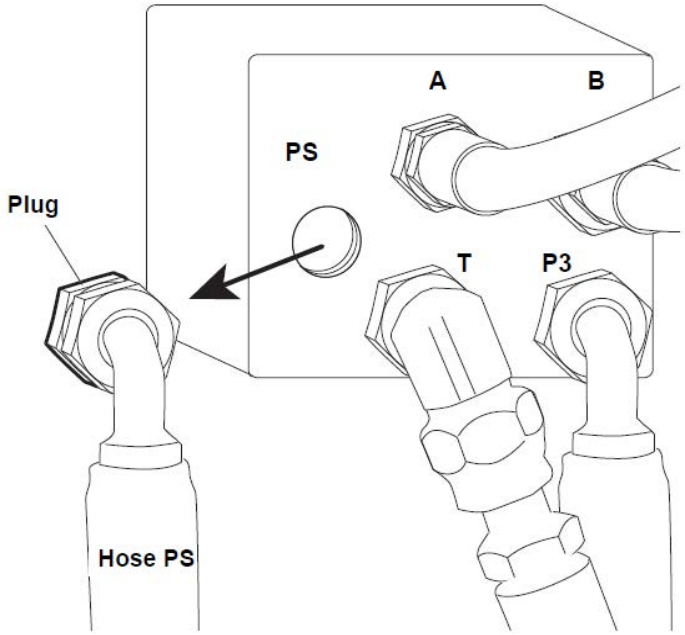
Remark!
If the machine is supplied for full pressure the locking valve has already been modified.

Remark!
Check the designations of the ports carefully. The locking valves are available in a number of versions.

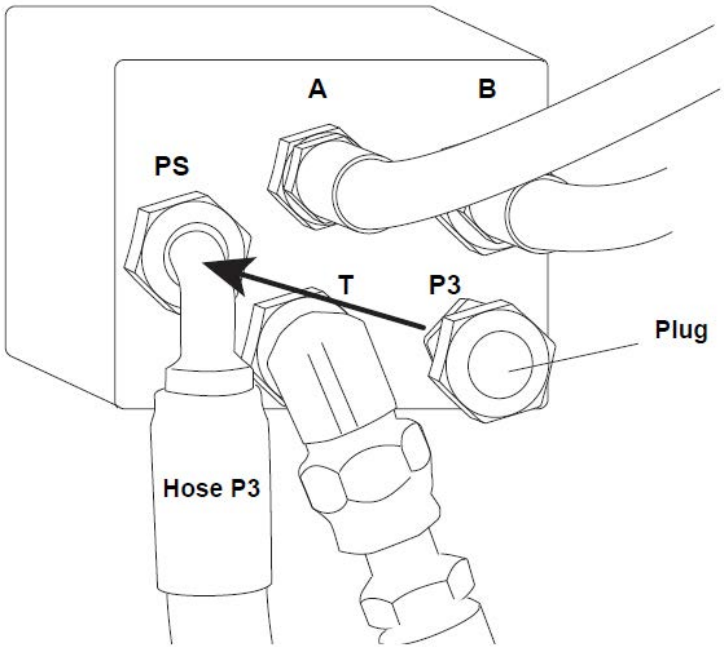
15.2 Modification of locking valve - *continued*



1. Swap positions of the hoses between port A and B.



2. Remove the hose going to port PS and plug it.



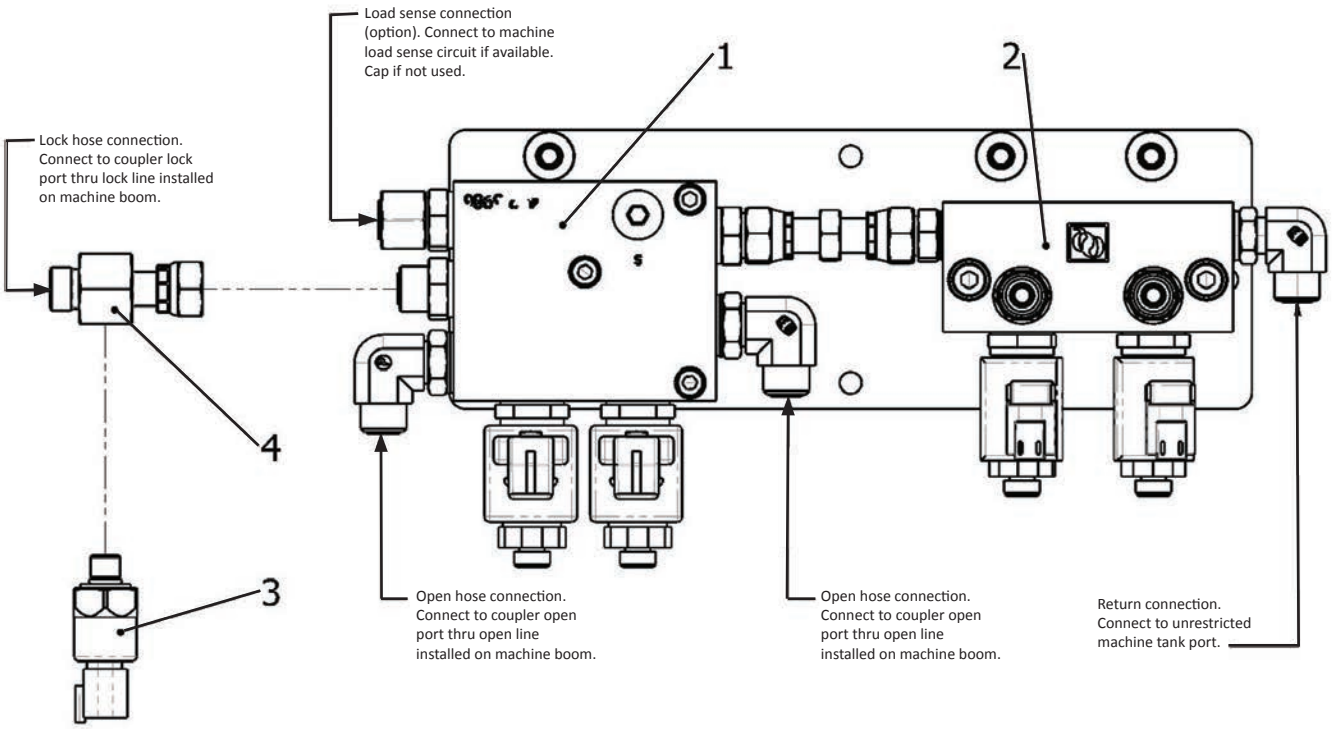
3. Remove the hose coming from port P3 and move it to port PS.

4. Plug port P3.

16. Installation of OQSS System

16.1 Locking valve connections

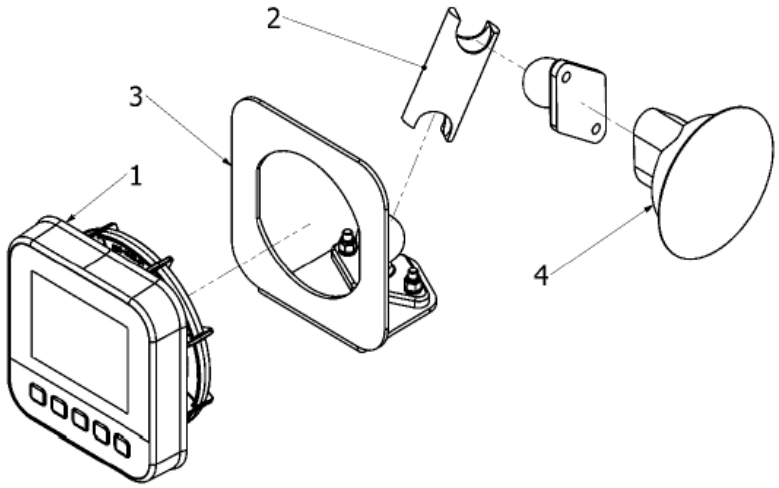
OilQuick combination Lock and Pressure Boost Valve with Pressure Sensor.



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 at base of boom – omit for OQ40/24, OQ40-5 and OQ45). 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

16. Installation of OQSS System - *continued*

16.2 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).

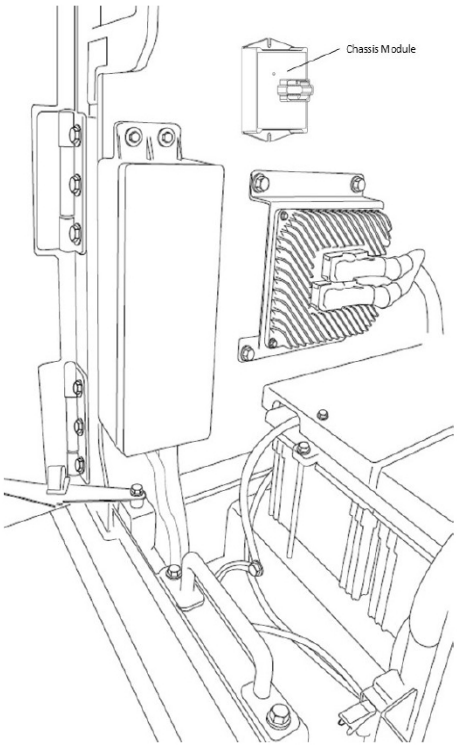
5. Connect OQE05991, HARNESS DISPLAY, to plug on back of display module and route harness behind seat (make connections per included OQE06748 wiring diagrams, connection for cab cable should be close to an exit hole in the cab).

6. Connect buzzer ASSY to display harness as described in OQE06748 wiring diagram. Secure to harness with zip ties.

16. Installation of OQSS System - *continued*

16.3 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.



16.4 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 OQE05983, HARNESS CONTROL MODULE, to chassis module (do not tie harness to frame in this step).

i. 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 OQE06748 wiring diagram and OQE06358 electrical schematic included at the end of this book.

ii. Power connection must be made to keyed machine power and fused at the point of connection with the provided 10 AMP inline fuse.

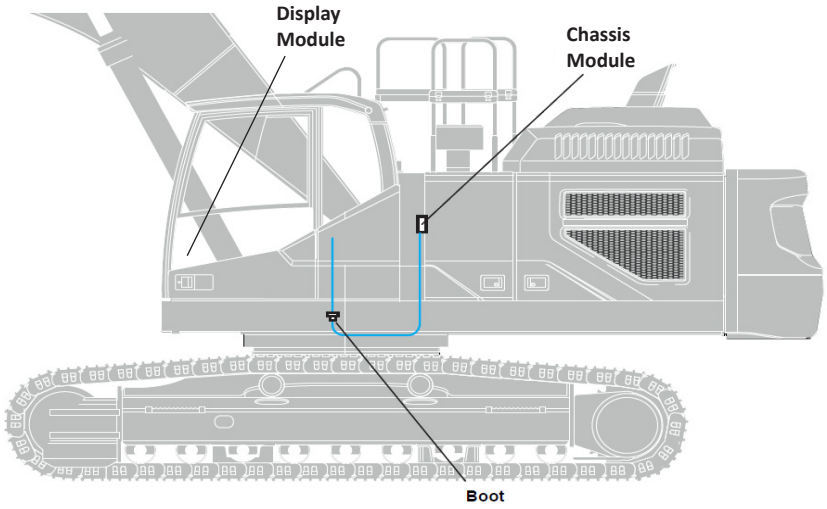
a. There are two red power leads within the OQ harness package. One in the control module harness, and one in the cab / display harness. Power can be connected using either of these leads.

b. 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.

iii. Cab / display harness OQE05991 is installed completely inside cab and connected to display module and buzzer assembly. Cab cable OQE05992 and extensions (if needed) connect between chassis module and display harness (below).

iv. Valve cables OQE05995 are installed between control module harness and solenoid valve coils. Connect the end with the clear lighted plug to the valve solenoid. The plug lights green to show that there is a connection.

v. Pressure sensor cable OQE06338 is installed between the control module harness and pressure sensor mounted to the lock valve.

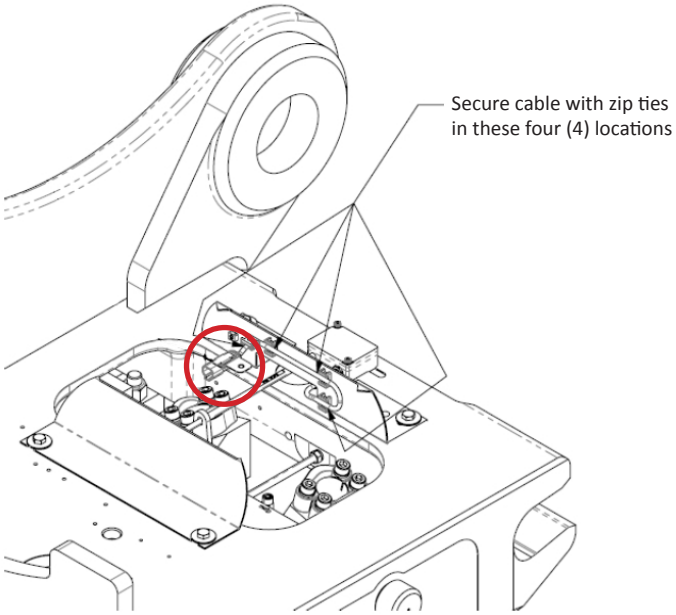


16. Installation of OQSS System - *continued*

16.5 Wiring (Coupler and boom)

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

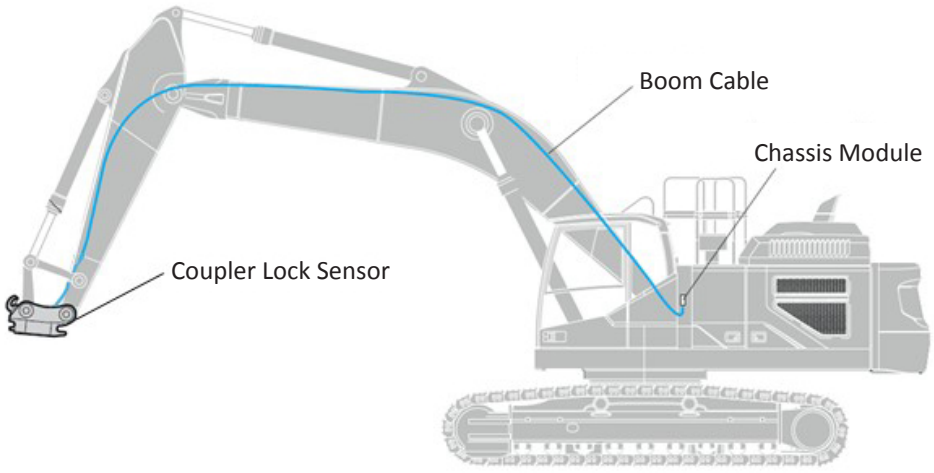
a. OQE05997, which has plugs on both ends must be installed directly to the coupler connection (all sensor extension cables are plug/receptacle). Example location of coupler sensor cable connection below:



b. 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.

c. 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.

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



17. 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 parameters.

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.

Settings Screen

- 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 adjust icon to select variable to adjust.
- If not already entered, a prompt to enter your current password will be displayed (all system settings except DISPLAY BRIGHTNESS require password entry to adjust).
- The OQSS software P/N and version are listed above the navigation icons.

Adjust icon

Change number in selected digit

Scroll to next digit

Submit password

- Password page will appear 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 enter the password.

17. OQSS System Setup - *continued*

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

Lock / Open Settings Screen

- The Lock / Open Setting screen adjusts the lock and open cycle timers.
- The default values will work for most installations. Adjustments may be required based on machine performance.
- “OPEN / CLOSE ON TIME” is the duration in seconds that the open and close cycles are active. This time may be shortened or extended based on speed of coupler movement during opening and closing.
- “OPEN / CLOSE TIMEOUT” is the duration of time after an open or close cycle is initiated before a timeout warning and fault are logged. This value MUST be smaller that the OPEN / CLOSE ON TIME values.
- “LOCK SENSOR MAINTAIN TIME” is the amount of time the coupler must be locked into an attachment after a lock command before the “LOCKED” state can be indicated.

System Setup Screen

- The System Setup screen configures the optional load sense boosting circuit. This is not used in typical excavator installations.
- “PRESSURE BOOST” (ON / OFF) enables or disables the feature
- “OPEN BOOST TIME sets the duration the load sense valve remains energized after an open cycle.
- “CLOSE BOOST TIME” sets the duration the load sense valve remains energized after a lock cycle.
- “NO TOOL BOOST OFF” sets the duration the load sense valve remains energized after closing the coupler without a tool.

17. OQSS System Setup - *continued*

Option Settings Screen

- The Option Settings screen configures optional system functionality
- "SAFETY GATE" (ON / OFF) enables or disables the feature
- "GEN INTERLOCK" (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
    - Relief valve functionality is required for OQ60 and larger couplers

Factory Settings Screen

- The Factory Settings screen is used to store and reset system parameters.
- "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 factory defaults.
- "SAVE SETTINGS" is used by OilQuick personnel when performing a factory installation.

Edit Password Screen

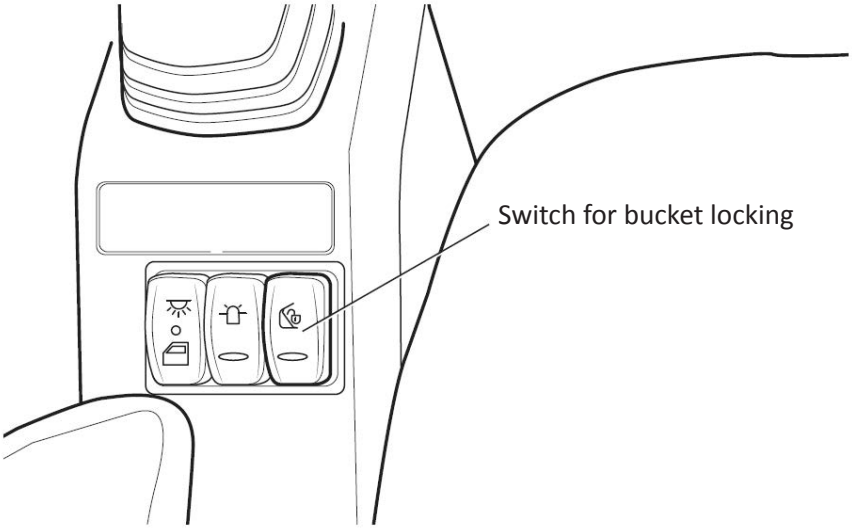
- To edit your password, select "CUSTOMER PASSWORD" from the "FACTORY SETTINGS" page. You will be prompted to enter your current password (factory default is "1111" if it has not been changed) before the "EDIT PASSWORD" screen is displayed.
- Press the button below the up arrow icon to change the number, 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 ensure that no faults were caused by the adjustments.

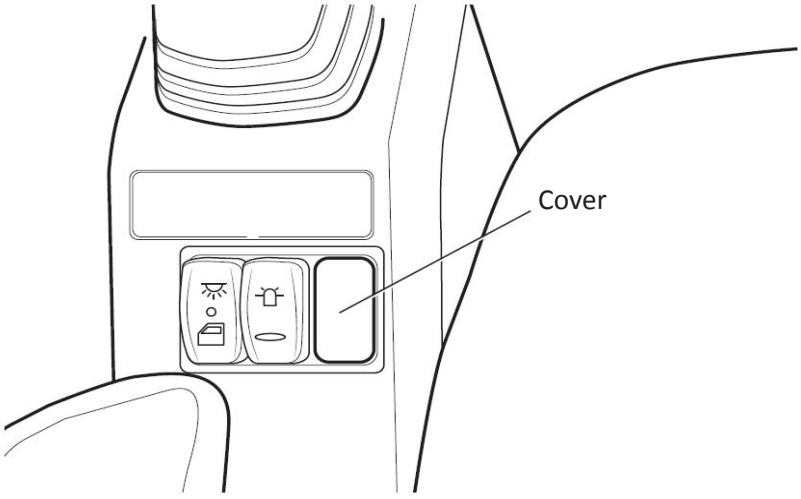
18. Removal of Switch for Bucket lock

NOTE!
When the system is installed, the switch for bucket lock must be disconnected and removed. Ensure that the switch is retained to allow the function to be reused in the future.

* The image shows an example

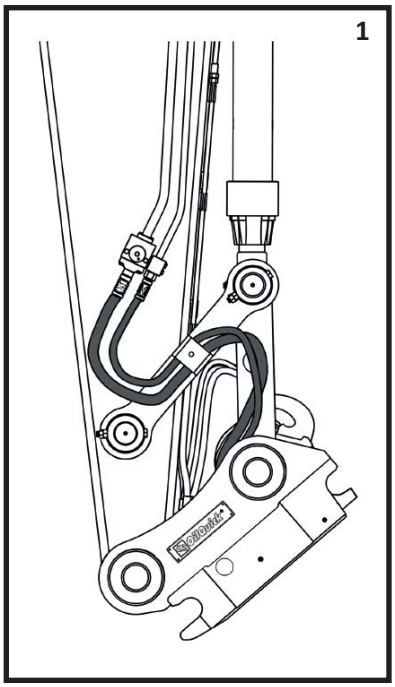


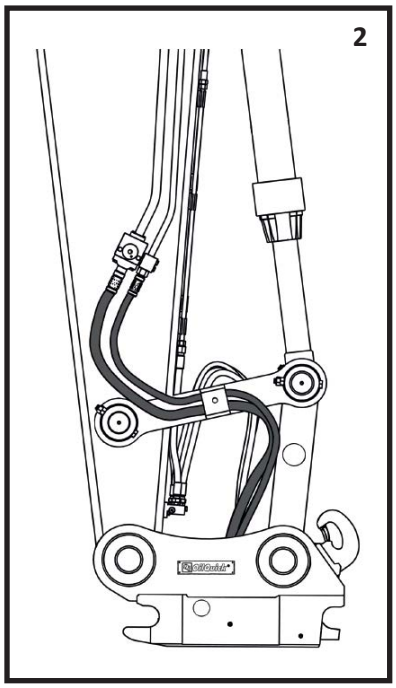
Removal

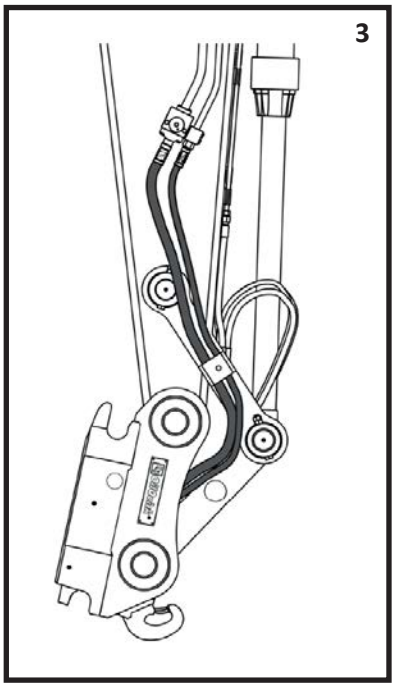


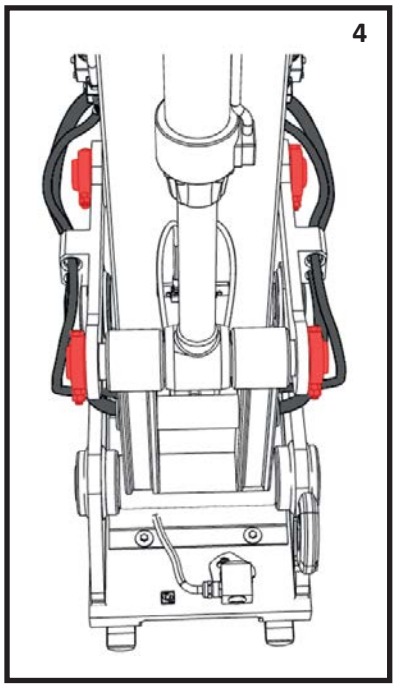
19. Checks

19.1 Checking hose and cable routings









Checking cable routings

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

Checking connectors

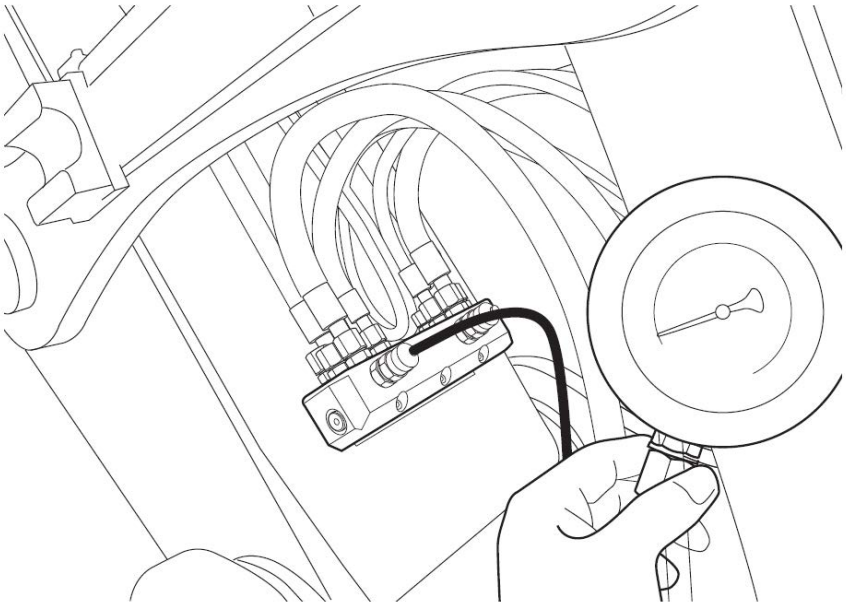
Check that all connectors are correctly connected.

19. Checks - *continued*

19.2 Checking locking pressure

1. Unscrew the Allen plug from the LOCK output on the guide block.

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. Also check that the locking pressure increases to full working pressure when the pressure on the bucket hydraulics increases.

6. 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.

20 - 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.

21 - Troubleshooting - OQSS

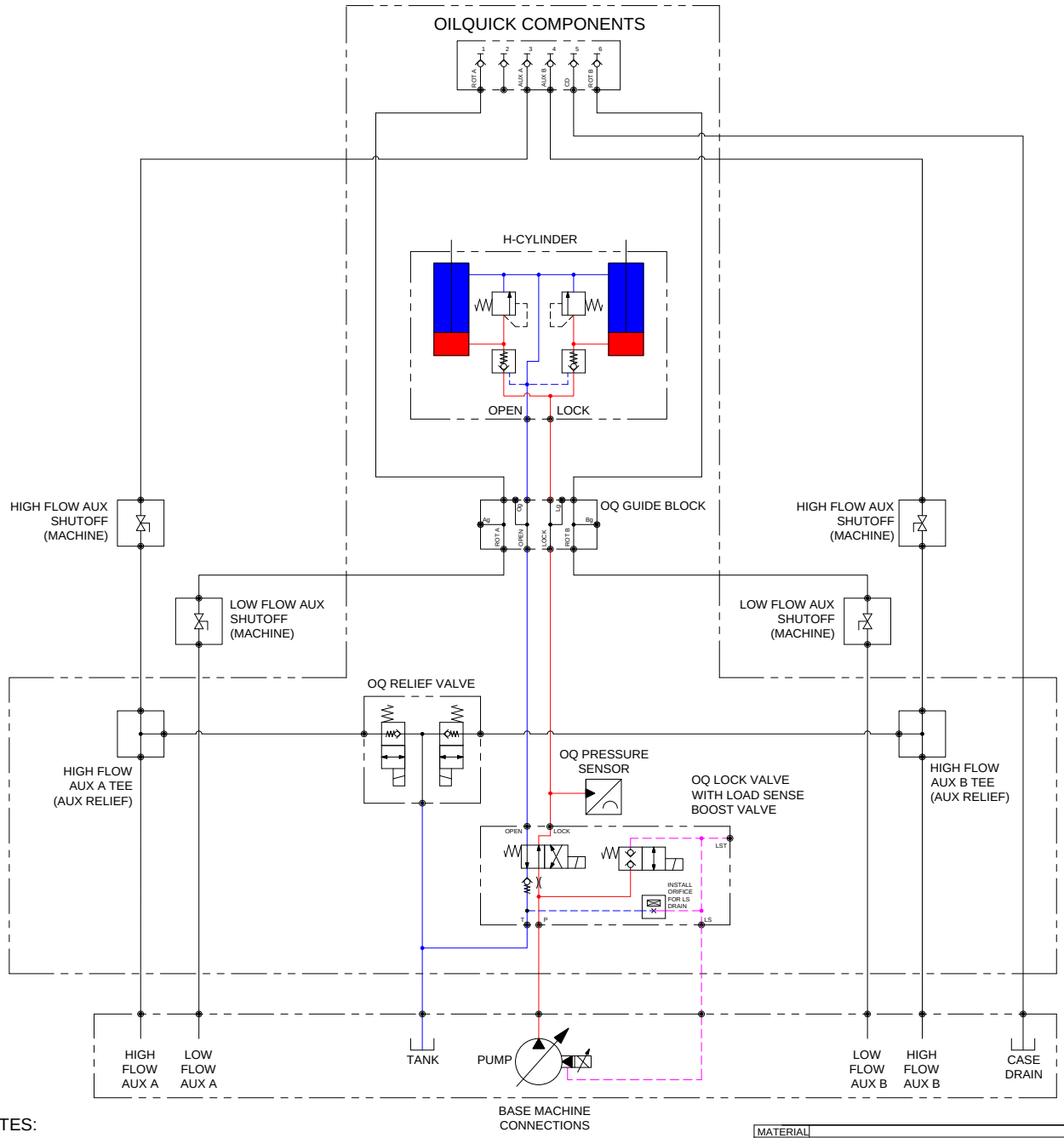
Fault	Possible cause	Action
Control panel does not start on machine start	Faulty power connection / wiring	Check voltage at keyed power connection with a multimeter. If machine voltage is present, inspect fuse. Check chassis module power light. If this is lit, the chassis module is receiving power. Inspect 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		
Open timeout fault	Other component failures, Incorrect settings	Identify whether or not the coupler opened /closed as commanded. If it did, consider adjusting OPEN / CLOSE settings to allow more time before timeout ("ON TIME" must be greater that "TIMEOUT TIME"). If the coupler did not move, inspect for obstructions. Check for other system faults and correct. If there are no other system faults and the coupler did not open / close as commanded refer to section 32 (Troubleshooting - Quick Coupler).
Close timeout 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.

21 - Troubleshooting - OQSS - *continued*

Fault	Possible cause	Action
Pressure sensor fault	Faulty pressure 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, replace pressure sensor. If there is no continuity, determine if faulty wire is in sensor cable or HARNESS CONTROL MODULE. Replace or repair harnesses as needed.
Lock sensor fault	Improper adjustment of or damage to sensor linkage, Faulty sensor, Faulty wiring	Inspect lock sensor at coupler with machine running while locked into an attachment. If both lights are on, test continuity in wires 1005 and 1006 between sensor and chassis module and replace / repair cables as needed. If only one light is on, manually pull sensor linkage to determine if the second light comes on. If it does, adjust linkage. If it does not light, replace lock sensor.
Critical sensor fault	Faulty sensor wire, Improper adjustment of sensor linkage, H-cylinder retracted while attachment locked	Inspect lock sensor at coupler with machine running while locked into an attachment. If both lights are on, test continuity in wires 1005 and 1006 between sensor and chassis module and replace / repair cables as needed. If both lights are off, unplug sensor cable at coupler and test for machine power between pins 4 (pwr) and 3 (grd). If power is present, manually move sensor linkage to see if the lights can be turned on. If they turn on when the linkage is extended, adjust linkage. If they do not turn on, replace sensor. If power is not present test wires 1012-4 and 1001-4 in sensor cable between coupler and chassis module for continuity. Replace or repair as needed.
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.

22 - 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

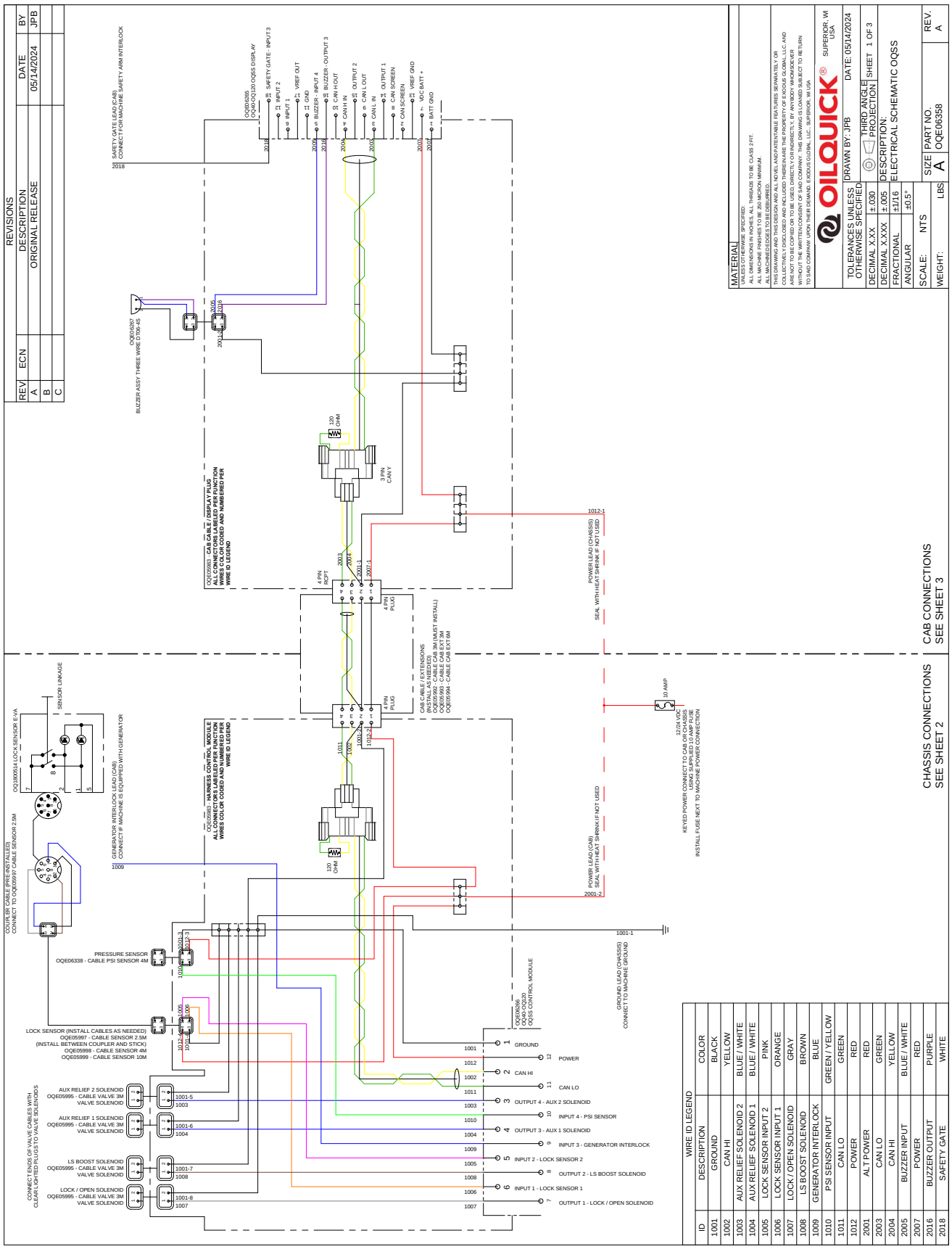
MATERIAL

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.

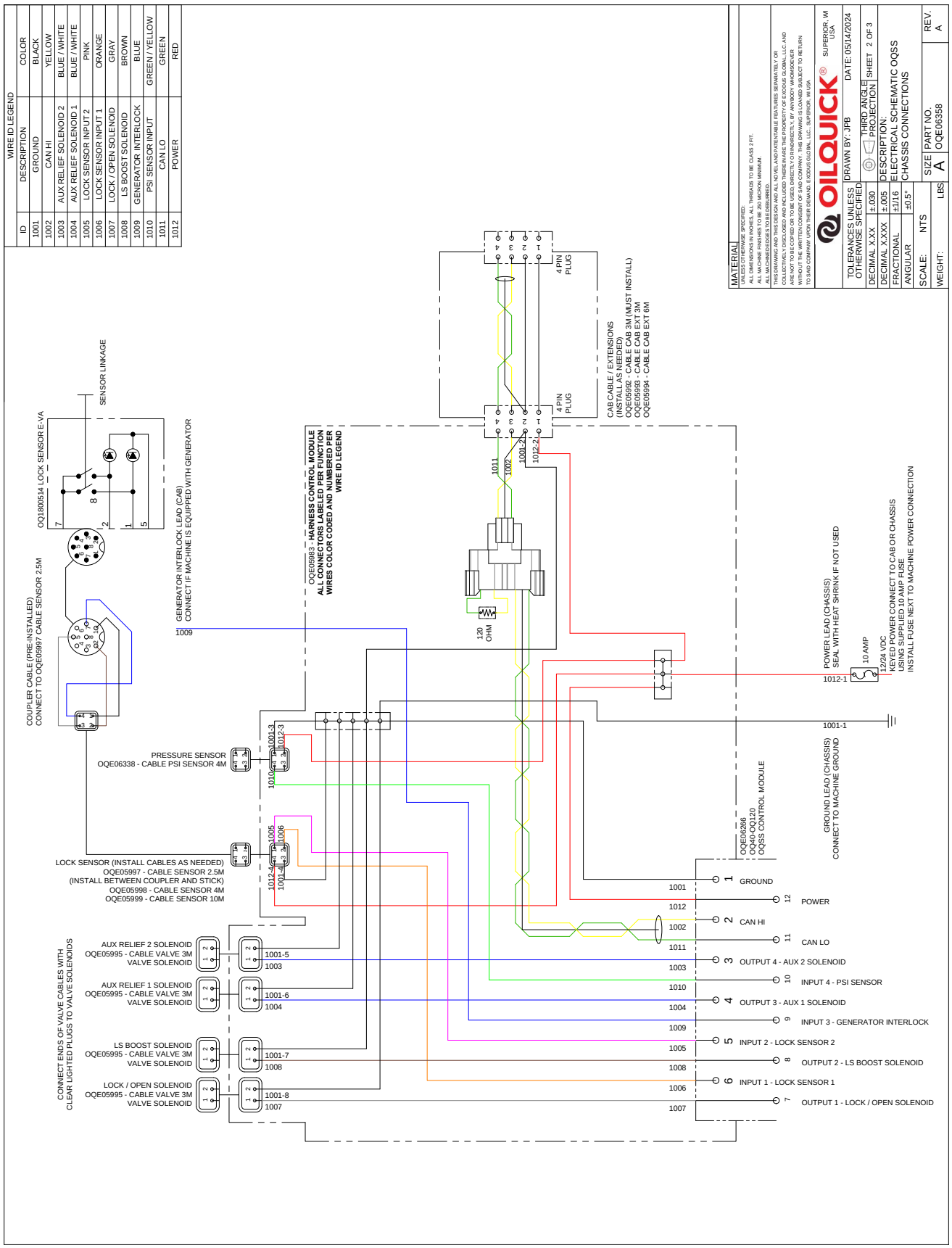
OILQUICK® SUPERIOR, WI USA

TOLERANCES UNLESS OTHERWISE SPECIFIED		DRAWN BY: JPB	DATE: 10/23/2024
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 1 OF 1
DECIMAL X.XXX	±.005	DESCRIPTION: HYDRAULIC SCHEMATIC OQSS	
FRACTIONAL	±1/16		
ANGULAR	±0.5°		
SCALE: NTS			
WEIGHT: LBS.		SIZE A	PART NO. OQE06747 / REV. A

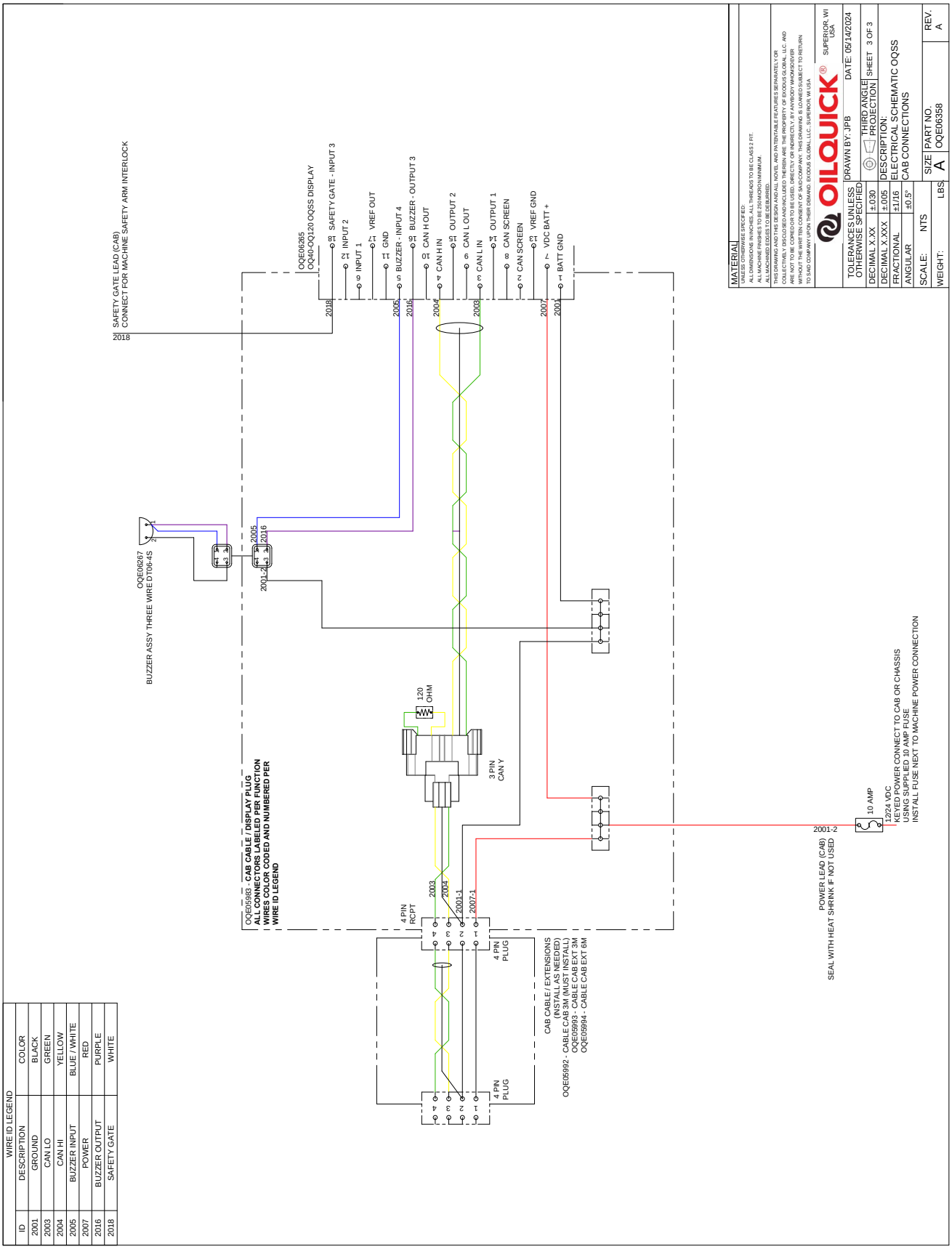
23 - Electrical schematic (OQE06358) - sheet 1



23 - Electrical schematic (OQE06358) - sheet 2

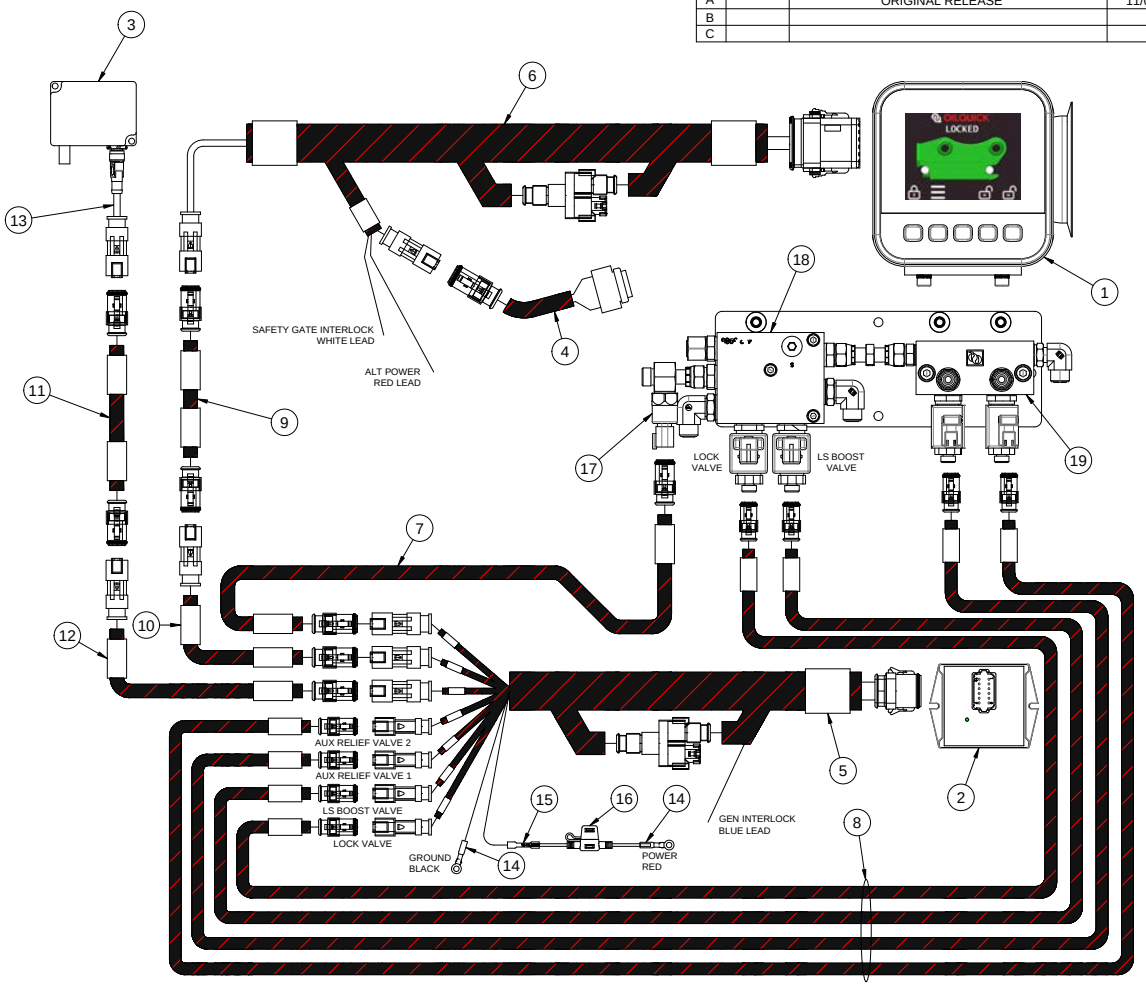


23 - Electrical schematic (OQE06358) - sheet 3



23.1 - Wiring diagram - (OQE06748)

REVISIONS				
REV	ECN	DESCRIPTION	DATE	BY
A		ORIGINAL RELEASE	11/01/2024	JPB
B				
C				



BILL OF MATERIALS
24 VDC

ITEM	QTY	P/N	DESCRIPTION
1	1	OQE06265	OQ40-OQ120 OQSS DISPLAY
	1	OQE06239	ASSY DISPLAY RAM MT BRACKET
	1	OQE05783	RAM MT SHORT ARM-B
	1	OQE05905	RAM MT-SUCTION BASE-B BALL
2	1	OQE06266	OQ40-OQ120 OQSS CONTROL MODULE
	2	50-01348	BH CS M5 - 0.80 X 25 Z-10.9
	2	50-01096	NUT NYLOCK M5 - 0.8 Z
	4	OQ7072033	WASHER NORDLOCK M5 - 9.0 X 1.8
3	1	OQ1800514	LOCK SENSOR E-VA
4	1	OQE06267	BUZZER ASSY THREE WIRE DT06-4S
5	1	OQE05983	HARNESS CONTROL MODULE
6	1	OQE05991	HARNESS DISPLAY
7	1	OQE06338	CABLE DT PL/PL PSI SENSOR 4M
8	4	OQE05995	CABLE DT PL/PL VALVE 3M
9	1	OQE05992	CABLE DT PL/PL CAB 3M
10	PER KIT	OQE05993	CABLE DT PL/RCPT CAB EXT 3M
	PER KIT	OQE05994	CABLE DT PL/RCPT CAB EXT 10M
11	1	OQE05997	CABLE DT PL/PL SENSOR 2.5M
12	PER KIT	OQE05998	CABLE DT PL/RCPT SENSOR 4M
	PER KIT	OQE05999	CABLE DT PL/RCPT SENSOR 10M
13	1	PER COUPLER	CABLE OQSS SENSOR
14	2	ASSTD	ASSTD WATERTIGHT CRIMP RING CONNECTOR
15	3	30-00465	16-14 AWG Blue Crimp Butt Splice
	3	30-00801	22-18 AWG Red Crimp Butt Splice
16	1	30-00862	INLINE FUSE HOLDER MINI
	1	30-00863	FUSE 10 AMP MINI
17	1	OQE06340	SENSOR PRESSURE 7500 PSI 04MB DT
18	1	OQ4120613	VALVE - LOCK/OPEN POWERBOOST
19	1	OQ4123124	VALVE - DEPRESSURIZATION 24V DT

NOTES:

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

1. CONNECT POWER WIRE TO MACHINE KEYED POWER. INSTALL FUSE AT LOCATION OF POWER CONNECTION. CONNECT GROUND WIRE TO MACHINE CHASSIS GROUND.

2. UNUSED POWER, GEN INTERLOCK, AND SAFETY GATE LEADS TO BE SEALED WITH HEAT SHRINK , COILED, AND ZIP TIED TO HARNESS.

3. HARNESS LABELS DESIGNATE INSTALLATION CONNECTION AT EACH END.

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

5. HARNESS KITS PROVIDED PER COUPLER SIZE AND CONFIGURATION.

6. "CABLE OQSS SENSOR" (ITEM 13) PRE-INSTALLED ON COUPLER.

7. HYDRAULIC VALVES SHOWN FOR REFERENCE. VALVING SUPPLIED IS DEPENDENT UPON MACHINE CONFIGURATION.
- TYPICAL EXCAVATOR INSTALLATION DOES NOT UTILIZE LS BOOST VALVE
- DEPRESSURIZATION VALVE (ITEM 19) NOT USED IN OQ 40 / OQ45 COUPLERS

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: 11/01/2024
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 1 OF 1
DECIMAL X.XXX	±.005	DESCRIPTION:	
FRACTIONAL	±1/16	WIRING DIAGRAM OQSS OQ40 - OQ120	
ANGULAR	±0.5°		
SCALE: NTS		SIZE A	PART NO. OQE06748
WEIGHT: LBS			REV. A

Notes

24 - 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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EXODUS GLOBAL

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