OILQUICK®

USER 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 OQC quick couplers have been developed for material handlers, to quickly and safely connect/disconnect mechanical, hydraulic and electrical attachments.

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 “Technical data”.

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”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.**

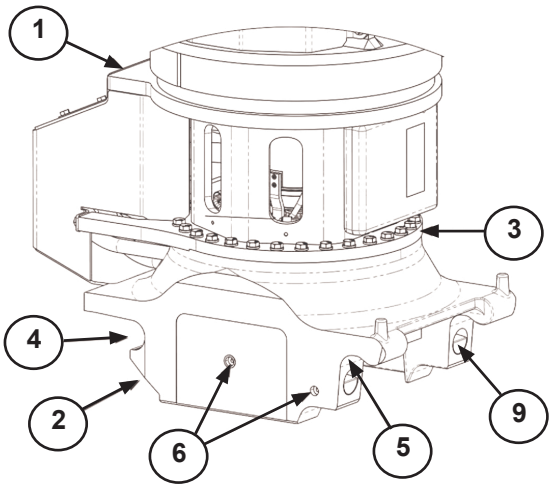
4. Table of Contents

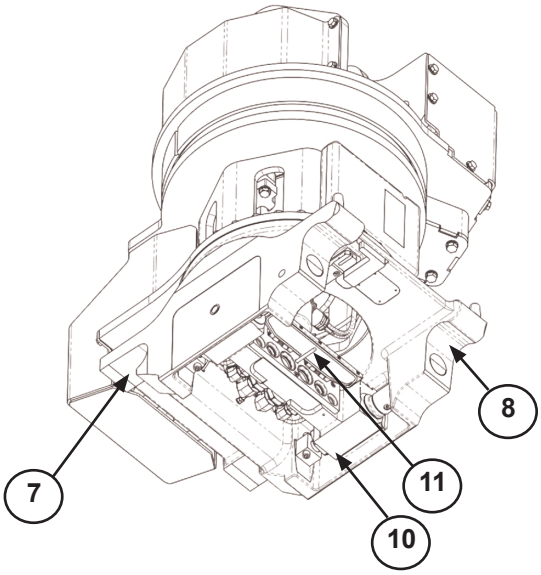
4. Table of Contents - *continued*

5. Description of OilQuick quick coupler system

5.1 - Overview quick coupler system OQC

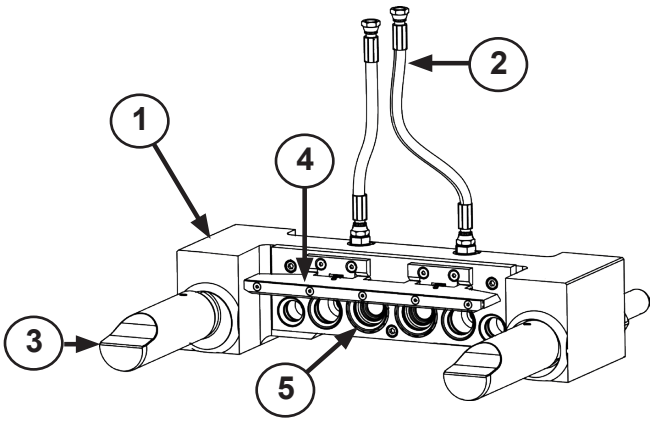
1. Rotator
2. Coupler body
3. Mounting for rotator
4. Front pin holder
5. Rear pin holder
6. Grease nipples
7. Front support lip
8. Rear support lips
9. Locking plungers
10. H-cylinder
11. Opening bar





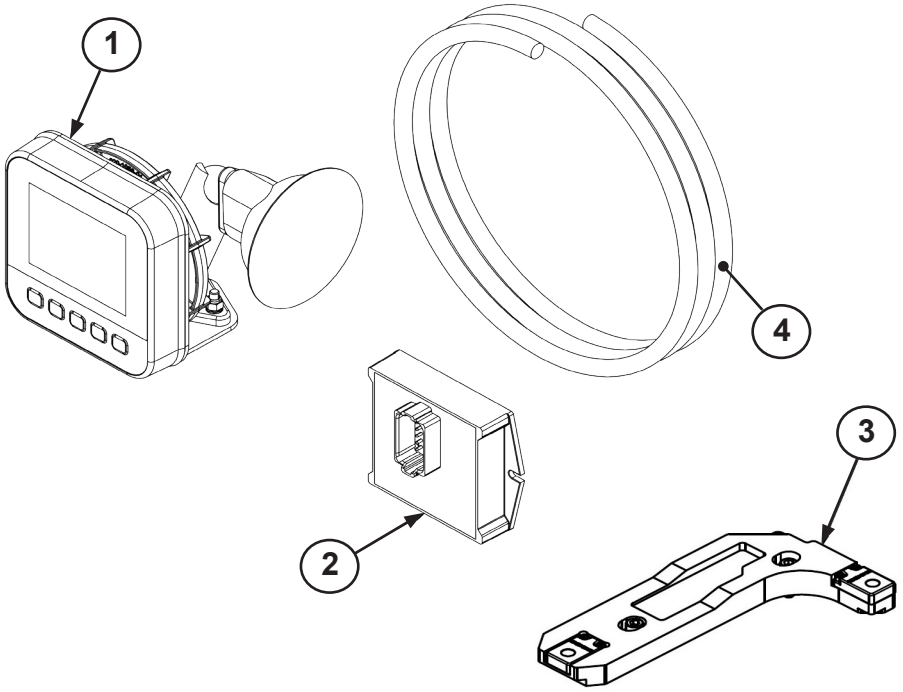
5.2 - Description of H-cylinder

1. H-cylinder
2. Hydraulic hoses for locking and opening
3. Locking plungers
4. Dirt guard
5. Quick coupling (female)



5.3 - OQC OQSS

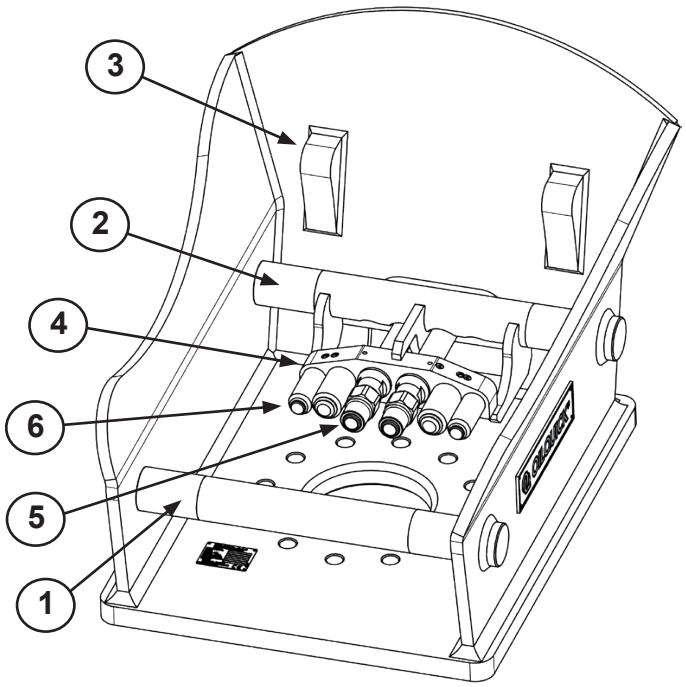
1. Display module
2. Chassis module
3. Lock sensor
4. Wire harness kit



5. Description of OilQuick quick coupler system - *continued*

5.4 - Attachment frames/adapters

1. Front pin
2. Rear pin
3. Guide lug
4. Coupling ramp
5. Quick coupling (male)
6. Poly adaptors



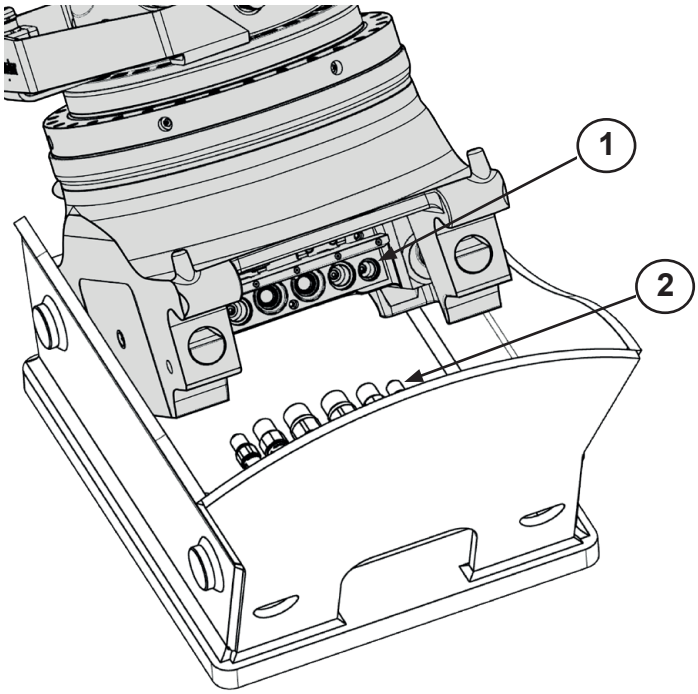
5.5 - Electrical connection, high current

1. Female connection (quick coupler) *
2. Male connection (attachment part) *

Electrical connector is single pole / high current. The electric swivel in the rotator can limit the number of usable poles. OilQuick's standard electric swivel is equipped with 3 high current lead-ins.

*Connection device version and its contact can vary.

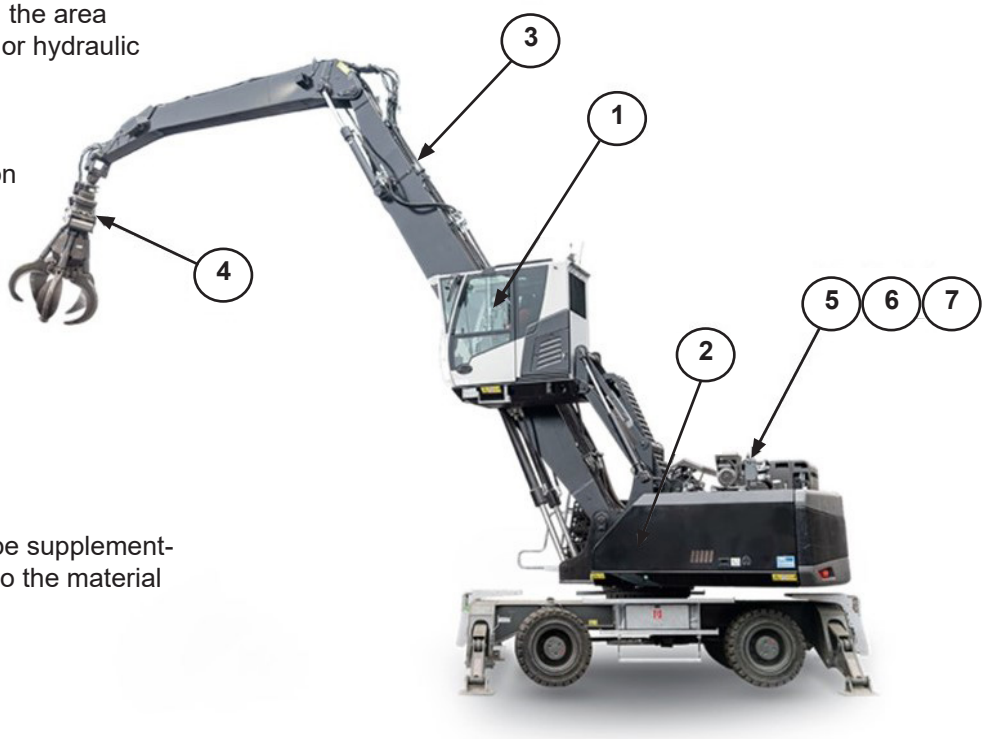
Installation of straight electric connection affects the number of hydraulic quick couplings possible in the quick coupler and hydraulic attachment adapter because it takes one of their positions.



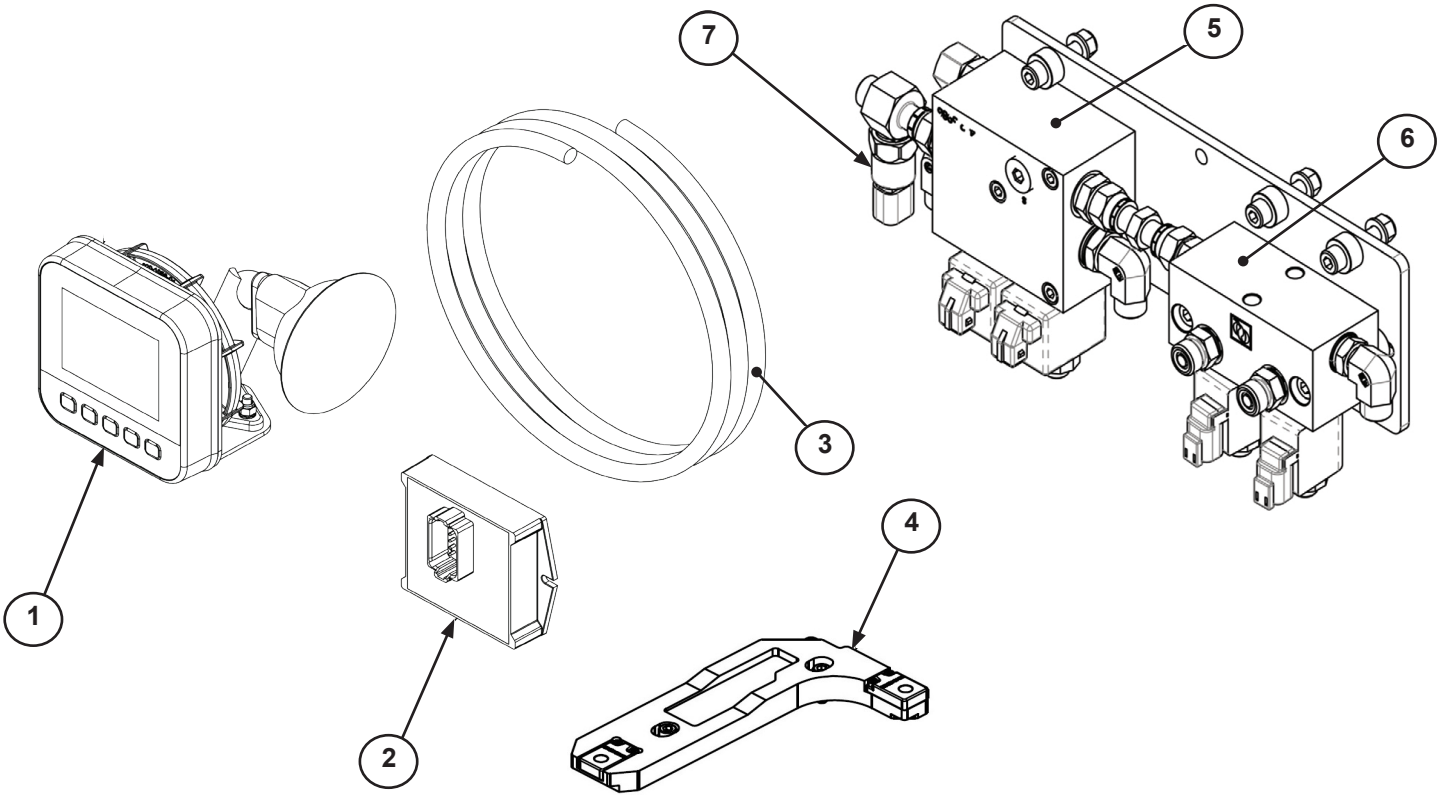
6. Description of OilQuick Safety system (OQSS)

6.1 - OQSS contents

1. Display module installed in the cab.
2. Chassis module, normally installed in the area of the machine for electrical systems or hydraulic pumps.
3. Wire harness kit
4. Lock sensor
5. Locking valve with load sense function
6. Pressure relief valves (option)
7. Pressure sensor



For installation, the OQSS System must be supplemented with hoses and fittings for connection to the material handlers pump, tank and OQC coupler.



6. Description of OilQuick Safety system (OQSS) - *continued*

OQSS is a control and monitoring system for quick couplers on a material handler. The system consists of a basic system and a number of options depending how the base machine is equipped.

6.2 - Options that are not machine dependent

- Connection to the machine control arm, strongly recommended option.
- Pressure relief valve with accessory for relieving operating hydraulics.

6.3 - Options that are machine dependent

- Cable kit for connection to the electrical system on machines that have approved locking hydraulics and control of pressure booster.
- Lock valve for operating the quick coupler on machines that do not have factory installed approved locking hydraulics.
- Valve for controlling the machine's pressure booster for machines with LS-system.
- Combined lock and pressure booster valve for machines with LS-system but without approved locking hydraulics.
- Connection to the machine generator enable circuit. (Required for machines equipped with a generator).

7. Operating principle OQ Safety System

The OQSS display module in the cab is the operator's interface with the quick coupler system. The display screen indicates the quick coupler system operating status and gives visual and audible alarms when dangerous situations occur. The buttons below the screen allow the operator to open and close the quick coupler in a controlled and monitored way.

The OQSS system monitors the status of the quick coupler and safety sensors and displays the status on the display module. The chassis module controls the locking valve, pressure booster and pressure relief valves, and reads the safety sensors. The display module indicates alarms both visually and audibly. Any abnormal operating conditions will be indicated by a fault warning on the display screen, along with an audible beep from the alarm. The alarm also provides audible feedback in normal conditions. When the coupler is open or opening, there is a constant slow pulsed tone. When a lock cycle is initiated, this changes to a fast pulsed tone. When the coupler is locked or closed without an attachment connected, the audible alarm stops.

OQSS is equipped with optional electronic interlocks preventing coupler operation if certain criteria are not met. The first optional interlock is intended to read the material handler control arm signal and prevent coupler operation if the control arm is not raised. The second optional interlock is intended to read the control signal from a machine mounted generator and prevent coupler operation anytime the generator is enabled. These optional interlocks can be enabled within the system setup menu and require additional electrical connections to the material handler.

To open the quick coupler both Open buttons on the control panel must be pressed and held for 3 seconds. After 3 seconds the lock valve is energized, the pressure booster and pressure relief valves are energized (option), and the coupler begins to open. When the open cycle is initiated, the alarm sounds a slow pulsed tone. When the locking bolts leave their lock position the coupler icon on the display screen turns red, the locking bolts are no longer visible, and "OPEN" text is displayed above the coupler icon. The coupler is now open, and the alarm will continue to sound a slow pulsed tone. When the quick coupler is moved to a position out of the attachment bracket, without any attachment pins in position the operator can close the coupler for hook hoisting, transport or service. The operator presses and holds the Lock button for 1 second. The lock valve is de-energized, and the pressure boost (option) and relief (option) valves are energized. The audible indication from the buzzer turns to a fast pulsed tone. The quick coupler is closed when the coupler icon on the screen turns gray and "CLOSED NO TOOL" is indicated above the coupler icon. The audible alarm turns off, and the coupler is now able to be used for lifting operations or machine transport.

To connect an attachment the operator must first open the coupler, then properly position the quick coupler into the attachment bracket. When the quick coupler is correctly positioned in the attachment bracket, indicated by bracket rear pin indicator showing white on the OQSS display. The lock valve is de-energized, and the pressure boost and pressure relief (option) valves are energized. The audible indication from the buzzer turns to a fast pulsed tone. The coupler icon on the screen will turn gray with locking bolts and rear pin shown until sufficient lock pressure has been achieved. The quick coupler is properly locked into the attachment bracket when the coupler icon on the screen turns green with locking bolt and pins showing, "LOCKED" text is indicated above the coupler icon. The audible alarm turns off when the coupler is determined to be in the properly locked position.

Lock test must always be performed after connecting an attachment!
Reference Section "Lock Test of Attachments".

7. Operating principle OQ Safety System - *continued*

A self-test of all components and the system status is performed on each startup. If an error is found during this diagnosis an alarm is triggered and displayed on the screen to inform the operator that a dangerous situation has occurred. Further, the system is continuously monitoring for faults and will visually and audibly indicate if a fault becomes present. Certain dangerous faults disable the coupler open function. In this case, Emergency Operation mode can be used to operate the coupler until the fault can be corrected. Measures to be taken during an error, and emergency coupler operation are described in a separate section of this manual.

All system faults are logged by the OQSS system. The 70 most recent faults are arranged in chronological order and are identified based on system startup count. Fault logs can easily be viewed on the display module. System startups and coupler cycles are also recorded and viewable within the system status pages of the display module.

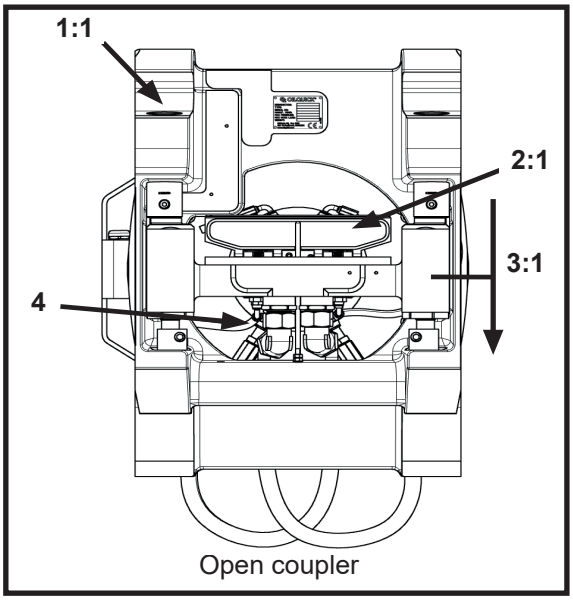
OilQuick systems installed on machines that do not have the ability to integrate a pressure boost function require a machine function to be safely operated to build pressure, such as running the outriggers to the limit position, raising the dozer blade or similar.

8. Mechanical and hydraulic operating principle

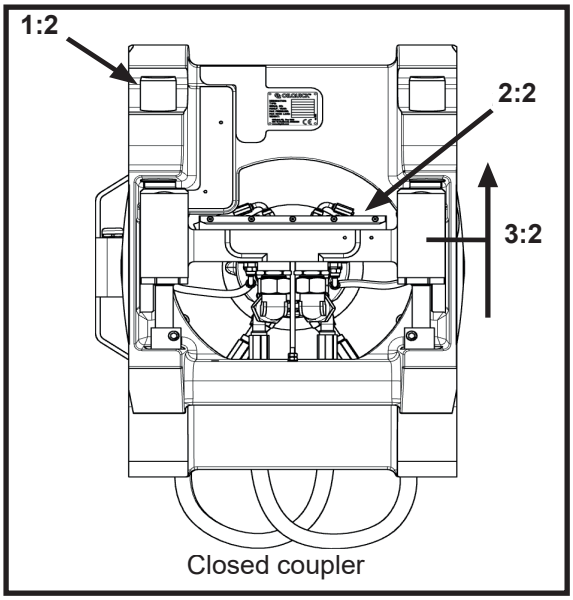
The quick coupler consists of a coupler body in which the H-cylinder with accessories is mounted. The quick coupler is mounted on the material handler stick. The H-cylinder (3) and locking plungers move forwards and backwards when oil is supplied to the H-cylinder. When the H-cylinder is in the front position (3:1) the locking plungers are retracted (1:1) in the coupler body and an attachment can be connected/disconnected. When the H-cylinder is in the rear position (3:2) the locking plungers are extended (1:2) and, if in place, an attachment frame/adapter is connected to the quick coupler.

The quick couplings (4) are located in the H-cylinder´s intermediate section between the locking plungers. The quick couplings are protected by a dirt guard (2) when they are not in use. This dirt guard is opened automatically when the H-cylinder is in the front position (2:1) and closes automatically in the rear position (does not apply if a hydraulic attachment is connected (2:2).

Oil is supplied to the H-cylinder via the material handler's hydraulic system and locking valve for the hydraulic quick coupler. When connecting hydraulic attachments, the hydraulic quick couplings and any electrical couplings are connected at the same time the tool is locked mechanically.



Open coupler



Closed coupler

9. Functional diagram and installation requirements

Lock test must always be performed after connecting an attachment!
Reference Section "Lock Test of Attachments".

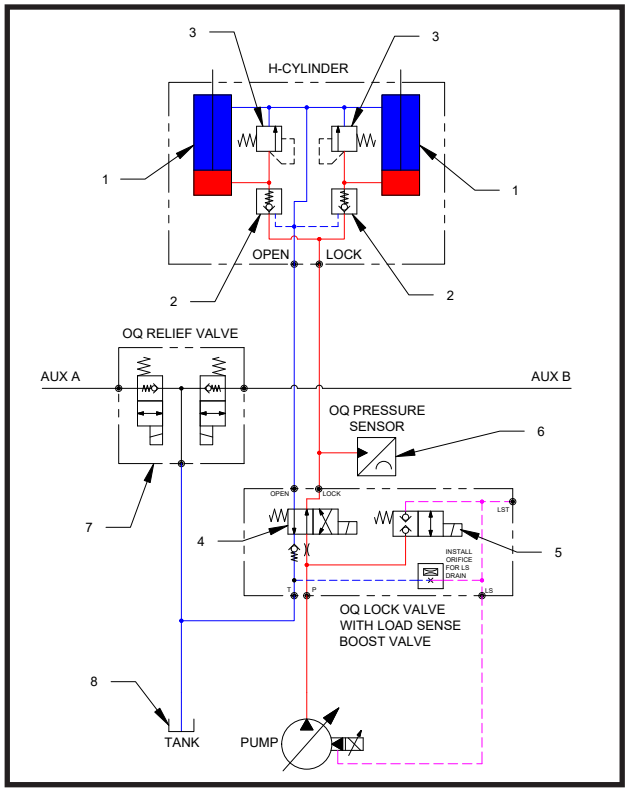
OilQuick quick coupler system H-cylinder must:

- **Have direct connection to pump.**
- **Have direct tank return.**
- **Lock with the machine's maximum pressure in the operating hydraulics.**

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

The main component of the quick coupler is the H-cylinder. Together with the locking bolts, the H-cylinder holds the connected attachment and the hydraulic quick couplings in the correct position. The H-cylinder hydraulic diagram is shown below.

1. H-cylinder integrated lock cylinders
2. Pilot operated check valves
3. Pressure limiter
4. Lock valve for the machine's quick coupler system
5. Pressure boost valve
6. Pressure sensor
7. Auxiliary relief valve



In modern machines, both pressure and flow from the machine's pressure booster (5) vary depending on the machine load. Unlike many others, OilQuick quick coupler systems work with the machine's maximum operating pressure. It is necessary to have a play-free and precise lock between the quick coupler and the attachment frame/ adapter. The H-cylinder must also hold the quick couplings together in the correct way. When the attachment is connected pressure in the extend side of the cylinders (1) builds up to the machine's max pressure.

The two pilot operated check valves (2) maintain pressure in the cylinders (1) when machine pressure varies. Each time the pump pressure increases the cylinders are refilled (1). If the pressure in the cylinder (1) exceeds 45 MPa the pressure relief valves (3) start to open to tank (8) and reduce pressure. To open the quick coupler and disconnect the attachment, the lock valve (4) is activated. The rod side of the H-cylinder is then pressurized, the pilot operated check valves (2) open, and the H-cylinder opens. If the oil supply to the H-cylinder ceases (for example a hose ruptures) it is prevented from opening, because the pilot operated check valves (2) ensure that the oil cannot leave the H-cylinder unless the rod side is pressurized.

The lock valve (4) pressure line P must be directly connected to the machine pump for operating hydraulics. This is to ensure that the H-cylinder is always pressurized.

The lock valve (4) return line T must be directly connected to the machine's hydraulic tank without restriction (8) to ensure a pressure free return line.

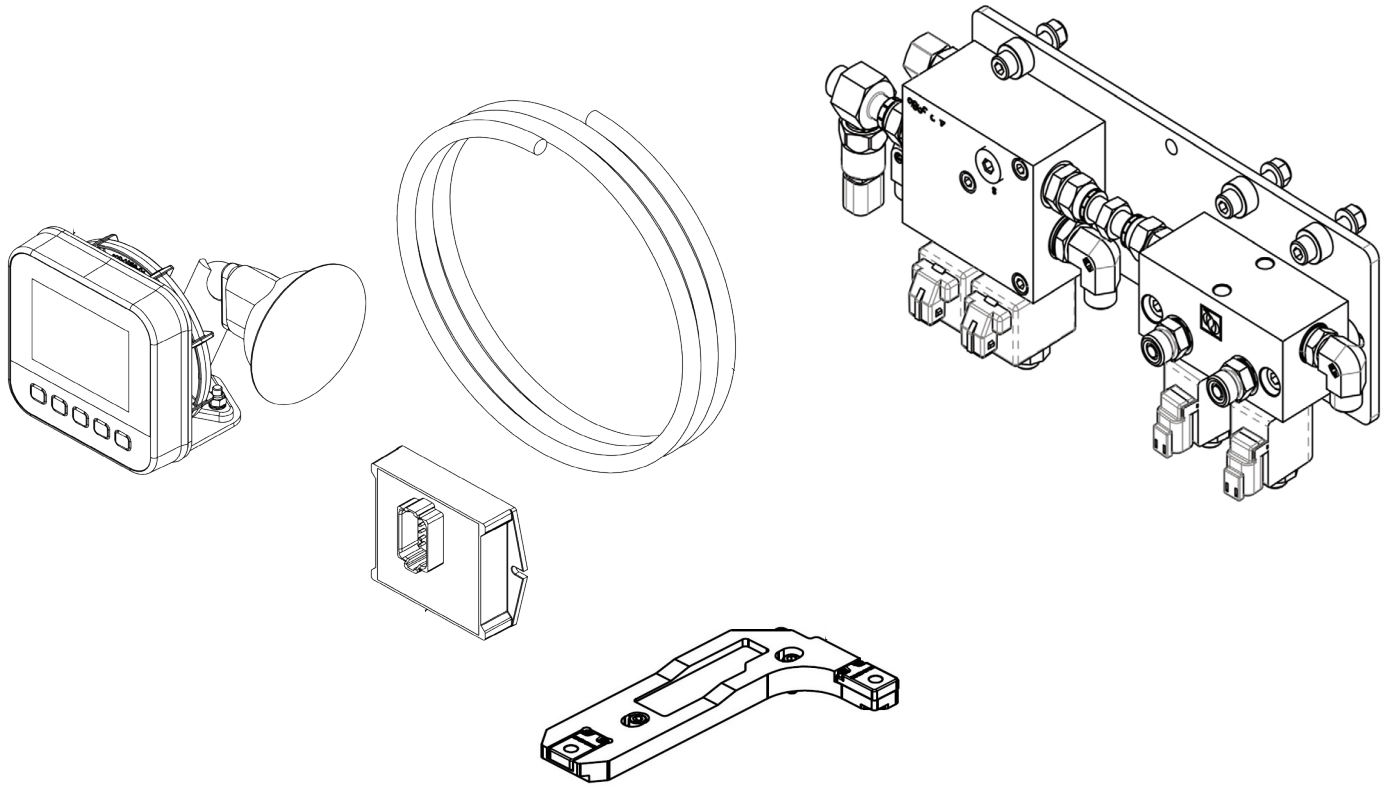
10. Locking hydraulics on material handlers

The OilQuick quick coupler system requires that the locking hydraulics are controlled with the same pressure as the machine's main operating hydraulics. The OilQuick Safety System, which controls and monitors the attachment status requires an approved locking valve for opening and closing the coupler and a function for boosting the machine pressure to relief when the attachment lock is operated. The conditions to obtain these functions are different from machine to machine and therefore require different solutions at installation. The following gives three typical installation methods depending on the machine's equipment level and technology.

1. OilQuick lock / open valve installed to operate the quick coupler via OQSS system. Locking pressure is achieved by actuating a machine function to bring the pumps on stroke at relief pressure.

2. Control of the factory installed approved locking valve via OQSS system. OQSS lock / open valve cable is connected to machine locking valve. Machine locking valve may require reconfiguration in certain cases. Locking pressure is achieved by actuating a machine function to bring the pumps on stroke at maximum operating pressure.

3. OilQuick combination lock / open and pressure boost valves installed to operate the quick coupler and boost machine pressure via the OQSS system. Locking pressure is achieved by sending a pressure signal through the machine load sense circuit. This configuration only works with machines that utilize load sense control pump systems. This is the most common installation where an approved locking valve is not factory supplied with the base machine.

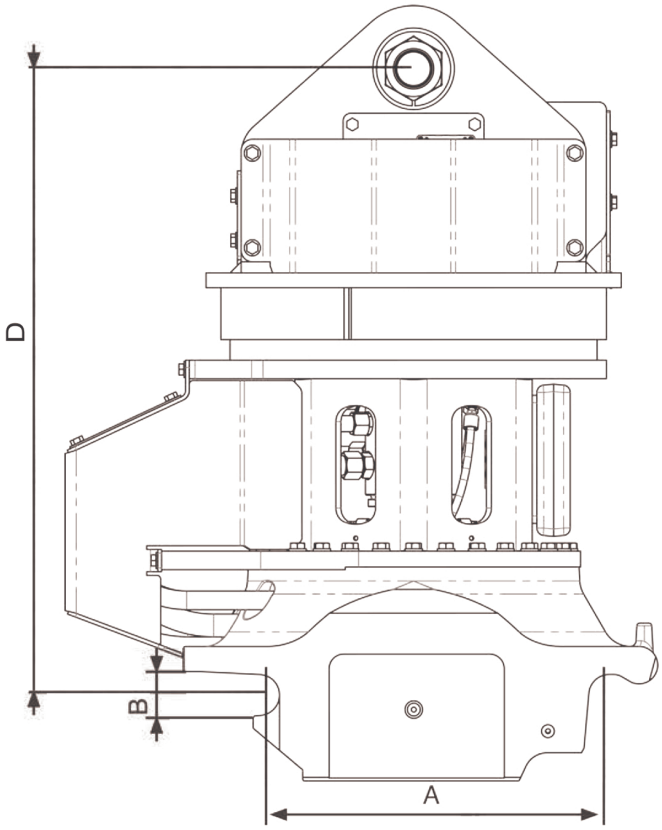


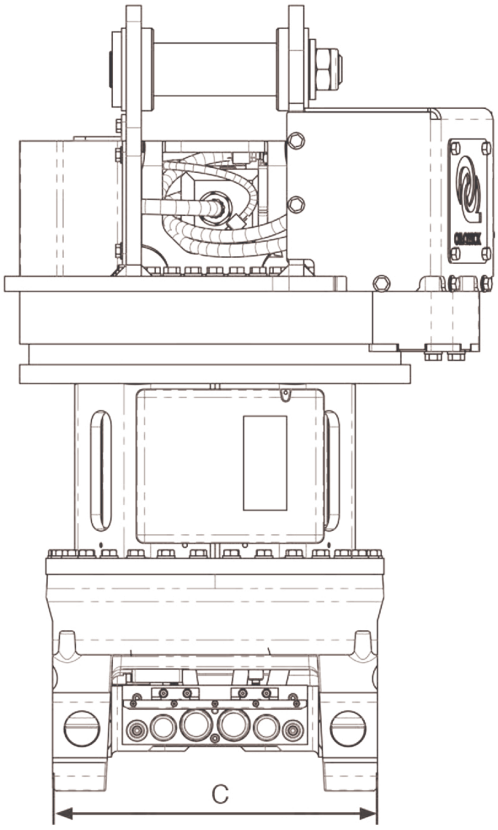
For basic hydraulic installation requirements for OilQuick quick coupler system, see Section 11.

11. Technical data

11.1 - Dimensions

Model	Max Lifting Capacity (Metric Ton)	C-C measurement pin holders (mm) A	Measurement pin diameter (mm) B	Width (mm) C	Height Pin to Pin (mm) D	Weight (lbs)	Rotator
OQC65 I20	20	530	65	440	513	1095	XR400
OQC65 R20	20	530	65	440	914	1167	RT504
OQC65 R25	25	530	65	440	914	1466	RT1004
OQC70/55 R35	35	600	70	550	1068	1938	RT1204
OQC90 R68	68	750	90	750	1206	3337	RT1504





For technical data and information regarding repair refer to the rotator manufacturer's technical documentation.

11. Technical data - *continued*

11.2 - Electrical components

1/2” and 3/4” High current contact (Mounted in H-cylinder)
Max 300V AC/DC
Max 100A
Must not be connected under voltage

Connection Type	
Max Magnet Cold Amperage	(RT504-RT1504) 100, (XR400) 90
Max Communication Circuit Amperage	4
Max Communication Circuit Power (VDC)	24

OQSS

Inputs	
Supply voltage, V_{in}	9 – 30V
Fuse	10A
Outputs	
Lock activate	V_{in} - Max 2,8A
Pressure boost	V_{in} - Max 2,8A
Pressure relief	V_{in} - Max 2,8A (2x)

11.3 - Hydraulic Components in the Quick Coupler

Hydraulic oil	
Viscosity classes	ISO VG 32, 46 & 68
Mineral oil	ISO 6743-4, HM and HV: SS155434, AV and BV: DIN 51524 HVLP
Environmentally friendly oil	DIN 51524 part 3: SS 155434, AV och 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.

11. Technical data - *continued*

11.3 - Hydraulic components in the quick coupler - *continued*

The following technical data applies to the attachment hydraulic capacity.

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 Table

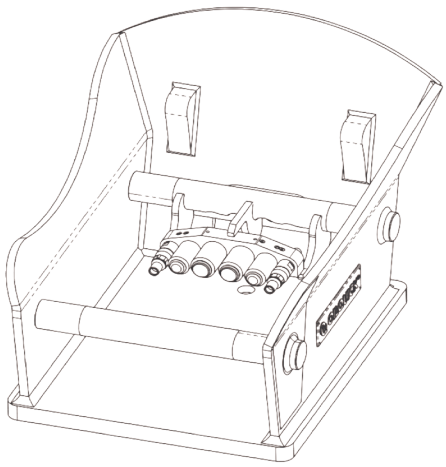
Model	Maximum Flow (GPM)	Maximum Speed (RPM)	Maximum Pressure (PSI)	Recommended Pressure (PSI)
OQC65-I20	10	20	3600	3000
OQC65-R20	9	25	5000	3000
OQC65-R25	8	20	5000	3000
OQC70/55-R35	12	15	5000	3000
OQC90-R68	13	15	5000	3000

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

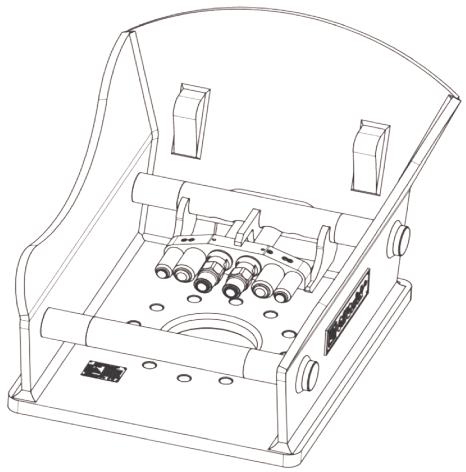
11.5 - Attachment adapters

Technical data for the most common types of attachment adapter is given below. For more information, contact your nearest OilQuick Americas representative.

Model	Internal width (mm)	Pin spacing (mm)	Pin diameter (mm)	Approximate Weight (lbs)
OQC65	440	530	65	530
OQC70/55	550	600	70	780
OQC90	750	750	90	1850



Magnet adapter



Hydraulic adapter

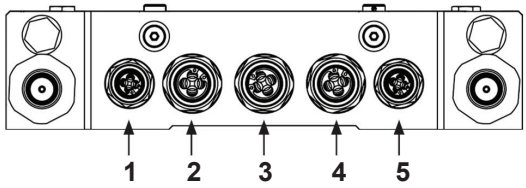
11. Technical data - *continued*

11.6 - Dimensions and positioning of quick couplings

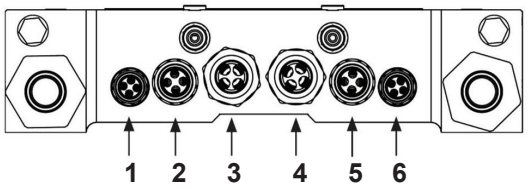
The actual appearance of the couplings varies. This is determined by the machine´s attachment hydraulics and which attachments are to be used in the system solution. Questions regarding this should be directed to your nearest OilQuick dealer.

The location of the couplings is viewed from the cab.

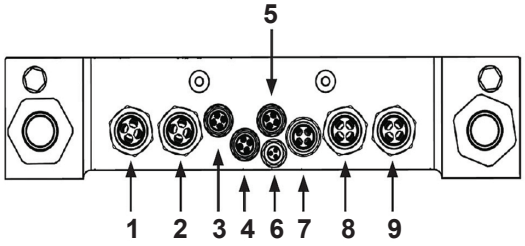
OQC65	
Coupling 1 and 5	1/2”
Coupling 2 and 4	3/4”
Coupling 1 and 2 can be replaced with high current coupling 1/2”	
Coupling 3 can be replaced with high current coupling 3/4”	



OQC70/55	
Coupling 1 and 6	1/2”
Coupling 2 and 5	3/4”
Coupling 3 and 4	1”
Coupling 1 and 6 can be replaced with high current coupling 1/2”	
Coupling 2 and 5 can be replaced with high current coupling for independent magnet ground	



OQC90	
Coupling 1, 2, 8 and 9	1”
Coupling 7	3/4”
Coupling 3 - 5	1/2”
Coupling 6	1/4” or 3/8”
Coupling 3 and 5 can be replaced with high current coupling	



12. Installation of quick coupler

WARNING!
There is a risk of physical harm when installing the quick coupler.

For further information regarding the installation of the quick coupler, see separate installation manual.

The following requirements must be met when installing the OilQuick quick coupler system:

- The pin for the stick and hanger must fit and lock in a secure way.
- The lock hydraulics pressure side (LOCK) must have a direct connection to the pump and the machine´s full operating pressure.
- The lock hydraulics return side (OPEN) must have a free unrestricted return to the tank.
- Hydraulic components that are used for the installation must be of the same or higher pressure classification than the machine's operating pressure.
- The machine manufacturer's instructions for installing the quick coupler must otherwise be followed.

The quick coupler is supplied to the location for installation in transport packaging. This packaging should not be removed until the quick coupler is to be installed. The packaging also simplifies moving the quick coupler.

Great care must be taken when installing the quick coupler on the machine. There are large and heavy parts and failure to proceed in the correct way could result in severe injury.

When working with the hydraulic system the following points must be observed:

- Depressurize hydraulic accumulators and the hydraulic system on the machine.
- Follow machine manufacturer's instructions to place machine in a zero energy state.
- Preserve the environment, clean up every oil spillage.
- Protective gloves must be used, long term exposure to hydraulic oil can cause allergic reaction.
- Protective eyewear should be used to prevent oil splashes to the eyes.
- Cleanliness must be observed when working on hydraulic systems. There is a risk of malfunction if contaminants enter the system.

13. Description of Control Panel for OQSS

13.1 - OQSS Coupler Status Indication

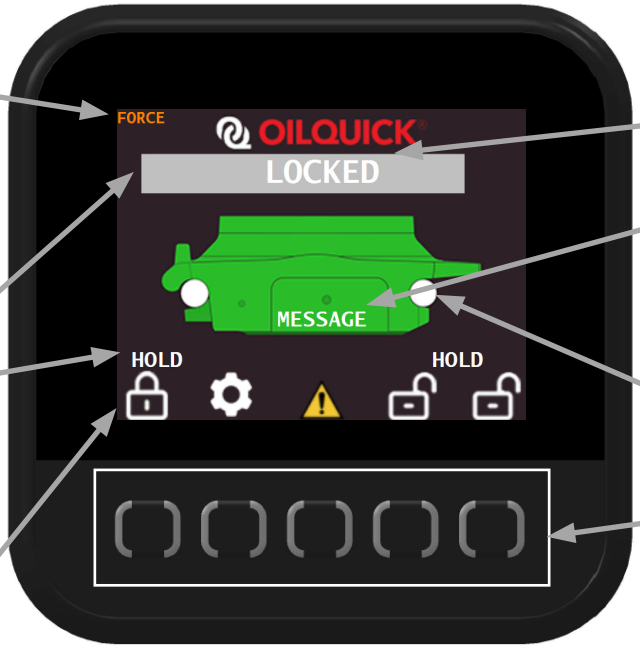
If the start procedure given below does not occur troubleshooting for OQSS must be carried out and any faults corrected!

Lock test must always be performed after connecting an attachment!
Reference Section "Lock Test of Attachments".

At system start:

- Alarm sounds for 1 second during startup check. Any active faults will be indicated on the display.
- Coupler status will be indicated if locked into an attachment by a gray coupler showing locking bolt, along with a pulsed tone from the alarm. When pressure is increased the coupler image will turn green and “LOCKED” status will be shown.
- If coupler is not locked into an attachment, coupler status will display gray with no text indication of OPEN / LOCKED status.

Description control of panel symbols and functions:



“FORCE” text visible when functions have been overridden in troubleshooting mode.

Coupler status text.

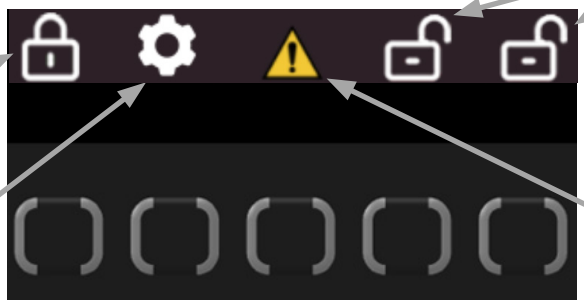
Coupler status message indication.

Lock / open button hold time indication. “HOLD” text shows and gray status bar fills until buttons have been held for the required amount of time to start a cycle.

Coupler status icon.

Operation buttons.

Button function icons above each button. Icons change for different functionality based on screen page.



OPEN Icons. Press and hold both buttons below for three seconds to initiate open cycle

LOCK icon. Press and hold button below for one second to initiate LOCK cycle.

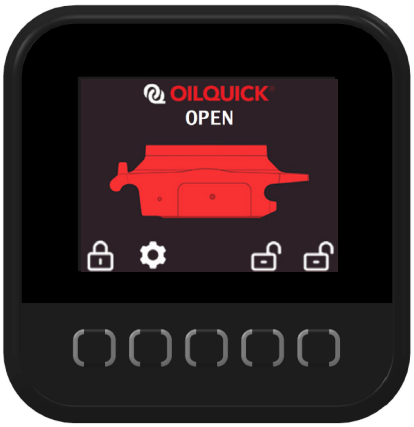
MENU icon. Press and hold button below to enter system menus.

Fault indicator. Flashes when a fault is active. Press button below to enter fault detail page.

13. Description of Control Panel for OQSS - *continued*

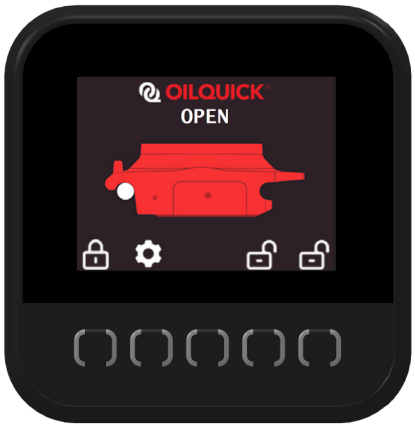
13.1 - OQSS Coupler Status Indication - continued

Coupler Open



- RED coupler icon without locking bolt or pins.
- Alarm sounds pulsed tone.

Rear Pin Engaged



- Red coupler icon showing rear pin.
- Alarm sounds pulsed tone.

Locked, Insufficient Pressure

- Gray coupler icon showing locking bolt and rear pin.
- Alarm sounds pulsed tone.
- Operate machine function to increase pressure.

Coupler Locked

- Green coupler icon showing locking bolt and pins.
- Alarm stops sounding.

Coupler Closed Without Tool

- Grey coupler icon without pins.
- Alarm stops sounding.
- Indicates coupler is closed without attachment to tool.
- Used for machine transport / maintenance.

13. Description of Control Panel for OQSS - *continued*

13.2 - Open/Closing the Quick Coupler

Opening the quick coupler:

- Open the quick coupler by pressing and holding both buttons below the OPEN icons for three seconds.
- Gray status bar above coupler icon fills left to right and begins flashing when the buttons have been held for the required time period. “HOLD” text is shown above OPEN icons for additional indication of required hold time. “HOLD” text turns off and buzzer sounds a pulsed tone when coupler open cycle begins.
- If "DOUBLE PRESS" option is enabled a confirmation screen will show after holding the open button. The button below the OPEN icon in the confirmation screen must be pressed to begin an open cycle.
- The coupler is now open and the attachment can be connected / disconnected.
- When coupler moves into the open condition, coupler status icon turns red and pins / locking bolt are no longer indicated in the icon.
- Buzzer continues to sound a pulsed tone as long as the coupler is open.

Opening From Coupler Closed Without Tool

Opening From Coupler Locked

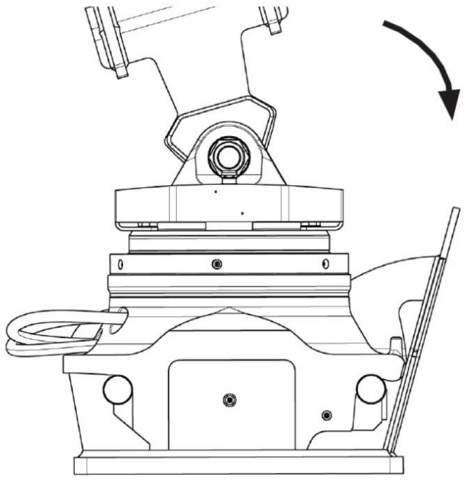
Open Confirmation Screen Press Button Below OPEN Icon to Open Coupler

Closing the quick coupler:

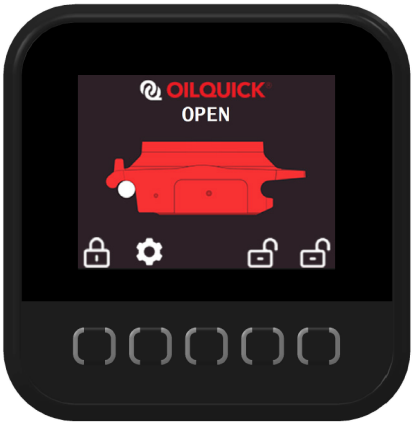
- Close the quick coupler by pressing and holding the button below the LOCK icon for one second.
- Gray status bar above coupler icon fills left to right and begins flashing when the button has been held for the required time period. “HOLD” text is shown above LOCK icon for additional indication of required hold time. “HOLD” text turns off and buzzer changes to a fast pulsed when the lock cycle begins.
- When coupler moves into the locked condition, coupler status icon turns gray, locking bolt is shown and alarm continues to sound a pulsed tone until sufficient lock pressure has been measured. Operate appropriate machine function to increase pressure.
- Coupler icon turns green with pins / locking bolt visible. Alarm turns off, and “LOCKED” is indicated above the coupler image.
- Coupler is now locked. **A physical lock test must be performed per chapter "Lock Test of Attachments" prior to any work.**

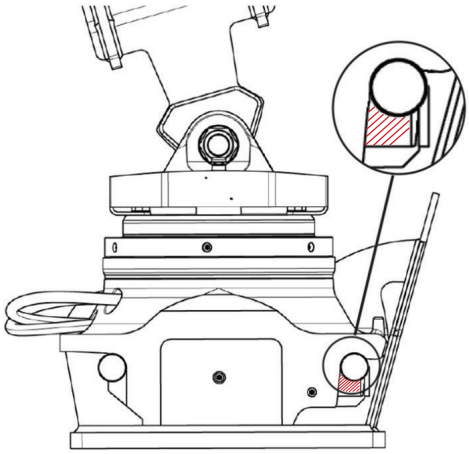
14. Correctly Connected Attachment

The quick coupler has locked the attachment in both pins and sufficient lock pressure has been achieved. This is indicated by the coupler icon turning green with pins and locking bolt visible, “LOCKED” text is displayed above the coupler icon, and the alarm stops sounding.



The coupler is ready to lock when engaged in the bracket, as indicated by the rear pin showing on the display on the red coupler image.





When coupler is locked into the bracket the display image will show gray with locking plunger and rear pin visible until sufficient locking pressure is measured.

When sufficient lock pressure has been achieved the coupler icon turns green with pins and locking plunger visible, "LOCKED" text is displayed above the coupler image..

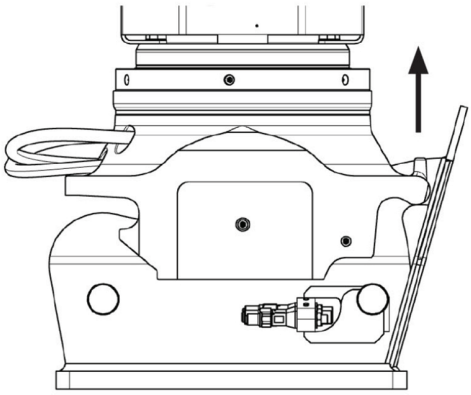
Lock test must always be performed after connecting an attachment!
Reference Section "Lock Test of Attachments".

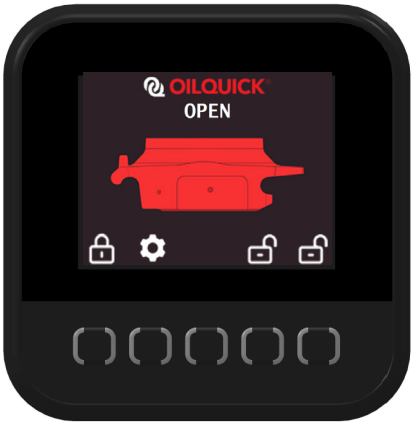
15. Closed without Attachment, Transport, Etc.

In this mode the quick coupler is closed without an attachment connected. This mode is used when performing maintenance, and transport. This is indicated by the coupler icon turning gray with locking plunger visible and pins not visible, “CLOSED NO TOOL” text is displayed above the coupler icon, and the alarm stops sounding.

16. Open Quick Coupler

The quick coupler is open and the locking bolts are withdrawn into the coupler body. This is indicated by the coupler icon turning red without pins or locking plunger visible, “OPEN” text is displayed above the coupler icon, and a pulsed tone sounds from the alarm.





17. Connection of attachments

IMPORTANT TO REMEMBER

- Only attachments with suitable OilQuick attachment frame/ adapter or mechanical attachment frame/ adapter of the same size /model may be connected.
- There is always an element of risk associated with changing attachments.
- No personnel may be within the machine operating area when the attachment is connected to or disconnected from the machine. The attachment can tip and/or fall away during the process.
- The attachment must always be positioned on a horizontal surface that is both hard and stable.
- When opening and locking the quick coupler the machine must be stationary.
- Lock test must always be carried out when connecting and changing an attachment.

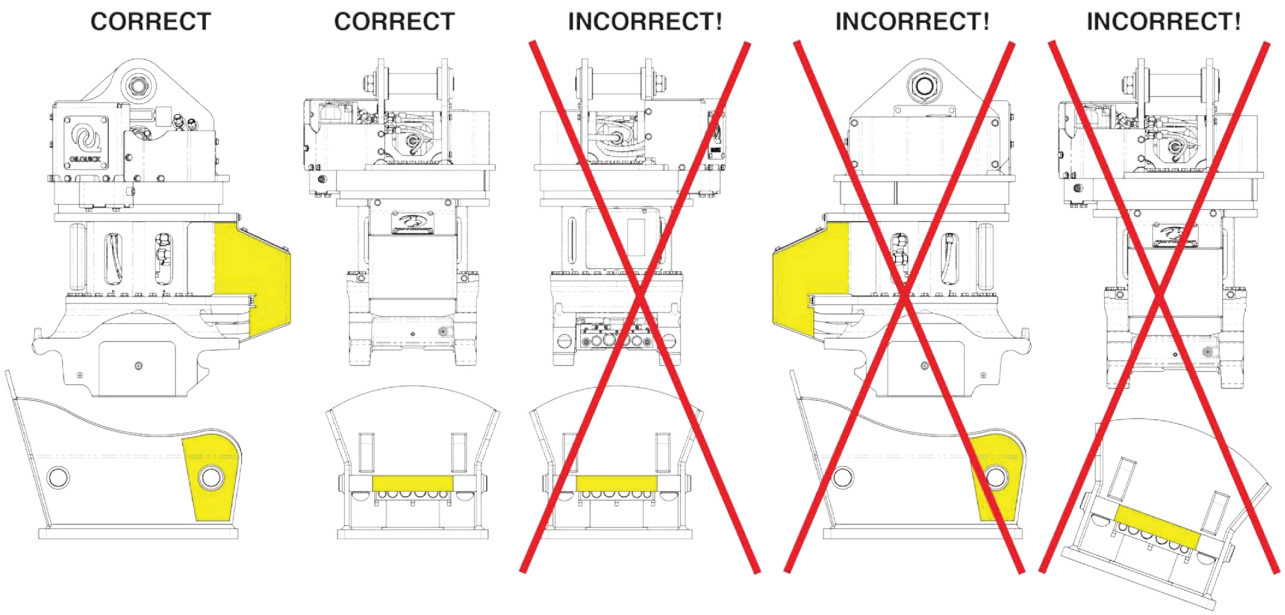
NOTE!
Special connection procedures may apply for individual attachments. Refer to the attachment documentation regarding this!

When closing the quick coupler the PressureBoost function automatically boosts the pressure of the locking hydraulics. The operator does not need to perform any additional actions.
NOTE! Where the PressureBoost option is not installed on the machine the driver must increase the pressure in the locking hydraulics by running one of the machine's hydraulic functions (not an attachment function).

This section covers connection procedures of attachments that should be connected to the attachment frame/ adapter pin in the horizontal position. Examples of attachments are: orange peel grapple, timber grapple, clamshell grapple, hoisting hook, and magnet.

Procedure

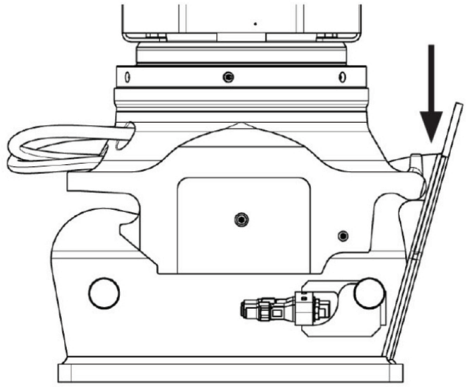
- It is assumed in this section that no attachment is connected and that the quick coupler is open. (See Section 18).
- Check that no-one is within the machine's operating area.
- Check that the quick coupler and attachment frame/adapter of the attachment to be connected are parallel to each other and that the front pin holder of the quick coupler is turned towards the front pin of the attachment frame/ adapter (see images below).
- Check that pins are free of mud and dirt.



17. Connection of attachments - *continued*

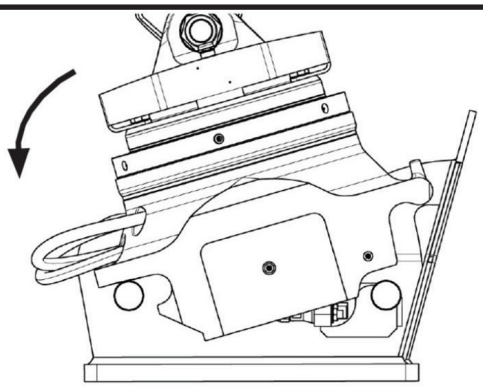
17.1 - Connection of horizontally connected attachments

1



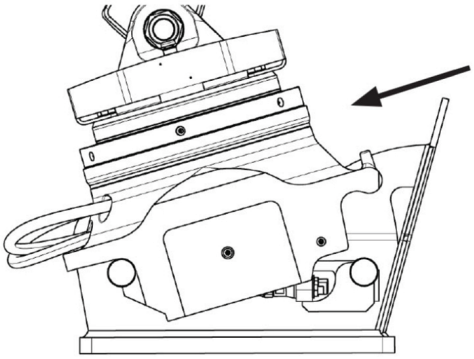
- The quick coupler is open. The warning symbol flashes and the buzzer sounds.
- Lower the quick coupler so it's rear support lies against the guide lug in the attachment adapter (1).

2



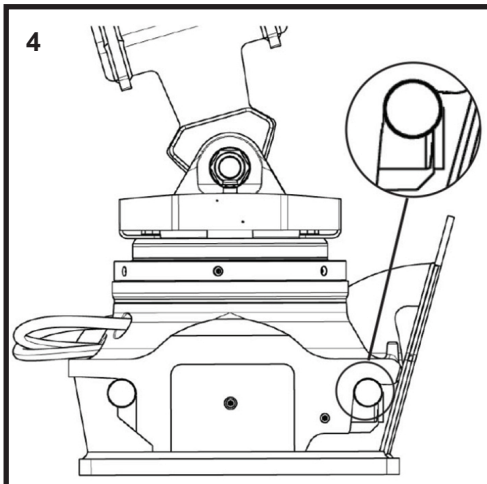
- Slowly lower the quick coupler's front section so it's front support lies against the attachment adapter's front pin (2).

3



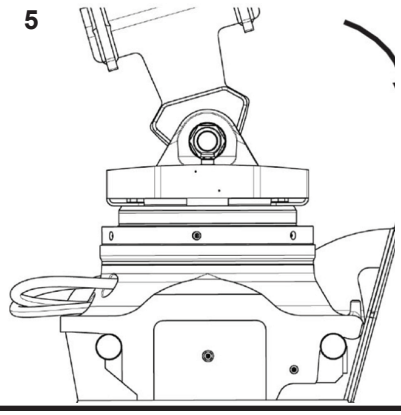
- Adjust the stick so the quick coupler moves towards the cab. The coupler's front pin holder must engage the attachment adapter's front pin as illustrated in image (3).

4



- It is now possible to close the quick coupler and lock into the attachment bracket.
- Reference Section "Open / Closing the Quick Coupler" for instructions to lock the quick coupler using the OQSS system.

5



Lower the coupler and ensure that the rear support lips lie against the attachment frame's rear pin (5).
When the support surfaces for the rear pin on the quick coupler are in the correct position against the attachment frames' rear pin the rear pin indicator lights on the display's coupler image.

NOTE! Perform a lock test according to Section "Lock Test of Attachments" before any work is done. Horizontally connected attachments with a hydraulic function must always be lock tested according to section "Lock Test of Attachments / Attachments with Hydraulic Function".

18. Lock test of attachment

THE LOCK TEST MUST ALWAYS BE PERFORMED WHEN ATTACHMENTS ARE CHANGED.

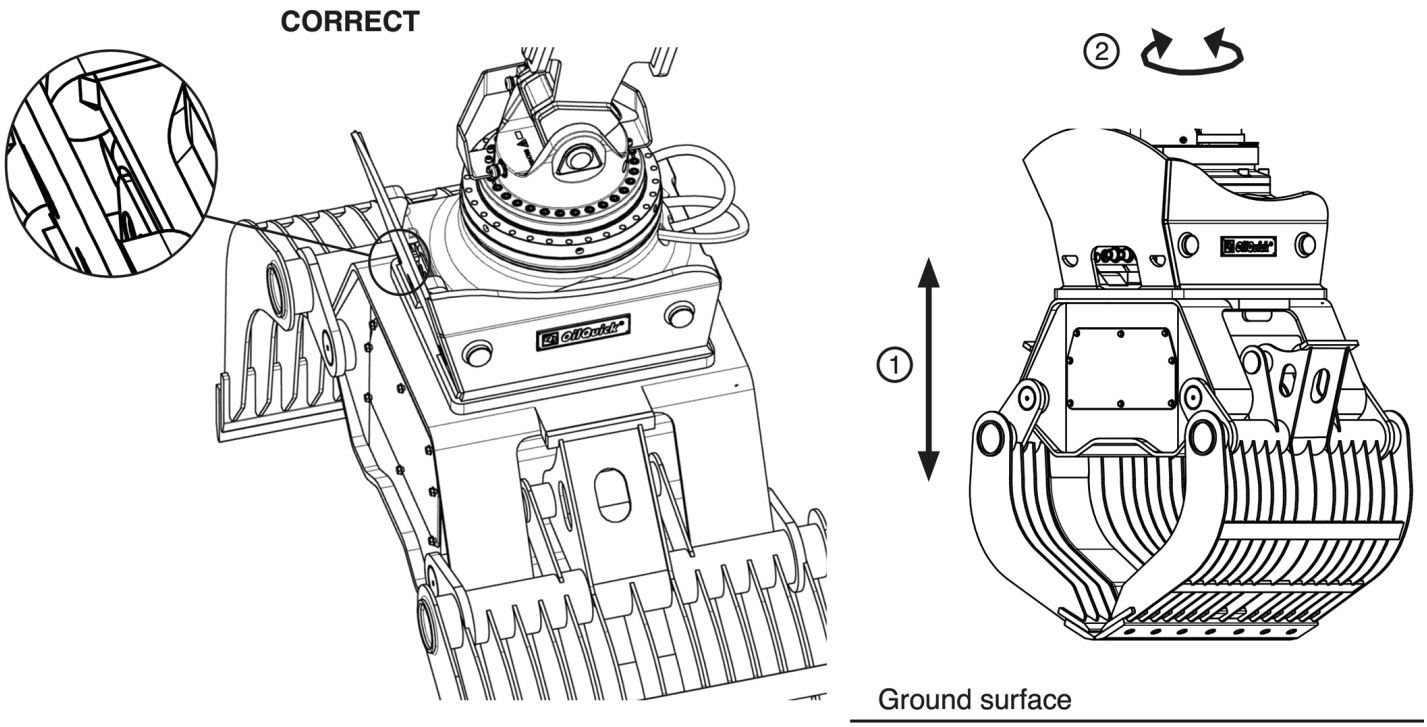
- If connection of the attachment is unsuccessful the reason for this must be determined and corrected before the attachment is reconnected.
- Take great care within the risk area because the attachment may be incorrectly connected and thereby at risk of coming loose.

18.1 - Attachments without hydraulic function

After connecting attachments without a hydraulic function a mechanical lock must be carried out.

Procedure:

- Lift the tool 8" to 12" (20-30 cm) from the ground.
- Shake the attachment vertically and rotate back and forth. The force should clearly show that the tool is under load and cannot come loose.
- Ready.



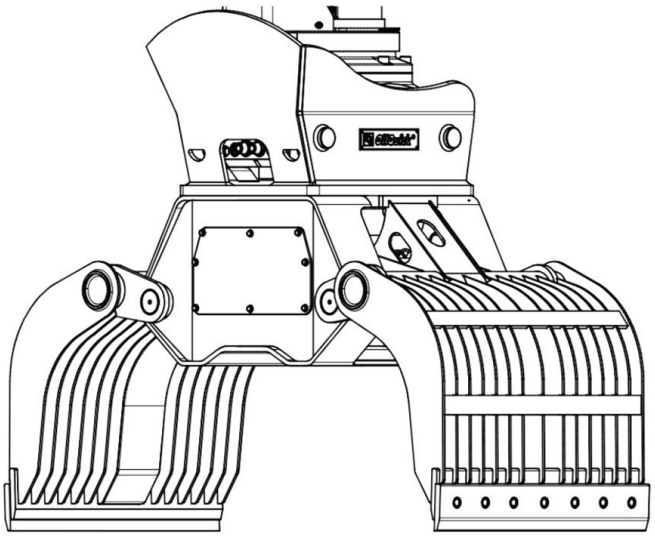
18. Lock test of attachment - *continued*

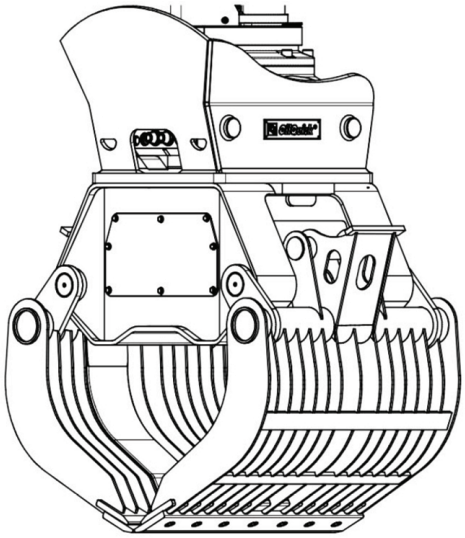
18.2 - Attachments with hydraulic function

After connecting attachments with a hydraulic function a hydraulic lock must be carried out.

Procedure:

- Lift the attachment 8" to 12" (20-30 cm) off the ground.
- Check that the attachment's hydraulic work. If so, connection is correct.
- Ready.



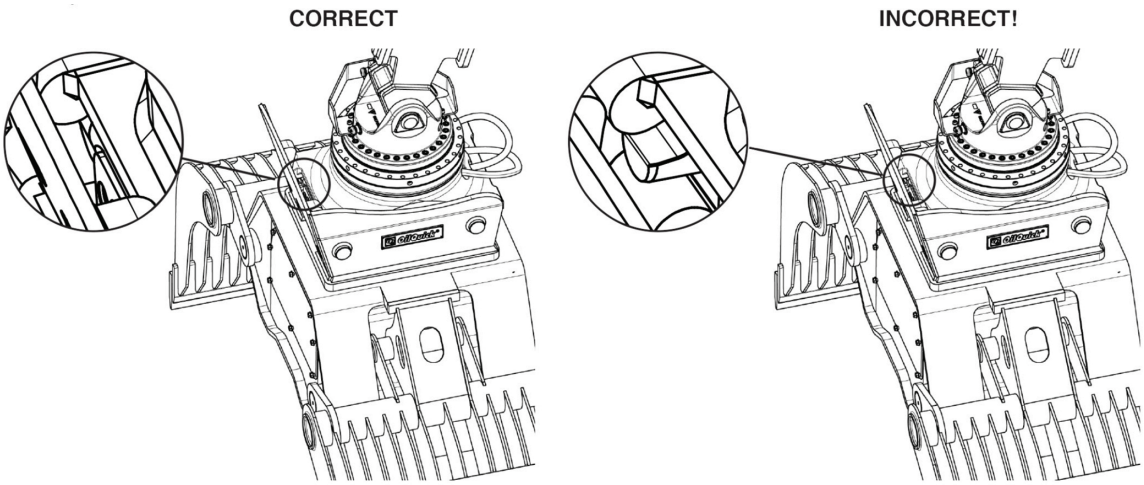


18.3 - Without hydraulic function and/or without possibility of mechanical lock

Pendulum mounted attachments without hydraulic function, or other attachments must be checked visually if the lock cannot be tested according to one of the sections: 20.1 - 20.2.

Procedure:

- Lift the attachment 8" to 12" (20-30 cm) off the ground.
- Shut of the machine.
- Climb out of the cab.
- Go sufficiently close to the quick coupler that you can clearly see the parts related to locking the attachment. Take great care within the risk area because the attachment may be incorrectly connected and thereby at risk of coming loose.
- Check that the locking plungers are under the tool rear pin.
- Check that the H-cylinder is in the rear position.
- Ready.



19. Disconnection of horizontally connected attachments

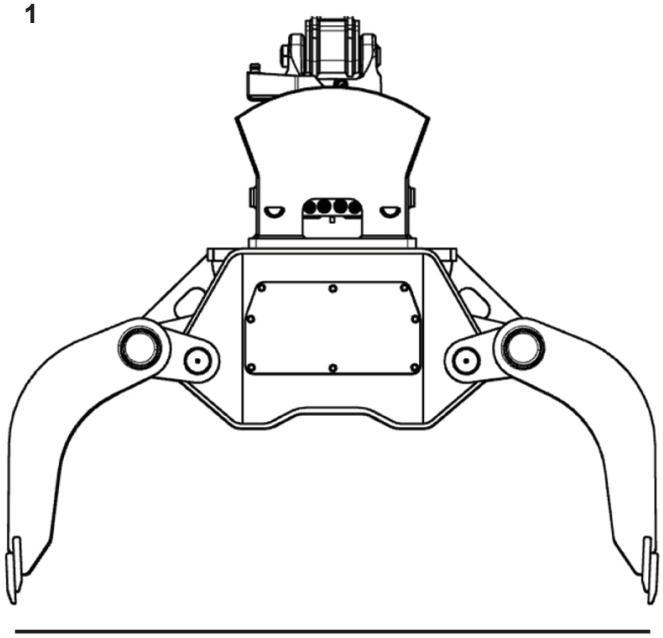
IMPORTANT TO REMEMBER

- There is always an element of risk associated with changing attachments.
- No personnel may be within the machine operating area when the attachment is connected to or disconnected from the machine.
- The attachment can tip and/or fall away during the process.
- The attachment must always be positioned on a horizontal surface that is both hard and stable.
- When opening and locking the quick coupler the machine must be stationary.

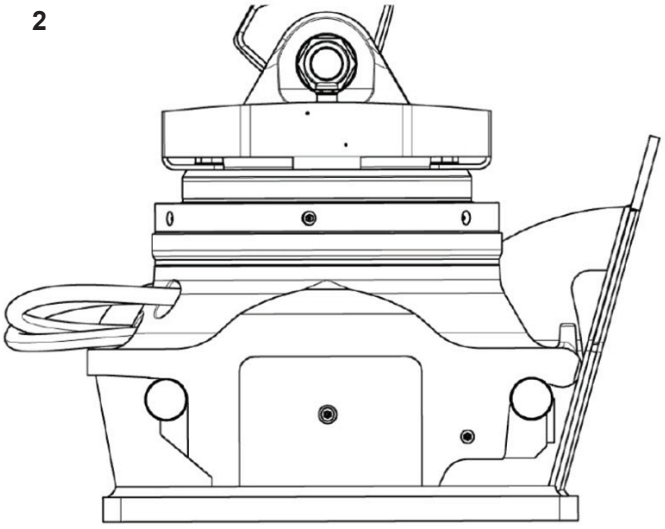
NOTE!
Special disconnection procedures may apply for individual attachments. Refer to the attachment documentation regarding this!

When opening the quick coupler the PressureBoost function automatically boosts the pressure of the locking hydraulics. The operator does not need to perform any additional actions.
NOTE! Where the PressureBoost option is not installed on the machine the driver must increase the pressure in the locking hydraulics by running one of the machine's hydraulic functions (not an attachment function).

1



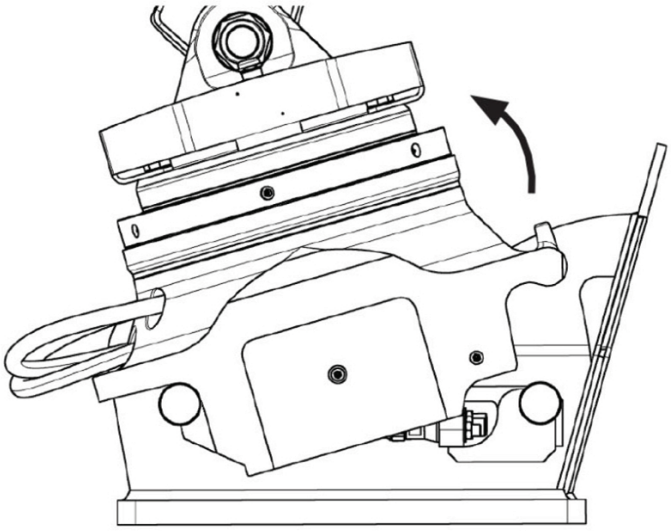
2



- Check that no-one is within the machine's operating area.
- Position the attachment to be disconnected a little above the ground (1).
- Lower the attachment to the ground so that it is stable and supports itself, but is not pushed down by the material handler.
- The surface must be hard and even (2).
- The coupler is now open.
- Reference Section "Opening / Closing the Quick Coupler" for instructions how to open the quick coupler using the OQSS system.

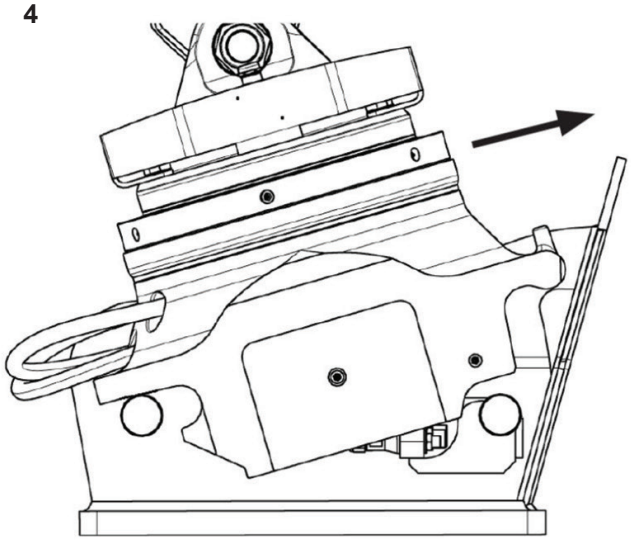
19. Disconnection of horizontally connected attachments - *continued*

3

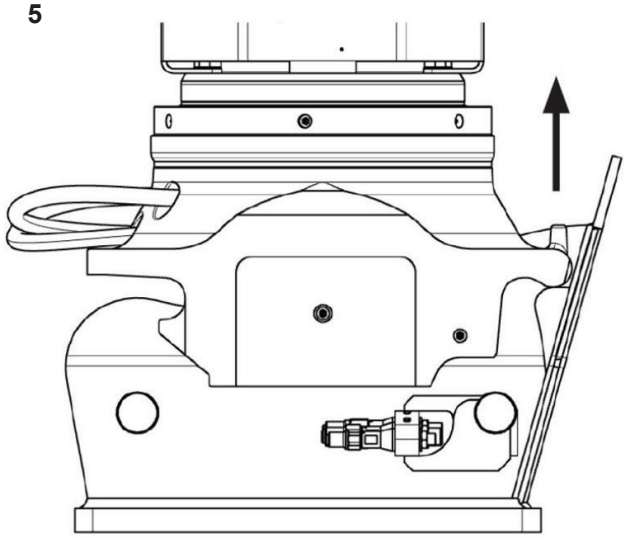


- Lower the attachment so that it rests on the ground completely at the same time as carefully bringing the stick towards the material handler so that the quick coupler leaves the rear pin of the attachment frame/adapter, but still holds the front pin. The angle must be a minimum of 40° between the frame/adapter and quick coupler (3).

4



5



- Carefully operate the quick coupler´s front pin holder loose from the attachment frame/adapter front pin (4).
- If a new attachment is to be connected, see the instructions under section "Connection of Attachments".

20. Description of System Faults and Notifications

The OQSS system actively monitors system components for faults and communicates these faults both visually in the control panel and audibly thru the alarm. The system also conveys notifications relating to normal system operation. Faults are categorized in two groups, urgent and non-urgent.

- When an urgent fault is active the coupler icon flashes between red and current state, the status text above the coupler icon flashes between “FAULT” and current state, the fault indicator flashes, and the alarm sounds a slow pulsed tone.
- If there is a critical lock sensor fault or a buzzer fault, the open command is disabled and emergency overridemust be used to open the coupler, see section 23.
- When a non-urgent fault is active, the fault indicator is shown. The fault can be viewed by pressing the buttonbelow the fault indicator.

Description of urgent faults:

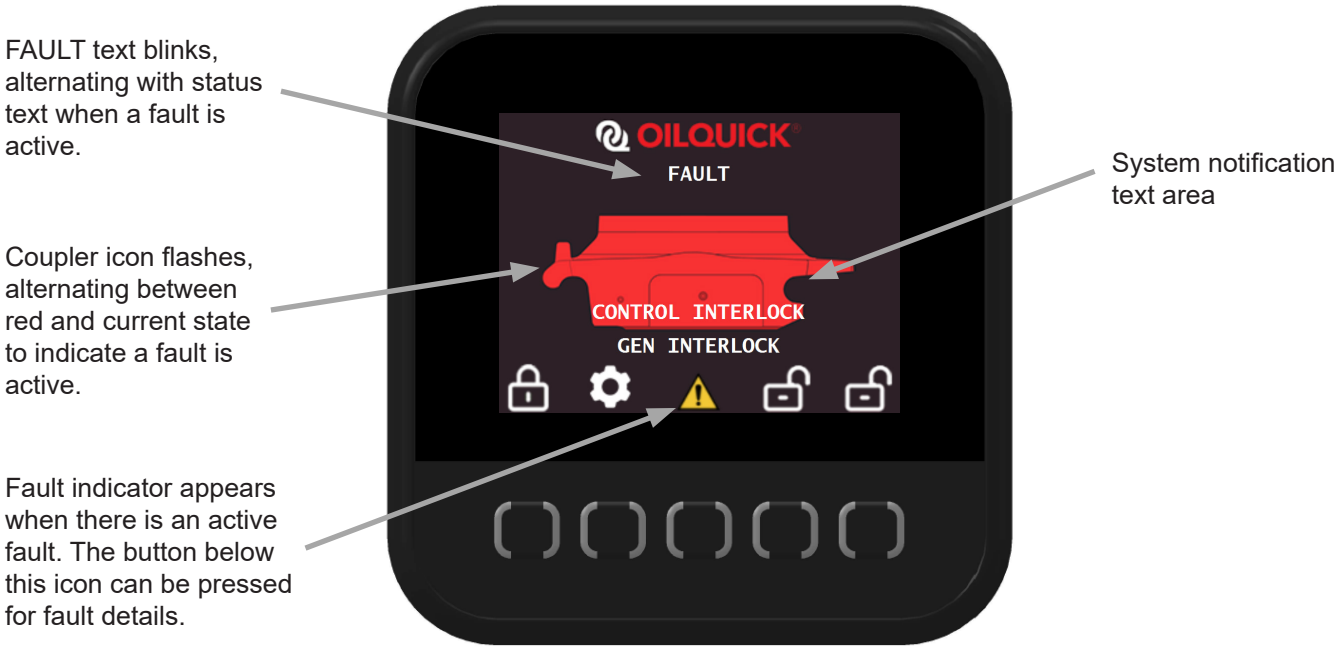
1. BUZZER FAULT – Coupler open disabled / check alarm buzzer
2. H-CYLINDER SENSOR FAULT – Coupler open disabled / check H-cylinder sensor
3. PIN SENSOR FAULT – Coupler open disabled / check pin sensor
4. PRESSURE SENSOR FAULT – Coupler open disabled / check pressure sensor
5. LOCK VALVE FAULT – Check lock valve

Description of non-urgent faults:

1. RELIEF VALVE 1 FAULT – Check relief valve 1
2. RELIEF VALVE 2 FAULT – Check relief valve 2
3. BOOST VALVE FAULT – Check LS boost valve
4. CAN BUS FAULT – Error detected in CANbus communication
5. OPEN / CLOSE TIMEOUT FAULT – No fault indication on main screen – logged in event log
6. LOW LOCK PRESSURE FAULT – Pressure below threshold in lock line for 90+ minutes

Description of possible notifications:

1. CONTROL INTERLOCK– If control interlock is enabled, prevents coupler operation when machine control arm is not actuated.
2. GEN INTERLOCK – If gen interlock is enabled, prevents coupler operation when generator for lifting magnet is enabled.



20. Description of System Faults and Notifications - *continued*

20.1 - Navigation of the Fault Screen

Coupler Open, Fault Active

- FAULT indicated
- Press button below fault indicator to enter fault screen

Fault Indicator Icon.

Sample Fault Screen

- Active faults listed
- Press button below fault checkmark to acknowledge fault and return to main screen.

Acknowledge Fault Icon

Sample Fault Screen

- Press button below tech docs icon for additional resources

Tech Docs Icon

Tech Docs QR Code

- Fault QR code can be scanned with your phone for troubleshooting resources
- Press button below back icon to return to fault screen.

21. Emergency Operation

If there is a buzzer fault, critical lock sensor fault, or pressure sensor fault; the coupler open function is disabled. To operate the coupler, emergency operation must be activated. If OVERRIDE PROTECTION is enabled, a password will be required to enter emergency operation. If "GEN INTERLOCK" is enabled, the coupler cannot be opened when the generator is enabled.

Main Screen

- From the main screen, press the button below the menu icon.

Menu Icon

Main Menu Screen

- From the main menu screen, use the buttons below the up / down arrows to select “EMERGENCY OPERATION”
- Press the button below the checkmark icon to select “EMERGENCY OPERATION”

21. Emergency Operation - *continued*

Enter Emergency Screen

- Press button below checkmark icon and input password if prompted to enter EMERGENCY operation
- Press button below X icon to exit EMERGENCY OPERATION
- Press button below back icon to return to the menu.

Main Screen
Emergency Operation

- Coupler icon red EMERGENCY OPERATION text flashing, alternating with SENSORS OVERRIDDEN text.
- Alarm sounds continuous tone when coupler is open or opening.
- Alarm changes to pulsed tone when coupler is closing

Emergency Operation is not intended for continuous use!
Coupler will not operate in emergency operation if GEN INTERLOCK is enabled and generator is on.

Lock test must always be performed after connecting an attachment!
Reference Section "Lock Test of Attachments".

22. System Menus

The OQSS system menus are used to display system status, for system setup, and for troubleshooting. Within the main menu are the below sub menus:

- System Status
- Emergency Operation
- Troubleshooting
- System Setup
- Fault Log

Main Screen

- Press button below the menu icon to enter the main menu.

Menu Icon

Main Screen

- Use up / down arrow icons and checkmark icon to navigate to desired menu page.
- Press button below tech docs icon for QR link.
- Operation, installation, and parts manuals.

Operation, installation, and parts manuals Icon.

22. System Menus - *continued*

22.1 - System Status Screens

System Status pages show current state of electronically controlled / monitored system components. There are three status screens, all shown below with example status. The buttons between the left / right arrow icons are used to navigate between pages. The coupler can be operated via status pages 1 and 2 to view component status during operation. EVENT LOG screens can be accessed from status page 3.

Monitored components with descriptions are listed below:

- COUPLER STATUS – Indicated with green (LOCKED), gray (CLOSED NO TOOL), and red (OPEN) boxes around coupler lock/open icons
- CONTROL INTERLOCK – Status of machine control arm signal. ON, OFF, or DISABLED
- GEN INTERLOCK – Status of generator enable signal. ON, OFF, or DISABLED
- H-CYLINDER SENSOR – Status of OQSS H-cylinder sensor. ON indicates coupler closed, OFF indicates not locked
- PIN SENSOR – Status of OQSS pin sensor. ON indicates rear pin is engaged, OFF indicates rear pin is not engaged
- LOCK PRESSURE – Actual pressure in the lock port (not actual coupler pressure - indicates LOW PSI when pressure is not present in lock line)
- SYSTEM VOLTAGE - Actual system supply voltage
- LOCK VALVE – Status of lock valve solenoid. ON, OFF, or FAULT
- PRESSURE BOOST VALVE – Status of LS boost valve solenoid. ON, OFF, FAULT, or DISABLED
- RELIEF VALVE 1/2 – Status of Relief valve 1 and 2 solenoid. ON, OFF, FAULT, or DISABLED
- ALARM BUZZER – Status of Alarm Buzzer. ON, OFF, or FAULT
- NORMAL LOCK CYCLES – Count of the number of successful lock cycles (coupler locked into tool)
- EMPTY LOCK CYCLES – Count of the number of lock cycles with no tool connection
- EMERGENCY LOCK CYCLES – Count of emergency operation lock cycles
- SYSTEM STARTUPS – Count of system starts
- SYSTEM HOURS - Records total number of OQSS system operating hours
- EVENT LOG - Press button below EVENT LOG text to enter EVENT LOG pages

Opening and closing the coupler from status pages 1 and 2:

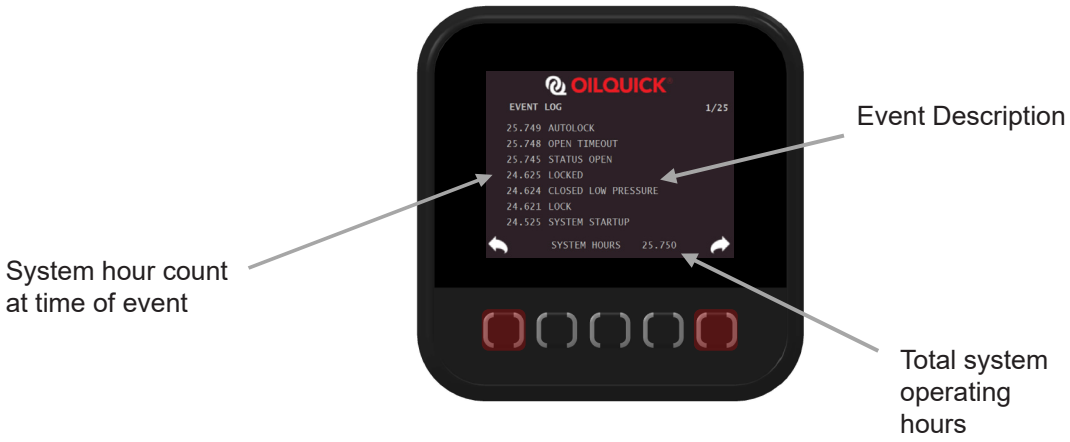
Opening coupler from “CLOSED NO TOOL” or “LOCKED” status. Press and hold buttons below unlock icons for 8 seconds. Box around open icons shows white until buttons have been held for the required time. If the DOUBLE PRESS option is enabled a confirmation screen will show before the open cycle initiates.

Closing coupler. Press and hold button below lock icon for 8 seconds. Box around lock icon shows white until button has been held for the required time.

22. System Menus - *continued*

22.2 - Event Log Screens Screens

The OQSS event log pages record the most recent 175 coupler open and close events from the event list detailed below. Events are listed in order and logged by the system hour count at which they occurred. In this manner, events can be tracked historically.
Use the buttons below the left / right arrow icons to navigate between event log pages, and to return to the previous menu.



Description of Logged System Events

SYSTEM START – System start up
OPEN INITIATE – First open button press if DOUBLE PRESS option is enabled
OPEN – Open button pressed on main screen and open cycle started
STATUS OPEN – Open button pressed on status screen and open cycle started
EMERGENCY OPEN – Open button pressed in EMERGENCY OVERRIDE and open cycle started
OPEN TIMEOUT – Open cycle did not complete successfully within ON TIME parameter
OPENED – Coupler opened
LOCK – Lock button pressed on main screen and lock cycle has started
STATUS LOCK - Lock button pressed on status screen and lock cycle started
EMERGENCY LOCK – Lock button pressed in EMERGENCY OVERRIDE and lock cycle has started
AUTOLOCK – Open cycle failed and AUTOLOCK cycle initiated (if enabled)
CLOSE TIMEOUT –Lock cycle did not complete successfully within the ON TIME parameter
CLOSED LOW PRESSURE – Coupler closed into an attachment, sufficient locking pressure has not been measured
LOCKED – Coupler successfully locked into attachment
CLOSED NO TOOL – Coupler closed and no attachment connected

22. System Menus - *continued*

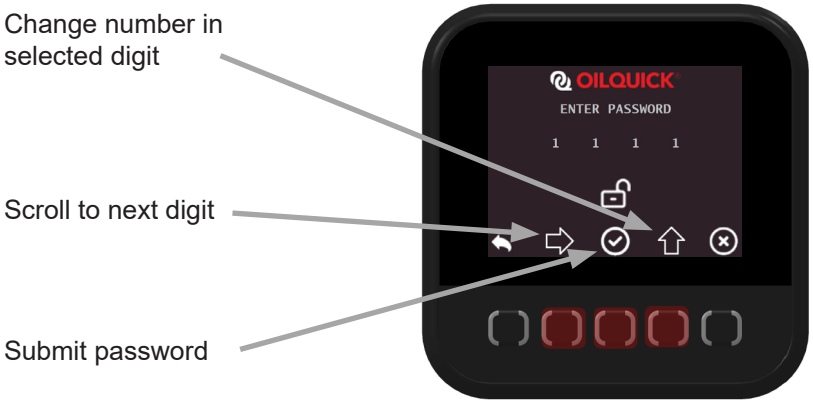
22.3 - System Setup Screens

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.

22. System Menus - *continued*

22.3 - System Setup Screens - *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

22. System Menus - *continued*

22.3 - System Setup Screens - *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.

22. System Menus - *continued*

22.4 - Troubleshooting Screens

The OQSS troubleshooting feature allows monitoring and manual control of system components for troubleshooting purposes. The owner password must be entered to manually start or stop components. When system devices are manually overridden in troubleshooting mode the text “FORCE” appears in orange on the upper lefthand corner of the screen. The alarm will sound a pulse every minute while troubleshooting mode is active. The troubleshooting screens mimic the system status screens, with additional functionality shown below.

The troubleshooting mode will timeout and revert to normal operation after thirty minutes, or a power cycle of the OQSS system, and any overridden devices will return to normal state. The password must again be entered if additional troubleshooting is required.

FORCE text signifies that components are in force mode.

Highlighted box around selected component

- Press buttons below up / down arrow icons to navigate to the component to be overridden.
- Selected component will be highlighted.
- Press button below checkmark icon to select component and enter the FORCE page (password may need to be entered for access).

Change number in selected digit

Scroll to next digit

Submit password

- Password page will appear if not currently in troubleshooting 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.

Selected component

FORCE ON, FORCE OFF, NOT FORCED

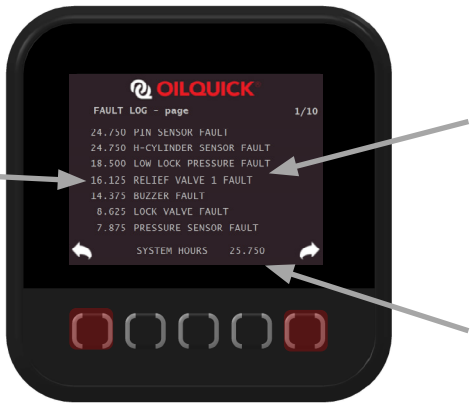
- Press buttons below up / down arrow icons to select the desired option, “FORCE ON”, “FORCE OFF”, or “NOT FORCED.”
- Press button below checkmark icon to select control option.
- This manually turns electrical components on / off for troubleshooting, for example you can turn a valve signal on while it’s unplugged to check voltage at the plug.

22. System Menus - *continued*

22.5 - Fault Log Screens

The OQSS fault log pages record the most recent 70 faults from the fault list detailed in section labeled "Description of System Faults and Notifications". Faults are listed in order and logged by the system hour count at which they occurred. In this manner, faults can be tracked historically. The below image is an example of a fault log page.

Use the buttons below the left / right arrow icons to navigate between fault log pages, and to return to the previous menu,



Hour recording when fault occurred

Fault Description Reference section labeled "Troubleshooting" for troubleshooting guidance.

Total system operating hours

23. Start and stop of machine at service and maintenance

No one may be near or touching the quick coupler when the machine engine is started or stopped. Risk of uncontrolled movement of the H-cylinder because of residual pressure in the hydraulic system and changed valve positions.

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.

This section primarily applies to the coming Sections, but also generally.

The hydraulic pressure and electrical system will be affected by the starting and stopping of the machine.
This can lead to uncontrolled movements in the locking bolts when the machine engine is started or stopped. Therefore, no one may be near the machine when it is started or stopped.

24. Inspection and maintenance

Any faults must be corrected immediately. These faults are related to workplace safety.

Regular inspection and maintenance of the OilQuick quick coupler system is essential to retain good function and reliability.

24.1 - Inspections at start of the day

- Carry out maintenance procedures according to Section labeled "Maintenance - OQSS system components".
- Before work with the machine can begin, connection and disconnection of the attachment must be tested in a location where no persons are present.
- Ensure that the hydraulic hoses between the stick and rotator are not damaged or can be damaged during use.
- Open the quick coupler.
- All acoustic and visual indications via the display must function in the intended way.
- The locking plungers must be retracted.
- Close the quick coupler.
- All acoustic and visual indications via the control panel must function in the intended way.
- The locking plungers must be extended.
- Check that shafts and sensors are free of mud and dirt.
- In event of snow and ice, the quick coupler and attachment frame / adapter must be cleaned of ice and snow.
- If necessary, rinse or wipe off mud, slush or anything else that does not belong on the quick coupler or attachment frame / adapter (high pressure washer is not recommended). This is especially important during the winter because it can freeze together and cause damage to piston rods, couplings and other things in the quick coupler.

24. Inspection and maintenance - *continued*

24.2 - Inspections at the end of the day

- Before work with the machine is concluded the attachment must be disconnected and the attachment closed in a location where no persons are present.
- All acoustic and visual indications via the display must function in the intended way.
- Check that the quick coupler is free of contaminants such as snow, ice and mud etc. and clean if necessary.
- Checks according to “At start of day”.
- Check all screwed joints.
- Check shaft locks.
- Check that the dirt guard functions as intended.
- Check that there is no leakage.
- In event of snow and ice, the quick coupler and attachment frame and adapter must be cleaned of ice and snow.
- If necessary, rinse or wipe off mud, slush or anything else that does not belong on the quick coupler (high pressure washer is not recommended). This is especially important during the winter because it can freeze together and cause damage to piston rods, couplings and other things in the quick coupler.
- Clean the female couplings in the quick coupler.
- Lubricate the locking plungers and H-cylinder side plates. There are 4 x grease nipples for this purpose (section 6.1).
- Wipe off the tool’s quick couplings.

24.3 - Inspection to be done monthly

A more extensive check should be carried out every month.

- Checks according to section ”At start of day”.
- Check that there is no play in the locking plungers.
- Check that there are no cracks in the quick coupler or attachment frame/adapter.
- Check adjustment and condition of sensor linkage.

Faults detected during inspections must be corrected immediately in order not to impact on the reliability and function of the quick coupler system. Replacement parts can be obtained from the nearest OilQuick representative that also offers servicing.

25. Maintenance - OQSS system components

NOTE! Never use chemicals or abrasives when cleaning the instrument and components.

All units in the system are either cast or sealed so that the necessary IP classification is maintained. The maintenance by the user is therefore limited to the following periodic checks:

- Wipe the display using a damp cloth. It is very important that the screen light brightly and clearly so that all information reaches the user. If the display becomes damaged, it is essential that the control panel be replaced even if the function is otherwise good.
- Regularly check the cables and pins at the control panel mountings for damage such as wear, open circuits or trapped cables. Any damaged parts must be replaced immediately, even if the function remains good.
- Regularly check the display mounting to ensure the suction mount is secure. A badly mounted display is a safety risk.
- Check that the chassis module, other enclosed units and their cable connections are undamaged.
- Ensure that the cable routing does not cause abrasion and wear on cables.

26. Maintenance of quick couplings

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.

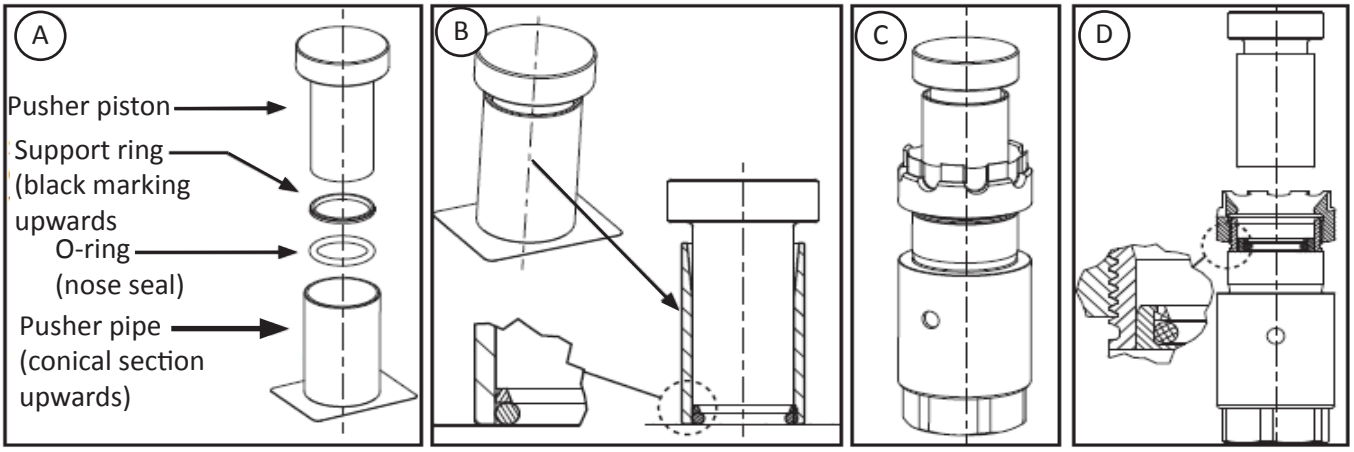
Cleanliness must be observed when working on hydraulic systems.
There is a risk of malfunction if contaminants enter the system.

Quick couplings that connect the attachment to the machine wear and age with use. If they start to leak they must be maintained or replaced. If there is leakage when the attachment is connected and used then the nose seal is probably damaged and must be replaced. For instructions, see section "Replacement of nose seal in female coupling" If there is leakage regardless of whether the attachment is connected or not then the female coupling is probably damaged internally and must be replaced. For instructions, see section "Replacement of quick couplings".

26.1 - Replacement of nose seal in female coupling

1. Remove the damaged nose seal.
2. Clean the seat for the coupling thoroughly.
3. New nose seal is installed using the special installation tool called a “Pusher”.
4. Insert the O-ring, followed by the support ring (black marking upwards) in the pusher pipe, see image (A).
NOTE! Pusher pipe conical section (upper section) must be turned upwards. For 1/4” and 3/8” female coupling, see point 6 below.

NOTE!
Insert the O-ring first and then the support ring (Does not apply to 1/4” or 3/8” female coupling).
The support ring’s black marked side must be turned towards the pusher piston.



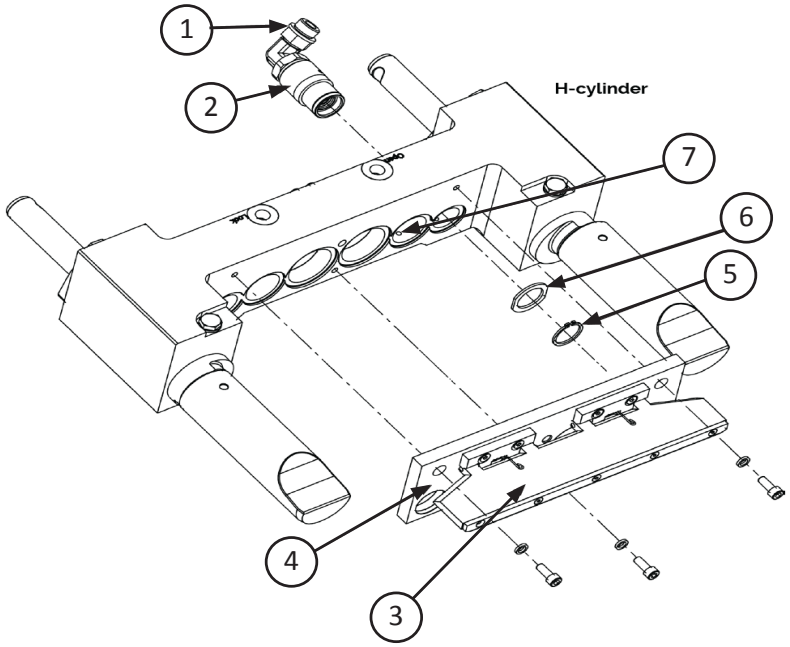
5. Female couplings sized: 1/2”, 3/4” and 1”: Feed the nose seal into the pusher pipe’s lower end by placing the pusher against a table or other flat surface and then pressing the seal down to the bottom position using the pusher piston. See image (B).
6. When loading the pusher when it applies to 1/4” and 3/8” female coupling the support ring and O-ring must be inserted from the other end of the pusher pipe (bottom end) compared with image (A). **NOTE!** The support ring must be inserted first, black marking upwards towards the pusher, followed by the O-ring. Place the pusher against a table or other flat surface and then press the seal down to the bottom position using the pusher piston. See image B).
7. Place the pusher against the female coupling and press the pusher piston firmly. See image (C).
8. Check that the nose seal is correctly installed. See image (D).

26. Maintenance of quick couplings - *continued*

26.2 - Replacement of lock ring secured quick couplings

Included parts:

1. Hydraulic connection
2. Quick coupling
3. Dirt guard
4. Guide plate
5. Lock ring
6. Steel washer
7. Seat for quick coupling



Procedure:

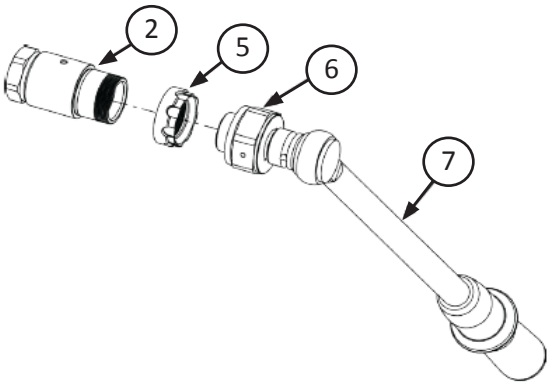
• Shut off the machine and depressurise the operating hydraulics.
• Open the dirt guard (3).
• Unscrew the guide plate (4).
• The lock ring (5) that holds the quick coupling is now accessible. That and the steel washer (6) behind it must be removed and discarded.
• Pull the quick coupling out of the H-cylinder.
• Disconnect the hydraulic connection (hydraulic hose/pipe/adapter) (1) from the relevant quick coupling (2).
• Discard the quick coupling.
• Reinstall the hydraulic connection on a new quick coupling.
• Before installing a new quick coupling the seat (7) in the H-cylinder must be cleaned and degreased.
• Install new parts and reinstall other relevant parts in reverse order.

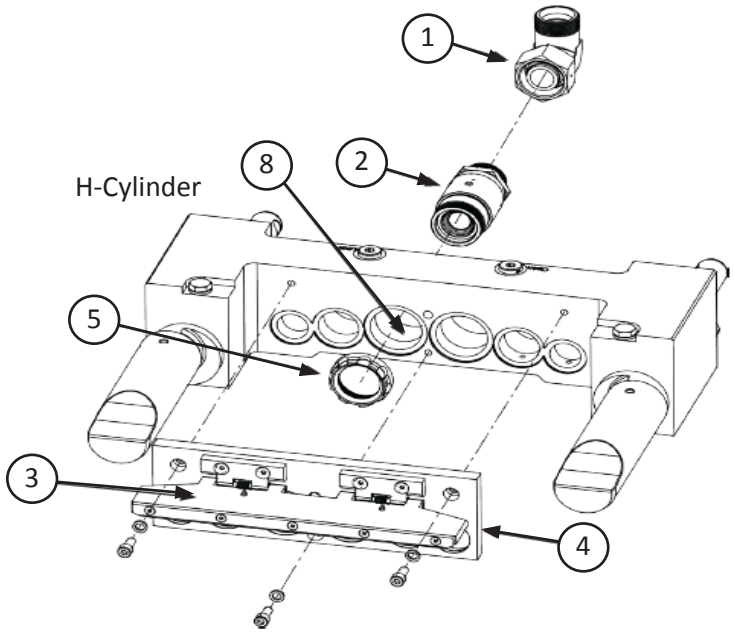
26. Maintenance of quick couplings - *continued*

29.3 - Replacement of nose nut secured quick couplings

Included parts:

1. Hydraulic connection
2. Quick coupling
3. Dirt guard
4. Guide plate
5. Nose nut
6. Mounting tool (option)
7. Torque wrench (not included)
8. Seat for quick coupling





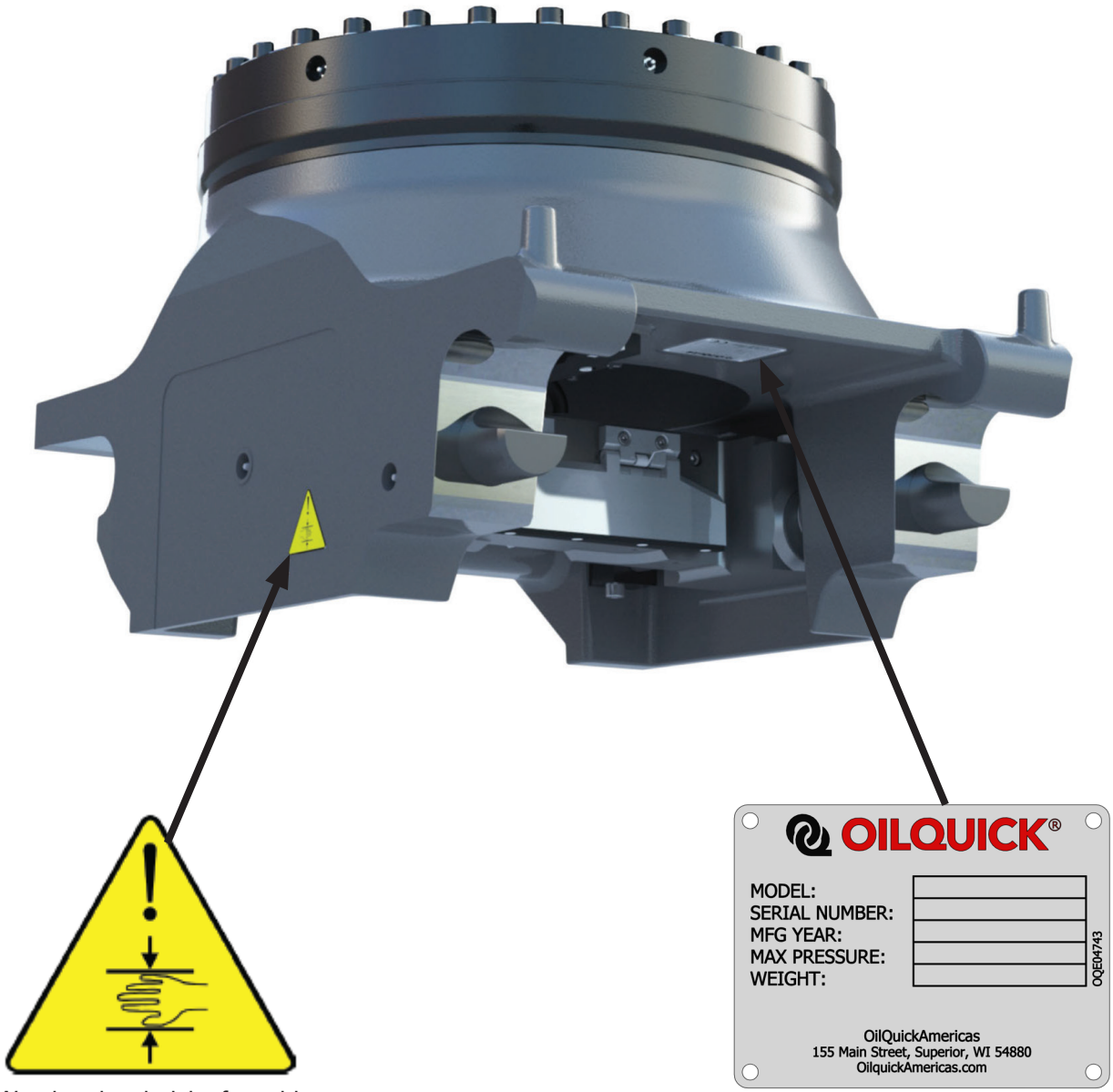
Procedure:

• Shut off the machine and depressurise the operating hydraulics.
• Open the dirt guard (3).
• Unscrew the guide plate (4).
• The nose nut (5) on the quick coupling (2) is now accessible.
• Remove the nose nut (5) using the mounting tool (6) and handle.
• Pull the quick coupling out of the H-cylinder.
• Disconnect the hydraulic connection (hydraulic hose/pipe/adapter) (1) from the relevant quick coupling (2).
• Discard the quick coupling.
• Before installing a new quick coupling the seat (8) in the H-cylinder must be cleaned and degreased.
• Reinstall the hydraulic connection on a new quick coupling.
• Insert a quick coupling (2) in the H-cylinder seat and hand tighten the nose nut (5).
• Then use the mounting tool (6) and torque wrench (7) to tighten the nose nut on the quick coupling to the stated tightening torque.
• Reinstall other parts in reverse order.

TIGHTENING TORQUE	
3/8”	100±25 Nm
1/2”	175±25 Nm
3/4”	275±25 Nm
1”	375±25 Nm
1 1/2”	575±25 Nm

27. Plates and decals

27.1 - Identification plate and decals



2. Warning decal, risk of crushing

1. Identification plate / ID plate

28. 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.

29. Troubleshooting - OQSS

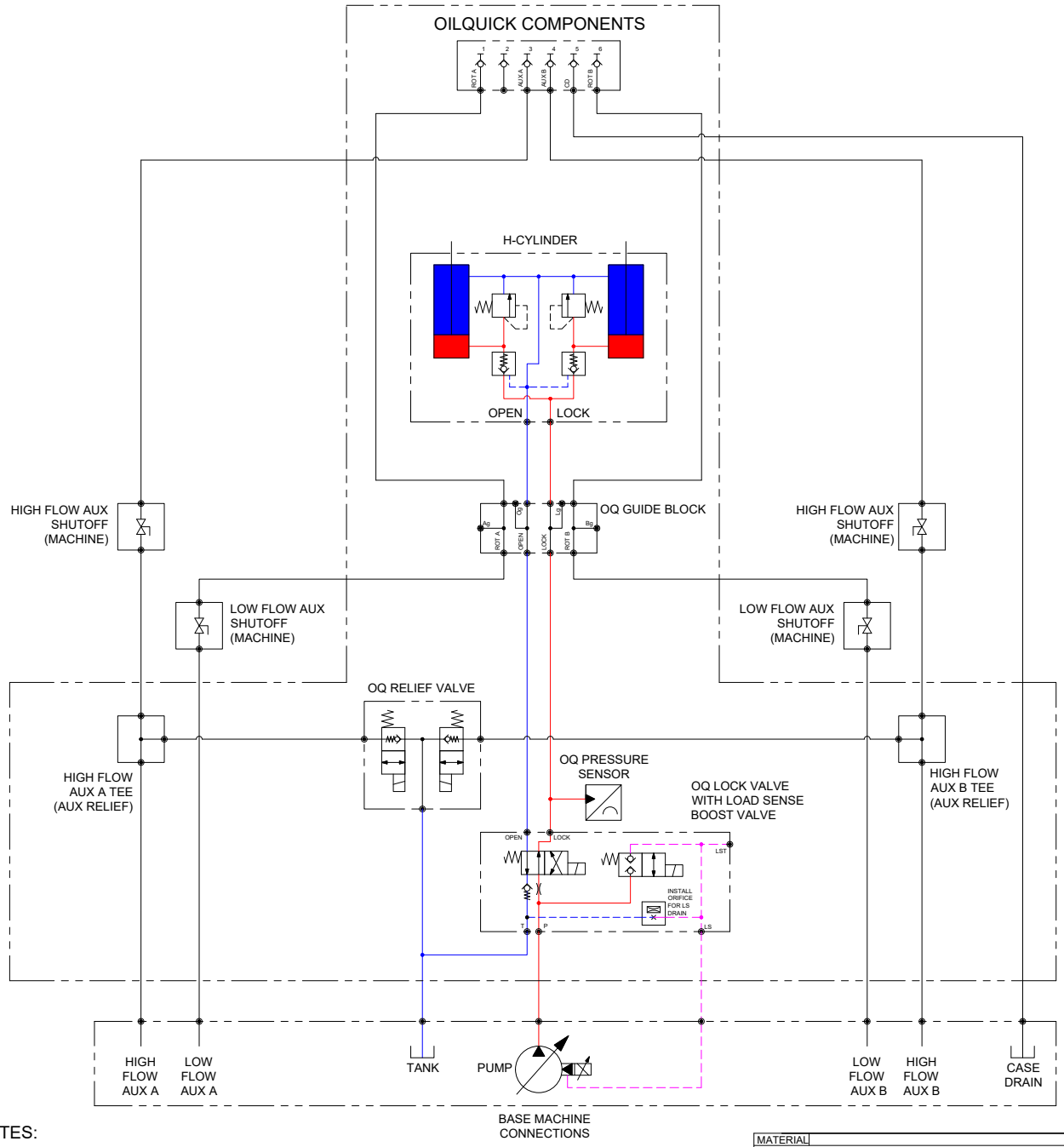
Fault	Possible cause	Action
Control panel does not start on machine start	Faulty power connection / wiring	Check voltage at keyed power connection with a multimeter. If machine voltage is present, inspect fuse. Check chassis module power light. If this is lit, the chassis module is receiving power. Inspect 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.

29. 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.

30. 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 SHEET1 OF 1
DESCRIPTION: HYDRAULIC SCHEMATIC OQSS

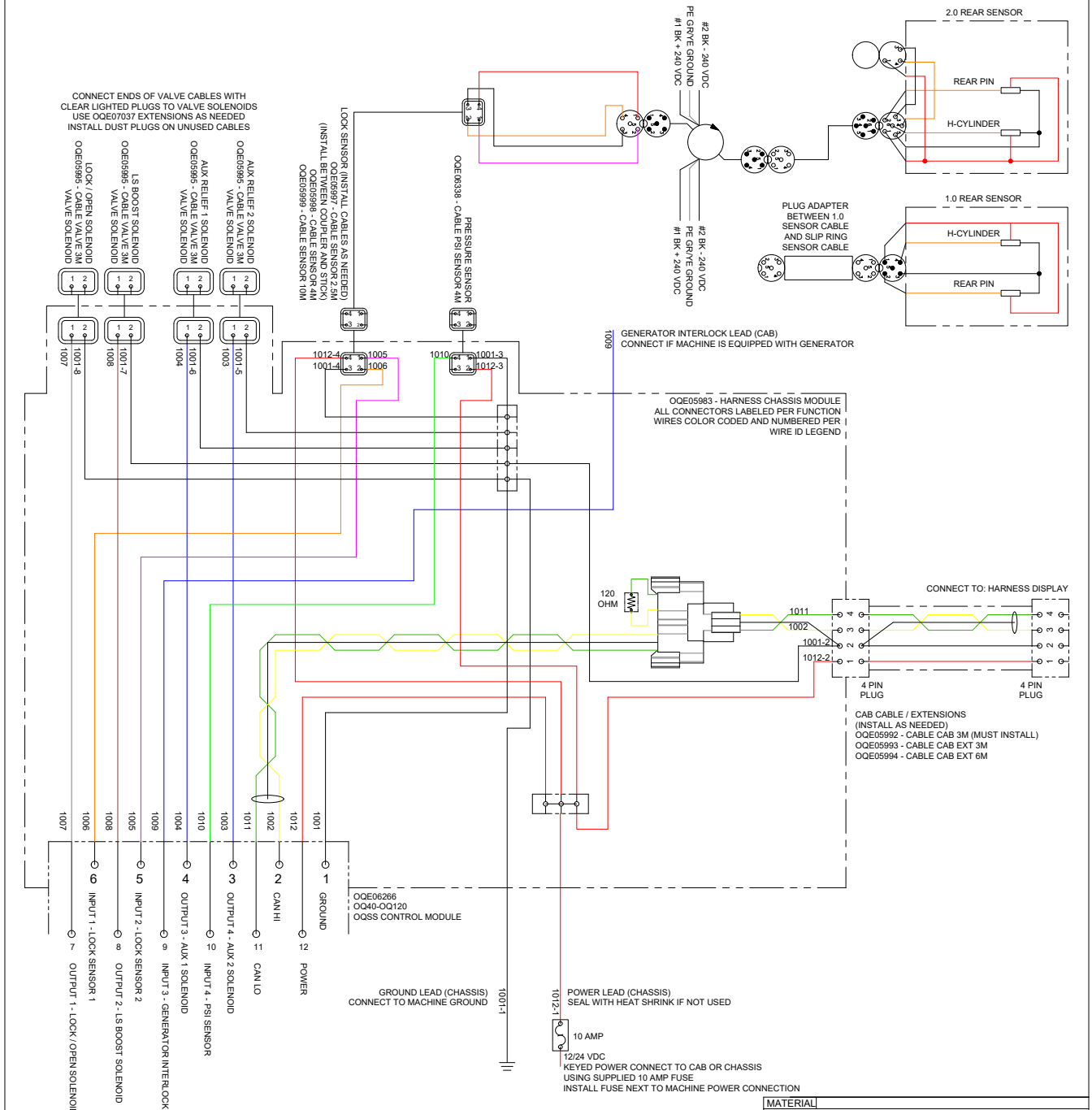
SIZE	PART NO.	REV.
A	OQE06747	A

Notes

31. 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

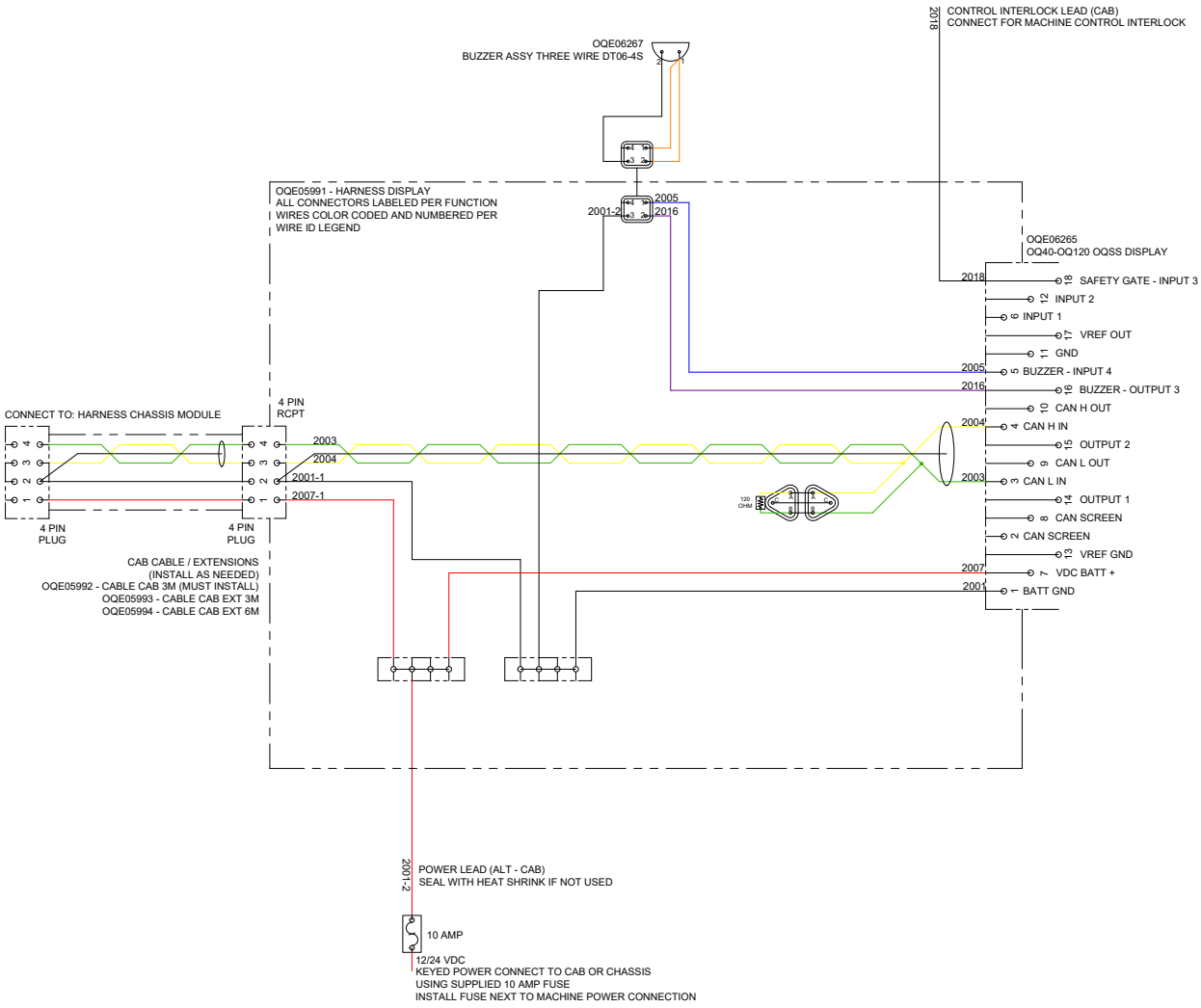
UNLESS OTHERWISE SPECIFIED:
ALL DIMENSIONS IN INCHES. ALL THREADS TO BE CLASS 2 FIT.
ALL MACHINE FINISHES TO BE 250 MICRON MINIMUM.
ALL MACHINED EDGES TO BE DEBURRED.

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

31. 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

31.1 - 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

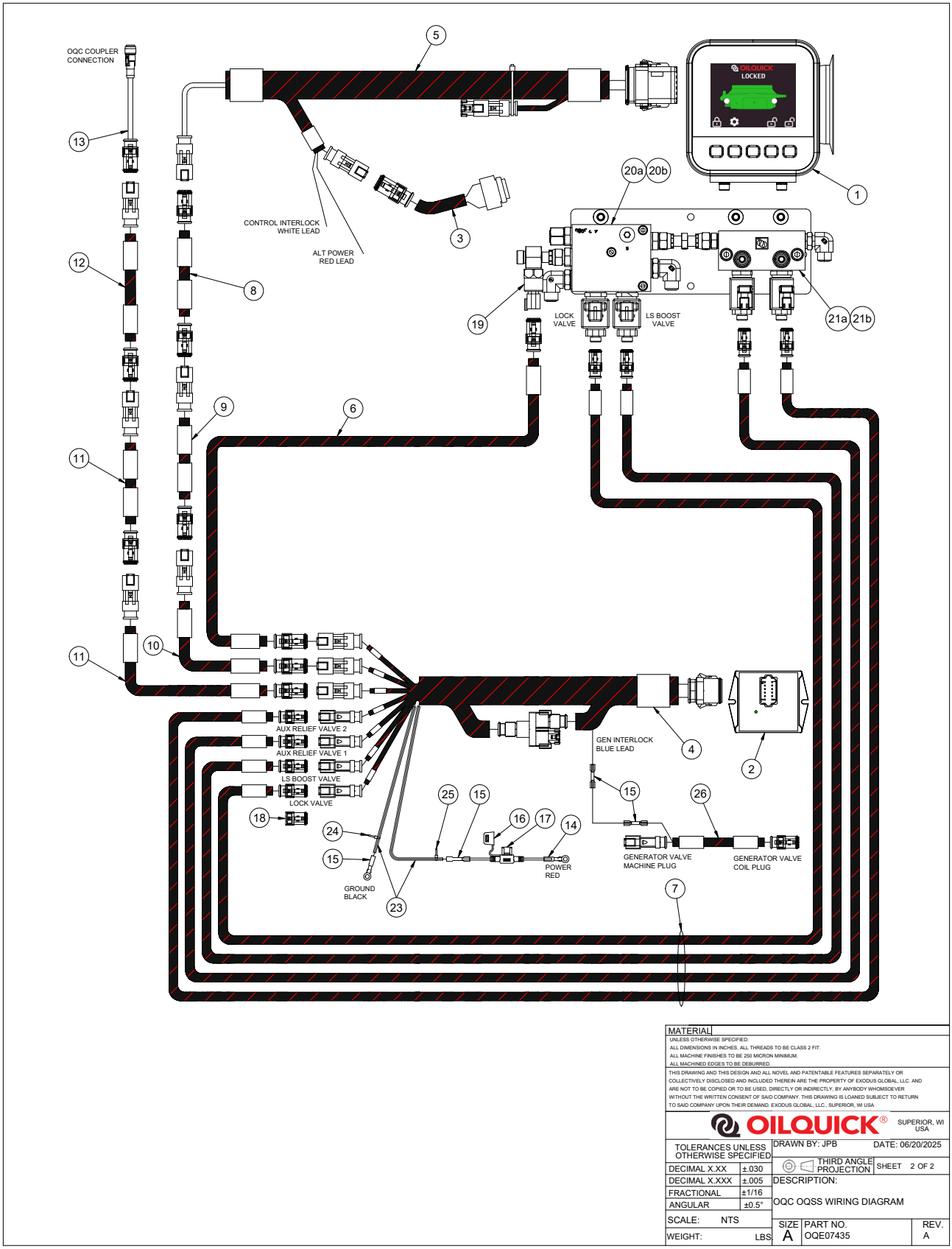
MATERIAL

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		DRAWN BY: JPB	DATE: 06/20/2025
DECIMAL X.XX	±.030	THIRD ANGLE PROJECTION	SHEET 1 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			

31.1 - Wiring diagram - (OQE07435) - sheet 2



Notes

32. 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

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OILQUICK®

OILQUICKAMERICAS.COM

+1 262.607.8425

INFO@OILQUICKAMERICAS.COM

155 MAIN STREET

SUPERIOR, WISCONSIN 54880 USA

EXODUS GLOBAL

OilQuick Americas is part of Exodus Global, a family-owned company based in Superior, Wisconsin