



QUICK COUPLER | INSTALLATION GUIDE  
FULL KITS





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# Contents

SAFETY INSTRUCTIONS .....	4
EQUIPMENT REQUIRED.....	8
CONTROL BOX.....	9
KIT COMPONENT IDENTIFICATION .....	11
INSTALLATION.....	13
SAFETY TEST.....	19

## SAFETY INSTRUCTIONS



This symbol is used to call attention to instructions concerning personal safety. Be sure to observe and follow these instructions.



The signal word DANGER on the equipment and in the manual identifies a hazardous situation which, if not avoided, WILL result in death or serious injury.



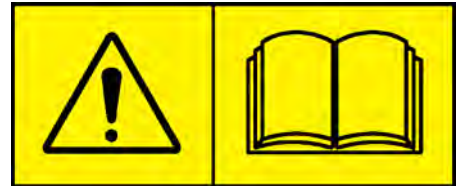
The signal word WARNING on the machine and in the manual indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.



The signal word CAUTION on the machine and in the manual indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.



This notice identifies procedures which must be followed to avoid damage to the machine.



Instructions are necessary before operating or servicing the equipment. All personnel must read and understand the Operation Manual and signs (decals) on the equipment. Follow warnings and instructions in the manual when making adjustments, repairs or servicing. Check for correct function after making adjustments, repairs or servicing. Failure to follow instructions can cause injury or death.

# SAFETY

## Installation Safety



- Position the machine on even, firm and level ground.
- Lower work equipment to the ground and stop engine before performing maintenance. Remove machine key.
- Make sure to lock out hydraulic controls and place a “DO NOT OPERATE” Warning Tag on the machine to indicate that machine is being serviced and to prevent any unauthorized operation.
- Put blocks under track / wheels to prevent the machine from moving.
- Allow the machine to fully cool before servicing.
- Always depressurise hydraulic system before servicing.

- Collect and retain all oil released from system during maintenance.
- Welding or grinding painted parts should be done in well ventilated areas.
- Wear a dust mask when grinding painted parts. Toxic dust and gas can be produced.
- Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate skin or eyes.
- Keep arcs, sparks, flames and lighted tobacco away from batteries.
- When performing maintenance on machine, prevent tripping and falling by keeping area around your feet clean and free of objects and debris.



The following is a generic boom hose installation. The images may not show your machine exactly as it appears but the procedure is correct for all machines.

### AVOID INJURY OR DEATH

Before installing boom hoses:

- Lower the work equipment to the ground.
- Stop the engine and remove the key.

 **WARNING**



## HIGH PRESSURE FLUID HAZARD

To prevent serious injury or death from high pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair. Stop the engine and release all hydraulic pressure in the system.

 **WARNING**

## Welding and Grinding

Always clean the machine and attachment, set battery disconnect switch to “OFF” position, and disconnect wiring from electronic controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near machine when welding.

Toxic dust or gas can be produced when grinding or welding painted parts. Grinding or welding painted parts should be done in a well ventilated area. Wear dust mask when grinding painted parts.

Dust generated from repairing non-metallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from flames or sparks.

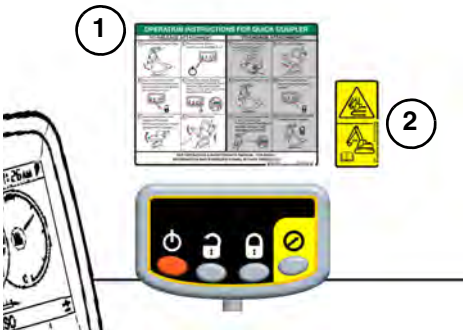
Do not weld on lines or on tanks that contain flammable fluids. Do not flame cut lines or tanks that contain flammable fluid. Clean any such lines or tanks thoroughly with a non-flammable solvent before welding or flame cutting.

# SAFETY

## Decal Installation

Instruction and warning decals are supplied with this quick coupler.

Figure 1



OPERATION INSTRUCTIONS FOR QUICK COUPLER			
TO RELEASE ATTACHMENT		TO ENGAGE ATTACHMENT	
1 Crowd Quick Coupler fully.	2 Press power button (alarm sounds and light is on).	7 If green locking class is down, follow steps 1-4 to lift locking class.	8 Pick up attachment.
3 Press unlock button within six seconds of pressing power button (alarm will change tone and unlock light is on).	4 Crowd the Quick Coupler until the green locking class lifts fully (pressure signal light is on (3) and alarm tone becomes constant).	9 Crowd Quick Coupler fully.	10 Press the lock button ( buzzer stops and lights are off).
5 Lower attachment until slightly off ground. Roll coupler back and lower attachment to ground.	6 Release attachment.	11 Crowd Quick Coupler fully for ten (10) seconds. *Visually check that green locking class is fully engaged and locked.	12 Check engagement by fully cycling bucket cylinder.
SEE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION AND PRESSURE SIGNAL BYPASS OPERATION			

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Operating Instructions decal (1) [Figure 1].

Install the two decals inside of the cab window [Figure 1], close to the control box.

**NOTE:** Replace any damaged instruction and warning decals.



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Operating Instructions decal (2) [Figure 1].

## **EQUIPMENT REQUIRED**

1. Work Gloves
2. Goggles and eye protection glasses
3. Face mask
4. Selection of spanners
5. Selection of clamps
6. Hammer
7. Grinder
8. Welding plant
9. Drill and bits
10. Thread taps
11. Wire brush
12. Cleaning cloths
13. Oil collection receptacle
14. Touch up paint



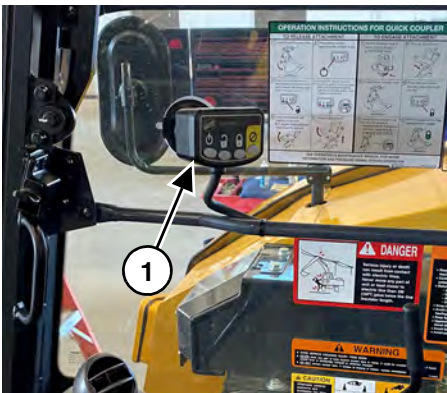
# INSTALLATION

## CONTROL BOX

### Installation

**NOTE:** Follow the control box manufacturer's guidelines when installing the control box. Failure to do so will result in poor adhesion and will result in the control system becoming detached from the window should you opt for the glass suction mount option.

Figure 1



Position the control box (1) [Figure 1] to the right of the front control panel in the operator cab. See NOTE

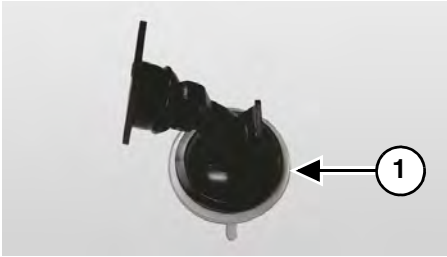
Clean the window area with an isopropyl alcohol wipe, not supplied.

Heat the machine cab up until it reaches 20°C / 68°F to dry excess moisture and heat the window (if required). See NOTE

# INSTALLATION

## Control Box Mounting Options

**Figure 2**



Glass Mount Option (1) [Figure 2].

**Figure 3**



For glass mounting, assemble the following in the order listed:

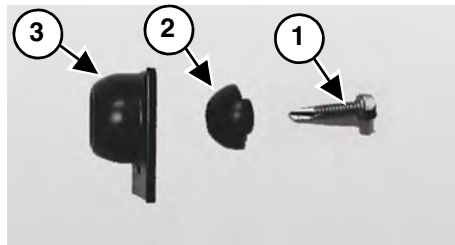
- Screw (Item 1) [Figure 3]
- Pivot ball (Item 2) [Figure 3]
- Pivot receiver (Item 3) [Figure 3]
- Knurled knob (Item 4) [Figure 3]
- Mount (Item 5) [Figure 3]

**Figure 4**



Panel or cab mount (1) [Figure 4].

**Figure 5**

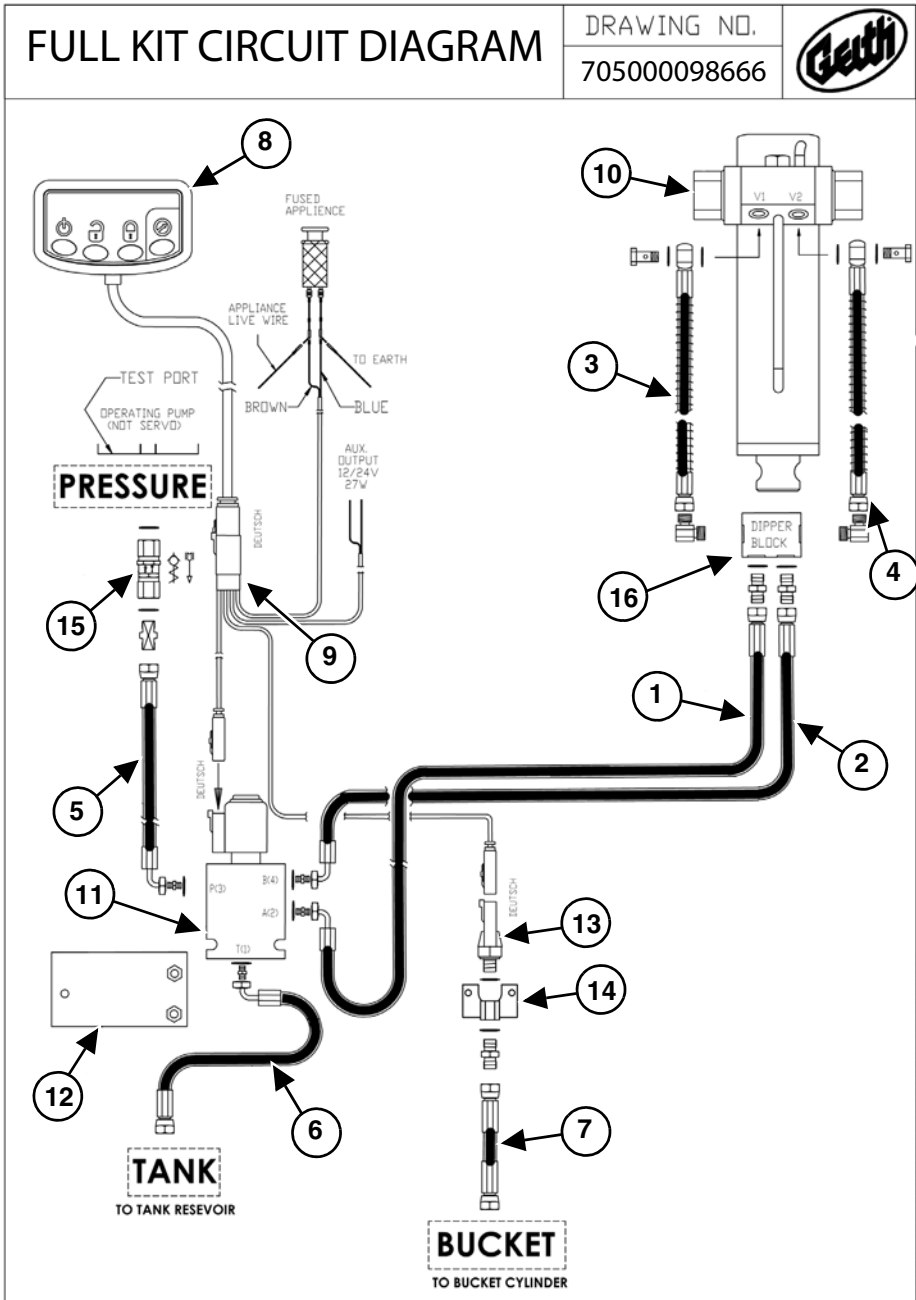


For panel or cab mounting, assemble the following in the order listed:

- Screw (Item 1) [Figure 5]
- Pivot ball (Item 2) [Figure 5]
- Pivot receiver (Item 3) [Figure 5]

# INSTALLATION

## KIT COMPONENT IDENTIFICATION



# INSTALLATION

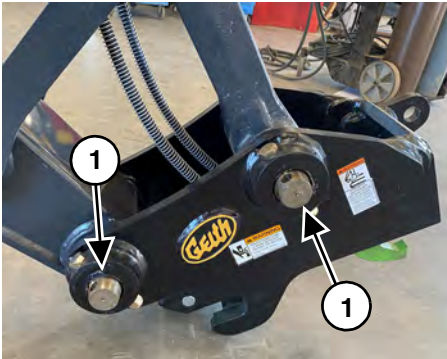
ITEM	DESCRIPTION	QTY
1	Boom/Dipper Hose - Port A to V1	1
2	Boom/Dipper Hose - Port B to V2	1
3	Link hose to V1	1
4	Link hose to V2	1
5	Hose - Valve block to Pump	1
6	Hose - Valve block to Tank	1
7	Hose - Pressure Switch to Bucket	1
8	Control Box	1
9	Wiring Harness	1
10	Quick Coupler Hydraulic Cylinder	1
11	4-Port Solenoid Valve	1
12	Valve Mounting Bracket	1
13	Pressure Switch	1
14	Pressure Switch Mount	1
15	Check Valve	1
16	Dipper Block	1

**NOTE:** The circuit diagram and parts list in this manual are generic. The diagram and checklist that detail all of the components specific to the your kit will be included in the paperwork with your kit.

# INSTALLATION

## INSTALLATION

Figure 6



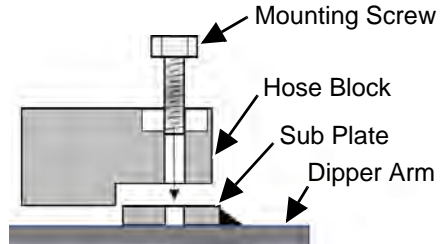
1. Mount the Quick coupler on the arm of the excavator using the OEM supplied machine pins for dipper and link positions (1) [Figure 6]. Fit 'O' rings or seals as required.
2. By fully retracting the bucket curl cylinder linkage, locate the manifold block position on the dipper arm where the linkage will not interfere with the block or quick coupler supply hoses.

**NOTE: Position of the block will vary depending on the machine size and coupler pin centers.**

3. There are two ways to fix the manifold block to the machine arm:

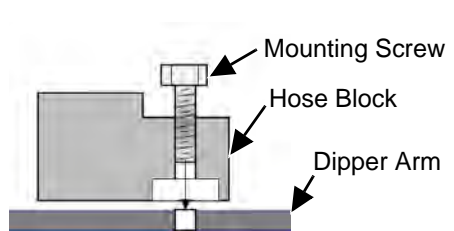
**Option 1 - Welded subplate to dipper arm**

Figure 7



**Option 2 - Drill, tap the machine dipper arm and bolt block directly to dipper arm**

Figure 8



**NOTE: Before drilling the arm, check with machine manufacturer as to preferred option so as not to void any warranty agreements.**

## Hose Block Mounting Options

If welding the manifold block to the dipper arm ensure to protect tapped ports from weld spatter and dirt ingress.

Carefully grind away the paint on the location.

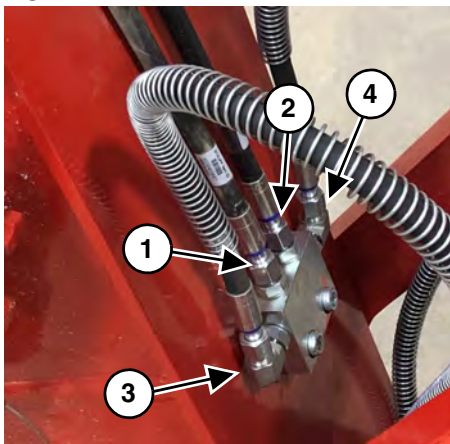
4. When weld is complete, thoroughly clean the area and repaint area using same paint color as original base machine.

# INSTALLATION

**NOTE:** To prevent the hoses from twisting, grip the hose ferrule while tightening the hose fitting to the manifold block.

If the dipper hose block needs to be moved up on the arm, you will need to take up the loose hose at the solenoid valve position.

**Figure 9**



Install hoses (Item 1 and Item 2) **[Figure 9]** from the two top ports of the manifold block to run to the solenoid valve.

Install hoses (Item 3 and Item 4) **[Figure 9]** from the two side ports of the manifold block to the Quick coupler cylinder.

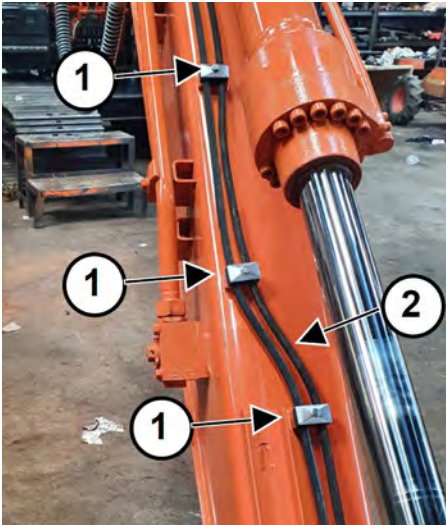
Run the hoses up the dipper arm and down the back of the boom to the pump housing to connect to the solenoid valve.

Position the solenoid valve in the desired location in the pump housing and check the position of the dipper block to ensure it is still in suitable location.

# INSTALLATION

## Hoses to Machine Arms

Figure 10



Fit the hose clamps at equal spacings along the dipper and boom (Item 1) [Figure 10]. Ensure that the hose clamps are clear of the cylinders through their full working cycle.

Figure 11



Route hoses along the full length of the boom. Use the piped supply lines along with the supplied cable ties to route the lines back to the base of the boom [Figure 11].

Remove paint from areas prior to the welding of the clamp sub-plate.

Weld clamp base plates to stick making sure to protect tapped holes from weld spatter.

Clean off any weld marks and repaint areas using same color as original base machine OEM.

Build in some slackness when clamping the hoses to allow for expansion when pressurized (Item 2) [Figure 10].

Secure the hoses along the arm length using the installed hose clamps (1) [Figure 10].

Figure 12



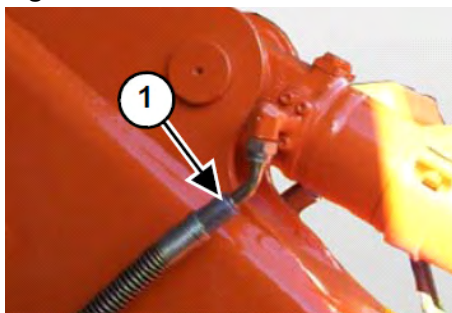
**NOTE:** Clamp installation close-up [Figure 12].

# INSTALLATION

## Tee into Bucket Cylinder

**NOTE:** Tee fittings for plumbing into the pump, tank, and dig cylinder will vary depending on the machine. Please refer to the kit specific checklist for what is included with your kit.

**Figure 13**



Locate the bucket outstroke port supply line (Item 1) [Figure 13] and follow it back to the base of the boom.

**Figure 14**



Using the tee fitting(s) supplied in the BUCKET sub-kit, connect the hose (Item 7 shown on Page 11) to bucket cylinder outstroke port supply line at the base of the boom [Figure 14].

Take the three hoses and find the best route into the pump housing compartment depending on the machine you are installing on. For best practice routing instructions, please contact the machine manufacturer.

## Plumbing to Machine (Return and Pressure)

Confirm the tank pressure is released from the tank (See the excavators Operation And Maintenance Manual for procedure).

**NOTE:** Pressure and return locations will be different depending on the machine. For best practice please consult the machine manufacturer for the port locations to tee the pressure and return lines into.

Locate the tank return port. Using the tee fitting(s) supplied in the TANK sub-kit connect the hose (Item 6) shown on Page 11.

Locate the hydraulic pump test port. Using the tee fitting(s) supplied in the PRESSURE sub-kit connect the hose (Item 5) and the check valve (Item 15) shown on Page 11.

**Figure 15**



**NOTE:** See [Figure 15] for visual of the check valve (Item 15 on Page 11).



# INSTALLATION

## Plumbing to 4-Port Solenoid Valve

Locate a position to mount the 4-Port Solenoid Valve (Item 11) in the pump housing compartment using the Valve Mount (Item 12) shown on Page 11.

**NOTE: Location of the solenoid valve usually uses the mounting bracket supplied on the compartment wall.**

Drill holes in previously marked position.

**NOTE: Be careful not to drill into any part or component that maybe located on opposite side of the compartment wall being drilled.**

**NOTE: Do not mount valve yet.**

Plumb the hoses listed below to each corresponding port in the 4-Port Solenoid Valve:

V1 > Port A

V2 > Port B

P > Hydraulic Pump Test Port (Pump Housing)

T > Tank Return Port (Pump Housing)

Figure 16

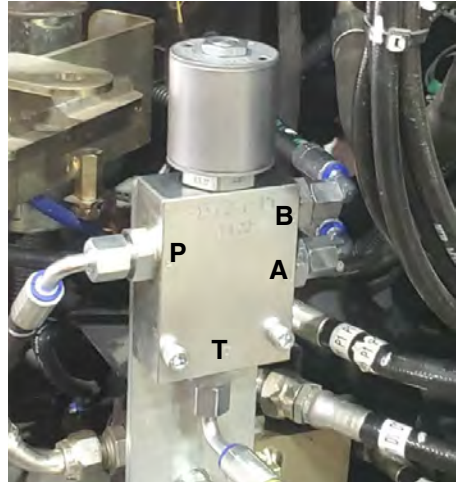
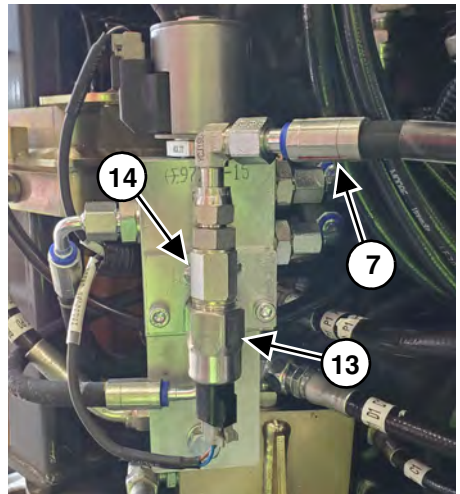


Figure 17



Next connect the bucket hose (Item 7), pressure switch mount (Item 14), and the pressure switch (item 13), see Page 11. With the provided hardware mount the pressure switch mount to the 4-Port Solenoid valve as shown in [Figure 17].

# INSTALLATION

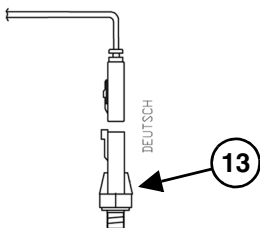
## Wiring Harness / Control Box

The control box is supplied with a connection harness which has 4 cables.

**Power supply:** Connect to a fused appliance that will only activate when the ignition is turned on. Brown is Live and Blue is Negative.

**Solenoid Valve:** Plug into the coil of the control valve. Use cable protector supplied.

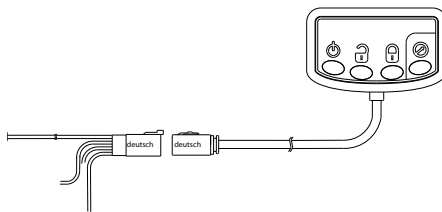
### Figure 18



**Pressure Switch:** Connect to Pressure Switch (Item 13 - Page 11).

**Auxiliary cable:** This is an aux output for a beacon or audible warning system (sold separately). If unused, then secure the cable where it won't be damaged. Best practice is to cut the ends of the wires short and add shrink tube to dress the ends.

### Figure 19



Next connect the control box to the wiring harness.

## SAFETY TEST

Before carrying out a test operation:

1. Ensure all hose connections are to correct port and are torqued to correct tightness on valves and blocks. Refer to the circuit diagram and port identification references while tracing the hose routing from hose joint position to hose joint position.
2. Check electrical connections are secure and protected from potential damage.
3. Clean up all oil spillage/drips or residue.
4. Clear the work area before switching on the machine so as to protect workers against accidental collision and also any high-pressure oil leaks from faulty hose/valve connection.
5. Switch on system and go through the open/close sequence to operate the quick coupler, ensuring the cylinder instrokes and outstrokes smoothly a number of times as per expected operation direction.
6. Switch off system and visually check for any new oil leaks. Address or remedy as required and re-run the operation test again until no further issue arises.
7. Dispose of all contaminated materials safely and ecologically.

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