G3 QUICK COUPLER

OPERATION & INSTALLATION MANUAL

www.geith.com

823000028858 & 823000028859

Introduction

Safety

Installation

Operation

Servicing

Warranty

INTRODUCTION

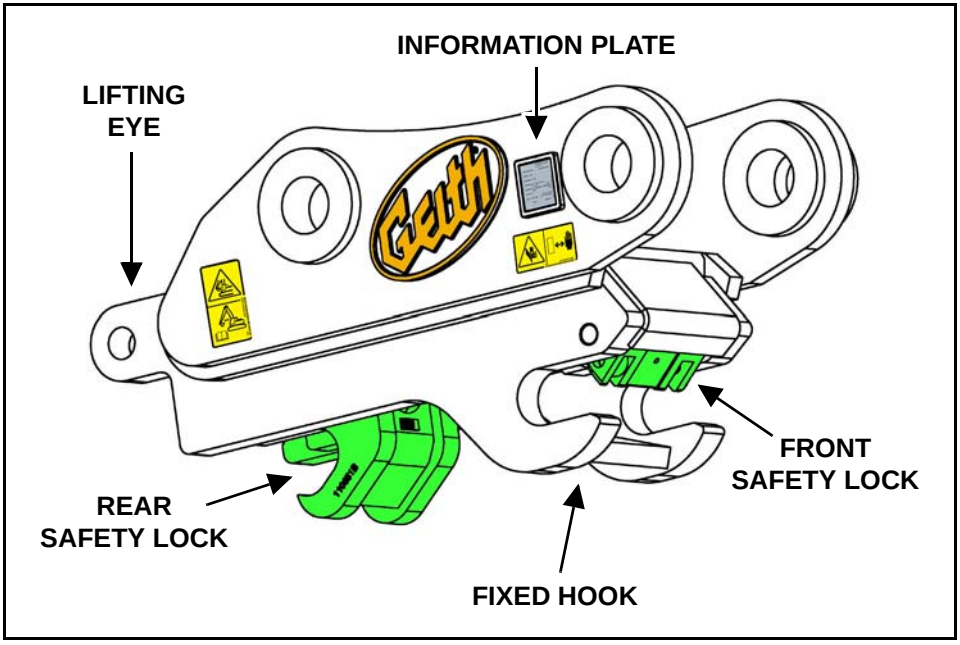
TO THE CUSTOMER

Thank you for purchasing a Geith Quick Coupler. Geith attachments are designed and manufactured to the highest quality standards and backed up by the Geith commitment to service and parts support. **www.geith.com**

⚠ WARNING

Instructions are necessary before operating or servicing the equipment. All personnel must read and understand the Operation And Installation Manuals 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.

IDENTIFICATION



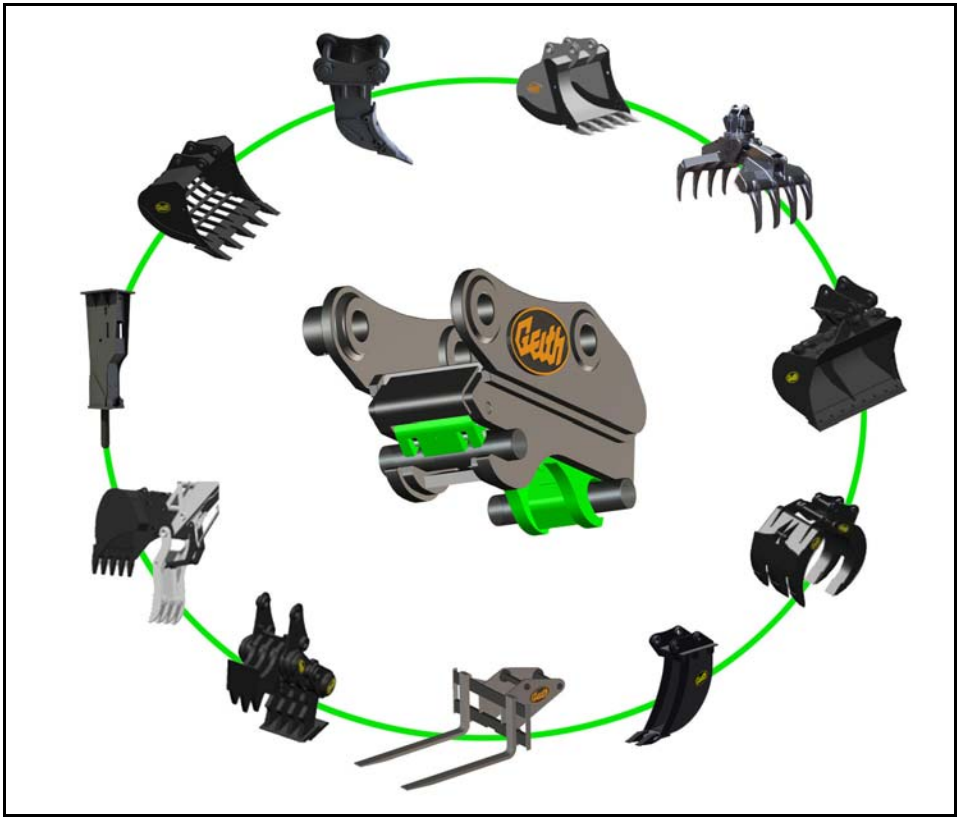
INTRODUCTION

APPLICATION RECOMMENDATIONS

The Geith range of quick couplers are designed for use with all makes of excavators, combined with a wide range of attachments, to suit a wide range of work applications.

⚠ WARNING

It is the responsibility of the owner and operators of the quick coupler to ensure that the quick coupler is used and maintained in a safe and appropriate manner that will not cause damage to or make unsafe in any way, the operation of the quick coupler or equipment being used.



SAFETY

SAFETY INSTRUCTIONS

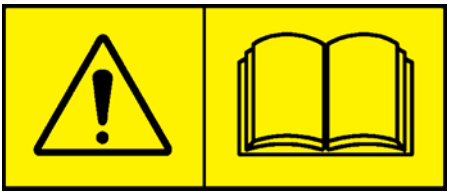
This symbol is used to call attention to instructions concerning personal safety. Be sure to observe and follow these instructions.

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 installing, operating or servicing the equipment. All personnel must read and understand this Installation Guide and the Operation Manual and signs (decals) on the equipment. Follow warnings and instructions in the manual when installing, making adjustments, repairs or servicing. Check for correct function after installing, 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.

SAFETY

Welding and Grinding

Always clean 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 nonmetallic 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.

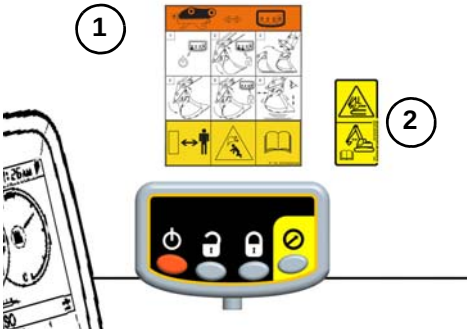
Do not weld on lines or on tanks that contain flammable fluids. Do not flame cut lines or tanks that contain flammable fluid. Clean any such lines or tanks thoroughly with a nonflammable solvent before welding or flame cutting.

SAFETY

DECAL INSTALLATION

Instruction and warning decals are supplied with this quick coupler.

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.

827000028754B

Operating Instructions decal (1) **[Figure 1]**.

827000087399

Operating Instructions decal (2) **[Figure 1]**.

INSTALLATION

KIT COMPONENT IDENTIFICATION

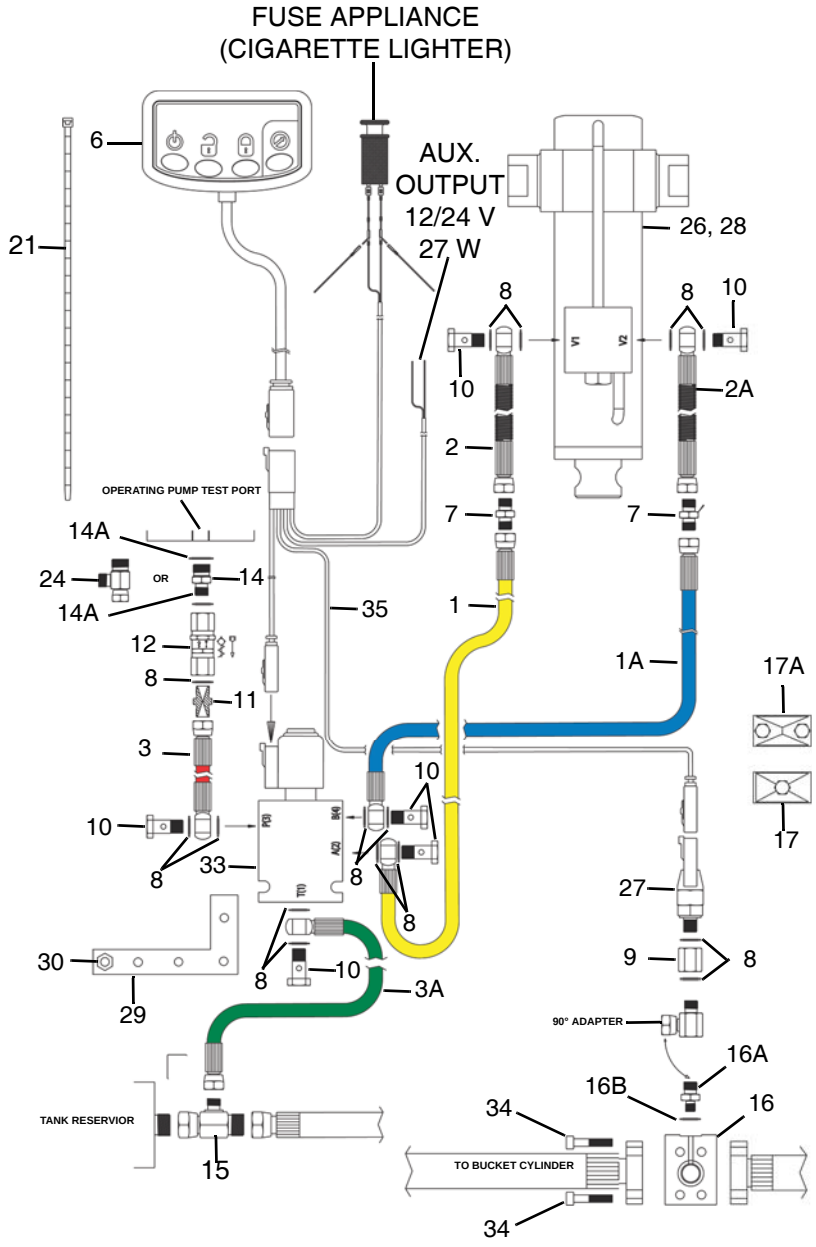
NOTE: Generic list: Content may vary per machine model.

Open kit box and remove all components.

ITEM	DESCRIPTION	GEITH P/N	QTY
1	BOOM HOSE, 2SNK-04S C/W ST/BANJO 3/8		1
1A	BOOM HOSE, 2SNK-04S C/W ST/BANJO 3/8		1
2	LINK HOSE, 2SNK-04S C/W ST/BANJO 1/4 W/G		1
2A	LINK HOSE, 2SNK-04S C/W ST/BANJO 1/4 W/G		1
3	PUMP HOSE, 2SNK-04S C/W ST/BANJO 3/8		1
3A	TANK HOSE, 2SNK-04S C/W ST/BANJO 3/8		1
-	CABLE TIES		40
-	1/4 FEM 90 COMPACT HITCH HOSE ADAPTER		2
5	SOLENOID VALVE ASSEMBLY		1
5A	SUBPLATE, SIDE ENTRY		1
6	CONTROL BOX		1
7	3/8 x 3/8 BSP MM		4
7A	1/4 MALE / MALE	705000111307A	3
8	3/8 BONDED WASHERS		8
8A	1/4 DOWTY	8050000135017	8
9	1/4 FEM FIXED BARREL	705000111308A	1
10	1/4 BANJO BOLTS / HITCH BOLTS	705000111315A	2
11	RESTRICTOR	705000111309A	1
12	1/4 CHECK VALVE	70500000VU14M	1
13	2 CORE CABLE	703000111465A	1
14	PRESSURE TEE		1
15	TANK TEE		1
16	BUCKET TEE		1
17	TWIN CLAMP, GROUP 2 (13.5)	705000111318A	3
17A	SINGLE CLAMP, GROUP 2 (13.5)	705000111317A	4
21	CABLE TIES, 7 MM		50
22	BOLT, M5 x 40 C/W NUT & WASHER	705000111319A	2
26	HYDRAULIC SEAL KIT		1
27	PRESSURE SWITCH, 180 bar	701000135015A	1
28	HYDRAULIC CYLINDER		1
29	BRACKET	705000105213B	1
30	BOLT, M12 x 40 C/W NUT & WASHER		
31	WIRE HARNESS	705000028744B	1
32	POPPET VALVE (12V)	705000028745A	1
	POPPET VALVE, (24V)	705000028746A	1
33	SOLENOID VALVE ASSEMBLY (12V)	705000028758A	1
	SOLENOID VALVE ASSEMBLY (24V)	705000028759A	1
34	3/8 x 3/8 BSP M/F		1
35	WIRE HARNESS	701000028852A	1

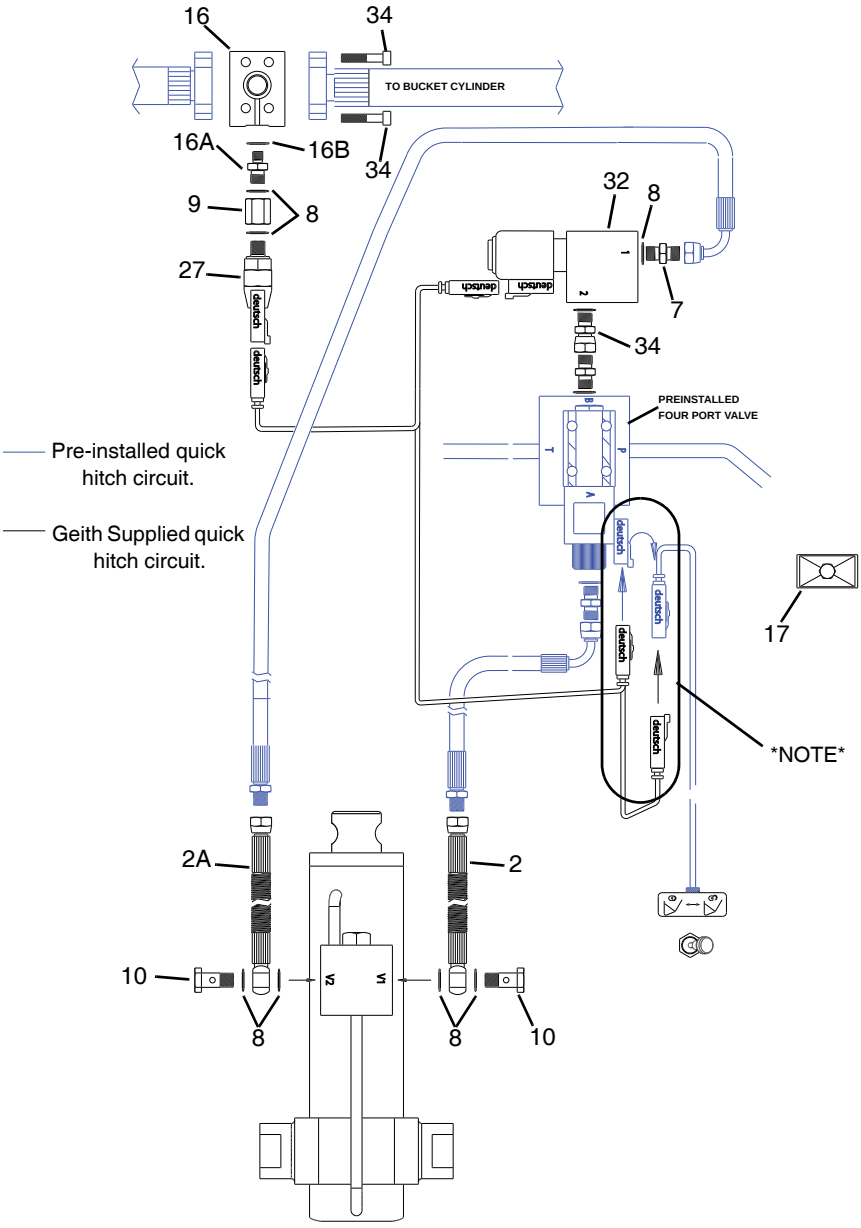
INSTALLATION

Coupler Circuit With Four Port Valve And Pressure Switch



INSTALLATION

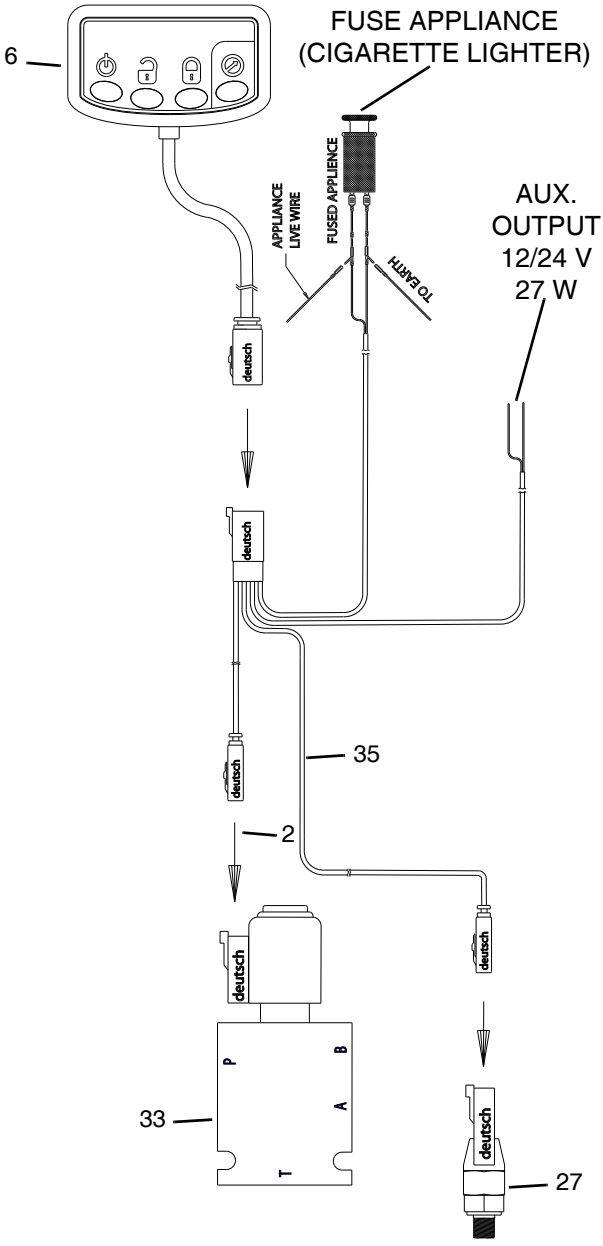
Coupler Circuit Diagram For Integration Into Plumbed Machine



NOTE Unplug OEM DEUTSCH plug and insert Geith DEUTSCH socket. Insert Geith DEUTSCH plug in OEM DEUTSCH socket.

INSTALLATION

Fit-Up Arrangement For Geith Control Box



INSTALLATION

SETUP

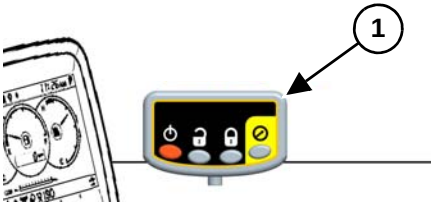
Before installation is started on twin hydraulic pump systems, confirm which hydraulic pump operates the dipper and bucket cylinder. (See the excavator's Operation And Maintenance manual.)

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 2



Position the control box (1) **[Figure 2]** 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 3

Glass Mount Option (1) **[Figure 3]**.

Figure 4

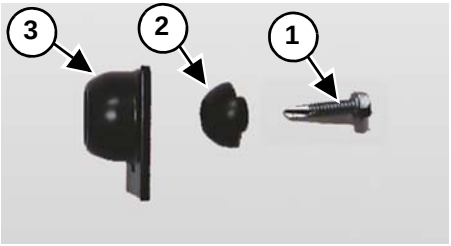
For glass mounting, assemble the following in the order listed:

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

Figure 5

Panel or cab mount (1) **[Figure 5]**.

Figure 6



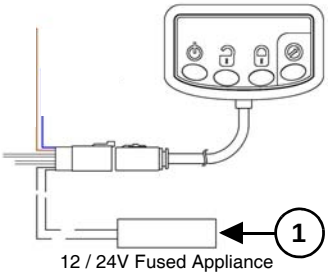
For panel or cab mounting, assemble the following in the order listed:

- Screw (Item 1) **[Figure 6]**
- Pivot ball (Item 2) **[Figure 6]**
- Pivot receiver (Item 3) **[Figure 6]**

INSTALLATION

Harness Connections

Figure 7



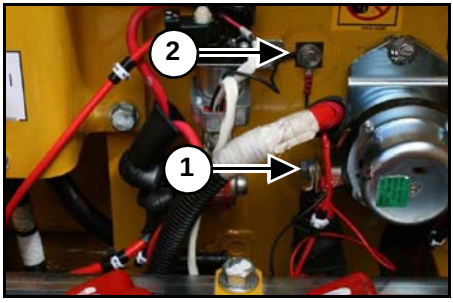
Locate a suitable 12 / 24V fused appliance (cigarette lighter) (1) **[Figure 7]**.

Connect the control box into the desired fused appliance.

Secure all wiring with tie straps.

Battery Isolator Switch Optional Connection

Figure 8



Connect wire (RED) (1) to fused appliance, main battery isolator switch or ignition live side. Connect wire (BLACK) (2) **[Figure 8]** to a ground terminal.

INSTALLATION

QUICK COUPLER HYDRAULIC HOSE / ELECTRICAL HARNESS INSTALLATION

Boom (Without Manifold)

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.

⚠ WARNING

AVOID INJURY OR DEATH

Before installing boom hoses:

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

⚠ WARNING

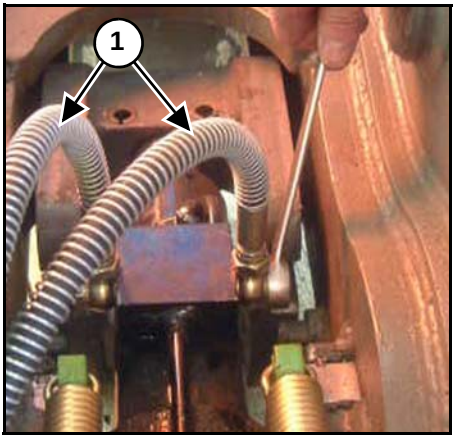
HIGH PRESSURE FLUID HAZARD

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.

INSTALLATION

Figure 9



Locate the two link hoses Items 2 & 2A on component identification list.

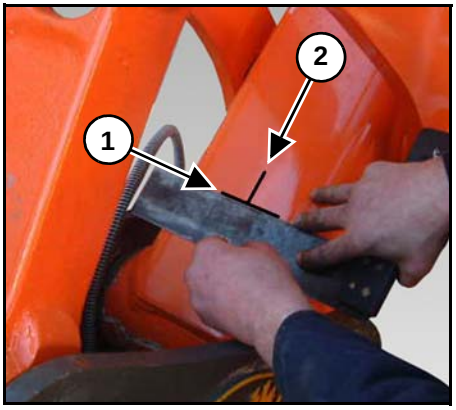
Install and tighten the two link hoses (1) **[Figure 9]** to the quick coupler hydraulic cylinder (one on either side of the port block).

Install the quick coupler onto the machine.

NOTE: Verify that all O-ring seals required are fitted to the quick hitch on both link and dipper positions.

Route the link hoses from the quick coupler cylinder along the arm and boom hoses.

Figure 10

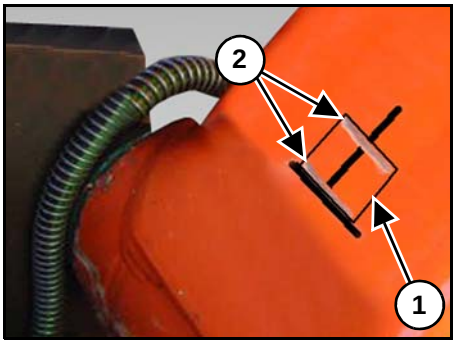


Place a straight edge square on the side of the dipper, place a mark at the top of the straight edge (1). Place a second mark (2) **[Figure 10]**. in the center (left to right) of the dipper.

Move up the arm and place the straight edge square on the side of the dipper. Place a mark at the top of the straight edge (on the left side of dipper).

INSTALLATION

Figure 11



Locate the two twin clamps Item 17 on component identification list.

Using one of the twin clamps, mark the shape (1) **[Figure 11]** of the base of the clamp at each of the previously marked positions on the dipper.

NOTE: Ensure top clamp is located to one side and angled slightly to direct hoses along the side of the boom.

⚠ WARNING

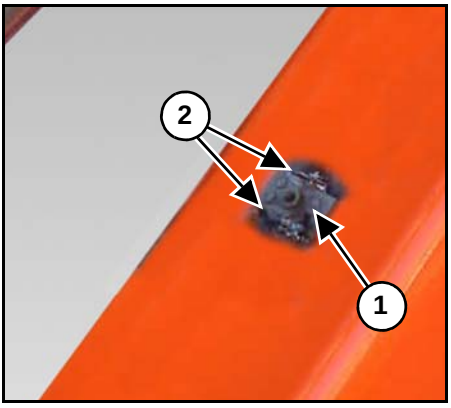
Eye and body protection is required when grinding or welding. Wear approved goggles, helmet and clothing. Failure to wear eye and body protection can result in serious injury.

Using a sharp edged tool, scrape off paint at edges (2) **[Figure 11]** of marked areas to allow good contact to metal for welding of the hose clamp bases.

⚠ WARNING

Before welding, disconnect battery cables. Connect the welding ground as close as possible to the area being welded.

Figure 12



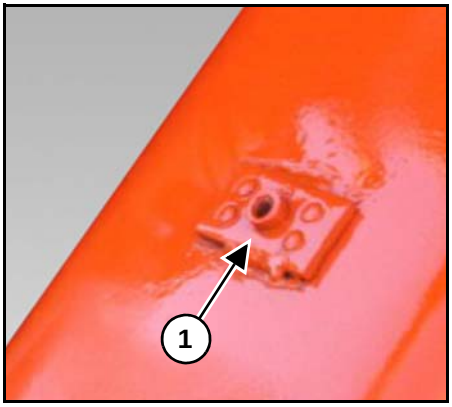
Position the clamp base plates (1) in the marked positions. Weld along top and bottom (2) **[Figure 12]** edges of the clamp base plates to secure in position.

Repeat this procedure on all clamps.

Clean all welded surfaces.

INSTALLATION

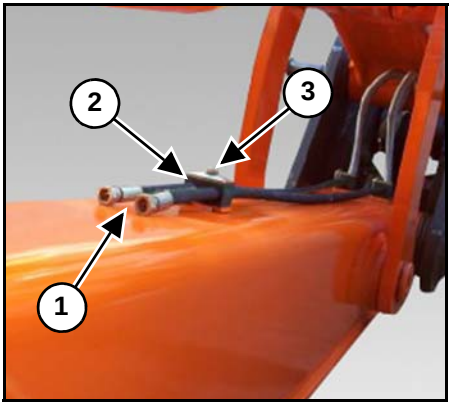
Figure 13



Paint the clean welded area (1) **[Figure 13]** to match the dipper at all clamp locations.

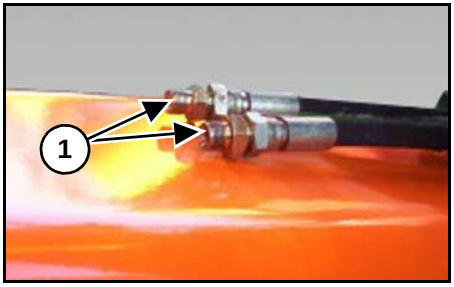
Install lower section of the clamp.

Figure 14



Push back the spring cover (if required) on the two link hoses (1) **[Figure 14]**, place each hose in the clamp. Install the top section (1) of the clamp and install and tighten bolt (3) **[Figure 14]**.

Figure 15



Locate two couplers Item 7 on component identification list.

Install the two couplers (1) **[Figure 15]** into the link hoses.

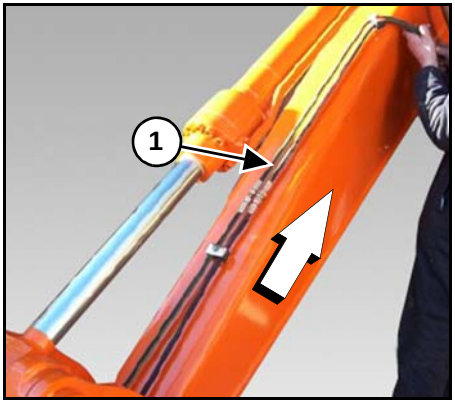
Figure 16

Locate two hoses Items 1 & 1A on component identification list.

Install and tighten the two hoses onto the couplers **[Figure 16]**.

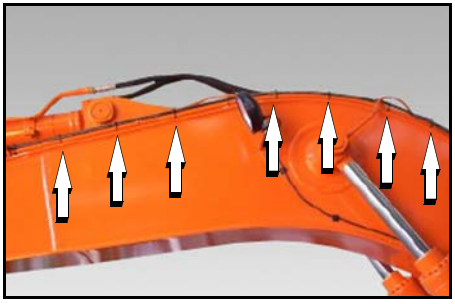
INSTALLATION

Figure 17



Route the two hoses (1) **[Figure 17]** up the dipper and installing the hoses into the clamps as needed.

Figure 18

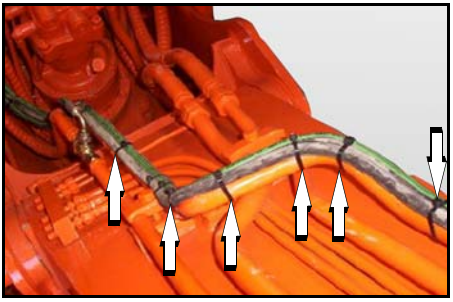


With hoses secured to dipper arm, route the hoses along the existing dipper ram supply hose line **[Figure 18]**.

Secure hoses with cable ties along the full length of the boom **[Figure 18]**.

NOTE: Leave approximately 300 mm (12 in.) between cable ties.

Figure 19

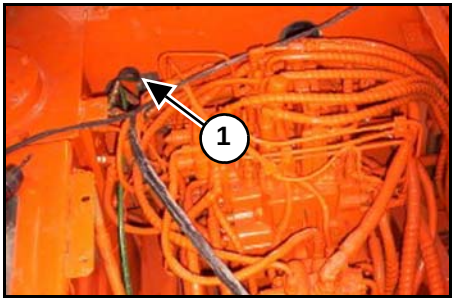


Route hoses along existing boom supply hose line at the base of the boom **[Figure 19]**.

Secure hoses with cable ties along the base of the boom **[Figure 19]**.

INSTALLATION

Figure 20



Route the hoses from base of boom through compartment wall (1) **[Figure 20]**.

Locate a position for placement of solenoid valve in pump housing compartment. Mark location of valve retaining holes for drilling.

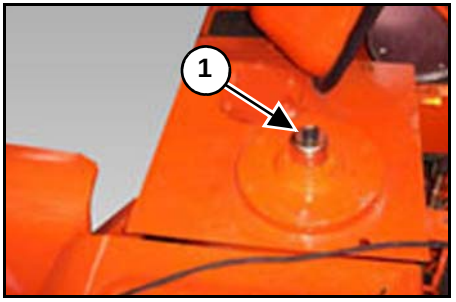
NOTE: Location of the solenoid valve usually use mounting bracket supplied or on the compartment wall.

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.

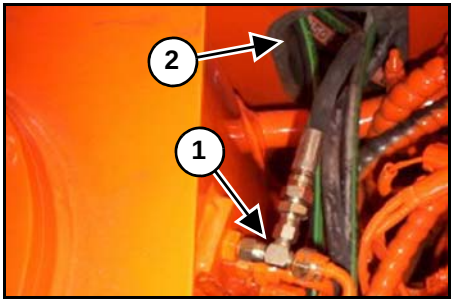
NOTE: Do not mount valve at this time.

Figure 21



Confirm the tank pressure is released from the tank (1) **[Figure 21]**. (See the excavators Operation And Maintenance Manual for procedure.)

Figure 22

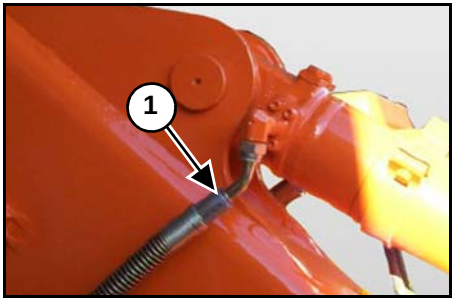


Connect tank `T' fitting (1) **[Figure 22]** to tank port and connect hose to branch.

Route hose through compartment panel (2) **[Figure 22]**.

INSTALLATION

Figure 23

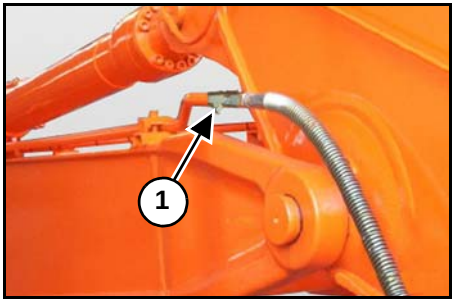


Locate and follow the dipper arm bucket ram outstroke port supply line (1) **[Figure 23]** to the base of the boom.

Control Valve And Pressure Switch

Locate the bucket ram `T' fitting in the kit.

Figure 24



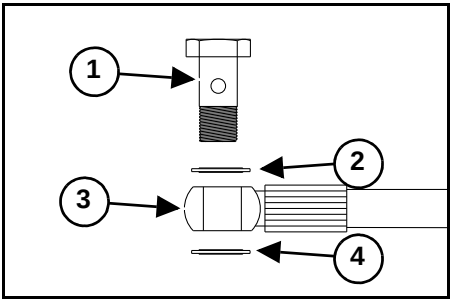
Insert T fitting or flange fitting (1) **[Figure 24]**. Connect the pressure switch to the T piece or flange fitting branch.

Connect the hydraulic hose (RED) to the hydraulic pump test port.

NOTE: On a twin hydraulic pump system connect the hydraulic hose (RED) to the hydraulic pump test port that operates the dipper and bucket cylinders.

NOTE: It is recommended to install a T fitting between the hydraulic pump test port and the hydraulic hose for future hydraulic pump testing.

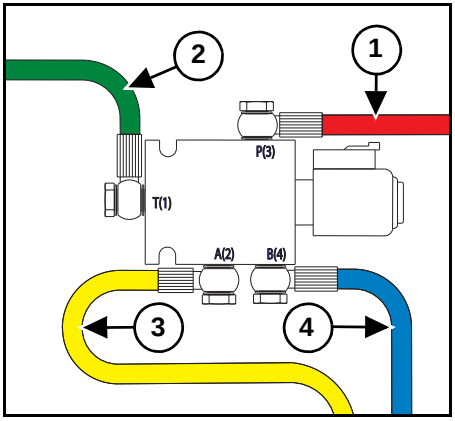
Figure 25



When connecting hydraulic hoses to the valve body **[Figure 26]** and quick coupler **[Figure 27]**, connect the hydraulic hoses in the following order: banjo bolt / hitch bolt (1) through the bonded washer (2), hydraulic hose (3), bonded washer (4) **[Figure 25]** then into the valve body (not shown).

INSTALLATION

Figure 26



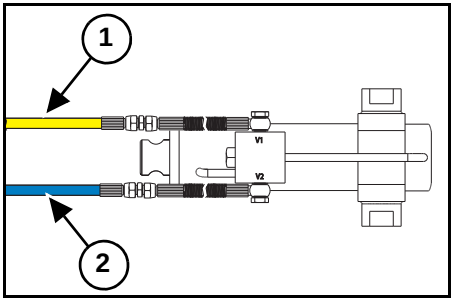
Connect the hydraulic hose (RED) (1) **[Figure 26]** valve port P(3).

Connect the hydraulic hose (GREEN) (2) **[Figure 26]** valve port T(1).

Connect the hydraulic hose (YELLOW) (3) **[Figure 26]** valve port A(2).

Connect the hydraulic hose (BLUE) (4) **[Figure 26]** valve port B(4).

Figure 27

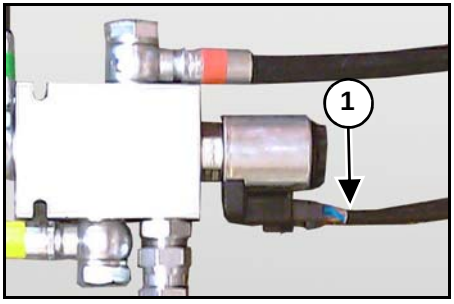


Connect hydraulic hose (YELLOW) (1) **[Figure 27]** to the (V1) port on the quick coupler.

Connect hydraulic hose (BLUE) (2) **[Figure 27]** to the (V2) port on the quick coupler.

Electrical (Full Kit)

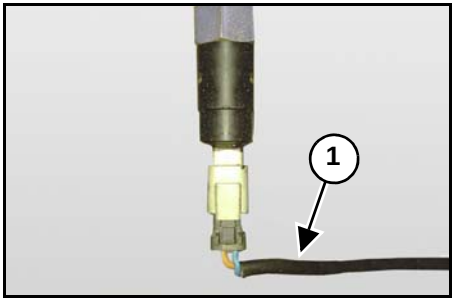
Figure 28



Connect the wiring harness (1) **[Figure 28]** to the coil of the 4 port solenoid valve.

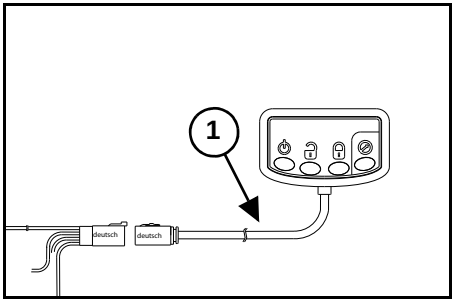
INSTALLATION

Figure 29



Connect the wiring harness (1) **[Figure 29]** to the pressure switch at the boom base.

Figure 30



Connect control box (1) **[Figure 30]** to wiring harness.

COMPLETION AND TESTING

For all excavator operation, see the excavator's Operation And Maintenance Manual.

Enter the excavator. Start the engine. Install the quick coupler.

Operate the quick coupler through several cycles. With the engine running have a second person check for leaks.

Load Test

NOTE: This is to be accomplished in an area clear of personnel and obstacles.

Connect attachment to the quick coupler.

Open or curl the coupler.

Lower attachment to within 300 mm (12 in.) of the ground.

Shut off machine.

Do not touch controls for ten minutes.

If no movement occurs testing is complete.

NOTE: If movement occurs see the quick coupler's Operation And Maintenance Manual.

OPERATION

OPERATING INSTRUCTIONS

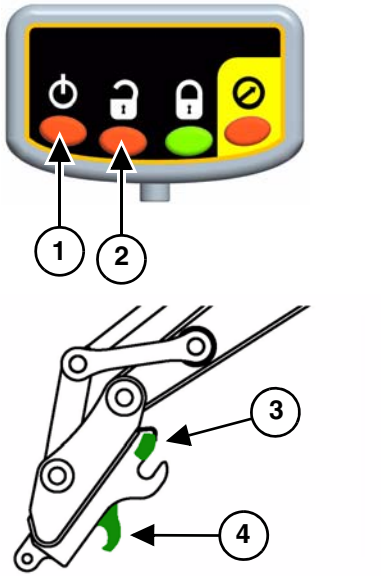
Engaging Attachments

⚠ WARNING

AVOID INJURY OR DEATH

Keep bystanders away when engaging and releasing attachment.

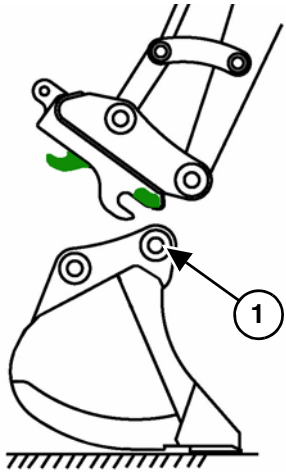
Figure 1



Press power button (1) **[Figure 1]**.

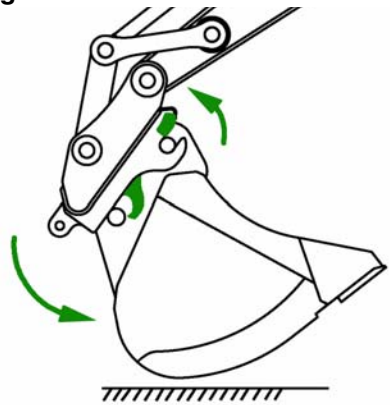
Press unlock button (2) **[Figure 1]** within six seconds of pressing power button, curl to build the pressure to open the front (3) and rear (4) safety locks.

Figure 2



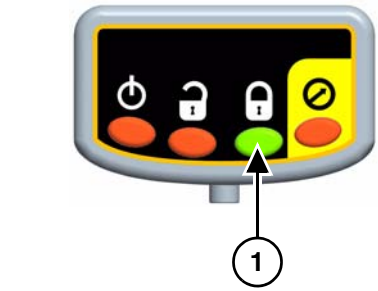
Lower the quick coupler and engage the front pin (1) **[Figure 2]** of the attachment.

Figure 3



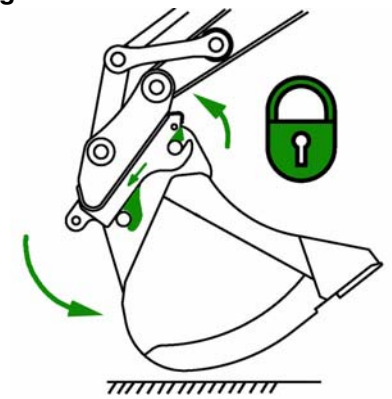
Always lift with the quick coupler vertical, allowing the attachment link pin to contact the coupler body **[Figure 3]**.

Figure 4



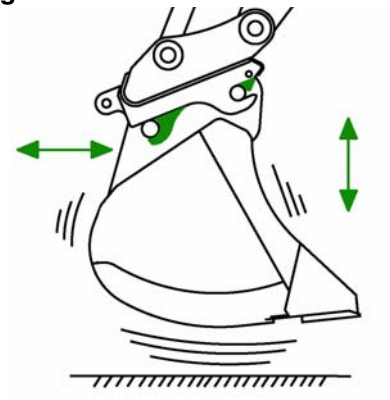
With the quick coupler crowded fully, press the lock button (1) **[Figure 4]**.

Figure 5



Continue to crowd the quick coupler fully for ten seconds or until the front and rear safety locks engage the attachment pins **[Figure 5]**.

Figure 6



Roll out the quick coupler, shake the attachment vigorously and lower the boom to the ground and apply down pressure to the quick coupler and attachment to check that the attachment is fully engaged and locked to the quick coupler. **[Figure 6]**.

⚠ WARNING

AVOID SERIOUS INJURY OR DEATH

Failure to fully engage front and rear safety locks before operating can allow the attachment to come off.

OPERATION

Releasing Attachments

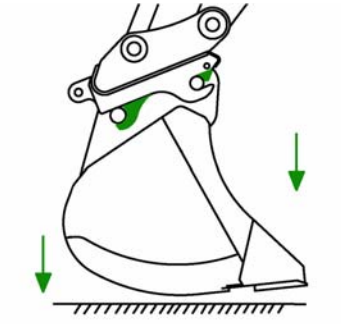
⚠ WARNING

AVOID INJURY OR DEATH

Keep bystanders away when engaging and releasing attachment.

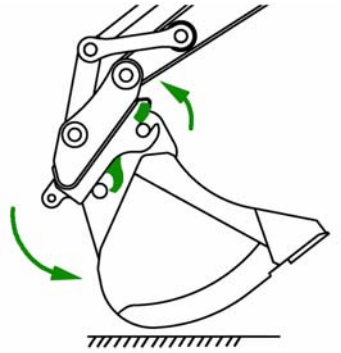
Park the machine on flat, level surface.

Figure 7



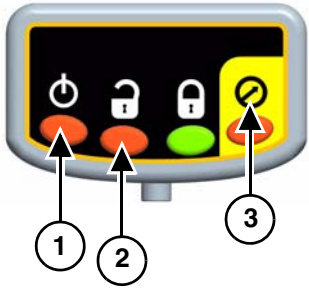
Lower quick coupler and attachment to the ground **[Figure 7]**.

Figure 8



Fully crowd the quick coupler inward **[Figure 8]**.

Figure 9

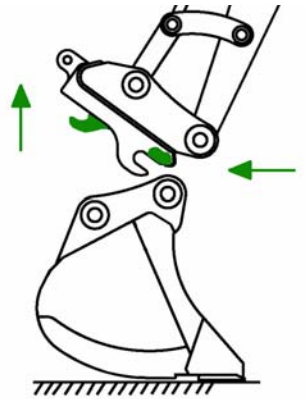


Press power button (1) **[Figure 9]**.

Press unlock button (2) **[Figure 9]** within six seconds of pressing power button.

Continue to crowd the quick coupler until the pressure signal LED (3) **[Figure 9]** illuminates.

Figure 10



Lower the attachment to the ground.

Move the quick coupler away from the attachment **[Figure 10]**.

Releasing Attachment Using The Pressure Signal Bypass

⚠ WARNING

PRESSURE SIGNAL BYPASS

To open the coupler, the standard Geith control system requires the operator to fully crowd the coupler to obtain a pressure signal. With large attachments or specific attachments (such as pallet forks, ...) this may not be possible. By following a different opening sequence we can bypass the pressure signal and still maintain a safe opening procedure.

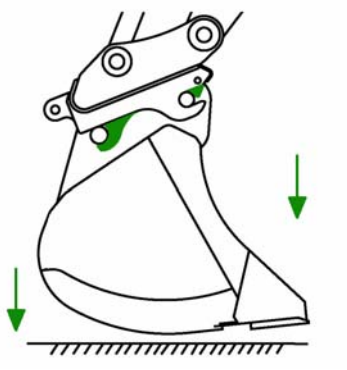
⚠ WARNING

AVOID INJURY OR DEATH

Keep bystanders away when engaging and releasing attachment.

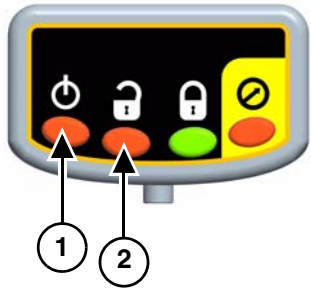
Park the machine on flat, level surface.

Figure 11



Lower quick coupler and attachment to the ground **[Figure 11]**.

Figure 12

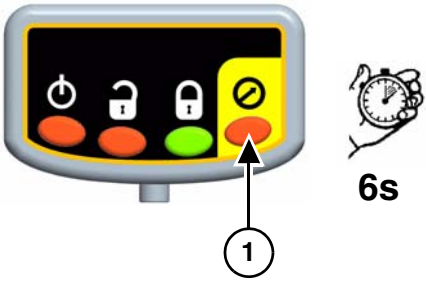


Press power button (1) **[Figure 12]**.

Press unlock button (2) **[Figure 12]** within six seconds of pressing power button.

OPERATION

Figure 13



Press and HOLD pressure bypass (1) **[Figure 12]** (six seconds) until the pressure signal illuminates.

With the safety locks released, move the quick coupler away from the attachment.

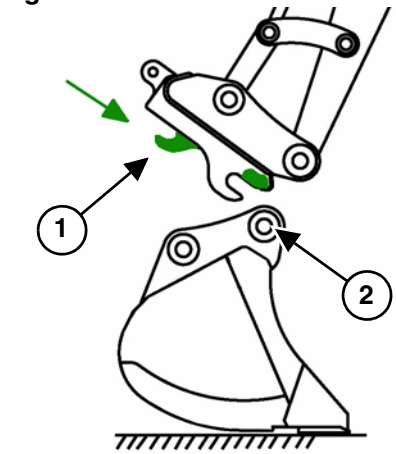
NOTE: The locks will open at a slower rate. To speed up the opening rate, make small adjustments to the bucket curl lever (open and closing).

OPERATION

MECHANICAL AUTO-LOCK QUICK COUPLER

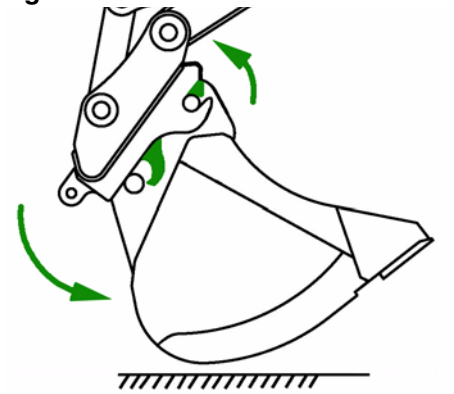
Engaging Attachments

Figure 14



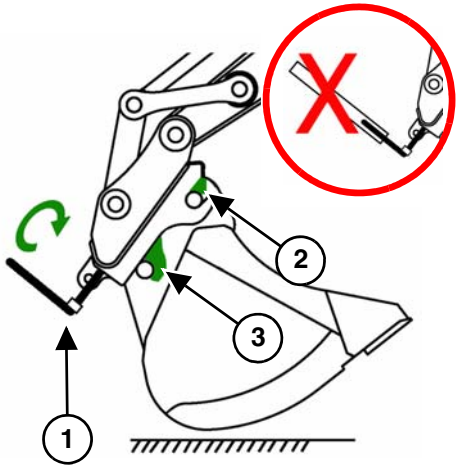
With the Auto-Lock (1) open, Lower the quick coupler and engage the front pin (2) **[Figure 14]** of the attachment.

Figure 15



Always lift with the quick coupler vertical, allowing the attachment link pin to contact the coupler body **[Figure 15]**.

Figure 16



Install the drive bar (1) onto the cylinder drive shaft at the back of the engaging plate. While tightening, the Auto-Lock clasp (2) **[Figure 16]** will close over the front pin securing the attachment to the Quick-Coupler.

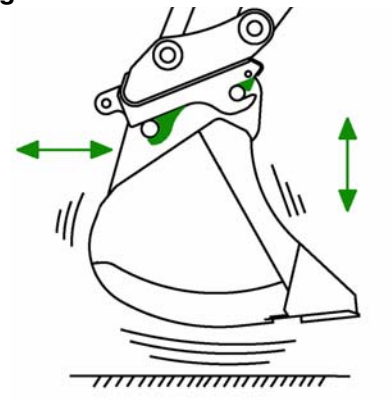
Continue tightening until the engaging plate (3) **[Figure 16]** is under the attachment link pin.

⚠ WARNING

Do not extend drive bar (by use of extension tube etc.) over tightening may result in difficulty releasing the attachment, or damage to the mechanism.

Remove the drive bar and store in excavator cab.

Figure 17



Roll out the quick coupler, shake the attachment vigorously and lower the boom to the ground and apply down pressure to the quick coupler and attachment to check that the attachment is fully engaged and locked to the quick coupler **[Figure 17]**.

⚠ WARNING

AVOID SERIOUS INJURY OR DEATH

Failure to fully engage front and rear safety locks before operating can allow the attachment to come off.

Releasing Attachments

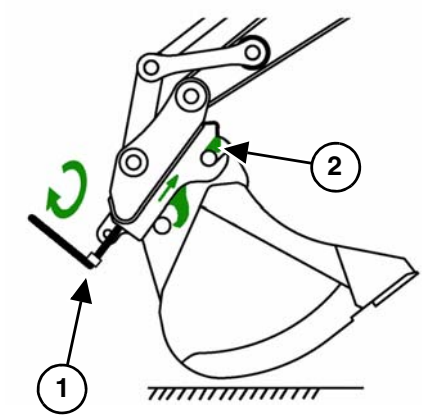
⚠ WARNING

AVOID INJURY OR DEATH

Keep bystanders away when engaging and releasing attachment.

Park the machine on flat, level surface.

Figure 18

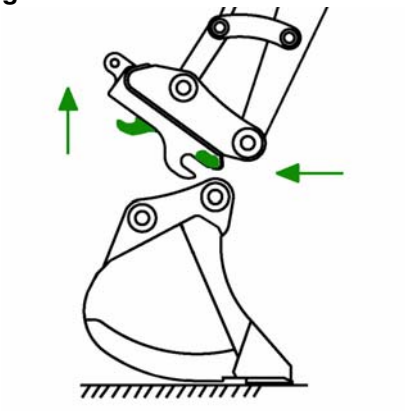


Install the drive bar (1) **[Figure 18]** onto the cylinder drive shaft at back of engaging. Turn the drive bar anti-clockwise to release the back pin lock.

Continued loosening to open the Auto-Lock (2) **[Figure 18]**.

Remove drive bar from the quick hitch.

Figure 19

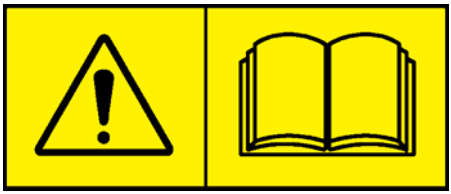


Lower the attachment to the ground.

Move the quick coupler away from the attachment **[Figure 19]**.

SERVICING

SAFETY INSTRUCTIONS



Instructions are necessary before 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.

⚠ WARNING

AVOID INJURY OR DEATH

Before servicing the quick coupler:

- Lower the quick coupler to the ground.

Stop the engine and remove the key.

⚠ WARNING

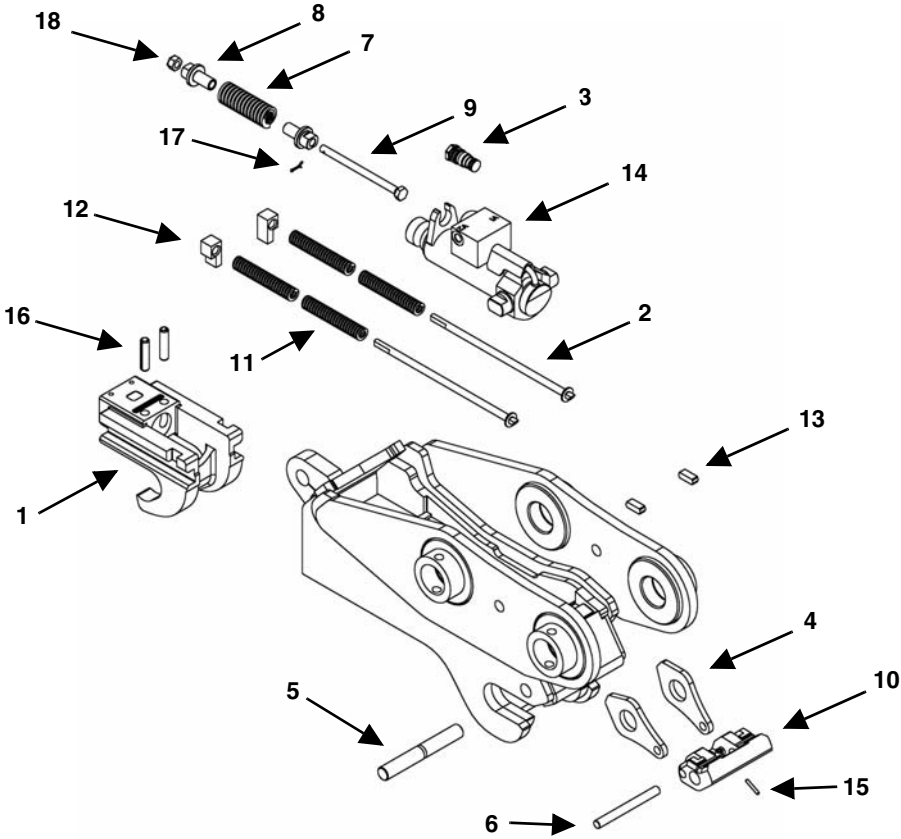
HIGH PRESSURE FLUID HAZARD

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.

SERVICING

QUICK COUPLER COMPONENT IDENTIFICATION (HYDRAULIC)

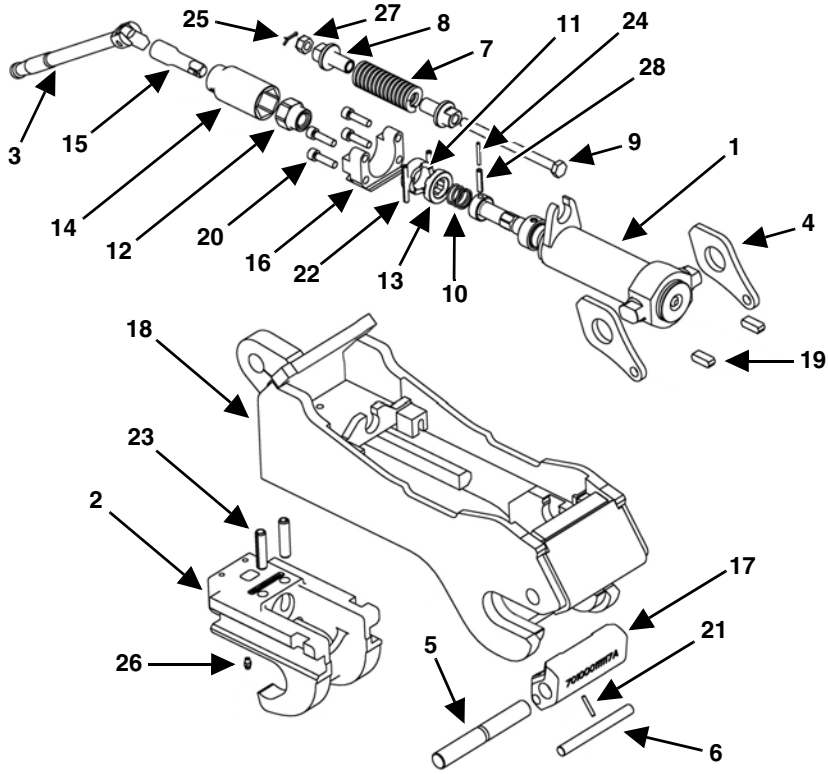


ITEM	DESCRIPTION
1	CAST WEDGE
2	GUIDE PIN SUB-ASSEMBLY
3	CHECK VALVE
4	LINK
5	LOCK PIN
6	LOCK LINK PIN
7	DIE SPRING
8	DIE SPRING BUSHING
9	BOLT, W / HOLE
10	CAST-LOCK

ITEM	DESCRIPTION
11	DIE-SPRING
12	SLIDING BLOCK
13	BUNG
14	HYDRAULIC CYLINDER
15	ROLL PIN
16	ROLL PIN
17	SPLIT PIN
18	NYLON LOCKNUT
19	SEAL KIT

SERVICING

QUICK COUPLER COMPONENT IDENTIFICATION (MECHANICAL)



ITEM	DESCRIPTION
1	MANUAL CYLINDER ASSEMBLY
2	CAST WEDGE
3	POWER BAR
4	LINK
5	LOCK PIN
6	LOCK LINK PIN
7	DIE SPRING
8	DIE SPRING BUSHING
9	BOLT, W / HOLE
10	COMPRESSION SPRING
11	FIXED LOCK BUSHING
12	LOCK NUT
13	MOVING LOCK BUSHING
14	DEEP SOCKET

ITEM	DESCRIPTION
15	EXTENSION BAR
16	GUARD
17	CAST-LOCK
18	FRAME ASSEMBLY
19	BUNG
20	CAP SCREW
21	ROLL PIN
22	ROLL PIN
23	ROLL PIN
24	ROLL PIN
25	SPLIT PIN
26	GREASE NIPPLE
27	LOCKNUT
28	ROLL PIN

SERVICING

TROUBLESHOOTING

Electrical System

PROBLEM	CAUSE	CORRECTION
Control panel not working.	Loose / faulty wires.	Check wires.
	Faulty machine fuse.	Replace machine fuse.
	Faulty ground wire.	Check ground wire.
	Faulty control box.	Replace control box.

Hydraulic System

PROBLEM	CAUSE	CORRECTION
Safety locks not releasing.	Low hydraulic pressure.	Check hydraulic pressure.
	Faulty pressure switch.	Replace pressure switch.
	Faulty check valve.	Clean or replace check valve.
	Faulty cylinder.	Replace cylinder.
Safety locks releasing during operation.	Faulty seals in cylinder.	Replace seals.
	Faulty check valve.	Clean or replace check valve.
	Faulty cylinder.	Replace cylinder.
Safety locks closing when changing attachments.	Faulty check valve or pilot valve.	Clean or replace check valve or pilot valve.
	Faulty cylinder.	Replace cylinder.

SERVICING

Mechanical System

PROBLEM	CAUSE	CORRECTION
Safety locks not engaging or releasing.	Faulty cylinder.	Replace cylinder.
	Drive bar retaining collar loose or missing.	Tighten or replace retaining collar.
	Worn drive bar.	Replace drive bar.
	Worn internal disc springs.	Replace internal disc springs.

SERVICING

QUICK COUPLER INSPECTION

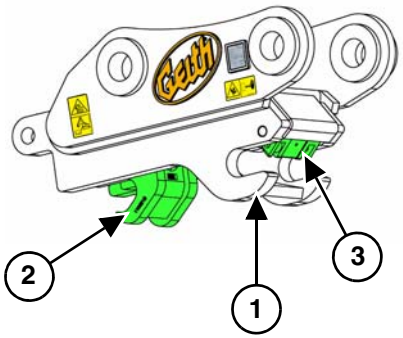
After Installation / Operation

Check and inspect hose routings and connections after 15 minutes of operation. Tighten connections if required.

Daily Inspection

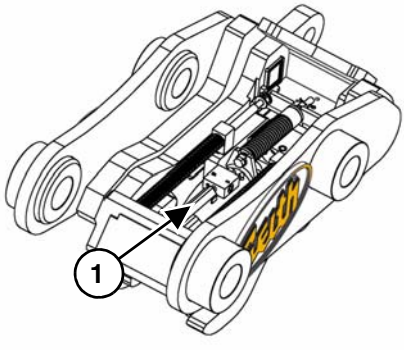
Remove all dirt and debris from the quick coupler and internal mechanisms (hydraulic cylinder, linkage, spring mechanism).

Figure 20



Inspect the fixed hook (1) and safety locks (2 & 3) **[Figure 20]** for wear or damage.

Figure 21



Inspect the hydraulic cylinder (1) **[Figure 21]** for wear or damage.

Check all fixing points (bolts, nuts, clips, pins, etc.) for wear or damage.

Check all hydraulic hoses and connections for leaks.

Weekly Inspection

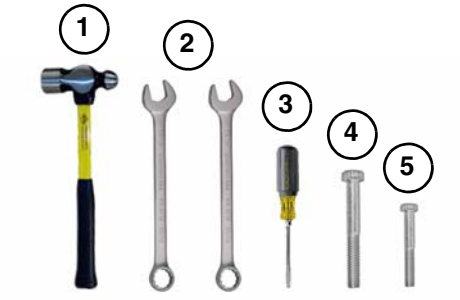
Clean quick coupler and visually inspect the quick coupler structure and all components for excessive wear or damage.

SERVICING

PART REPLACEMENT

Required Tools

Figure 22



Hammer (1) **[Figure 22]**.

Two Wrenches (2) **[Figure 22]** (Check quick coupler for correct size).

Flat-head Screwdriver (3) **[Figure 22]**.

Large Bolt / Punch (4) **[Figure 22]** (10mm or 20mm).

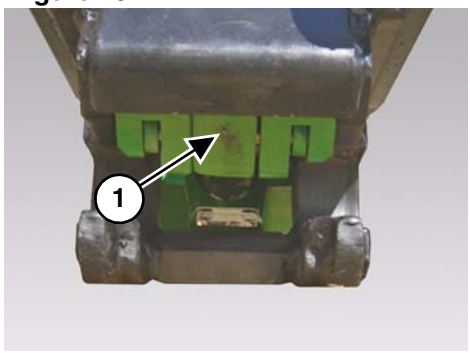
Small Bolt / Punch (5) **[Figure 22]** (Check quick coupler for correct size).

Removing The Quick Coupler

Partially curl in the Quick Coupler (link pin lower than dipper pin).

Retract the quick coupler cylinder.

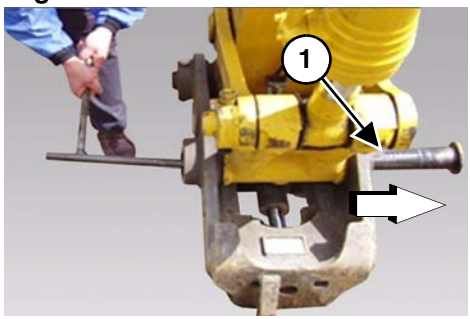
Figure 23



Using a small bolt / punch, remove the safety clasp roll pin (1) **[Figure 23]**.

Lower the quick coupler to the ground.

Figure 24



Remove machine link pin (1) **[Figure 24]** from the quick coupler.

Retract the bucket cylinder and move the machine linkage away from the quick coupler.

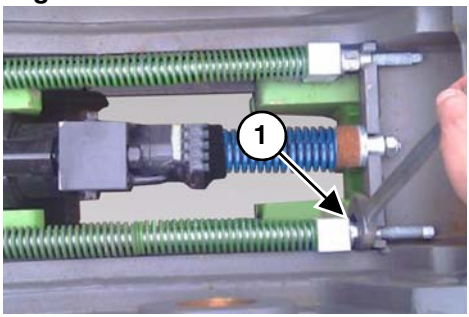
SERVICING

Stop the engine and release any hydraulic pressure in the system.

Remove the hydraulic hoses from the cylinder.

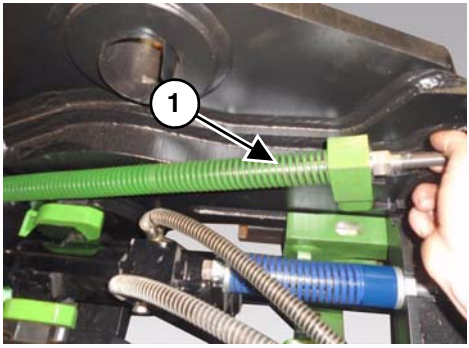
Disassembly (QC60 - QC140)

Figure 25



Tighten the retaining bolt (1) **[Figure 25]** until Guide pin end retracts from slot..

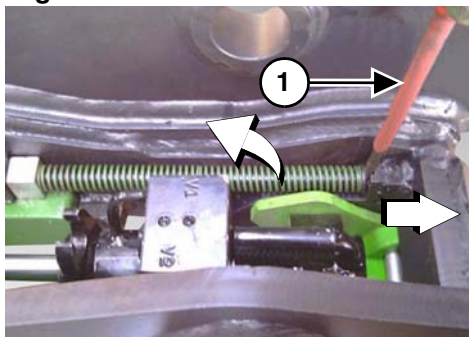
Figure 26



Remove spring retaining bolt assembly (1) **[Figure 26]**.

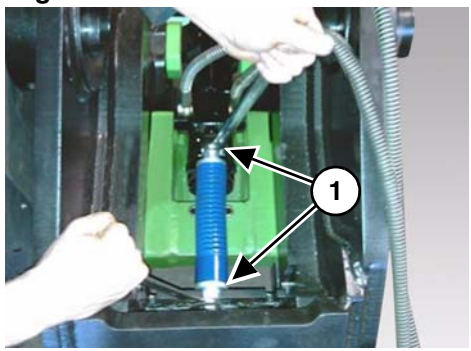
Disassembly (QC35 - QC55)

Figure 27



Insert a flat head screwdriver (1) **[Figure 27]** at the end of the spring assembly, pull back on the screwdriver and remove the spring assembly.

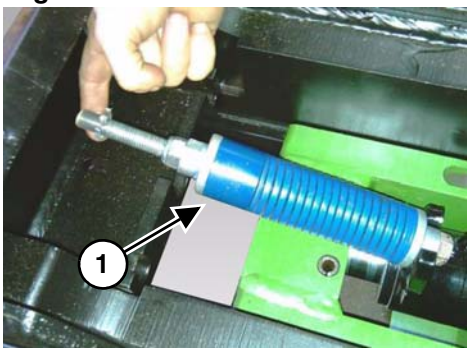
Figure 28



Tighten the spring retaining bolt (1) **[Figure 28]** until free from housing.

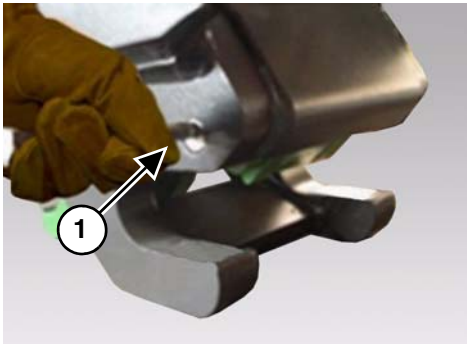
NOTE: Make sure the flats of the spring retainers are in line with retaining brackets so that it will fit into place. Some models may vary slightly in design.

Figure 29



Remove spring assembly (1) **[Figure 29]**.

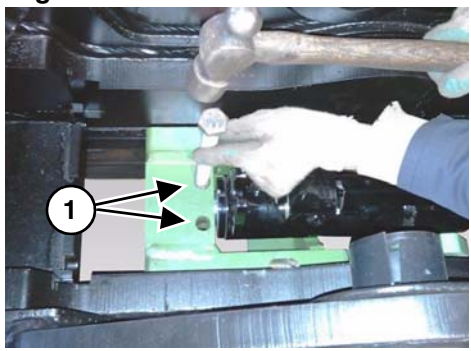
Figure 30



Remove the locking clasp main pivot pin (1) **[Figure 30]**.

Remove the locking clasp from the quick coupler.

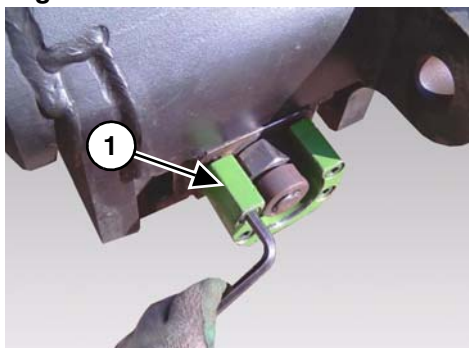
Figure 31



Using a punch tool and hammer, remove the sliding hook retaining roll pins (1) **[Figure 31]**.

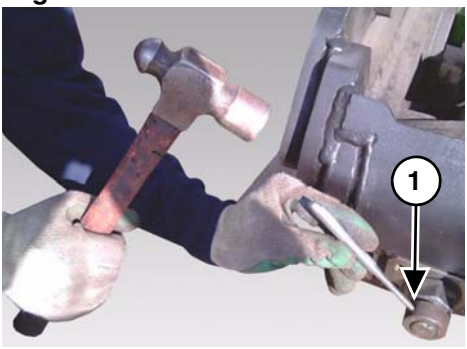
Disassembly (Mechanical Coupler QC45 - QC90)

Figure 32



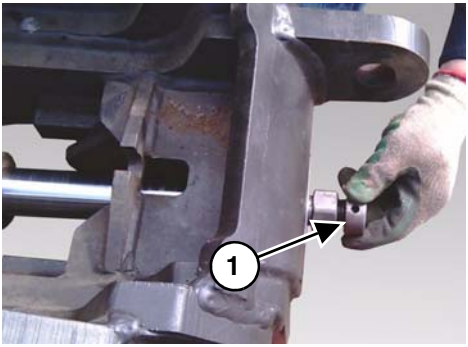
Remove four allen head cap screws and bolt on guard (1) **[Figure 32]**.

Figure 33



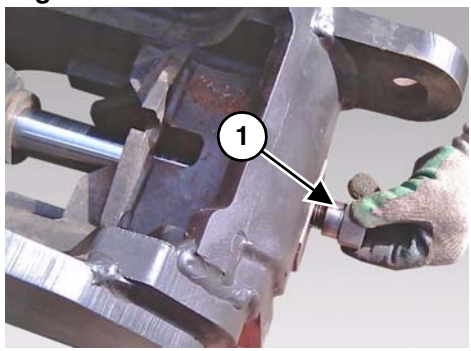
Using a punch tool and hammer, remove roll pin (1) **[Figure 33]**.

Figure 34



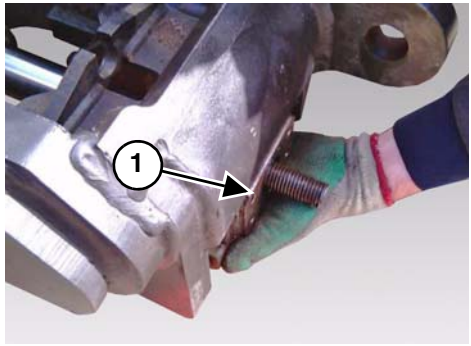
Remove the nut with hole (1) **[Figure 34]**.

Figure 35



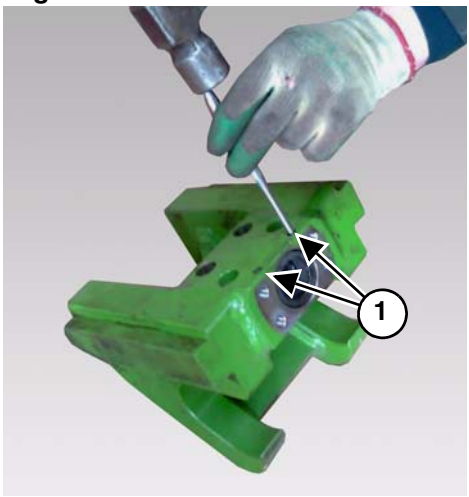
Remove the manual cylinder lock nut (1) **[Figure 35]**.

Figure 36



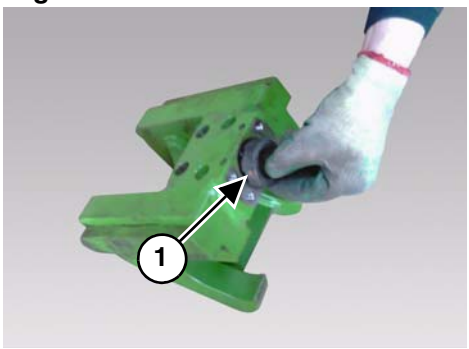
Pull sliding hook out the back of coupler (1) **[Figure 36]**.

Figure 37



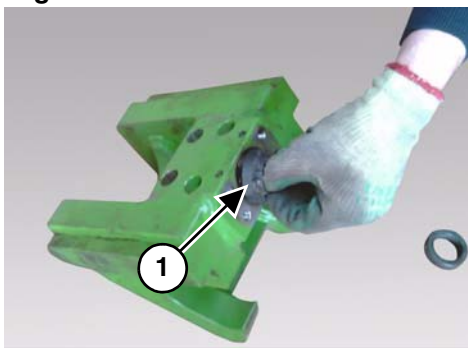
Using a punch tool and hammer, remove the retaining roll pins (1) **[Figure 37]**.

Figure 38



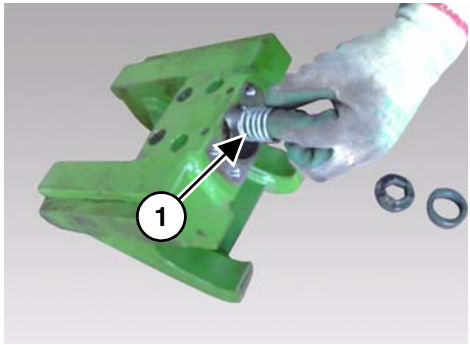
Remove the fixed lock bushing (1) **[Figure 38]**.

Figure 39



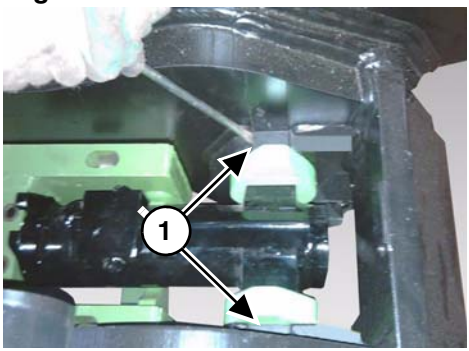
Remove the moving lock bushing (1) **[Figure 39]**.

Figure 40



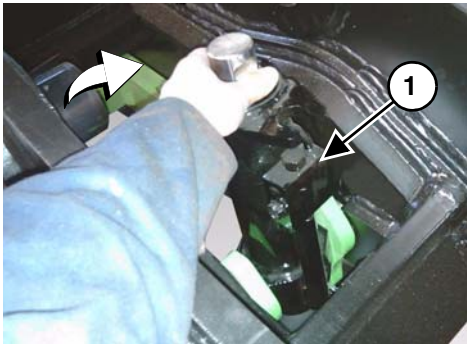
Remove the compression spring (1) **[Figure 40]**.

Figure 41



Using flat head screw driver remove the rubber bungs (1) **[Figure 41]**.

Figure 42



Fully rotate the cylinder (1) **[Figure 42]** up, then lift and remove cylinder.

NOTE: To assemble parts, repeat steps in reverse.

WARRANTY

WARRANTY PROGRAM

The Company warrants the Equipment (except for parts) sold by it to the Purchaser to be:

- Free of defects in material and workmanship for a period of twelve (12) months from the date of shipment or 2000 hours of use, whichever first occurs unless formal documentation can be produced when the product has been put into use. A period of six (6) months shelf life will be accepted on all products. Any product not put into use before the six (6) months stocking and twelve (12) warranty period will forfeit any warranty given on the product. The Geith generic installation/hose assemblies will be covered for a period of six (6) months from the date of shipment (installation kit covered only in Europe).
- The applicable warranty time period for parts shall be six (6) months from the date of shipment and for reconditioned parts or products shall be three (3) months from the date of shipment. At the discretion of the company a longer thirty six (36) month warranty period may be offered to selected customers. This warranty period only covers the frame/chassis of the product and excludes all other components attached to the frame/chassis.
- No warranty will be accepted for wear/damage on products or components thereof.

The Company will provide a new part or repaired part, at its election, in place of any part which is found upon its inspection to be defective in material or workmanship during the periods described above. Such part will be repaired or replaced without charge to the Purchaser providing the warranty cost does not exceed the standard cost which has been set out by the company in the standard cost table (this cost is available upon request). The company will accept maximum warranty costs not exceeding the original sale value.

The replacement or repair must be carried out during normal working hours at the place of business of a distributor of the Company authorised to sell the type of Equipment involved or other establishment authorized by the Company. The purchaser must report failures within a maximum time of 30 days of occurrence and file a warranty claim within a maximum of 30 days thereafter. Warranty claims outside this period of time will forfeit the warranty cover.

WARRANTY

Purchaser must present proof of purchase (and purchase date) at the time of making a claim under this warranty. Warranty claims do not apply to failures occurring as a result of abuse, misuse, negligent repairs, corrosion, erosion, normal wear and tear, alterations or modifications (which includes use of non Geith control systems) made to the Equipment without express written consent of the Company, or failure to follow the recommended operating practices, or service and maintenance procedures as provided in the Equipment's operating and maintenance publications. All maintenance, service and repair work must be completed by an authorised Company distributor or establishment and only genuine Company parts shall be used in such work. Failure to comply strictly with these requirements shall invalidate this warranty. The warranty provided herein does not apply to any components which are not supplied by the company (this includes engines, hydraulic systems, boom, dipper, etc) which are manufactured by others as they are warranted by their respective manufacturers directly to the Purchaser.

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WARRANTY

SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THE CONTRACT, OR ANY BREACH HEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE EUQIPMENT SUPPLIED HEREUNDER WHETHER BASED UPON LOSS OF USE, LOST PROFITS, REVENUE OR INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, INCREASED EXPENSES OF OPERATION, COST OF PURCHASE OF REPLACEMENT POWER OR CLAIMS OF THE PURCHASER OR CUSTOMERS OF THE PURCHASER FOR SERVICE INTERRUPTION, WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE.

VIOLATIONS OF LAW

The Company shall not be bound by or required to adhere to any term or provision of a purchase order, quotation, bid, letter of credit or like document or any provision of law, regulation or custom, which would cause the Company, its parent or any of its affiliates to be in violation of or fail to comply with the export laws, taxing statutes or regulations of the country wherein the Equipment is manufactured or from which it is exported or is otherwise subject to jurisdiction.

GOVERNING LAW

The rights and obligations of the Purchaser and the Company shall be governed and construed in accordance with the laws of the Republic of Ireland and the Purchaser submits to the exclusive jurisdiction of the Irish Courts.

MODIFICATIONS, SEVERABILITY AND ENTIRE AGREEMENT

The Company shall not be bound by any amendment or any modification to the Contract until approved in writing by an officer of the Company. The Contract when so approved, shall supersede all previous communications, either oral or written. If any clause of the Contract is held by any competent authority to be invalid or unenforceable in whole or in part, the other clauses of the Contract and the remainder of the clause in question shall not be affected thereby.

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