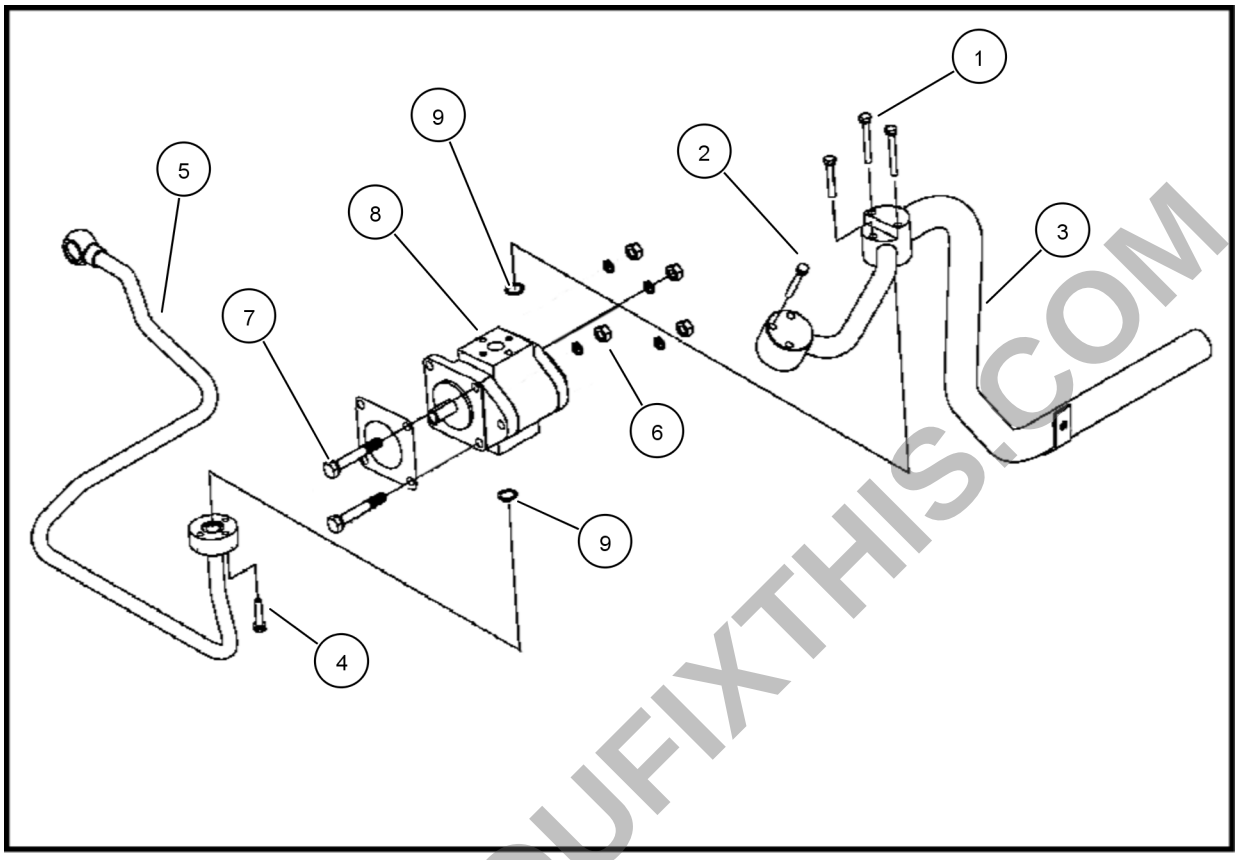
Hydraulic pump Fixed displacement pump - Remove



76109563 1

1. Remove bolts **(1)** and **(2)** from top inlet tube **(3)**.
2. Remove bolts **(4)** from bottom pressure tube **(5)**.
3. Remove the four nuts and lock washers **(6)** and two bolts **(7)** that retain hydraulic pump **(8)**.
4. Remove the hydraulic pump from the engine, take care not to lose the two O-rings **(9)**.

Next operation:
Hydraulic pump Fixed displacement pump - Install (A.10.A)

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Cruise Control Magnet Functions

1. When terminal "56" is supplied current from the safety controller and a ground source is supplied to terminal "OD" of the magnet, the magnet becomes energized. The magnet energizes and locks the HST linkage in the desired position.
2. The magnet can be deactivated by either:

   · Placing the cruise control switch in the "OFF" position.
   · Placing the key switch in the "OFF" position.
   · Depressing **BOTH** the left and right brake pedals.

   Any of these actions will interrupt the current to the magnet causing the magnet to activate and release the HST linkage.

Instrument Panel Functions

1. When the HST cruise control is activated, an indicator light will illuminate in the instrument panel to inform the operator that the cruise control is on.

Ground Sources

1. The safety controller, cruise magnet and instrument panel all share a common ground source, located on the right rear side of the fire wall.

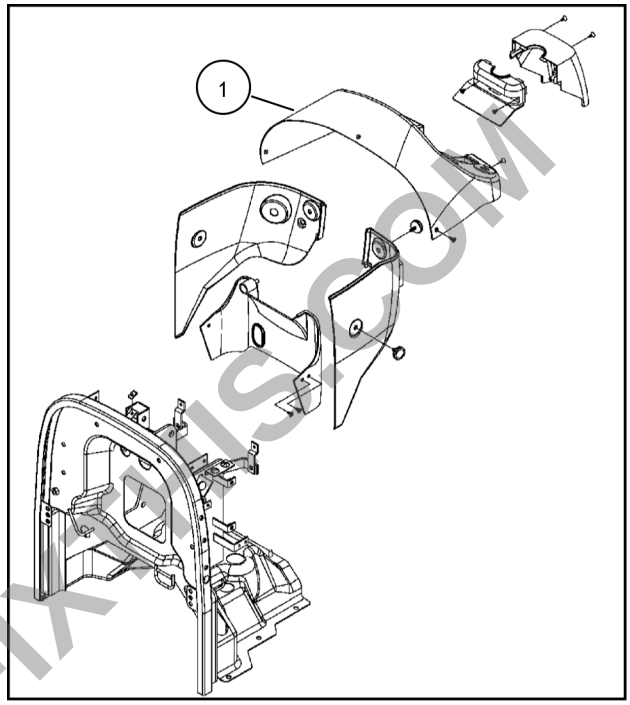
See: **Throttle command - Troubleshooting - Cruise control circuit, HST transmission (B.20.A)**

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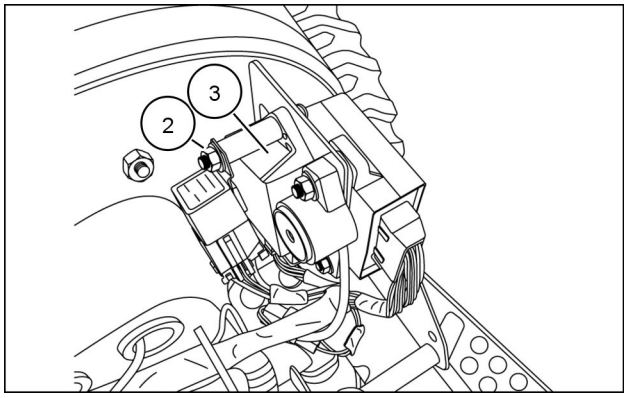
Turn/hazard light Flasher unit - Remove - Flasher Relay

1. Remove negative (-) battery cable from negative (-) battery terminal.
2. Remove instrument panel console **(1)** from the tractor.

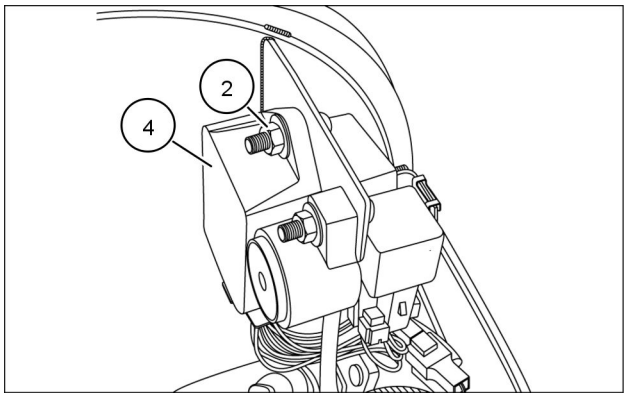


76105667 1

3. Disconnect the flasher relay connector from the tractor wire harness.
4. Remove retaining bolt **(2)** from relay mounting tab and remove flasher relay **(3)** (HST model) or **(4)** (Gear model) from the tractor.



93105596 2



93105612A 3

Next operation:
Turn/hazard light Flasher unit - Test - Flasher Relay (A.40.A)

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ENGINE AND PTO IN - B

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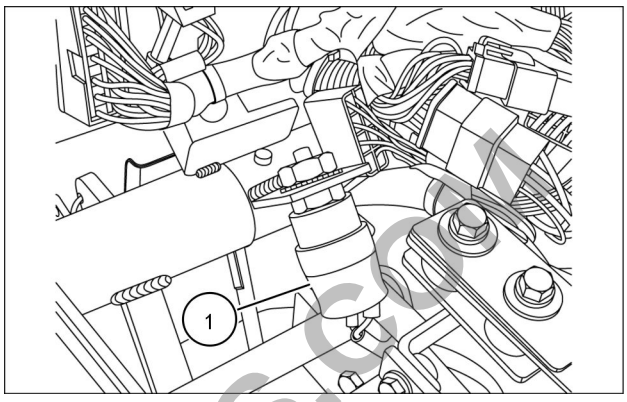
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Clutch control - Service instruction - Clutch pedal switch

Description

The clutch pedal safety switch **(1)** is located on the left-hand side of the tractor steering column, underneath the instrument panel console. The clutch pedal switch is part of the tractor safety start system. When the clutch pedal is depressed, the switch contacts close, completing the ground source path for the start relay coil.



93105615 1

Next operation:
Clutch control Mechanical - Remove - Clutch pedal switch (C.10.C)
Next operation:
Clutch control Mechanical - Test - Clutch Pedal switch (C.10.C)
Next operation:
Clutch control Mechanical - Install - Clutch Pedal switch (C.10.C)

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TRANSMISSION Mechanical - Install PTO drive shaft

⚠ WARNING

Heavy object!
ALWAYS use a hoist or get assistance to lift the component.
Failure to comply could result in death or serious injury.

W0086A

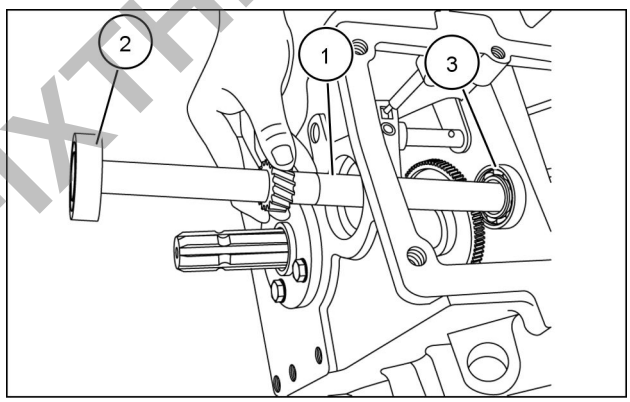
⚠ WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

W0208A

Prior operation:
TRANSMISSION Mechanical - Remove (C.20.B)

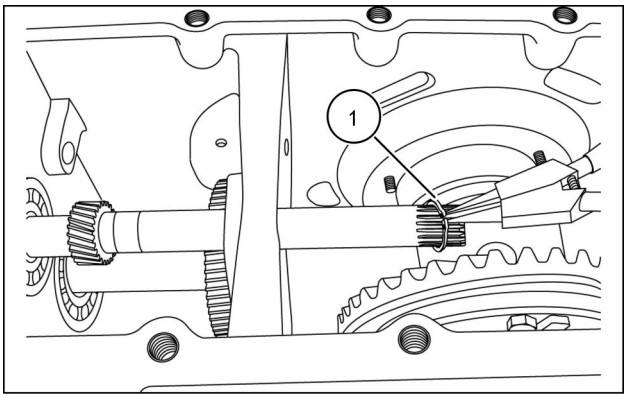
1. Install the drive shaft **(1)** and two bearings **(2)** and **(3)**.



761906811 1

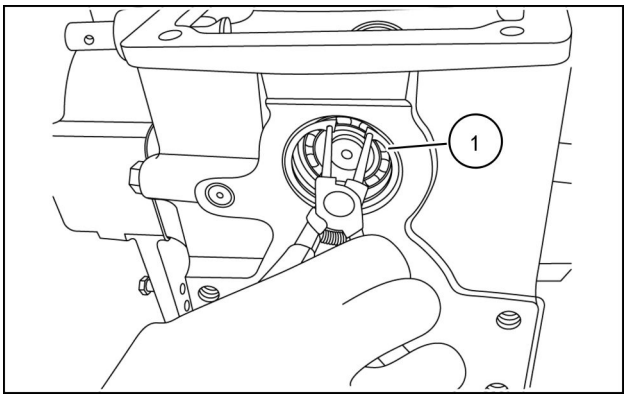
2. Install the drive shaft snap ring **(1)**.

NOTICE: *Ensure that both snap rings are installed on each side of the coupler.*



76106812 2

3. Install the snap ring **(1)**



93102484 3

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Fork and shift rail - Disassemble - shuttle rail and fork

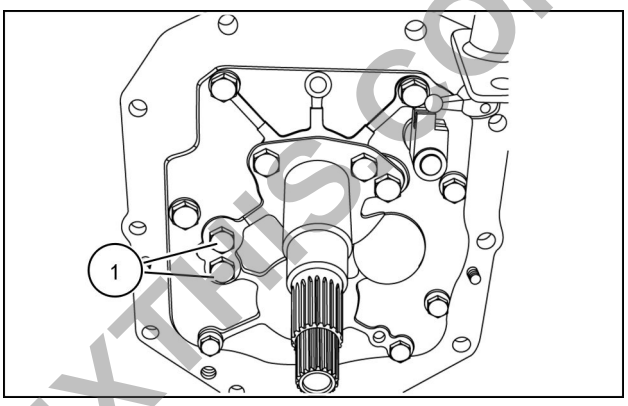
⚠ WARNING

Heavy object!
ALWAYS use a hoist or get assistance to lift the component.
Failure to comply could result in death or serious injury.

W0086A

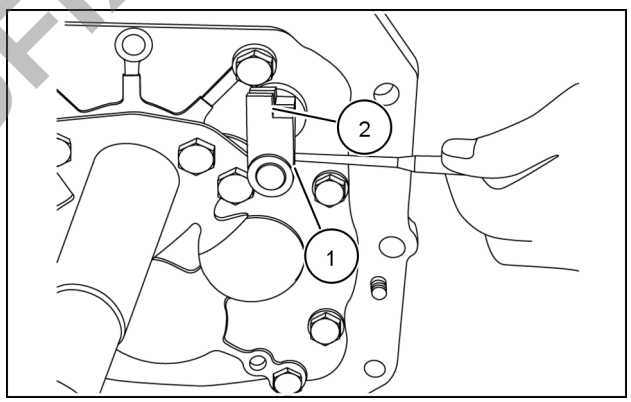
Prior operation:
Fork and shift rail - Remove (C.20.B)

1. Remove bolts **(1)**.



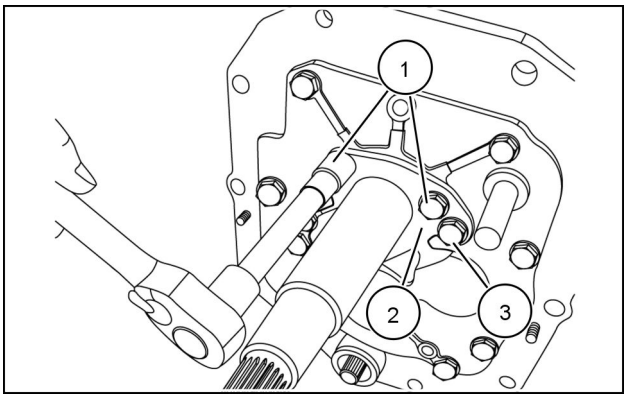
93102300 1

2. Remove the fixed spring pin **(1)** of the shuttle rail adapter **(2)**.
3. Remove the shuttle rail adapter **(3)**.



93102301 2

4. Remove three bolts **(1)** from the main shaft cover, **(2)** and one bolt **(3)** from the reverse idler gear, and remove the cover **(2)**.



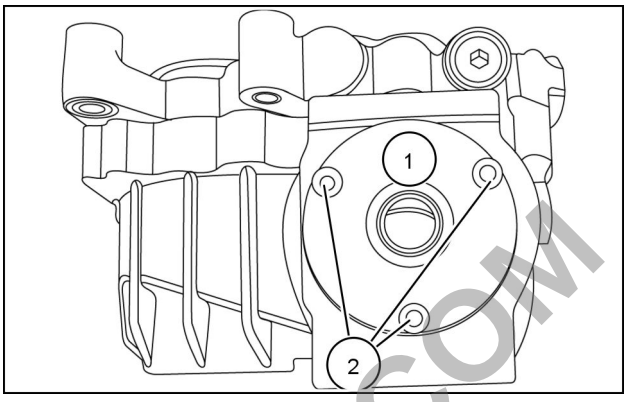
93102302 3

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NOTICE: *To prevent stripping of the screw heads, use an impact tool with the correct bit.*

9. Remove the three phillips screws from each swash plate cover. The right side **(1)** and screws **(2)** are shown.

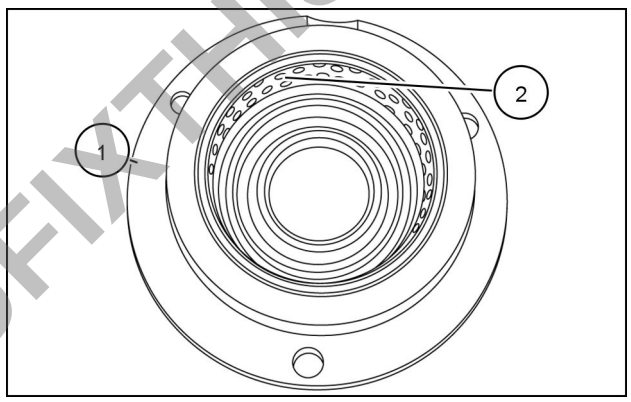


93104591 10

NOTICE: *The right side is the shaft side and the left side is the blank side.*

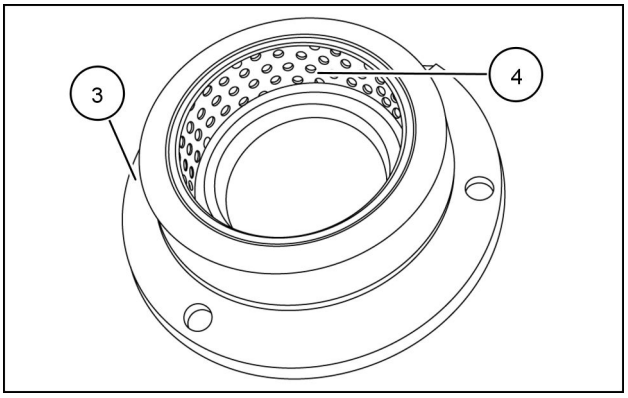
NOTICE: *Use an aluminum punch to dislodge these plates.*

10. Remove the swash plate cover (right) **(1)**.



93109691 11

11. Remove the swash plate cover (left) **(3)**.



93109680 12

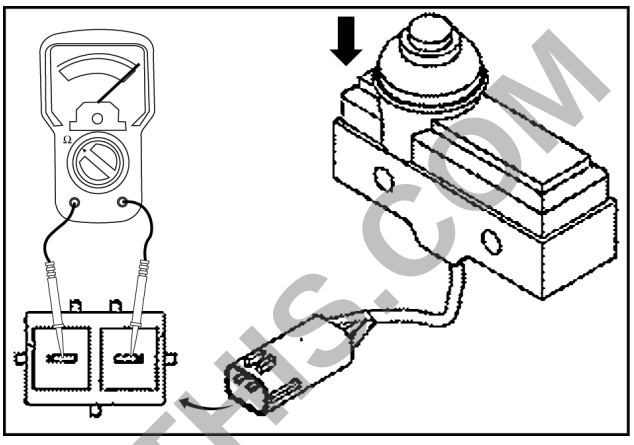
NOTICE: *If scoring is found in the metallic bushings **(2)** and **(4)**, replace bushing and swash plate cover as a unit.*

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Command Transmission command - Test - HST Neutral Switch

1. Use an ohmmeter to test for continuity of the switch terminals
2. With the switch plunger extended, there should not be continuity across the switch terminals.
3. With the switch plunger in the retracted position, continuity should exist across the terminals of the switch.



76105635 1

4. If test results are not as described, switch is faulty and needs to be replaced.

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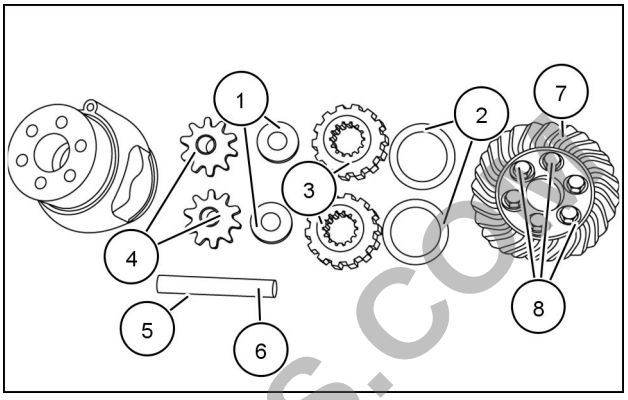
1. Place washers **(1)** and **(2)** in the differential housing.

NOTE: *Use a light grease to hold washers in place during assembly.*

2. Place differential side gears **(3)** through holes in housing to their normal position.
3. Place smaller gears **(4)** at the housing holes, interlocked with the side gears **(3)**.

NOTICE: *Gear timing is critical.*

4. Rotate side gears in the counter clockwise direction.



93104528 7

NOTE: *This action will rotate the smaller gears into position, aligned with the shaft hole.*

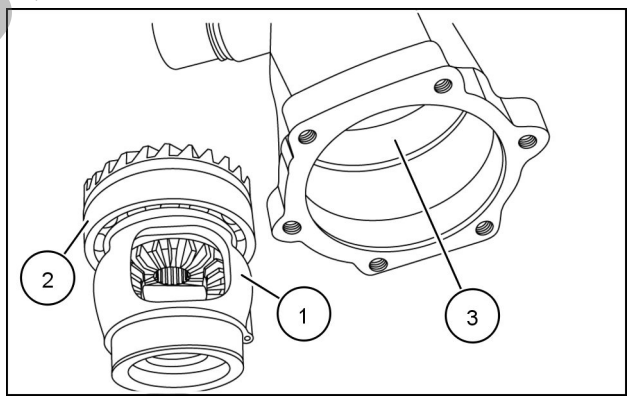
5. Insert shaft **(5)** in hole of housing.

NOTE: *Insure that the spring pin hole is aligned as well.*

6. Insert spring pin **(6)**.
7. Install pinion gear **(7)** using six **8 mm** flange bolts **(8)**.

Installation of the differential

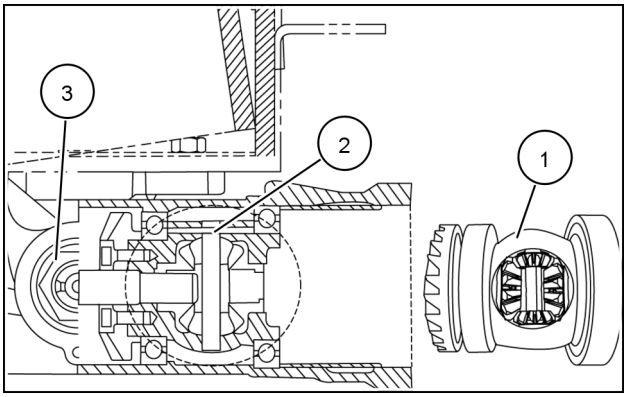
1. Install the differential **(1)** and bearing **(2)** into the differential housing **(3)**.
2. Install outer bearing.



93104527 8

NOTICE: *Backlash measurement check must be done to avoid gear tooth damage.*

3. Insert the differential **(1)** into the differential housing **(2)** until it makes contact with the pinion gear **(3)**.



93105745 9

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Tools required in disassembly and assembly :

- Torque wrench
- 5/16”- socket
- 1/4 - allen wrench
- 1/4 - allen wrench (length: about 40mm)
- Small phillips screw driver
- Tweezers
- Special tool : spring press tool
- Brass hammer
- Grease
- Paint stick

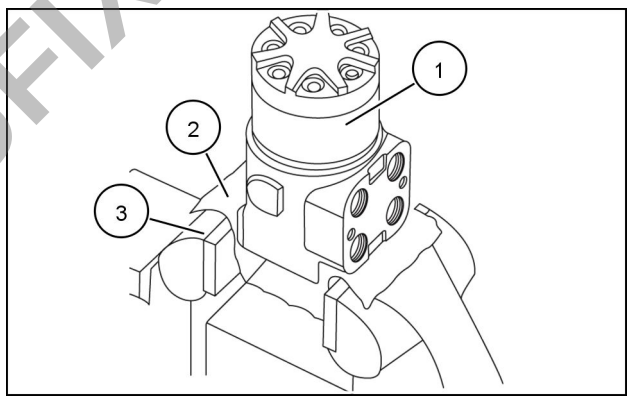
Disassembly

NOTICE: *Establish and maintain a clean work area. Remove any dirt from the unit with a wire brush. Thoroughly clean around the ports.*

NOTE: *Use a paint stick to mark outside of housing , this will be useful in assembly.*

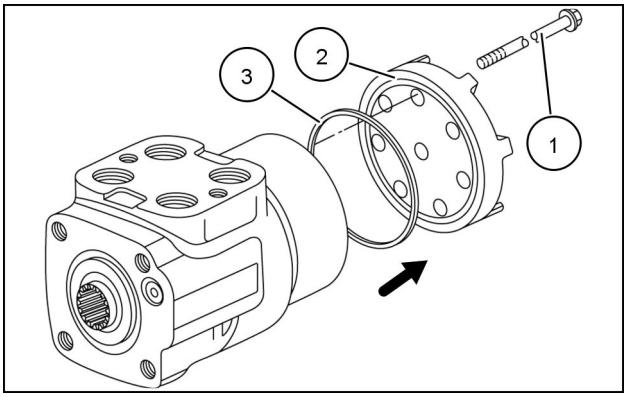
Disassembly of the rotor shaft

1. Placing the rotor shaft **(1)** upward, grip the unit in a vice **(3)** and protect the surface of the unit against scarring or damage, with suitable material **(2)**.



93102644 2

2. Unscrew the seven cover bolts **(1)**.
3. Remove the end cap. **(2)**.
4. Remove O- ring **(3)** from the end cap **(2)**.



93102645 3

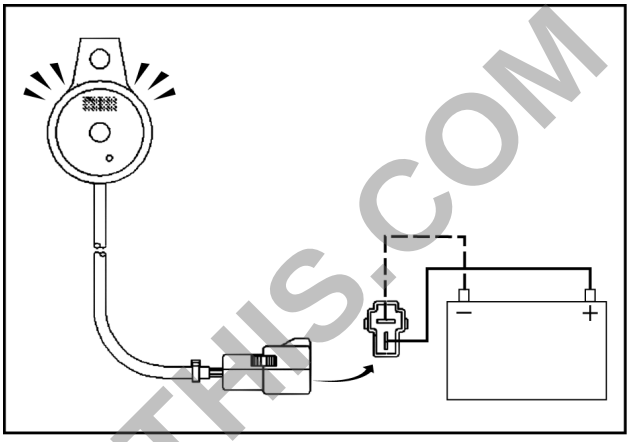
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Instrument panel Analogue instrument cluster - Test - Safety alarm

Prior operation:
Instrument panel Analogue instrument cluster - Remove - Safety alarm (E.32.A)

1. Disconnect alarm connector from the tractor wire harness.
2. Place 12 volts across the leads of the alarm, the alarm should sound.



76105652 1

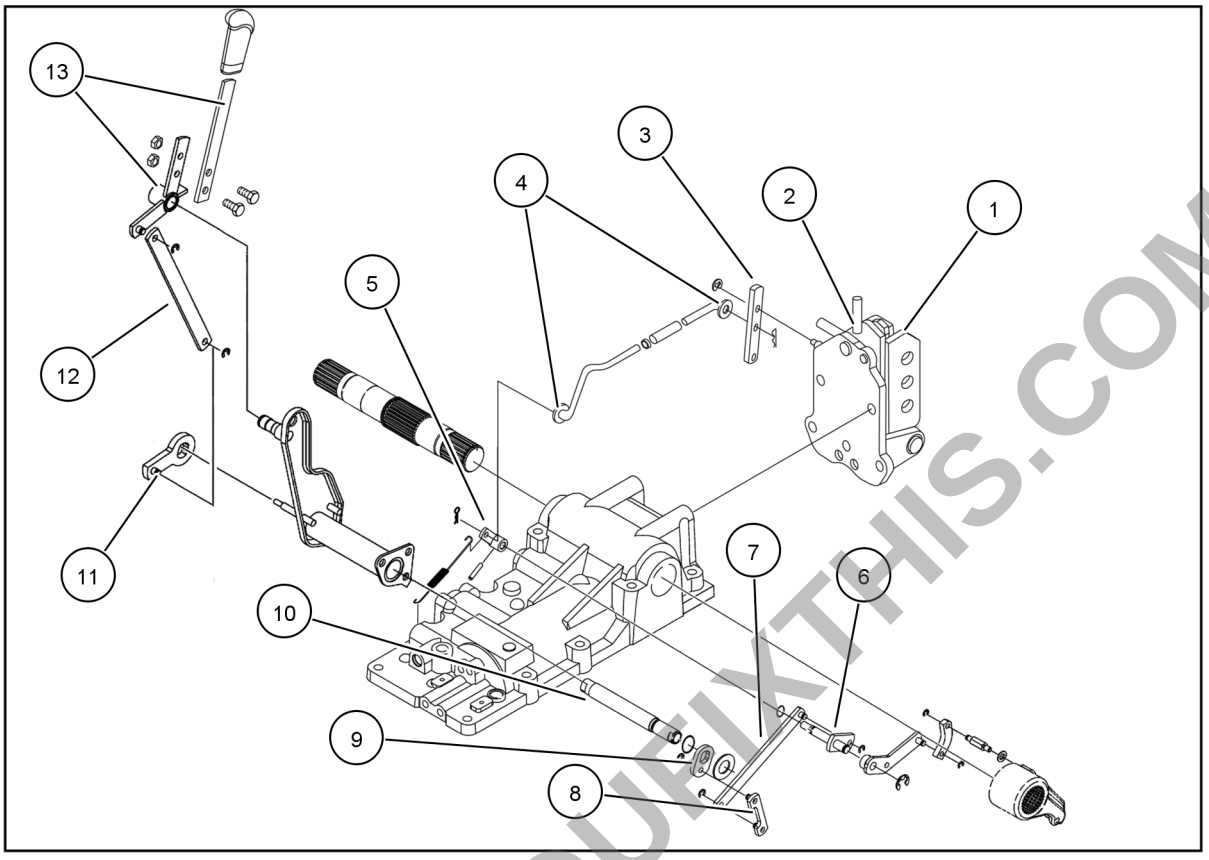
3. If the alarm does not sound when 12 volts are supplied, the alarm is faulty and needs to be replaced.

Next operation:
Instrument panel Analogue instrument cluster - Install - Safety alarm (E.32.A)

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Draft Control Linkage Components



76109573 6

1. Top link pivot bracket and leaf spring
2. Draft lock out
3. Pivot link
4. Draft external link
5. Draft arm
6. Draft pivot shaft
7. Draft internal link
8. Draft connector link
9. Draft plate
10. Draft shaft
11. Draft lever arm
12. Draft lever link
13. Draft control lever

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Fork and shift rail - Install - shuttle rail bolt

⚠ WARNING

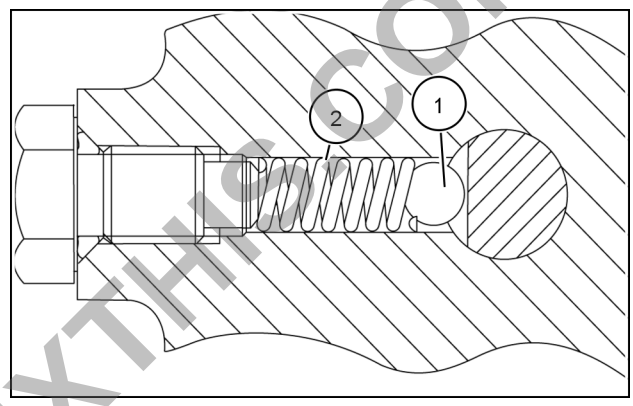
Heavy object!
ALWAYS use a hoist or get assistance to lift the component.
Failure to comply could result in death or serious injury.

W0086A

Prior operation:
Fork and shift rail - Remove (C.20.B)

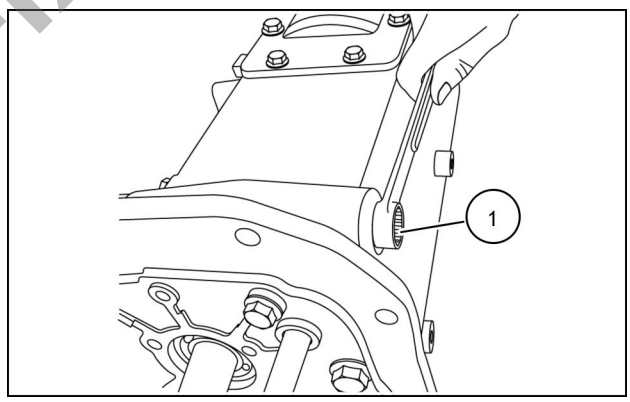
1. Install the ball **(1)** and spring **(2)** as shown in figure **1**.

NOTICE: *Check the O-ring and the shuttle rail bolt and replace if necessary.*



93102299 1

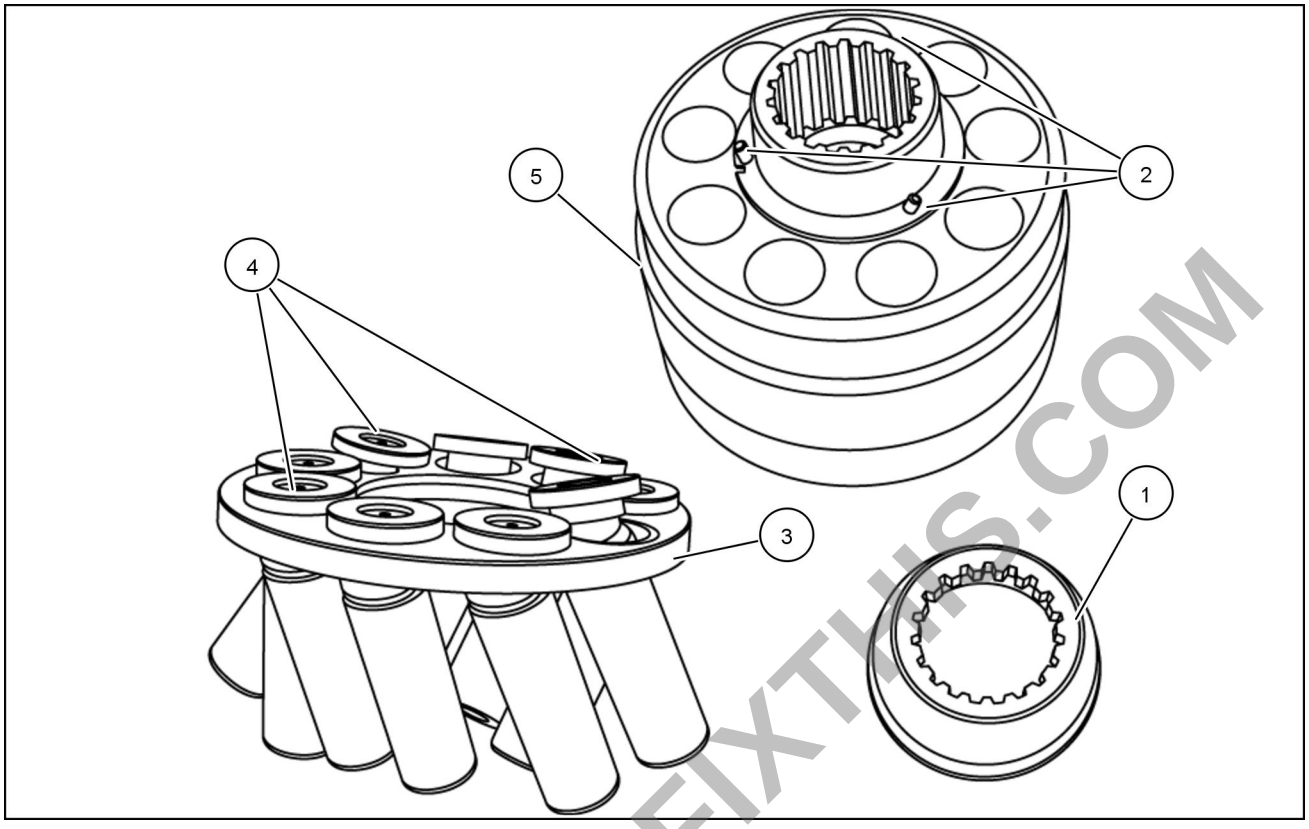
2. Install the shuttle rail bolt **(1)**.



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93109677 9

Pump and motor cylinder block and piston assembly

(1) Retainer holder
(2) Pins
(3) Retainer plate
(4) Pistons
(5) Cylinder block

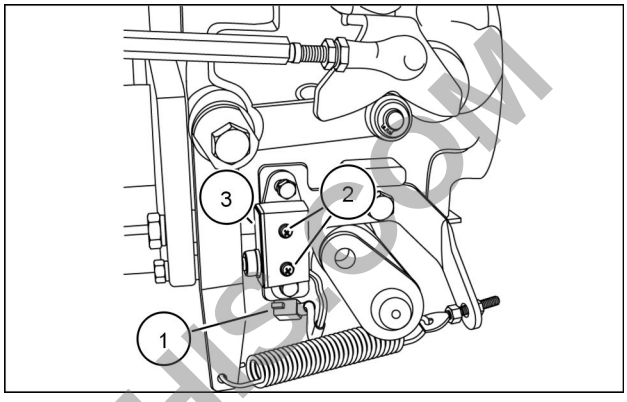
NOTICE: *Each cylinder block assembly has three pins* ***(2)*** *. DO NOT LOSE the pins.*

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Command Transmission command - Remove - HST Neutral Switch

1. Disconnect the negative (-) battery cable from the negative (-) battery terminal.
2. Disconnect the switch connector **(1)** from the tractor wire harness.
3. Remove the two machine screws **(2)** from the switch and remove the switch **(3)** from the mounting bracket.



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TRANSMISSION, DRIVE AND PTO OUT - C

REAR PTO Hydraulic - 40.C

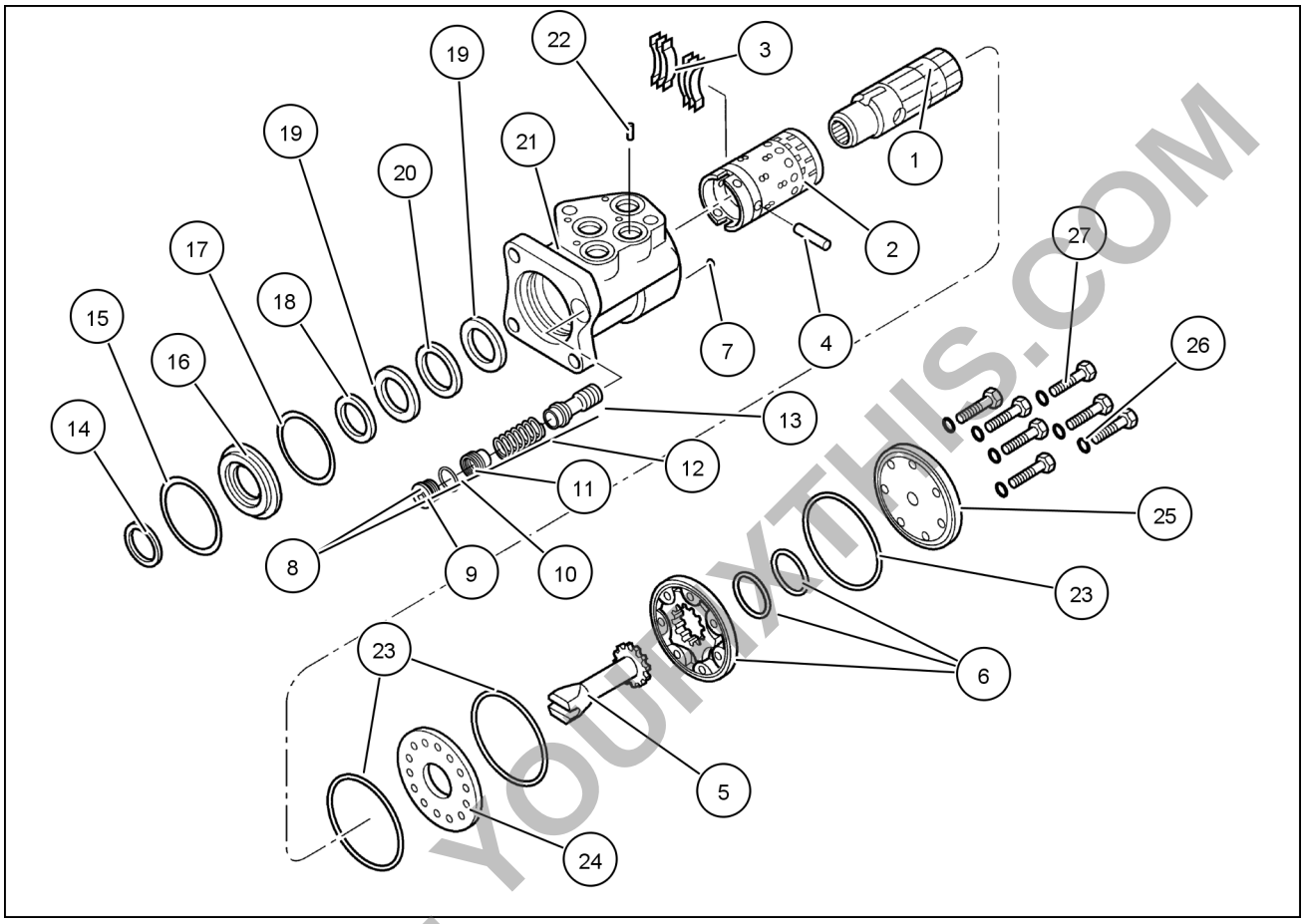
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PTO clutch - Testing - Rear PTO and Mid PTO do not operate 12

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STEERING Hydraulic - Disassemble Steering valve

Prior operation:
STEERING Hydraulic - Remove Steering valve (D.20.C)



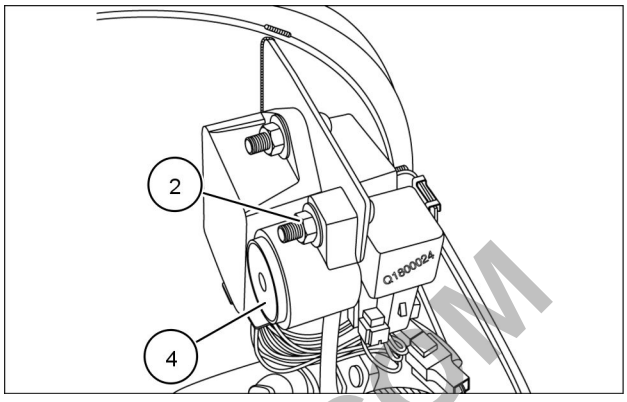
76096183 1

Power steering control motor assembly

(1) Spool
(2) Sleeve
(3) Centering springs
(4) Pin
(5) Drive (Shaft)
(6) Gerotor assembly
(7) Ball
(8) Relief valve assembly
(9) Relief adjust plug
(10) O - ring
(11) Adjuster screw
(12) Spring
(13) Relief valve poppet
(14) Dust seal
(15) Retaining ring
(16) Gland bushing
(17) O - ring
(18) Quad ring
(19) Bearing race
(20) Thrust bearing
(21) Motor housing
(22) Spring pin
(23) O - ring
(24) Plate
(25) End cap
(26) Washer
(27) Cover bolt

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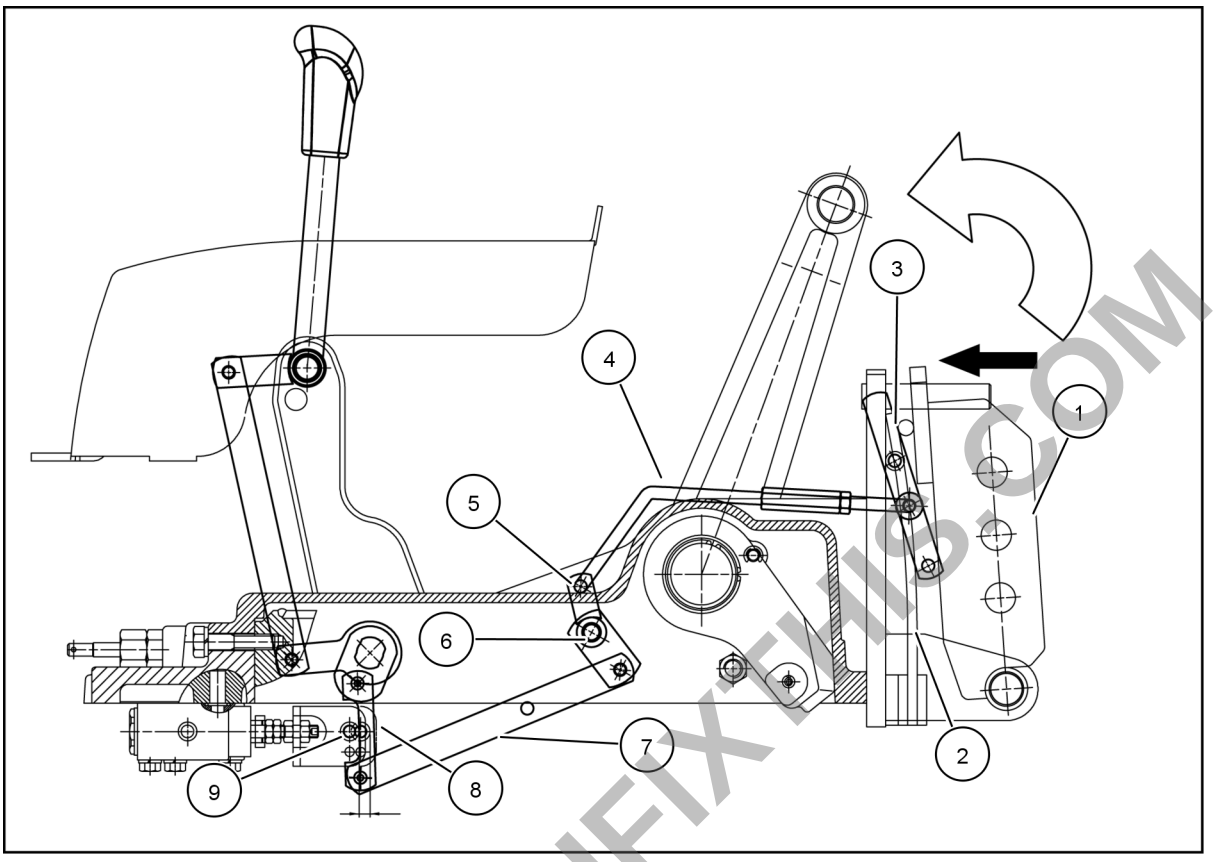


93105612 3

Next operation:
Instrument panel Analogue instrument cluster - Test - Safety alarm (E.32.A)

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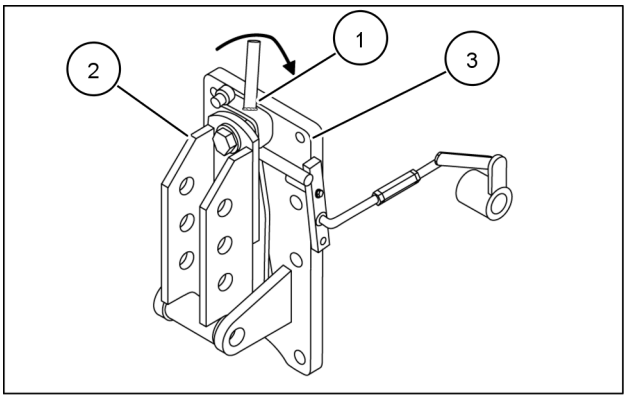


76109594 4

The draft control uses a top link compression bracket **(1)** to signal the hydraulic system for raising or lowering the implement to maintain a constant draft load. As the draft load of the implement increases, the top link of the 3pt hitch pivots forward and flexes the spring **(2)** on the top link bracket. As the spring flexes, the pivot link **(3)** on the on the bracket pivots forward which pulls draft link **(4)** rearward. Link **(4)** is connected to arm **(5)** which is pinned to internal pivot shaft **(6)**. When arm **(6)** moves rearward the internal pivot shaft pivots and pushes draft link **(7)** forward. When link **(7)** moves forward, the draft connector link **(8)** moves forward. The draft connector link moves the HPL control valve spool **(9)** inward and the implement raises until the draft load is decreased. When the draft load is decreased, the draft linkage will return to the original set position.

Draft Control Lock Out

The draft control lock out **(1)** can be placed between the top link pivot plate **(2)** and the mounting bracket **(3)**. When the lock out is placed between the plate and bracket, the draft control leaf spring cannot move the linkage to actuate the HPL control valve. When using the draft control rotate the lock out from behind the top pivot plate.



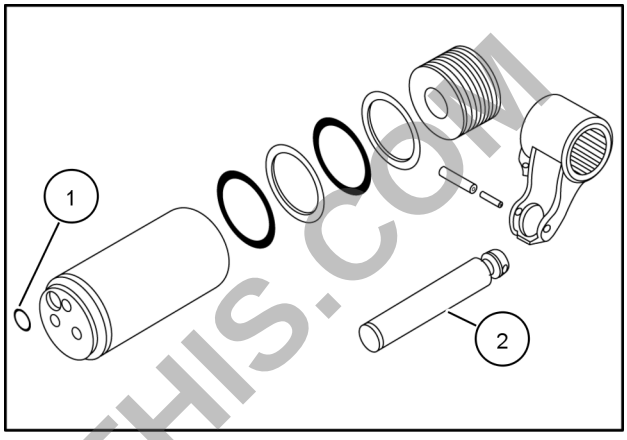
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Cylinder - Install

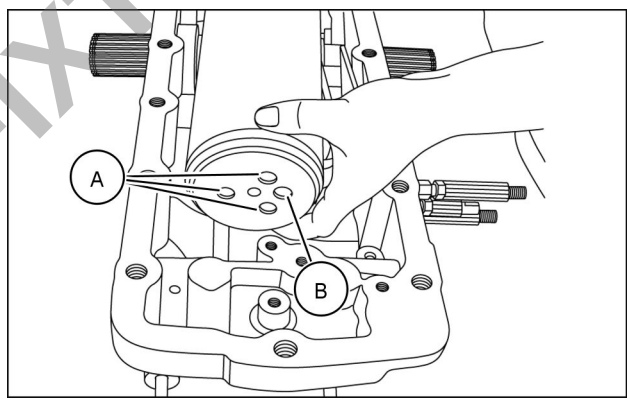
Prior operation:
Cylinder - Assemble (H.10.C)

1. Install O-ring **(1)** on port on the end of the cylinder.
2. Insert connect rod **(2)** into the cylinder.



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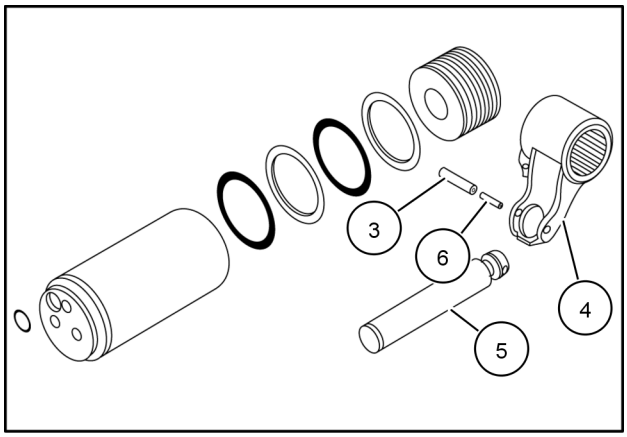
3. Place cylinder into the HPL housing, align bolt **(A)** and vent **(B)** holes on end of cylinder with housing holes.



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NOTE: *Make sure O-ring on end of cylinder remains in place during installation.*

4. Install larger diameter pin **(3)** into pivot arm **(4)** and connecting rod **(5)**.
5. Install smaller diameter pin **(6)** inside the larger diameter pin .



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