



# Bobcat®

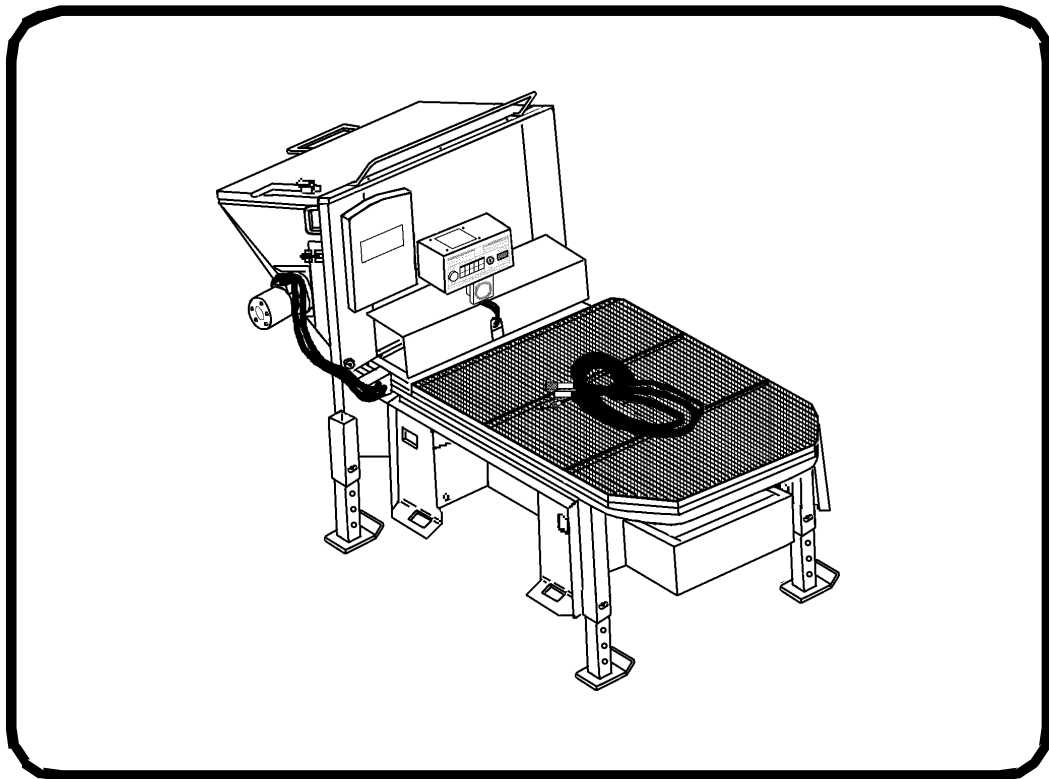
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## Service Manual Concrete Pump

Used With Remote Attachment Control

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S/N 235400101 & Above



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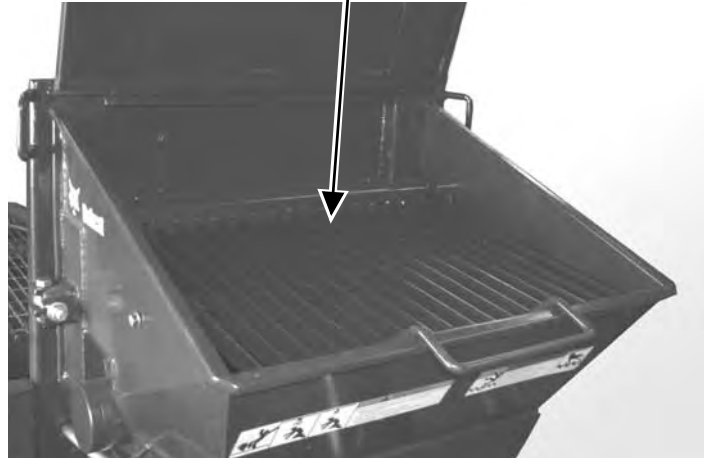
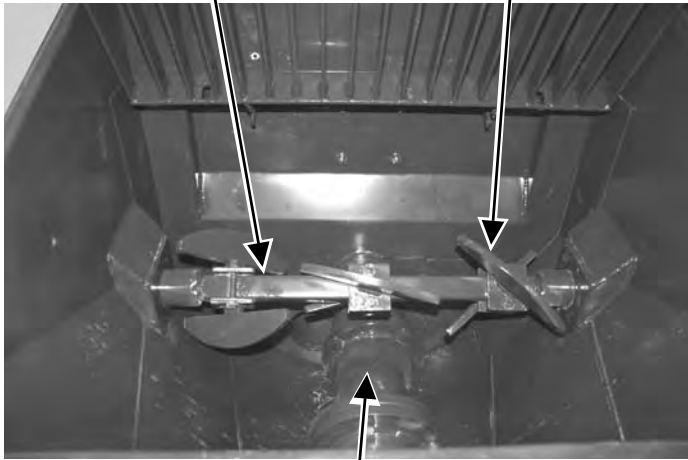
ATTACHMENT IDENTIFICATION (CONT'D)

(HOPPER GRATE RAISED FOR  
PICTURE CLARITY)

AGITATOR  
ASSEMBLY

AGITATOR  
PADDLES (6)

HOPPER GRATE



SWING VALVE

P-57536  
P-57535

D-RING

D-RING

HOPPER  
COVER

AGITATOR  
MOTOR

HOPPER  
OUTLET

SUPPORT  
STANDS

HOPPER  
CLEANOUT

SUPPORT  
STANDS



P-57534

## LUBRICATION

Always use a good quality lithium base grease when lubricating the concrete pump. Apply the lubricant until extra grease shows.

# IMPORTANT

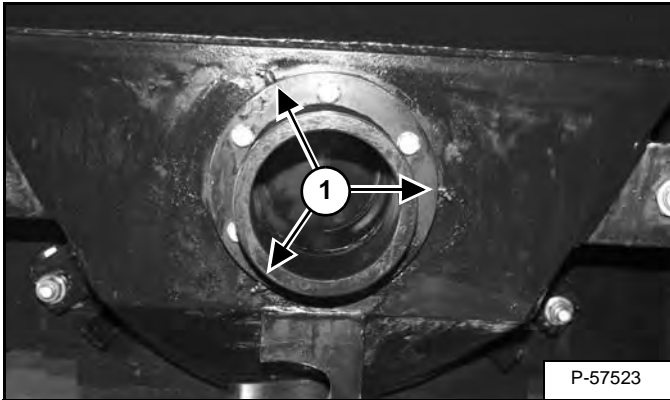
Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

I-2067-0499

### Lubrication Points

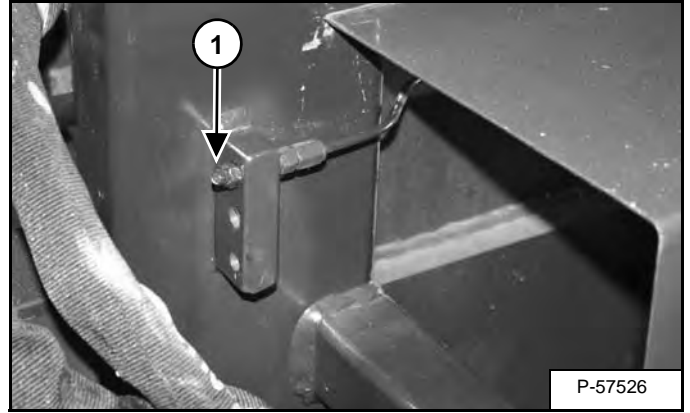
Lubrication of the concrete pump is very important to keep concrete mix out of the wear areas. Lubricate the following five grease fittings [Figure 10-30-1] and [Figure 10-30-2] AFTER EVERY POUR AND EVERY 2 HOURS OF OPERATION:

Figure 10-30-1



1. Outlet Housing (Item 1) [Figure 10-30-1].

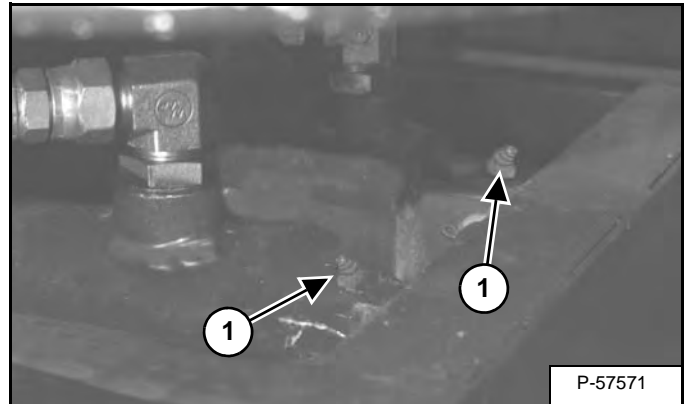
Figure 10-30-2



2. Crank Arm Bearing (Item 1) [Figure 10-30-2].

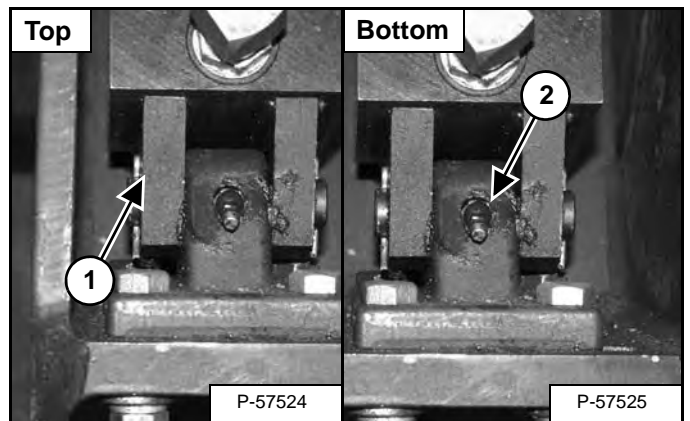
Lubricate the following four grease fittings [Figure 10-30-3] and [Figure 10-30-4] AFTER EVERY POUR AND EVERY 8 HOURS OF OPERATION:

Figure 10-30-3



3. Concrete Cylinders (Item 1) [Figure 10-30-3].

Figure 10-30-4

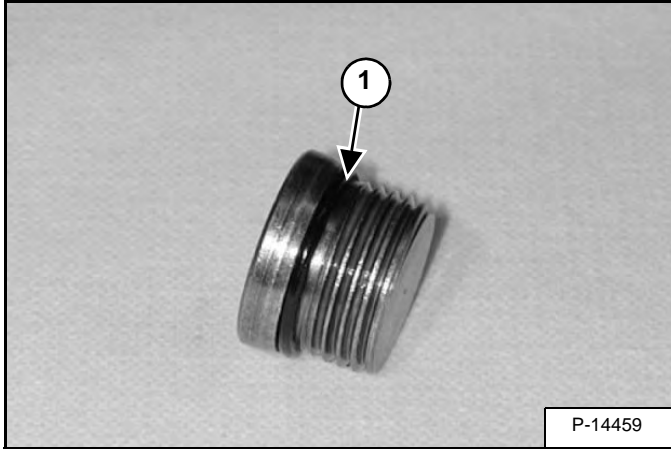


4. Lubricate the top and bottom Swing Valve Cylinder bushings (Item 1) [Figure 10-30-4].

## PUMP CONTROL VALVE (CONT'D)

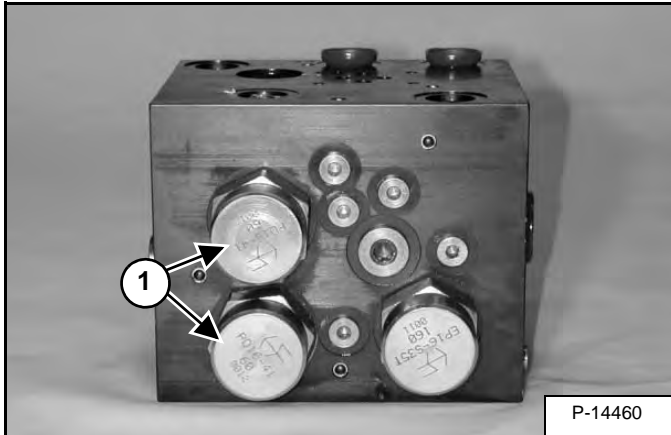
### Disassembly (Cont'd)

Figure 20-10-21



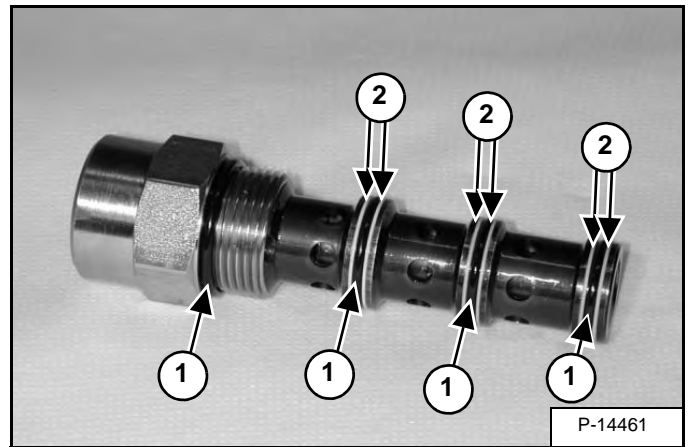
Remove the O-ring (Item 1) [Figure 20-10-21] from the two plugs.

Figure 20-10-22



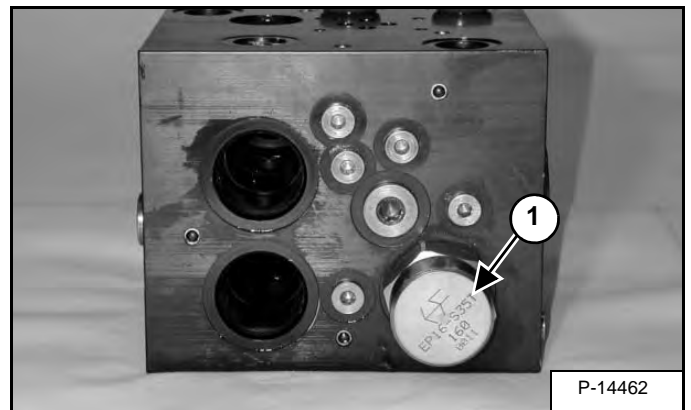
Remove the two valves (Item 1) [Figure 20-10-22] from the manifold block.

Figure 20-10-23



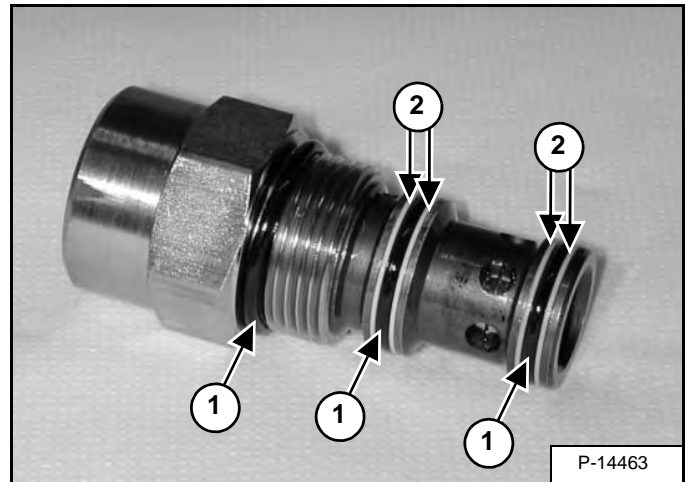
Remove the O-rings (Item 1) [Figure 20-10-23] and back-up rings (Item 2) from the two valves.

Figure 20-10-24



Remove the logic valve (Item 1) [Figure 20-10-24] from the manifold block.

Figure 20-10-25

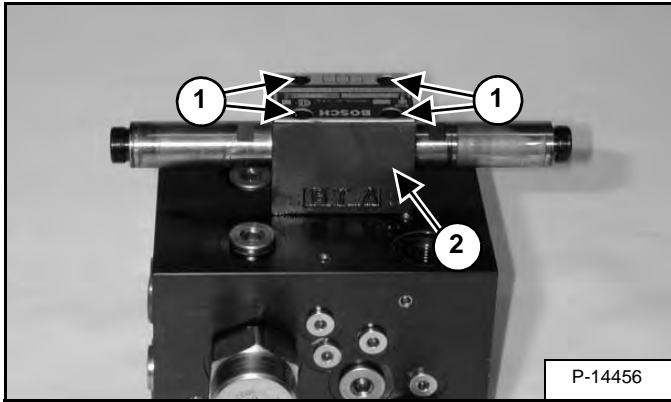


Remove the O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-25] from the logic valve.

## PUMP CONTROL VALVE (CONT'D)

### Assembly (Cont'd)

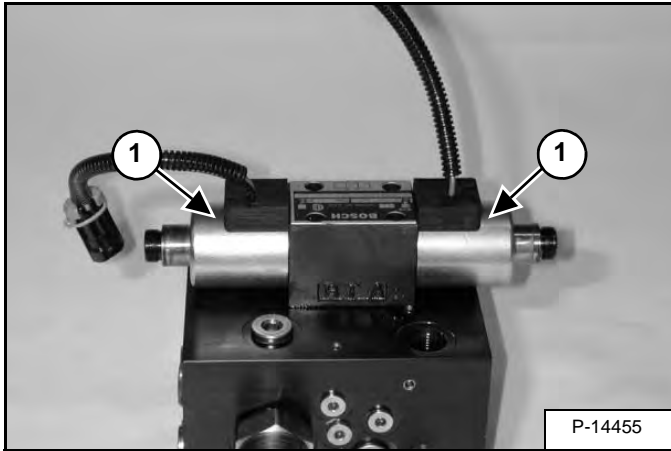
Figure 20-10-69



Install the D03 valve (Item 1) on the manifold block. Install the four cap screws (Item 2) [Figure 20-10-69].

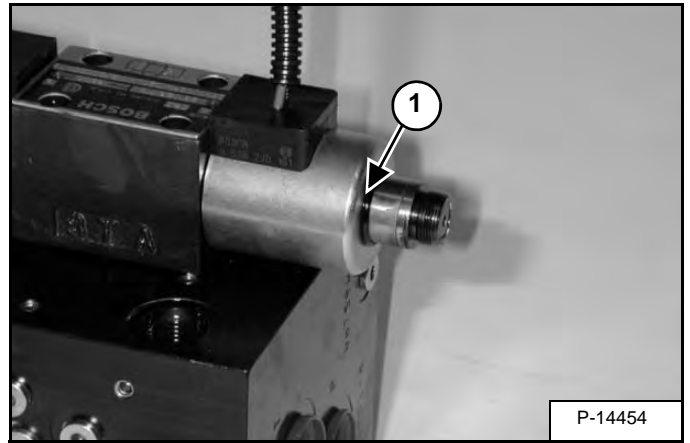
Tighten the screws to 7 N•m (60 in-lb) torque.

Figure 20-10-70



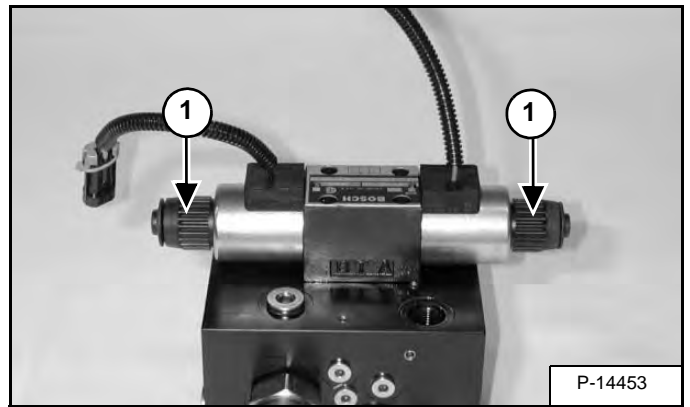
Install the two coils (Item 1) [Figure 20-10-70] on the D03 valve.

Figure 20-10-71



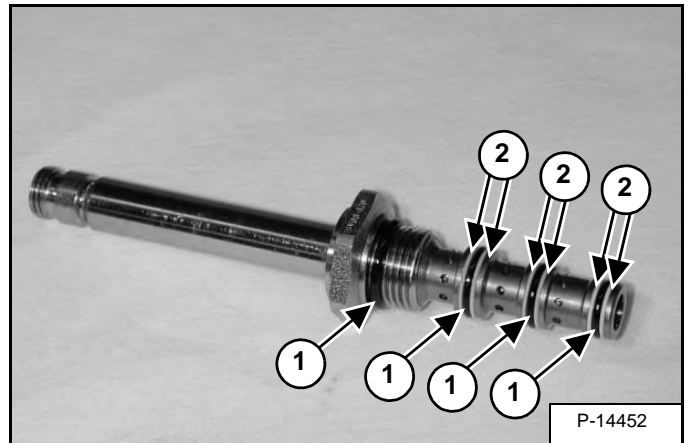
Install the O-ring (Item 1) [Figure 20-10-71] on both sides of the D03 valve.

Figure 20-10-72



Install and tighten the two caps (Item 1) [Figure 20-10-72].

Figure 20-10-73

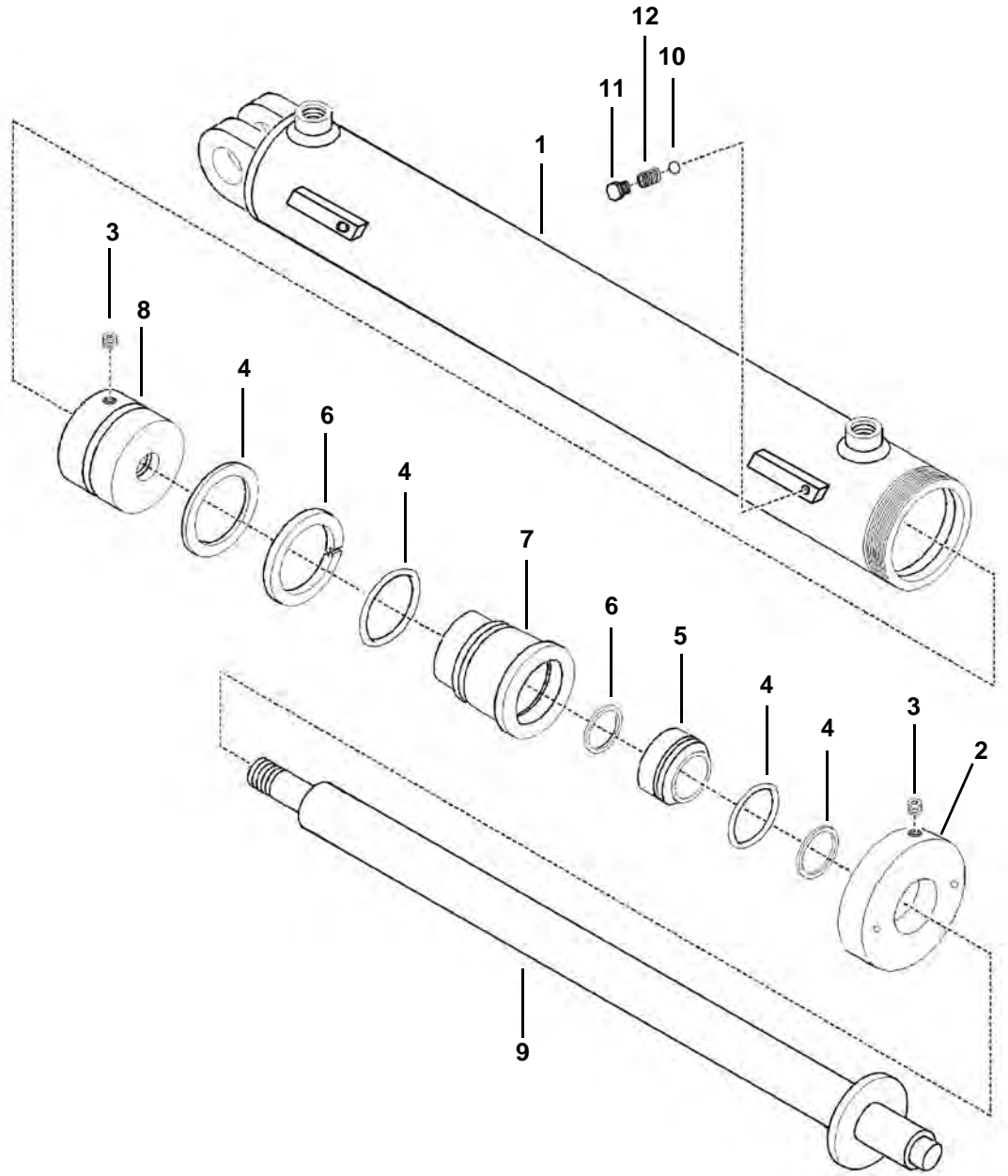


Install the O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-73] on the spool.

# PUMP CYLINDERS (CONT'D)

## Parts Identification

- 1. Case
- 2. Cap
- 3. Set Screw
- 4. O-ring
- 5. Inner Head
- 6. Seal
- 7. Head
- 8. Piston
- 9. Rod
- 10. Steel Ball
- 11. Plug
- 12. Spring

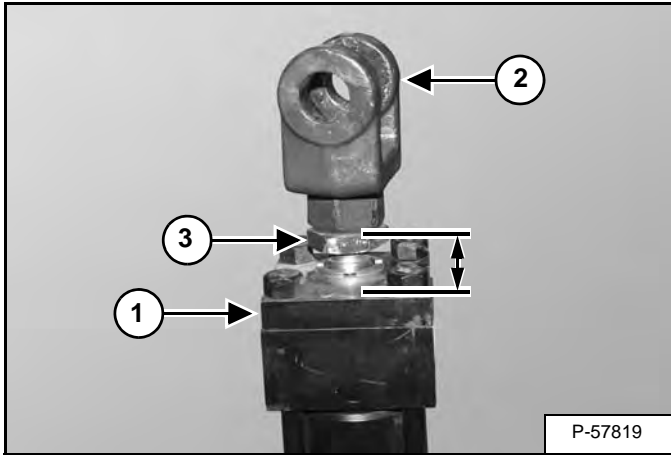


P-60382

## SWING VALVE CYLINDER (CONT'D)

### Disassembly (Cont'd)

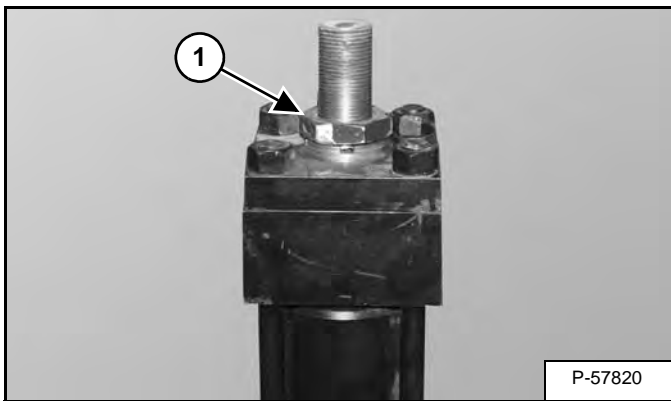
Figure 20-30-11



Measure the distance between the retainer (Item 1) and the clevis (Item 2) [Figure 20-30-11] and record this measurement to assure the clevis is installed correctly.

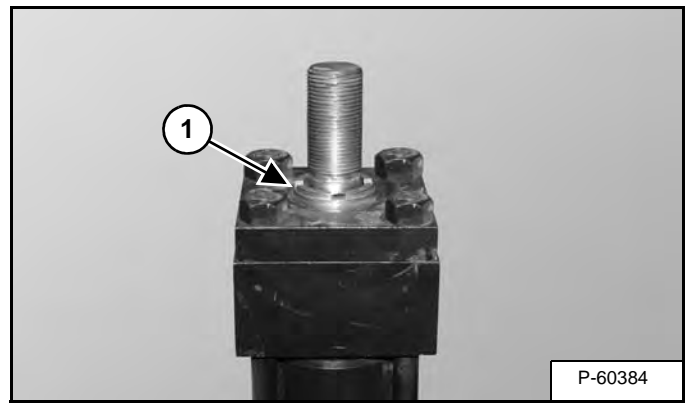
Loosen jam nut (Item 3), then remove clevis (Item 2) [Figure 20-30-11].

Figure 20-30-12



Remove the jam nut (Item 1) [Figure 20-30-12].

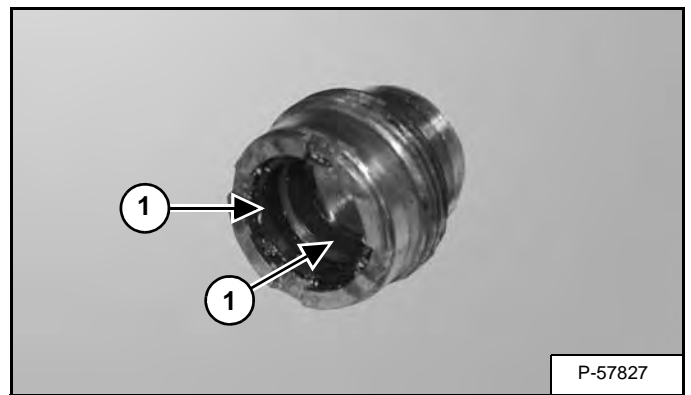
Figure 20-30-13



**NOTE:** Inspect the piston rod to make sure it is free of burrs or other displaced metal which would prevent sliding the gland off the rod.

Remove gland (Item 1) [Figure 20-30-13] from the retainer. The gland protrudes from the face of the retainer and can be removed with vise grip pliers or gland wrench.

Figure 20-30-14



Remove seals (Item 1) [Figure 20-30-14].

Thoroughly clean gland and seal grooves. Inspect the gland bore for wear. Replace gland if necessary.

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## AGITATOR HYDRAULIC MOTOR (CONT'D)

### Disassembly

The following pictures may not show the exact motor your working on but the procedure is correct.

# IMPORTANT

When repairing hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0888

# IMPORTANT

Contain and dispose of any oil leakage in an environmentally safe manner.

I-2066-0395

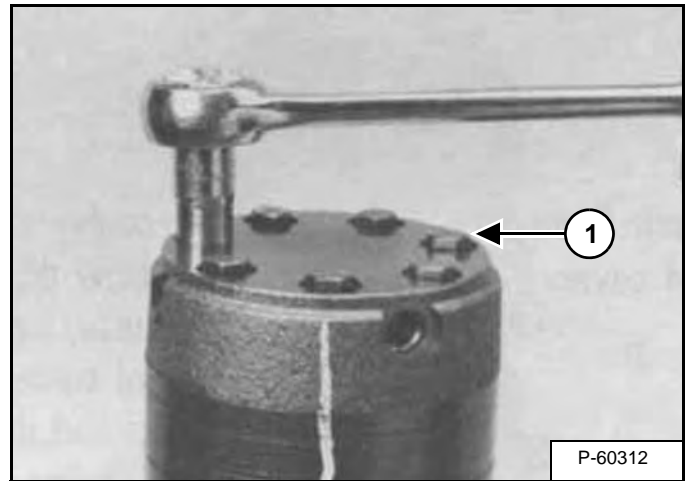
Figure 20-50-3



Place the motor in a soft jawed vice, with coupling shaft pointed down and the vise jaws clamping firmly on the sides of the housing mounting flange or port bosses [Figure 20-50-3].

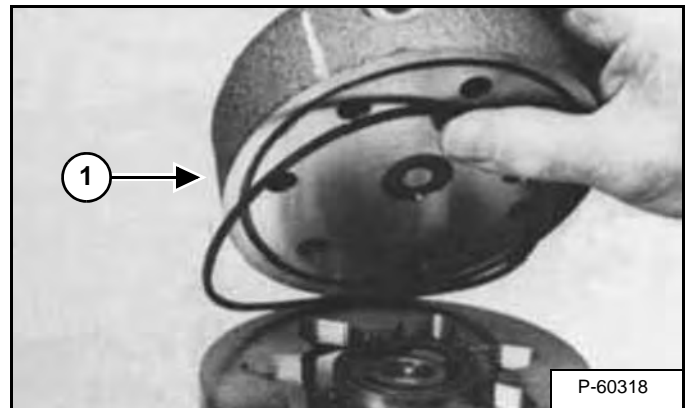
Scribe an alignment mark down and across the motor components from end cover to housing for correct assembly [Figure 20-50-3].

Figure 20-50-4



Remove bolts (Item 1) [Figure 20-50-4].

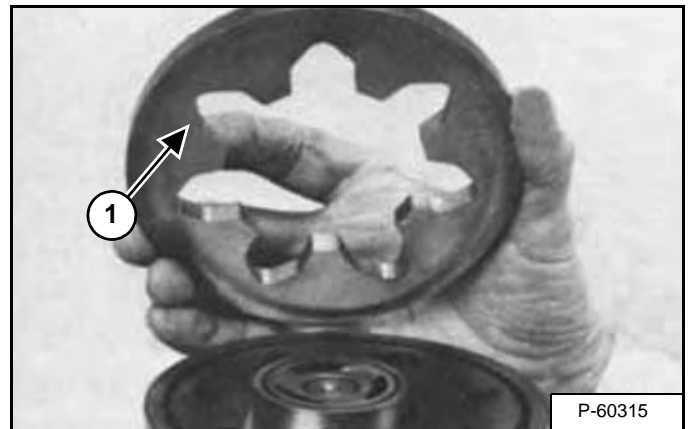
Figure 20-50-5



Remove end plate (Item 1) [Figure 20-50-5] and O-ring. Discard O-ring.

**Installation:** Always use new O-rings during assembly.

Figure 20-50-6

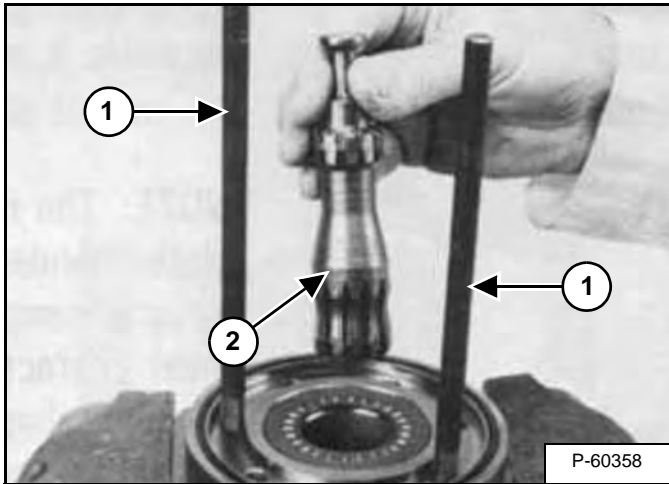


Remove commutator ring (Item 1) [Figure 20-50-6].

## AGITATOR HYDRAULIC MOTOR (CONT'D)

### Assembly (Cont'd)

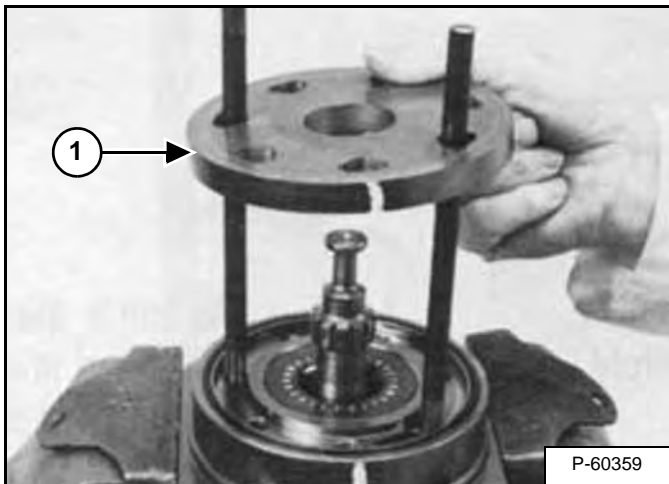
Figure 20-50-37



Install One or two alignment studs (Item 1) [Figure 20-50-37] screwed finger tight into housing bolt holes, approximately 180 degrees apart, will facilitate the assembly and alignment of components as required in the following procedures.

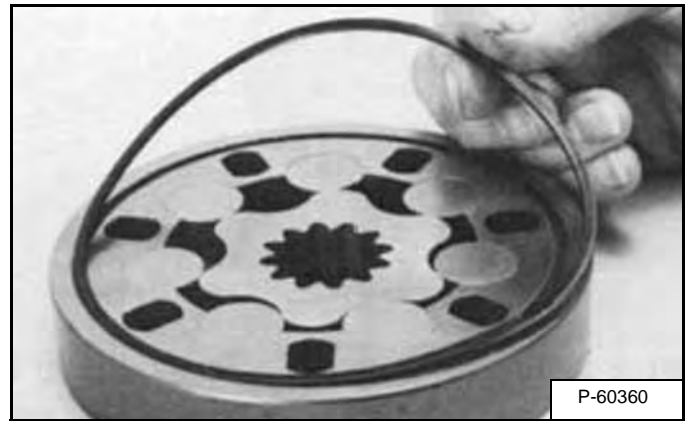
Install drive link (Item 2) the long splined end down into the coupling shaft and engage the drive link splines into mesh with the coupling shaft splines [Figure 20-50-37].

Figure 20-50-38



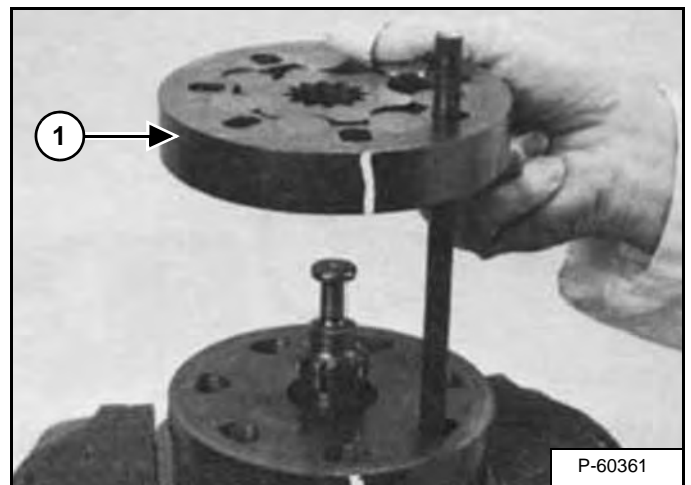
Install wear plate (Item 1) [Figure 20-50-38] over the drive link and alignment studs onto the housing.

Figure 20-50-39



Apply a small amount of clean grease to a new O-ring and install it into the groove on the wear plate side of the rotor set stator [Figure 20-50-39].

Figure 20-50-40



**NOTE:** It may be necessary to turn one alignment stud out of the housing temporarily to assemble rotor set or manifold over the drive link.

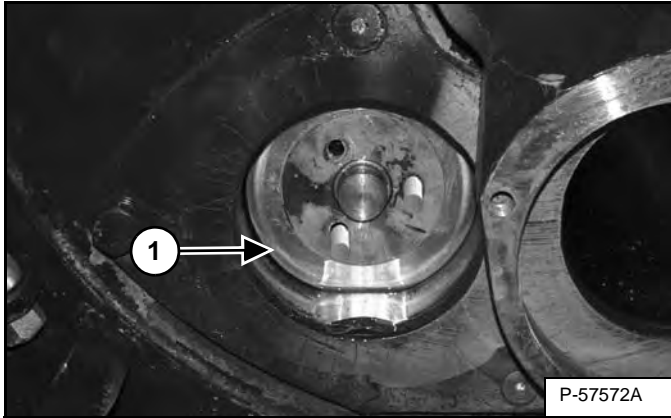
Install the assembled rotor set (Item 1) [Figure 20-50-40] onto wear plate with rotor counterbore and seal ring side down and the splines into mesh with the drive link splines.

**NOTE:** The rotor set rotor counterbore side must be down against wear plate for drive link clearance and to maintain the original rotor-drive link spline contact. A rotor set without a counterbore and that was not etched before disassembly can be reinstalled using the drive link spline pattern on the rotor splines if apparent, to determine which side was down. The rotor set seal ring groove faces toward the wear plate.

## PISTON CUP REPLACEMENT (CONT'D)

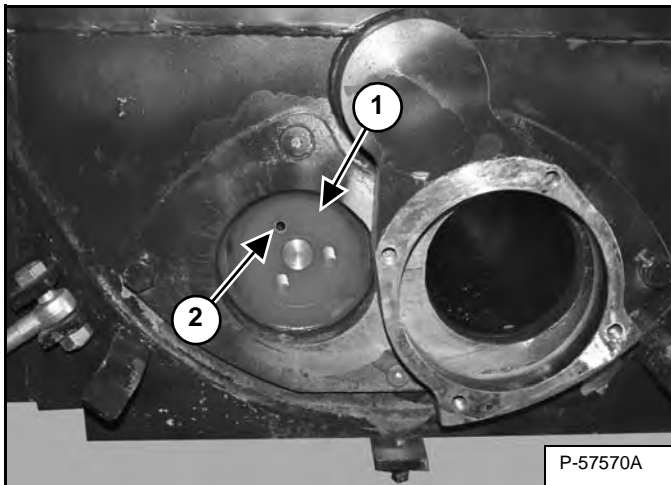
### Installation (Cont'd)

Figure 30-10-7



Install the bronze ring (Item 1) [Figure 30-10-7].

Figure 30-10-8



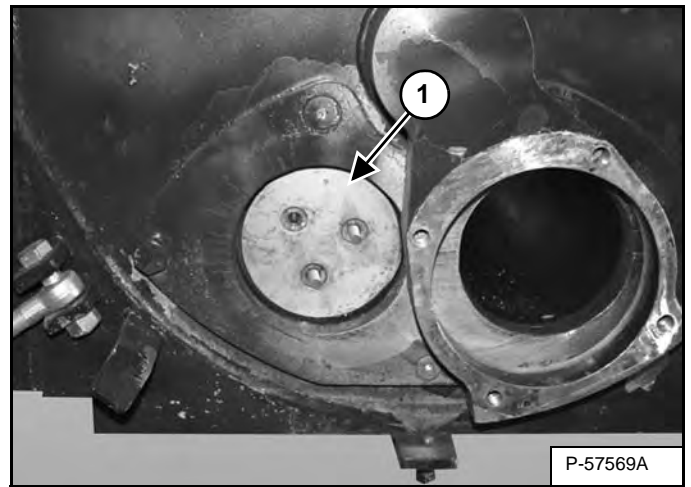
**NOTE:** Place a bead of silicone sealant on the front of the rubber piston cup.

**NOTE:** DO NOT get silicone on the side of the piston cup that faces the felt ring.

Install the piston cup (Item 1) and three bushings (Item 2) [Figure 30-10-8].

**NOTE:** Failure to install the 3 bushings in the piston cup will cause the cup to deform and will result in reduced service life.

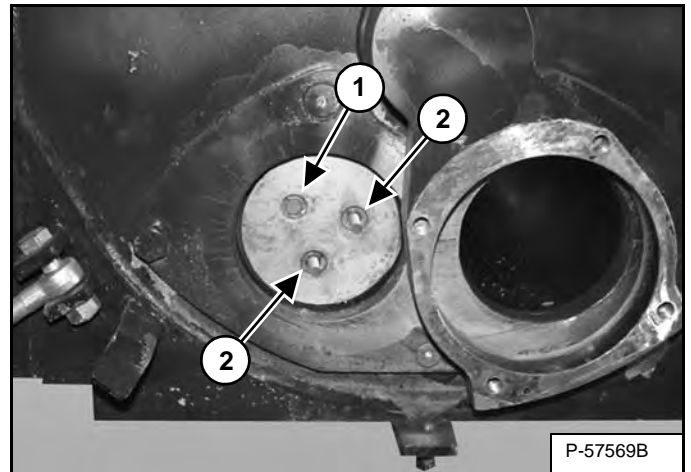
Figure 30-10-9



**NOTE:** Place a bead of silicone sealant on the rear of the face plate.

Install the face plate (Item 1) [Figure 30-10-9].

Figure 30-10-10



**NOTE:** Add a small amount of silicone to the threads of the three bolts before reinstalling them.

Install one bolt (Item 1) into the open bolt hole, then remove the alignment studs (Item 2) [Figure 30-10-10] and install the remaining bolts.

**Installation:** Tighten bolts to 74 N•m (55 ft-lb) torque.

Connect the hydraulic lines to the loader.

Start the loader and engage the auxiliary hydraulics. Cycle pump until the opposite piston in the fully discharged position at the end of the concrete cylinder.

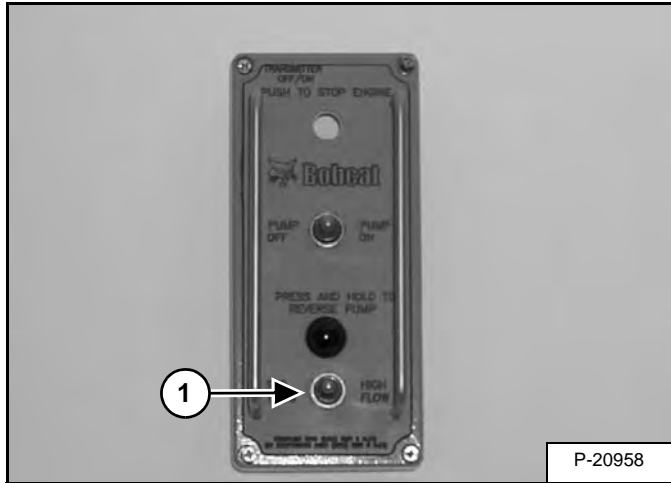
Repeat piston cup removal procedure.

Install hopper. (See Removal And Installation on Page 30-70-1.)

## REMOTE CONTROL (CONT'D)

### STD Flow / HIGH Flow Switch Removal And Installation

Figure 30-50-7



Remove wires from switch terminals.

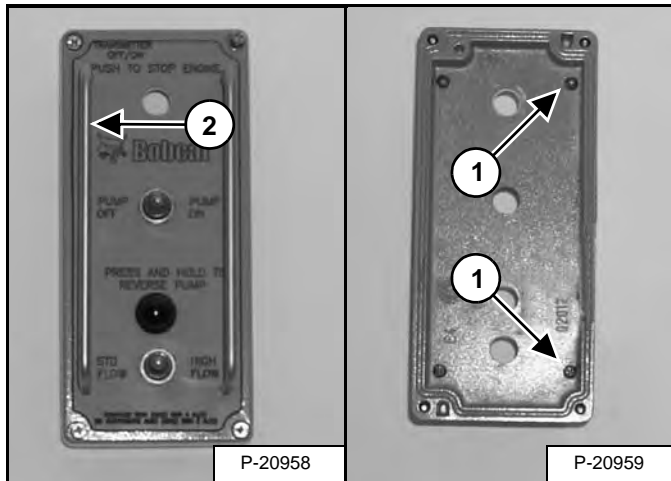
Remove switch nut (Item 1) [Figure 30-50-7].

Remove switch.

**Installation:** Replace switch, then connect wires to the proper switch terminals. Terminal No. 1 yellow, No. 2 blue (jumper from terminal No. 2 on Pump OFF / ON switch) and No. 3 green.

### Switch Guard Removal And Installation

Figure 30-50-8

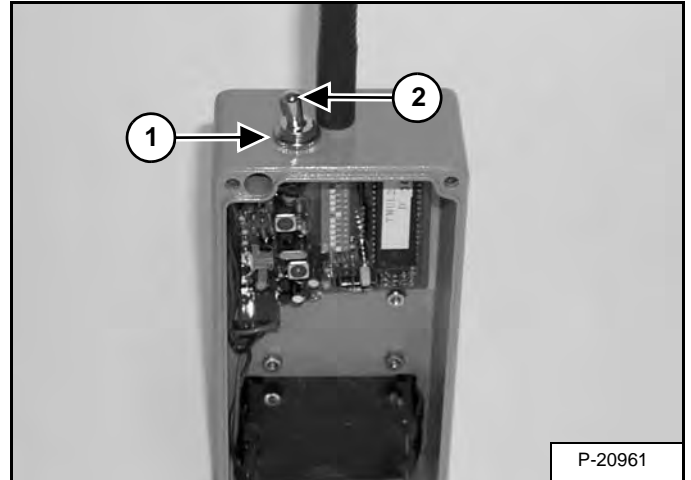


Remove the two screws (Item 1) [Figure 30-50-8].

Remove the switch guard (Item 2) [Figure 30-50-8].

## Power Switch Removal And Installation

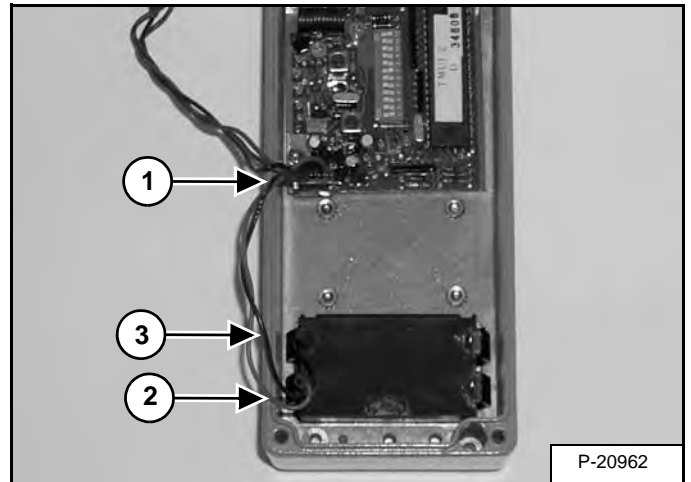
Figure 30-50-9



Remove switch nut (Item 1) [Figure 30-50-9].

Remove power switch (Item 2) [Figure 30-50-9].

Figure 30-50-10



Unplug power switch harness (Item 1) [Figure 30-50-10] from radio board.

Remove red (Item 2) and black (Item 3) [Figure 30-50-10] wires from battery compartment.

**Installation:** Replace switch and harness, then solder red and black wires to battery compartment.

## HOPPER (CONT'D)

### Alignment Procedure

# ! WARNING

### AVOID INJURY OR DEATH

Before cleaning, servicing or inspecting the Concrete Pump, stop the loader engine and disconnect the hydraulic hoses and electrical harnesses from the loader.

W-2366-0500

# ! WARNING

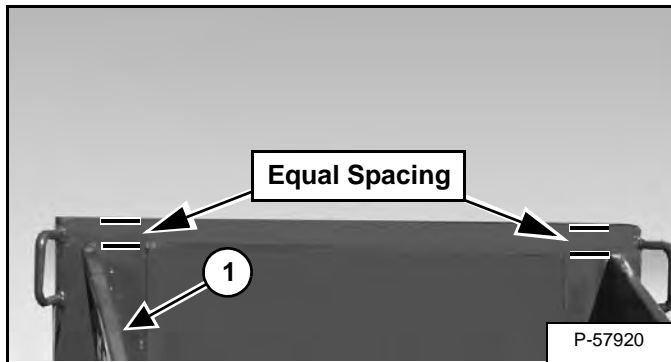
### AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

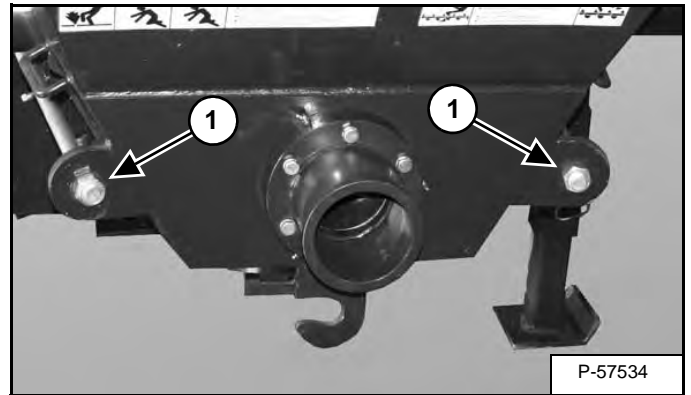
W-2019-0907

Figure 30-70-7



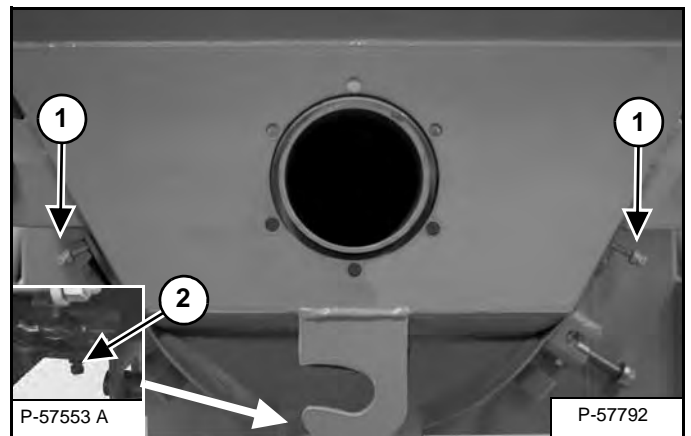
When installing and aligning the hopper, the spacing from the top of the hopper (Item 1) [Figure 30-70-7] to the top of the mounting frame should be equal.

Figure 30-70-8



Install the two tie rods (Item 1) [Figure 30-70-8] and nuts. The tie rods will hold the hopper during the alignment procedure.

Figure 30-70-9



Use the two side adjustment bolts (Item 1) [Figure 30-70-9] to move the hopper left or right.

Use the bottom adjustment bolt (Item 2) [Figure 30-70-9] to move the hopper up and down.

Adjust the hopper until it is centered on the swing valve outlet, then install and tighten the eyebolts.

Install hydraulic hoses and electrical connections to the loader.

Cycle the concrete pump until the swing valve is positioned over the opposite concrete tube.

Remove hydraulic hoses and electrical connections from the loader.

Check the alignment of the hopper. If the hopper moved during the swing valve operation, the eyebolts need to be loosened and removed. Loosen the tie rods.

**NOTE: Repeat the alignment procedure until the hopper stays centered on the swing valve outlet. It is very important that the swing valve and the hopper are aligned properly.**

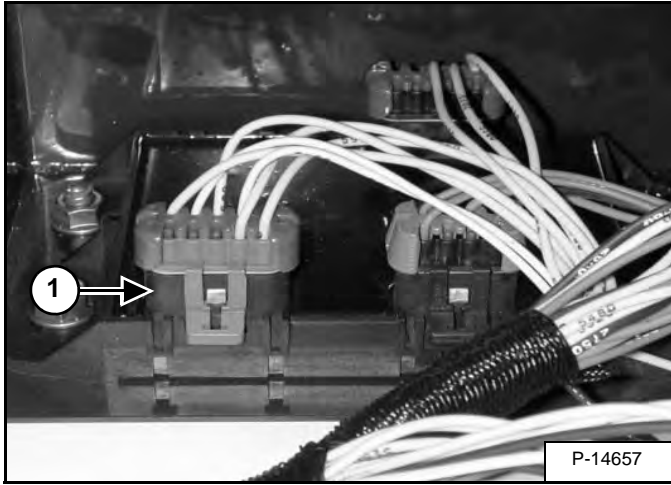
## ELECTRICAL SYSTEM

REMOTE ATTACHMENT CONTROL .....	40-10-1
Removal And Installation .....	40-10-1
Parts Identification .....	40-10-3
Key Switch Removal And Installation .....	40-10-4
Operation Light Removal And Installation .....	40-10-5
Hydraulic Pressure Release Switch Removal And Installation .....	40-10-5
High Flow / Std. Flow Switch Removal And Installation .....	40-10-6
Reverse Pump Switch Removal And Installation .....	40-10-6
Pump On / Pump Off Switch Removal And Installation .....	40-10-7
Hyd On / Off Switch Removal And Installation .....	40-10-7
Engine Stop Switch Removal And Installation .....	40-10-8
Controller Removal And Installation .....	40-10-9
Magnetic Switches Removal And Installation .....	40-10-10
SWING VALVE PROXIMITY SENSORS .....	40-20-1
Removal And Installation .....	40-20-1
Adjusting Proximity Sensors .....	40-20-1

## REMOTE ATTACHMENT CONTROL (CONT'D)

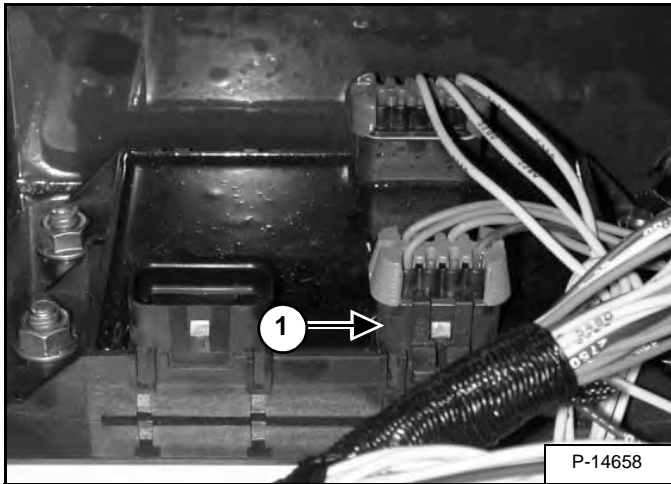
### Controller Removal And Installation

Figure 40-10-31



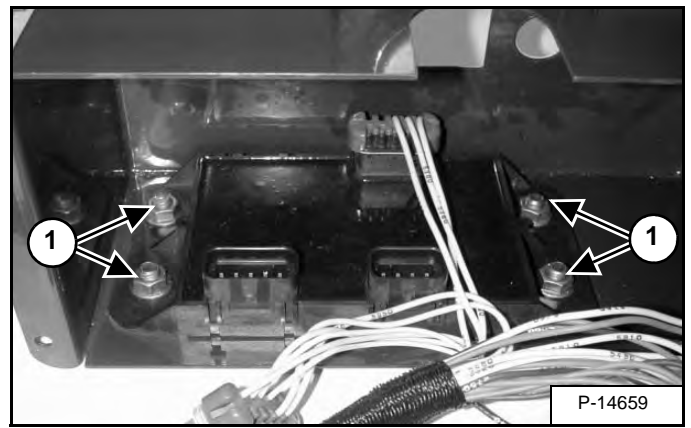
Disconnect the connector (Item 1) [Figure 40-10-31] from the controller. The connector includes wires #5550, 5700, 5600, 5650, 5900 and 5950.

Figure 40-10-32



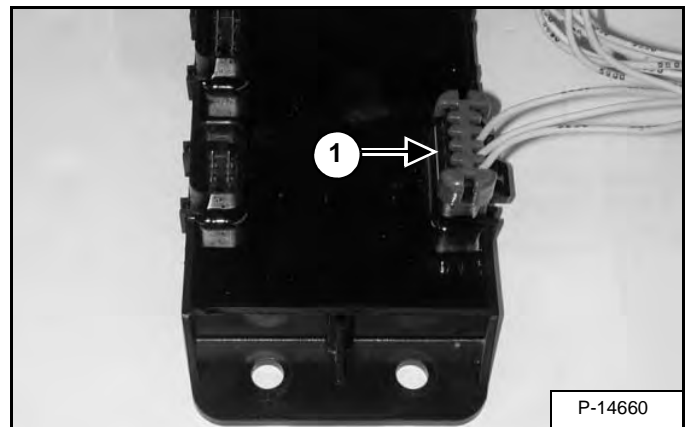
Disconnect the connector (Item 1) [Figure 40-10-32] from the controller. The connector includes wires #2720, 1720, 9510 and 9610.

Figure 40-10-33



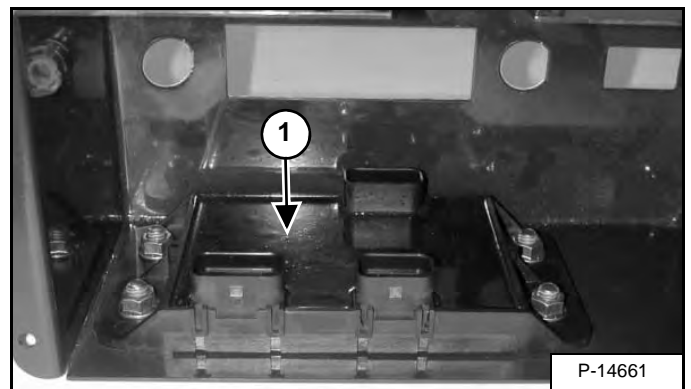
Remove the four mounting bolts (Item 1) [Figure 40-10-33] attaching the controller to the RAC box. Remove the controller and wire harness from the RAC box.

Figure 40-10-34



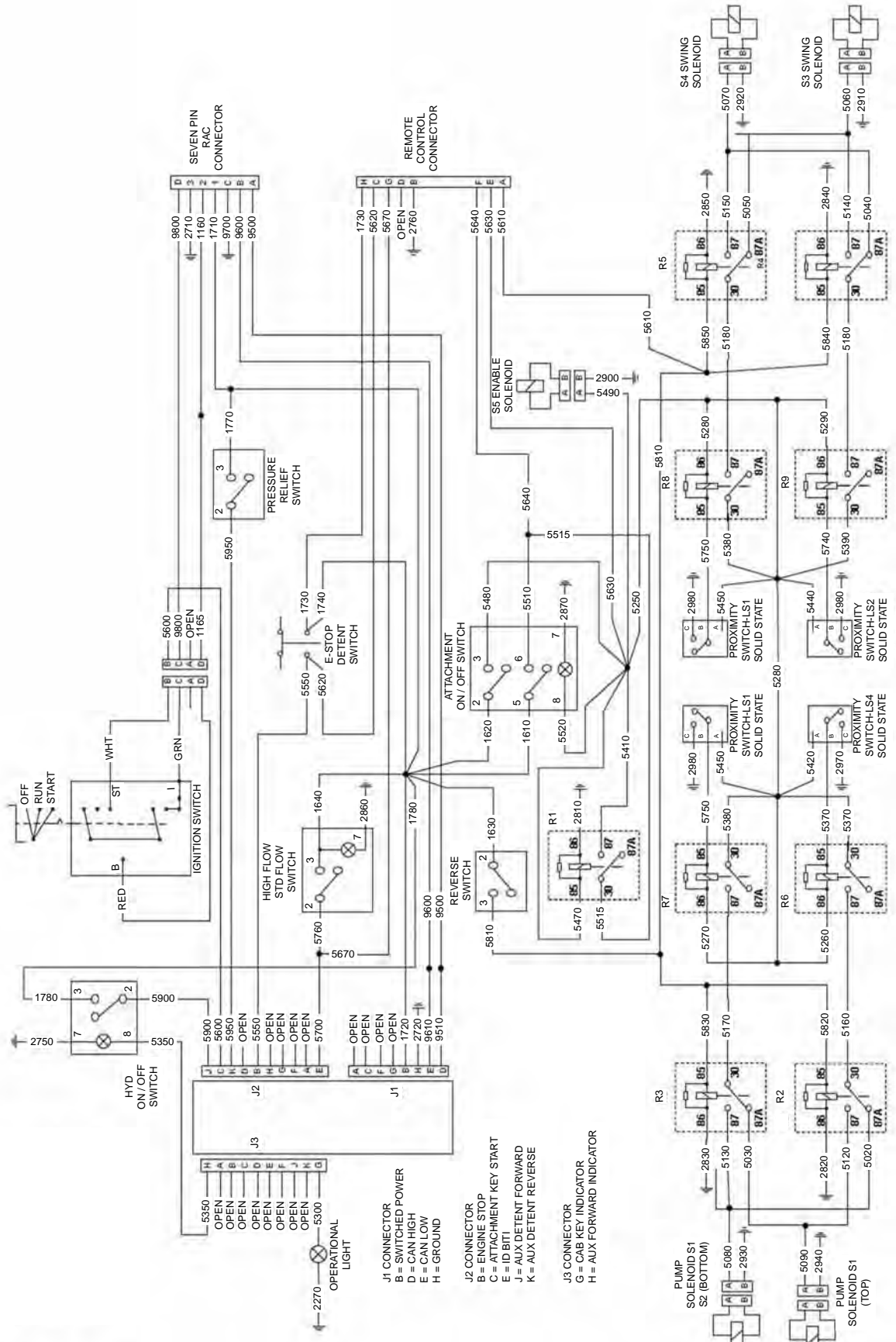
Disconnect the connector (Item 1) [Figure 40-10-34] from the controller. The connector includes wires #5250, 5300 and 5350.

Figure 40-10-35



**Installation:** For easier access, first install the controller (Item 1) [Figure 40-10-35] without the connector installed.

# ELECTRICAL SCHEMATIC



- J1 CONNECTOR  
B = SWITCHED POWER  
D = CAN HIGH  
E = CAN LOW  
H = GROUND
- J2 CONNECTOR  
B = ENGINE STOP  
C = ATTACHMENT KEY START  
E = ID BIT  
J = AUX DETENT FORWARD  
K = AUX DETENT REVERSE
- J3 CONNECTOR  
G = CAB KEY INDICATOR  
H = AUX FORWARD INDICATOR

NA7387

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