

## TANDEM (HYDROSTATIC) PUMP

### Removal

#### STEP 1

Remove the cap from the hydraulic reservoir.

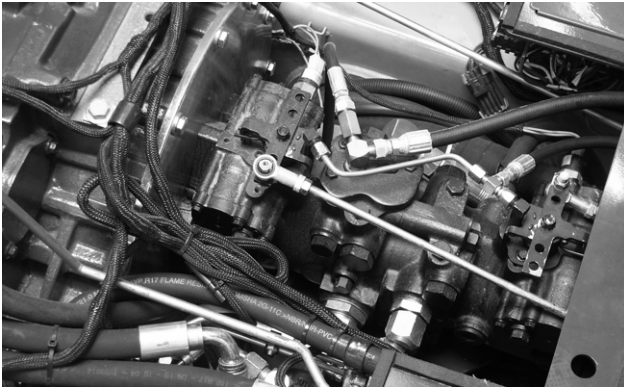
#### STEP 2

Connect a vacuum pump to the hydraulic reservoir.

#### STEP 3

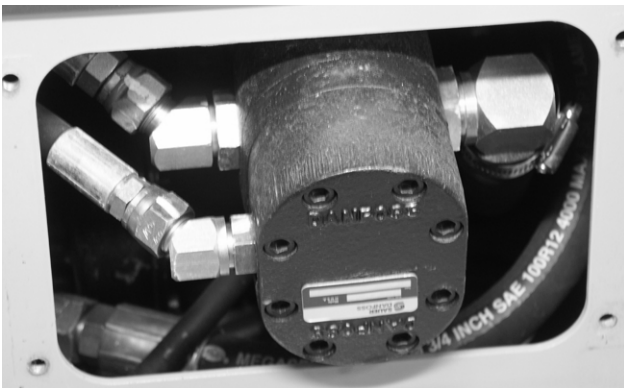
Start the vacuum pump.

#### STEP 4



Tag and disconnect all hoses from the tandem pump. Install plugs in the hoses and caps on the fittings.

#### STEP 5



Remove the access plate for the gear pump. Tag and disconnect all hoses from the gear pump. Install plugs in the hoses and caps on the fittings.

#### STEP 6

Stop the vacuum pump.

#### STEP 7

Disconnect all the electrical connections from the tandem pump.

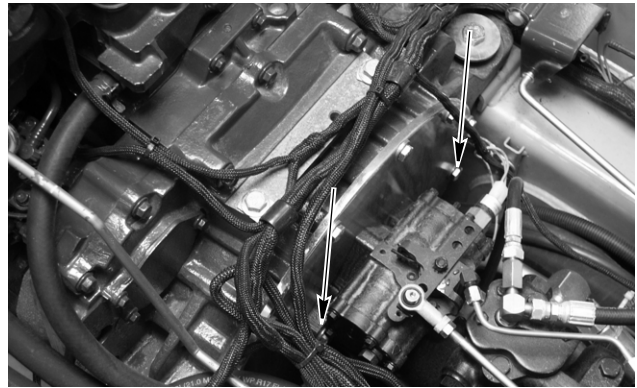
#### STEP 8

Remove the nuts, washers, and control linkages from the tandem pump.

#### STEP 9

Connect acceptable lifting equipment to the tandem pump.

#### STEP 10



Remove the bolts and washers from the tandem pump mounting flange.

#### STEP 11

Move the tandem pump away from the engine.

#### STEP 12

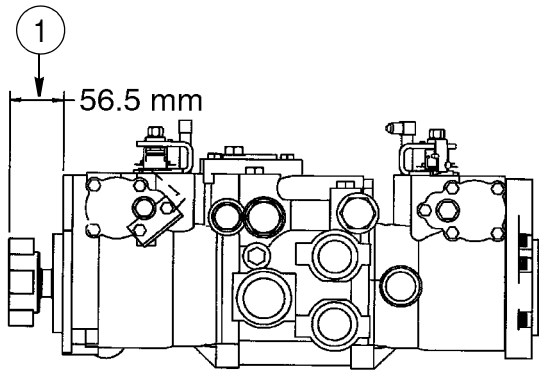
Remove the tandem pump from the machine.

## Installation

### STEP 1

If the pump drive coupler hub was removed from the tandem pump input shaft, install the pump drive coupler hub onto the tandem pump input shaft. See illustration on page 7

### STEP 2



1. DIMENSION FROM PUMP FLANGE TO OUTER HUB FACE (56.5 MM)

The outer face of the pump drive coupler hub should extend 56.5 MM (2.23 inches) from the pump mounting flange as shown in the illustration above. Tighten the pump drive coupler hub set screws to a torque of 50 to 54 Nm (37 to 40 pound - feet).

### STEP 3

Connect acceptable lifting equipment to the tandem pump. Use the lifting equipment and move the tandem pump into the mounting location.

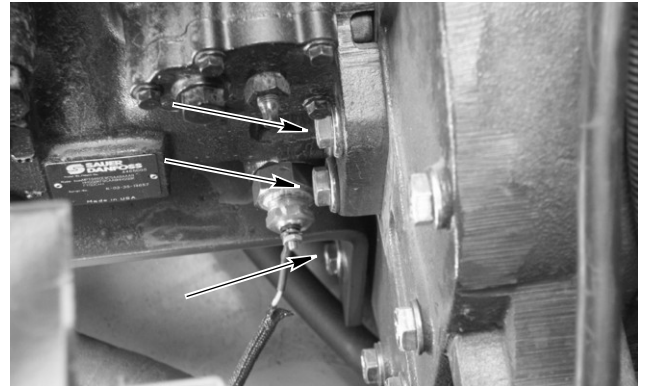
### STEP 4

Move the tandem pump towards the engine. Engage the splines of the pump drive coupler hub with the splines in the pump drive flange.

### STEP 5

Apply Loctite No. 243 to the threads of all the bolts except for the 2 bottom support mounting bolts.

### STEP 6



BD04C029

Install the 4 tandem pump mounting bolts and washers into the tandem pump mounting flange and the 4 mounting bolts and washers in the pump support bracket. Tighten the mounting bolts using the following sequence.

- A. Tighten the 4 pump flange to engine adapter bolts to a torque of 122 Nm (90 pound-feet).
- B. Tighten the 2 lower pump support bracket to engine adapter bolts to a torque of 4 Nm (35 pound-inches).
- C. Use a soft faced hammer and tap the pump support bracket until it contacts the pump mounting surface.
- D. Tighten the 2 upper pump support bracket to engine adapter bolts to a torque of 122 Nm (90 pound-feet).
- E. Tighten the 2 lower pump support bracket to engine adapter bolts to a torque of 95 Nm (70 pound-feet).
- F. Tighten the pump support to tandem pump bolts to a torque of 122 Nm (90 pound-feet).

### STEP 7

Connect all the electrical connections to the tandem pump

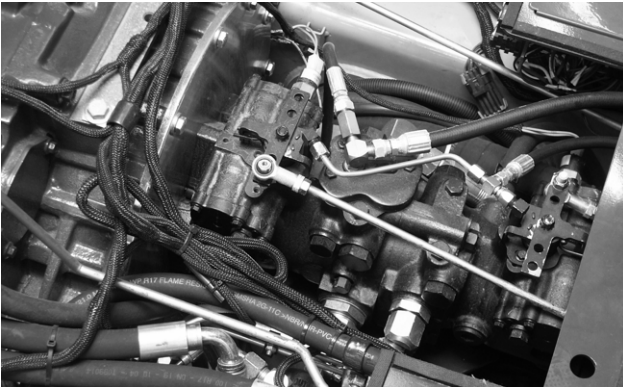
### STEP 8

Install the control linkages washers, and nuts to the tandem pump.

### STEP 9

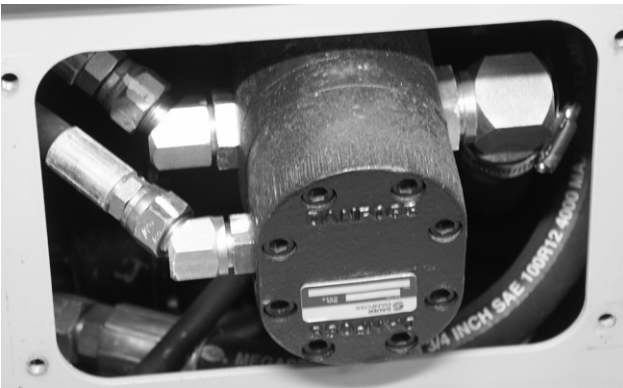
Start the vacuum pump.

## STEP 10



Remove the caps from the fittings and plugs from the hoses. Connect and tighten all of the hoses to the fittings on the tandem pump.

## STEP 11



Remove the plugs from the hoses and caps from the fittings. Connect and tighten all hoses to the fittings on the gear pump. Install the access plate for the gear pump. Install and tighten the mounting bolts for the access cover.

## STEP 12

Stop the vacuum pump. Disconnect the vacuum pump from the hydraulic reservoir. Install the cap on the reservoir.

## STEP 13

Clean up any hydraulic fluid from equipment or floor.

## STEP 14

Start and run the engine at low idle for 2 to 5 minutes and check for any leaks.

## STEP 15

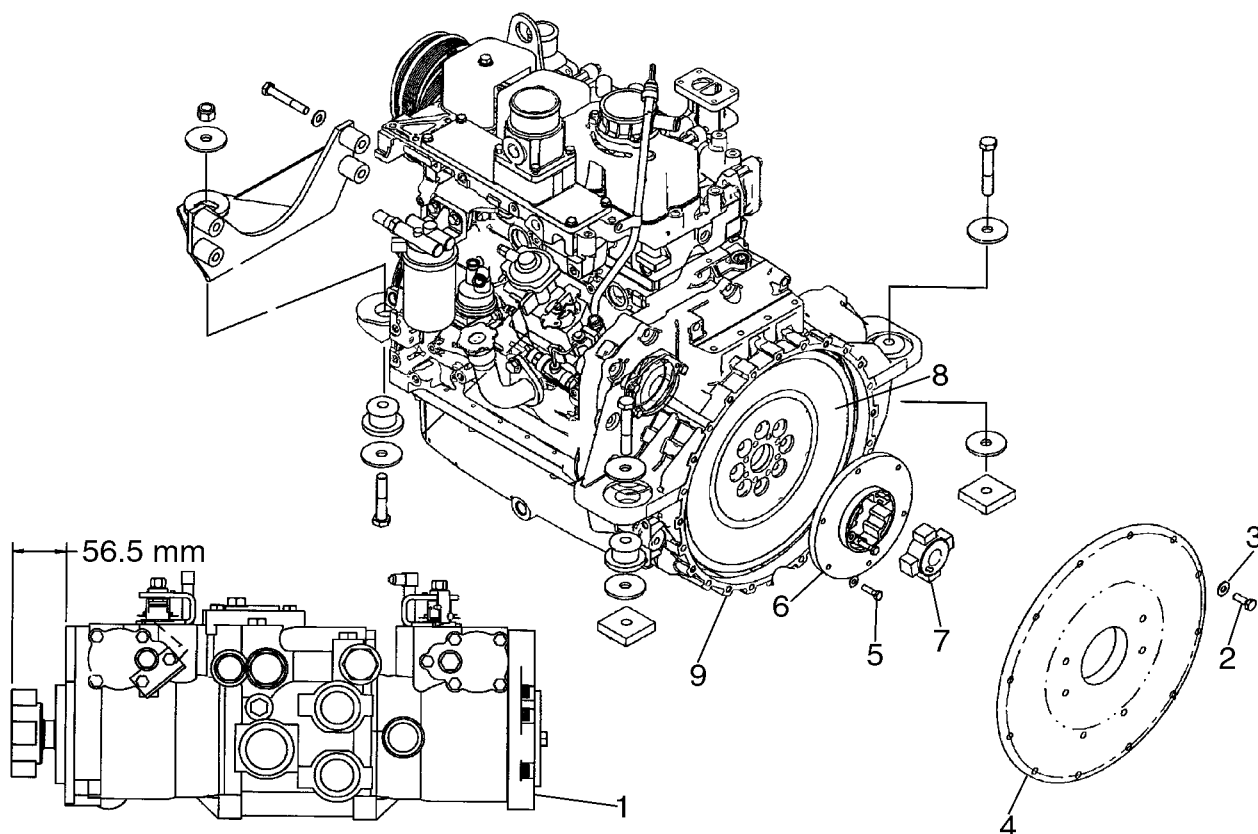
Stop the engine.

## STEP 16

Check the level of the oil in the hydraulic reservoir. Add hydraulic oil as required. See Section 1001 for the correct hydraulic oil specifications.

## STEP 17

Install the cap on the hydraulic reservoir.



1. TANDEM PUMP

2. BOLT

3. WASHER

4. PUMP MOUNTING PLATE

5. CAP SCREW

6. PUMP DRIVE FLANGE

7. PUMP DRIVE COUPLER HUB

8. FLYWHEEL

9. HOUSING

10. WASHER

11. DIMENSION FROM PUMP FLANGE TO HUB FACE

BS04E022

**DRIVE COUPLING INSTALLATION**

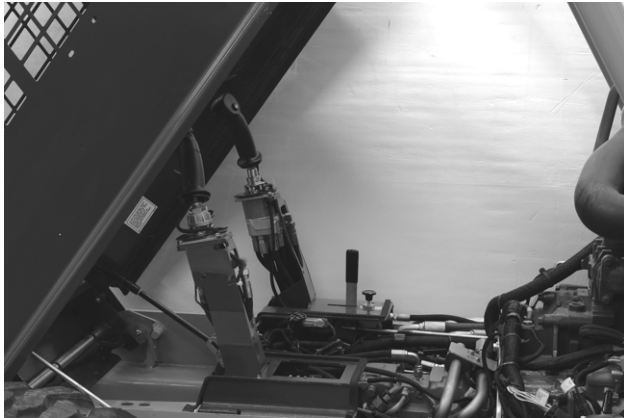
## TANDEM PUMP (MACHINES EQUIPPED WITH PILOT CONTROLS)

### Removal

#### STEP 1

Remove any attachments from the loader lift arms.

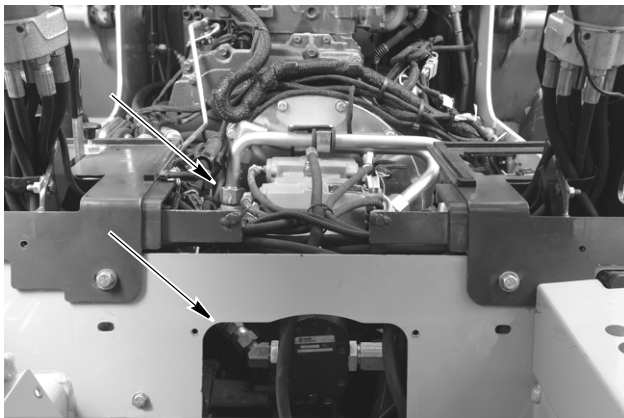
#### STEP 2



BD06N001

Refer to the operators manual for the correct procedure and tilt the ROPS to gain access to the hydrostatic and equipment pump area.

#### STEP 3



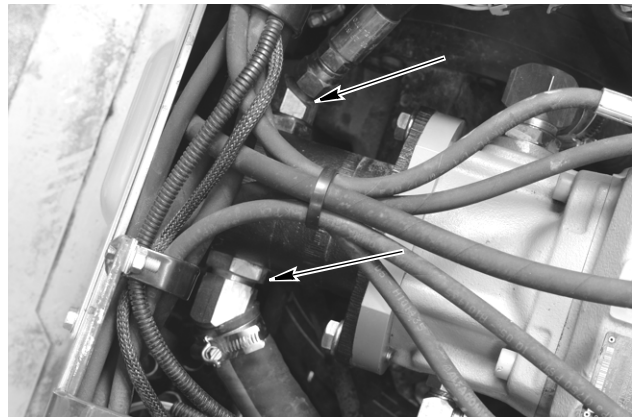
BD06N030

Remove the cover plates to gain access to the hydrostatic and equipment pump areas.

#### STEP 4

Connect a vacuum pump to the hydraulic reservoir. Start the vacuum pump.

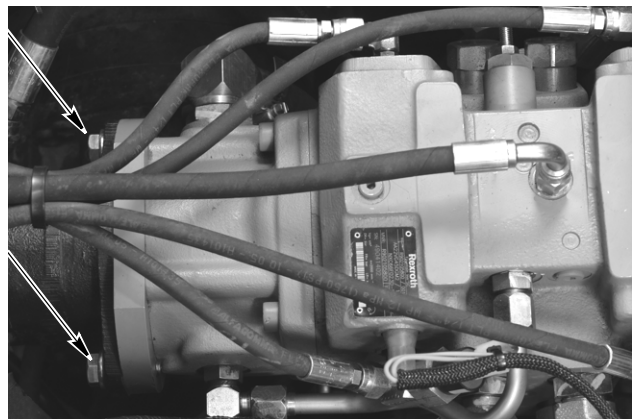
#### STEP 5



BD06N024

Disconnect and tag all the hoses from the equipment pump. Install caps and plugs on all fittings and hoses.

#### STEP 6

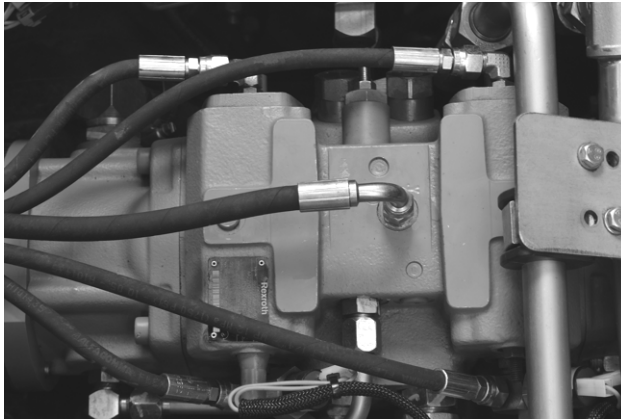


BD06N032

**NOTE:** Support the equipment pump while removing the mount bolts as not to damage the drive coupling. Loosen and remove the mount bolts from the equipment pump.

#### STEP 7

Remove the equipment pump from the hydrostatic pump.

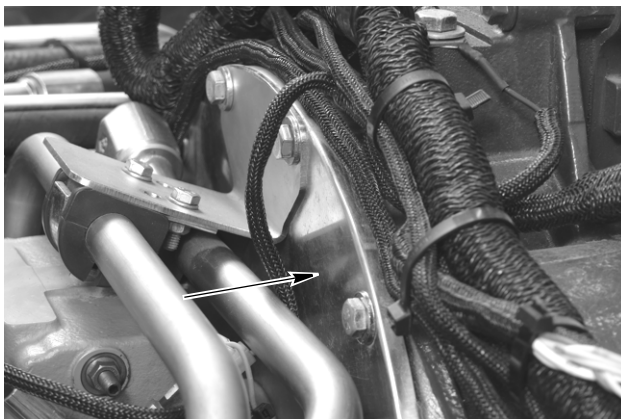
**STEP 8**

BD06N023

Disconnect and tag all the hoses from the hydrostatic pump. Install caps and plugs on all fittings and hoses.

**STEP 9**

Disconnect all electrical connections from the hydrostatic pump.

**STEP 10**

BD06N036

Disconnect and tag all hoses necessary to allow the removal of the hydrostatic pump mounting plate. Install caps and plugs on all fittings and hoses.

**STEP 11**

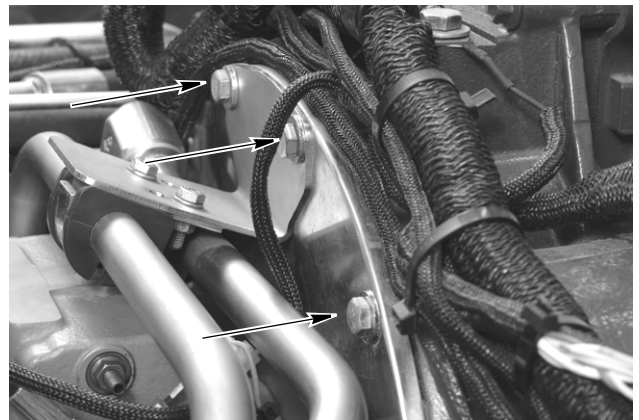
Stop the vacuum pump.

**STEP 12**

Disconnect and tag all electrical connections necessary to allow the removal of the hydrostatic pump mounting plate.

**STEP 13**

Connect acceptable lifting equipment to the hydrostatic pump.

**STEP 14**

BD06N036

Loosen and remove the pump mounting plate mounting bolts.

**STEP 15**

Move the hydrostatic pump along with the pump mounting plate away from the engine as far as possible.

**STEP 16**

Use the lifting equipment to remove the hydrostatic pump from the machine.

**STEP 17**

Loosen and remove the hydrostatic pump mount bolts, washers and nuts from the pump mounting plate.

**STEP 18**

Loosen and remove the hydrostatic pump mount bolts, washers and nuts from the pump mounting plate.

**STEP 19**

Remove the hydrostatic pump from the pump mounting plate.