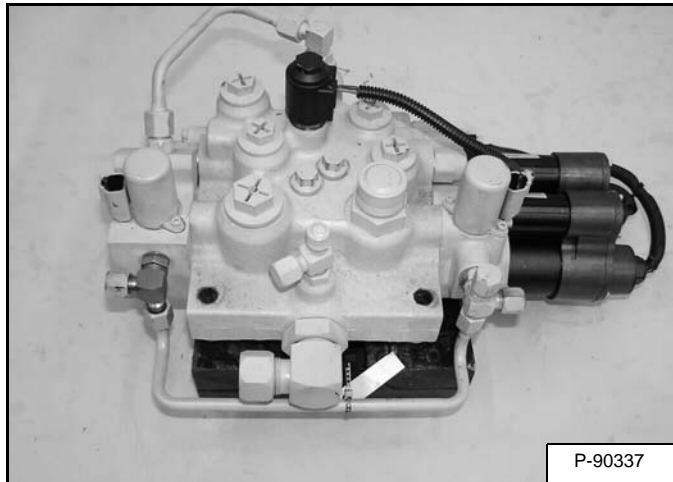


## HYDRAULIC CONTROL VALVE (ACS) OR (SJC)

### Description

Figure 20-41-1



The hydraulic control valve is located inside the main frame on the right hand side, below the operator's cab.

The hydraulic control valve is the hydraulic component that uses spools to direct the flow of hydraulic fluid to the lift, tilt and auxiliary functions.

The lift and tilt functions in the hydraulic control valve are operated using electronic control handles / levers that send an electronic signal to the electronic actuators to move the lift and tilt spools in the control valve.

The auxiliary function is operated by pilot pressure. There is one solenoid located by each side of the spool. Only one solenoid at a time is activated by the switch on the right side control handles / levers. The activated solenoid sends pilot pressure oil to one side of the spool and forces the spool to shift.

The hydraulic control valve also contains a main relief valve which is adjustable.

## Removal And Installation



# DANGER



P-90328

### AVOID DEATH

- Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.
- Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged.

D-1009-0409



# WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

W-2059-0598

# 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

## HYDRAULIC CONTROL VALVE (ACS) OR (SJC) (CONT'D)

### Removal And Installation (Cont'd)

Raise the lift arms and install an approved lift arm support device. (See LIFT ARM SUPPORT DEVICE on Page 10-20-1.)

Raise the operator cab. (See Raising on Page 10-30-2.)

Drain the hydraulic reservoir. (See Removing And Replacing Hydraulic Fluid on Page 10-120-2.)

Remove the control panel. (See Removal And Installation on Page 50-100-2.)

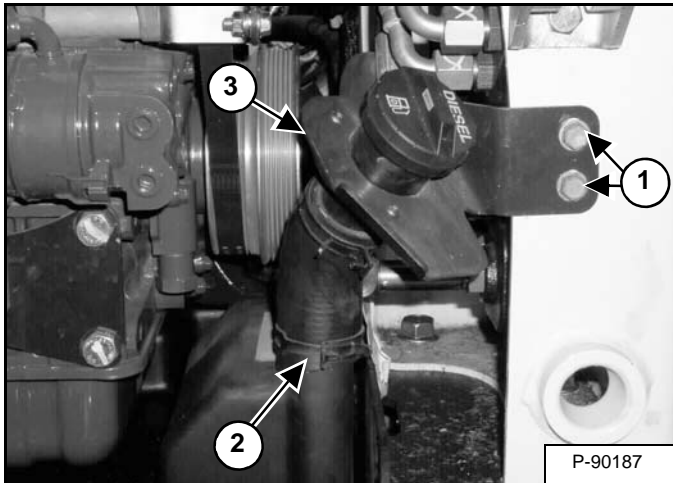
**NOTE: Mark all tubelines, hoses, and electrical connections for correct installation.**

**NOTE: Cap and plug all hydraulic connection points when tubelines or hoses are removed.**

Clean area around control valve.

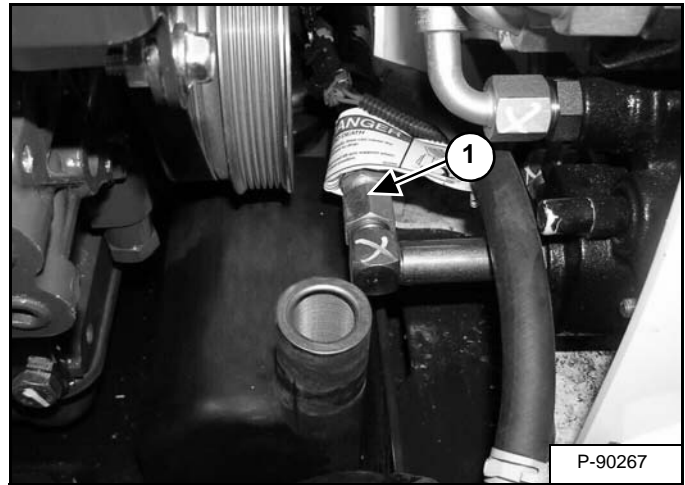
Open rear door.

### Figure 20-41-2



Remove the two bolts (Item 1), move the hose clamp (Item 2) to the middle of the hose, and place the fuel inlet assembly (Item 3) [Figure 20-41-2] off to the side.

### Figure 20-41-3

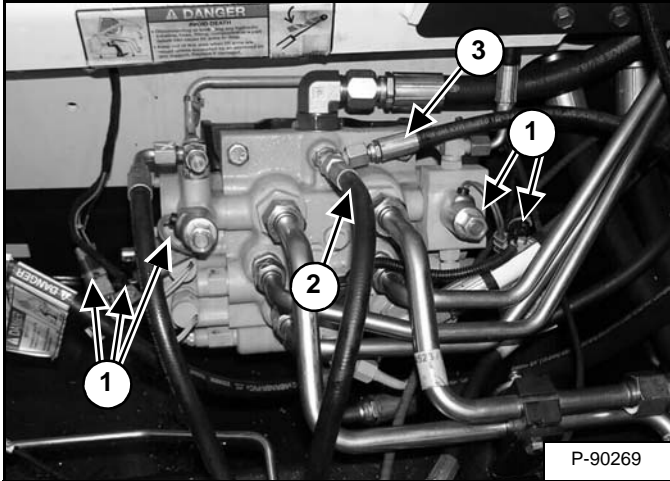


The fixed end main valve hose assembly is connected to a fixed end fitting on the control valve. The hose is routed to the junction block at the rear of the loader where it feeds the base end of both lift cylinders. The hose can only be removed by first removing it from the fitting (Item 1) [Figure 20-41-3].

## HYDRAULIC CONTROL VALVE (ACS) OR (SJC) (CONT'D)

### Removal And Installation (Cont'd)

Figure 20-41-4

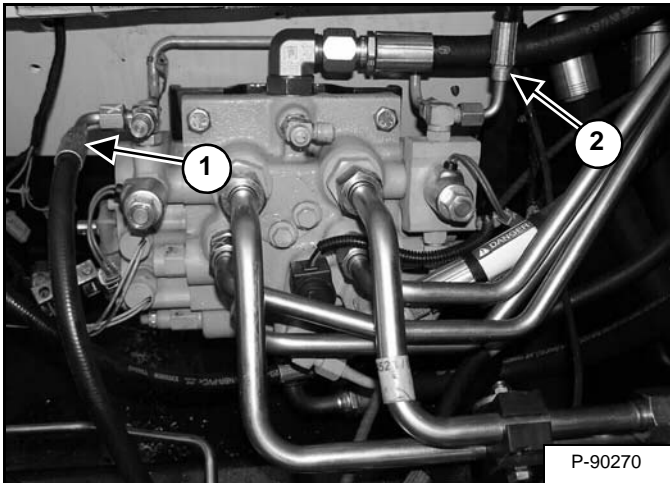


Disconnect the wire harness connectors (Item 1) [Figure 20-41-4] from the control valve.

Disconnect the hose (Item 2) [Figure 20-41-4] that routes from the control valve to the drain manifold.

Disconnect the hose (Item 3) [Figure 20-41-4] that routes from the control valve to the inlet fitting of the hydraulic pump.

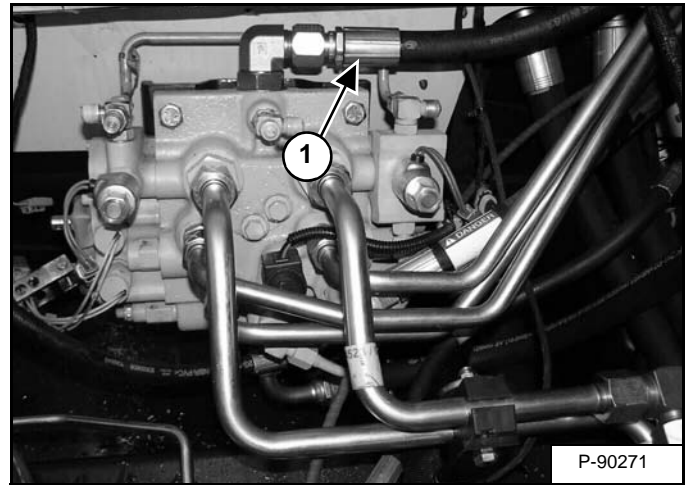
Figure 20-41-5



Disconnect the hose (Item 1) [Figure 20-41-5] that routes from the control valve to the brake valve.

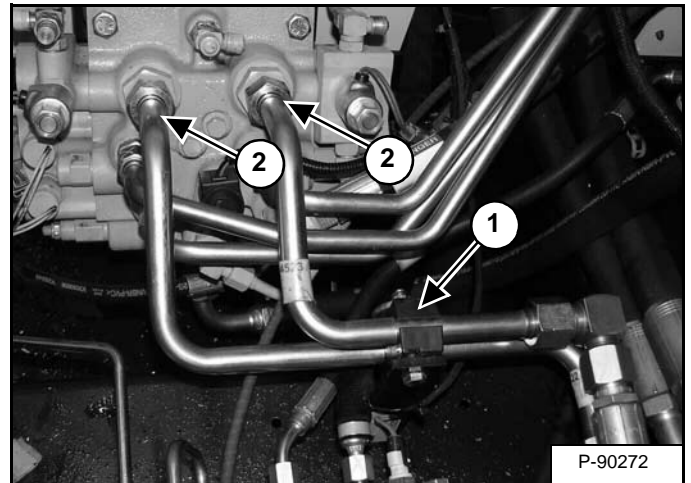
Disconnect the hose (Item 2) [Figure 20-41-5] that routes from the control valve to the fan motor.

Figure 20-41-6



Disconnect the hose (Item 1) [Figure 20-41-6] that routes from the top of the control valve to the hydraulic filter.

Figure 20-41-7



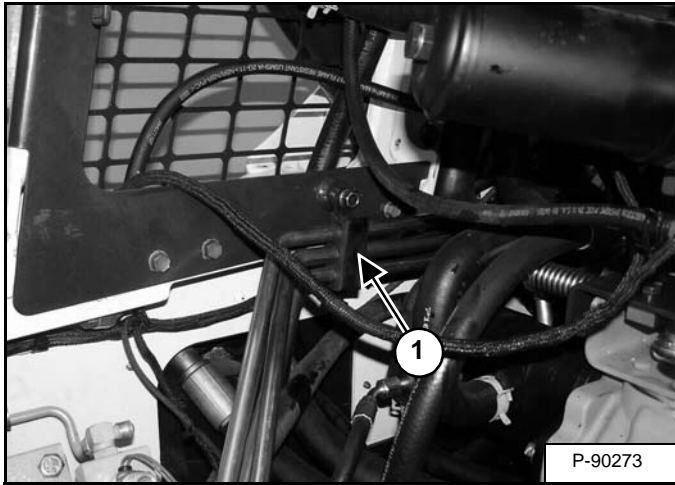
Remove the tubeline clamp (Item 1) [Figure 20-41-7].

Disconnect the two tubelines (Item 2) [Figure 20-41-7] that route from the control valve to the front auxiliary hydraulics.

## HYDRAULIC CONTROL VALVE (ACS) OR (SJC) (CONT'D)

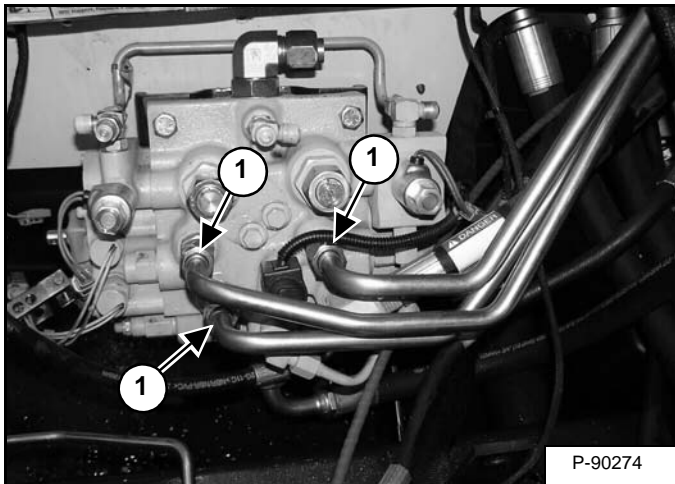
### Removal And Installation (Cont'd)

Figure 20-41-8



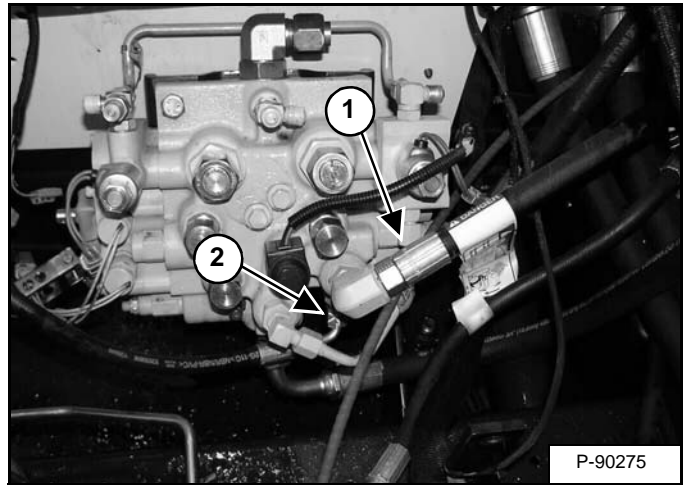
Remove the tubeline clamp (Item 1) [Figure 20-41-8].

Figure 20-41-9



Disconnect the three tubelines (Item 1) [Figure 20-41-9] that route from the control valve to the junction block at the rear of the loader.

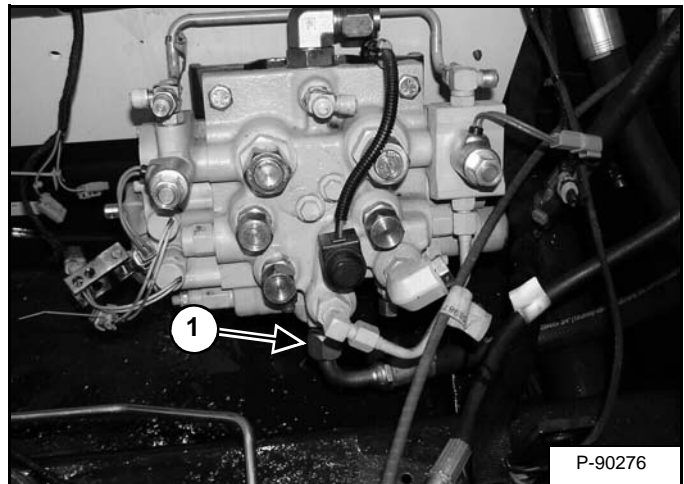
Figure 20-41-10



Disconnect the hose (Item 1) [Figure 20-41-10] that routes from the control valve to the junction block at the rear of the machine.

Disconnect the lift arm bypass drain hose (Item 2) [Figure 20-41-10] from the control valve.

Figure 20-41-11

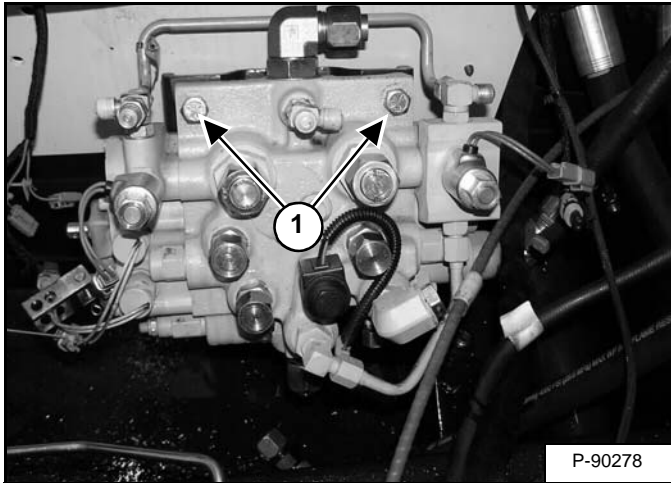


Disconnect the hose (Item 1) [Figure 20-41-11] that routes from the bottom of the control valve to the outlet fitting of the hydraulic pump.

## HYDRAULIC CONTROL VALVE (ACS) OR (SJC) (CONT'D)

### Removal And Installation (Cont'd)

Figure 20-41-12



Support the control valve and remove the two bolts and nuts (Item 1) [Figure 20-41-12].

Remove the control valve from the loader.

## Actuator Removal And Installation (In Loader)

### **WARNING**

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

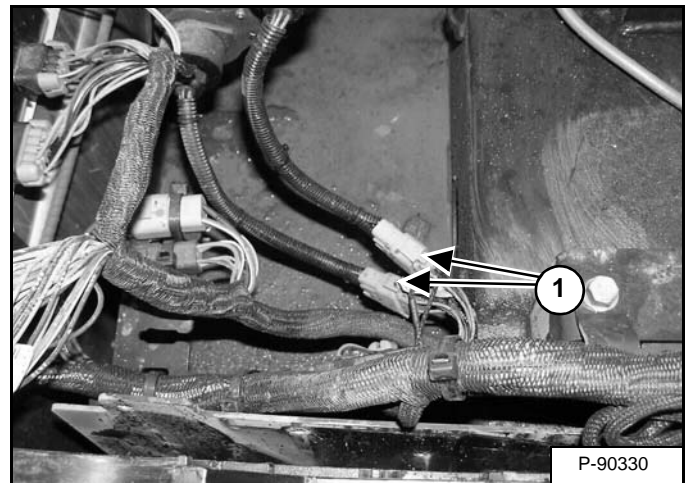
W-2059-0598

Raise the lift arms and install an approved lift arm support device. (See Installing on Page 10-20-1.)

Stop the engine. Raise the seat bar.

Mark the actuator wiring harness connectors for proper installation.

Figure 20-41-13



Unplug the actuator connectors (Item 1) [Figure 20-41-13] from the loader harness.