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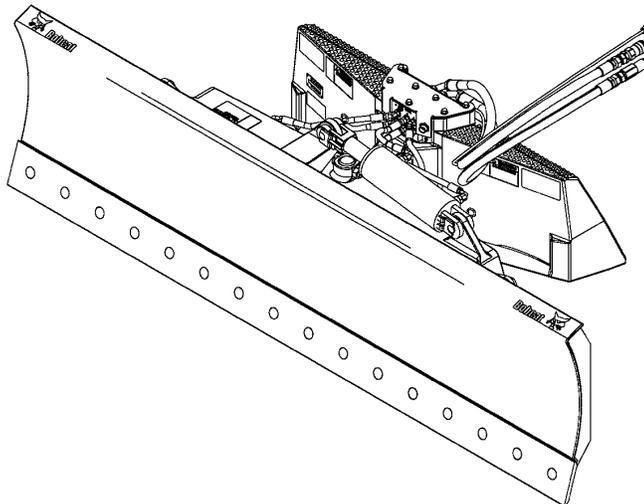


Bobcat®

**Dozer
96 Inch**

Service Manual

(96 Inch) S/N 224400101 & Above



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**SAFETY AND
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**MAIN
FRAME**

**SPECIFICATIONS
AND
SCHEMATICS**

CALIFORNIA

PROPOSITION 65 WARNING

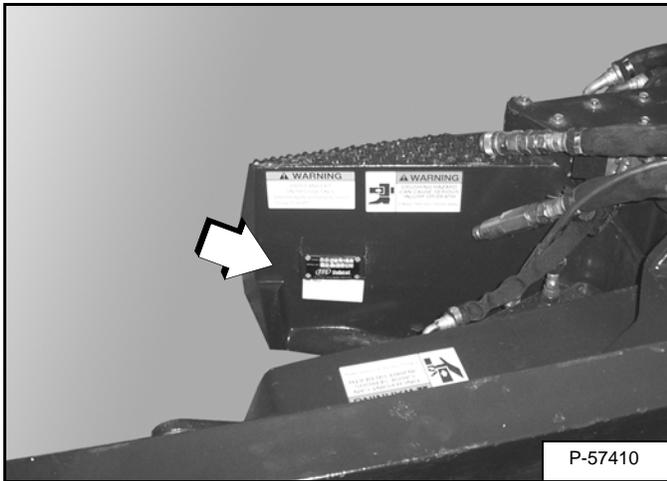
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.



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SERIAL NUMBER LOCATION

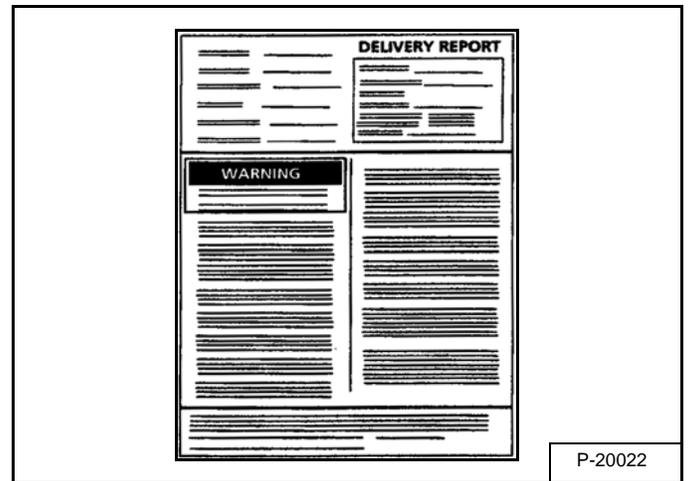
Figure 1



Always use the serial number of the Dozer when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation [Figure 1].

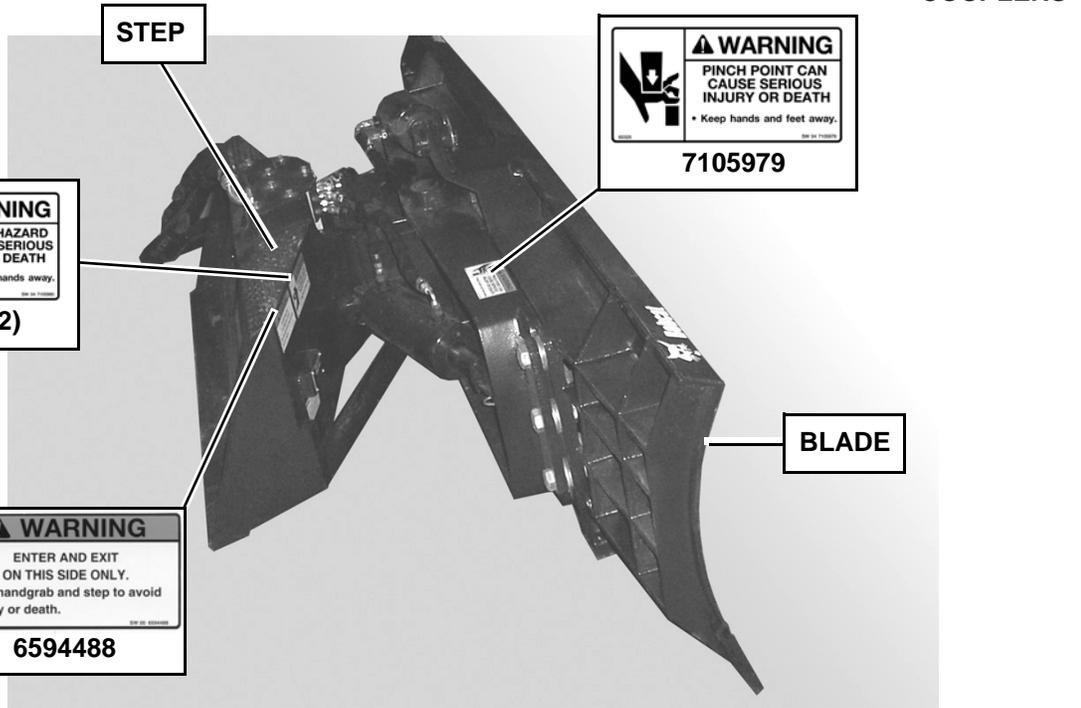
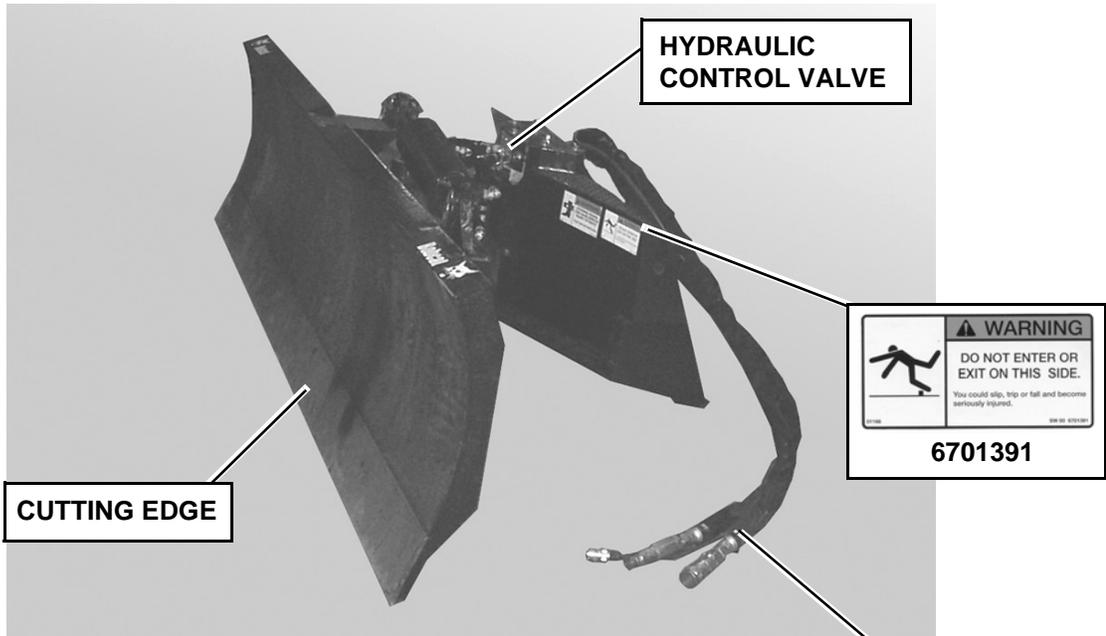
ATTACHMENT DELIVERY REPORT

Figure 2



The Attachment Delivery Report must be filled out by the dealer and signed by the owner or operator when the Dozer is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely [Figure 2].

IDENTIFICATION AND MACHINE SIGNS (DECALS)



P-57411
P-57412

SAFETY AND MAINTENANCE

SAFETY AND MAINTENANCE

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TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Dozer does not mount properly on the Bob-Tach.	Bob-Tach wedges are not fully retracted before installation.	Retract Bob-Tach wedges before installation.
	Mud, dirt or stones are lodged between the Bob-Tach and the Dozer mount.	Remove debris between Bob-Tach and Dozer mount.
Dozer does not rotate or oscillate.	No hydraulic flow.	Activate loader front auxiliary hydraulics.
		Check quick couplers connection. Check for damaged hose ends and fittings.
	Electrical harness not installed.	Install electrical harness from the Dozer to the loader.
	No electrical current flow through harness.	Check Dozer electrical harness for damage to connector or harness.



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INSPECTION

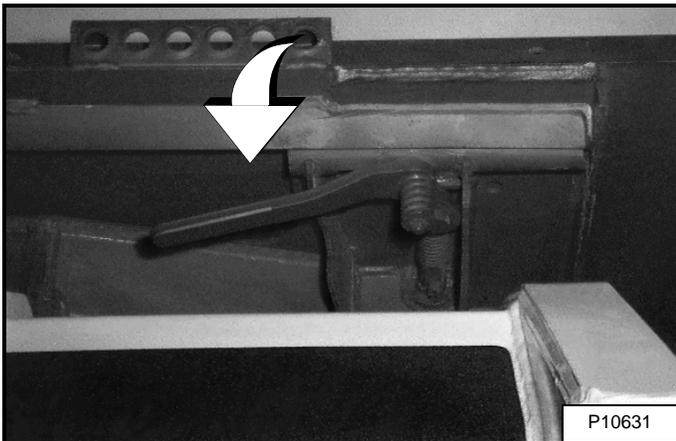
Hand Lever Bob-Tach Inspection



Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

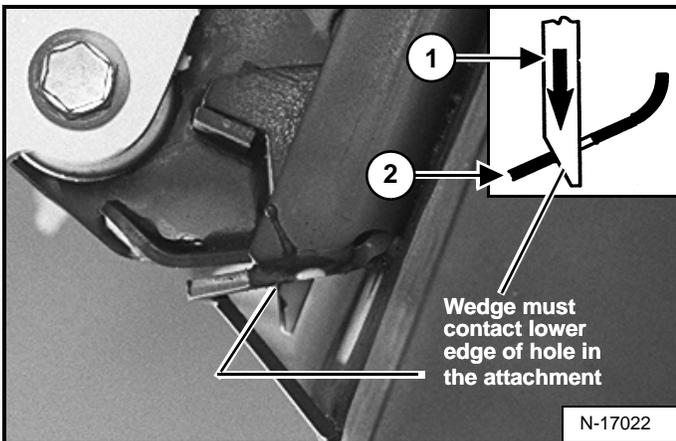
W-2102-0497

Figure 10-20-1



Move the Bob-Tach levers down to engage the wedges [Figure 10-20-1]. The levers and wedges must move freely.

Figure 10-20-2

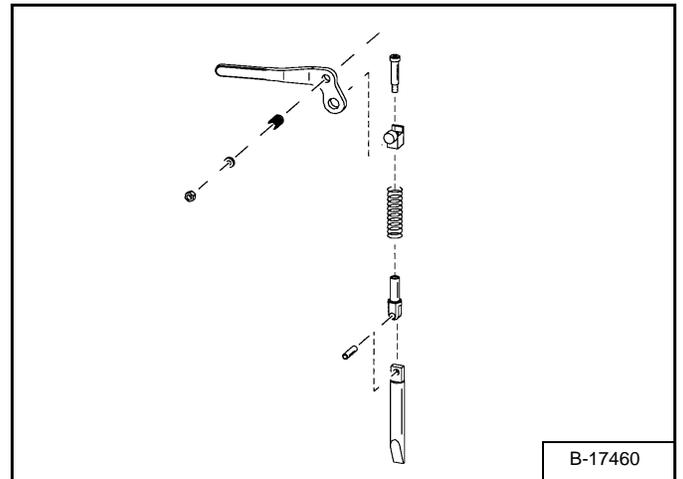


The wedges must extend through the holes in the attachment mounting frame (Item 2) [Figure 10-20-2].

The spring loaded wedge (Item 1) must contact the lower edge of the hole in the attachment (Item 2) [Figure 10-20-2].

If the wedge does not contact the lower edge of the hole the attachment will be loose and can come off the Bob-Tach.

Figure 10-20-3



Inspect the mounting frame on the attachment and the Bob-Tach, linkages and wedges for excessive wear or damage. Replace any parts that are damaged, bent, or missing [Figure 10-20-3]. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See the correct Loader Operation & Maintenance Manual for *LUBRICATION OF THE BOBCAT MACHINE*.)

INSPECTION (CONT'D)

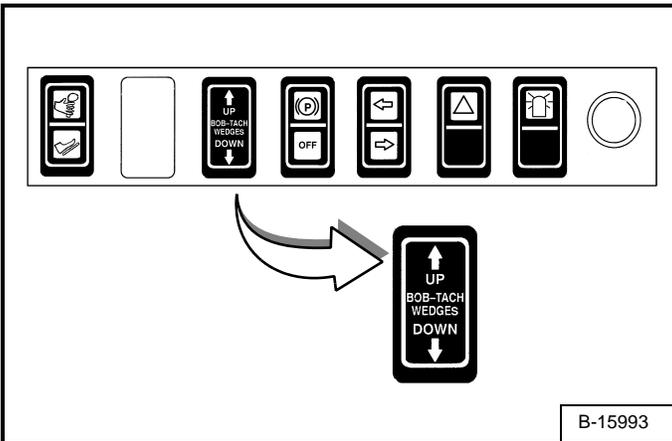
Power Bob-Tach Inspection

! WARNING

Bob-Tach wedges must extend through the holes in attachment. Lever(s) must be fully down and locked. Failure to secure wedges can allow attachment to come off and cause injury or death.

W-2102-0497

Figure 10-20-4

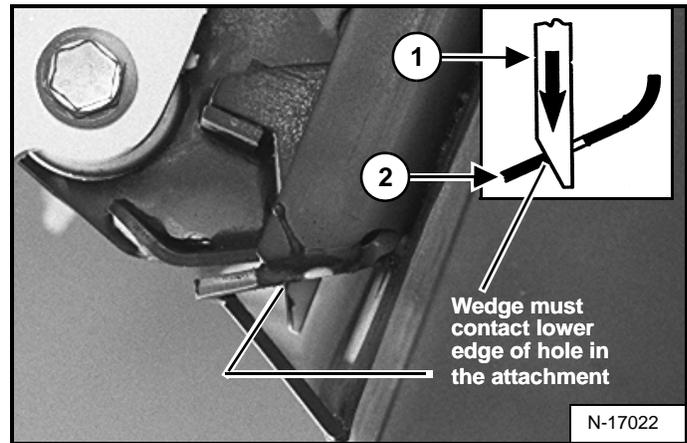


NOTE: The Power Bob-Tach system has continuous pressurized hydraulic oil to keep the wedges in the engaged position and prevent attachment disengagement. Because the wedges can slowly lower, the operator may need to reactivate the switch (BOB-TACH WEDGES UP) to be sure both wedges are fully raised before installing the attachment.

Push and hold the BOB-TACH WEDGES UP switch until wedges are fully raised. Push and hold the BOB-TACH WEDGES DOWN switch until [Figure 10-20-4] the wedges are fully down.

The wedges must move freely.

Figure 10-20-5

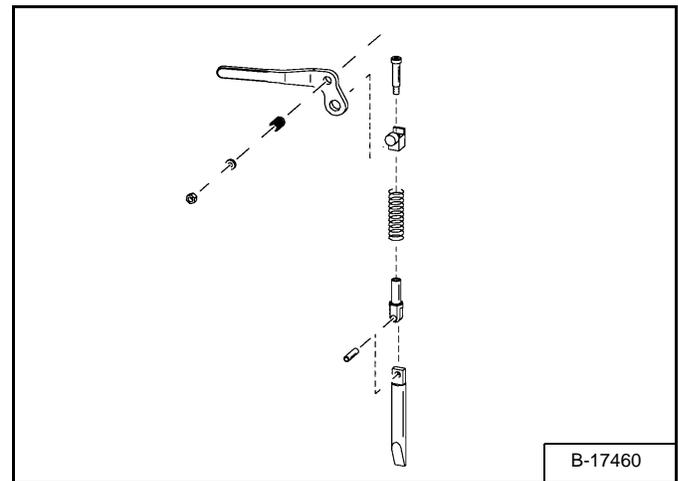


The wedges must extend through the holes in the attachment mounting frame (Item 2) [Figure 10-20-5].

The spring loaded wedge (Item 1) must contact the lower edge of the hole in the attachment (Item 2) [Figure 10-20-5].

If the wedge does not contact the lower edge of the hole [Figure 10-20-5] the attachment will be loose and can come off the Bob-Tach.

Figure 10-20-6



Inspect the mounting frame on the attachment and the Bob-Tach, linkages and wedges for excessive wear or damage [Figure 10-20-6].

Replace any parts that are damaged, bent, or missing. Keep all fasteners tight. Inspect the hoses and fittings for leaks.

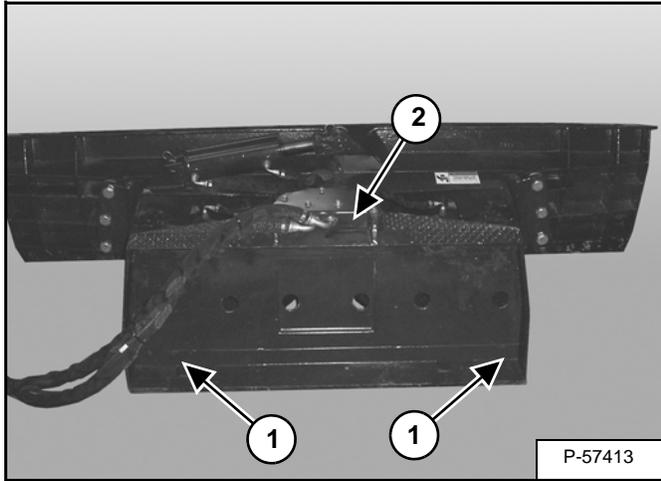
Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See the correct loader Operation & Maintenance Manual for *LUBRICATION OF THE BOBCAT LOADER*.)

INSPECTION (CONT'D)

Dozer Mount Inspection

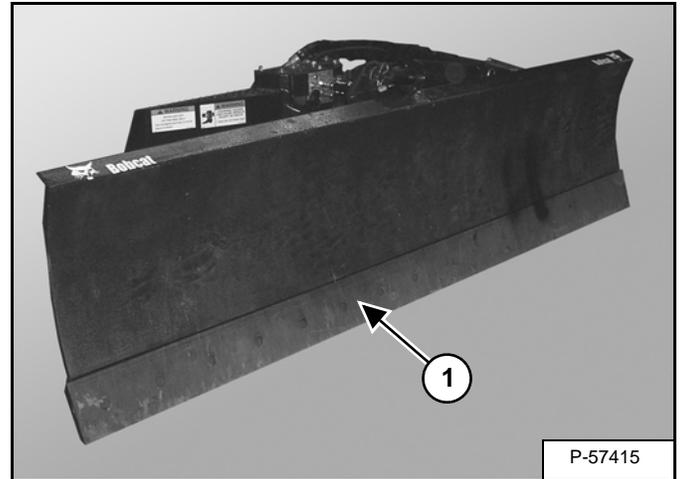
Figure 10-20-7



Inspect the Bob-Tach wedge mounts (Item 1), mounting flange (Item 2) on the Dozer mount for wear and damage each time the Dozer is removed from the machine [Figure 10-20-7].

Cutting Edge Inspection

Figure 10-20-8



The one piece cutting edge (Item 1) [Figure 10-20-8] is reversible. When the cutting edge becomes worn or damaged, remove the cutting edge, rotate it 180 degrees and reinstall. (See Removal And Installation on Page 30-40-1.)

Replace the cutting edge as needed.



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HYDRAULIC SYSTEM

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HYDRAULIC SYSTEM



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HYDRAULIC CONTROL VALVE

Removal And Installation

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.

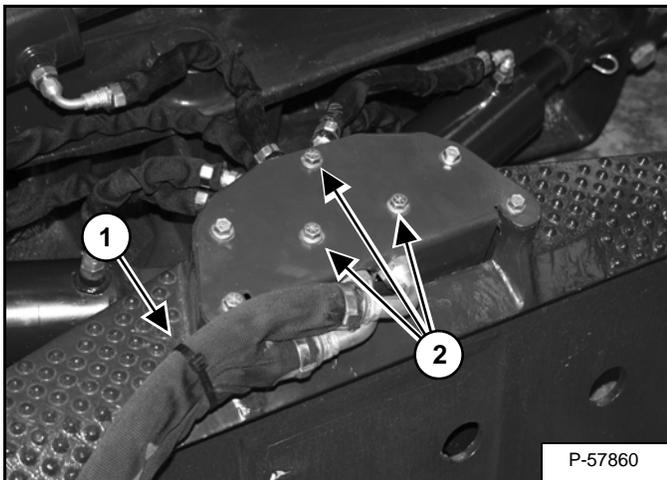
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IMPORTANT

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

I-2066-0395

Figure 20-10-1



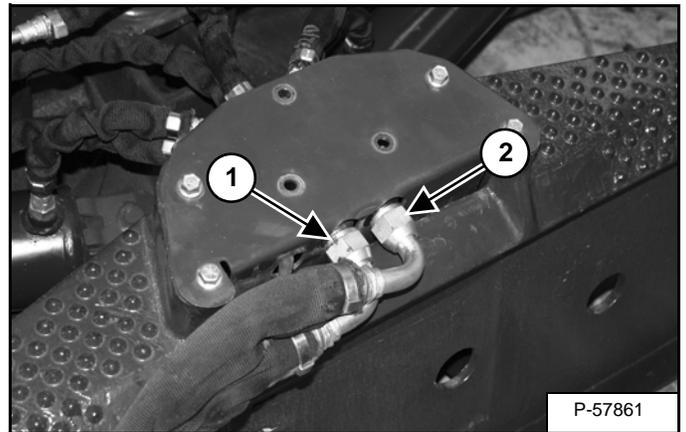
Remove cable ties (Item 1) [Figure 20-10-1].

Remove the three bolts (Item 2) [Figure 20-10-1].

NOTE: Removing the three bolts will allow the hydraulic control valve to move, exposing the complete auxiliary hydraulic hose fittings.

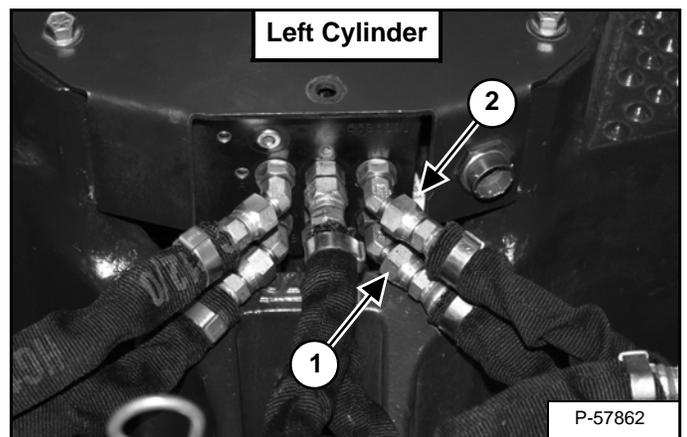
Installation: Tighten bolts to 25-28 ft.-lb. (34-38 N•m) torque.

Figure 20-10-2



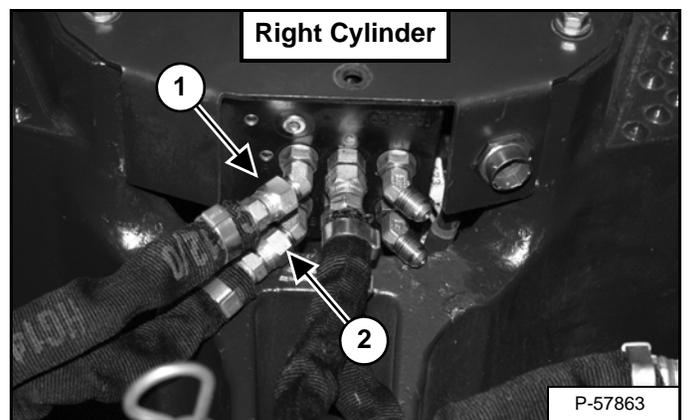
Remove the male quick coupler hydraulic hose (Item 1) and female quick coupler hydraulic hose (Item 2) [Figure 20-10-2].

Figure 20-10-3



Remove the rod end hydraulic hose (Item 1) and base end hydraulic hose (Item 2) [Figure 20-10-3].

Figure 20-10-4

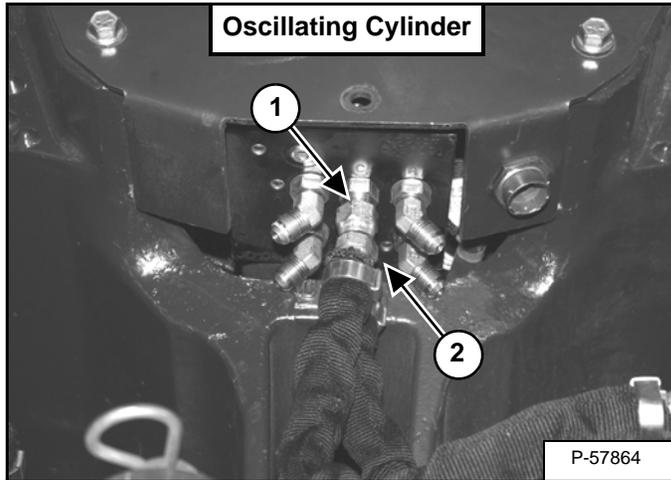


Remove the rod end hydraulic hose (Item 1) and base end hydraulic hose (Item 2) [Figure 20-10-4].

HYDRAULIC CONTROL VALVE (CONT'D)

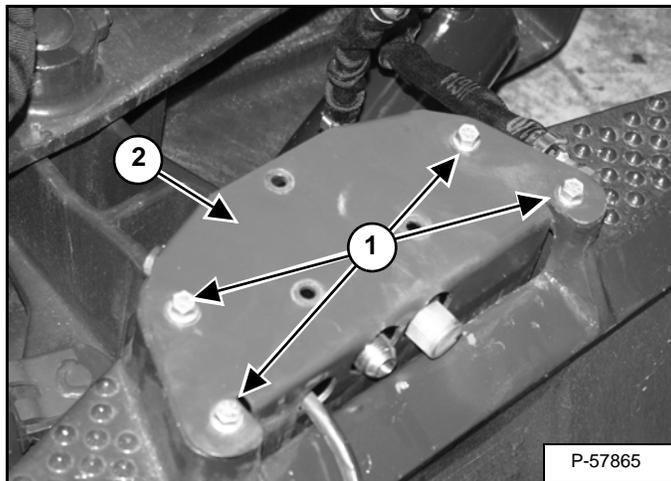
Removal And Installation (Cont'd)

Figure 20-10-5



Remove rod end hydraulic hose (Item 1) and base end hydraulic hose (Item 2) [Figure 20-10-5].

Figure 20-10-6

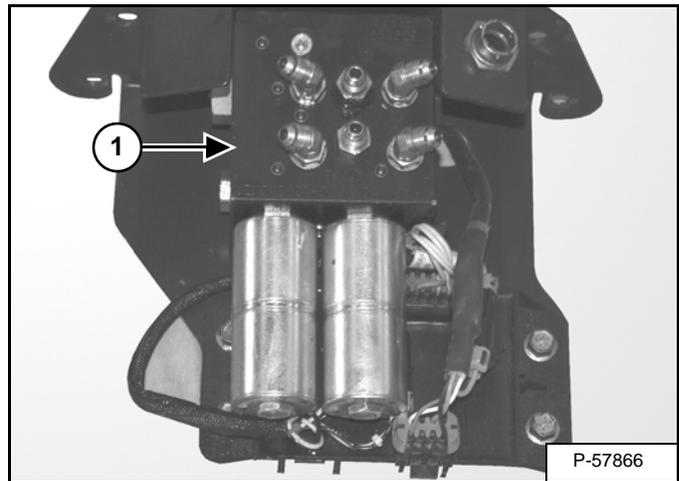


Remove the four bolts (Item 1) [Figure 20-10-6].

Installation: Tighten bolts to 25-28 ft.-lb. (34-38 N•m) torque.

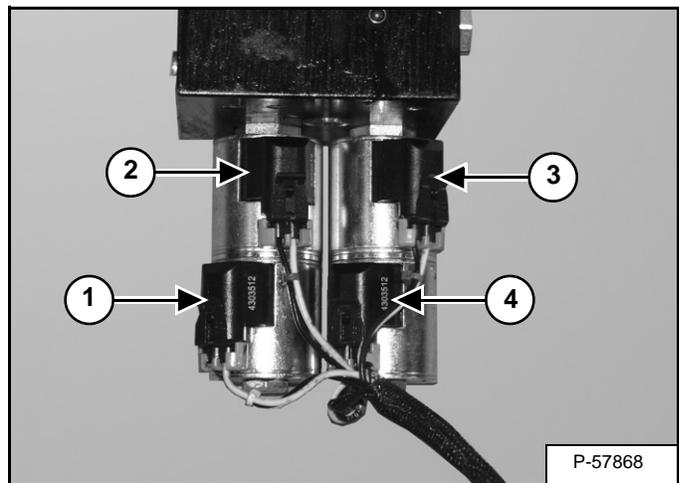
Remove cover (Item 2) [Figure 20-10-6] and control valve.

Figure 20-10-7



Remove the control valve (Item 1) [Figure 20-10-7].

Figure 20-10-8



Remove electrical connector (Item 1) [Figure 20-10-8].

Installation: Connector (Item 1) [Figure 20-10-8] is marked with a white cable tie.

Remove electrical connector (Item 2) [Figure 20-10-8].

Installation: Connector (Item 2) [Figure 20-10-8] is marked with a brown cable tie.

Remove electrical connector (Item 3) [Figure 20-10-8].

Installation: Connector (Item 3) [Figure 20-10-8] is marked with a purple cable tie.

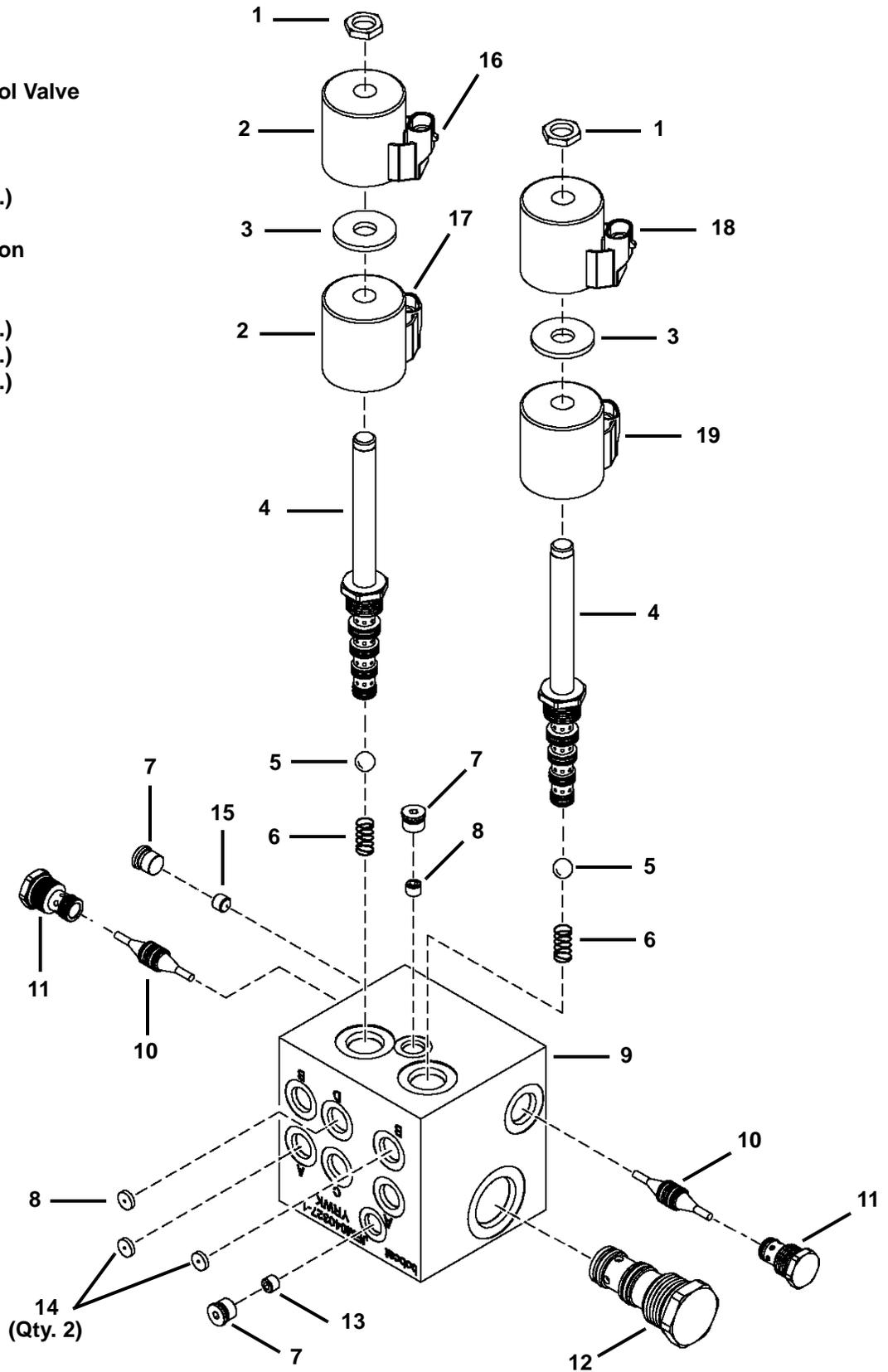
Remove electrical connector (Item 4) [Figure 20-10-8].

Installation: Connector (Item 4) [Figure 20-10-8] is marked with a red cable tie.

HYDRAULIC CONTROL VALVE (CONT'D)

Parts Identification

1. Nut
2. Coil
3. Spacer
4. Directional control Valve
5. Chrome Ball
6. Spring
7. Plug
8. Orifice (0.080 dia.)
9. Block
10. Double Pilot Piston
11. Check Valve
12. Logic Element
13. Orifice (0.020 dia.)
14. Orifice (0.080 dia.)
15. Orifice (0.078 dia.)
16. White Cable Tie
17. Brown Cable Tie
18. Purple Cable Tie
19. Red Cable Tie



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HYDRAULIC CONTROL VALVE (CONT'D)

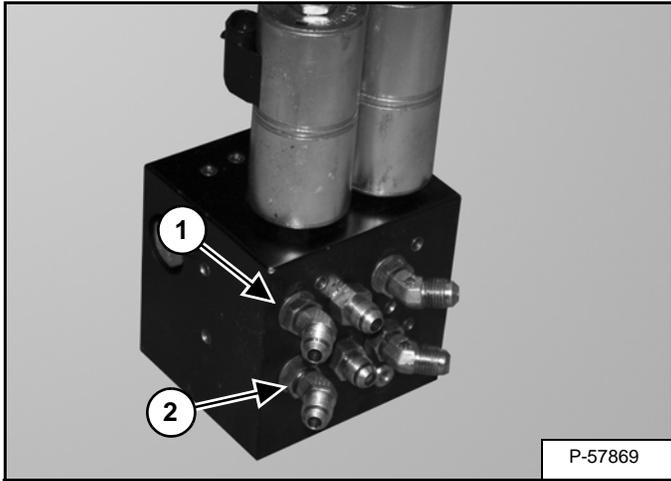
Disassembly

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.

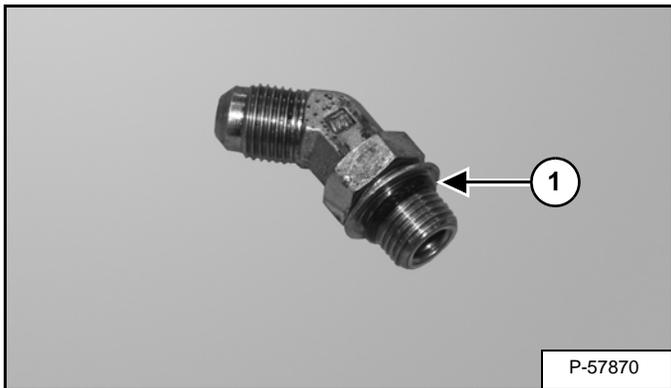
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Figure 20-10-9



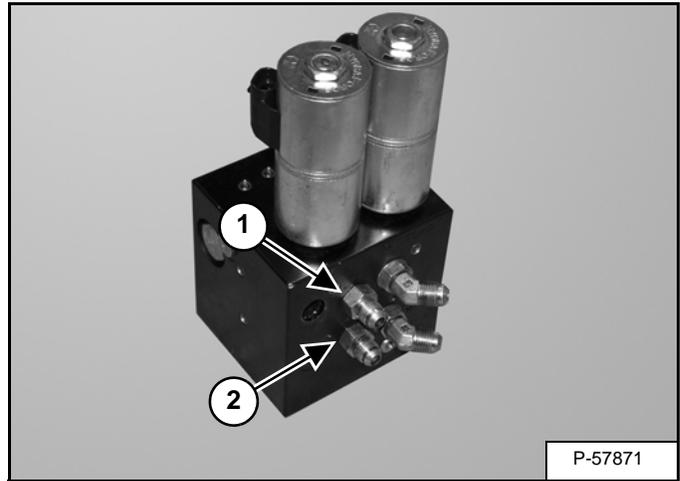
Remove fitting (Item 1), then remove fitting (Item 2) and orifice [Figure 20-10-9].

Figure 20-10-10



Remove O-ring (Item 1) [Figure 20-10-10].

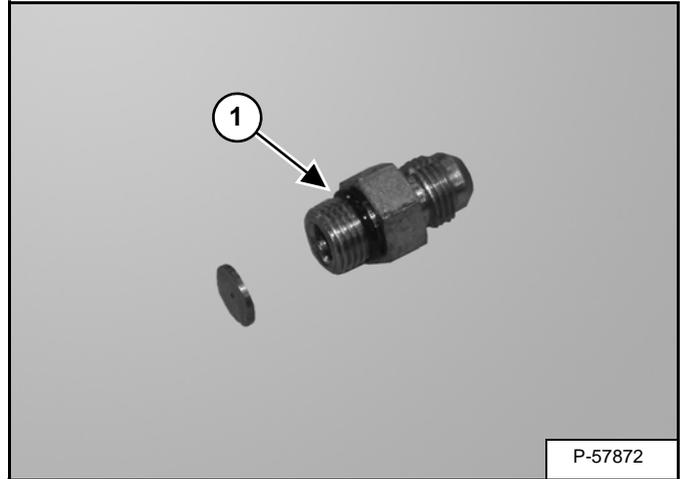
Figure 20-10-11



Remove the fitting (Item 1) [Figure 20-10-11] and orifice.

Remove fitting (Item 2) [Figure 20-10-11].

Figure 20-10-12

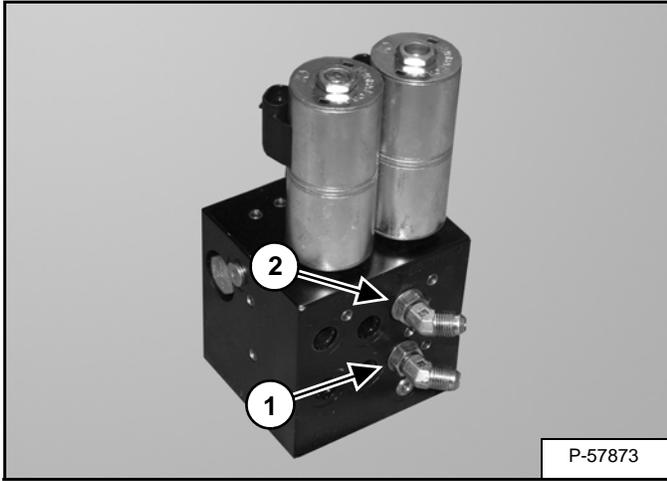


Remove O-ring (Item 1) [Figure 20-10-12].

HYDRAULIC CONTROL VALVE (CONT'D)

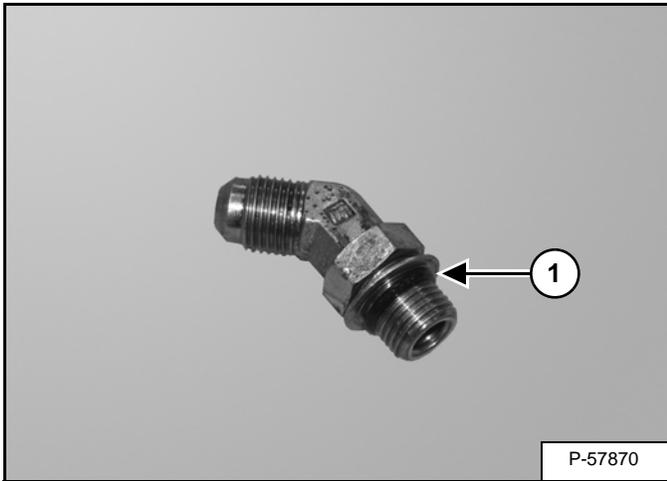
Disassembly (Cont'd)

Figure 20-10-13



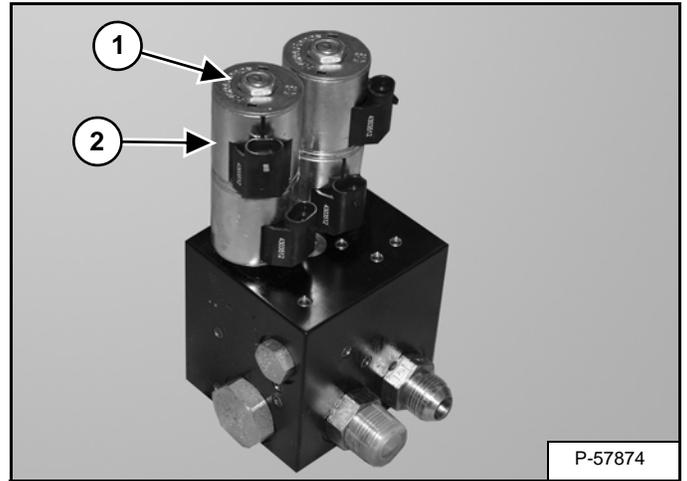
Remove fitting (Item 1), then remove fitting (Item 2) and orifice [Figure 20-10-13].

Figure 20-10-14



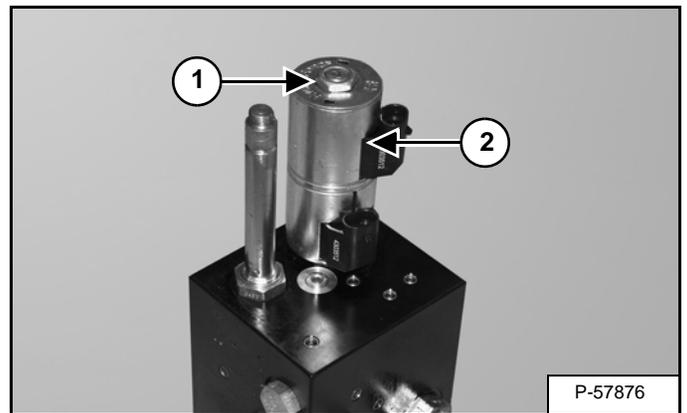
Remove O-ring (Item 1) [Figure 20-10-14].

Figure 20-10-15



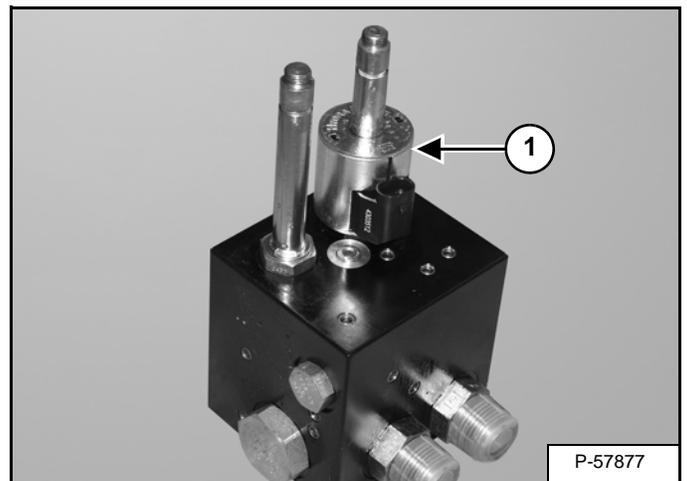
Remove nut (Item 1) and coil (Item 2) [Figure 20-10-15].

Figure 20-10-16



Remove nut (Item 1) and coil (Item 2) [Figure 20-10-16].

Figure 20-10-17

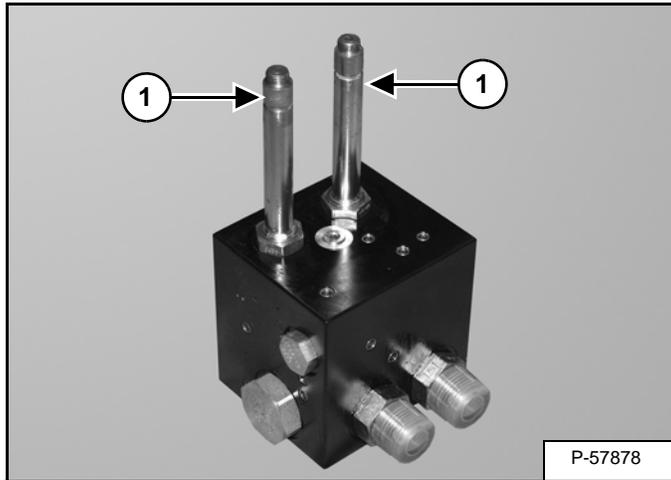


Remove coil (Item 1) [Figure 20-10-17].

HYDRAULIC CONTROL VALVE (CONT'D)

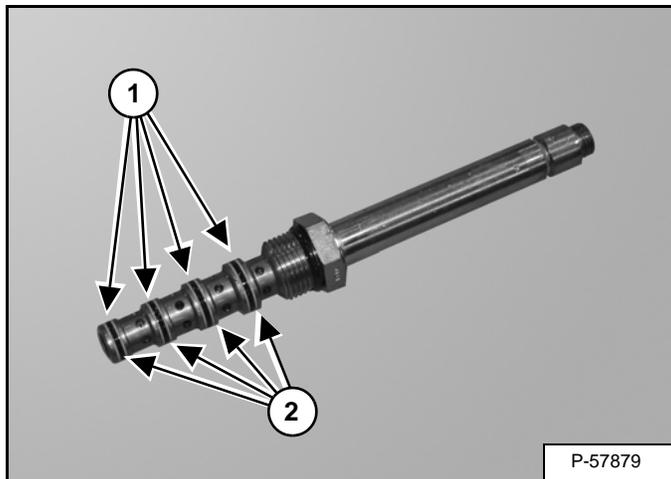
Disassembly (Cont'd)

Figure 20-10-18



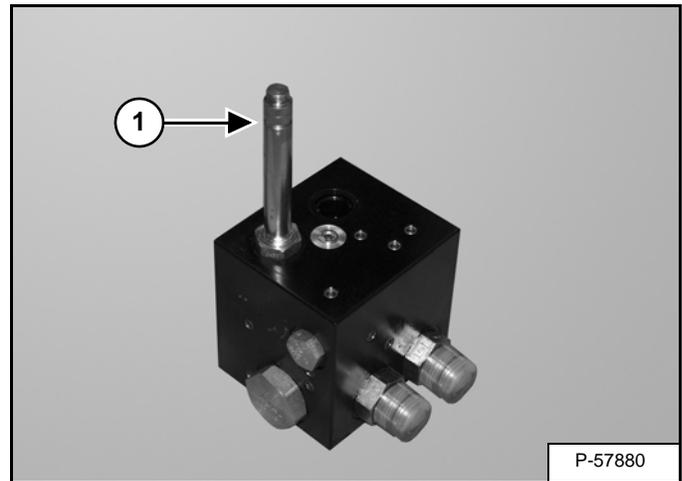
Remove the spool (Item 1) [Figure 20-10-18].

Figure 20-10-19



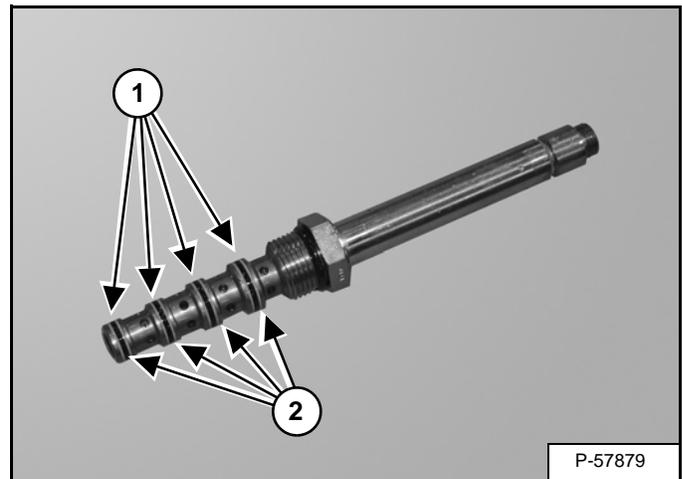
Remove O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-19].

Figure 20-10-20



Remove the spool (Item 1) [Figure 20-10-20], steel ball and spring.

Figure 20-10-21

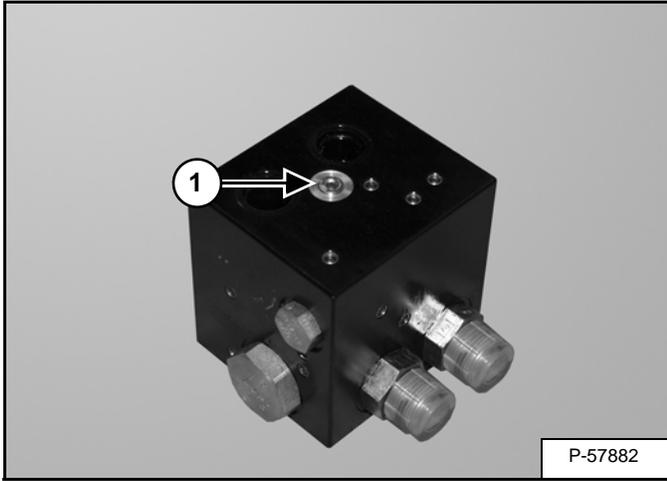


Remove O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-21].

HYDRAULIC CONTROL VALVE (CONT'D)

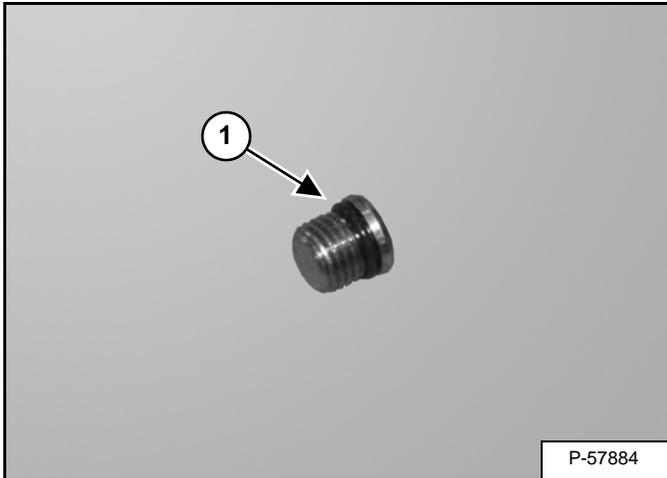
Disassembly (Cont'd)

Figure 20-10-22



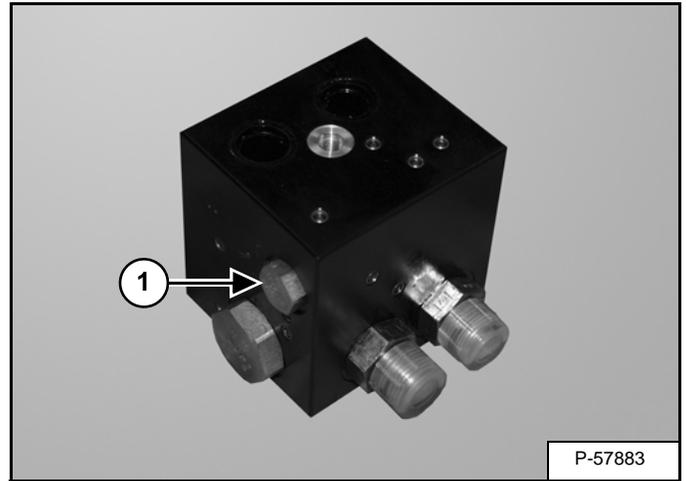
Remove plug (Item 1) and orifice [Figure 20-10-22].

Figure 20-10-23



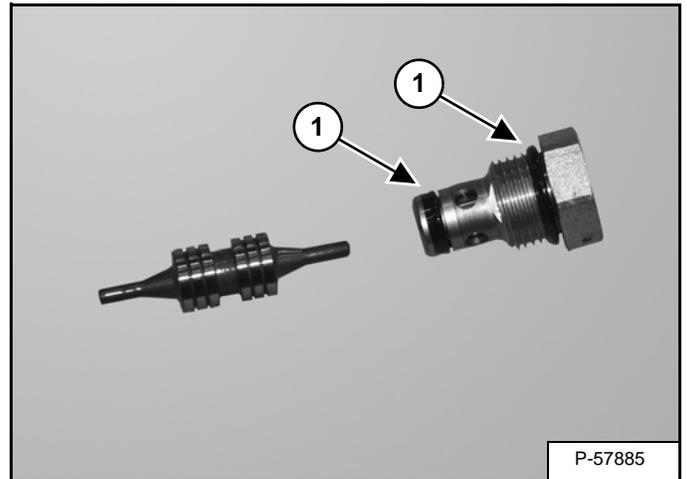
Remove O-ring (Item 1) [Figure 20-10-23].

Figure 20-10-24



Remove check valve (Item 1) [Figure 20-10-24] and piston.

Figure 20-10-25

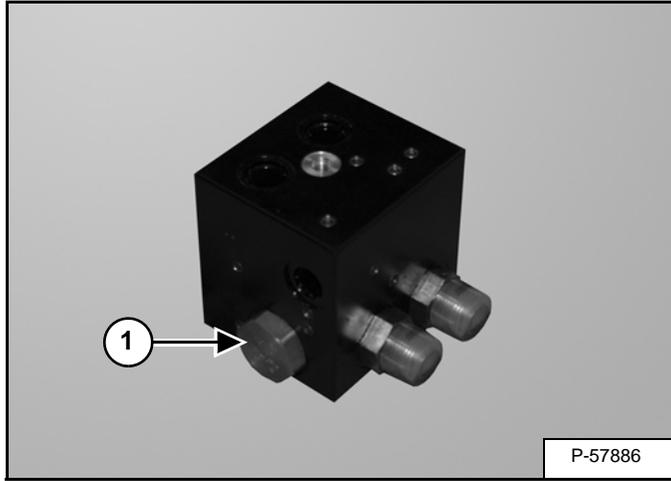


Remove O-rings (Item 1) [Figure 20-10-25].

HYDRAULIC CONTROL VALVE (CONT'D)

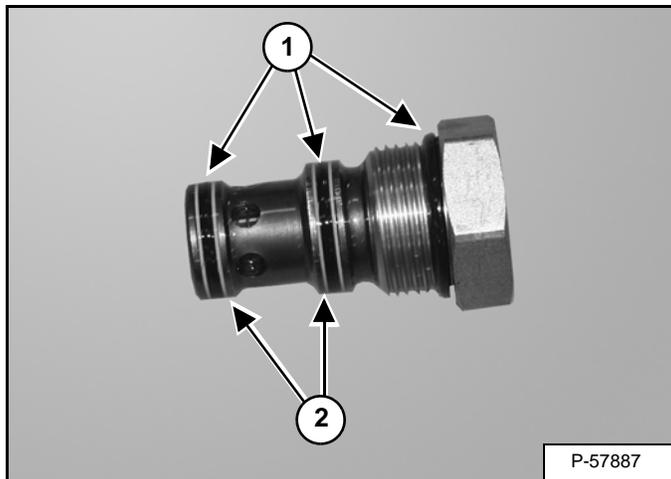
Disassembly (Cont'd)

Figure 20-10-26



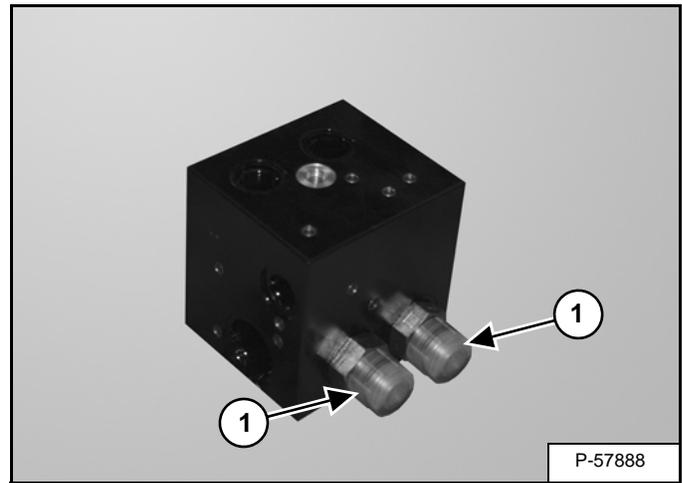
Remove logic valve (Item 1) [Figure 20-10-26].

Figure 20-10-27



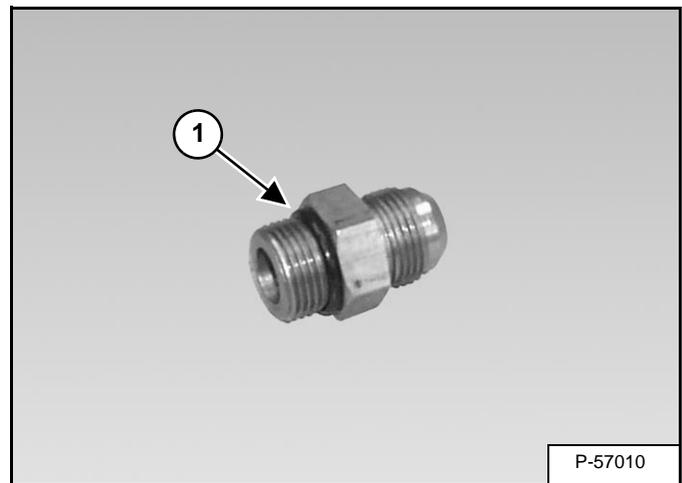
Remove O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-27].

Figure 20-10-28



Remove fittings (Item 1) [Figure 20-10-28].

Figure 20-10-29



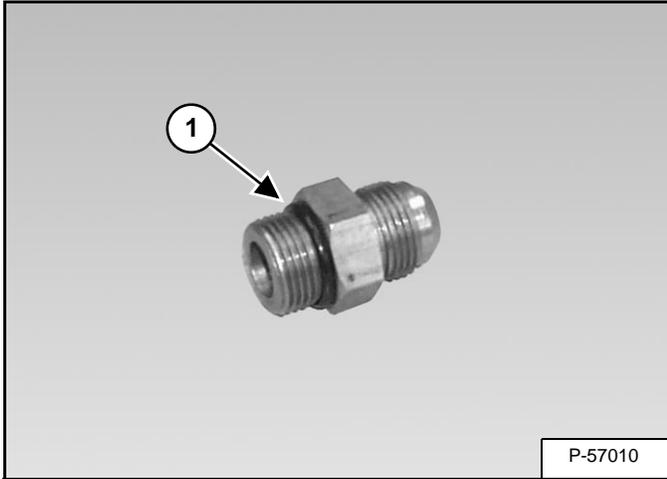
Remove O-ring (Item 1) [Figure 20-10-29].

HYDRAULIC CONTROL VALVE (CONT'D)

Assembly

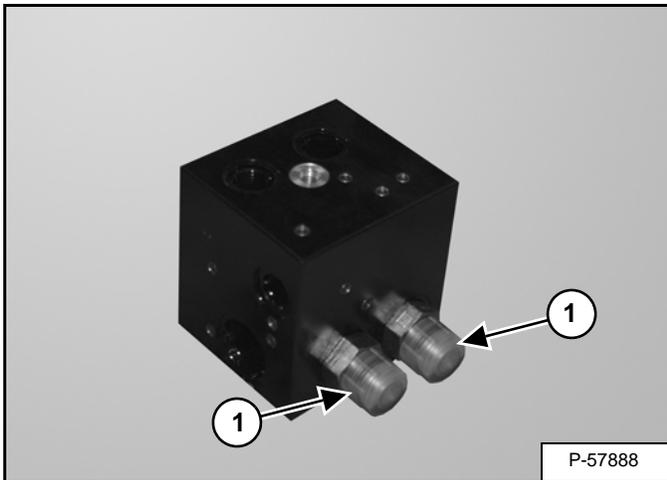
Clean all components in clean solvent and dry with compressed air. Discard all the O-rings and back-up rings and replace them with new O-rings and back-up rings. Apply clean hydraulic fluid to all O-rings and back-up rings before installation.

Figure 20-10-30



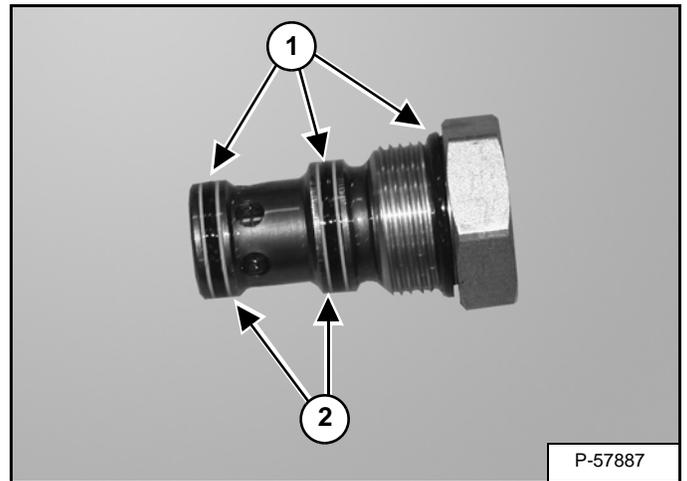
Install O-ring (Item 1) [Figure 20-10-30] on both fittings.

Figure 20-10-31



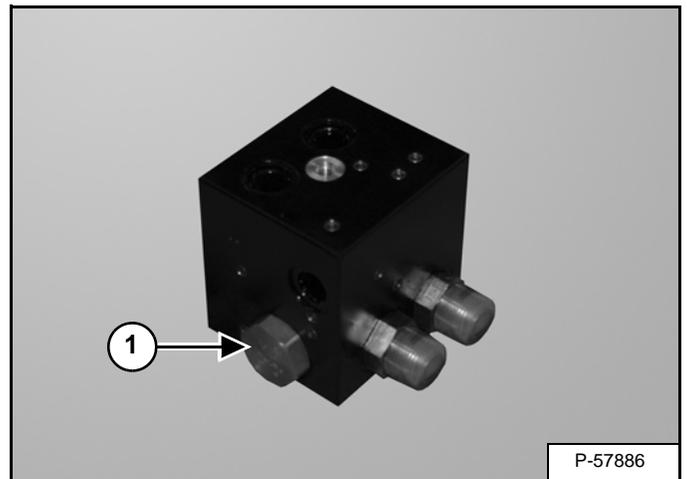
Install fittings (Item 1) [Figure 20-10-31].

Figure 20-10-32



Install O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-32].

Figure 20-10-33

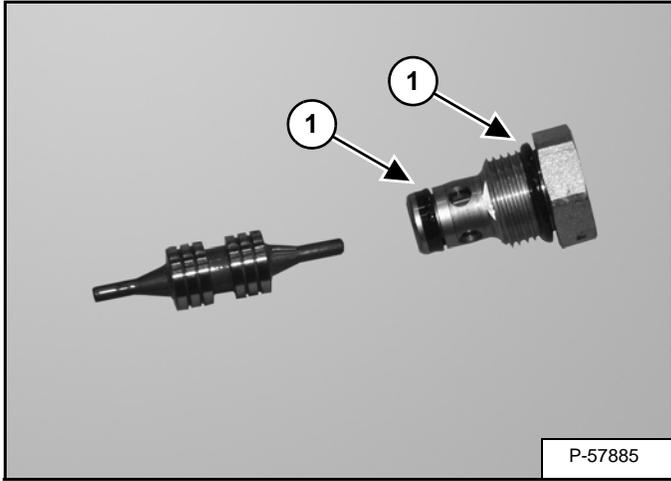


Install logic valve (Item 1) [Figure 20-10-33].

HYDRAULIC CONTROL VALVE (CONT'D)

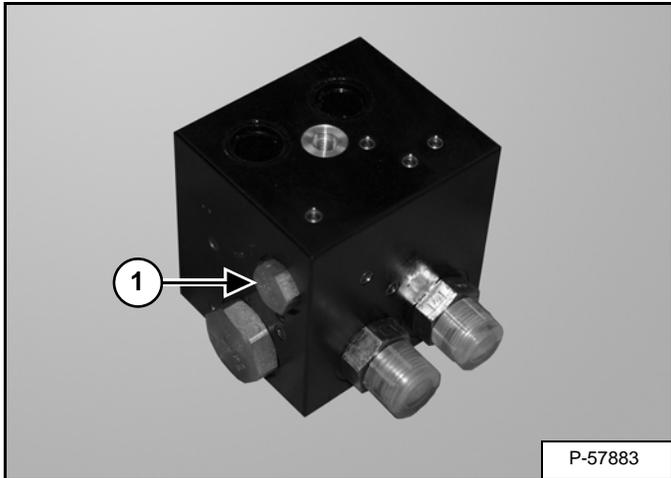
Assembly (Cont'd)

Figure 20-10-34



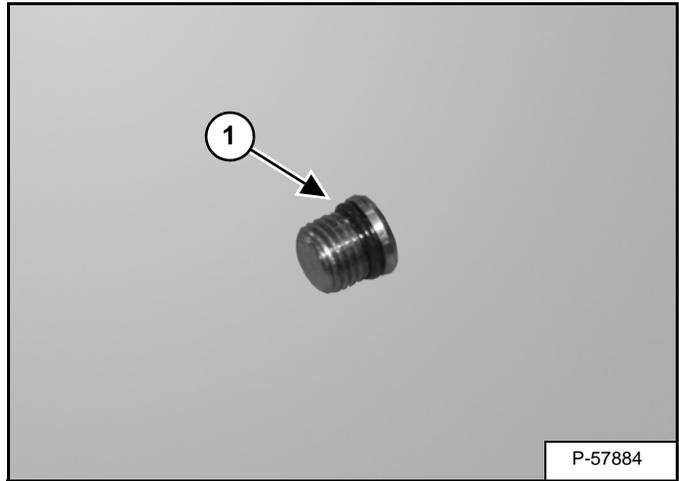
Install O-rings (Item 1) [Figure 20-10-34].

Figure 20-10-35



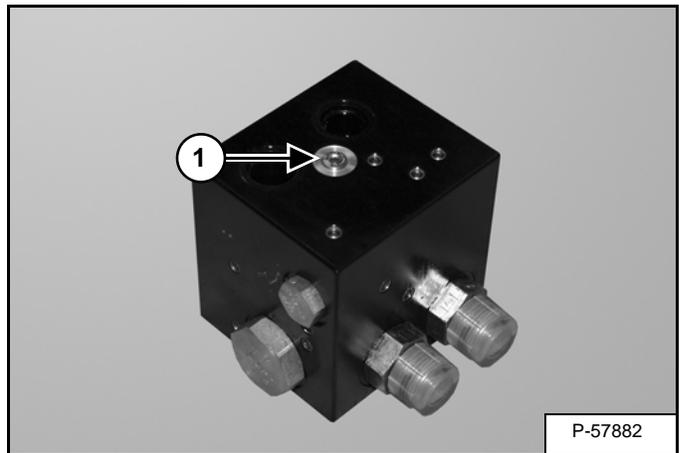
Install piston and check valve (Item 1) [Figure 20-10-35].

Figure 20-10-36



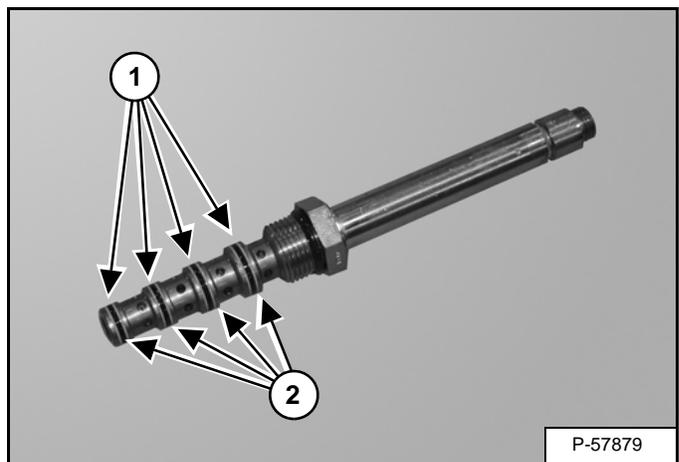
Install O-ring (Item 1) [Figure 20-10-36].

Figure 20-10-37



Install plug (Item 1) [Figure 20-10-37] and orifice.

Figure 20-10-38

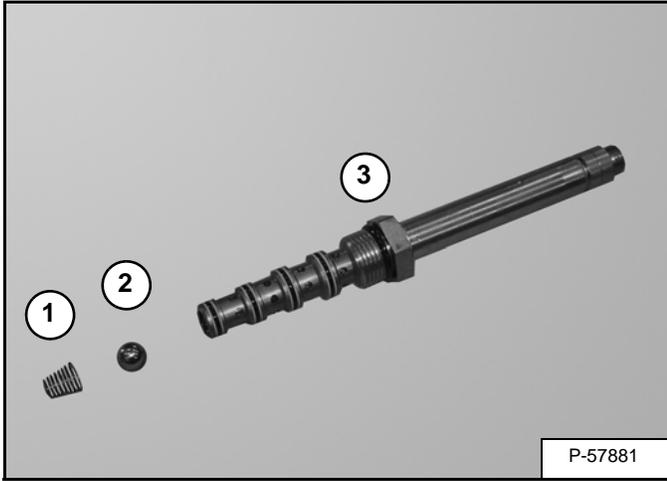


Install O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-38].

HYDRAULIC CONTROL VALVE (CONT'D)

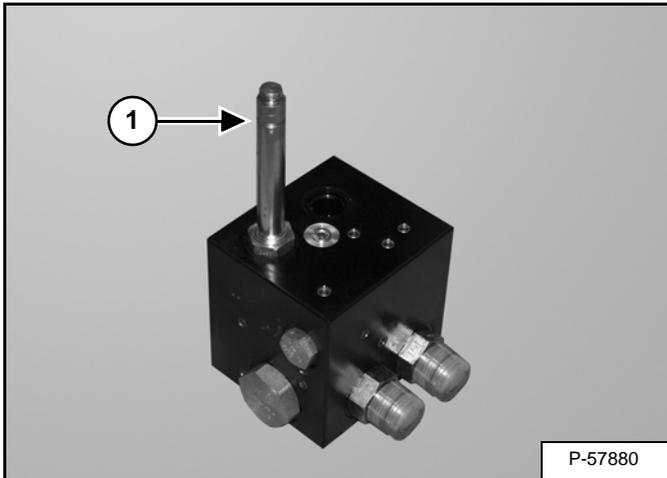
Assembly (Cont'd)

Figure 20-10-39



Installation: When installing the spool, install the components in this order. Spring (Item 1), steel ball (Item 2) and spool (Item 3) [Figure 20-10-39].

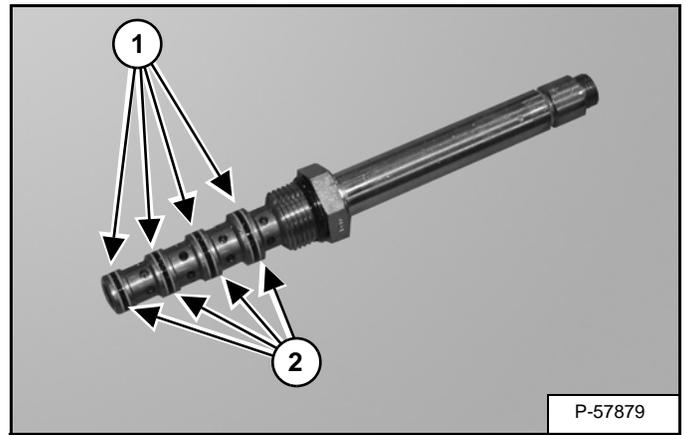
Figure 20-10-40



Install the spool (Item 1) [Figure 20-10-40], steel ball and spring.

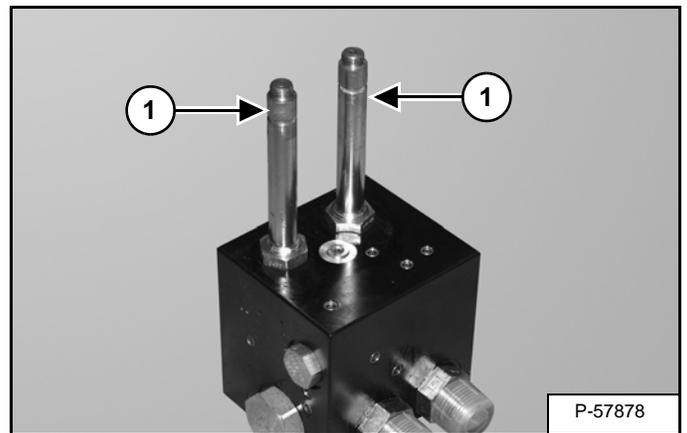
Installation: Tighten spool to 25 ft.-lb. (34 N•m) torque.

Figure 20-10-41



Install O-rings (Item 1) and back-up rings (Item 2) [Figure 20-10-41].

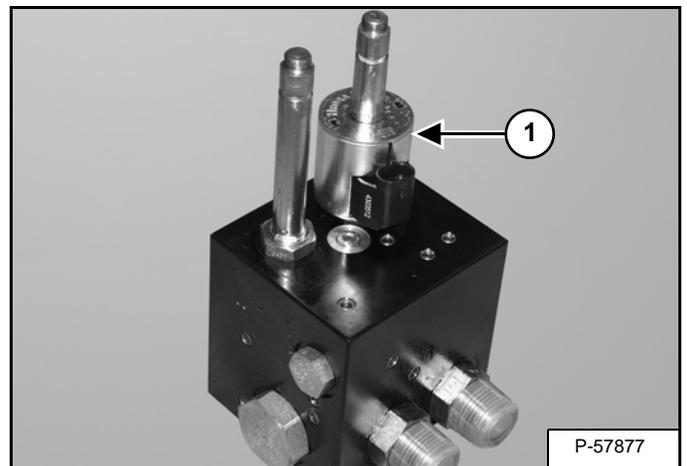
Figure 20-10-42



Install the spool (Item 1) [Figure 20-10-42].

Installation: Tighten spool to 25 ft.-lb. (34 N•m) torque.

Figure 20-10-43



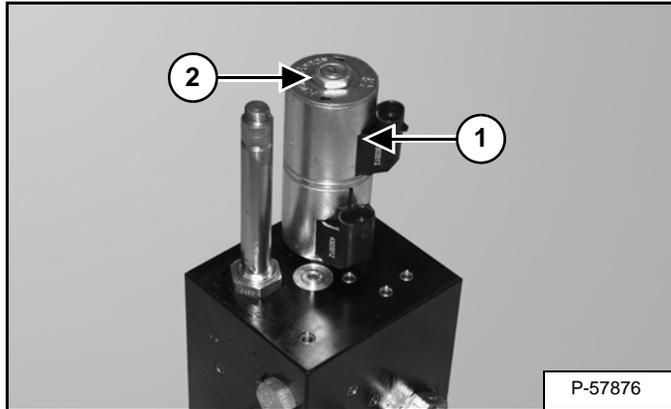
Install coil (Item 1) [Figure 20-10-43].

HYDRAULIC CONTROL VALVE (CONT'D)

Assembly (Cont'd)

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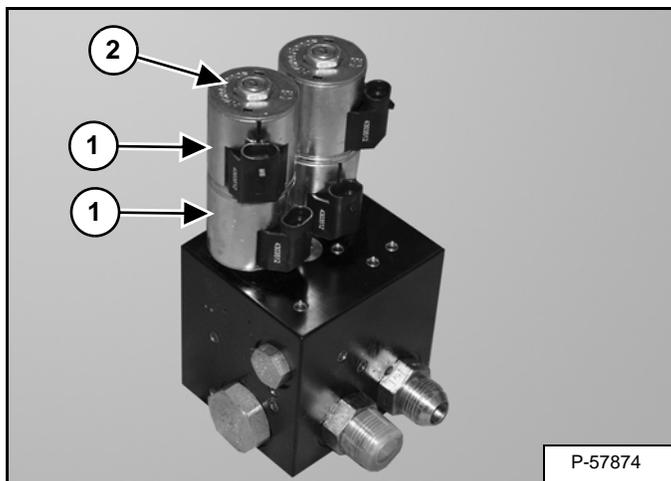
Figure 20-10-44



Install coil (Item 1) and nut (Item 2) [Figure 20-10-44].

Installation: Tighten nut to 4-5 ft.-lb. (5-7 N•m) torque.

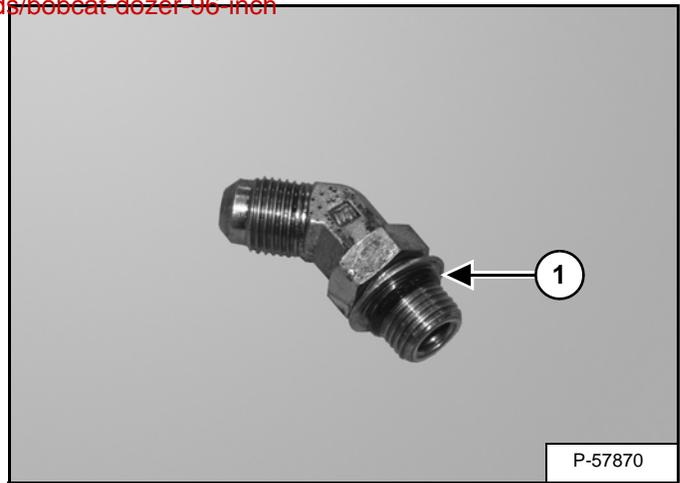
Figure 20-10-45



Install coils (Item 1) and nut (Item 2) [Figure 20-10-45].

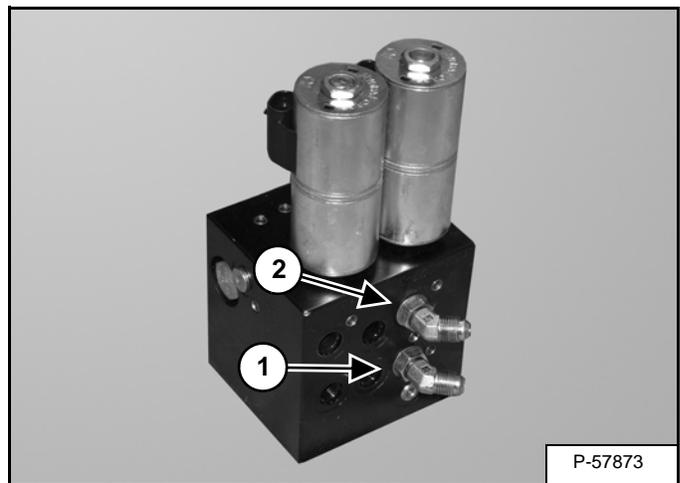
Installation: Tighten nut to 4-5 ft.-lb. (5-7 N•m) torque.

Figure 20-10-46



Install O-ring (Item 1) [Figure 20-10-46].

Figure 20-10-47



Install fitting (Item 1), then install fitting (Item 2) and orifice [Figure 20-10-47].

Installation: Tighten fittings to 22-24 ft.-lb. (29-33 N•m) torque.

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