

Keep With Operator's Manual

VALVE AND PLUMBING KIT 2408 LOADER KUBOTA L2800 AND L3400 2WD & FWA ROPS TRACTORS

VALVE AND PLUMBING GENERAL INFORMATION

Valve and plumbing kit can be installed using tools ordinarily available. Valve control handle has been factory preassembled for ease of installation. Shut off engine and engage brakes during installation.

NOTE: Apply sealant only to all tapered threads unless coupled with swivel adapters. When using teflon tape, wrap tape clockwise (as viewed from end) and wrap only twice. Keep sealant away from first two threads of tapered end to prevent contamination of hydraulic fluid. Do not use sealant on o-ring or flare adapter threads.



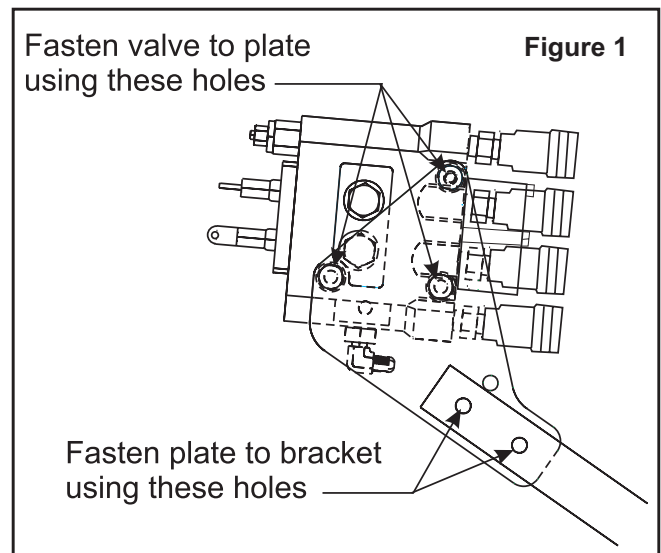
WARNING: Escaping hydraulic fluid under pressure can penetrate skin causing serious injury.

- DO NOT use your hands to check for leaks. Use a piece of cardboard or paper to search for leaks.
- Stop engine and relieve pressure before connecting or disconnecting lines.
- Tighten all connections before starting engine or pressurizing lines.

If any fluid is injected into skin, obtain medical attention immediately or gangrene may result.

ATTACHING VALVE TO LOADER MOUNTING BRACKET (Figures 1 & 3)

1. Install 3/4 x 9/16 elbow fitting (9) to valve (1). Install adapter fittings (22), female quick couplers (15) and 1" colored bands (16) to working ports of valve (1).
2. Fasten valve mounting plate (23) to valve mounting tube (28) using 3/8 x 2-1/2 cap screws (2) and 3/8 lock nuts (5).
3. Fasten valve (1) to valve mounting plate (23), with power beyond port on the bottom, using 5/16 x 3/4 cap screws (6) and 5/16 lock washers (7). Fasten decal mounting plate (4) to valve (1) using 5/16 x 3/4 cap screws (6) and 5/16 lock washers (7) (Figure 1).
4. Making sure surface of decal mounting plate is clean and dry, remove backing from decal (20) and apply it to decal mounting plate.
5. Thread nut (13) onto handle (3). Attach handle (3) to valve (1). Slip boot (14) over handle and cover handle assembly. Attach ball (8) to handle.
6. Attach valve mounting tube (28) to right midmounting bracket using 1/2 x 2-1/2 cap screws (29), 1/2 flat washers (30), and 1/2 lock nuts (24).



PLUMBING CONTROL VALVE TO TRACTOR HYDRAULICS (Figures 2, 3 & 4)

1. Install 3/8 x 35" hose (12) to elbow fitting (9) in power beyond port of valve (1).
2. Install 3/8 x 34" hose (11) to tank port in valve (1).
3. Install 3/8 x 36" hose (10) to pressure port in valve (1).
4. Slide 36" hose sleeves (33) over each hose (10,11&12).
5. Remove hydraulic cover plate and attaching hardware from right side of tractor.
6. Install adapter block (25) with o-rings (34) using 8mm x 40mm cap screws (31) and 5/16 lock washers (7). Install 90° elbow fittings (27) into ports in adapter block.
7. Connect power beyond hose (12) to elbow (27) in power beyond port of hydraulic adapter block (25). Connect pressure hose (10) to elbow fitting (27) in pressure port of hydraulic adapter block (25). Connect tank hose (11) to elbow fitting (27) in tank port of hydraulic adapter block (25). (See figure 2.)
8. Secure hoses (10, 11 & 12) to valve mounting tube (28) using plastic tie strap (21). Use extra tie strap (21) to bundle hoses together and avoid interference with loader and tractor tires.

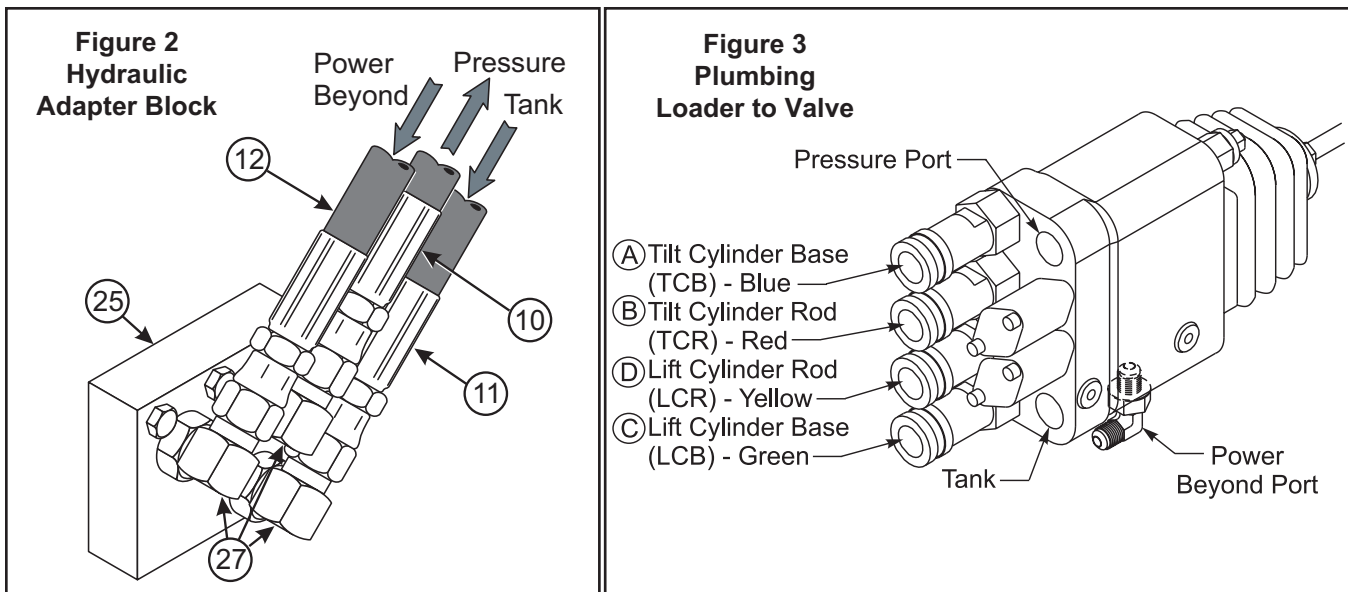
PLUMBING LOADER TO CONTROL VALVE (Figures 3 & 4)

1. Install 3/8 x 72" hoses (17) onto boom oil line tubes. (See figure 4.) Install and tighten hose fittings one at a time from the bottom up. Loosening the closest oil line clamp will ease installation.
2. Install spiral bands (18) onto free ends of hoses (17) to match bands on female quick couplers (15). Slide 72" hose sleeves (32) over hoses (17). Install male quick couplers (19) onto free ends of hoses (17).
3. Connect hoses from upper two boom oil lines to upper quick couplers and connect hoses from lower two boom oil lines to lower quick couplers. Wrap rubber strap (26) around hoses (17) and hook on itself. Attach free end of rubber strap to loader right side frame. (See figure 3.)
4. After all plumbing has been completed, slowly cycle lift and bucket cylinders several times to purge air from hydraulic system. Retract cylinders and shut off tractor engine. Replenish tractor hydraulic system.

NOTE: When cycling loader, operate loader according to operation decal (20) on valve box. If direction of control lever is wrong, or loader will not lower, recheck connections shown.

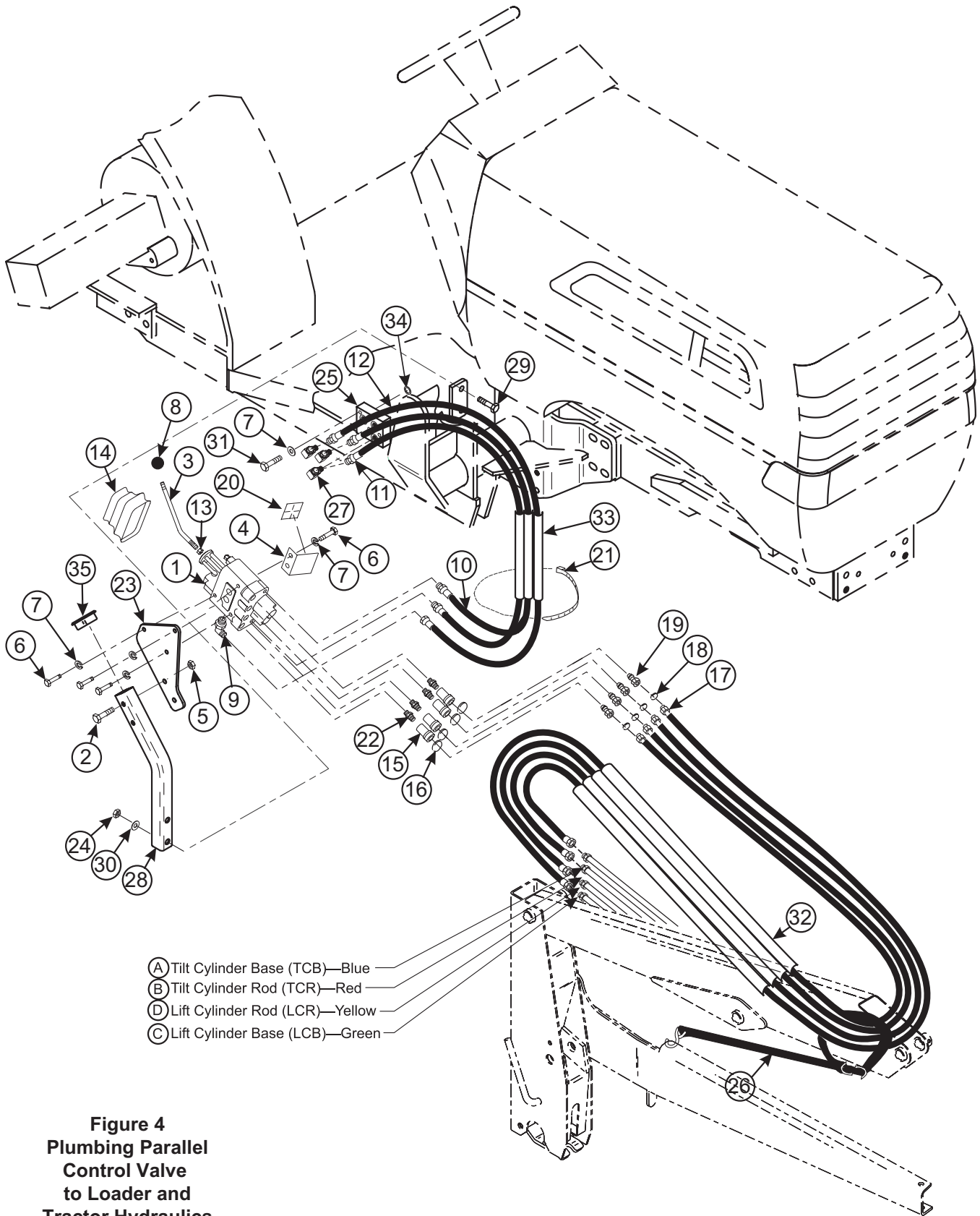


WARNING: Escaping hydraulic fluid under pressure can have sufficient force to penetrate skin causing serious personal injury. If injured by escaping hydraulic fluid, obtain medical treatment immediately.



PARTS LIST

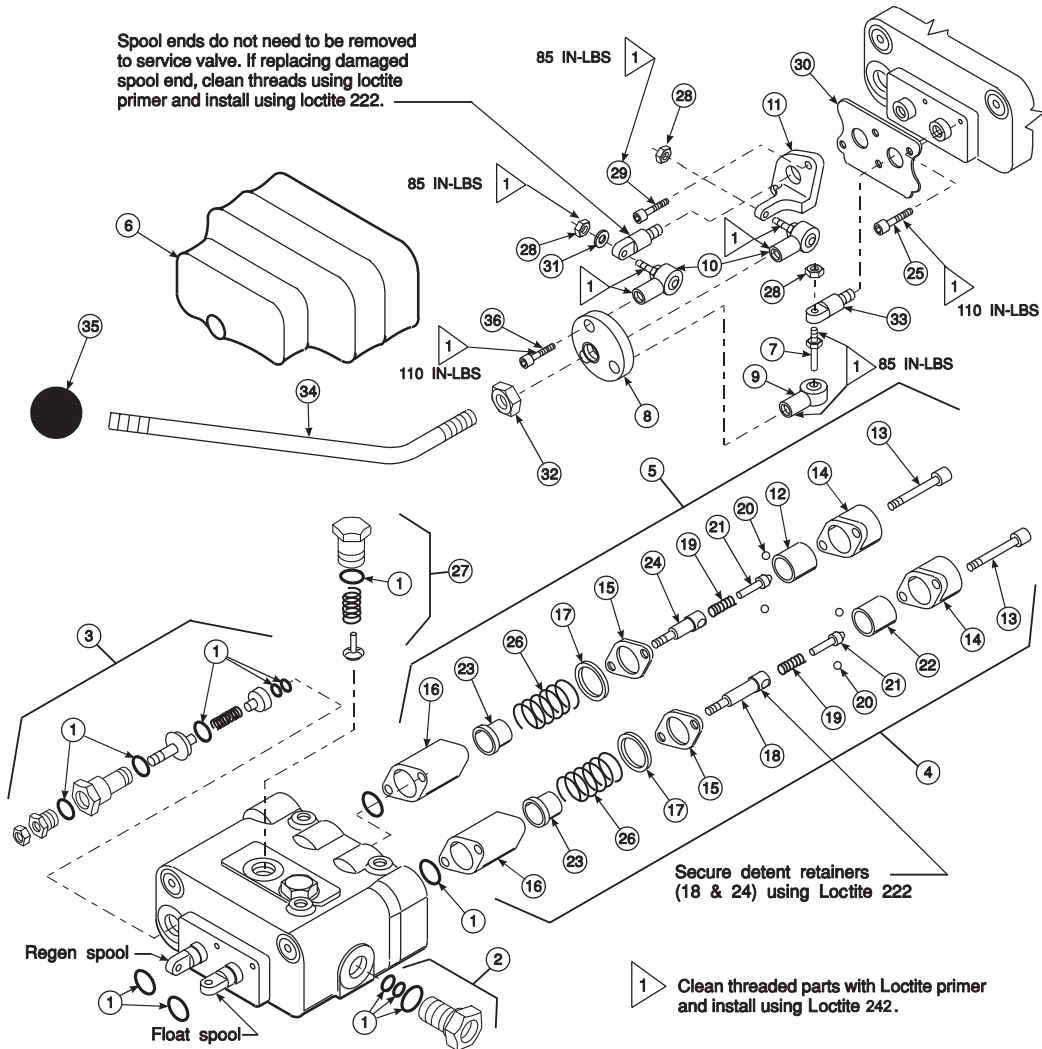
Item	Part No.	Description	Qty.
1	51033	VALVE, Prince LVR (2500 PSI) (PARALLEL)	1
2	41838-54	SCREW, Cap, 3/8-16 x 2-1/2	2
3	43517	HANDLE, Standard	1
4	43451	ANGLE, Decal Mounting	1
5	41840-3	NUT, Lock, 3/8-16	2
6	41838-26	SCREW, Cap, 5/16-18 x 3/4	4
7	41837-2	WASHER, Lock, 5/16	8
8	38902	BALL, Handle	1
9	32845-7	FITTING, Elbow, 9/16-18 JIC x 3/4-16 O-Ring, 90°	1
10	43454-2	HOSE, 3/8 x 36, 3/4-16 O-Ring x 9/16-18 JIC Swivel (Pressure)	1
11	43454-16	HOSE, 3/8 x 34, 3/4-16 O-Ring x 9/16-18 JIC Swivel (Tank)	1
12	36386-24	HOSE, 3/8 x 35, 3/4 JIC Swivel x 9/16 JIC Swivel (Power Beyond)	1
13	G271506	NUT, Hex, 7/16-20	1
14	43635	BOOT	1
15	6147-4	COUPLER, Female	4
16	36240-9	SPIRAL BAND, Plastic, Blue, 1"	1
	36240-10	SPIRAL BAND, Plastic, Red, 1"	1
	36240-11	SPIRAL BAND, Plastic, Yellow, 1"	1
	36240-12	SPIRAL BAND, Plastic, Green, 1"	1
17	36336-3	HOSE, 3/8 x 72, 3/8 N.P.T.F. x 3/4 JIC Swivel	4
18	36240-5	SPIRAL BAND, Plastic, Blue, 5/8	1
	36240-6	SPIRAL BAND, Plastic, Red, 5/8	1
	36240-7	SPIRAL BAND, Plastic, Yellow, 5/8	1
	36240-8	SPIRAL BAND, Plastic, Green, 5/8	1
19	6137-4	COUPLER, Male	4
20	43453	DECAL, Single Handle Control	1
21	8137-1	STRAP, Adjustable	3
22	39280-7	FITTING, Adapter, 3/4-16 O-Ring x 3/8 NPT	4
23	43450	PLATE, Valve Mounting	1
24	41840-5	NUT, Lock, 1/2-13	2
25	51298	ADAPTER, Block	1
26	7438-1	TARP Strap	1
27	32845-1	FITTING, Adapter, 9/16-18 JIC x 9/16-18 O-Ring x 90°	3
28	43541	TUBE, Valve Mount	1
29	41838-25	SCREW, Cap, 1/2-13 x 2-1/2	2
30	42502-10	WASHER, Flat, 1/2	2
31	42672-64	SCREW, Cap, 8MM-1-1/4 X 40MM	4
32	34853-74	SLEEVE, 1.25 x 72"	4
33	34853-75	SLEEVE, 1.25 x 36"	3
34	6000-20	O-RING, 5/8	3
35	44274-1	PLUG, Square Tube	1



- A Tilt Cylinder Base (TCB)—Blue
- B Tilt Cylinder Rod (TCR)—Red
- D Lift Cylinder Rod (LCR)—Yellow
- C Lift Cylinder Base (LCB)—Green

Figure 4
Plumbing Parallel
Control Valve
to Loader and
Tractor Hydraulics

**Figure 5
Prince LVR
Valve**



PARTS LIST - PRINCE LVR VALVE (PARALLEL)

Item	Part No.	Description	Qty.
1	43633	SEAL KIT	1
2	43636	POWER BEYOND SLEEVE	1
3	43637-4	RELIEF VALVE	1
4	43638	FLOAT KIT (Includes items 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 26)	1
5	43639	REGEN KIT (Includes items 12, 13, 14, 15, 16, 17, 19, 20, 21, 24 and 26)	1
6	43635	BOOT	1
7	51076	STUD, Spool	1
8	51078	ADAPTER PLATE	1
9	38900-4	ROD END	1
10	51075	ROD END, Assembly	2
11	51079	CLEVIS	1
14	44476-3	END CAP (Manufacturers part number stamped on end cap identifies valve and relief setting)	2
25	44743-5	SCREW, Cap, Socket Head, 1/4-20 x 1/2	2
26	44460	PLUG, Load Check	2
28	G 120368	NUT, Hex, 5/16-18	3
29	44743-3	SCREW, Cap, Socket Head, 1/4-20 x 7/8	2
30	51080	PLATE	1
31	51081	WASHER, Shim, 5/16	1
32	G271506	NUT, Hex, 7/16-20	1
33	51077	END, Spool	2
36	44743-4	SCREW, Cap, Socket Head, 5/16-24 x 3/4"	3

NOTE: Items not listed individually are not available as separate items.

PRINCE LVR VALVE SERVICE

Following is an outline procedure for disassembling and reassembling valve.



WARNING: The valve has a valve relief setting pre-set at the factory. Tampering with this setting can cause serious injury to operator and damage to tractor or loader. Unauthorized adjustments or service to valve relief will VOID WARRANTY of both loader and tractor. If adjustments or service to valve relief are required during warranty period, an authorized service department must be consulted for authorization.

VALVE DISASSEMBLY (Figure 5)

NOTE: It is advisable to mark or tag all parts so they will be reinstalled in their proper position.

1. Slide boot (6) to top of handle (34). Remove hex head cap screws (36) from rod ends (9 & 10). Remove handle with boot and adapter plate (8). Remove nuts (28 & 31) from spool stud (7) and rod end assemblies (10). Remove spool stud (7) and rod end assemblies (10) from valve.

NOTE: Spool adapters (33) are factory assembled. Removal from spools is not necessary. If replacing a damaged adapter, clean threads with loctite primer and install using loctite 262.

2. Remove hex head cap screws (13) and end caps (14) from both spools. Remove detent sleeve (12) from regen spool. Remove steel balls (20), poppet (21) and poppet spring (19) from detent retainer (24). Remove retaining flat (15) and detent spacer (16) from regen spool.
3. Secure handle end of regen spool. Using a rod through retainer ball holes, remove detent retainer (24) from regen spool.

NOTE: Detent retainers (18 & 24) are installed on spools using Loctite 222 or equivalent. If spool adapter comes loose instead of detent retainer, pull spool completely out of valve and secure spool using vice grips on land section of spool not machined for valve bore.

4. Remove washer (17), centering spring (26) and stop cup (23) from regen spool.
5. Holding in on float detent sleeve (22), push in float spool from handle end and remove steel balls (20) from float detent retainer (18). Remove float detent sleeve (22), poppet (21), poppet spring (19), retaining flat (15) and spacer (16) from float spool.

6. Secure handle end of float spool. Using a rod through retainer ball holes, remove detent retainer (18) from float spool.

NOTE: Detent retainers (18 & 24) are installed on spools using Loctite 222 or equivalent. If spool adapter comes loose instead of detent retainer, pull spool completely out of valve and secure spool using vice grips on land section of spool not machined for valve bore.

Remove washer (17), centering spring (26) and stop cup (23) from float spool.

7. Push spools in from handle end until rear spool seals (1) are exposed. Using wire hook and screwdriver remove rear spool seals. Push spools in from the rear until front spool seals (1) are exposed. Using wire hook and screwdriver remove front spool seals.
8. Clean all parts, including valve body, in suitable cleaning solvent. After cleaning parts with solvent, use air pressure to blow any dirt or excess solvent from all parts including inside of valve body.

VALVE REASSEMBLY

1. Examine all parts for wear and damage and replace if necessary.
2. Lubricate all o-rings and spools with oil to prevent damage when assembling.
3. Lubricate all detent and spring centering parts with a light coat of grease before assembling.
4. Reassemble all parts in reverse order of disassembly.

NOTE: Use Loctite 222 or equivalent when installing detent retainers (18 & 24).

RELIEF VALVE, LOAD CHECK PLUGS and POWER BEYOND SLEEVE

NOTE: Relief valve (3), load check plugs (27) and power beyond sleeve (2) may be removed separately to clean inspect or replace parts without removing valve spools.

NOTE: If repairing or replacing relief valve (3), torque larger hex nut (relief body) to 20-25 ft.lbs.

REPLACING HANDLE PARTS

If replacing damaged handle parts, clean threads with loctite primer and install using loctite 242. Torque parts as shown in Figure 5.

INSTALLATION INSTRUCTIONS