

BUNDLE 2-5624
LOADER SINGLE HANDLE CONTROL VALVE AND PLUMBING
TO TRACTOR HYDRAULICS INSTRUCTIONS FOR
KIOTI LB2204 4WD TRACTORS

The valve and plumbing can be installed on the tractor and loader using tools ordinarily available. Engage the tractor brakes and shut off tractor engine during installation.

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

ATTACHING ENCLOSED VALVE AND STAND TO LOADER MOUNTING BRACKET

1. Fasten valve stand tube (34) to tab on right branch of loader mid mounting tube using 1/2 x 2-1/2 cap screws (35), flat washers (36) and lock nuts (37).
2. Remove cover (25) of valve enclosure by removing #10 x 1/2 pan head screws (27). Reposition elbow fitting in power beyond port of valve as necessary and fasten valve box (24) to valve stand tube through pair of holes near center of valve box using 3/8 x 2-1/4 cap screws (38) and lock nuts (39).

NOTE: To avoid chafing the power beyond hose, keep the bend radius as large as possible by routing it between the front plate of enclosure and tube attachment tab.

3. Retighten jam nut on power beyond elbow (15) and refasten cover (25) to valve box (24) using original #10 x 1/2 pan head screws (27). Making sure the surface of valve box is clean and dry, remove backing from decal (40) and apply it to box where it will be visible to the operator.

PLUMBING CONTROL VALVE TO TRACTOR HYDRAULICS

1. Remove plugs from ports of tractor hydraulic outlet. Slide flow bolt (41) into banjo fitting body (42). Install o-ring (44)(.36 I.D. x .50 O.D.) onto thread end of flow bolt and slide copper seal ring (43) over o-ring. O-ring (44) acts only as a spacer to center copper seal ring on flow bolt. Screw each assembled fitting into each tractor hydraulic manifold port.

NOTE: Orient banjo fittings as shown so fitting body does not overlap areas of hydraulic outlet which are not spotfaced. Allowing banjo fitting body to overlap uneven surfaces could cause leakage. Torque flow bolts to 60 Ft. Lbs.

2. Install 9/16 - 9/16 straight fittings (45) into banjo fittings (42) in all three ports of tractor hydraulic outlet.
3. Route hoses (20 & 21) from valve down along valve mounting tube, to tractor hydraulic outlet. Connect 3/8 x 44 tank hose (20—from valve port marked "OUT") to 9/16-9/16 fitting (45) in lower rear port of hydraulic outlet. Connect 3/8 x 44 power beyond hose (21—from valve port marked "PB") to upper rear port and connect 3/8 x 44 pressure hose (20—from valve port marked "IN") to front port of hydraulic outlet.
4. Use plastic tie straps (46) to secure hoses together near hydraulic outlet and to valve mounting tube.

PLUMBING LOADER TO CONTROL VALVE

1. Install 3/8 x 78 hoses (47) onto boom oil line tubes. Install and tighten hose fittings one at a time from the bottom up. Loosening the closest oil line clamp will ease hose installation.
2. Install 5/8 spiral bands (48) onto free ends of hoses (47) to match bands on female quick couplers (29). Slide nylon sleeve (49) over hoses (47) and install male quick couplers (50) onto ends of hoses.
3. Connect hoses from the upper two boom oil lines to the lower quick couplers and connect hoses from the lower boom oil lines to the upper two quick couplers. Wrap one end of rubber strap (51) around hoses and sleeve and hook it onto itself. Hook the other end to hole near front bumper on right side frame channel. Bundle hoses together and secure to right side frame channel with 1/2 x 34 plastic tie straps (52).
4. After all plumbing has been completed and all parts are secure, turn hex actuator on the directional valve clockwise (Figure 1A page 4). Start tractor engine and slowly cycle lift and bucket cylinders several times to purge any air out of the system, then retract the cylinders and shut off the tractor engine. Add additional tractor hydraulic fluid as specified in the tractor owners manual to bring the level of hydraulic fluid up to full.

NOTE: When cycling the loader, operate the loader according to the operation decal (40) 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 the skin causing serious personal injury. If injured by escaping hydraulic fluid, obtain medical treatment immediately.

PARTS LIST

Item	Part No.	Description	Qty.
*1	SW38413	VALVE, DFP Model 1627 GD	1
*2	SW38903	ANGLE, Handle Attachment	1
*3	SW38911-1	SCREW, Flat Head Socket, 5/16-24 x 3/4	1
*4	SW38910-2	SCREW, Socket Head Cap, 5/16-24 x 3/4	1
*5	SW38908	LEVER, Valve Handle	1
*6	SW38901-5	BALL JOINT, Male	2
*7	SW38900-5	BALL JOINT, Female	1
*8	SW38904-1	STUD, Ball Joint	1
*9	SW38910-1	SCREW, Socket Head, 1/4-28 x 3/4	3
*10	SWG120392	WASHER, Flat, 1/4	3
*11	SWG120380	WASHER, Lock, 1/4	2
*12	SWG120367	NUT, Hex, 1/4-28	2
*13	SWG9416430	NUT, Lock, 1/4 x 28	2
*14	SW36584	FITTING, Power Beyond Sleeve	1
*15	SW32845-1	FITTING, Elbow, 9/16 SAE - 9/16 JIC x 90°	1
*16	SW38928-1	HOSE, 3/8 x 6-15/16	1
*17	SW38928-2	HOSE, 3/8 x 7-7/8	1
*18	SW38928-3	HOSE, 3/8 x 8-1/2	1
*19	SW38928-4	HOSE, 3/8 X 13	1
*20	SW36388-1	HOSE, 3/8 x 44	2
*21	SW36386-1	HOSE, 3/8 x 44	1

*Items 1 through 33 have been preassembled.

PARTS LIST (continued)

Item	Part No.	Description	Qty.
*22	SWG180044	SCREW, Cap, 1/2-20 x 2	2
*23	SWG9424215	NUT, Lock, 1/4 x 20	2
*24	SW38926	BOX, Valve Mounting	1
*25	SW38927	COVER, Valve Box	1
*26	SW38440-1	NUT, Panel, "J" Clip	2
*27	SWG9426105	SCREW, Pan Head Type AB, #10-16 x 1/2	2
*28	SW38912	SPACER, Quick Coupler	4
*29	SW6147-4	COUPLER, Female Quick	4
*30	SW36240-9	BAND, Spiral, 1, Blue	1
*	SW36240-10	BAND, Spiral, 1, Red	1
*	SW36240-11	BAND, Spiral, 1, Yellow	1
*	SW36240-12	BAND, Spiral, 1, Green	1
*31	SW38653	BOOT, Handle	1
*32	SW38930-1	CAP NUT	1
*33	SW38902	KNOB, Valve Handle	1
34	SW39005	TUBE, Valve Mounting Stand	1
35	SWG180185	SCREW, Cap, 1/2-13 x 2-1/2	2
36	SWG120390	WASHER, Flat, 1/2	2
37	SWG9414074	NUT, Lock, 1/2-13	2
38	SWG180132	SCREW, Cap, 3/8-16 x 2-1/4	2
39	SWG9413534	NUT, Lock, 3/8-16	2
40	SW38929	DECAL, Single Lever Control	1
41	SW 43763	FLOW BOLT, Banjo Fitting	3
42	SW36766	BODY, Banjo Fitting	3
43	**	RING, Copper Seal	3
44	**	O-RING	3
45	SW32844-1	FITTING, Straight, 9/16 JIC - 9/16 SAE	3
46	SW8137-1	STRAP, Plastic Tie, 3/16 x 11	3
47	SW36336-1	HOSE, 3/8 x 78	4
48	SW36240-5	BAND, Spiral, 5/8, Blue	1
	SW36240-6	BAND, Spiral, 5/8, Red	1
	SW36240-7	BAND, Spiral, 5/8, Yellow	1
	SW36240-8	BAND, Spiral, 5/8, Green	1
49	SW34853-2	SLEEVE, Nylon Hose	1
50	SW6137-4	COUPLER, Male Quick	4
51	SW7438-1	STRAP, Rubber	1
52	SW8137-5	STRAP, Plastic Tie, 1/2 x 34	1
53	SW43764	** SEAL KIT	3

*Items 1 through 33 have been preassembled.

Figure 1
PLUMBING LOADER AND
CONTROL VALVE TO TRACTOR

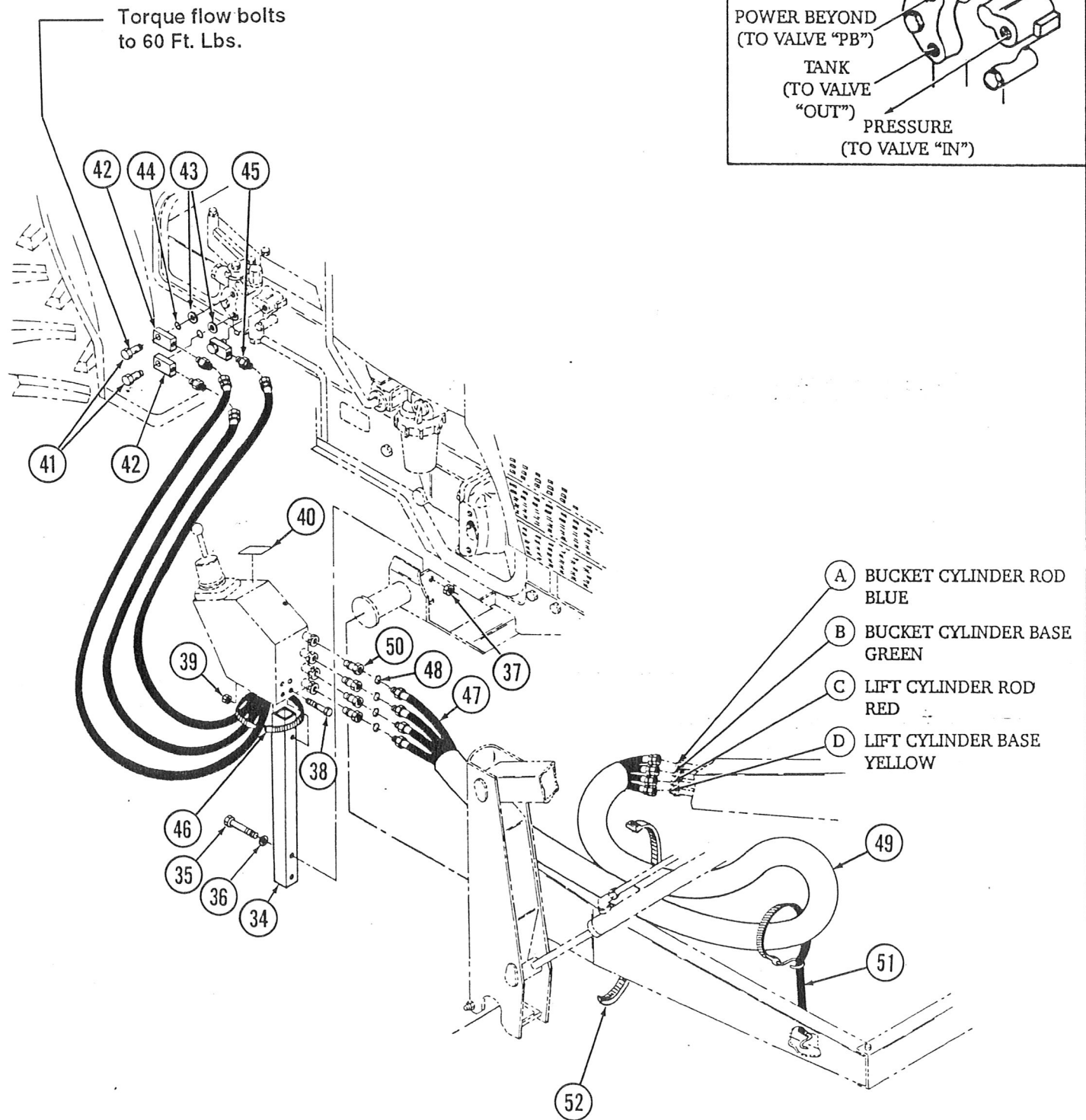


Figure 1A

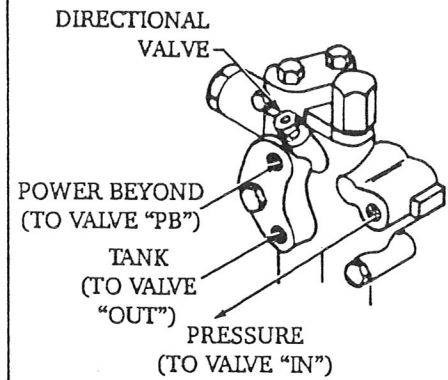
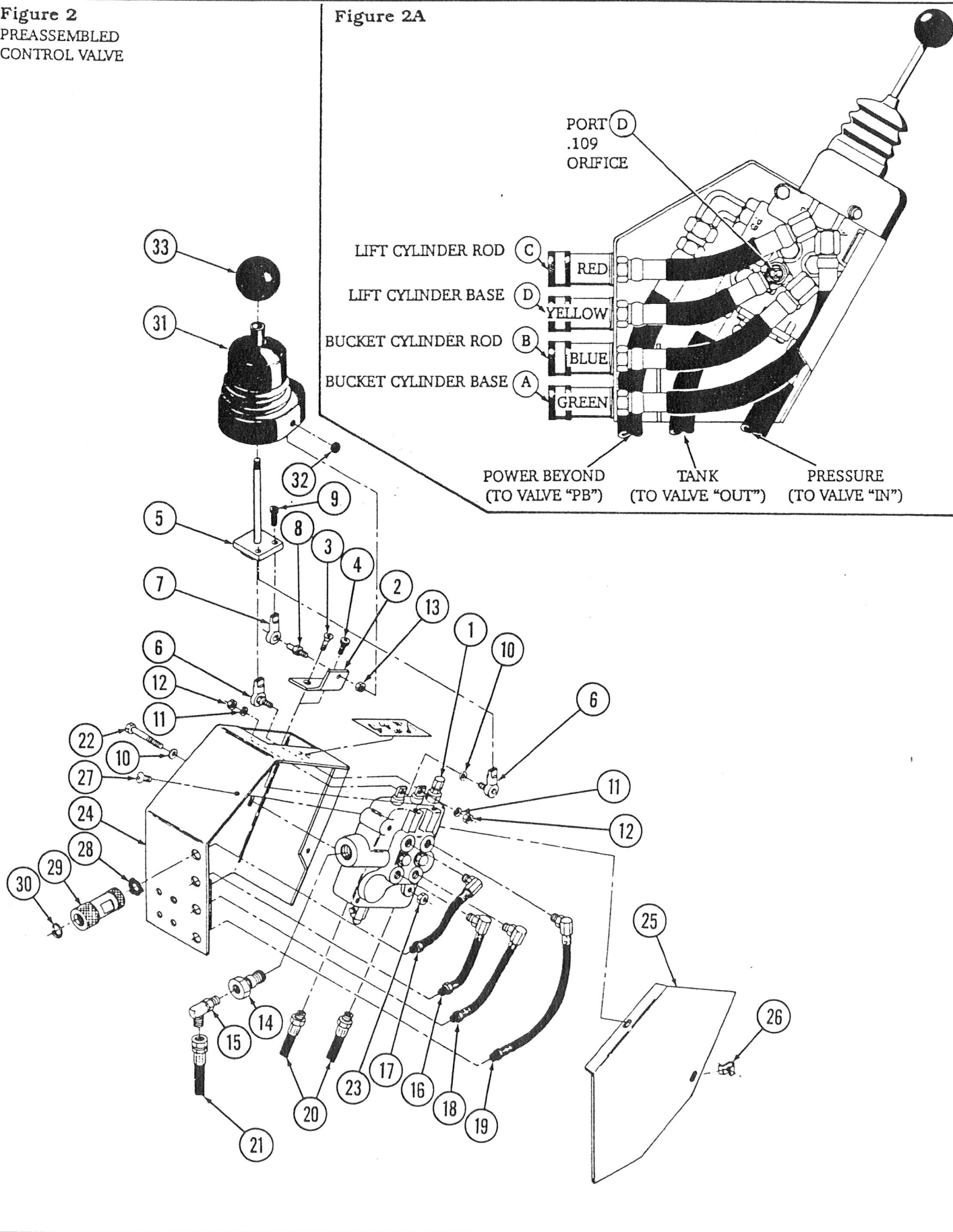


Figure 2
PREASSEMBLED
CONTROL VALVE

Figure 2A



ENCLOSED VALVE AND HANDLE DISASSEMBLY AND REASSEMBLY

If it is necessary to replace or repair any component of the valve enclosure or handle, it will need to be disassembled to the point where the damaged part is removed, then reassembled with a new part. If a part should fail during the warranty period, return the entire assembly, without disassembling, to your authorized service department or contact your service department for instructions. See your loader owner's manual for valve service instructions. Unauthorized disassembly of the valve in the warranty period will **VOID WARRANTY**.

Follow the following procedure to disassemble and reassemble the valve handle and enclosure.

NOTE: It is advisable to mark or tag all hoses and parts before disassembly, so parts can be easily identified for reassembly.

VALVE HANDLE DISASSEMBLY

1. Remove the cap nut (32) from threaded end of ball joint stud (8) and unscrew handle knob (33) from end of valve handle (5). Slip rubber boot (31) off ball joint stud (8) and slide rubber boot off valve handle (5).
2. Unscrew 1/4 x 3/4 socket head cap screws (9) from ball joints (6 & 7) to remove valve handle lever (5).

NOTE: The valve, with hoses and fittings, may be removed from the enclosure without further disassembly of the handle mechanism. See **VALVE ENCLOSURE, HOSE AND FITTING DISASSEMBLY** instructions if further disassembly of handle mechanism is not required.

3. Remove 1/4-28 hex nuts (12), lock washers (11) and flat washers (10) which fasten male ball joints (6) onto spools of valve (1).

NOTE: Rotate tilt spool (spool without float) approximately 45° to ease removal of nut (12) and lock washer (11) from male ball joint (6).

4. Slide female ball joint (7) off stud (8) and remove ball joint stud (8) from handle attachment angle (2) by removing 1/4-28 lock nut (13).
5. Remove handle attachment angle (2) from valve (1) by removing 5/16 x 3/4 flat head cap screw (3) and socket head cap screw (4).

VALVE ENCLOSURE, HOSE AND FITTING DISASSEMBLY

1. Remove cover (25) from valve box (24) by removing #10 x 1/2 pan head screws (27) and "J" clips (26).
2. Remove female quick couplers (29), spiral bands (30) and spacers (28) from ends of hoses (16, 17, 18 & 19). Remove hoses (16, 17, 18 & 19) from working ports of valve (1).

NOTE: Do not lose one-way restrictor plate from working port **D** of valve (1).

3. Remove 1/4 x 2 cap screws (22) and lock nuts (23) to remove valve with attached fittings and hoses from box (24).
4. Remove hoses (20 & 21) from the inlet and outlet ports of valve (1). Remove 3/8 x 44 hose (22) from fitting (15) in power beyond port of valve (1). Remove elbow fitting (15) from power beyond sleeve (14).

REASSEMBLING SINGLE LEVER CONTROL ONTO VALVE

1. Fasten handle attachment angle (2) to valve (1) using the 5/16 x 3/4 flat head cap screw (3) and socket head cap screw (4).
2. Fasten ball joint stud (8) to handle attachment angle (2) with 1/4-28 lock nut (13), then slide female ball joint (7) onto stud (8). Fasten both male ball joints (6) onto both spools of valve (1) with 1/4-28 hex nuts (12) and lock washers (11). One quarter-inch washer (10) may be used between the valve lift spool (spool with float) and ball joint (6) to change angle of handle lever (5).

NOTE: Rotate tilt spool (spool without float) approximately 45° to ease installation of male ball joint (6), lock washer (11) and nut (12).

3. Fasten valve handle lever (5) to ball joints (6 & 7) using 1/4-28 x 3/4 socket head cap screws (9).

REASSEMBLING VALVE AND HOSES IN BOX

1. Install 9/16 - 9/16 x 90° elbow (15) into power beyond sleeve (14) in valve port marked "PB".
2. Install 3/8 x 6-15/16 hose (16) into port **D** of valve (1). Install 3/8 x 7/8 hose (17) into port **C**, install 3/8 x 8-1/2 hose (18) into port **B** and install 3/8 x 13 hose (19) into port **A**. Connect male end of 3/8 x 44 pressure hose (20) into valve port marked "IN," install 3/8 x 44 tank hose (20) into "OUT" port and install 3/8 x 44 power beyond hose (21) onto elbow (15) in power beyond port.

NOTE: Make sure one-way restrictor plate with .109 hole is positioned in working port **D** with grooved side facing out before installing 3/8 x 6-15/16 hose (16). This plate is to prevent the loader from lowering too fast.

3. Fasten valve with attached hoses and fittings to valve box (24) using 1/4 x 2 cap screws (22) and lock nuts (23). Put ends of working port hoses (16, 17, 18 & 19) through holes in valve box as shown and install female quick couplers (29) and spacers (30). Install colored bands (31) over spacers to identify quick couplers.
4. Slide panel nuts (26) onto valve box (24) and cover (25) and fasten cover (25) onto box using #10 x 1/2 pan head screws (27). Slide rubber boot (31) over valve handle (5) and press around bottom so threaded end of ball joint stud (8) protrudes through hole. Fasten cap nut (32) onto protruding threads. Screw valve handle knob (33) onto end of valve handle.