

Keep With Operator's Manual

THIRD FUNCTION SOLENOID SELECTOR VALVE KIT

KIOTI KL128 & KL249 Loaders SMC 2408 & 2409 Loaders

Third function valve kit can be installed using tools ordinarily available. References to right or left, forward or rearward, refer to position of operator sitting in tractor seat facing front of tractor.



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.

INSTALLING THIRD FUNCTION VALVE KIT (Figure 1)

1. Lower level loader to ground and shut off engine. Relieve hydraulic pressure by activating control levers several times.

NOTE: Loaders which have auxiliary step on boom crossmember require relocating step approximately 3 inches toward left arm to allow room to install mounting bracket (2).

2. Place mounting bracket (2) over oil lines on crossmember so top valve mounting holes are toward left. Do not fasten bracket (2) to loader crossmember until hoses are connected (step 6 & 7). Position selector valve (1) on bracket so electrical solenoid is toward right boom arm. Turn electrical posts on solenoid toward rear. Fasten selector valve (1) to mounting bracket (2) using 1/4 x 2 cap screws (4) 1/4 lock nuts (5), spacer plate (38) and 1/4 flat washer (37).

3. Install 3/4 x 90° extra long elbow fitting (6) and 3/4 x 90° elbow fitting (7) into top and rear ports of selector valve (1). On top ports, long elbow fitting (6) goes in left port and points toward right. On rear ports long elbow fitting (6) goes into right port and points toward left.
4. Disassemble plug in connector (31). Install one end of two strand gray wire (10) into plug-in connector (31). Connect one strand of wire to top post on plug-in connector and connect other strand of wire to bottom post on plug-in connector. Install connector (31) to selector valve (1). Use small machine screw to secure connector (31) to selector valve (1).

NOTE: Only top and bottom electrical posts on selector valve are used.

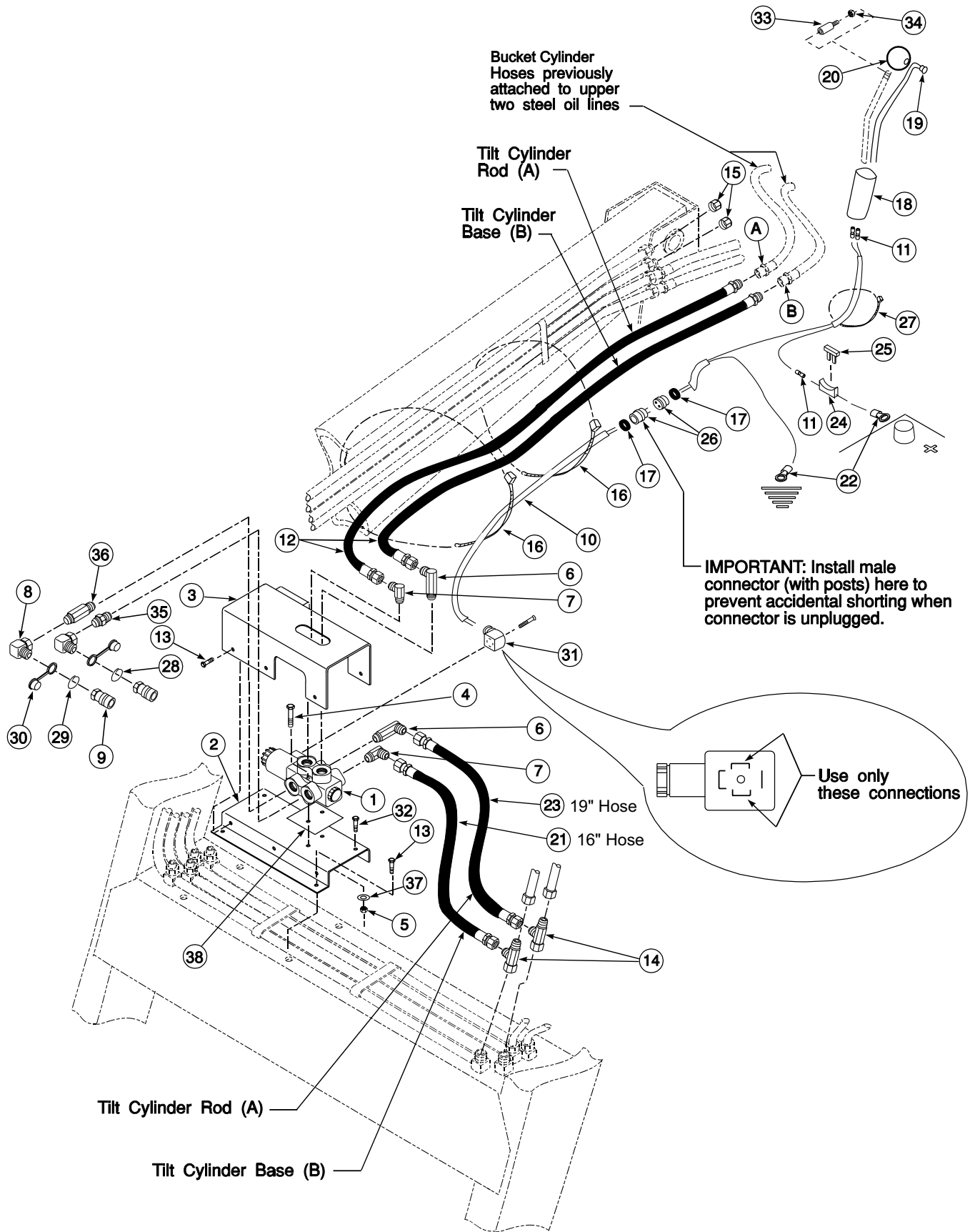
5. Disconnect left bucket cylinder hoses from steel oil lines. Connect street tees (14) into oil lines and reconnect hoses to tees.
6. Connect 3/8 x 19 hose (23) and 3/8 by x 16 hose (34) from selector valve rear ports to street tees (14).
7. Position mounting bracket (2) and valve (1) along oil lines so 3/8 x 19 hose (23) and 3/8 x 16 hose (34) lay well. Using bracket (2) as a guide, locate and drill four 3/16 mounting holes into top of crossmember.
8. Fasten selector valve (1) and mounting bracket (2) to top of loader crossmember using 1/4 x 1 self tapping screws (13), and 1/4 x 2.00 (33).
9. Install long 3/4 O. R. x 3/4 JIC fitting (36) into right front port of selector valve. Install shorter 3/4 O.R. x 3/4 JIC fitting (35) into left front port. Install 90° fitting (8), dust plugs (30), colored I.D. rings (28 & 29), and quick couplers (9).
10. Install mounting bracket cover (3) using 1/4 x 1 self tapping screws (13).
11. Connect 3/8 x 66 hoses (12) to top ports of selector valve.

(Continued on page 3)

PARTS LIST - THIRD FUNCTION VALVE KIT

Item	Part No.	Description	Qty.
1	46700	VALVE, Double Selector	1
2	46751	BRACKET, Mounting	1
3	46750	COVER, Valve, Assembly	1
4	G180044	SCREW, Cap, 1/4-20	2
5	G9424215	NUT, Hex, 1/4-20	2
6	41796-1	FITTING, Elbow, 3/4-16 x 3/4-16 90°, (Extra Long)	2
7	32845-2	FITTING, Elbow, 3/4-16 x 3/4-16 90°	2
8	46095-2	FITTING, Adapter, 3/4-16 JIC x 3/8 NPT x 90°	2
9	6147-4	FITTING, Coupler, Female	2
10	39436	WIRE, 2 Strand, Gray	240 in.
11	22727	CONNECTOR, Wire, 14 Ga.	3
12	46746-1	HOSE, 3/8 x 66"	2
13	40253-2	SCREW, Hex Head Self Tapping, 1/4 x 1"	5
14	37850-2	TEE, Swivel Nut Run 3/4-16	2
15	G9403372	CAP, End, 3/4-16 JIC	2
16	8137-3	STRAP, Plastic Adjustable, 1/2"	5
17	6079-8	GROMMET, Rubber	2
18	39447	SHRINK TUBE	6 in
19	44278	SWITCH, Push Button with Leads	1
20	44280	KNOB, with Button Hole	1
21	36844-1	HOSE, 3/8 x 16"	1
22	24082-5	TERMINAL, 3/8 x 14 Ga.	2
23	36844-2	HOSE, 3/8 X 19"	1
24	41805	HOLDER, Fuse	1
25	41804-1	FUSE, 10 AMP	1
26	41797	CONNECTOR, Two Pole	1
27	8137-1	STRAP, Adjustable, Plastic, 3/16"	4
28	36240-5	BAND, Plastic, Spiral, Blue	2
29	36240-6	BAND, Plastic, Spiral, Red	2
30	4838-6	PLUG, Dust	2
31	41802	CONNECTOR, 2 Pole	1
32	40253-1	SCREW, Self Tapping, 1/4 x 2"	2
33	46747	HANDLE, Adapter	1
34	G124925	JAM NUT, 3/8-24	1
35	32844-4	FITTING, Adapter, 3/4-16 O-Ring x 3/4-16 JIC	1
36	32844-16	FITTING, Adapter, Long, 3/4-16 O-Ring x 3/4-16 JIC	1
37	G120392	WASHER, Flat, 1/4	2
38	46748	PLATE, Spacer	1

Figure 1



INSTALLING THIRD FUNCTION VALVE KIT (Continued from page 1) (Figure 1)

12. Disconnect bucket cylinder hoses from steel oil lines at rear of loader boom arm (hoses come from tractor rear quick couplers or optional control valve). Route 3/8 x 66 hoses (12) along steel oil lines and connect hoses to ends of bucket cylinder hoses. Install caps (15) into ends of bucket cylinder steel oil lines.
13. Route gray wire (10) up loader boom arm and down upright to area near loader quick attach hinge. Secure 3/8 x 66 hoses (12) and gray wire (10) to steel oil lines using 1/2" plastic tie straps (16). Leave an additional 1 or 2 feet of slack and cut off extra wire.
14. Install grommet (17) into male portion (with posts) of two pole connector (26). Unscrew cap on this portion of connector and push wire from selector valve through grommet.
HINT: *Cut wire at an angle and use brake fluid or soap as lubricant to ease wire insertion.*
15. Cut back gray covering about 1/4" and strip inner wires to gray outer covering. Install ends of wire into 2 pole connector (26) and screw on cap.
16. Unscrew existing knob from control handle. Slip shrink tube (18) over control handle. Screw knob (20) with switch (19), jam nut (34), and handle adapter (33) onto control handle. Slip shrink tube (18) over switch wires.
17. Connect switch wires to end of two strand gray wire (10) using two butt connectors (11) leaving enough slack for handle movement.

18. Heat shrink tube until switch wires are held securely on control handle.
19. Route gray wire (10) to tractor battery. Near positive post of battery, slit gray covering on wire and cut one strand. Connect end of wire from switch to positive battery post using a butt connector (11), fuse holder (24), fuse (25) and 3/8 terminal (32). Connect other end of wire to ground using 3/8 terminal (32).
20. Continue routing gray wire to 2 pole plug connector (26) near loader upright hinge. Cut the gray wire and install to female portion of plug using procedure outlined in steps 15 and 16.
21. Secure gray wire where needed using 3/16 tie straps (27).
22. Install blue and red identification rings (28 & 29) to third function attachment hoses.

OPERATING THIRD FUNCTION VALVE

After installing third function attachment onto loader, connect hoses to third function valve. Optional accessory will function when button on switch is activated and lever is moved as if to activate bucket cylinders.

NOTE: *To insure proper shifting of selector valve, always bring bucket control lever to neutral before pressing switch button. Selector valve may not shift when 12 GPM or more oil is flowing through it.*

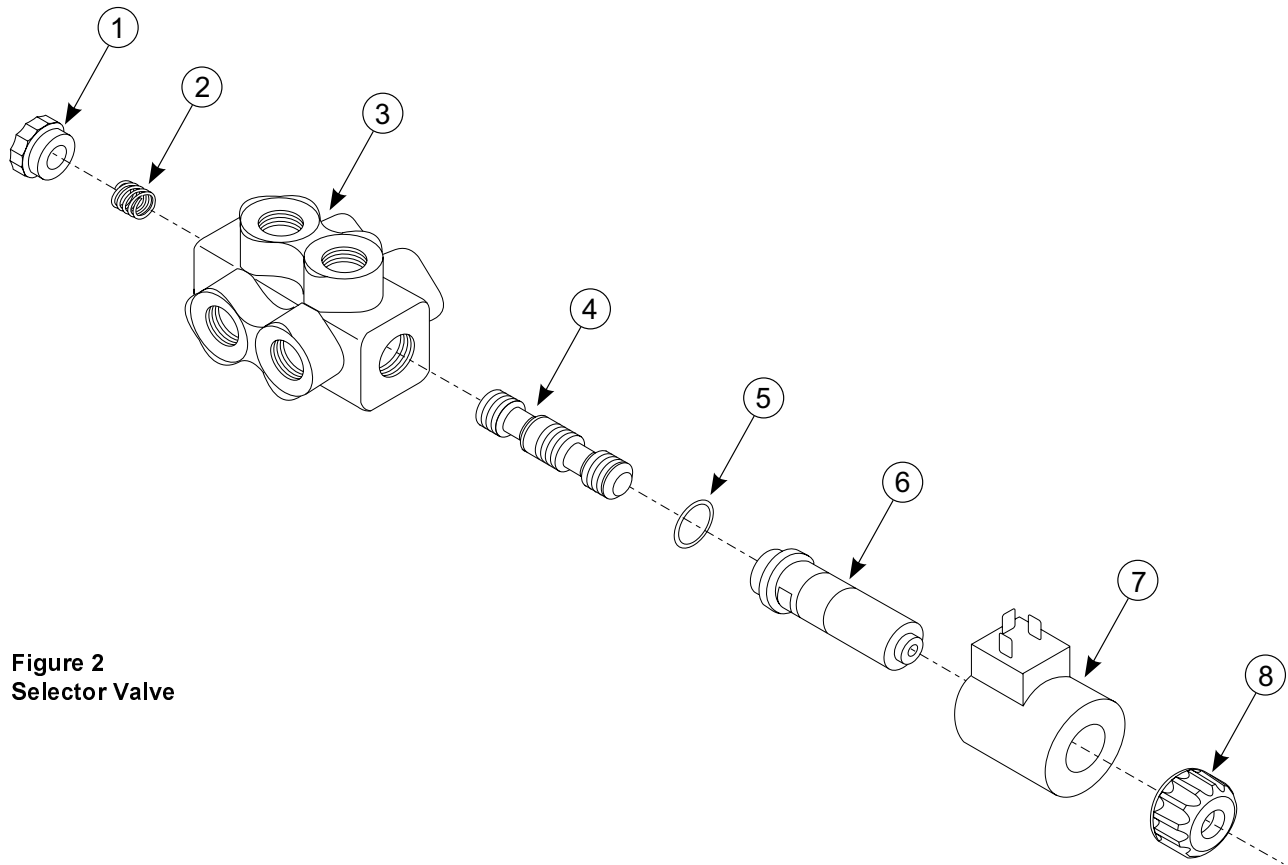


Figure 2
Selector Valve

REPAIR PARTS LIST - SELECTOR VALVE- WALVOIL DFE5/12VDC

Item	Part No.	Description	Qty.
1	*	PLUG	1
2	47123	SPRING	1
3	*	BODY	1
4	*	SPOOL	1
5	47122	O-RING	1
6	*	TUBE	1
7	47121	BINDER COIL	1
8	47120	BINDER RETAINER	1

** Not available as repair parts*