

Keep With Operator's Manual

THIRD FUNCTION SOLENOID SELECTOR VALVE KIT FORD 7310, 2491 & 2410 LOADER

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 2)

1. Lower loader to ground. Level bucket and shut off tractor engine. Relieve hydraulic pressure by activating control levers several times.
2. Remove oil line shield from top of loader crossmember. Position angle bracket (17) so rubber pad which cushion oil lines is centered on cutout on angle and back of angle is 2.56" from back edge of bolt and parallel to back of crossmember.

Mark to locate holes on crossmember using angle bracket (17) as a template. Drill two 3/16 holes into crossmember and attach angle bracket (17) to crossmember using 1/4 x 1 self tapping screws (13). Reinstall oil line shield into top of loader crossmember.

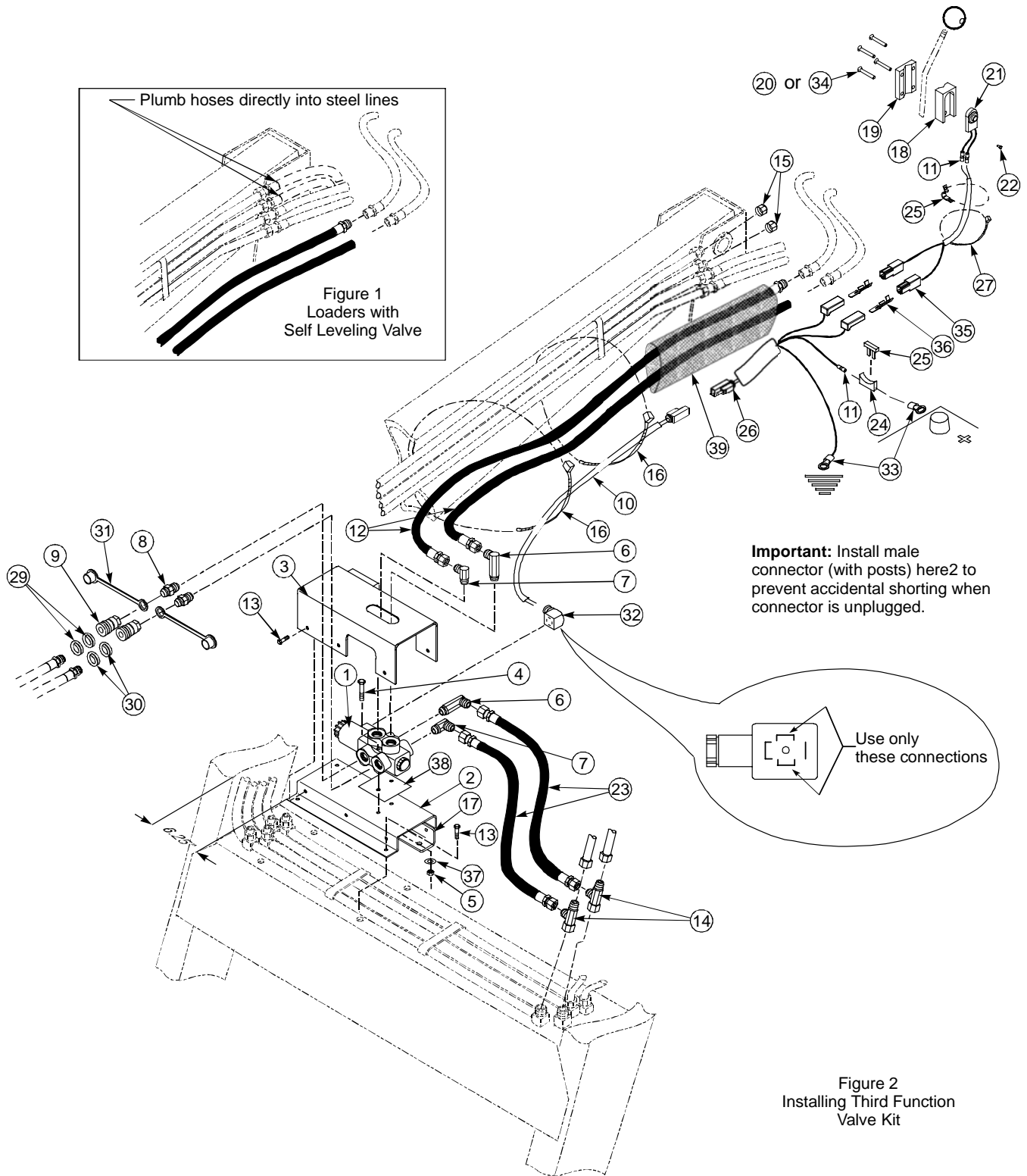
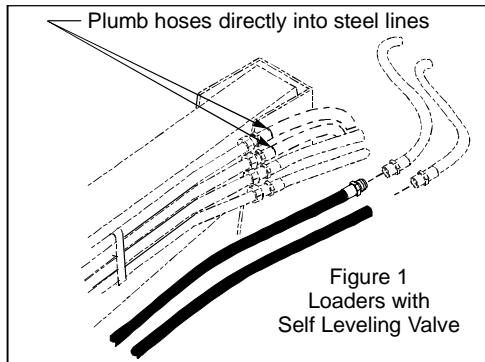
3. Attach selector valve (1) to mounting bracket (2) with solenoid positioned facing right side of loader boom as shown in Figure 1. Fasten selector valve (1) to mounting bracket (2) using 1/4 x 2 cap screws (4) 1/4 lock nuts (5) spacer plate (38) and 1/4 flat washer (37).
4. Install 3/4 x 90° extra 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.

5. Disconnect left bucket cylinder hoses from steel oil lines. Connect street tees (14) into oil lines and reconnect hoses to tees.
 6. Connect 1/2 x 28" hoses (23) from selector valve rear ports to street tees (14).
 7. Attach mounting bracket rear hole to angle bracket (17) using 1/4 x 1 self tapping screw (13). (Rear of mounting bracket should be positioned over back of angle bracket) Using mounting bracket (2) as a template, drill two 3/16" holes through top of crossmember and fasten mounting bracket (2) to crossmember using 1/4 x 1" self tapping screws (13).
 8. Install 3/4 O.R. x 3/8 pipe fitting (8), dust plugs (30), colored rings (28 & 29), and quick couplers (9) into front ports of selector valve (1).
 9. Route wiring harness (26) from loader mountings to a 12 volt power source (either to the tractor battery or to the tractor fuse panel). Cut off excess wire. Attach fuse holder (24) to black wire using butt connector (11). Attach terminal ends (33) to opposite side of fuse holder and to the white wire on wiring harness (26). Connect terminal end on fuse holder to positive side of battery or fuse pwl and terminal end on white wire to ground.
 10. Fasten switch bracket (18) and clamp (19) to bucket control lever on tractor using #4-40 x 3/4 screws (20). Locate holder so switch (21) can be activated with ease. If lever shank is round and less than 1/2" in diameter, it will be necessary to use shorter screws (#4-40 x 5/8") (34) so screws don't protrude into switch slot area of holder.
- NOTE:** *If switch holder will not fit because of odd shape of handle, tape switch directly to control lever using a quality electrical tape good to 0° F (3M Scotch Super 33+ or Super 88).*
11. Slide switch (21) into switch holder (18). Secure switch to holder using 1/4 set screw (22).
 12. Using excess wire that was cut from wiring harness (26) in step above, attach wire leads coming from switch (21) using butt connectors (11). Cut to length and attach spade terminals (35) onto wires and install plastic tabs (36) over spade terminals. Connect to wiring harness (26).

(Continued on page 4)

PARTS LIST - THIRD FUNCTION VALVE KIT

Item	Part No.	Description	Qty.
1	53374	VALVE, Double Selector	1
2	53431	BRACKET, Mounting	1
3	53432	COVER, Valve, Assembly	1
4	41838-82	SCREW, Cap, 1/4-20 x 2	2
5	41840-11	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	39280-7	FITTING, Adapter, 3/4-16 O-Ring x 3/8 NPT	2
9	6147-4	FITTING, Coupler, Female	2
10	48404	WIRING HARNESS	300 in.
11	22727	CONNECTOR, Wire, 14 Ga.	3
12	41794-1	HOSE, 1/2 X 72"	2
13	40253-2	SCREW, Hex Head Self Tapping, 1"	7
14	37850-3	TEE, Swivel Nut Run	2
15	52003-6	CAP, End, 3/4-16 JIC	2
16	8137-3	STRAP, Plastic Adjustable, 1/2"	5
17	53433	ANGLE BRACKET	1
18	41799	BRACKET, Switch	1
19	41798	PLATE, Clamp	1
20	41800-2	SCREW, Machine, #4-40 x 3/4	4
21	41801	SWITCH, Push Button	1
22	G139011	SCREW, Set, 1/4-28 x 3/8 Square head	1
23	41795-1	HOSE, 1/2 x 28"	2
24	41805	HOLDER, Fuse	1
25	41804-1	FUSE, 10 AMP	1
26	50502	WIRING HARNESS	1
27	8137-1	STRAP, Adjustable, Plastic, 3/16"	4
28	8222-1	CLAMP, Tube, 1/2	1
29	36240-5	BAND, Plastic, Spiral, Blue	2
30	36240-6	BAND, Plastic, Spiral, Red	2
31	4838-6	PLUG, Dust	2
32	41802	CONNECTOR, 2 Pole	1
33	24082-5	TERMINAL, 3/8 x 14 Ga.	2
34	41800-1	SCREW, Machine, #4-40 x 5/8	4
35	48411	CONNECTOR TAB	2
36	48420	PLASTICE COVER	2
37	42502-6	WASHER, 1/4 SAE YDP	2
38	46748	SPACER, Plate	1
39	34853-38	NYLON SLEEVE, 1.75 x 72"	1



INSTALLING THRID FUNCTION VALVE KIT (Continued) (Figure 2)

13. Connect wiring harness (10) to wiring harness (26) at loader mounting and secure wiring harness (10) to oil lines on loader right boom arm using plastic ties (16) Note: Do not snug ties completely because these plastic ties also secure hoses (12), which are added in a later step, to loader boom. Cut off excess wire at end of wiring harness allowing ample wire to make connection at selector valve (1).
14. Slide compression nut onto wiring harness (10) and thread harness through connector housing and into wiring harness connector (12). Expose about 1 inch of individual wire and strip away 3/8" of insulation off end of wire. Connect black terminal to #1 terminal and white wire to #2 terminal of connector receptacle.
15. Install receptacle part of connector into connector housing so terminal #3 is adjacent to wire entrance port in housing. Tightly screw compression nut onto connector housing. Remove plastic terminal protector from selector valve. Terminals on solenoid should face back of loader crossmember. If they do not, loosen plastic nut at end of solenoid and turn solenoid slightly and retighten plastic nut. Plug connector (31) onto terminals of solenoid and secure to solenoid with screw supplied with connector (31).
16. Attach mounting bracket cover (3) to mounting bracket (2) and angle bracket (17) using 1/4 x 1 self tapping screws (13).
17. Connect 1/2 x 72" hoses (12) to top ports of selector valve. Slide nylon sleeve (39) over 1/2 x 72" hoses. Route hoses and nylon sleeve through plastic tie straps on loader boom arm. If loader is equipped with a self leveling valve go to instruction #19.
18. Disconnect bucket cylinder hoses from steel oil lines at rear of loader boom arm (hoses come from valve kit on tractor or from tractor rear remotes). Connect hoses just removed from steel oil lines to 1/2 x 72" hoses (12). Install caps (15) to steel oil lines on loader boom arm. Make sure all hydraulic connections are tight.

19. Remove two tees and elbows at end of bucket cylinder steel oil lines where hoses from self leveling valve are connected. Reconnect hoses from self leveling valve directly onto corresponding steel oil lines (Figure 1). Connect 1/2 x 72" hoses (12) to hoses from tractor rear quick couplers or control valve.
20. Install fuse (25) into fuse holder (24). Start tractor and check operation of joystick. Loader bucket should roll back when joystick is moved to left and attachment should clamp when joystick is moved to left with button to energize selector valve is depressed.

If bucket function is backwards, but attachment functions correctly; switch hoses where selector valve feeder hoses are connected to loader hoses. This will also result in hoses to selector valve couplers from attachment having to be switched.

If both functions are backwards, only the hoses feeding the selector valve at the hoses from the tractor need to be switched. If attachment function is only function that is backwards, switch hoses at quick couplers at selector valve.
21. Install red and green identification rings (29 & 30) to third function attachment hoses and to quick couplers on selector valve.

OPERATING THIRD FUNCTION VALVE

After installing third function attachment onto loader, connect hoses to third function when button on shitch 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 shitch button. Selector valve may not shift while 12 GPM or more oil is flowing through it.*

NEW REPAIR PARTS BREAKDOWN

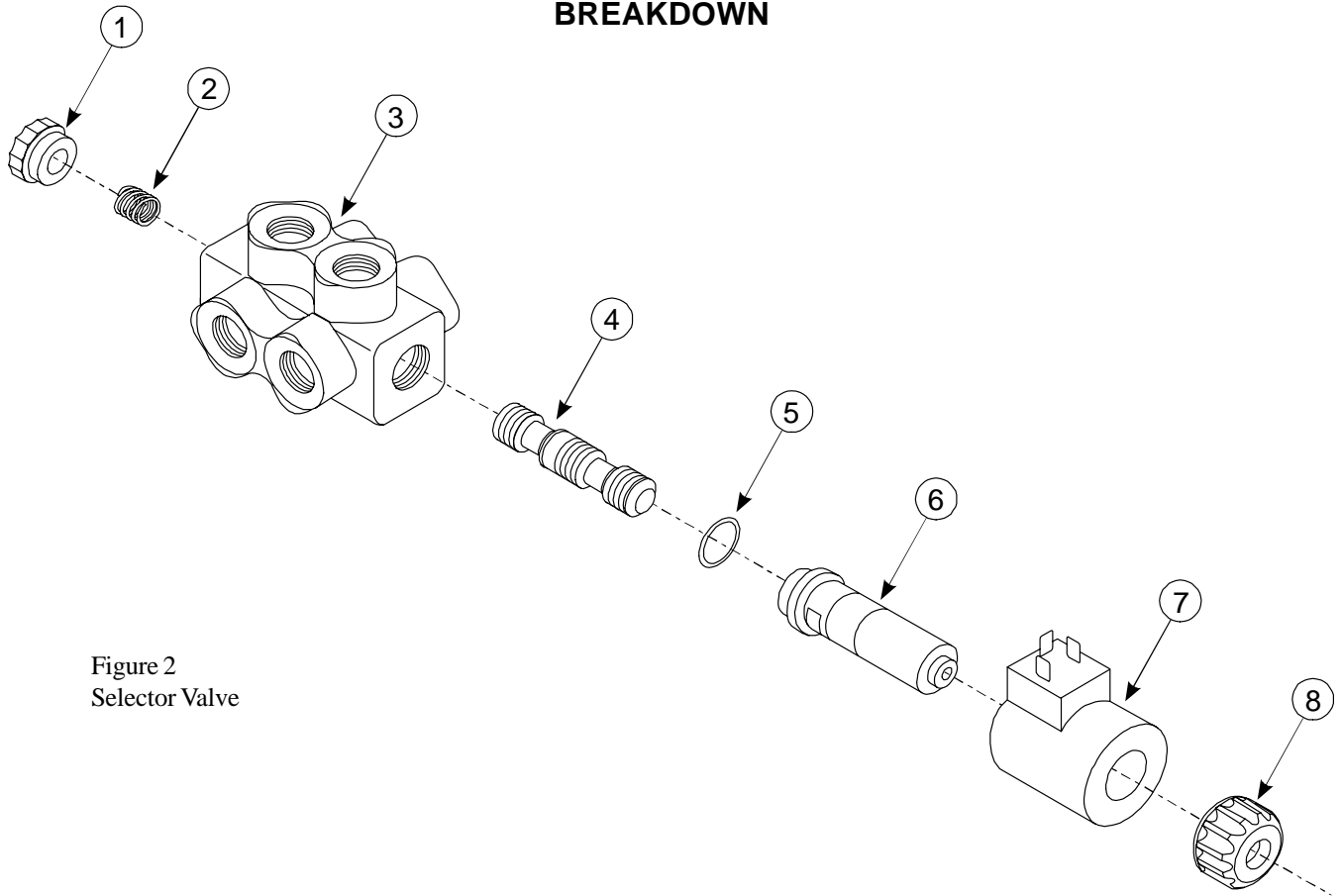


Figure 2
Selector Valve

REPAIR PARTS LIST - SELECTOR VALVE- WALVOIL DFE052/6B18ES

Item	Part No.	Description	Qty.
1	*	PLUG	1
2	53377	SPRING	1
3	*	BODY	1
4	*	SPOOL	1
5	53378	O-RING	1
6	*	TUBE	1
7	53375	BINDER COIL	1
8	53376	BINDER RETAINER	1

* Not available as repair parts

INSTALLATION INSTRUCTIONS