

TOP VIEW OF WORKING PORTS ON THE VALVE

RAISE LOWER  
DUMP RETRACT  
OPEN CLOSE

USE PLUGS ON COUPLERS WHEN DISCONNECTED. ATTACH OVER HOSE ENDS DURING INSTALLATION.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	668962	2 SPOOL LOAD SENSING VALVE
2	1	683154	KIT-JOYSTICK BENT 78" 2 SP
3	1	684725	JOYSTICK HANDLE PLATE
4	1	672276	JOYSTICK HANDLE PLATE
5	1	672274	JD 7000 SERIES HYDRAULIC BLOCK
6	1	677859	PLATE-VALVE BRACKET
7	1	689591	VALVE BRACKET
8	1	672858	COUPLER PLATE
9	2	669298	CABLE CONNECTOR KIT
10	1	673956	COLOR COUPLER PLUG KIT
11	2	669686	36" HOSE WRAP
12	5	652393	14.25 NYLON CABLE TIE
13	1	663708	OPERATIONAL JOYSTICK DECAL
14	3	6809-10-8	FITTING - HYD ELB 90 8fJX-10ORM
15	1	6400-6-6	FITTING-HYD ADA 6MJX-6ORM
16	4	673740	QUICK COUPLER BULKHEAD SET
17	1	6408-10	PLUG: 10ORM
18	4	678304	HYD HOSE .5-150 8FJX-8FJX90
19	2	659774	HYD HOSE .5-30 8MJX-8FJX90-10ORM
20	1	652806	HYD HOSE .5-36 8MJX-6FJX90-8ORM
21	4	676988	HYD HOSE .5-84 8ORM-8MJX
22	5	640153	WASHER - 3/8" SPRING LOCK
23	3	652378	SCREW - 10MM - 1.50 X 25 GR 8.8 HHC
24	2	640059	SCREW-.50-13 X 1.50 GR 5 HHC
25	9	640032	SCREW-.375-16 X 1.25 GR 5 HHC
26	9	682413	NUT - .375 X 16 FLANGE
27	2	683932	NUT - .50 X 13 FLANGE
28	5	640154	WASHER - 3/8" FLAT
29	2	640034	SCREW-.375-16 X 1.50 GR 5 HHC
30	3	672503	OIL LINE CLAMP TWIN .500
31	2	640132	NUT - 0375 - 16 GR 2 HEX
32	2	669618	SCREW-.3125-18 X 3.50 GR 5 HHC
33	2	640151	WASHER - 5/16" SPRING LOCK
34	2	652360	NUT - .313-18 GR 2 HEX
35	1	640046	SCREW-.375-16 X 4.00 GR 5 HHC
36	1	700560	NUT - .375-16 GR 2 CENTER LOCK
37	4	640152	WASHER - 5/16" FLAT

6 6400-8-10 8MJIC X 10ORM

NOTE:  
1. REFER TO WRITTEN INSTRUCTIONS ON ADDITIONAL INFORMATION TO INSTALL KIT.  
2. USE HOSE WRAP AND NYLON TIES TO SECURE HOSES TOGETHER.

SHORT LINE PARTS  
WWW.SHORTLINEPARTS.COM  
SALES@SHORTLINEPARTS.COM

# KOYKER MANUFACTURING LENNOX, SD

2 SPOOL PLUMBING KIT #683396

**JOHN DEERE 6605-7200-7210-7400-7400-7405  
7410-7510-7600-7610-7700-7710-7800-7810**

## INSTALLATION INSTRUCTIONS:

1. Mount kit should be installed before proceeding to ensure that there is no interference.
2. First, attach hydraulic block kit (Part #4) on left hand side using existing studs and nuts, but use the new o-ring and the dime disk with the block to tractor. **See in Fig. 1-1.**
3. Once that has been done attach the valve plate (Part #5) onto the RH side of the tractor behind the rear cab. Secure with two 3/8" x 1 1/2" HH cap screws, flat washers, lock washers and nuts (Part #23, 26, 28 & 31). **See in Fig. 1-2.**
4. Install nine adapters (Part #12 & 13) into the pressure, return, load sense and all the working ports on the top of the valve. **TIGHTEN ALL THE CONNECTIONS SECURELY!**
5. Install the valve (Part 1) onto the valve plate with four 3/8" x 1 1/4" HH cap screws, lock washers and hex nuts (Part #22, 28 & 31).
6. Next the joystick handle bracket (Part #6) must be attached to the joystick cable control kit (Part #2) with two 5/16" x 3 1/2" HH cap screws, lock washers, hex nuts and flat washer (Part #20, 27, 27, 30 & 25). **NOTE:** the locking tab on the joystick base should face the rear of the tractor, if joystick needs a 1/4 turn remove the two metal sleeves for the attaching bolts from joystick and reinsert them at a 1/4 turn. Then attach this assembly to the handle bracket adapter plate (Part #7) with two 3/8" x 1 1/4" HH cap screws, lock washers, and one flat washer (Part #20, 25, 27, & 30). Note: Attach all fasteners loosely to allow for desired adjustment later.
7. Then install the handle bracket adapter plate (Part #7) onto the front right corner post just ahead of the side counsel in the cab of the tractor. Attach with three 10MM – 1.50 x 25MM HH cap screws and lock washers (Part #24 & 29). You need to cut a hole thru the cab floor to route the cable ends down through the hole in the cab floor just ahead of the side counsel. Adjust the according brackets to acquire the most desirable position for the joystick handle. **See in Fig. 1-3 and Fig 1-4.**
8. When this has been done attach the cable ends to the valve body with the connector kits (Part #3). **Note: Make sure the joystick is in the locked position.** (Center the joystick and push the locking tab in (located on the base of joystick) to lock joystick.) First screw the nut onto the cable, then put the small o-ring on the cable past the threads.

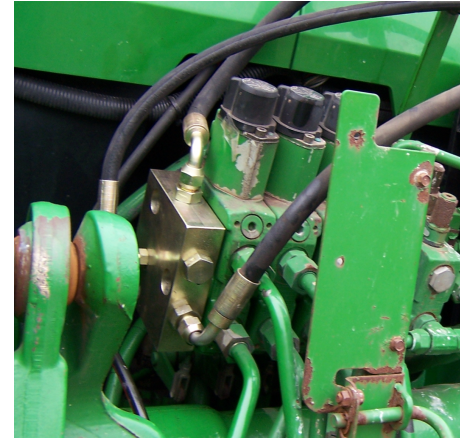


Fig 1-1



Fig 1-2



Fig 1-3

Slide large o-ring on the connector, thread the cable connector, and slide the valve controller on the cable. Now thread the small nut and the pin connector onto the cable and tighten. Now push pin connector onto the valve push rod and slide the pin through the holes. Thread the cable connector to the valve by hand. **Note: Only hand tighten the valve connector, if over tightened the joystick will not be right.** Now push large o-ring to the valve into the groove of cable connector. Then slide the valve connector to the valve and bolt together with given Allen head bolts. Slide the small o-ring to cable connector groove on the end and thread the large nut to cable connector and tighten. **Note: Make sure the cable connector does not move. See in Fig. 1-5.**



Fig 1-4

9. Install the four fittings (Part #11, 12 & 14) into the manifold block.

10. Route the 30" and 36" hoses (Part #15 & 16) behind the tractor and attach to the proper ports on the manifold block already installed on the back of the tractor to valve. See instruction sheet for proper connections.

11. Next put the bulkhead adapters with the female half (Part #10) on the mid-mount couple plate (Part #8). Note: At this point install, the male half of the colored plugs (Part #9) along with the couplers.

12. Now install the mid-mount coupler plate (Part #8) with two 3/8" x 1 1/4" HH cap screws, lock washers and hex nuts (Part #22, 28 & 31). **See in Fig. 1-6.**

13. Run hydraulic 150" hoses (Part #17) from valve to mid-mount coupler.

14. After this has been done attach the male half of the quick coupler (Part #10) onto the 84" hoses (Part #18). Note: At this point, install the female half of the colored plugs (Part #9). Attach the other end of the hoses to the steel oil lines on the loader frame. Then attach to the mid-mount coupler. Refer to the top view of the working port diagram and the loader manual to determine the function of the port.

15. Secure loader hoses together with three plastic oil line clamps stacked on one another and held together with a 3/8" X 4" HH capscrew, 3/8" flat washers and 3/8" locknut. Secure the remainder of the hoses with the 36" of hose wrap and nylon ties to make sure they do not interfere with any tractor function.

16. Finally start the tractor, actuate the loader to charge the hydraulic system with oil and add hydraulic fluid to the tractor as required using the recommended fluid for your tractor. Refer to the hydraulic section of the tractor owner's manual for the specific details regarding hydraulic fluid levels.

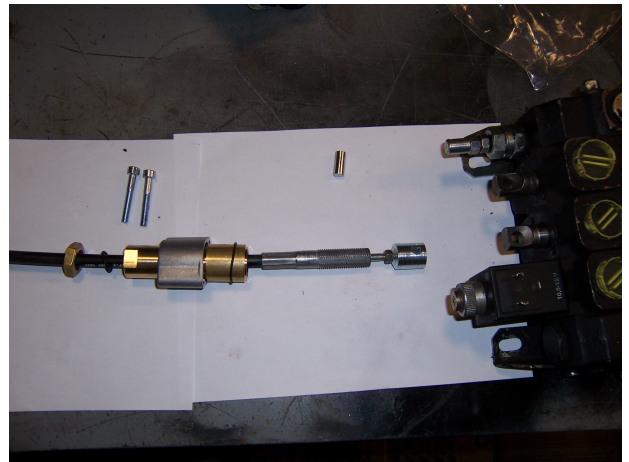
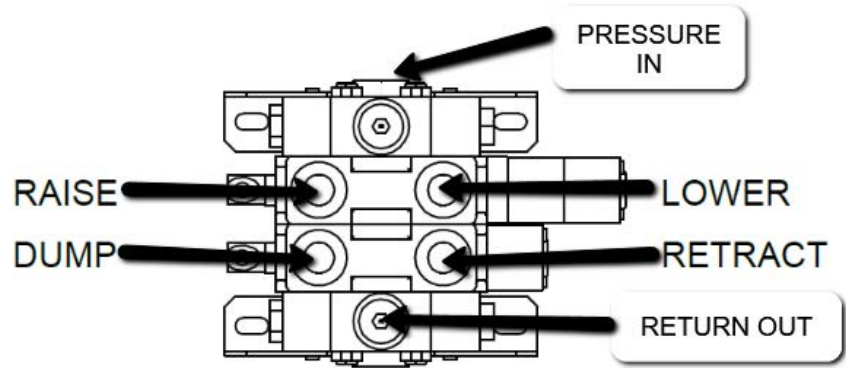


Fig 1-5



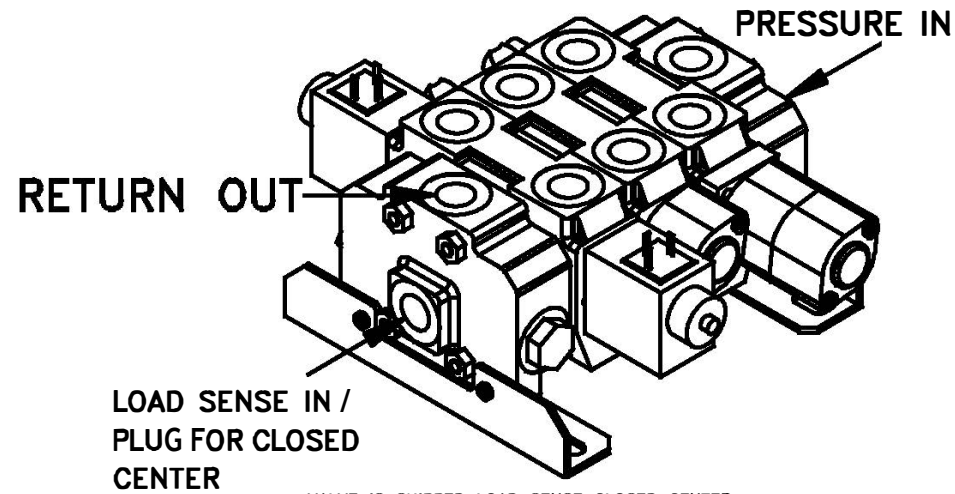
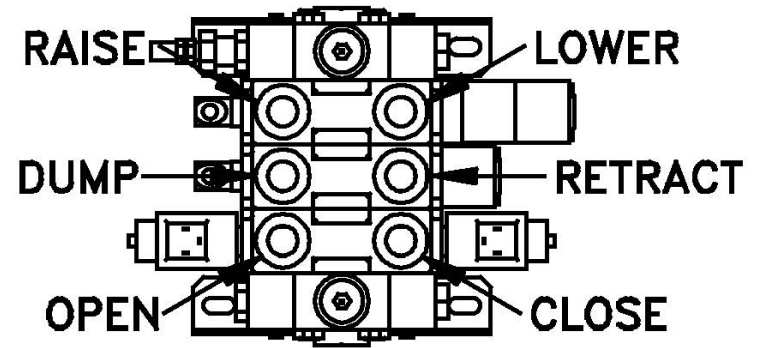
Fig 1-6

2 SPOOL LOAD SENSING/CLOSED CENTER VALVE  
PORTS LABELED



LOAD SENSE IN /  
PLUG FOR CLOSED  
CENTER

3 SPOOL LOAD SENSING/CLOSED CENTER  
VALVE PORTS LABELED



VALVE IS SHIPPED LOAD SENSE CLOSED CENTER.

VIDEOS:

CONNECTING CABLES TO VALVE:

<https://youtu.be/AOKy1CnuU4o>



CONNECTING CABLES TO JOYSTICK:

<https://youtu.be/vbcYCtpPtaw>



COMPLETE JOYSTICK KIT INSTALLED ON  
JD 7810:

<https://youtu.be/NIBXNDrYNzM>

