Automated Steering Hydraulic Installation Kit

P/N: ED-JD6700

Fits John Deere Sprayer Models:

6500
6700

Overview

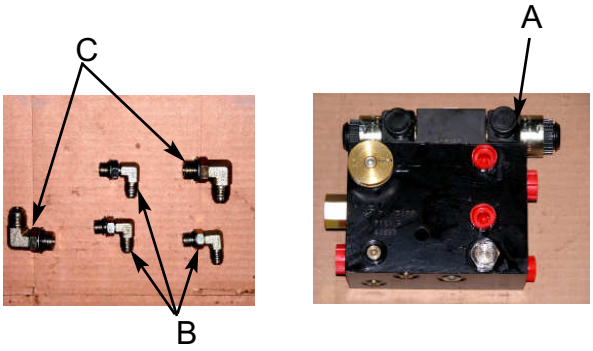
A series of equipment specific hydraulic installation kits have been developed to work in conjunction with your automated steering system. This kit contains the necessary components and instructions to install automated steering hydraulics on the John Deere sprayer models listed above. Please read this manual thoroughly before beginning the installation.

Machine Preparation

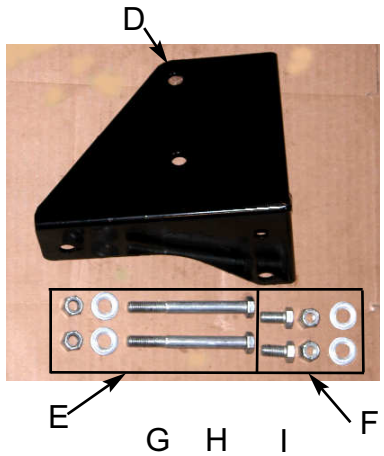
Before attempting to install hydraulics, park the machine on a clean level floor with adequate clearance to work all around.

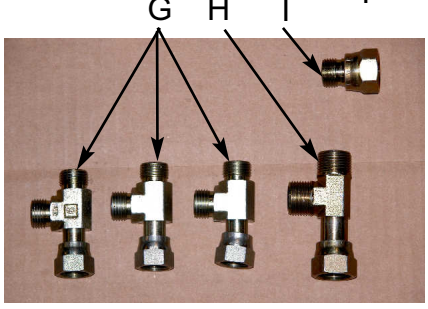
Kit Contents

Unpack the installation kit and identify the required parts as shown.



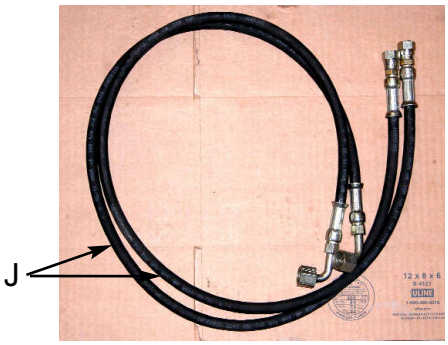
REF	P/N	QTY	DESCRIPTION
A	760-0005	1	Assy, Hyd. Valve Block - OC
	Bag #1 of 3 includes B & C		
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	760-2080	2	Adapter, Hyd. 90 Elbow - #8maleJIC x #8maleORB
D	640-0018	1	Hyd. Block Mnt - JD6700
	Bag #2 of 3 includes E & F		
E	675-2005	2	Bolt, 3/8NC x 3-1/4” Gr5 ZP
	678-1054	2	Washer, Narrow Flat - 3/4”OD x 13/32”ID x 1/16”thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP
F	675-2007	2	Bolt, 3/8NC x 3/4” Gr5 ZP
	678-1054	2	Washer, Narrow Flat - 3/4”OD x 13/32”ID x 1/16”thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP
	Bag #3 of 3 includes G, H, & I		
G	760-2046	3	Adapter, Hyd. Run Tee - #6 ORFF
H	760-2069	1	Adapter, Hyd. Run Tee - #8 ORFF
I	760-2064	1	Adapter, Hyd. - #8femORFF x #6maleORFF

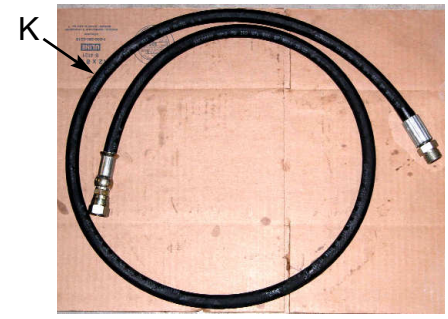


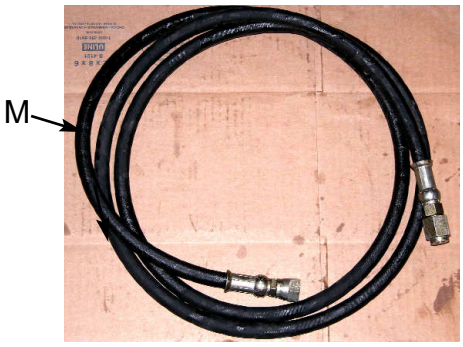


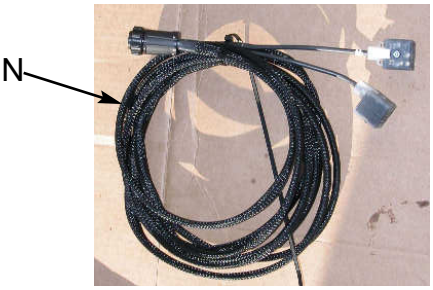
Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
J	760-1041	2	Hose, Hyd. - 1/4" x 36", #6femJICswiv x #6femORFFswiv90EL
K	760-1042	1	Hose, Hyd. - 3/8" x 68", #8maleORFF x #8femJICswiv
L	760-1043	1	Hose, Hyd. - 3/8" x 80", #6femJICswiv x #6femORFFswiv90EL
M	760-1044	1	Hose, Hyd. - 3/8” x 124”, #8femJICswiv x #8femORFFswiv
N	051-0144	1	Cable, Interface - 10 ft.
	677-2001	20	Tie Strap, 11" Heavy Duty, Not Shown
	710-0053	1	Kit, Steering Wheel Switch, Not Shown





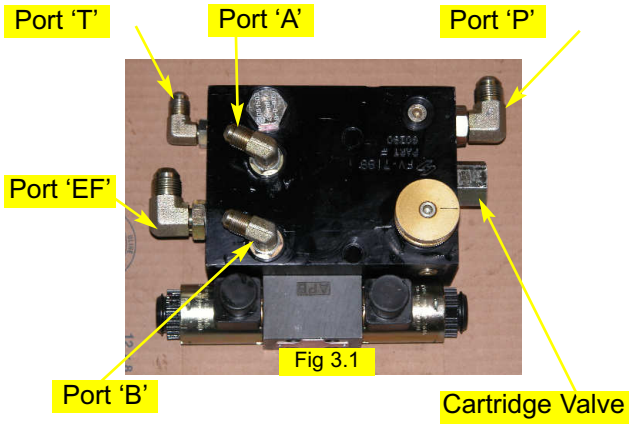




WARNING: **HIGH-PRESSURE FLUID HAZARD.** Hydraulic oil may be hot and under high pressure. To prevent serious injury or death: Relieve system pressure and allow to cool before repairing or disconnecting. Wear proper hand and eye protection when searching for leaks, using wood or cardboard instead of hands. Keep all hydraulic components in good repair.

IMPORTANT: **PREVENT HYDRAULIC SYSTEM CONTAMINATION.** It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as ‘Brake Clean’ to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type fittings may be damaged by solvent cleaners such as ‘Brake Clean’. If a fitting is to be cleaned internally, the o-ring should first be removed and cleaned with a fiberless cloth.

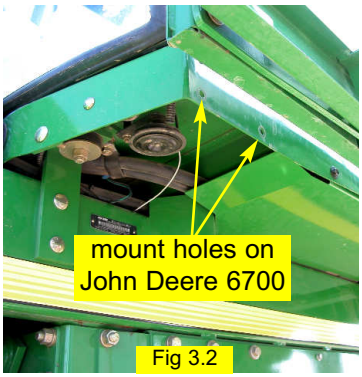
INSTALLATION

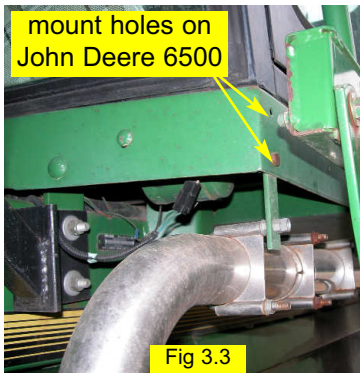


1. Prepare Hydraulic Control Block:

Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install elbow adapters **(B)** in the **A**, **B**, and **T** ports. Install elbow adapters **(C)** in the **P** and **EF** ports. (Figure 3.1)

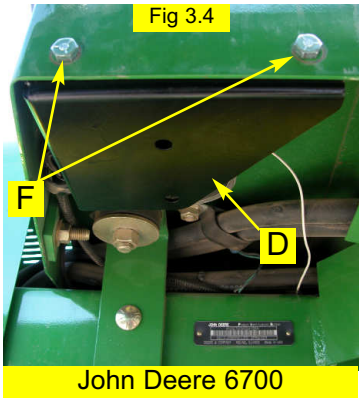
Note: *To install the elbow fitting into the **P** port of the hydraulic block, the cartridge valve must be removed from the end of the block. Remove the cartridge, install the elbow, and reinstall the cartridge.*

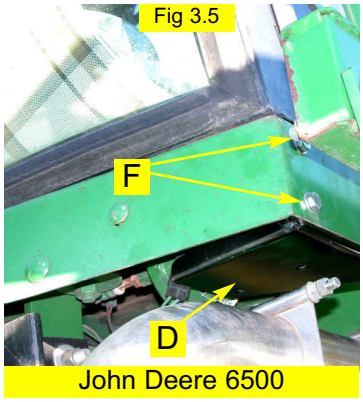




2. Install Mounting Bracket:

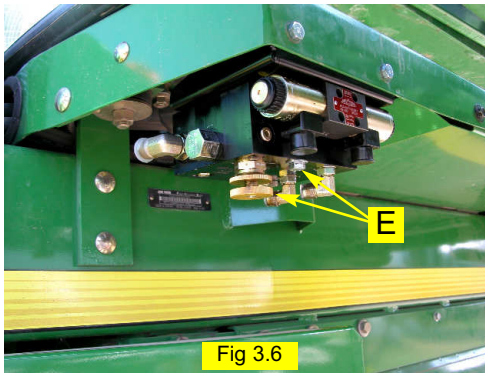
Locate the holes in the sprayer body, to the right of the catwalk, under the cab. (Figure 3.2 or 3.3) Use hardware group **(F)** to secure the mount bracket **(D)** to the sprayer. (Figure 3.4 or 3.5)





3. Install Hydraulic Control Block:

Install the hydraulic control block, as prepared in step **1**, to the mounting bracket as shown using the mounting hardware in group **(E)**. (Figure 3.6) Tighten mounting bolts securely.



4. Install Steering Output Fittings:

Open the left side-shield and locate the two steering output lines above the engine. (Figure 4.1) Install the run-tees **(G)** at the junction of the steel and rubber portions of the steering lines as shown. (Figure 4.2)

Leave the run-tee fittings **(G)** loose to allow for alignment when attaching hoses. Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.

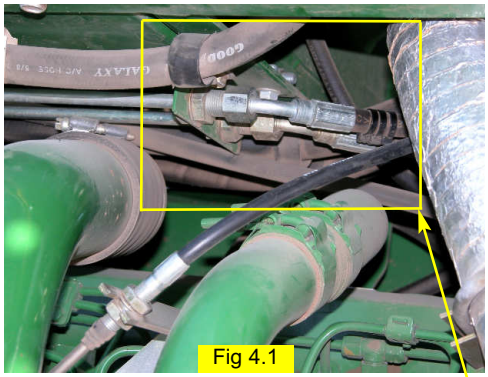


Fig 4.1

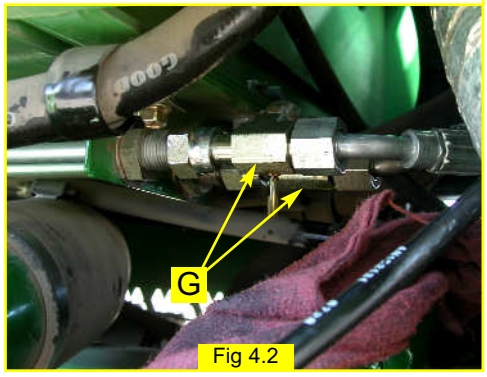


Fig 4.2

5. Install Steering Output Hoses:

Route the steering output hoses **(J)** up from the run-tees **(G)** installation point through a grommet under the cab. The hoses will route around the cab mount and to the hydraulic control block as shown. (Figure 4.4) Connect the smaller JIC ends of the output hoses to the **A** and **B** ports of the hydraulic block. Connect the hose ends with the larger elbow fittings to the branches of the run-tee fittings **(G)** installed in step **4**. (Figure 4.3 and 4.5)

Carefully check the hose routing for clearance of moving parts and secure with the heavy tie straps provided. Securely tighten all steering output hose fittings and adapters.

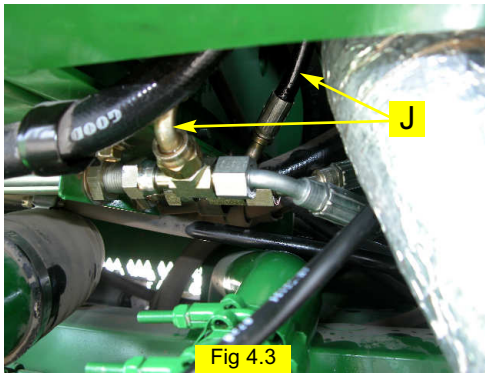


Fig 4.3

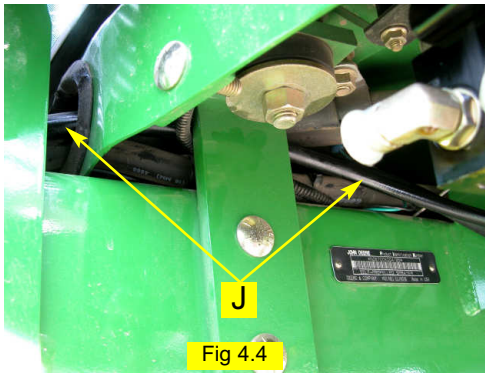


Fig 4.4

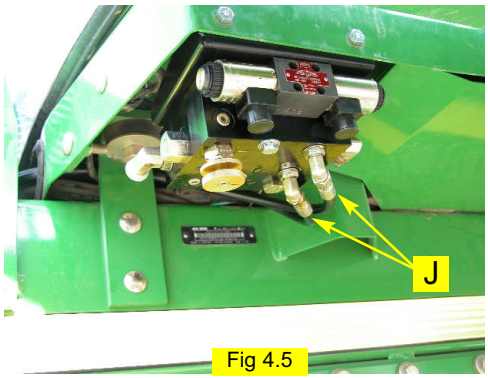


Fig 4.5

6. Install Tank Fittings:

For a hydraulic tank return source on the model 6700 sprayer, install a run-tee fitting **(G)** onto the filter head near the hydraulic pump at the rear of the sprayer as shown. (Figure 5.1) The hose removed from the filter will need to be reattached to the branch of the run-tee. (Figure 5.3)

On the model 6500 sprayer, install a run-tee fitting **(H)** to the underside of the hydraulic valve block at the rear of the sprayer as shown. (Figure 5.2 and 5.4)

Plastic caps should be secured to the open ends of the run-tee fittings to prevent excessive leakage.

JOHN DEERE 6700

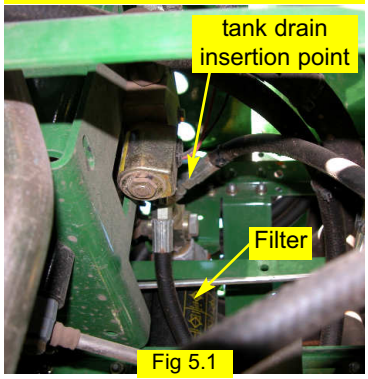


Fig 5.1

JOHN DEERE 6500

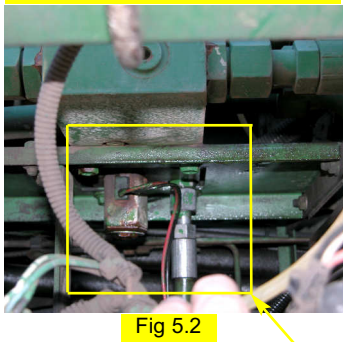


Fig 5.2

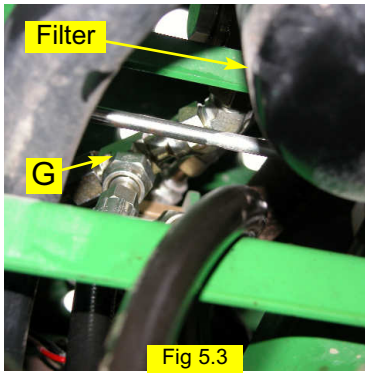


Fig 5.3

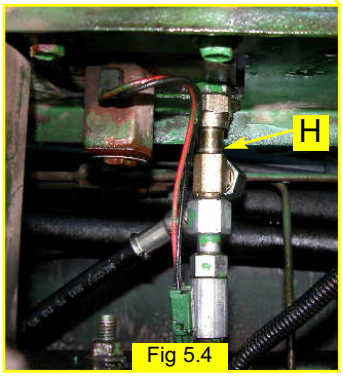


Fig 5.4

7. Locate Pressure Source:

The pressure source for the hydraulic steering system will be received from the valve control stack at the rear of the sprayer.

On the model 6700 sprayers, the control stack is located on the center member of the boom linkage near the rear catwalk. (Figure 5.5) The supply hose for the control stack will be attached to the pressure hose for the hydraulic control valve. The excess flow hose from the hydraulic control valve will be attached to the inlet port of the sprayer valve control stack.

On the model 6500 sprayers, the control stack is located to the left of the hydraulic reservoir behind the cab. (Figure 5.7) The same steps will be taken to supply pressure to the hydraulic control valve.

JOHN DEERE 6700

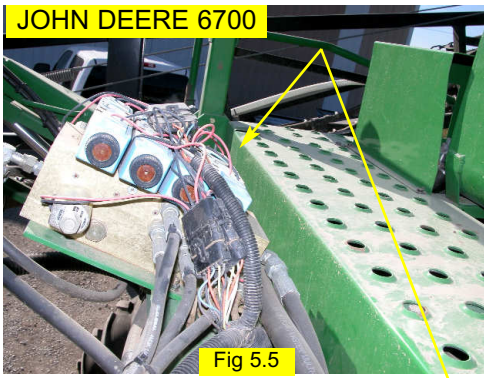


Fig 5.5

JOHN DEERE 6500

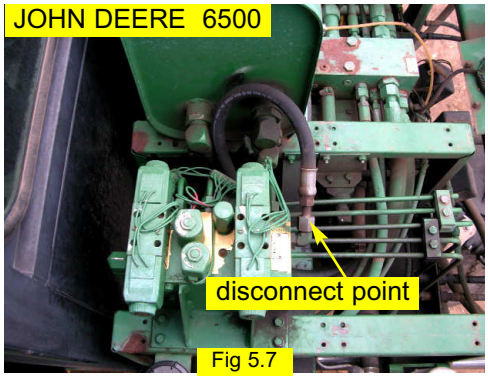


Fig 5.7

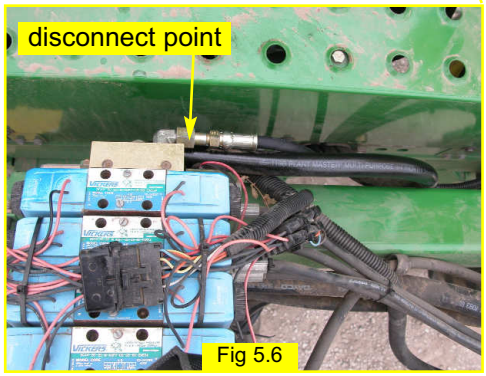


Fig 5.6

8. Install Pressure, Tank, and Excess Flow Hoses:

Remove the shield under the cab on the left side to allow for hose routing. (Figure 6.1)

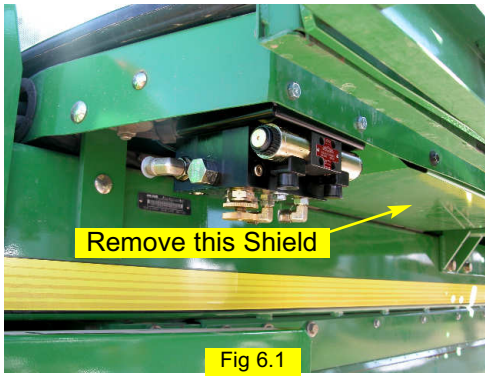


Fig 6.1

Connect pressure hose **(K)** to the **P** port on the hydraulic control block. (Figure 6.2) Connect tank hose **(L)** to the **T** port on the hydraulic control block. Connect excess flow hose **(M)** to the **EF** port on the hydraulic control block. (Figure 6.3)

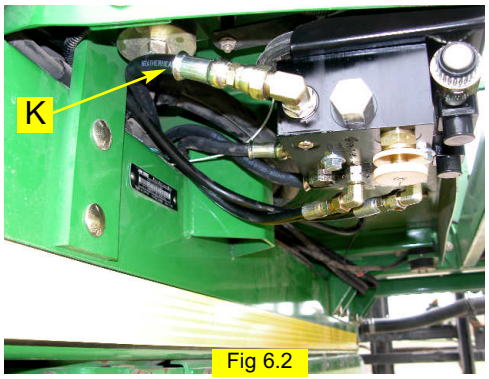


Fig 6.2

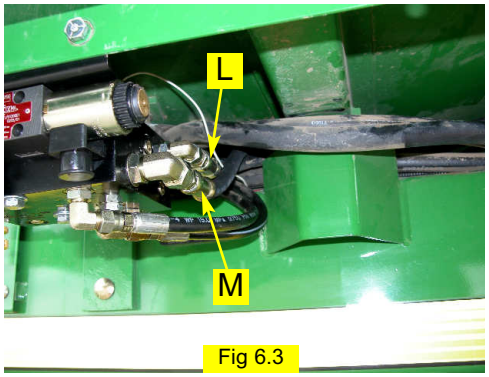


Fig 6.3

Route all three hoses back as shown and secure above the reinstalled shield. (Figure 6.4 and 6.5)

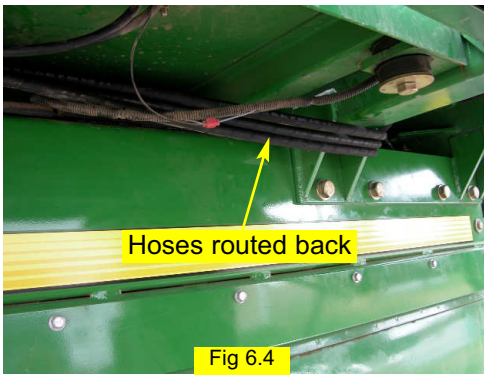


Fig 6.4

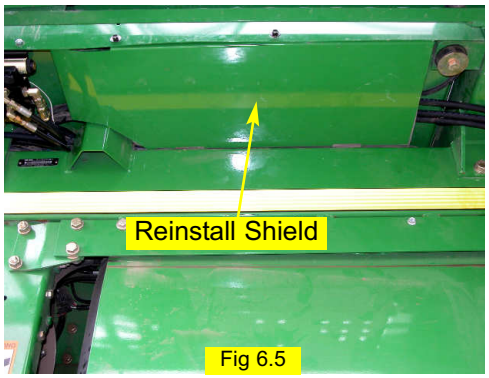


Fig 6.5

9. Connect P, T, and EF hoses to the 6700 Sprayer:

(for the 6500 sprayer, proceed to step **10**) Disconnect the pressure supply hose from the valve control stack at the rear of the sprayer as explained in step **7**. Pull the pressure supply hose down and through the grommet in the sheet metal. (Figure 7.1) Route the excess flow hose **(M)** from the hydraulic control block through the grommet and up to the valve control stack.

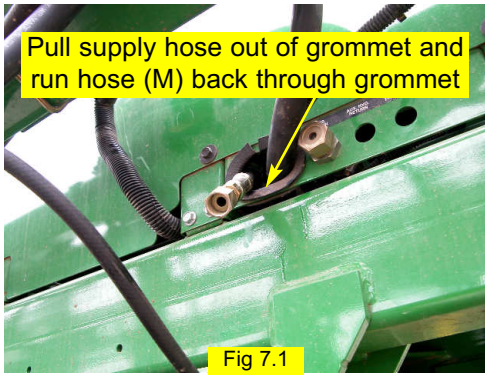


Fig 7.1

Route the pressure supply hose over to the left side of the machine and connect to the pressure hose **(K)** from the hydraulic control block as shown. (Figure 7.2)

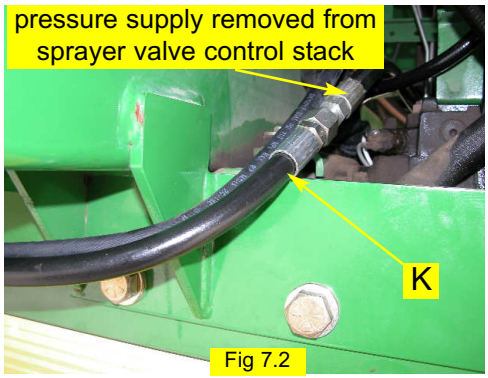


Fig 7.2

Connect the excess flow hose **(M)** from the hydraulic control block to the inlet port on the sprayer valve control stack as shown. (Figure 7.3)

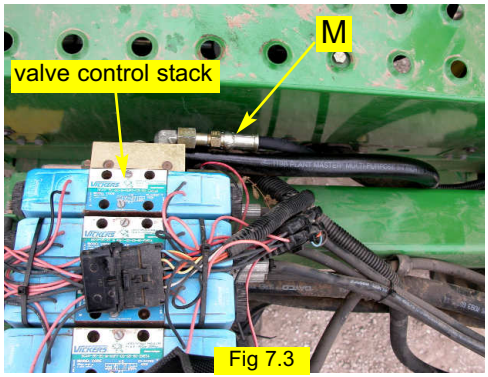


Fig 7.3

Connect the tank hose **(L)** from the hydraulic control block to the run-tee fitting **(G)** installed at the filter in step **6**. (Figure 7.4)

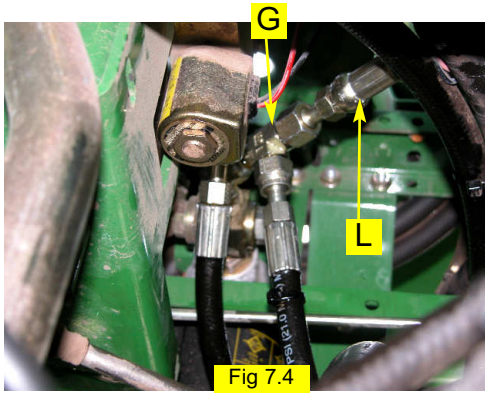


Fig 7.4

Carefully check the hose routing for clearance of moving parts and secure with the heavy tie straps provided. Some excess length of hoses may need to be coiled and secured. Securely tighten all hydraulic hose fittings and adapters.

10. Connect P, T, and EF hoses to 6500 Sprayer:

(for the 6700 sprayer, proceed to step **11**) Disconnect the pressure supply hose from the valve control stack at the rear of the sprayer as explained in step **7**. Move the pressure supply hose down to the side of the machine. Connect the pressure hose **(K)** from the hydraulic control block to this pressure supply hose as shown. (Figure 8.1)

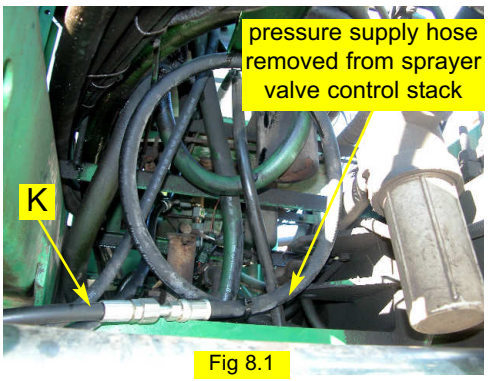


Fig 8.1

Route the excess flow hose **(M)** from the hydraulic control block to the back of the machine and up to attach to the valve control stack. (Figure 8.2)

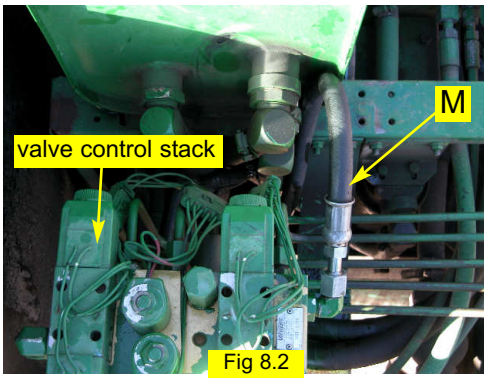


Fig 8.2

Route the tank hose **(L)** from the hydraulic control block to the run-tee fitting **(H)** installed at the back of the sprayer in step **6**. Insert adapter fitting **(I)** between **(L)** and **(H)**. (Figure 8.3)

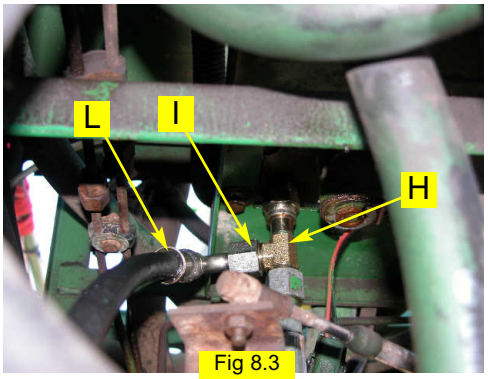


Fig 8.3

Carefully check the hose routing for clearance of moving parts and secure with the heavy tie straps provided. Some excess length of hoses may need to be coiled and secured. Securely tighten all hydraulic hose fittings and adapters.

Proceed to step 11.

11. Install the Valve Control Cable:

Route the valve control cable **(N)** through the door seal and run the DIN connectors down to the hydraulic control block and attach. (Figure 9.1) Route the cable across the cab under the floor mat to the desired location.

Remove enough slack out of the cable to prevent entanglement with machine moving parts. Use tie straps as needed.

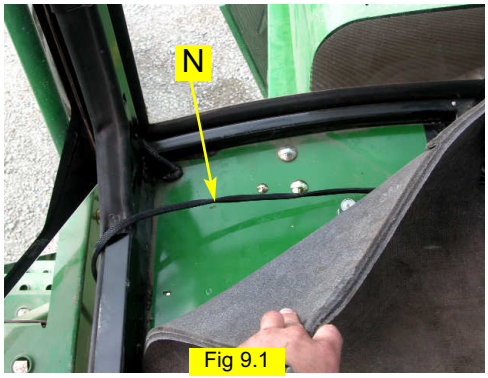


Fig 9.1

12. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the sprayer and make certain that it is safe to operate. Start the machine and check hydraulic connections for any leaks. Rotate the steering wheel from one extreme to the other, and back.

Adjust the hydraulic oil flow control knob to a starting position of **2 1/2 turns** from completely closed. To adjust the knob, turn clockwise to reduce flow, counter-clockwise to increase flow. The knurled locking nut should be tightened against the cartridge face to maintain desired setting.

The coils on the control block have manual push button overrides. Push either manual override to move the steering tires all the way to one extreme. Count the number of seconds for the steering tires to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 9.2)

Adjust the hydraulic oil flow control knob to achieve an end to end steering cycle time of approximately **12** seconds.

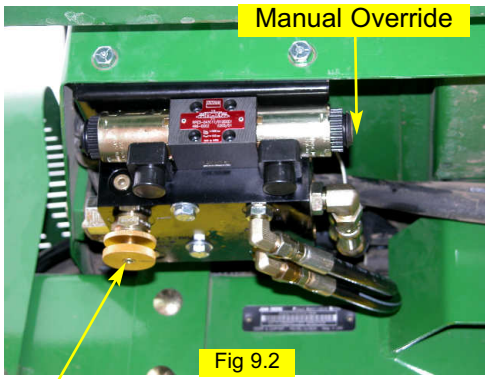


Fig 9.2

Note: *To activate the manual overrides, a tool such as a small screw driver or allen wrench must be inserted into the end of the coil to depress the override button.*

WARNING: **PINCH POINT HAZARD.** To prevent serious injury or death, avoid unsafe practices while manually operating hydraulic steering circuit. Keep others away and stay clear of mechanical steering linkages.

13. Complete Electronic Installation and Setup:

Refer to the owner's manual supplied with your automated steering system to complete the electronic installation and setup.