

Automated Steering Hydraulic Installation Kit

P/N: ED-JD8000

Fits John Deere Tractor Models:

8100	8110
8200	8210
8300	8310
8400	8410

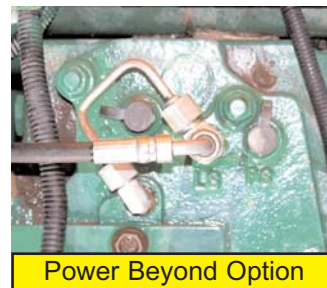
Overview

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 tractor models listed above. Please read this manual thoroughly before beginning the installation.



Tractor Preparation

Before attempting to install the hydraulics, park the tractor on a clean level floor with adequate clearance to work all around. Examine the top plate of the hydraulic valve stack at the rear of the tractor and compare to the pictures shown. In some cases, the tractor may be equipped with a power beyond. The hydraulic control block installation procedure and fittings will be slightly different, depending upon whether the power beyond option is installed.



Power Beyond Option

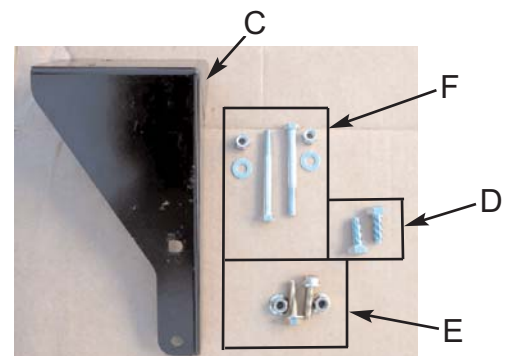
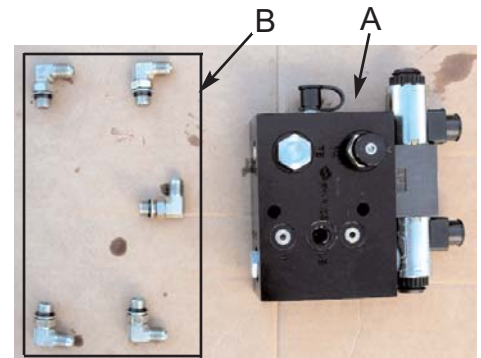


Without Power Beyond

Kit Contents

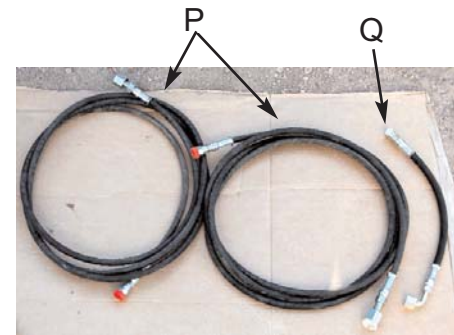
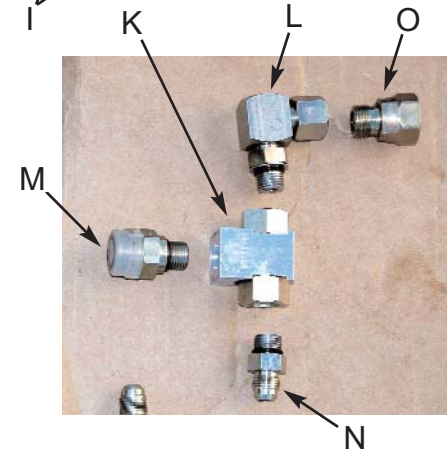
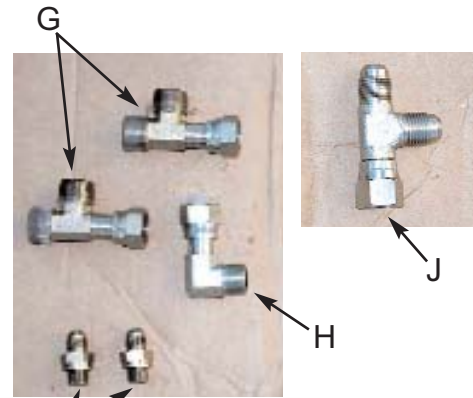
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 4 includes B			
B	760-2058	5	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	640-0002	1	Hyd. Block Mnt - JD8000
Bag #2 of 4 includes D, E, & F			
D	675-2015	2	Bolt, Flanged - 12m1.75x30 Gr10.9, YZ
E	675-2014	2	Bolt, Flanged - 10m1.5x35 Gr10.9, YZ
	676-1038	2	Nut, Flanged - 10m1.5, YZ
F	675-2005	2	Bolt, 3/8NC x 3-1/4 Gr5 ZP
	678-1054	2	Washer, Narrow Flat - 34"OD x 13/32"ID x 1/16"thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP



Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #3 of 4 includes G, H, I, & J			
G	760-2069	2	Adapter, Hyd RunTee - #8 ORFF
H	760-2070	1	Adapter, Hyd. 90 Elbow - #8maleORFF x #8femORFFswivel
I	760-2063	2	Adapter, Hyd. - #6maleJIC x M14maleORB
J	760-2054	1	Adapter, Hyd. RunTee - #6 JIC
Bag #4 of 4 includes K, L, M, N, & O			
K	760-0002	1	Assy, Hyd. Load Shuttle - #6maleORB
L	760-2040	1	Adapter, Hyd. 90 Elbow - #6maleORB x #6femORFFswivel
M	760-2067	1	Adapter, Hyd. - #8maleORFF x #6maleORB
N	760-2056	1	Adapter, Hyd. - #6maleJIC x #6maleORB
O	760-2064	1	Adapter, Hyd. - #8femORFF x #6maleORFF
P	760-1001	2	Hose, Hyd. - 1/4" x 148", #6femJICswivel x #8femORFFswivel
Q	760-1003	1	Hose, Hyd. - 1/4" x 16", #6femJICswiv x #6femaleORFFswiv90EL
R	760-1004	1	Hose, Hyd. - 1/4" x 30", #6femJICswivel Both Ends
S	760-1002	2	Hose, Hyd. - 3/8" x 36", #6femJICswivel Both Ends
T	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.

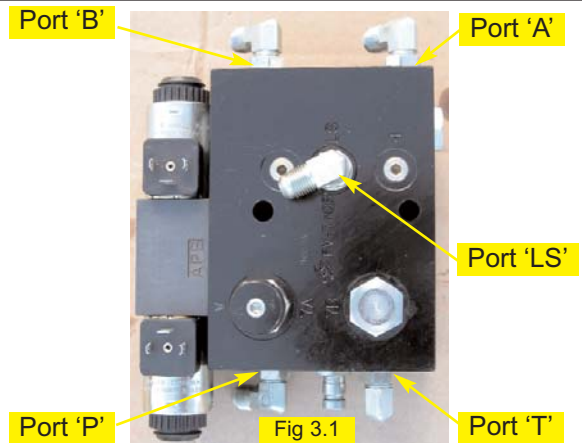
It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type fittings may be damaged by solvent cleaners such as 'Brake 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:

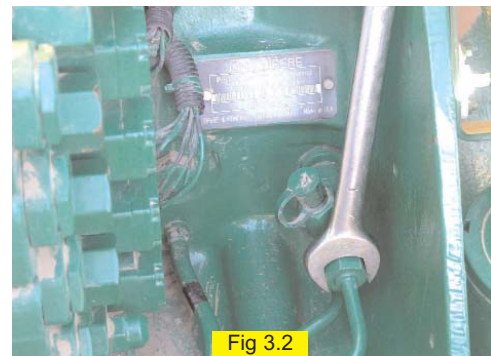
Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install elbow adapters (**B**) in the **P**, **T**, **LS**, **A**, and **B** ports and orient as shown. (Figure 3.1)

Note: To install the elbow fittings into the **P** and **T** ports, the pressure test port fitting must first be removed. Once the elbows are installed, reinstall the pressure test port fitting.



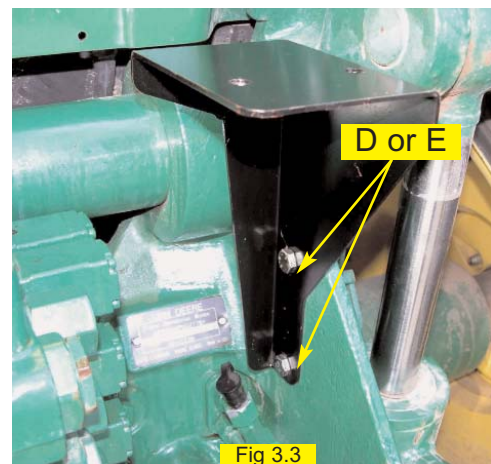
2. Reposition Test Port:

Locate the hydraulic test port at the right rear side of the tractor. Loosen the fittings, and rotate the test port to the left, allowing clearance for the mounting bracket. (Figure 3.2) Re-tighten the test port fittings.



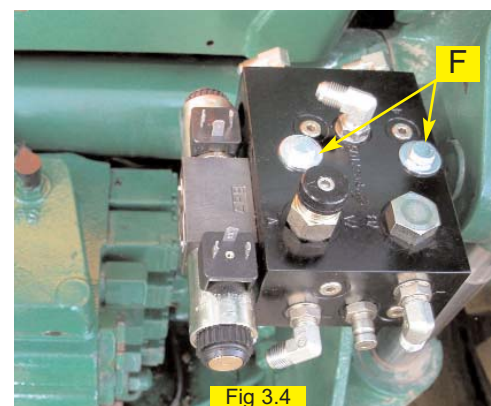
3. Install Mounting Bracket:

Install the hydraulic block mounting bracket (**C**) on the rear tractor casting as shown. Some tractor models have threaded holes, while others have drilled through holes. Use the mounting hardware in group (**D**) or (**E**), depending upon the application. Tighten mounting bolts securely. (Figure 3.3)



4. Install Hydraulic Control Block:

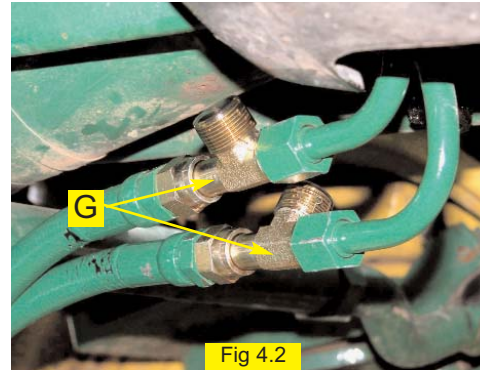
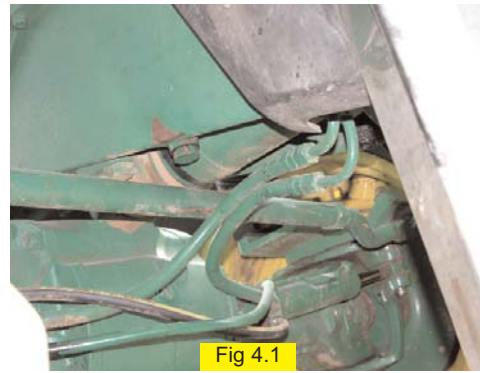
Install the hydraulic control block, as prepared in step 1, to the mounting bracket as shown using the mounting hardware in group (**F**). Tighten mounting bolts securely. (Figure 3.4)



5. Install Steering Output Fittings:

Locate steering lines under the tractor and behind the front axle. (Figure 4.1) Install run-tee fittings (**G**) at the junction of the steel and rubber portions of the steering lines. (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.

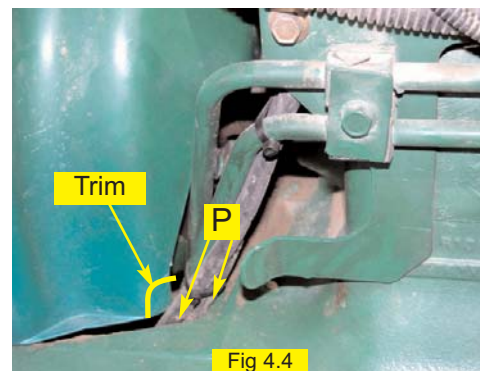


6. Install Steering Output Hoses:

Remove the side engine access panel on the left side of the tractor. (Figure 4.3) Make sure that plastic caps are inserted in the hose end fittings to prevent dirt from entering during hose routing. A piece of stiff wire may be useful to guide the hose during the routing step.

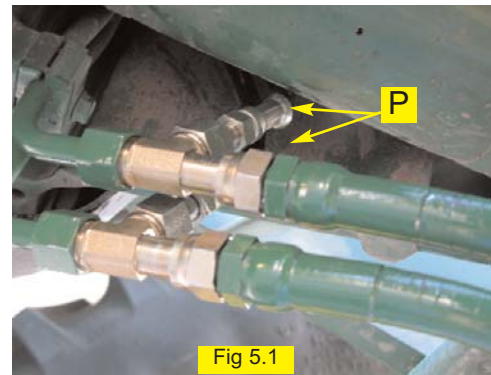
Route the two steering hoses (**P**) up from underneath the tractor near where the run-tees are installed. (Figure 4.4) The smaller hose end fittings will be installed at the back of the tractor.

Run one hose at a time up inside the tractor frame and to the left of the engine flywheel. There is a small track between the existing steel lines and the frame where the steering hoses (**P**) should be run as to not make contact with the flywheel. A small corner of the plastic flywheel cover may be trimmed to allow extra clearance for the hoses. (Figure 4.4)

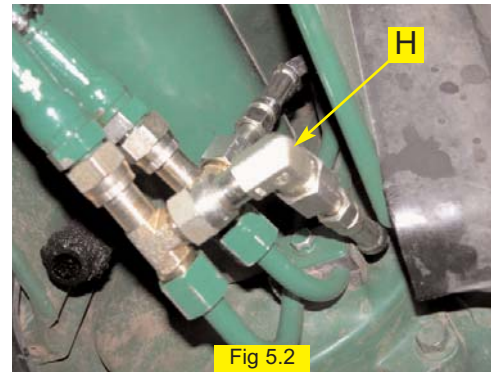


6. Continued...

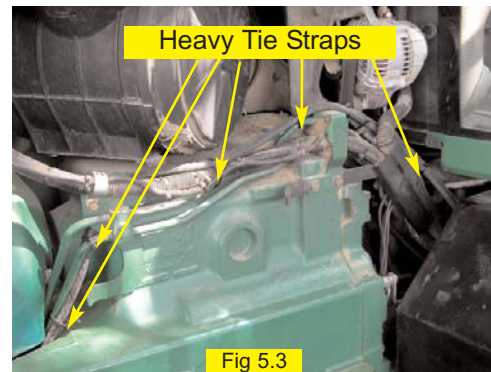
Once the steering hoses (**P**) are routed to the top side of the tractor frame, connect the steering hoses to the run-tees installed in step 5 as shown. (Figure 5.1)



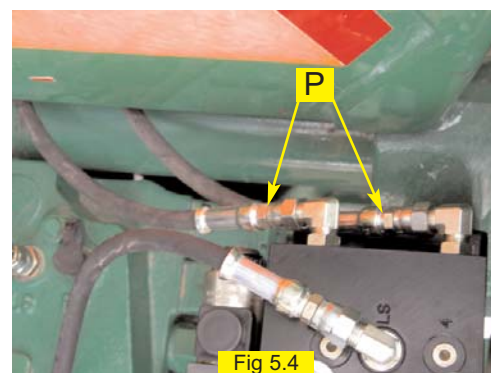
An extra elbow fitting (**H**) is included and may be useful to obtain proper alignment of the steering hoses and run-tees. (Figure 5.2)



Continue routing the steering hoses on the top side of the tractor following along the existing steel steering lines and under the tractor cab rear-ward to the hydraulic control block. Carefully check the hose routing for clearance of moving parts and secure with heavy tie straps (included). (Figure 5.3)

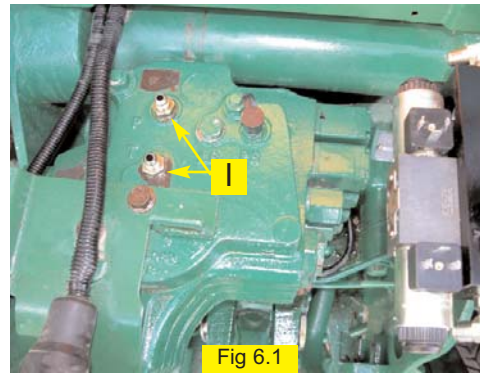


Finally, connect the steering hoses (**P**) to the **A** and **B** ports of the hydraulic control block mounted in step 4 as shown. (Figure 5.4) Securely tighten all steering output hose fittings, both at the front run-tees and at the rear block.

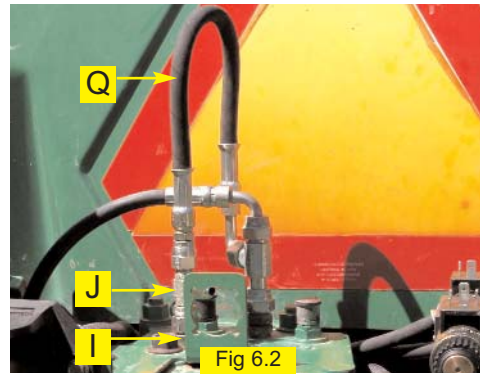


7. Install Tractor Pressure and Tank Fittings:

Remove test port fittings labeled **P** and **T** from the top plate of the tractor hydraulic remote valves and install adapter fittings (**I**) in both locations. (Figure 6.1)



If the tractor is equipped with a power beyond kit, remove the small steel line connecting the **T** and **LS** ports. Replace the original elbow in the **T** port with an adapter fitting (**I**) and run-tee (**J**). Install the short hydraulic hose (**Q**) to reconnect the **T** and **LS** ports as shown. (Figure 6.2) Make certain to reinstall the orifice disk on the elbow end of (**Q**) in the same way as previously installed in the steel line.



8. Install Tractor Load Sense Shuttle/Fittings:

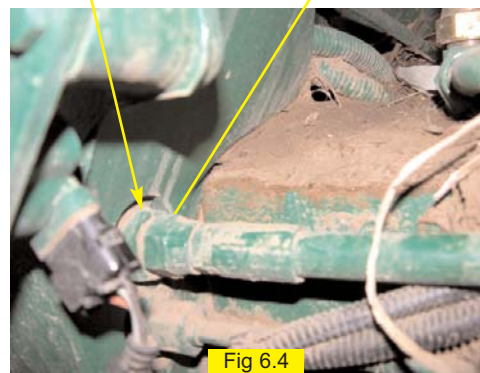
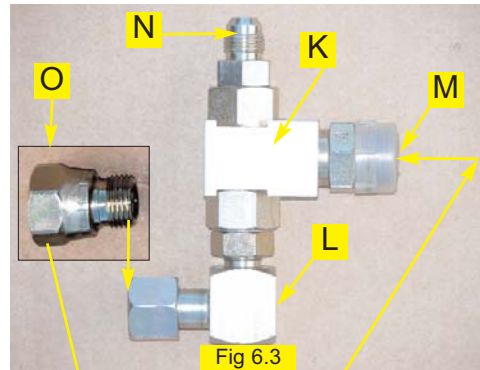
Pre-assemble the load sense shuttle (**K**) with the included fittings (**L**), (**M**), and (**N**) as shown. (Figure 6.3)

Locate the load sense test port under the hydraulic block mounting location (see step 2) and trace that fitting forward through the back casting of the tractor.

Install the load sense shuttle at the junction of the fitting coming through the casting and the hydraulic hose that continues on to the tractor hydraulic pump. (Figure 6.4)

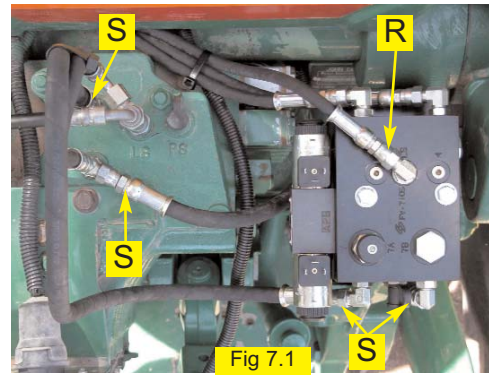
Loosen and remove the load sense hose. Install the adapter fitting (**O**) onto the casting fitting. Next, install the end of the assembled load sense shuttle with the female swivel elbow (**L**) to the adapter (**O**) on the casting. Finally, reinstall the tractor load sense hose to the center location (**M**) of the load sense shuttle. (Figure 6.4)

Be careful not to allow grease and dirt to enter the fittings.



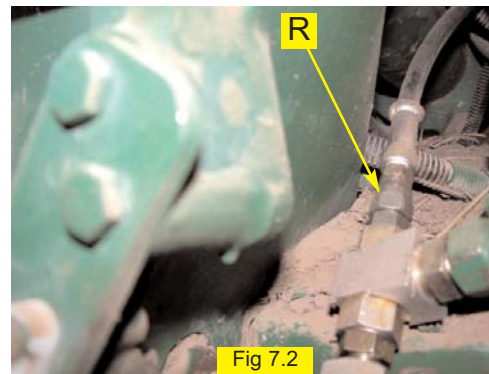
9. Install Pressure, Tank, and Load Sense Hoses:

Install the pressure and tank hoses (**S**) between the tractor **P** and **T** ports and corresponding **P** and **T** ports of the hydraulic control block. (Figure 7.1)



Install the load sense hose (**R**) between the **LS** port of the hydraulic control block and the open end of the load sense shuttle (**N**) installed in step 8. (Figure 7.2)

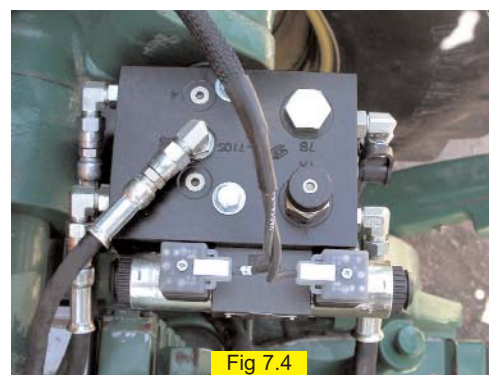
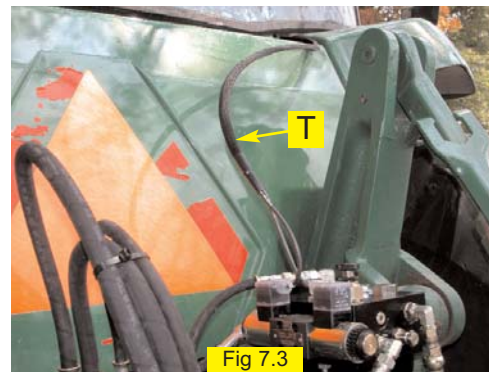
Make sure all hoses are routed properly and free from entanglement. Use heavy tie straps (included) as needed. Securely tighten all hydraulic hose fittings and adapters.



10. Install the Valve Control Cable:

Route the valve control cable (**T**) through the cable grommet in the tractor window seal and run the DIN connectors down to the hydraulic control block and attach as shown. (Figure 7.3 and 7.4)

Remove enough slack out of the cable to prevent entanglement with tractor moving parts such as the three-point hitch. Use tie straps as needed.



11. Verify Operation and Set Steering Control Rate:

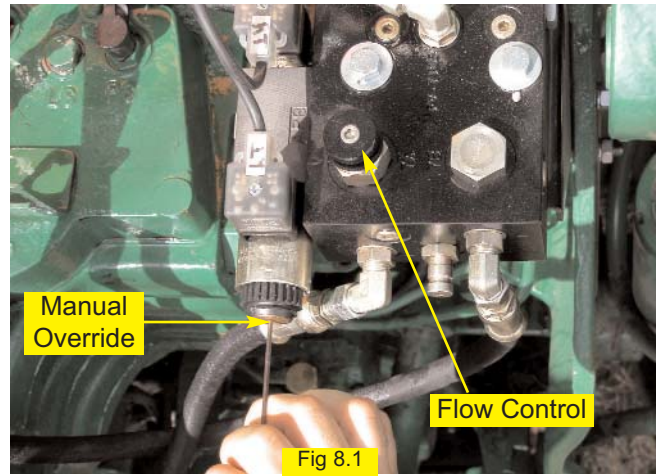
Cleanup the installation area around the tractor and make certain that it is safe to operate. Start the tractor and check hydraulic connections for any leaks. Rotate the steering wheel from one extreme to the other, and back.

Adjust the hydraulic oil flow control knob to a starting position of **2 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counter-clockwise to increase flow. (Figure 8.1)

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

Adjust the hydraulic oil flow control knob to achieve an end to end steering cycle time of approximately **18** seconds.

12. Complete Electronic Installation and Setup: Refer to the owner's manual supplied with your automated steering system to complete the electronic installation and setup.



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.