

Automated Steering Hydraulic Installation Kit

P/N: ED-C8900-A

Fits Case Tractor Models:

7110	7210	8910
7120	7220	8920
7130	7230	8930
7140	7240	8940
7150	7250	8950



Overview

A series of equipment specific hydraulic installation kits has 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 Case tractor models listed above. Please read this manual thoroughly before beginning the installation.

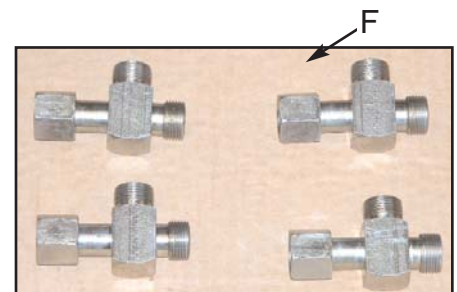
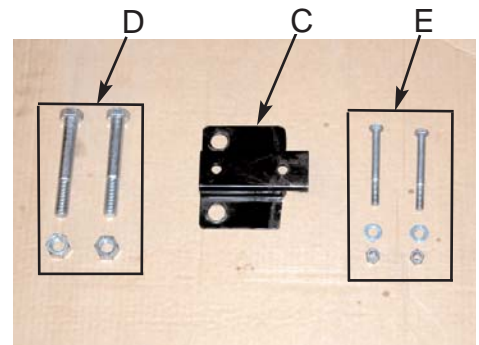
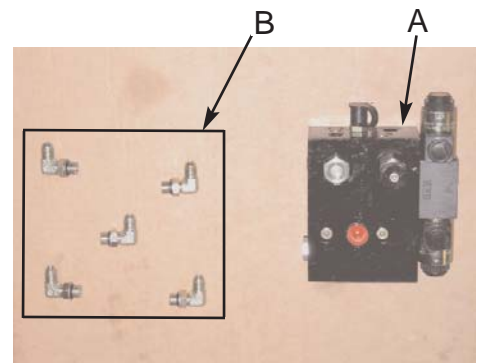
Machine Preparation

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

Kit Contents

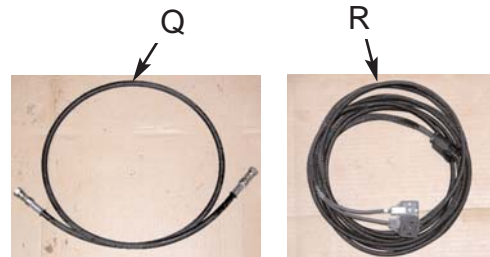
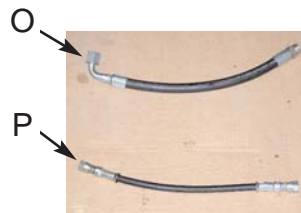
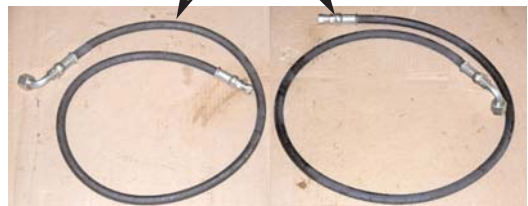
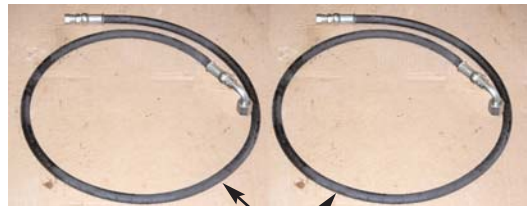
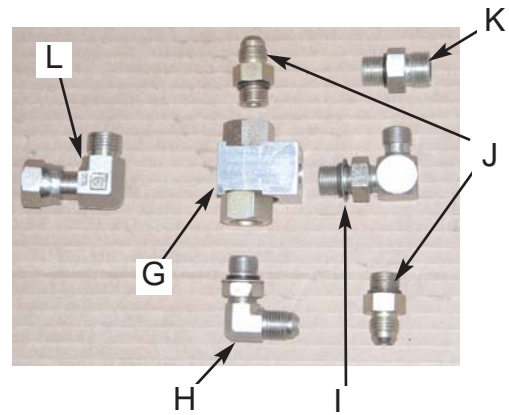
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 4 includes B			
B	760-2058	5	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	640-0004	1	Hyd. Block Mnt - Case
Bag #2 of 4 includes D & E			
D	675-2012	2	Bolt, 5/8NC x 4-1/2" Gr5 ZP
	676-1037	2	Nut, Lock - 5/8NC ZP
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"JD x 1/16thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP
Bag #3 of 4 includes F			
F	760-2069	4	Adapter, Hyd Run Tee - #8 ORFF



Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #4 of 4 includes G, H, I, J, K, & L			
G	760-0002	1	Hyd. Load Shuttle - #6maleORB
H	760-2058	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
I	760-2034	1	Adapter, Hyd. 90 Elbow - #4maleORFF x #6maleORB
J	760-2056	2	Adapter, Hyd. - #6maleJIC x #6maleORB
K	760-2048	1	Adapter, Hyd. - #6maleORFF x #6maleORB
L	760-2032	1	Adapter, Hyd. - 90EL - #4maleORFF x #6femORFFswivel
M	760-1023	3	Hose, Hyd. - 3/8"x58", #6femJICswiv x #8femORFFswiv90EL
N	760-1024	1	Hose, Hyd. - 3/8"x52", #6femJICswiv x #8femORFFswiv90EL
O	760-1025	1	Hose, Hyd. - 3/8"x13", #8femORFFswiv90EL x #8maleORFF
P	760-1022	1	Hose, Hyd. - 1/4"x14", #6femJICswiv x #4femORFFswiv
Q	760-1026	1	Hose, Hyd. - 1/4"x43", #6femJICswiv Both Ends
R	051-0144	1	Cable, Hyd. 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.

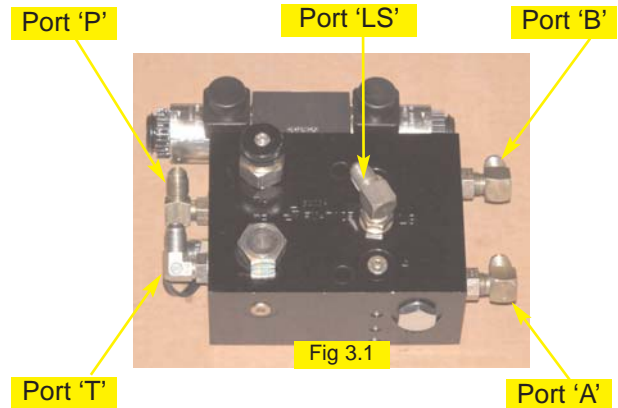
It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type fittings may be damaged by solvent cleaners such as 'Brake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

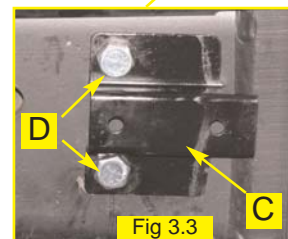
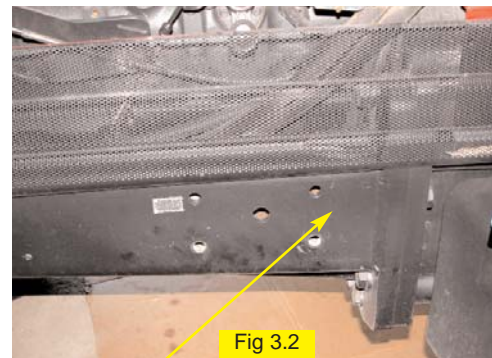
Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install elbow adapters (**B**) in the **P**, **T**, **LS**, **A**, and **B** ports and orient as shown. (Figure 3.1)

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.



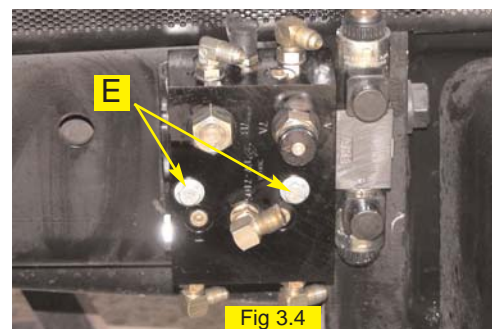
2. Install Mounting Bracket:

Locate the holes in the left side tractor frame in front of the cab. If the tractor is equipped with a toolbox in this location, it must be removed. Install the mounting bracket (**C**) as shown using the mounting hardware in group (**D**). Tighten mounting bolts securely. (Figure 3.2 and 3.3)



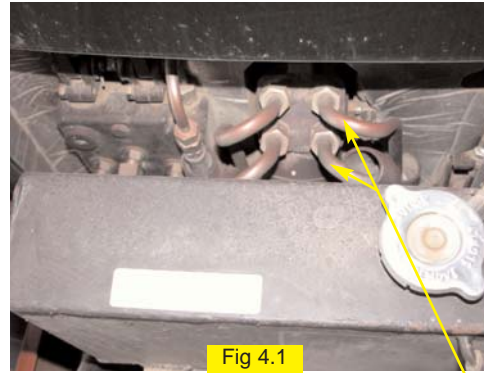
3. Install Hydraulic Control Block:

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

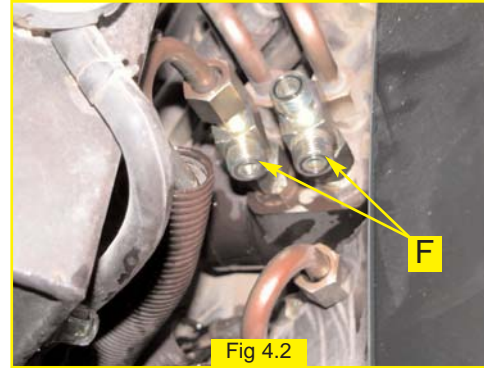


4. Install Steering Output Fittings:

Locate the tractor steering orbital in front of the cab, just below the windshield. The two lines coming out of the left side of the steering orbital (right side of the picture) are the steering output lines and are stamped **R** and **L** on the casting. (Figure 4.1)



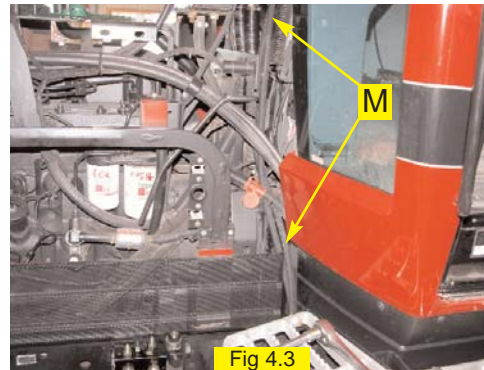
Remove the steel line fittings from the steering orbital and install the run-tee fittings (**F**) as shown. Re-attach the steel line fittings. (Figure 4.2)



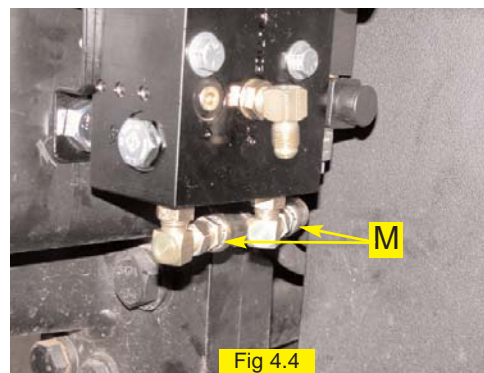
Leave the run-tee fittings (**F**) loose to allow for alignment when attaching hoses. Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.

5. Install Steering Output Hoses:

Install the steering output hoses (**M**) onto the run-tee fittings (**F**) and route adjacent to the tractor firewall down towards the hydraulic control block as shown. (Figure 4.3) Attach the straight fitting ends of the steering output hoses (**M**) to the **A** and **B** ports of the hydraulic block. (Figure 4.4)



Carefully check the hose routing for clearance of sharp edges and securely tighten all steering output hose fittings, both at the run-tees and at the hydraulic block. (Figure 4.4)



6. Install Tractor Pressure and Tank Fittings:

Locate the tractor steering orbital in front of the cab, just below the windshield. The two lines coming out of the right side of the steering orbital (left side of the picture) are the tractor pressure and tank line, stamped **P** and **T** on the casting. (Figure 5.1)

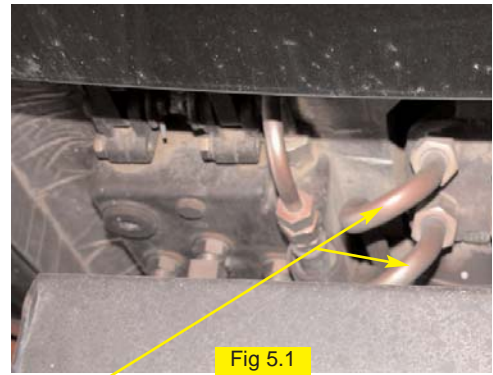


Fig 5.1

Remove the steel line fittings from the steering orbital and install the run-tee fittings (**F**) as shown. Re-attach the steel tank line fitting. The steel pressure line will be replaced in step 7. (Figure 5.2)

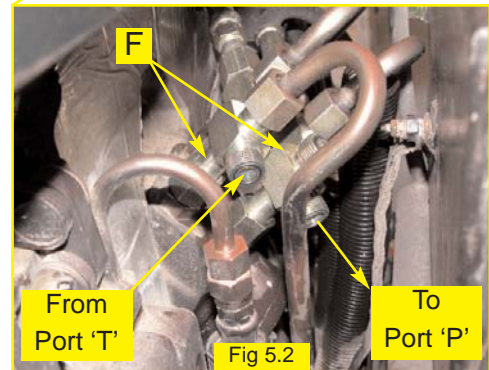


Fig 5.2

Leave the run-tee fittings (**F**) 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.

7. Replace Steel Pressure Line on Orbital:

Remove the short steel portion of the steering orbital pressure line and replace it with hydraulic hose (**O**). (Figure 5.3 and 5.4)

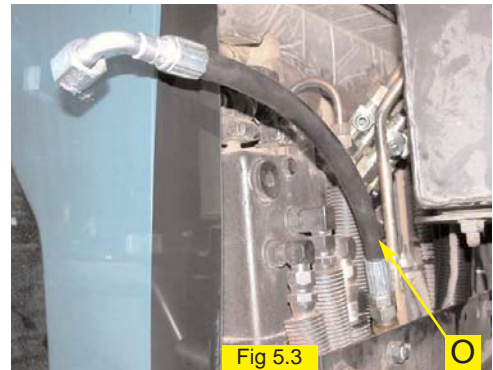


Fig 5.3

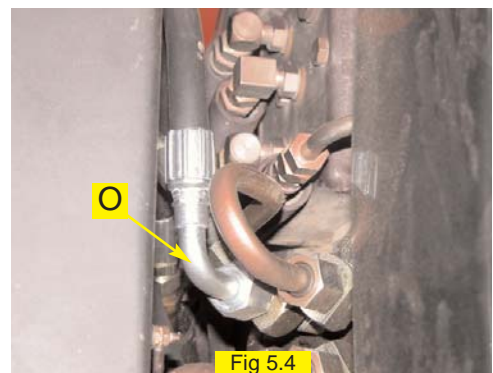


Fig 5.4

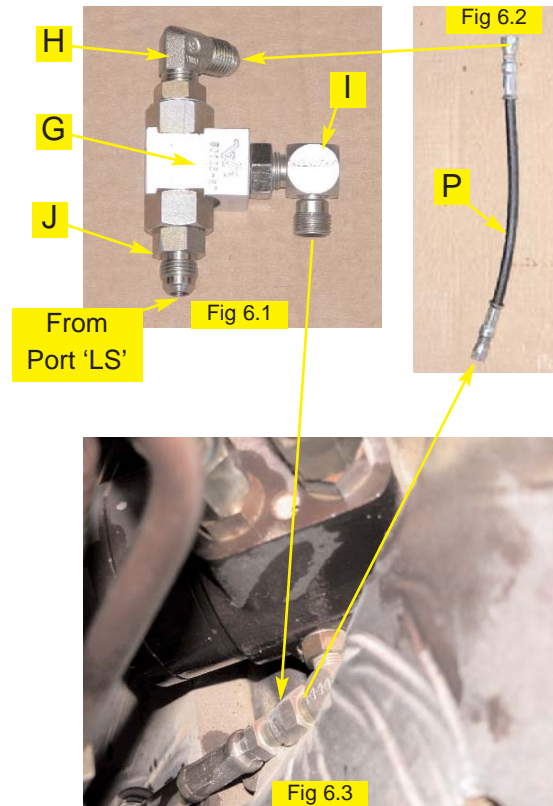
8. Install Tractor Load Sense Shuttle/Fittings:

The load sense port on the steering orbital will be located on the left side, the front, or the top of the steering orbital depending on tractor model. If the load sense port is located on the left side, refer to step **8-A**. If the load sense port is located on the front or the top of the steering orbital, refer to step **8-B** or **8-C** respectively.

8-A. Pre-assemble the load sense shuttle (**G**) with the included fittings (**H**), (**I**), and (**J**) as shown. (Figure 6.1)

Locate the tractor load sense hydraulic hose on the left side of the steering orbital as shown in the picture. (Figure 6.3)

Remove the tractor load sense hose from the steering orbital and connect it to the center elbow fitting (**I**) of the load shuttle assembly. Connect the short hydraulic hose (**P**) between the top elbow fitting (**H**) on the load shuttle assembly and the steering orbital load sense fitting. (Figure 6.1, 6.2, and 6.3)



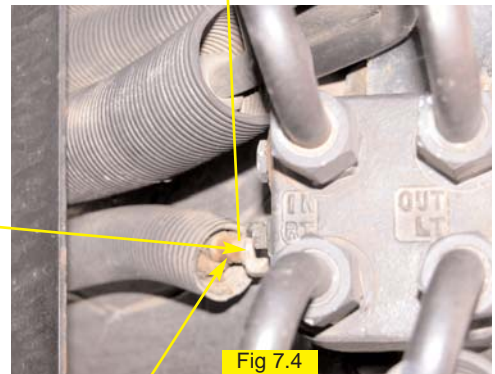
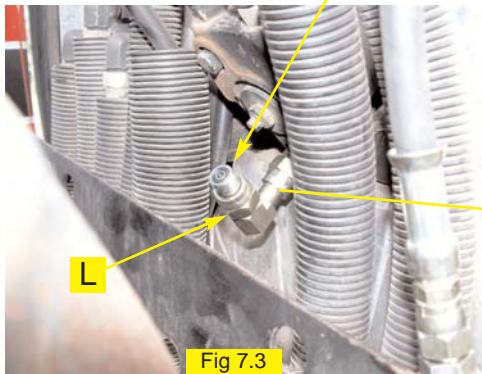
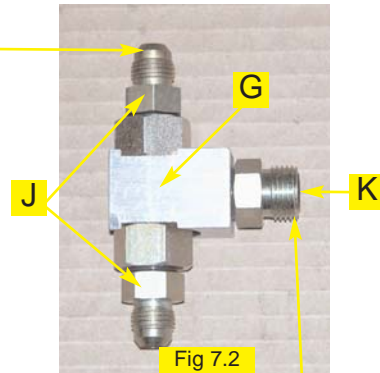
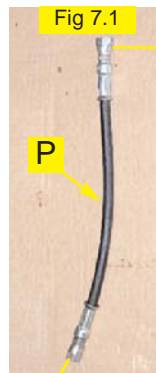
8-B. Pre-assemble the load sense shuttle (**G**) with the included fittings (**J**), and (**K**) as shown below. (Figure 7.2)

Locate the tractor load sense hydraulic hose on the front of the steering orbital as shown in the picture. (Figure 7.4)

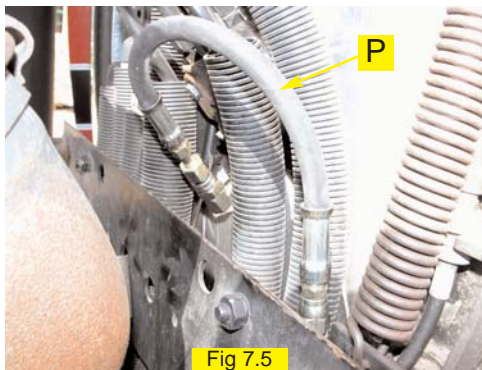
Remove the tractor load sense hydraulic hose from the steering orbital and install the elbow adapter fitting (**L**) to the load sense port on the steering orbital as shown. (Figure 7.3)

Attach the center position (**K**) of the assembled load sense shuttle to the tractor load sense hose. (Figure 7.6)

Install the provided hose (**P**) (Figure 7.1) to the elbow adapter (**L**) installed at the orbital and to the end of the load sense shuttle (**J**). (Figure 7.5)



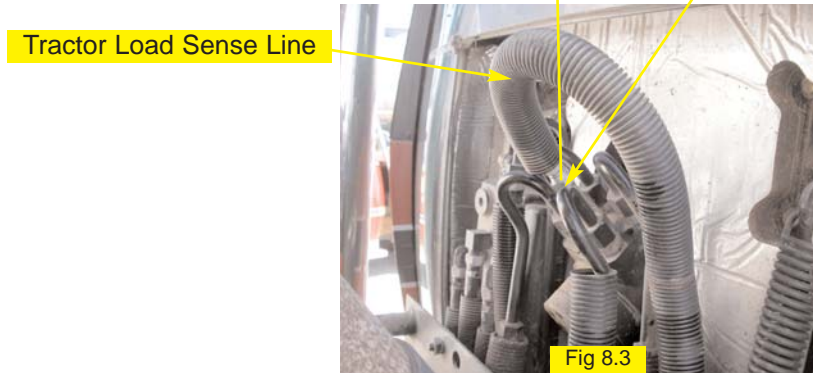
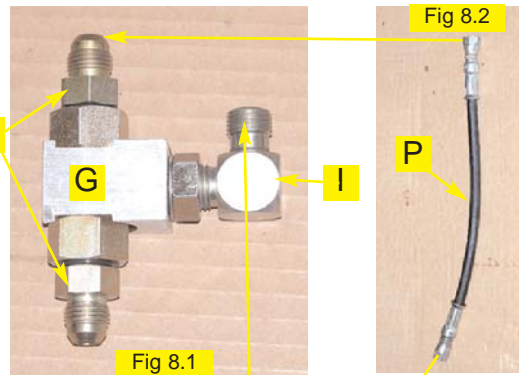
Tractor Load Sense Line



8-C. Pre-assemble the load sense shuttle (**G**) with the included fittings (**J**), and (**I**) as shown. (Figure 8.1)

Locate the tractor load sense hydraulic hose on the top of the steering orbital as shown in the picture. (Figure 8.3)

Remove the tractor load sense hydraulic hose from the steering orbital and install the provided hose (**P**) to the load sense port on the steering orbital and to the end of the load sense shuttle (**J**) as shown. Attach the center position (**I**) of the assembled load sense shuttle to the tractor load sense hose. (Figure 8.5)



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

Install the hydraulic hose (Q) between the LS port of the hydraulic control block and the open end of the load sense shuttle assembly installed in step 8. (Figure 9.1 and 9.2) Use a heavy tie strap (included) to secure load shuttle assembly to the tractor framework as shown.

Install the pressure (N) and tank (M) hydraulic hoses between the P and T ports of the hydraulic control block and the corresponding run-tees installed in step 6. (Figure 9.2) Double check to make certain that the connections are not reversed.

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.

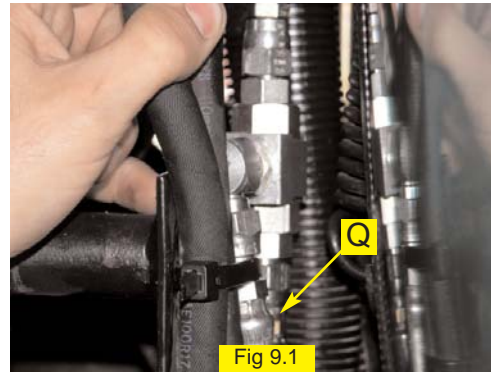


Fig 9.1

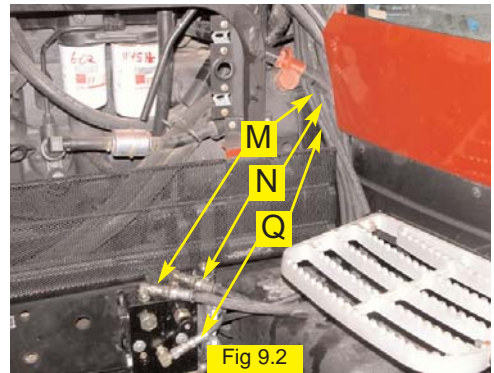


Fig 9.2

10. Install the Valve Control Cable:

Route the valve control cable (R) from the hydraulic control block towards the rear and under the cab. (Figure 9.3) Connect the DIN connectors to the valves as shown. Secure the valve cable with tie-straps as needed.

Remove the left hand lower door seal plate to allow for cable routing. (Figure 9.5) Bring the cable up from under the cab and through the door seal. Lift the floor mat, and route the cable towards the front right corner of the cab. (Figure 9.4)

Lay the floor mat back down over the cable and re-install the lower door seal plate. (Figure 9.5)

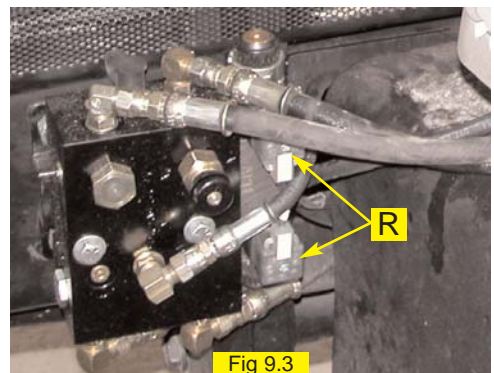


Fig 9.3



Fig 9.4

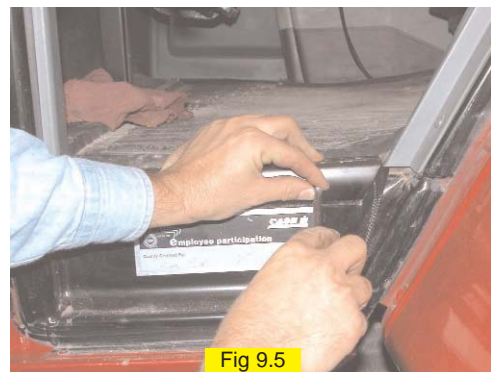


Fig 9.5

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.

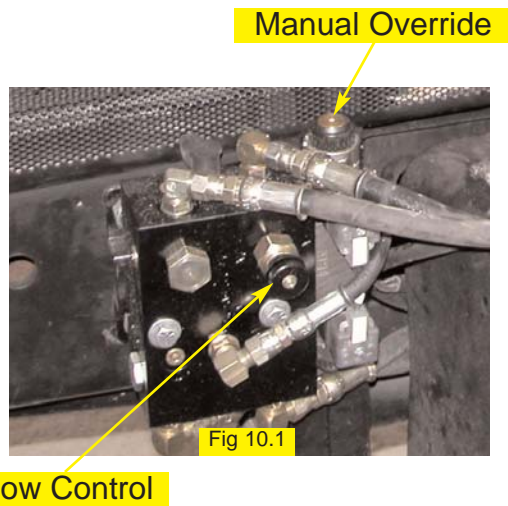
Adjust the hydraulic oil flow control knob to a starting position of **2 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counter-clockwise to increase flow. (Figure 10.1)

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. (Figure 10.1)

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.

