

Automated Steering Hydraulic Installation Kit

P/N: ED-NH8070

Fits New Holland and Buhler

Genesis Tractor Models:

8670	2145
8770	2160
8870	2180
8970	2210



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 New Holland and Buhler Genesis tractor models listed above. Please read this manual thoroughly before beginning the installation.

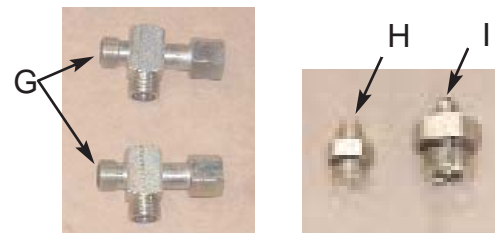
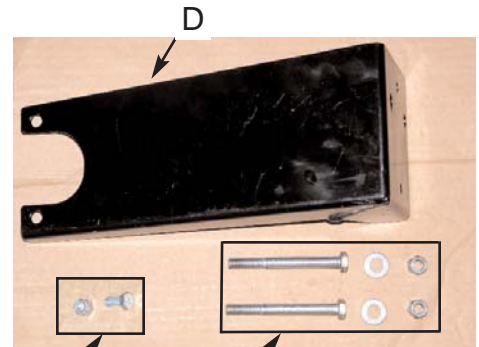
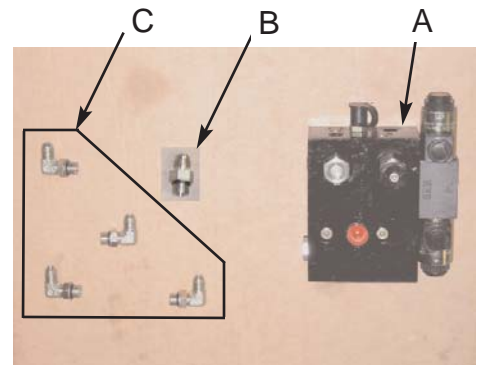
Tractor Preparation

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

Kit Contents

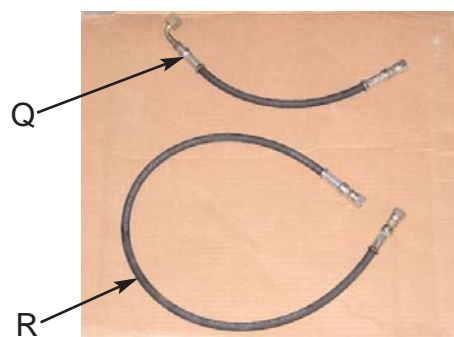
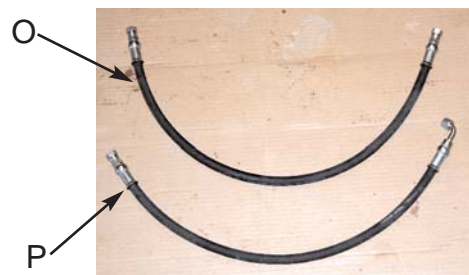
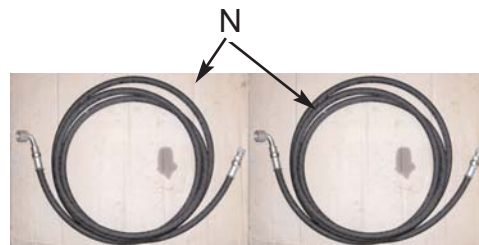
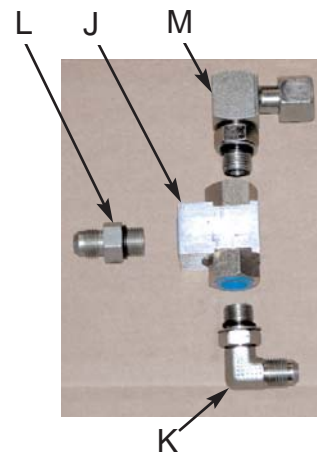
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 4 includes B & C			
B	760-2056	1	Adapter, Hyd. - #6maleJIC x #6maleORB
C	760-2058	4	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
D	640-0007	1	Hyd. Block Mnt - NH8070,CATRC
Bag #2 of 4 includes E & F			
E	675-2010	1	Bolt, 5/16NC x 3/4 Gr5 ZP
	676-1036	1	Nut, Lock - 5/16NC ZP
F	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
Bag #3 of 4 includes G, H, & I			
G	760-2069	2	Adapter, Hyd Run Tee - #8 ORFF
H	760-2060	1	Adapter, Hyd. - #6maleJIC x #8maleORB
I	760-2052	1	Adapter, Hyd. - #6maleJIC x #12maleORB



Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #4 of 4 includes J, K, L, & M			
J	760-0002	1	Assy, Hyd. Load Shuttle - #6femORB
K	760-2058	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
L	760-2056	1	Adapter, Hyd. - #6maleJIC x #6maleORB
M	760-2040	1	Adapter, Hyd. 90 Elbow - #6maleORB x #6femORFFswivel
N	760-1010	2	Hose, Hyd. - 3/8"x162", #6femJIC swivel x #8femORFFswivel90EL
O	760-1013	1	Hose, Hyd. - 3/8"x30", #6femJIC swivel Both Ends
P	760-1014	1	Hose, Hyd. - 3/8"x22", #6femJIC swivel x #6femJICswivel90EL
Q	760-1016	1	Hose, Hyd. - 1/4"x15", #6femORFFswivel x #6femJICswivel90EL
R	760-1012	1	Hose, Hyd. - 1/4"x48", #6femJIC swivel Both Ends
S	051-0145	1	Cable, Interface - 5 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.

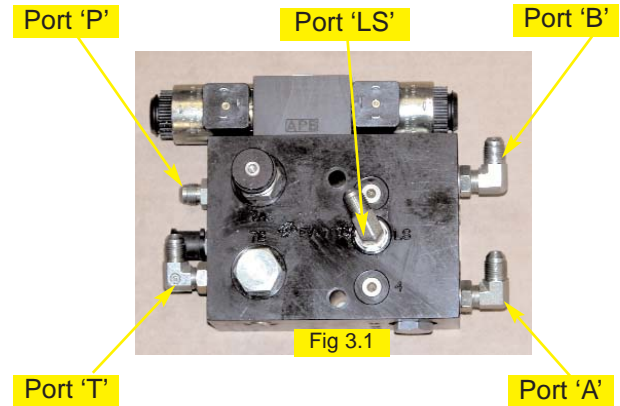
It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type fittings may be damaged by solvent cleaners such as 'Brake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

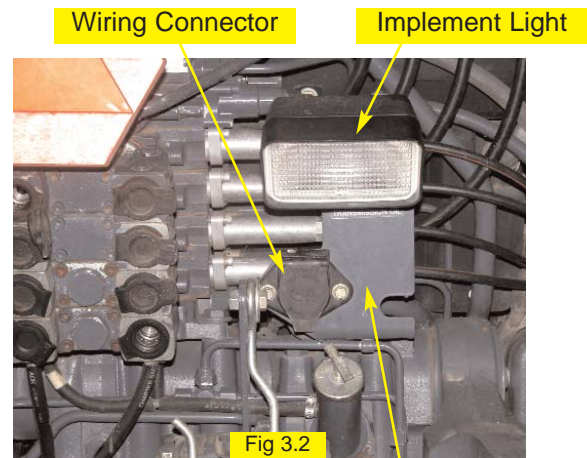
Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install the straight adapter (B) in the P port and elbow adapters (C) in the T, LS, A, and B ports and orient as shown. (Figure 3.1)

Note: To install the elbow fitting into the T port, the pressure test port fitting must first be removed. Once the elbow is installed, reinstall the pressure test port fitting.



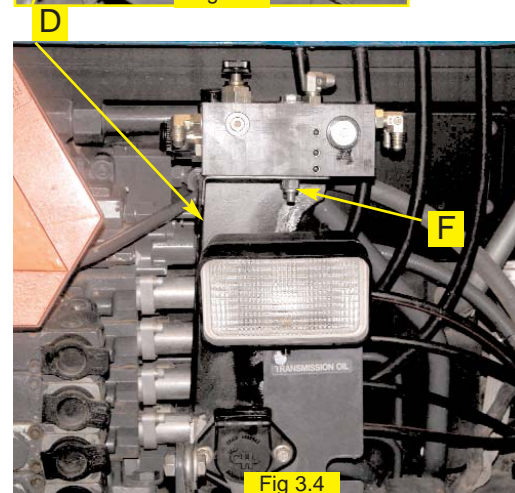
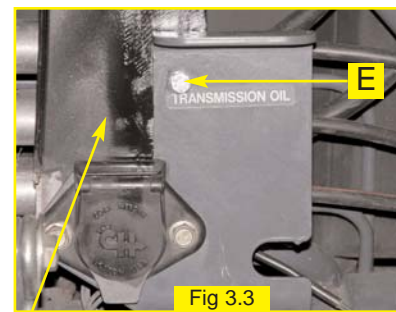
2. Install Mounting Bracket:

Unbolt the implement light located above the wiring connector at the back of the tractor and lay it aside. (Figure 3.2) Remove the bolts securing the electric wiring connector and install the hydraulic mounting bracket (D) as shown. Drill a 3/8" hole through the electric wiring connector mounting plate and the hydraulic mounting bracket just installed. Using this hole secure the two brackets together with the hardware in group (E). (Figure 3.3) Reinstall the implement light in the original location.



3. Install Hydraulic Control Block:

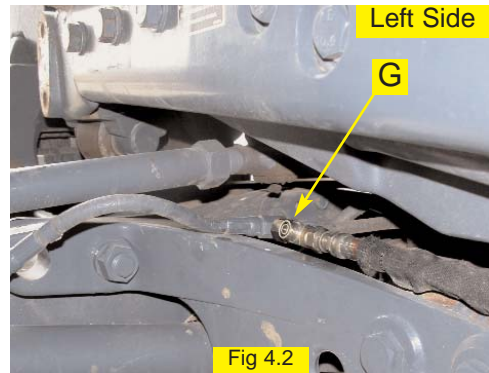
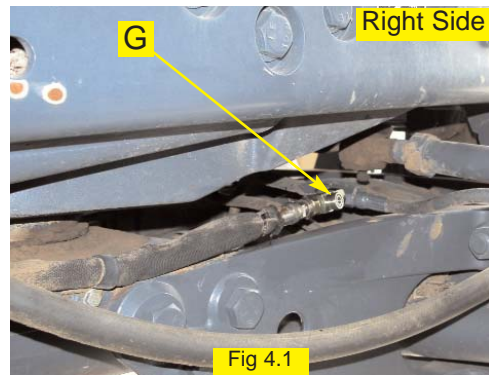
Install the hydraulic control block, as prepared in step 1, to the mounting bracket using the mounting hardware in group (F). Tighten mounting bolts securely. (Figure 3.4)



4. Install Steering Output Fittings:

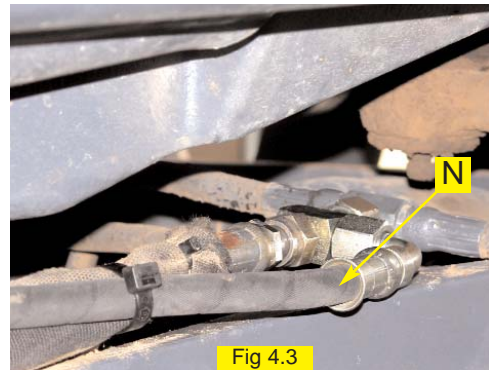
Locate the tractor steering lines toward the front of the tractor prior to the connections at the steering cylinders. Install run-tee fittings (**G**) at the junction of the hoses coming forward along the frame and the hose linking the two cylinders in series as shown. (Figure 4.1 and 4.2)

Leave run-tee fittings 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.

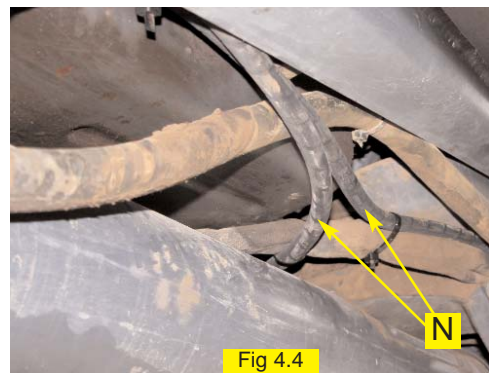


5. Install Steering Output Hoses:

Install **A** and **B** hoses (**N**) on to the branches of the run-tee fittings. (Figure 4.3) The ends of the **A** and **B** hose with the larger o-ring face elbows attach to the run-tees. The hose ends with the smaller JIC straight connectors will be attached to the **A** and **B** ports of the hydraulic control block. Leave the plastic plugs in these hose ends until the hose has been properly routed to the hydraulic control block as explained in the following instructions.

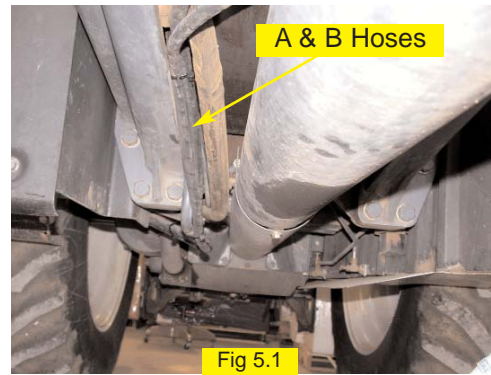


Route hoses toward the back of the tractor. The left steering hose will need to be routed across the top of the front drive-line cover to the right side of the tractor. (Figure 4.4)

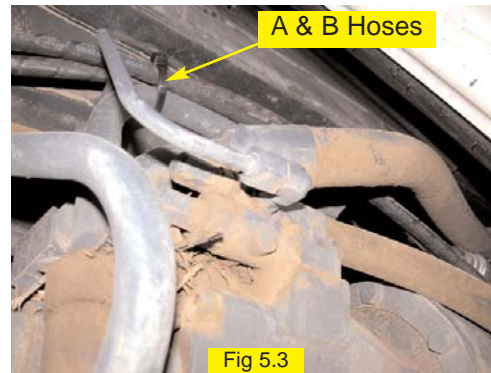
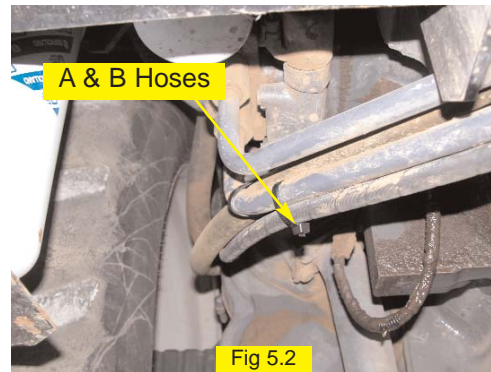


5. Continued...

Route the **A** and **B** hoses back adjacent to other tractor plumbing to prevent entanglement with moving parts. (Figure 5.1)

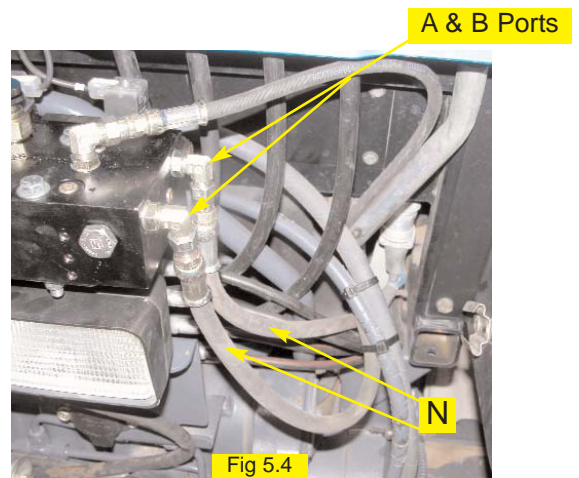


Be sure hoses are secure and routed for problem free operation. (Figure 5.2 and 5.3)



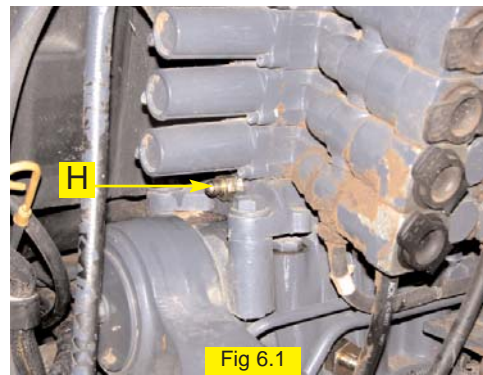
At the back of the tractor attach the hoses to the **A** and **B** ports of the hydraulic control block mounted in step 3. (Figure 5.4)

Securely tighten all steering output hose fittings, both at the front run-tees and at the rear block.

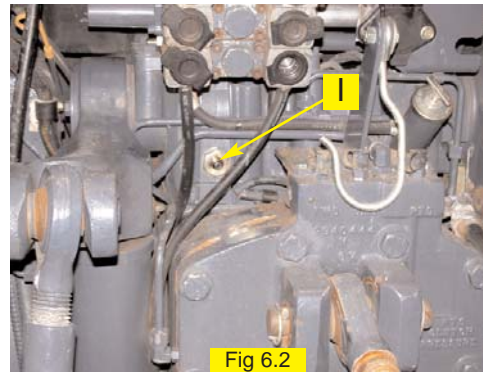


6. Install Tractor Pressure & Tank Fittings:

Pressure for the hydraulic control block will be supplied from a #8 ORB allen plug on the left side of the tractor hydraulic valve stack near the three-point hitch top-link. Use an allen wrench to remove this plug and install the provided JIC fitting (H). (Figure 6.1)



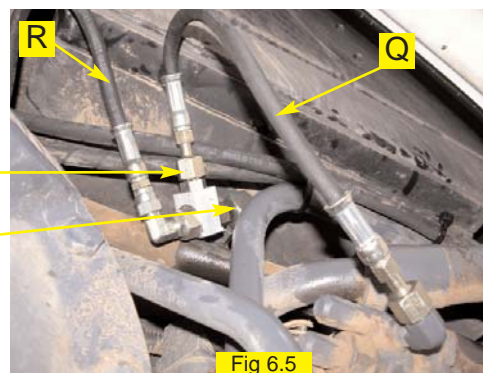
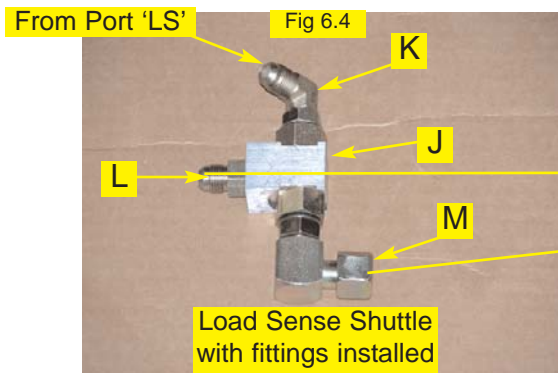
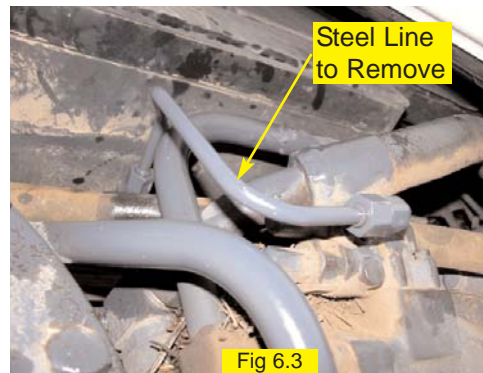
Tank drain for the hydraulic system will be relieved to the rear casing of the tractor to a port just below the hydraulic valve stack. Remove the #12 ORB hex-plug and install the provided JIC fitting (I). (Figure 6.2)



7. Install Tractor Load Sense Shuttle/Fittings:

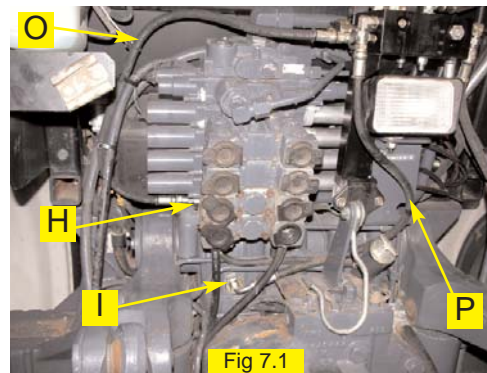
Pre-assemble the load sense shuttle (J) with the included fittings (K), (L), and (M) as shown. (Figure 6.4)

Locate the top hydraulic pump under the tractor cab on the right side. Locate the load sense actuator on the top of the pump with a short steel line attached to it. Remove this steel line. (Figure 6.3) Install the load sense shuttle (M) at the junction where the steel line was removed as shown. Install the provided hydraulic hose (Q) to the center position (L) of the load sense shuttle and to the fitting on the hydraulic pump for the load sense actuator. Install the provided load sense hose (R) to the open end of the load sense shuttle and route up to the hydraulic block, which is explained further in step 8. (Figure 6.5)

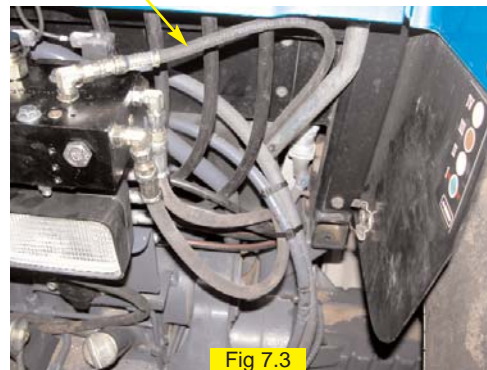
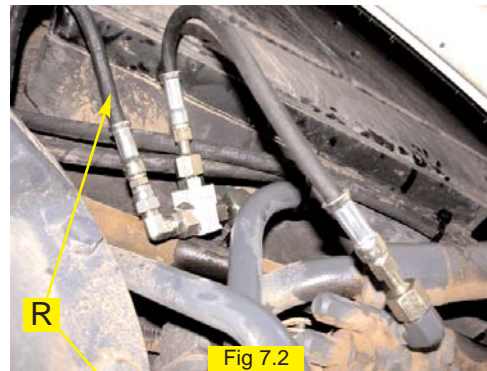


8. Install Pressure, Tank, & Load Sense Hoses:

Install hydraulic hose (O) between the tractor hydraulic valve stack, fitting (H) and the P port of the hydraulic control block. Install hydraulic hose (P) between the tractor rear casing, fitting (I), and the T port hydraulic control block. The elbow end of hose (P) attaches to the tractor casing and the straight connector attaches to the hydraulic control block. (Figure 7.1)



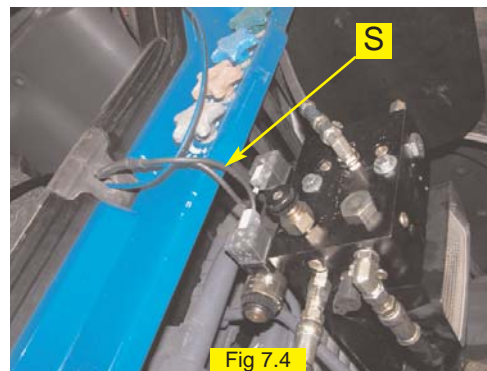
The load sense hose (R) installed to the load sense shuttle at the end of step 6, should be routed back to the hydraulic control block and installed to the LS port as shown. (Figure 7.2 and 7.3)



9. Install the Valve Control Cable:

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



10. 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.

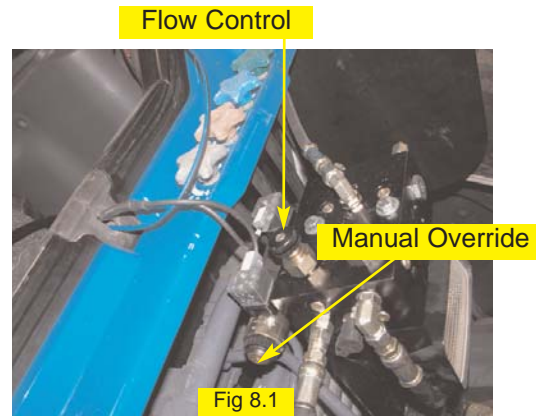
Adjust the hydraulic oil flow control knob to a starting position of **2 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counter-clockwise to increase flow.

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 8.1)

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

11. 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.