

Automated Steering Hydraulic Installation Kit

P/N: ED-NHTG

Fits New Holland Tractor Models:

TG210 TG215
 TG230 TG245
 TG255 TG275
 TG285 TG305
 (SN JAW126070-)



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 New Holland TG series tractors. Please read this manual thoroughly before beginning the installation.

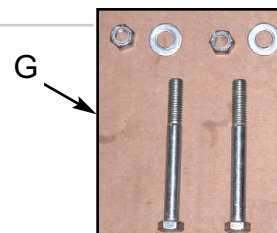
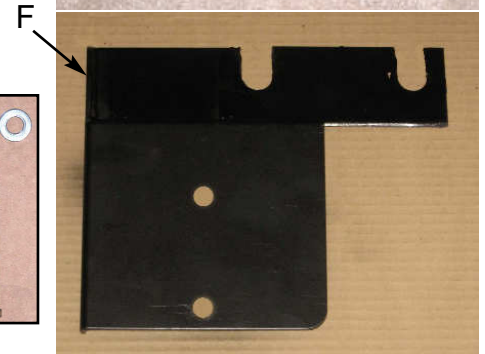
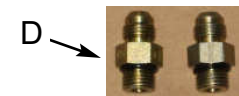
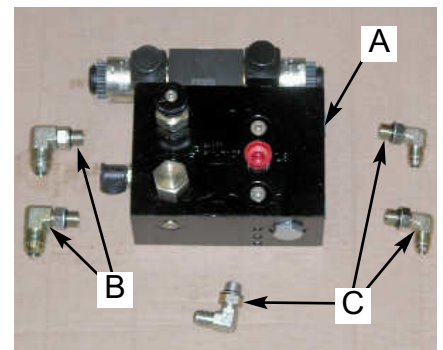
Tractor Preparation

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

Kit Contents

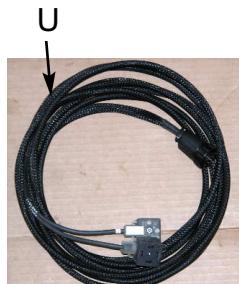
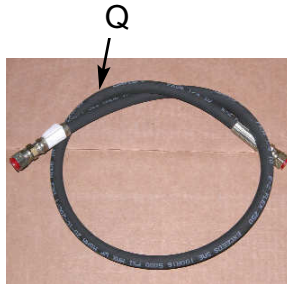
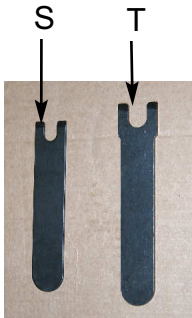
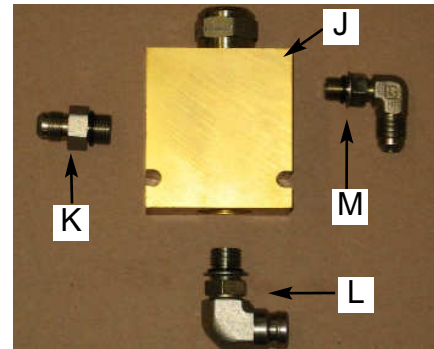
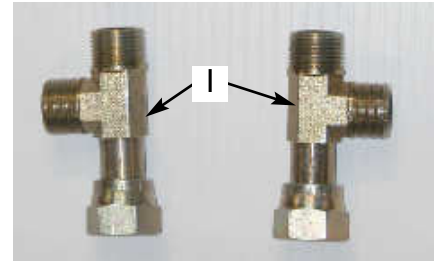
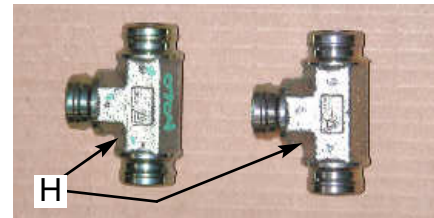
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 4 includes B, C & D			
B	760-2074	2	Adapter, Hyd. 90 Elbow - #8maleJIC x #6maleORB
C	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
D	760-2056	2	Adapter, Hyd. - #6mJIC, #6mORB
E	640-0038	1	Hyd. Block Mnt. - TG series
	640-0057	1	Hyd. Block Mnt. - NHTG-06
Bag #2 of 4 includes G			
G	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



Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #3 of 4 includes H & I			
H	760-2081	2	Adapter, Hyd. Union Tee - #8STC
I	760-2069	2	Adapter, Hyd. Run Tee - #8 ORFF
Bag #4 of 4 includes K, L, & M			
J	760-0009	1	Assy, Hyd. Dynamic Load Sense Valve
K	760-2056	1	Adapter, Hyd. - #6maleJIC x #6maleORB
L	760-2043	1	Adapter, Hyd. 90EL - #6maleORB x #6femaleSTC
M	760-2082	1	Adapter, Hyd. 90 Elbow - #6mJIC, #4mORB
N	760-1087	1	Hose, Hyd. - 3/8" x 8", #6femJICswiv x #6maleSTC
O	760-1088	2	Hose, Hyd. - 1/2" x 8", #8male STC both ends
P	760-1253	2	Hose, Hyd. - 1/2" x 46", #8femJICswiv x #8maleSTC90
Q	760-1077	1	Hose, Hyd. - 1/4" x 36", #6femJIC swivel both ends
R	760-1169	2	Hose, Hyd. - 3/8x20", #6fJS x #8fORFF90
S	675-0081	1	Tool, STC Hyd. Fitting - #6
T	675-0080	1	Tool, STC Hyd. Fitting - #8
	051-0143	1	Cable, Interface - 15 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.

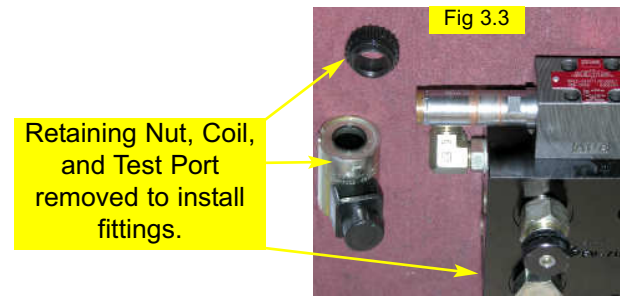
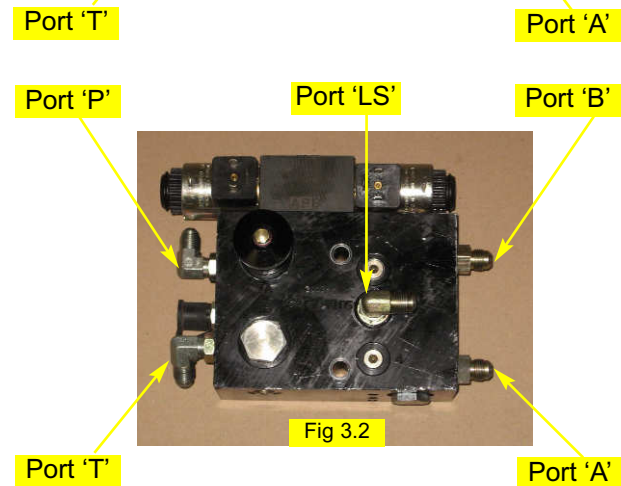
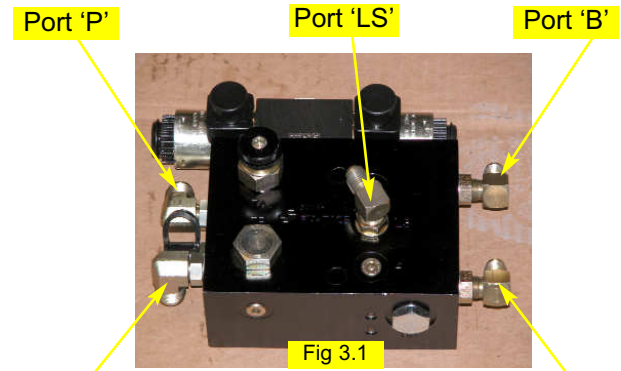
INSTALLATION

1. Prepare Hydraulic Control Block:

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

For tractor models serialized as Z6RW01001 and newer, install the straight adapters (D) into the A and B ports of the hydraulic control block. (Figure 3.2)

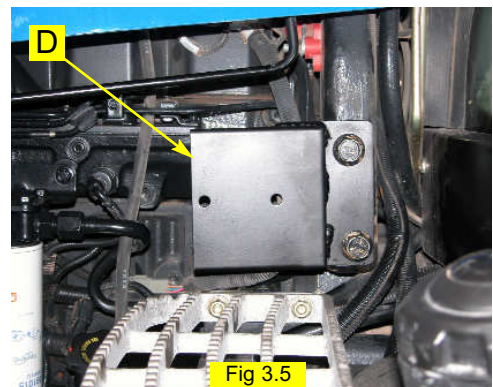
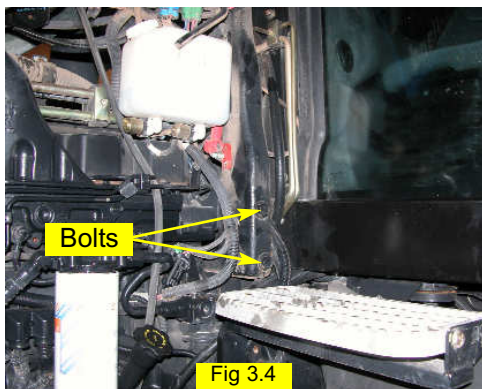
Note: To install the elbow fittings (B) into the P and T ports, the pressure test port fitting and valve coil must first be removed. To remove the coil, unscrew the plastic retaining nut on the end of the coil, remove the o-ring and slide the coil off of the shaft. (Figure 3.3) Install the elbows into the P and T ports. Reinstall the coil and the pressure test port fitting. Do not over tighten the plastic retaining nut on the electric coil. Hand tight is sufficient.



2. Install Mounting Bracket:

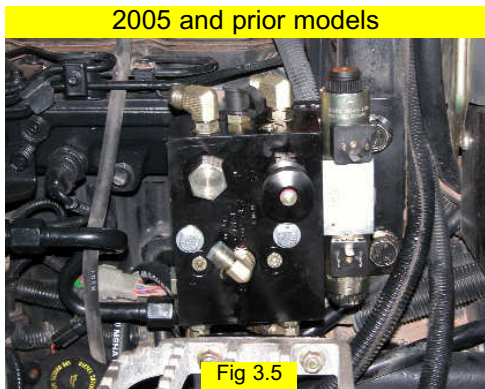
Locate the two bolts in the hood frame, on the left side, in front of the cab. (Figure 3.4) Remove the bolts and install the hydraulic mounting bracket (E or F) using the existing bolts as shown. (Figure 3.5)

For tractor models serialized as Z6RW01001 and newer, use mounting bracket (F).



3. Install Hydraulic Control Block:

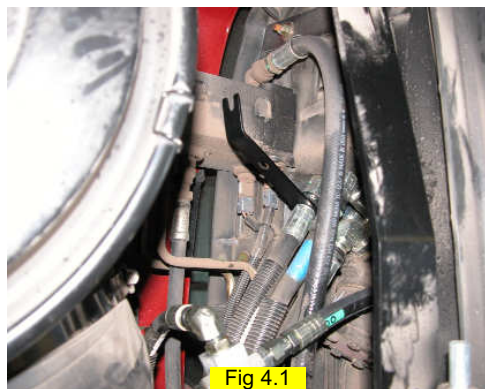
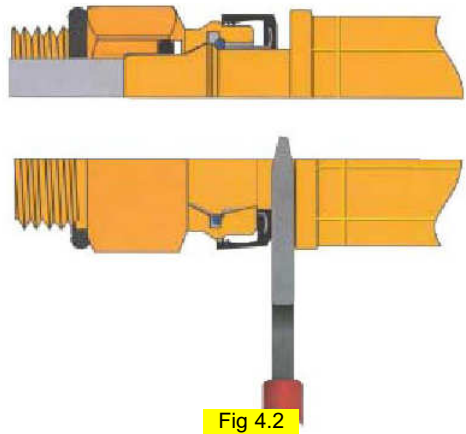
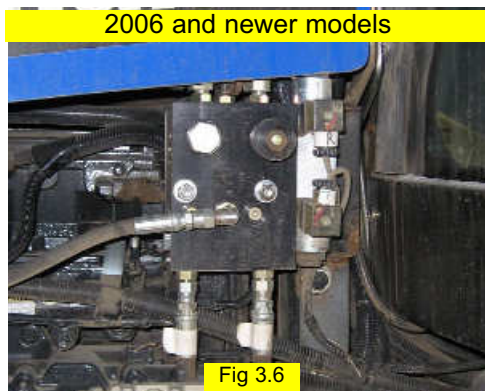
Install the hydraulic control block to the mounting bracket using the hardware in group (G). Be sure the hydraulic control block is oriented with the P and T ports at the top as shown. (Figure 3.5 and 3.6)



4. STC (snap-to-connect) fitting assembly and disassembly:

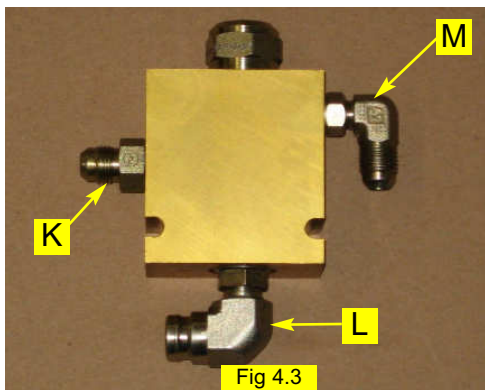
The pressure, tank, and load sense connections on the tractor steering orbital are made with STC (snap-to-connect) fittings. STC release tools (S & T), included, are required to disassemble these types of fittings and allow for automated steering installation. (Figure 4.1)

To release an STC connection the proper size tool must be inserted behind the rubber release sleeve and the two halves of the connection can be pulled apart. To assemble a STC connection, simply insert the male connector into the female and push together until the connections click. Verify the STC connection has been made successfully by pulling on the connection. (Figure 4.2)



5. Install Pressure, Tank, and Load Sense Fittings:

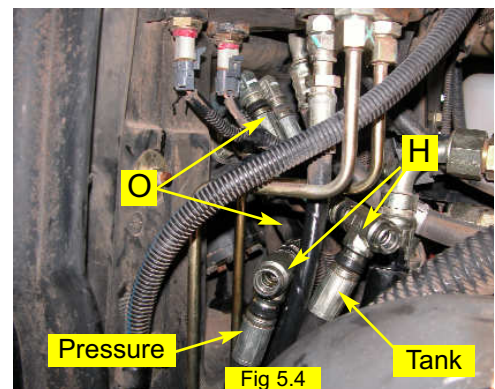
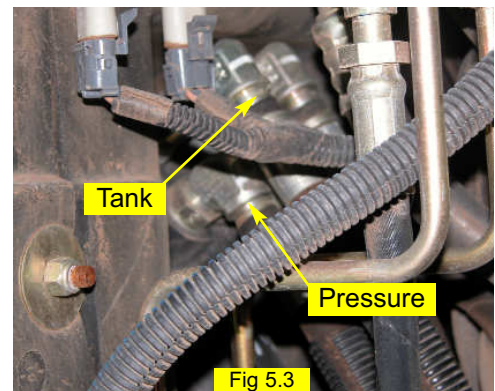
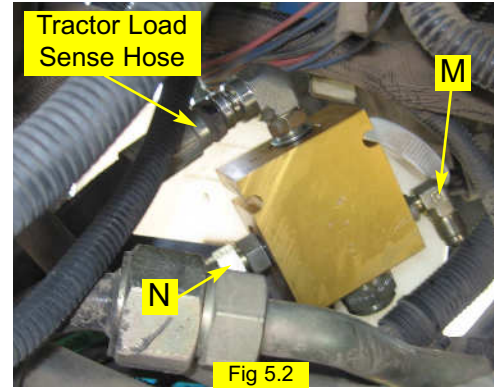
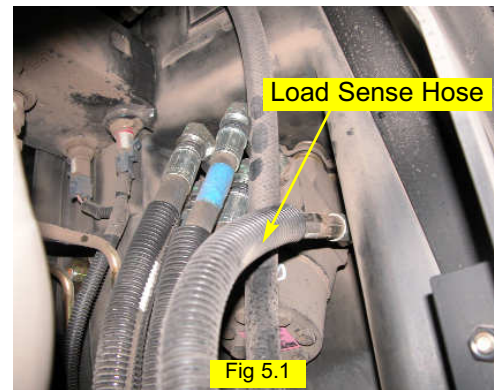
Pre-assemble the load sense shuttle (J) with fittings (K), (L) and (M) as shown. (Figure 4.3)



5. Continued...

Locate the small load sense hose on the left side of the steering orbital. (Figure 5.1) Remove the load sense hose from the steering orbital using the release tool **(S)**. Connect the center position of the prepared load sense shuttle to the tractor load sense hose. Connect the provided hose **(N)** between the load sense fitting on the steering orbital and one end of the load sense shuttle. (Figure 5.2)

Locate the pressure and tank ports on the tractor steering orbital, stamped **P** and **T** on the casting. Remove the pressure and tank hoses from the orbital using the release tool **(T)**. (Figure 5.3) Connect the provided hoses **(O)** to the pressure and tank fittings on the orbital. Use the provided union-tee **(H)** to reconnect the pressure and tank hoses as shown. (Figure 5.4)

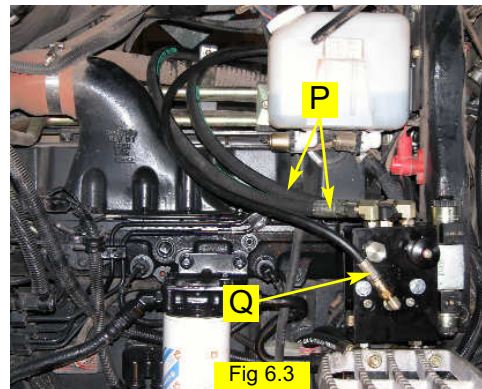
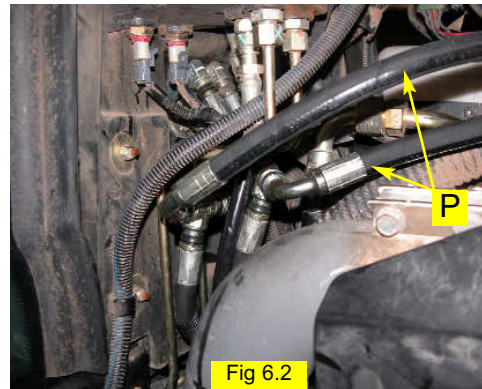
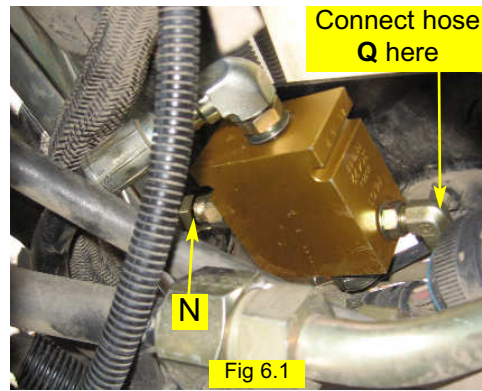


6. Install Pressure, Tank, and Load Sense Hoses:

Connect the provided load sense hose (**Q**) between the open end of the load sense shuttle and the **LS** port of the hydraulic control block. (Figure 6.1 and 6.3)

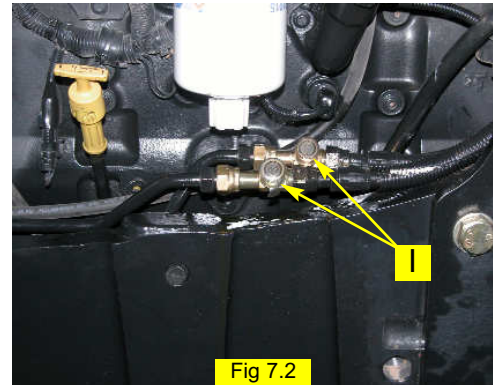
Connect the provided hydraulic pressure and tank hoses (**P**) between the union-tees installed in step 5 and the **P** and **T** ports of the hydraulic control block. Pressure to the **P** port and tank to the **T** port(Figure 6.2 and 6.3)

Be sure hoses are routed to avoid entanglement and promote problem free operation. Use heavy tie straps, provided, as needed. (Figure 6.3)



7. Install Steering Output Fittings:

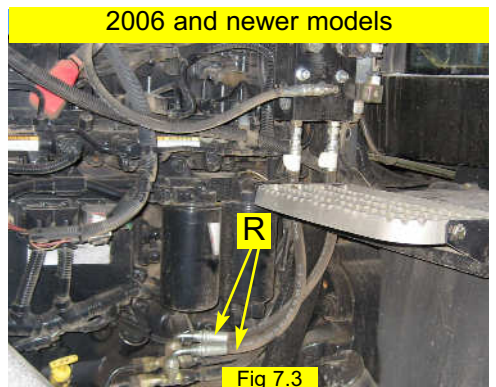
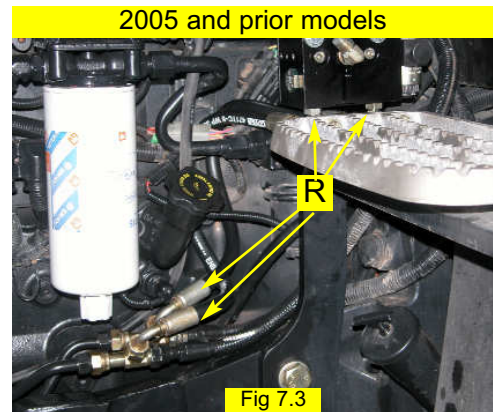
Locate the tractor steering lines near the left side of the frame under the fuel filter. (Figure 7.1) Install run-tee fittings (**I**) in the steering lines at the junctions of the rubber and steel lines as shown. (Figure 7.2) Leave run-tee fittings loose to allow for alignment when attaching hoses. Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.



8. Install Steering Output Hoses:

Connect the ends of the steering hoses (**R**) to the run-tee fittings installed in step 7. (Figure 7.3)

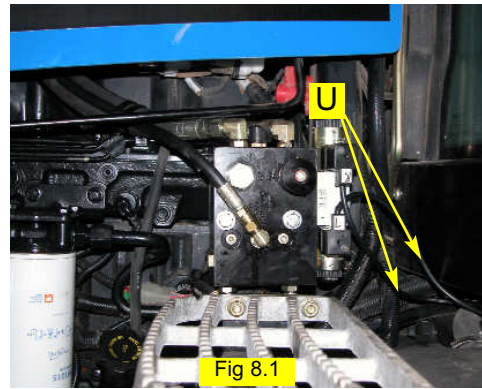
Route the steering hoses up to connect and the **A** and **B** ports of the hydraulic control block as shown. (The hose ends with the large o-ring face elbow fittings connect to the run-tees. The hose ends with the smaller JIC fittings will connect to the hydraulic control block.) Be sure hoses are routed free from entanglement and secured with provided tie straps as needed.



9. Install the Valve Control Cable:

Route the valve control cable (U) under the cab and through the cable grommet in the right rear corner of the window. (Figure 8.2) Route the DIN connectors down to the hydraulic control block and attach as shown. (Figure 8.1)

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



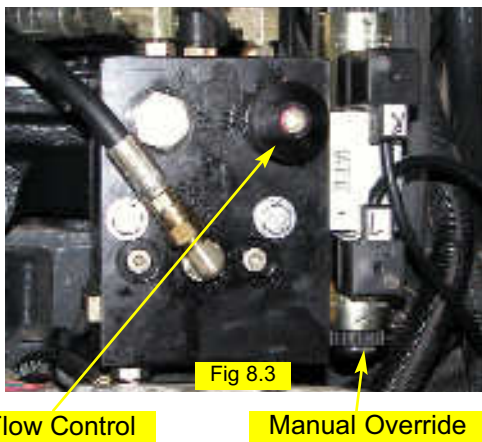
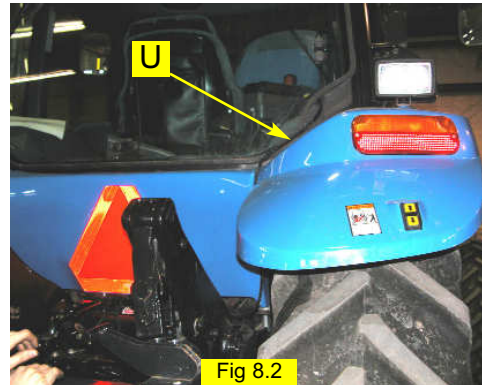
10. Verify Operation and Set Steering Control Rate:

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 1/2 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 8.3)

Adjust the hydraulic oil flow control 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 oil 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.