Automated Steering Hydraulic Installation Kit

P/N: ED-C2388

Fits Case IH Combine Models:

2166 2366
2377 2577
2188 2388 2588

Overview

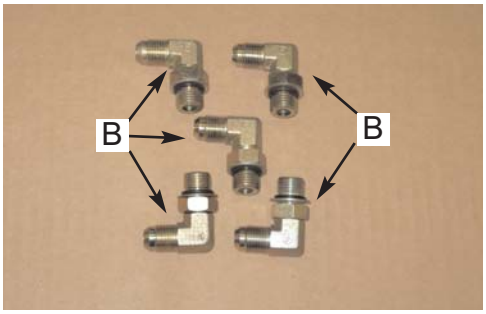
A series of equipment-specific hydraulic installation kits has been developed to work in conjunction with your automated steering system. This kit contains the necessary components and instructions to install automated steering hydraulics on the Case IH combine models listed above. Please read this manual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

Machine Preparation

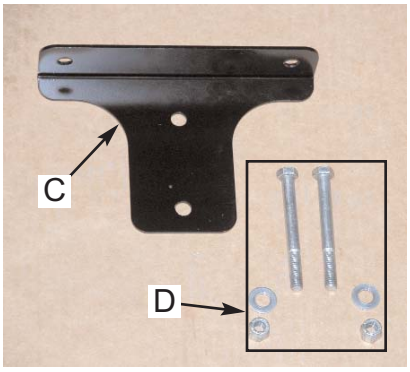
Before attempting to install hydraulics, park the combine on a clean level floor with adequate clearance to work all around.

Kit Contents

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

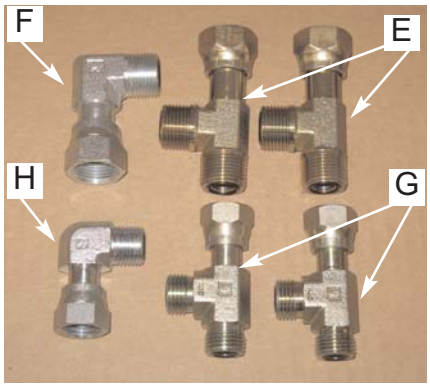


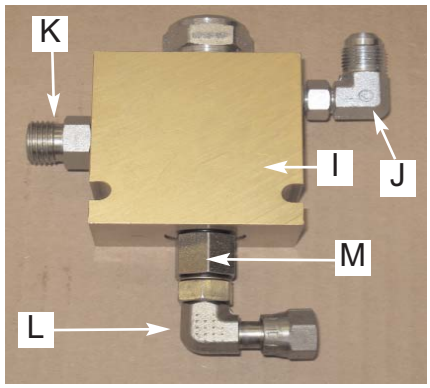
REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
	Bag #1 of 4 includes B		
B	760-2058	5	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	640-0027	1	Hyd. Block Mnt, CaseIH 2388/2366
	Bag #2 of 4 includes D		
D	675-2005	2	Bolt - 3/8NC x 3-1/4" Gr5, ZP
	678-1054	2	Washer, Narrow Flat - 3/4"OD x 13/32ID 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 E,F,G & H		
E	760-2069	2	Adapter, Hyd. Run Tee - #8 ORFF
F	760-2070	1	Adapter, Hyd. 90 Elbow - #8maleORFF x #8femORFFswivel
G	760-2046	2	Adapter, Hyd. Run Tee - #6 ORFF
H	760-2047	1	Adapter, Hyd. 90 Elbow - #6maleORFF x #6femORFF swivel
	Bag #4 of 4 includes J,K,L & M		
I	760-0009	1	Assy, Hyd. Dynamic Load Sense Valve
J	760-2082	1	Adapter, Hyd. 90 Elbow - #6mJ x #4mB90
K	760-2033	1	Adapter, Hyd. - #4male ORFF x #6male ORB
L	760-2089	1	Adapter, Hyd 90 Elbow - #4mORB, #4fORF
M	760-2090	1	Adapter, Hyd - #6mORB, #4fORB



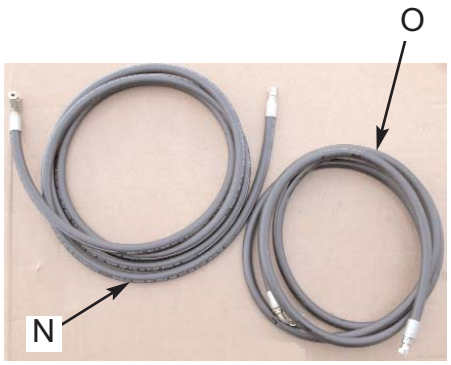


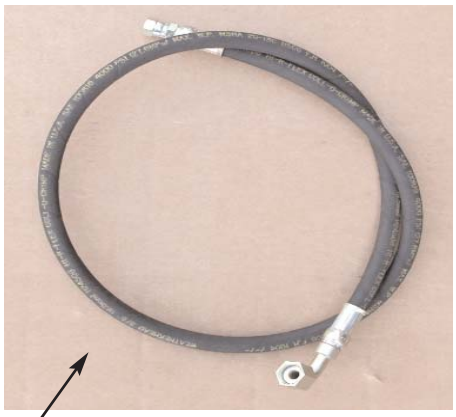
WARNING: **HIGH-PRESSURE FLUID HAZARD.** Hydraulic oil may be hot and under high pressure. To prevent serious injury or death: Relieve system pressure and allow to cool before repairing or disconnecting. Wear proper hand and eye protection when searching for leaks, using wood or cardboard instead of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

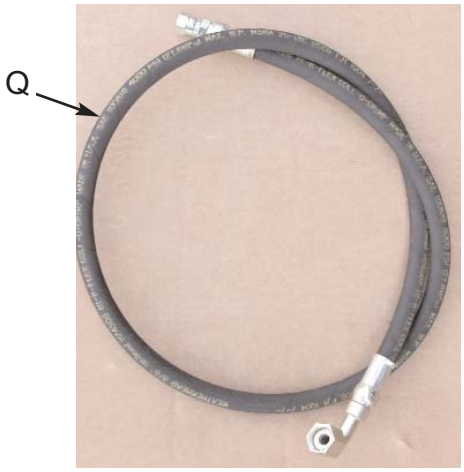
IMPORTANT: **PREVENT HYDRAULIC SYSTEM CONTAMINATION.** It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF type 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.

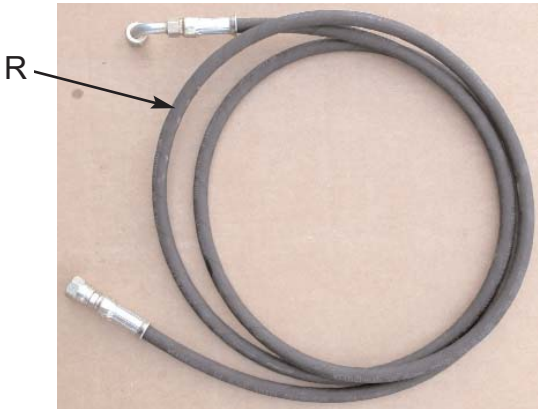
Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
N	760-1107	1	Hose, Hyd. - 3/8" x 102", #6femJICswiv x #8femORFFswiv 90EL
O	760-1111	1	Hose, Hyd. - 3/8" x 102", #6femJICswiv x #6femORFFswiv 90EL
P	760-1292-000	1	Hose, Hyd. - 3/8" x 46", #6femJICswiv x #6femORFFswiv 90EL
Q	760-1018	1	Hose, Hyd. - 3/8" x 45", #6femJICswiv x #8femORFFswiv90EL
R	760-1110	1	Hose, Hyd. - 1/4" x 56", #6femJICswiv x #6femJICswiv 90EL
S	051-0144	1	Cable, Hyd. Valve Interface - 10 ft.
	677-2001	20	Tie Strap, 11" Heavy Duty, Not Shown
	710-0053	1	Kit, Steering Wheel Switch, Not Shown









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 **(B)** in the **P**,**T**, **LS**, **A** and **B** ports. (Figure 4.1)

Note: *To allow the installation of the elbows in the **P** and **T** ports the pressure test fitting must be removed. Unscrew the pressure test port from the block and set it aside. Install the elbows into the **P** and **T** port. Reinstall the pressure test fitting.* (Figure 4.2)

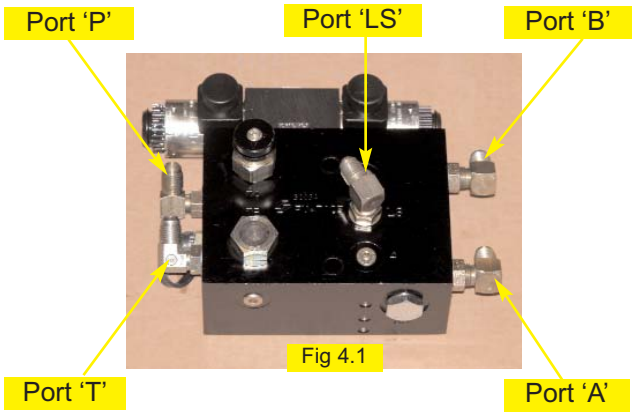


Fig 4.1


Fig 4.2

2. Install Mounting Bracket:

Locate the bolts on the leading edge of the ladder support channel under the left side of the cab. Remove two bolts and install the hydraulic block mount bracket **(C)** with existing bolts and secure as shown. (Figure 4.3)

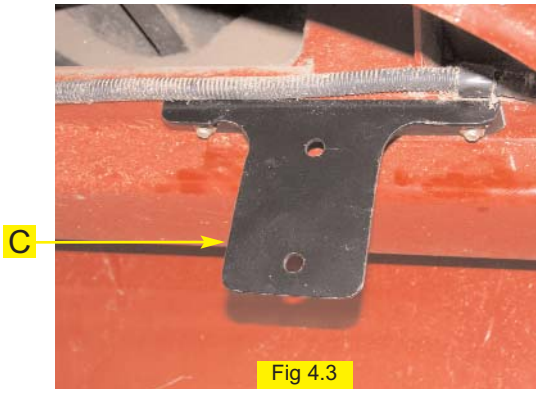


Fig 4.3

3. Install Hydraulic Control Block:

Using the provided hardware in group **(D)**, mount the hydraulic control block to the bracket as shown. (Figure 4.4)

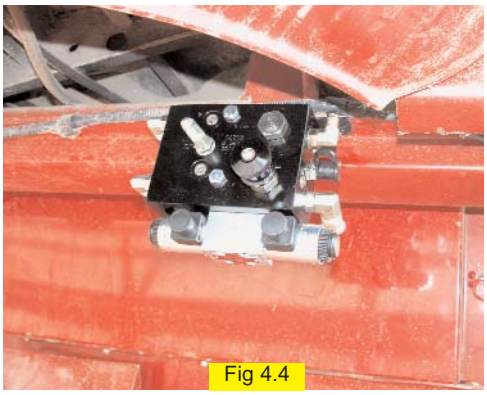


Fig 4.4

4. Install Pressure and Tank Fittings:

Locate the pressure line on the front side of the priority valve on the left side of the combine. (Figure 5.1) Install the provided run-tee **(G)** on the pressure port of the priority valve. The installed run-tee will provide a pressure source for hydraulic control block. Use plastic caps on the open branch of the run-tee to prevent excess leakage. (Figure 5.2)

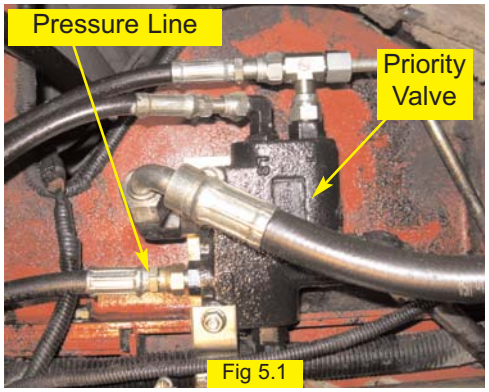


Fig 5.1

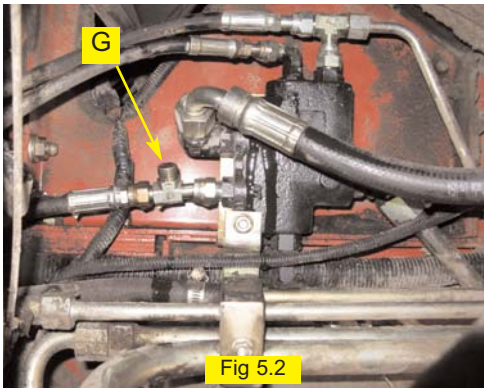


Fig 5.2

Locate the return oil manifold on the left side of the machine. (Figure 5.3) Remove the rubber tank line as shown and install the provided run-tee **(E)**. (Figure 5.4) This will be used as the tank return for the hydraulic control block. Use plastic caps on the open branch of the run-tee to prevent excess leakage.

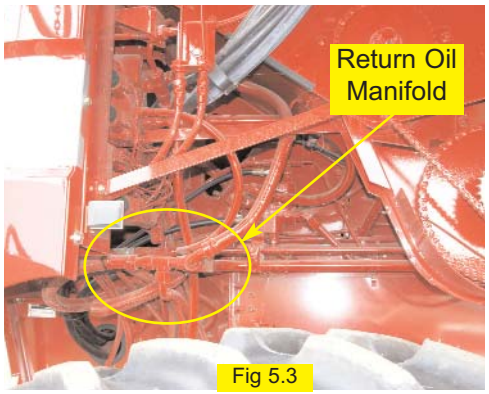


Fig 5.3

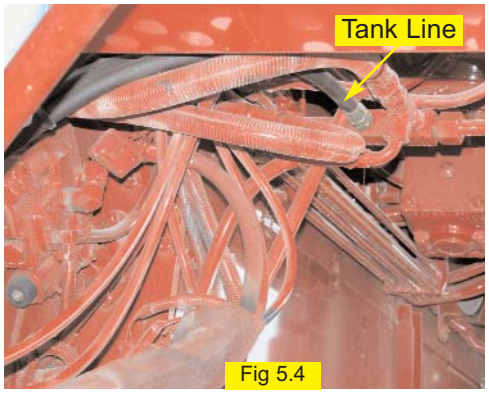


Fig 5.4

5. Install Dynamic Load Sense Shuttle:

Pre-assemble the Dynamic load sense shuttle **(I)** with adapter fittings **(J)**, **(K)**, **(L)** and **(M)** as shown. (Figure 6.1)

Locate the load sense line on top of the priority valve marked LS and disconnect the rubber line from the fitting as shown. (Figure 6.2)

Attach the center position of the dynamic load sense shuttle with fitting **(L)** to the fitting on the priority valve. Re-attach the combine load sense line to the end of the dynamic load sense shuttle with fitting **(K)** as shown. (Figure 6.3)

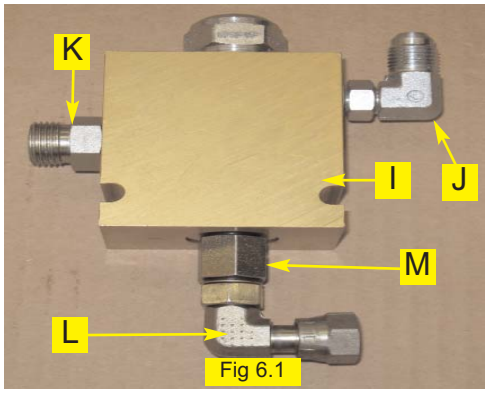


Fig 6.1

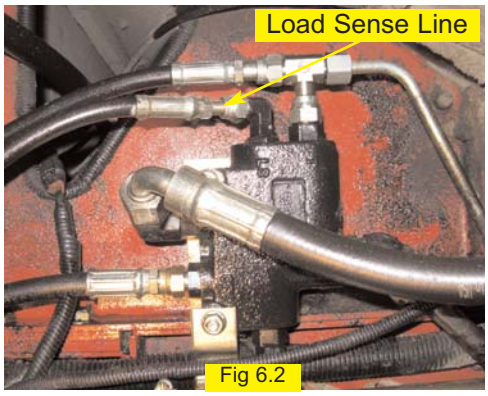


Fig 6.2

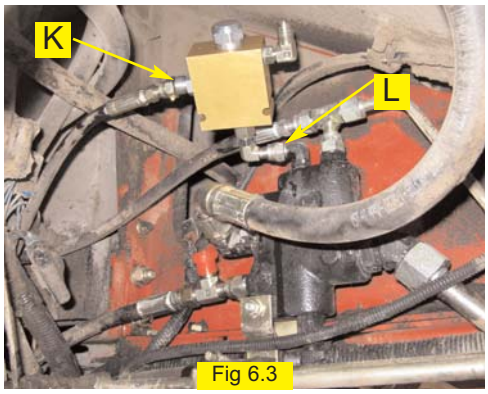


Fig 6.3

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

Connect the tank hose **(Q)** between the **T** port of the hydraulic control block and the run-tee **(E)** installed at the return oil manifold. (Figure 6.4 and 6.6)

Connect the pressure hose **(P)** between the **P** port of the hydraulic control block and the run-tee **(G)** installed at the priority valve. (Figure 6.4 and 6.5)

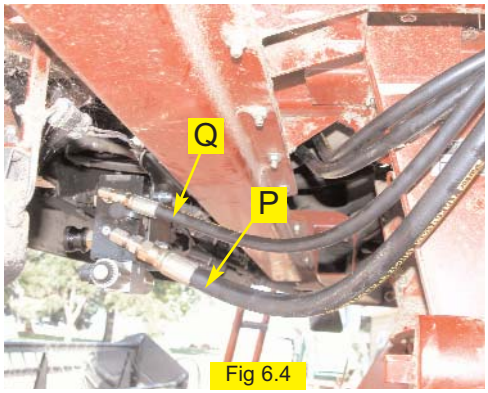


Fig 6.4

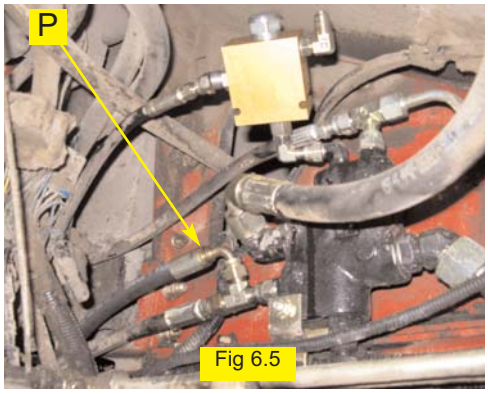


Fig 6.5

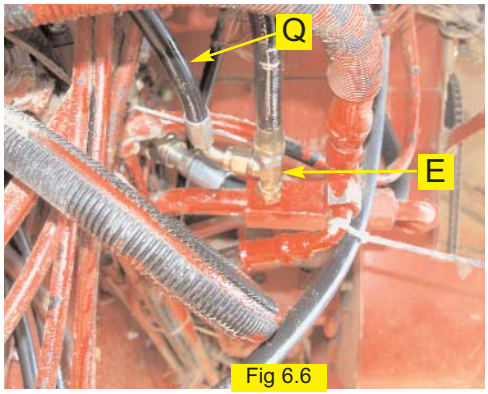


Fig 6.6

6. Continued...

Install the load sense hose **(R)** between the open end **(J)** of the dynamic load sense shuttle and the **LS** port of the hydraulic control block. (Figure 7.1)

Route all hoses free from entanglement and secure with heavy tie-straps (provided).

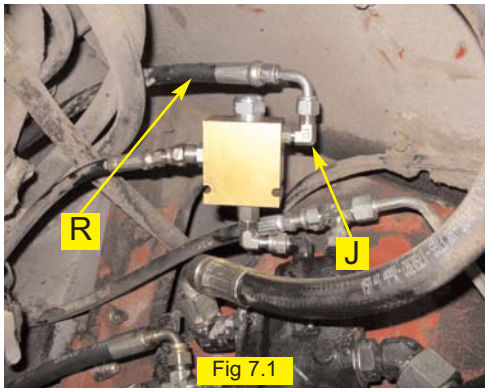


Fig 7.1

7. Install Steering Output Fittings:

Locate the combine steering lines behind the front axle, on the left side of the machine, near the left drive shaft. (Figure 7.2) Install run-tee fittings **(E** and **G)** using elbow adapters **(F** and **H)** where the steering lines connect to the steel tubes as shown. Re-attach the combine steering lines to the branches of the run-tees as shown. (Figure 7.3) Leave run-tee fittings and elbows 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 7.2

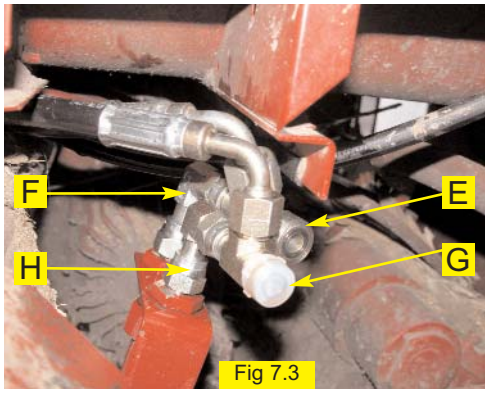


Fig 7.3

8. Install Steering Output Hoses:

Connect the ends of the steering hoses **(N** and **O)** to the run-tee fittings installed in step **7**. (The hose ends with the large flat face elbow fittings connect to the run-tees. The hose ends with the smaller JIC fitting will connect to the hydraulic control block.) (Figure 8.1 and 8.2)

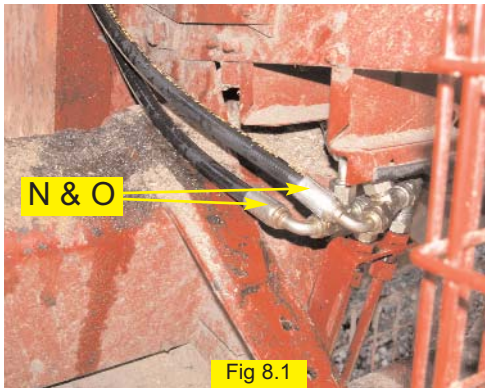


Fig 8.1

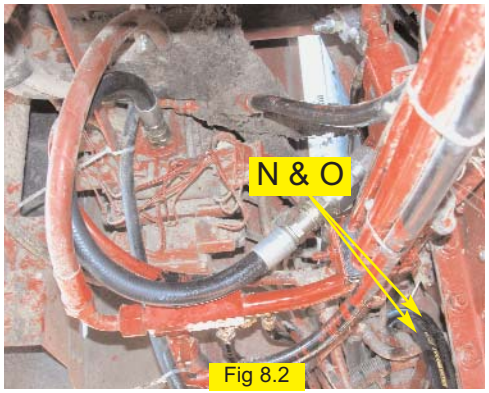


Fig 8.2

Route the steering hoses forward along the side of the machine to the hydraulic control block. (Figure 8.3) Connect the steering hoses to the **A** and **B** ports of the hydraulic control block as shown. (Figure 8.4) The hoses should be routed free from entanglement and secured with heavy tie straps (provided).

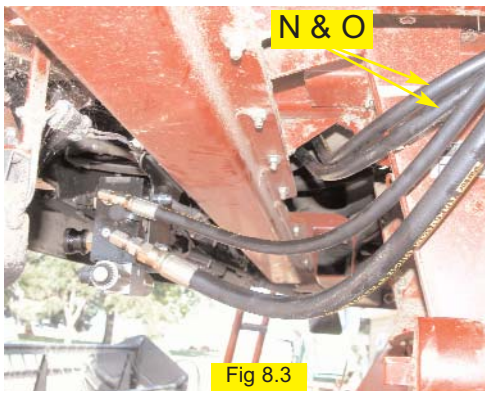


Fig 8.3

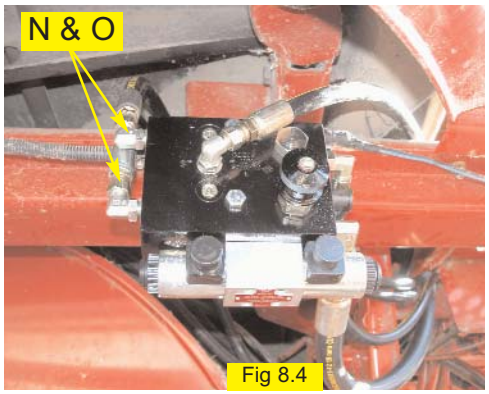


Fig 8.4

9. Install the Valve Control Cable:

Route the valve control cable **(S)** from the hydraulic control block through the right side window into the cab as shown. (Figure 9.1)

Remove enough slack out of the cable to prevent entanglement with moving parts. Use tie straps as needed. (Figure 9.2)

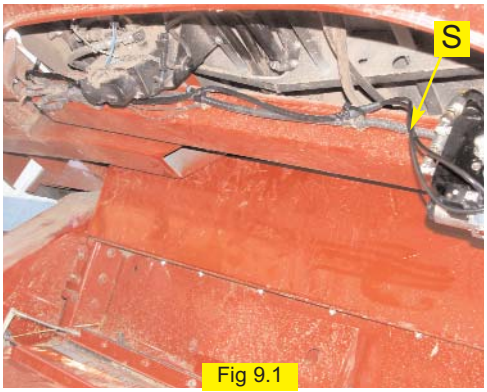


Fig 9.1

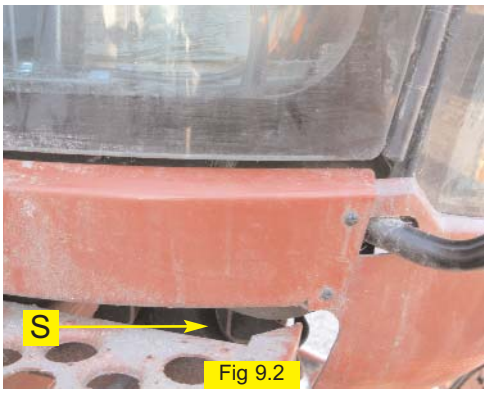


Fig 9.2

10. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the machine 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, lift and turn clockwise to reduce flow, counterclockwise 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 9.3)

Adjust the hydraulic oil flow control to achieve an end to end steering cycle time of approximately **14** seconds

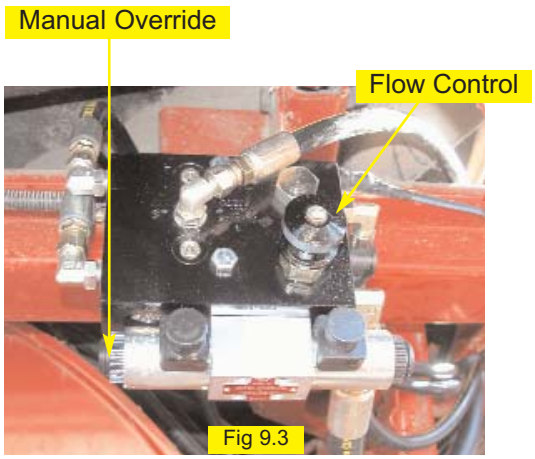


Fig 9.3

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.*

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.

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.