

# Automated Steering Hydraulic Installation Kit

P/N: ED-C9300

Fits Case Steiger Tractor Models:

9170	9180	9390
9270	9280	
9370	9380	
<b>QUADTRAC</b>		



## 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 9300 Steiger tractors. Please read this manual thoroughly before beginning the installation.

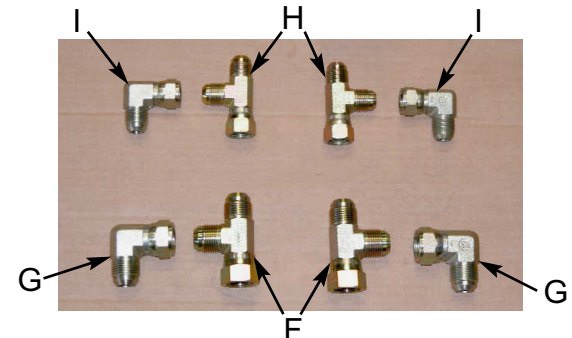
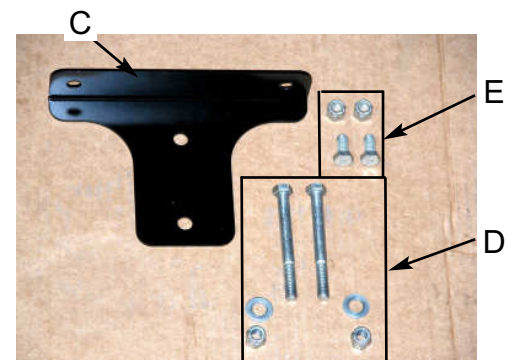
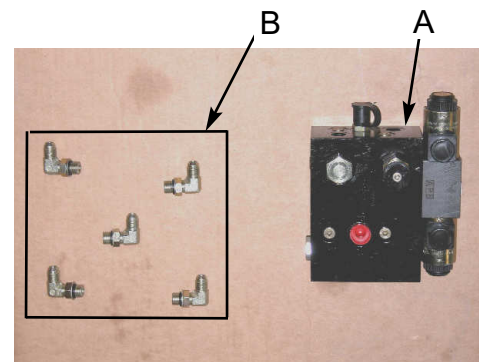
## Tractor Preparation

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

## Kit Contents

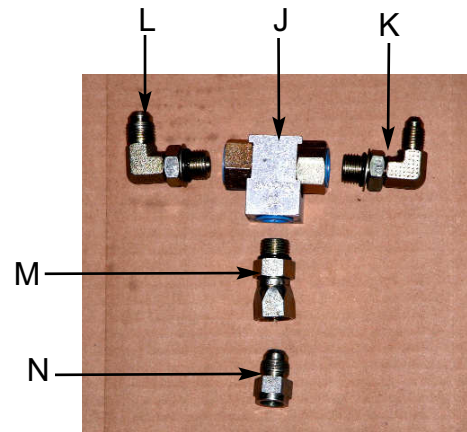
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0004	1	Assy, Hyd. Valve Block - LS, High Flow
<b>Bag #1 of 4 includes B</b>			
B	760-2058	5	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
<b>Bag #2 of 4 includes D &amp; E</b>			
C	640-0009	1	Bracket, Hyd. Block Mnt - C9370
D	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
E	675-2007	2	Bolt, 3/8NC x 3/4" Gr5 ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP
<b>Bag #3 of 4 includes F, G, H, &amp; I</b>			
F	760-2016	2	Adapter, Hyd Run Tee - #12 JIC
G	760-2017	2	Adapter, Hyd. 90 Elbow - #12maleJIC x #12femJICswiv
H	760-2006	2	Adapter, Hyd Run Tee - #10 JIC
I	760-2007	2	Adapter, Hyd. 90 Elbow - #10maleJIC x #10femJICswiv



## Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
<b>Bag #4 of 4 includes J, K, L, M, &amp; N</b>			
J	760-0002	1	Hyd. Load Shuttle - #6femORB
K	760-2037	1	Adapter, Hyd. 90 Elbow - #4maleJIC x #6maleORB
L	760-2058	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
M	760-2041	1	Adapter, Hyd. - #6maleORB x #6femJICswiv
N	760-2029	1	Adapter, Hyd. - #4femJIC x #6maleJIC
O	760-1027	2	Hose, Hyd. - 3/8" x 67", #6femJICswiv x #10femJICswiv
P	760-1028	1	Hose, Hyd. - 1/4" x 78", #6femJICswiv Both Ends
Q	760-1029	1	Hose, Hyd. - 1/2" x 60", #6femJICswiv x #12femJICswiv
R	760-1030	1	Hose, Hyd. - 1/2" x 77", #6femJICswiv x #12femJICswiv
S	051-0144	1	Cable, Valve 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.

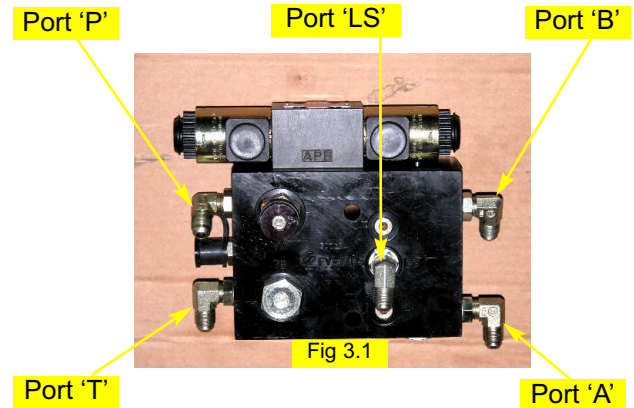
**IMPORTANT:** **PREVENT HYDRAULIC SYSTEM CONTAMINATION.** It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF 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 block is clean and dust free. Remove the plastic plugs and install elbow adapters (**B**) in the **P**, **T**, **LS**, **A**, and **B** ports. (Figure 3.1)

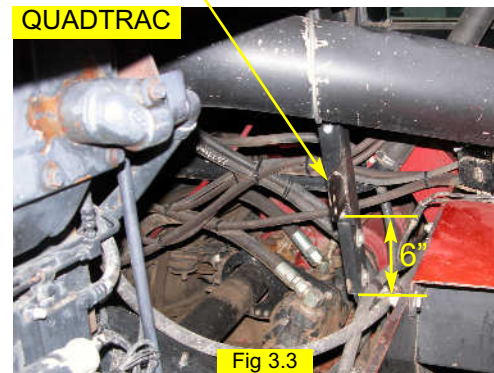
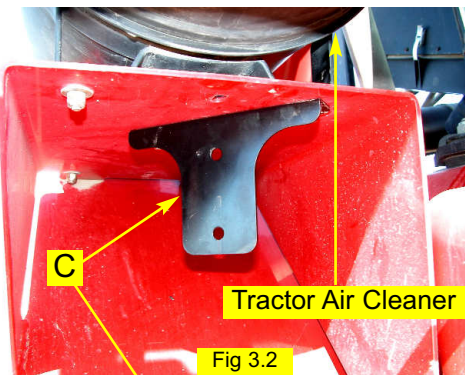
**Note:** To install the elbow fittings into the **P** and **T** ports, the pressure test port fitting must first be removed. Once the elbows are installed, reinstall the pressure test port fitting.



## 2. Install Mounting Bracket:

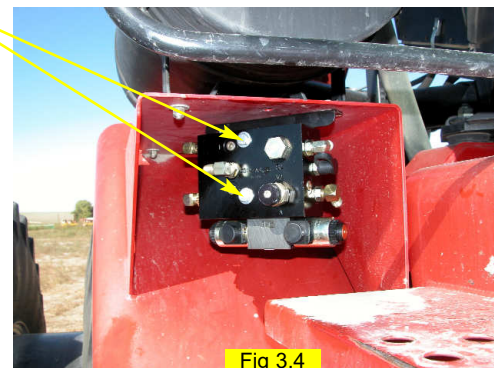
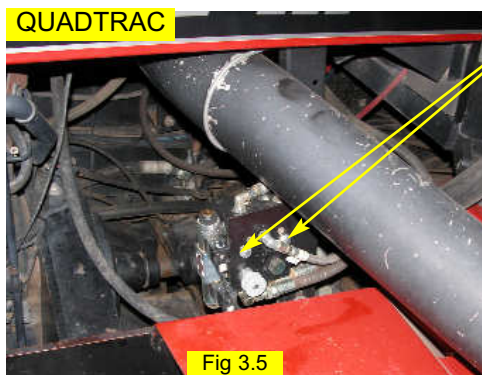
Locate the air cleaner on the left front fender of the tractor. The hydraulic control block will be mounted on the underside of the air cleaner mount bracket. (Figure 3.2) Using the right rear most mounting bolt on the air cleaner and the hardware provided in group (**E**). Secure the mount bracket (**C**) as shown. (Figure 3.2) It may be necessary to drill a 7/16" hole in the air cleaner bracket for use with hardware group (**E**).

If your tractor is a **QUADTRAC** model, the hydraulic control block mounting bracket must be installed onto the vertical hood support as shown. It will be necessary to drill two 7/16" holes in the hood support to allow for the bracket installation. The first hole must be located 6" up from the bottom of the hood support as shown. (Figure 3.3) The bracket can be used as a template for the second hole. Use the hardware provided in group (**E**) to secure the bracket to the hood support.



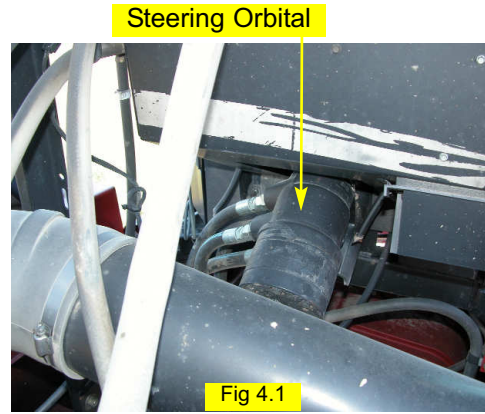
## 3. Install Hydraulic Control Block:

Using hardware provided in group (**D**), mount the hydraulic control block, prepared in step 1, to the bracket (**C**) as shown. (Figure 3.4 and 3.5)

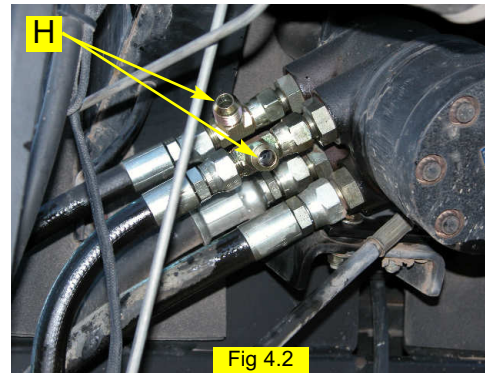


#### 4. Install Steering Output Fittings:

Locate the steering orbital in front of the cab, under the hood. (Figure 4.1) The two smaller lines coming out of the orbital are the right and left steering lines.

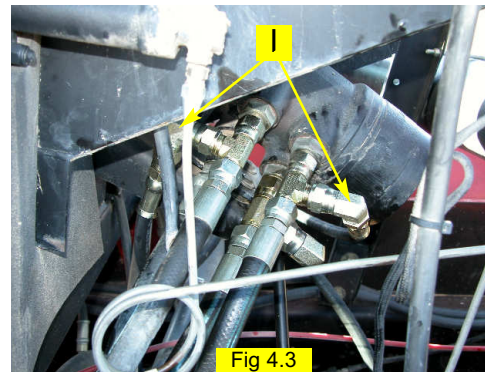


Remove the right and left steering hoses and install the run-tee fittings (**H**) provided. (Figure 4.2) Leave the run-tee fittings loose to allow for alignment when attaching hoses. Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.

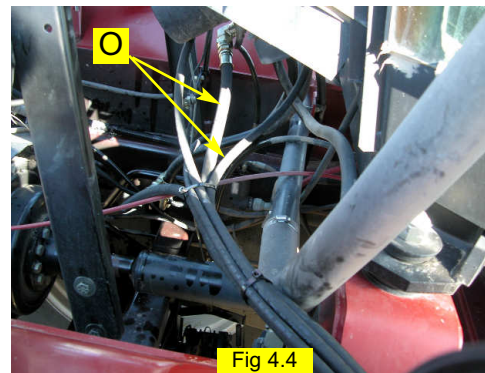


#### 5. Install Steering Output Hoses:

Install the two steering hoses (**O**) on the branches of the run-tee fittings (**H**) installed in step 4. Use the elbow adapters (**I**) to attach the output hoses to the run-tee fittings to allow easier hose routing. (Figure 4.3) The hose ends with the larger JIC straight connectors attach to these elbows at the run-tee's.

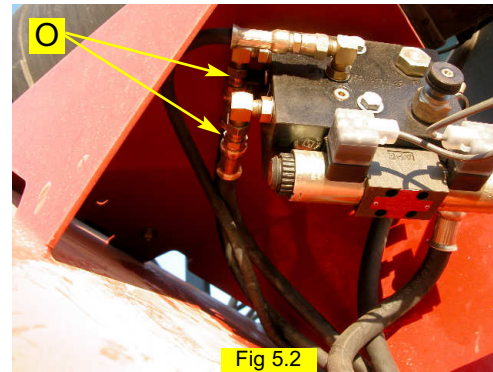
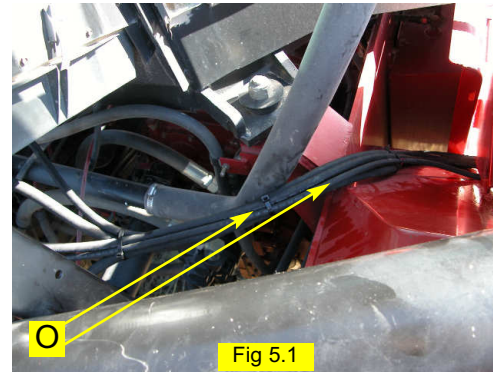


Route the hoses down to the hydraulic control block as shown. (Figure 4.4)



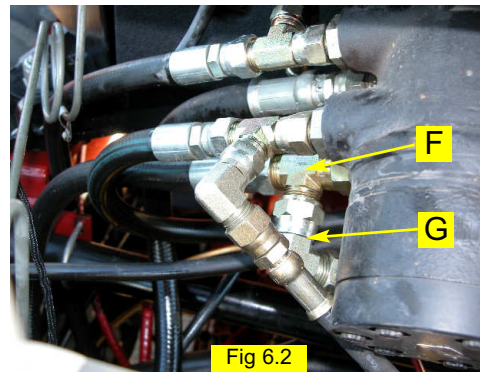
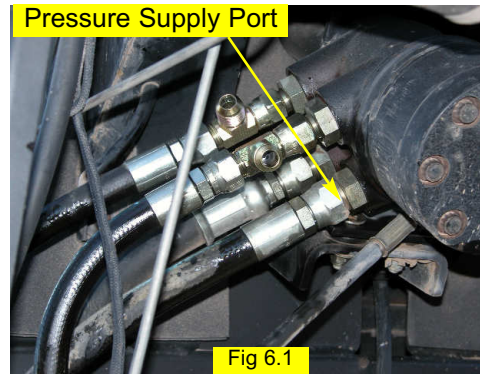
## 5. Continued...

Connect the hose ends with the smaller JIC straight connectors to the **A** and **B** ports on the hydraulic control block. (Figure 5.2) Securely tighten all steering output hose fittings both at the steering orbital and at the hydraulic control block. Be sure that hoses are secure and routed for problem free operation.



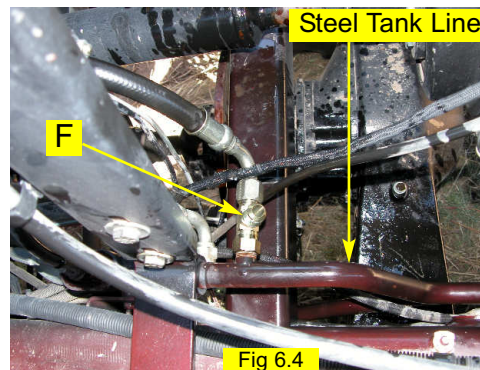
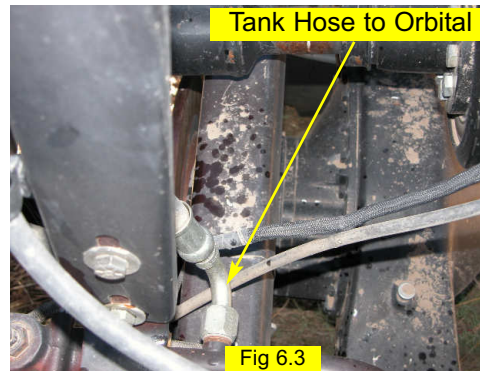
## 6. Install Pressure and Tank Fittings:

Locate the pressure supply port on the steering orbital. It is the lower right line. (Figure 6.1) Remove the pressure hose from the steering orbital and install the run-tee fitting (F) provided. Reinstall the pressure hose just removed to the end of the run-tee just installed. (Figure 6.2)



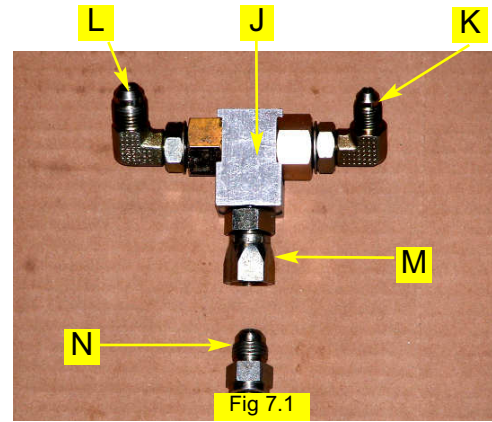
Locate the steel tank drain line inside the tractor frame on the right side of the tractor as shown. Remove the hose running up to the steering orbital and insert the provided run-tee fitting (F). (Figure 6.3 and 6.4)

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.

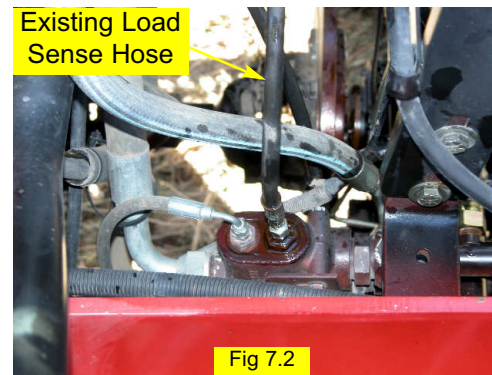


## 7. Install Load Sense Shuttle & Fittings:

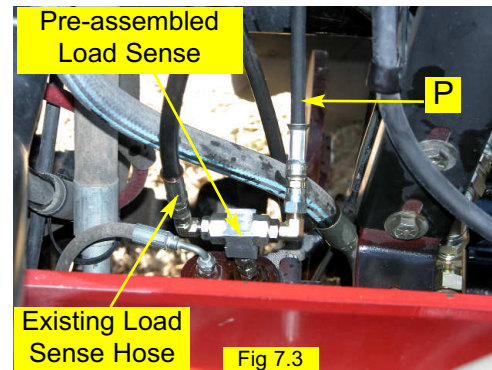
Pre-assemble the load sense shuttle (**J**) with fittings (**K**), (**L**), & (**M**) as shown. (Figure 7.1)



Locate the small load sense hydraulic line on the underside of the steering orbital and trace it down to the frame where it connects to a valve block. (Figure 7.2) Disconnect the junction of the load sense hose at the valve block and insert the prepared load sense shuttle using the provided adapter (**N**). (Figure 7.3)

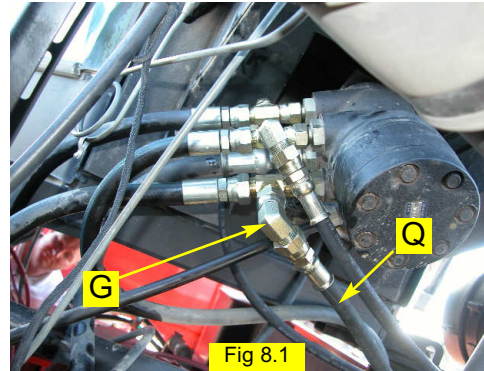


The center fitting (**M**) of the load sense shuttle will be attached to the valve block via the adapter fitting (**N**) provided. Attach the tractor load sense line from the steering orbital to the end of the shuttle with the smaller elbow fitting (**K**) as shown. (Figure 7.3)

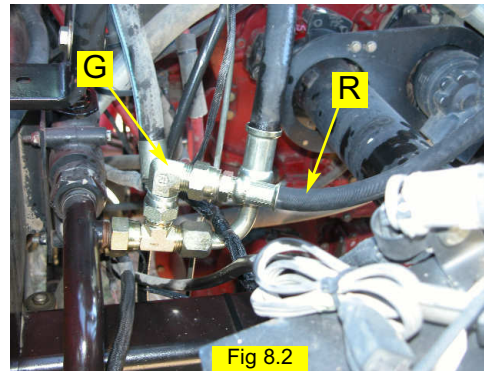


## 8. Install Pressure, Tank, & Load Sense Hoses:

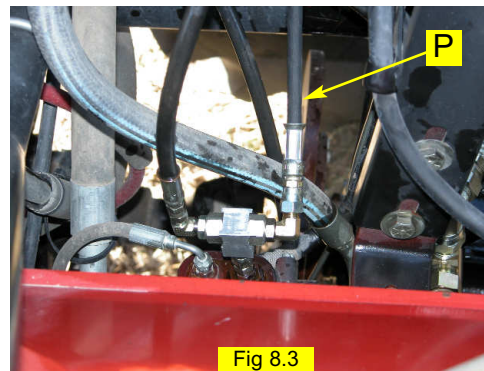
Install the pressure hose (**Q**) on the branch of the run-tee installed on the steering orbital in step 6. (Figure 8.1)



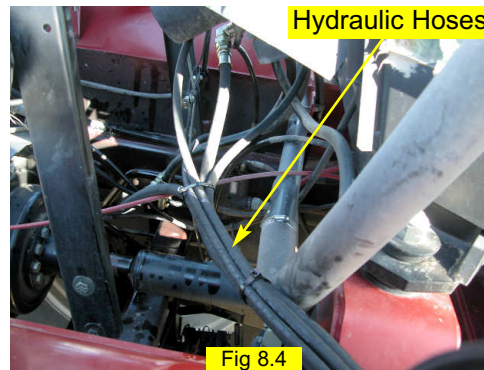
Install the tank drain hose (**R**) on the branch of the run-tee (**G**) installed on the steel tank drain line in step 6. (Figure 8.2)



Install the load sense hose (**P**) on the open end of the shuttle (**L**) installed in step 7. (Figure 8.3)

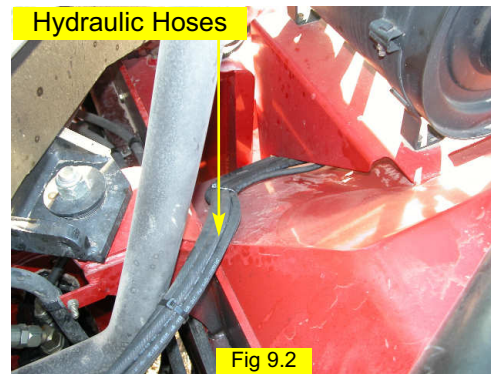
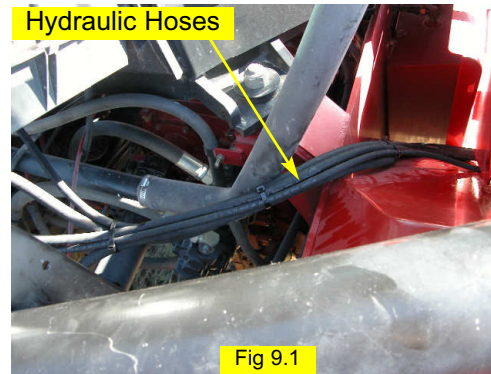


Route hoses **P**, **Q**, and **R** down and across to the hydraulic control block as shown and secure for problem free operation. (Figure 8.4)



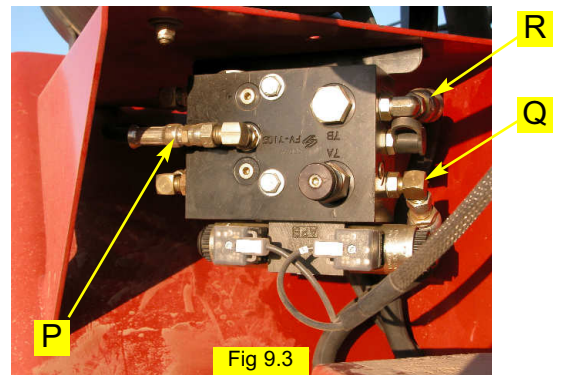


8. Continued...



At the hydraulic control block, connect the pressure hose (**Q**) to the **P** port, the tank hose (**R**) to the **T** port, and the load sense hose (**P**) to the **LS** port. (Figure 9.3)

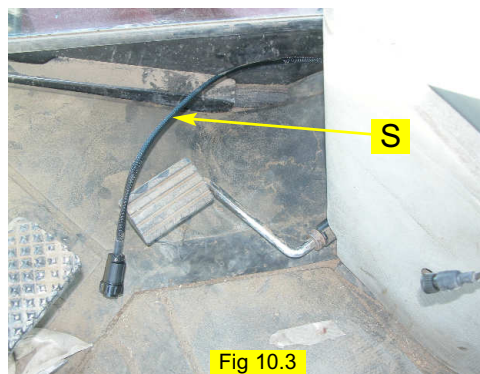
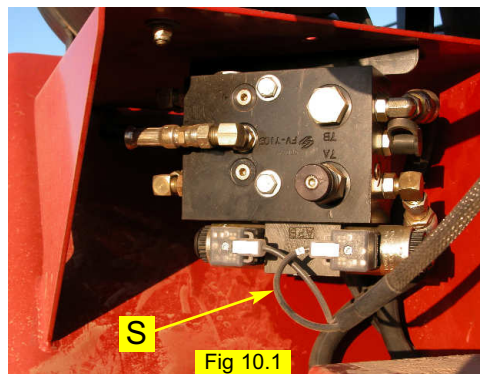
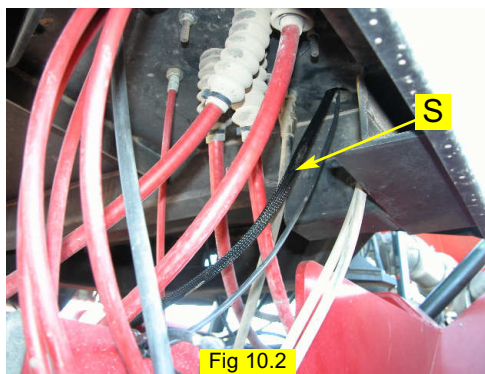
Make sure all hoses are routed properly and free from entanglement. Securely tighten all hose fittings and adapters.



### 9. Install the Valve Control Cable:

Route the valve control cable (S) into cab through hole in the right side operators console. (Figure 10.2 and 10.3)  
Route the DIN connectors across & down to the hydraulic control block and attach as shown. (Figure 10.1)

Remove enough slack out of the cable to prevent entanglement with tractor moving parts. Use tie straps as needed. (Figure 10.2)



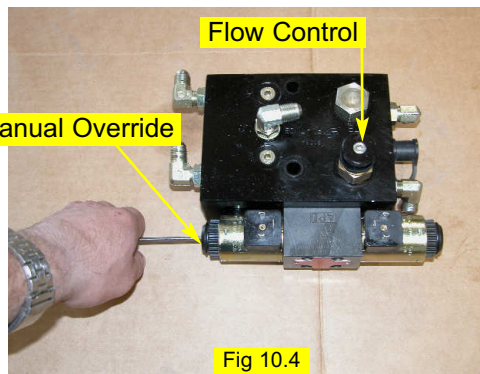
### 10. Verify Operation and Set Steering Control Rate:

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 block oil flow control knob to a starting position of **3 turns** from completely closed. To adjust the knob, turn clockwise to reduce flow, counter-clockwise to increase flow. The knurled locking nut should be tightened against the cartridge face to maintain desired setting.

The coils on the control block have manual push button overrides. Push either manual override to move the tractor articulation joint all the way to one extreme. Count the number of seconds for the tractor articulation joint to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 10.4)


Adjust the hydraulic oil flow control knob to achieve an end to end steering cycle time of approximately **20** seconds. (Figure 10.4)



**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.



