

Automated Steering Hydraulic Installation Kit

P/N: ED-SPX3200

Fits Case IH Sprayer Models:

SPX3200-B (2001-present)
SPX3200
SPX3310



Overview

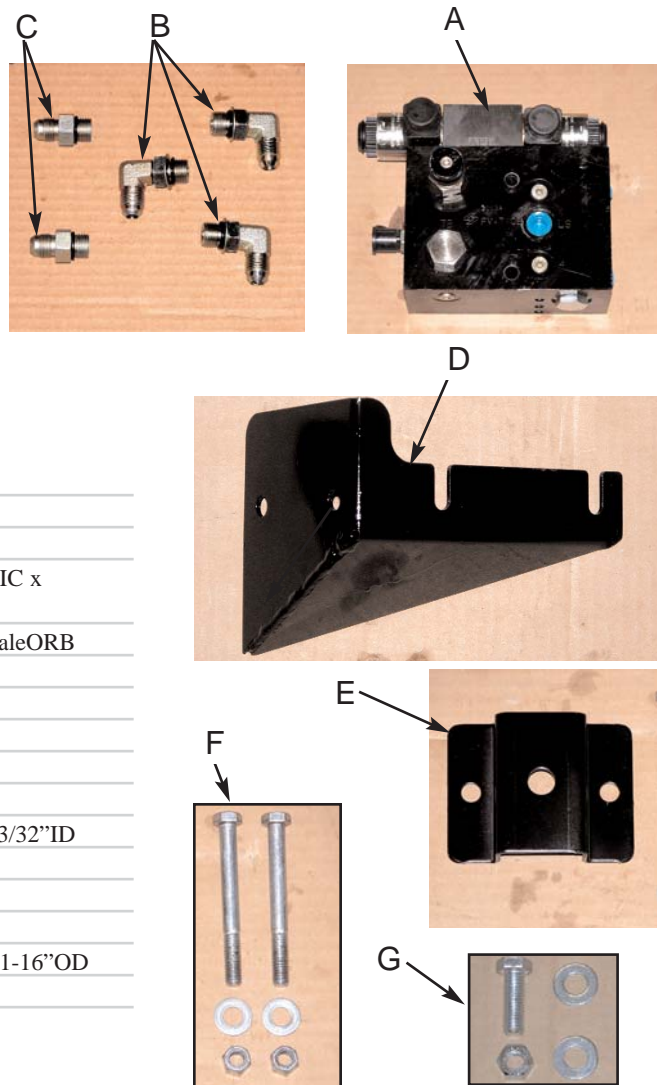
A series of equipment specific hydraulic installation kits have been developed to work in conjunction with your automated steering system. This kit contains the necessary components and instructions to install automated steering hydraulics on the Case IH sprayer models listed above. Please read this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

Machine Preparation

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

Kit Contents

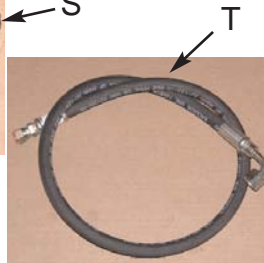
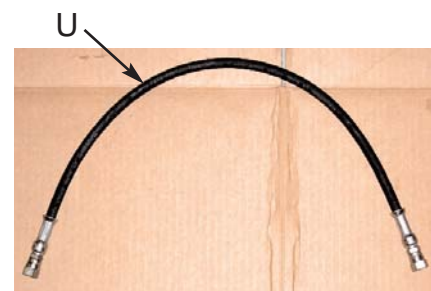
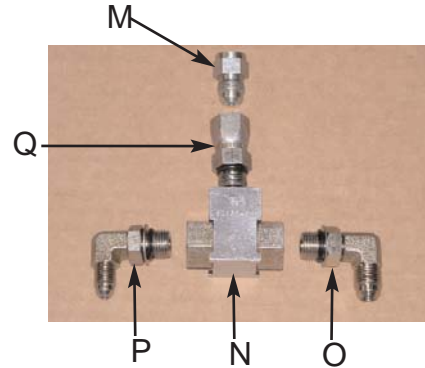
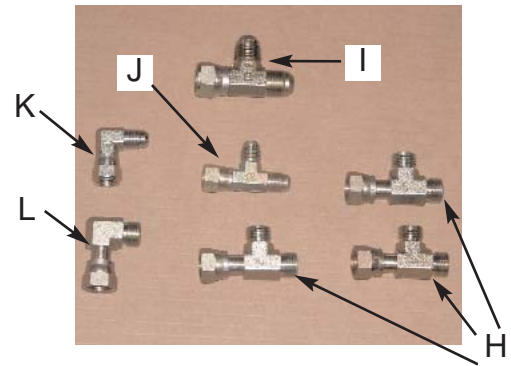
Unpack the installation kit and identify the required parts as shown.



REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 4 includes B & C			
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	760-2056	2	Adapter, Hyd. - #6maleJIC x #6maleORB
<hr/>			
D	640-0016	1	Hyd. Block Mnt - SPX3185/3
E	640-0020	1	Hyd. Block Mnt - SPX3200
Bag #2 of 4 includes F & G			
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
G	675-2001	1	Bolt, 1/2NC x 1-1/2 Gr5 ZP
	678-1061	2	Washer, Narrow Flat - 17/32"ID x 1-16"OD
	676-1041	1	Lock Nut - 1/2NC ZP

Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #3 of 4 includes H, I, J, K, & L			
H	760-2046	3	Adapter, Hyd Run Tee - #6 ORF
I	760-2077	1	Adapter, Hyd Run Tee - #8 JIC
J	760-2054	1	Adapter, Hyd Run Tee - #6 JIC
K	760-2055	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6femJICswiv
L	760-2047	1	Adapter, Hyd. 90 Elbow - #6maleORF x #6femORFswiv
Bag #4 of 4 includes K, L, M, N, & O			
M	760-2029	1	Adapter, Hyd. - #4femJIC x #6maleJIC
N	760-0002	1	Assy, Hyd. Load Shuttle - #6femORB
O	760-2058	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
P	760-2037	1	Adapter, Hyd. 90 Elbow - #4maleJIC x #6maleORB
Q	760-2041	1	Adapter, Hyd. - #6maleORB x #6femJICswiv
R	760-1054	1	Hose, Hyd. - 3/8" x 52", #6femJICswiv x #8femJICswivel 90EL
S	760-1053	1	Hose, Hyd. - 3/8" x 50", #6femJICswiv x #6femJICswiv 90EL
T	760-1246	1	Hose, Hyd. - 3/8" x 50", #6femJICswiv x #6femORFswiv90EL
U	760-1038	1	Hose, Hyd. - 1/4" x 40", #6femJICswiv Both Ends
V	760-1055	2	Hose, Hyd. - 1/4" x 48", #6femJICswiv x #6femORFswiv90EL
W	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.

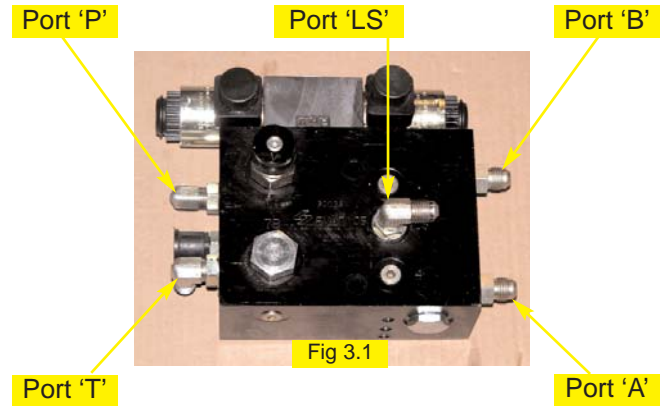


INSTALLATION

1. Prepare Hydraulic Control Block:

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

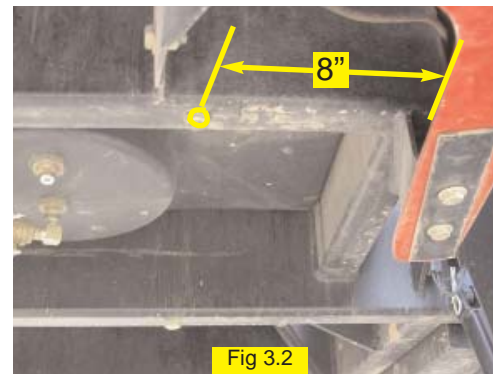
Note: To install the elbow fittings into the **P** and **T** ports, the pressure test port fitting must first be removed. Once the elbows are installed, reinstall the pressure test port fitting.



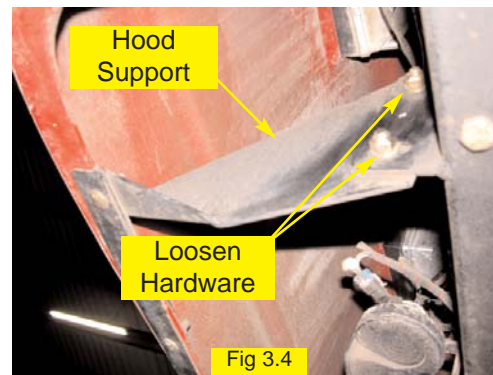
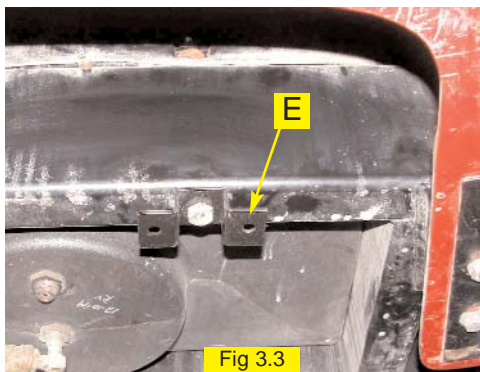
2. Install Mounting Bracket:

On some models, hood supports will extend forward from the frame cross member that supports the front of the fuel tank. These models will use a different mounting bracket than those that do not have the hood supports.

For machines without the hood supports, remove the front left bolt that secures the fuel tank to the frame cross-member. Install the provided mounting bracket (**E**) on to the bolt and secure the bolt in its original location as shown at below. (Figure 3.3)

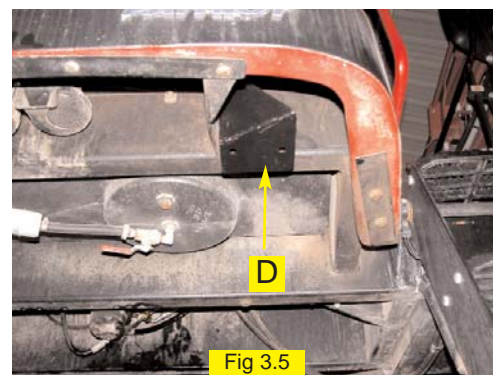


If there is no bolt present to install the bracket (**E**), drill a 1/2" diameter hole 8" to the right from the outside of left frame rail. (Figure 3.2) Use the hardware provided in group (**G**) to install the mounting bracket (**E**).



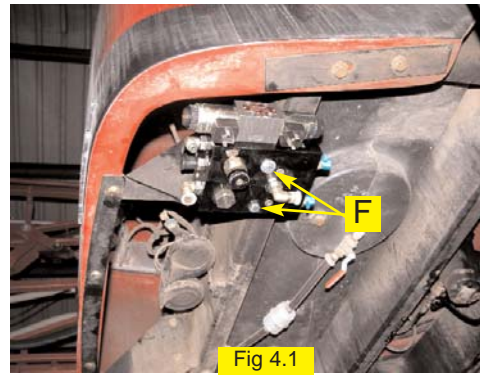
For machines with the hood support shown at right, loosen the two bolts that fasten the hood support to the frame cross member. (Figure 3.4)

Install the provided mount bracket (**D**) by fitting the slots to the loosened hardware. (Figure 3.5) Tighten the hood support hardware to secure the bracket in place.



3. Install Hydraulic Control Block:

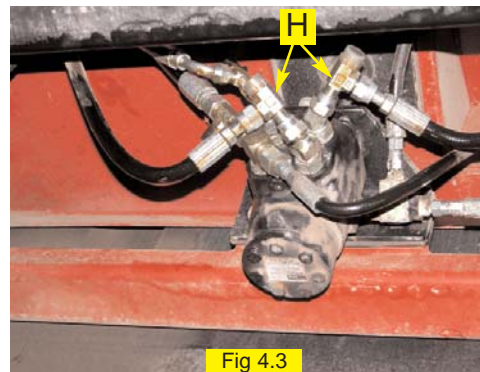
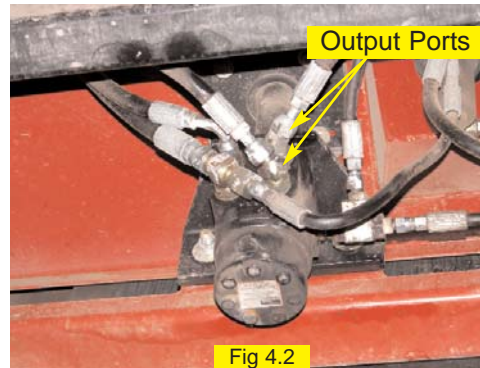
Using the provided hardware group (F), attach the hydraulic control block to the mounting bracket with the A and B ports pointing to the back of the machine. (Figure 4.1) Tighten mounting bolts securely.



4. Install Steering Output Fittings:

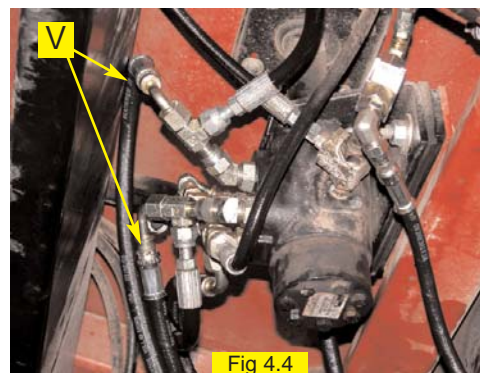
Locate the steering orbital under the cab. The output ports from the orbital will be stamped R and L on the casting. (Figure 4.2) Install run-tee fittings (H) at the steering output ports of the orbital. (Figure 4.3) Reattach the machine steering lines to the branches of the run-tee fittings as shown.

Leave the run-tee fittings (H) 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.



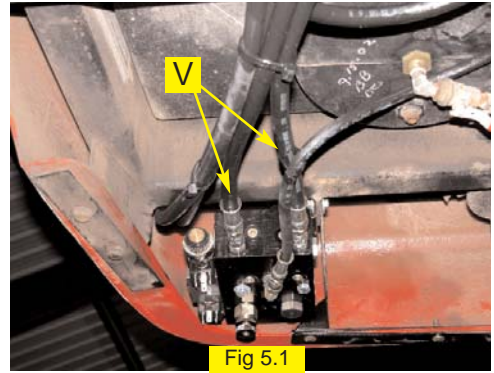
5. Install Steering Output Hoses:

Install steering output hoses (V) on the run-tee fittings (H) installed in the previous step and to the A and B ports of the hydraulic control block. (Figure 4.4) The ends of the hoses with the o-ring face elbows attach at the run-tee fittings.



5. Continued...

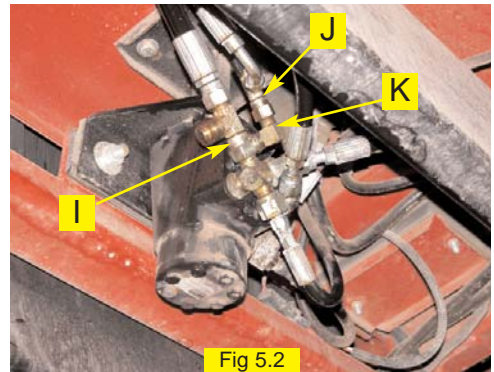
Carefully check the hose routing for clearance of moving parts and secure with heavy tie straps (included). Securely tighten all steering output hose fittings at the run-tees and at the hydraulic block. (Figure 5.1)



6. Install Pressure & Tank Fittings:

Locate the pressure and tank ports on the steering orbital under the cab. The pressure and tank ports will be stamped **P** and **T**. Install the provided run-tee fitting (**I**) to the pressure port of the steering orbital. Install the provided run-tee fitting (**J**) to the tank port of the steering orbital. To allow adequate clearance, an elbow fitting (**K**) must be installed between the tank port and the run-tee. (Figure 5.2)

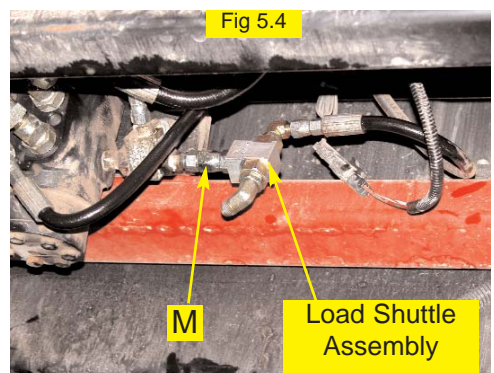
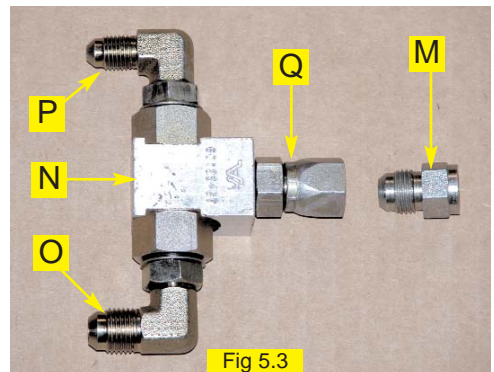
The existing tank hose will be reattached to the branch of the run-tee installed on the tank port as shown. The existing pressure hose will be reattached to the end of the run-tee installed on the pressure port as shown. (Figure 5.2)



Newer model SPX sprayers may use a different size/type of fitting on the tank port of the steering orbital. The run-tee (**H**) and elbow (**L**) have been provided to use in place of (**J**) and (**K**) to accommodate the fitting change.

7. Install Load Sense Shuttle & Fittings:

Pre-assemble the load sense shuttle (**N**) with the included fittings (**O**), (**P**), and (**Q**). Locate the load sense shuttle currently on the side of the steering orbital, remove the hose from the end position, and install the load sense shuttle (**N**) as shown. Use the adapter fitting (**M**) to attach the center position of the load shuttle (**N**) to the end of the load shuttle on the orbital. Reattach the load sense hose removed from the orbital shuttle to the end of the load sense shuttle (**N**) with the smaller JIC elbow (**P**). (Figure 5.4)



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

Install the pressure hose (R) between the branch of the run-tee on the steering orbital P port and corresponding P port of the hydraulic control block. (Figure 6.1 and 6.2)

Install the tank hose (S) between the end of the run-tee on the steering orbital T port and corresponding T port of the hydraulic control block. (Figure 6.1 and 6.2)

Newer model SPX sprayers require different size/type fittings to adapt to the tank fitting on the steering orbital. Hose (T) has been supplied to use in place of hose (S) to accommodate this fitting change.

Install the load sense hose (U) between the LS port of the hydraulic control block and the open end of the load sense shuttle installed in step 7. (Figure 6.3 and 6.4)

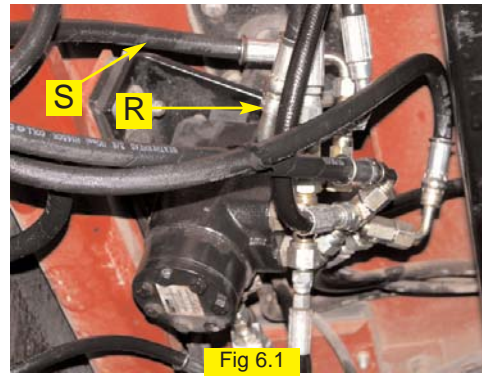


Fig 6.1

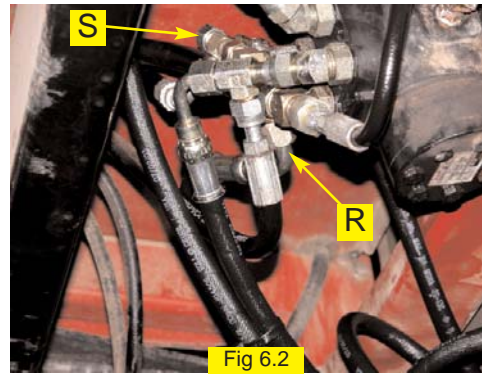


Fig 6.2

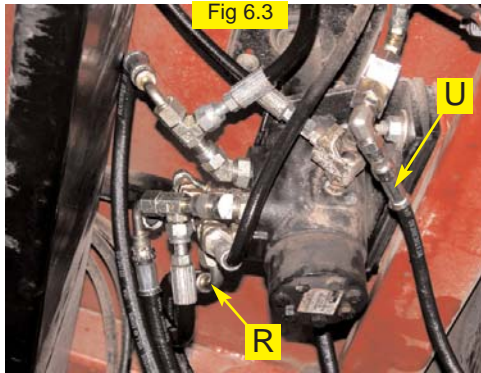


Fig 6.3

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.

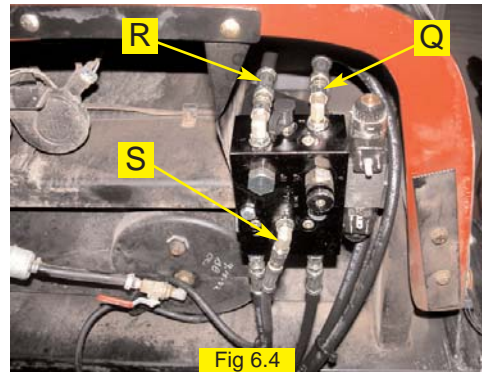


Fig 6.4

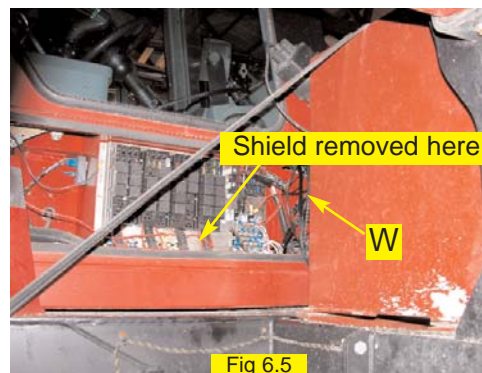
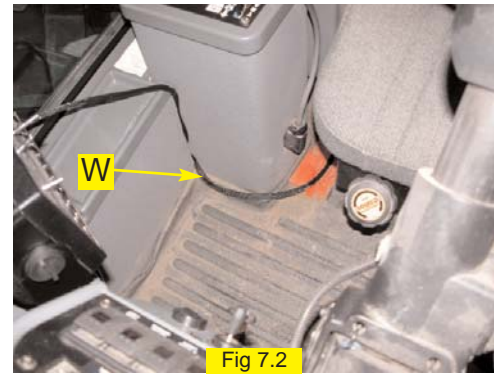
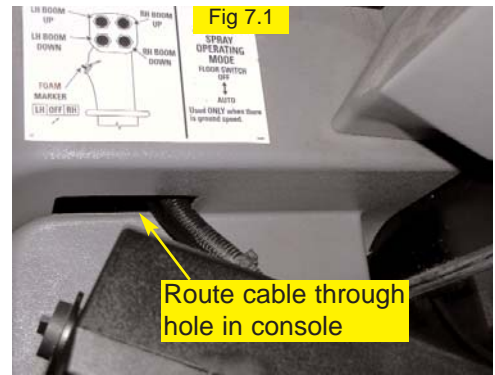


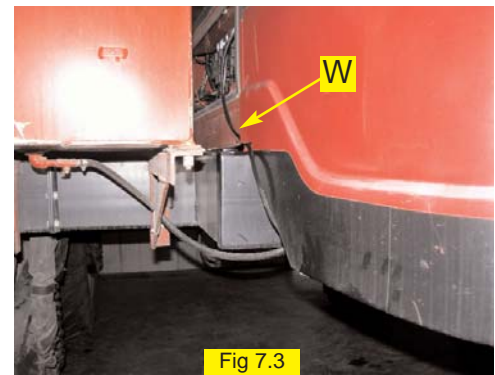
Fig 6.5

9. Continued...

Route the valve control cable (**W**) through the dash.
(Figure 7.1)



Route the DIN connectors down and across to the hydraulic control block and attach as shown. (Figure 7.3 and 7.4)



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



10. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the sprayer 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.

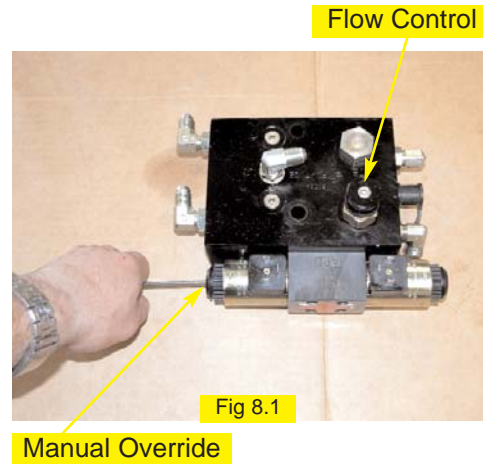
Adjust the hydraulic oil flow control knob to a starting position of **3 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counter-clockwise to increase flow.

The coils on the control block have manual push button overrides. Push either manual override to move the steering tires all the way to one extreme. Count the number of seconds for the steering tires 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 **12** 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.