

Automated Steering Hydraulic Installation Kit

P/N: ED-C5200

Fits Case IE models:

5110	5220
5130	5230
5140	5240
	5250

Overview

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

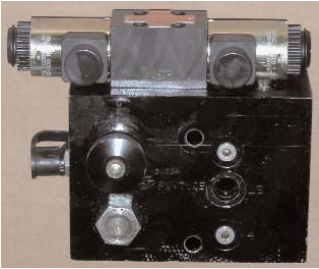
Machine Preparation

Before attempting to install the automated steering kit, 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	PHOTOGRAPHS
A	760-0003	1	Assy, Hyd. Valve Block - LS	
Bag #1 of 5 includes B & C				
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6JIC x #6mORB	
C	760-2056	2	Adapter, Hyd. - #6mJIC x #6mORB	
D	640-0058	1	Brkt, Hyd Blk Mnt - C5200	

Kit Contents (continued)

REF	P/N	QTY	DESCRIPTION	PHOTOGRAPHS
Bag #2 of 5 includes E & F				
E	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	NyLock - 3/8NC ZP	
F	675-2026	2	Bolt - 5/8NC x 1" Gr5, ZP	
	678-1056	2	Washer, Narrow Flat - 5/8" Nominal	
Bag #3 of 5 includes G, H & I				
G	760-2069	1	Adapter, Hyd Run Tee - #8ORF	
H	760-2098	1	Adapter, Hyd Run Tee - #8ORB	
I	760-2060	1	Adapter, Hyd. - #6mJIC x #8mORB	
Bag #4 of 5 includes J, K, L & M				
J	760-0009	1	Assy, Hyd. Dynamic Load Sense Valve	
K	760-2048	1	Adapter, Hyd. - #6mORF x #6mORB	
L	760-2099	1	Adapter, Hyd. - #6mJIC x #4mORB	
M	760-2040	1	Adapter, Hyd. 90 Elbow - #6mORB x #6fORF	

Kit Contents (continued)

REF	P/N	QTY	DESCRIPTION	PHOTOGRAPHS
Bag #5 of 5 includes N, O & P				
N	760-2093	2	Adapter, Hyd. 90 Elbow - #8mORB x #8mORF	
O	760-2083	2	Adapter, Hyd. - #8mORF x #8mORB	
P	760-2069	2	Adapter, Hyd Run Tee - #8ORF	
Q	760-0001	1	Assy, Hyd. Counter Balance - Reactive	
R	760-1023	1	Hose, Hyd - 3/8" x 58", #6fJIC x #8fORF90	
S	760-1272	1	Hose, Hyd- 3/8" x 75", #6fJIC x #6fJIC90	
T	760-1273	2	Hose, Hyd - 3/8" x 140", #6fJIC x #8fORF90	
U	760-1274	1	Hose, Hyd - 3/8" x 18", #8fORF x #8fORF	

Kit Contents (continued)

REF	P/N	QTY	DESCRIPTION	PHOTOGRAPHS
V	760-1275	1	Hose, Hyd - 3/8" x 24" - #8fORF x #8fORF	
W	760-1067	1	Hose, Hose, Hyd - 1/4" x 60", #6fJIC x #6fJIC	
X	051-0144	1	Cable, Interface - 10 ft.	
	677-2001	20	Tie Strap, 11" Heavy Duty	Not Shown
	710-0053	1	Kit, Steering Wheel Switch	Not Shown

WARNINGS



ATTENTION:

READ this entire installation guide **before** beginning installation. Failure to comply with warnings in this guide can result in personal injury or damage to equipment, and will void all warranties.



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.



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.



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 Automated Steering Block:

- a. Make sure the automated steering block is clean and dust free.
- b. Install the elbow adapter fittings (**B**) into the **A**, **B** and **LS** ports of the automated steering block. (Figure 1.)
- c. Install the straight adapter fittings (**C**) into the **P** and **T** ports. (Figure 1.)

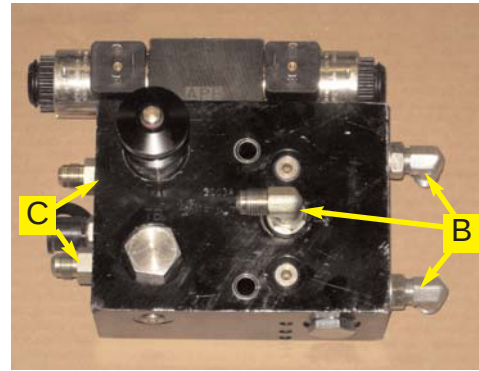


Figure 1. Prepared automated steering block.

2. Mount Automated Steering Block:

- a. Locate the two tapped holes in the rear housing by the three point top link. (Figure 2a.)

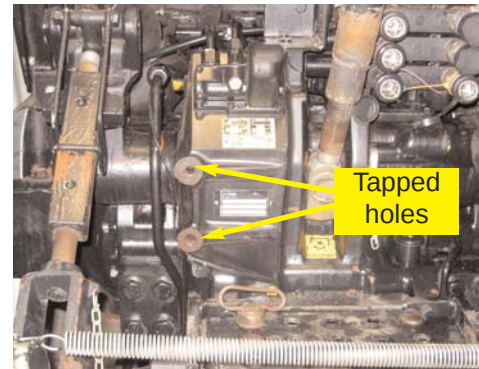


Figure 2a. Mounting location.

- b. Use the provided hardware in group (**F**) to mount the bracket (**D**) to the tractor. (Figure 2b.)

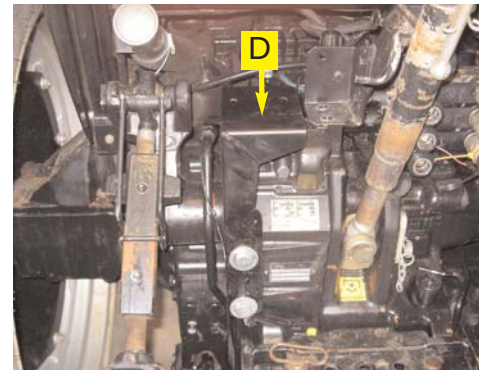


Figure 2b. Installed mounting bracket.

- c. Use the provided mounting hardware in group (**E**) to attach the automated steering block, as prepared in step 1, to the mounting bracket (**D**). (Figure 2c.)



Figure 2c. Mounted automated steering block.

3. **Install Pressure, Tank and Load Sense Fittings:**

- a. The automated steering block will receive pressure from the steering orbital pressure line. Locate the pressure line above the hydraulic pump on the right side of the tractor. Tank flow will be relieved to the steering return line on top of the hydraulic filter base. The hydraulic filter base is located behind the battery box on the right side of the tractor. (Figure 3a. and 3b.)

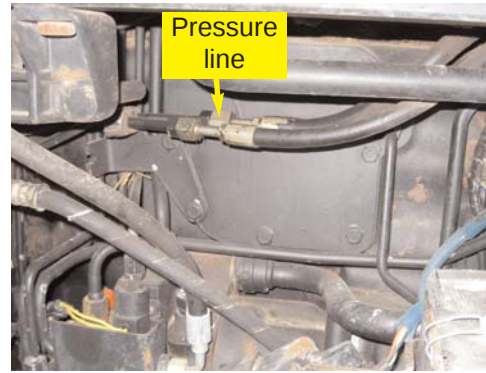


Figure 3a. Pressure line location.

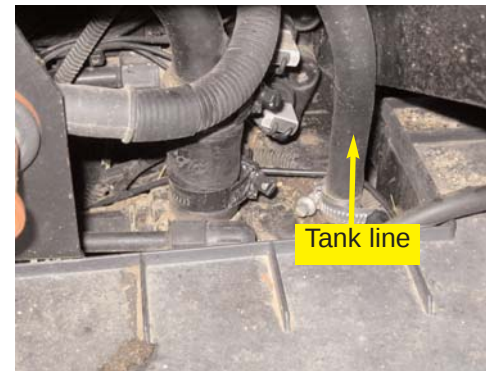


Figure 3b. Tank line location.

- b. Install the provided run tee (G) to the steel pressure line and reattach the rubber line to the end of it. (Figure 3c.)

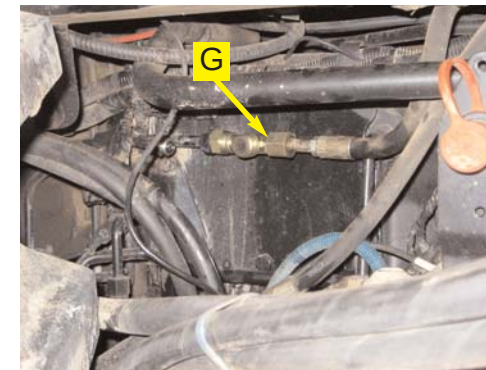


Figure 3c. Installed pressure fitting.

3. **Install Pressure, Tank and Load Sense Fittings (continued):**

- c. Loosen the clamp and remove the rubber hose from the nipple fitting. (Figure 3d.)
- d. Remove the nipple fitting from the filter base and install the run tee (**H**) in its place. (Figure 3e.)
- e. Reinstall the nipple fitting to the end of the run tee (**H**) and reattach the original hose to it. (Figure 3f.)
- f. Install the adapter fitting (**I**) to the branch of the run tee. (Figure 3f.)

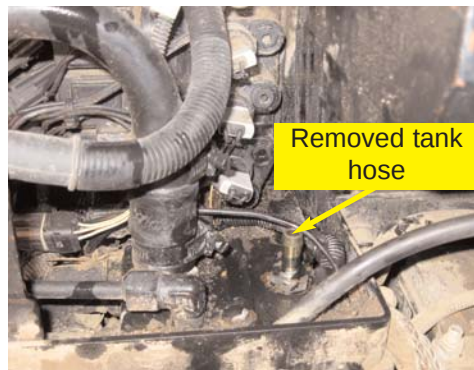


Figure 3d. Removed tank hose.

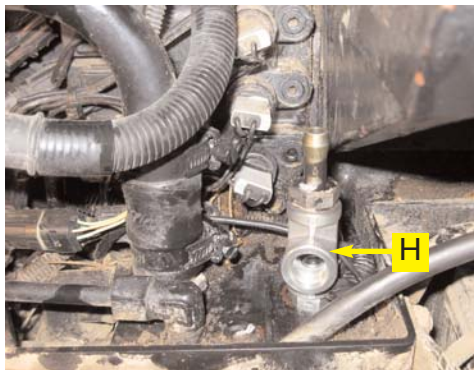


Figure 3e. Installed tank fitting.

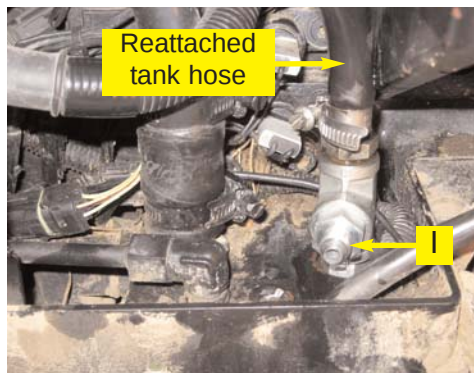


Figure 3f. Reattached tank hose.

NOTE:

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.

4. Install Dynamic Load Sense Valve:

- a. Assemble the dynamic load sense valve (**J**) with adapter fittings (**K**), (**L**) and (**M**). (Figure 4a.)

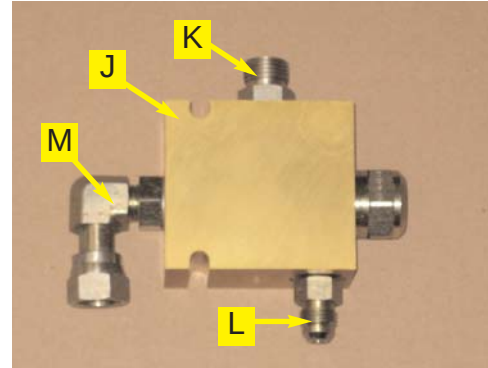


Figure 4a. Assembled load sense valve.

- b. Locate the load sense line on the right side of the tractor by the pressure line. (Figure 4b.)
- c. Disconnect the load sense hose from the steel line. (Figure 4c.)

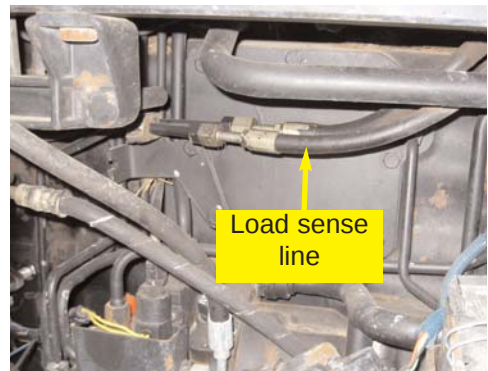


Figure 4b. Load sense line.

- d. Install port **A**, fitting (**M**), of the load sense valve onto the steel line. (Figure 4c.)
- e. Reattach the existing load sense line to port **B**, fitting (**K**), of the dynamic load sense valve. (Figure 4c.)

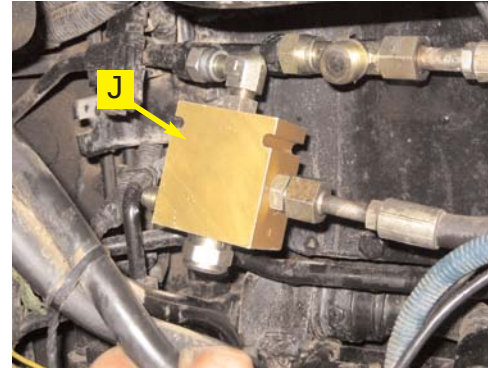


Figure 4c. Installed load sense valve.

5. **Install Pressure, Tank and Load Sense Hoses:**

- a. Connect the pressure hoses (**R**) from the **P** port on the automated steering block to the run tee fitting (**G**) installed in step 3. (Figure 5a. and 5b.)
- b. Connect the tank hose (**S**) from the **T** port on the automated steering block to the run tee fitting (**H**) installed in step 3. (Figure 5a. and 5c.)
- c. Connect the load sense hose (**W**) from the **LS** port on the automated steering block to the pilot port (fitting **L**) on the dynamic load sense valve. (Figure 5a. and 5b.)

NOTE: All hoses should be routed with other tractor plumbing free from entanglement and secured with heavy tie straps (provided).

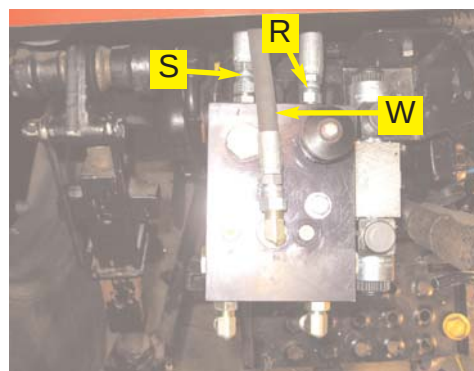


Figure 5a. Installed pressure tank and load sense lines at the automated steering block.

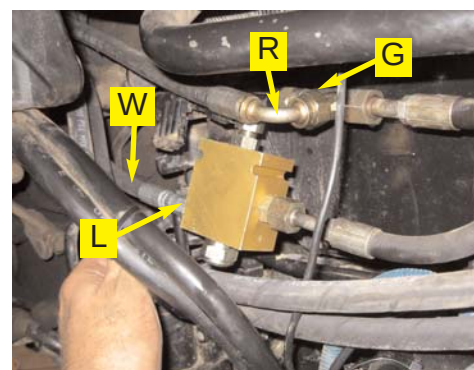


Figure 5b. Installed pressure and load sense hoses.

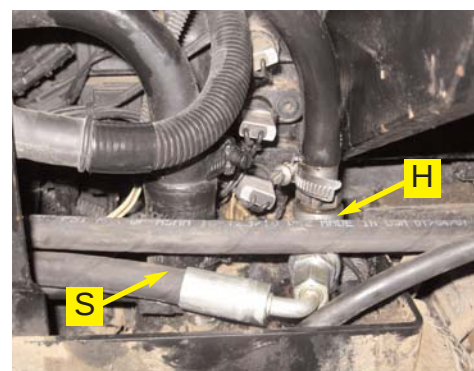


Figure 5c. Installed tank hose.

6. **Assemble Counter-Balance Valve:**

Install the elbow fittings (**N**) into the **V1** and **V2** ports and straight adapter fittings (**O**) into the **C1** and **C2** ports of the counter-balance valve block (**Q**). (Figure 6.)

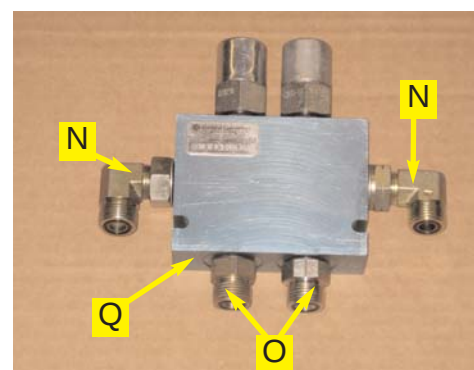


Figure 6. Assembled counter-balance valve block.

7. **Install Counter-Balance Valve Block and Steering Output Hoses:**

- a. Locate the two steering lines by the steering cylinder where the rubber lines connect to the steel line. (Figure 7a. and 7b.)



Figure 7a. Steering lines.



Figure 7b. Steering lines.

- b. Remove the steering lines and connect them to the **V1** and **V2** ports of the counter-balance valve (**Q**). (Figure 7c.)

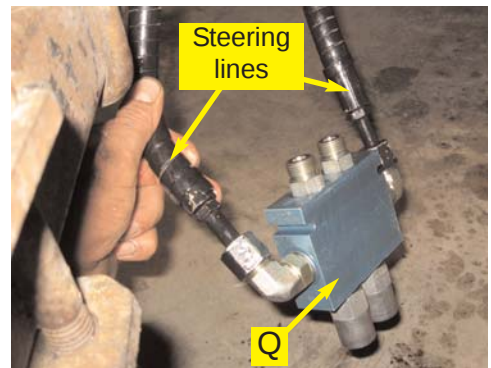


Figure 7c. Steering lines connected to the counter-balance valve.

7. **Install Counter-Balance Valve Block and Steering Output Hoses (continued):**
- c. Install run tees (**P**) onto the steel steering cylinder lines. (Figure 7d. and 7e.)
 - d. Connect the hydraulic steering hoses (**T**) from the **A** and **B** ports on the automated steering block to the branch of the of the run tees (**P**). Route the hoses under the cab and along the frame with existing plumbing. (Figure 7d., 7e., and 7f.)

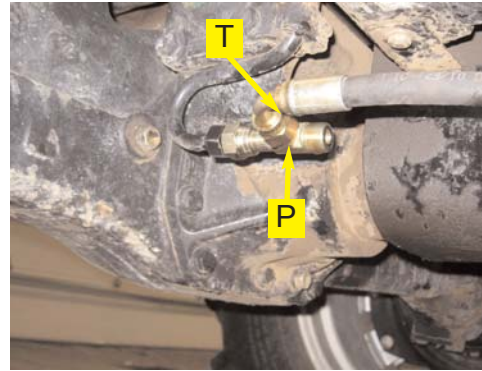


Figure 7d. Installed run tee and steering lines connected.

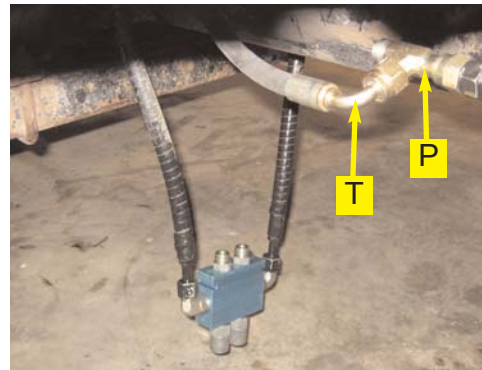


Figure 7e. Installed run tee and steering lines connected.

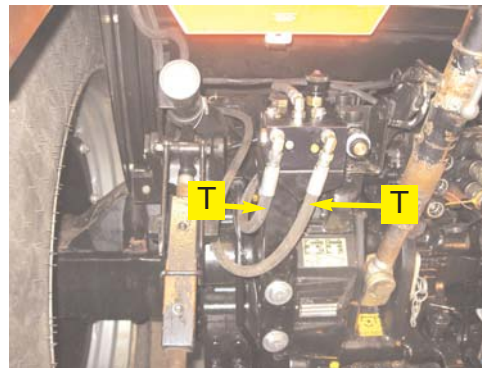


Figure 7f. Steering lines connected at the automated steering block.

7. **Install Counter-Balance Valve Block and Steering Output Hoses (continued):**

- e. Connect the hydraulic steering hoses (U and V) from the end of the run tees (P) on the steering cylinder to the C1 and C2 ports of the counter balance valve. The shorter hose (U) connects to the right end of the cylinder and the longer hose (V) connects to the left end. (Figure 7g. and 7h.)
- f. After the hoses are connected to the counter-balance valve, slide it inside the right frame rail and use the included tie straps to hold it in place. (Figure 7g.)

NOTE: 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.

NOTE: All hoses should be routed with other tractor plumbing free from entanglement and secured with heavy tie straps (provided).

NOTE: Do not cross hose connections when installing hoses onto the counter-balance valve. The steering line connected to the V1 port will apply pressure to the cylinder port connected to the C1 port. The V2 port will apply pressure to the C2 port.

8. **Install the Valve Control Cable:**

Route the valve control cable (X) from the automated steering block under the cab and through the rear window access panel. (Figure 8a. and 8b.)

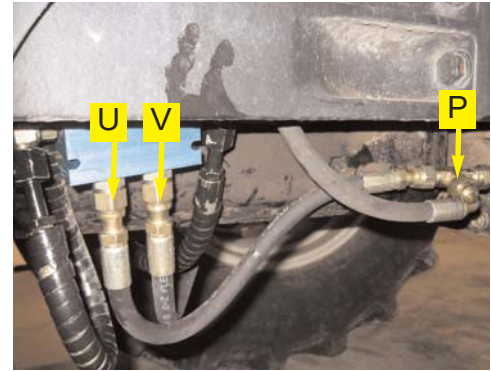


Figure 7g. Steering lines connected at the counter-balance valve.

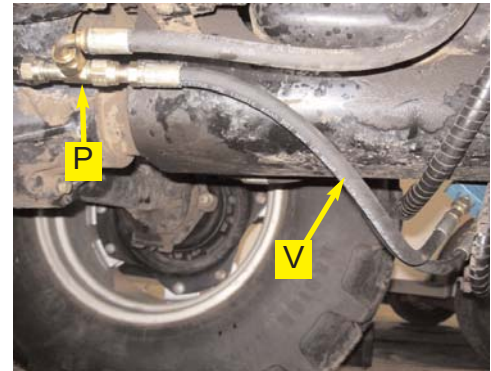


Figure 7h. Steering lines connected at the counter-balance valve.



Figure 8a. Installed valve cable at the automated steering block.

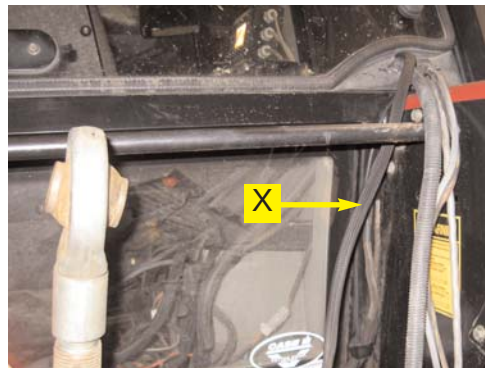


Figure 8b. Valve cable routed into the cab.

9. Verify Operation and Set Automated Steering Control Rate:

- a. Tighten all of the connections and clean up the installation area around the machine and make certain that it is safe to operate.
- b. Start the machine and check the automated steering connections for any leaks.



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.

- c. Rotate the steering wheel from one extreme to the other and back.
- d. Adjust the automated steering oil flow control knob to a starting position of 2 turns from completely closed. To adjust the knob:
 - Turn clockwise to reduce flow.
 - Turn counter-clockwise to increase flow.(Figure 9.)
- e. The coils on the automated steering block have manual push button overrides. Push either manual override to move the steering wheels all the way to one extreme. (Figure 9.)

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.

- f. Count the number of seconds for the steering wheels to move all the way in the opposite direction while pressing the manual override the other coil.
- g. Adjust the automated steering oil flow control to achieve an end-to-end steering cycle time of approximately 17 seconds. Use the knurled locking nut to secure the final flow control setting.

12. Complete Automated Steering Electronic Installation and Setup:

Refer to the owner's manual supplied with the automated steering system to complete the electronic installation and setup.

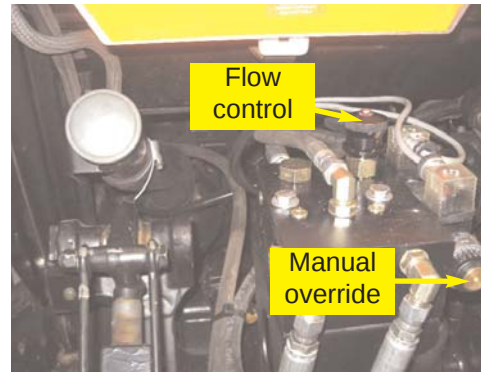


Figure 9. Automated steering flow control knob and manual override button.

