


Automated Steering Hydraulic Installation Kit

P/N: ED-FT800

Fits Fendt Tractor Models:

711	712	714	716	718
816	818	820	822	824

Read and Follow Safety Messages

In these instructions, you will see the heading, WARNING, and the safety alert symbol .

They indicate a hazardous situation that, if not avoided, could result in death or serious injury. The safety messages provide information to identify a hazard associated with potential injury.

Read and understand the Automated Steering Hydraulic Installation Kit instructions and all of the safety information before installing, operating, or performing maintenance or service on the hydraulic system. Before installing the Automated Steering Hydraulic Installation Kit, read and understand the Automated Steering System User Guide. Do not allow anyone to operate without instruction. If you have a question or need assistance, contact your local dealer or distributor.

Keep these instructions and all related safety information with the manuals for your machine and other implements.

Overview

A series of equipment-specific 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 Fendt tractor models listed above.

WARNING:

To avoid serious injury or death during machine operation, install the appropriate kit for your machine make and model.

Machine Preparation

WARNING:

Inspect the machine and perform any needed maintenance (for example, contaminated hydraulic fluid) before installing the Automated Steering Hydraulic Installation Kit. This kit cannot perform as intended on a machine that is not maintained properly. Errors in performance increase the risk of operator and bystander injury or death.

Failure to maintain clean hydraulic fluid and operational hydraulic components can cause loss of directional control resulting in serious injury or death.

To avoid serious injury, wear hand and eye protection and use wood or cardboard when checking for leaks.

Turn off the machine and power off the automated steering controller when installing or performing maintenance.








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

To 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, referred to in the Kit Contents section, 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

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

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
A	760-0003	1	Assy, Hyd. Valve Block - LS eDrive	
Bag 1 of 5 contains B, C, and D				
B	760-2058	2	Adapter, Hyd. 90 Elbow - #6maleJIC x #6m	
C	760-2074	2	Adapter, Hyd. 90 Elbow - #8maleJIC x #6m	
D	760-2056	1	Adapter, Hyd. - #6maleJIC x #6maleORB	
Bag 2 of 5 contains E				
E	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	
Bag 3 of 5 contains F and G				
F	760-2025	2	Adapter, Hyd. Run Tee - #15L EO	
G	760-2013	2	Adapter, Hyd. Run Tee - #12L EO	

Kit Contents (continued)

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
Bag 4 of 5 contains H, I, J, and K				
H	760-0002	1	Assy, Hyd. Load Shuttle - #6femORB	
I	760-2105-000	1	Adapter, Hyd. 90 Elbow - 4mORB x 8mLEO	
J	760-2090	1	Adapter, Hyd - #6mORB, #4fORB	
K	760-2058	2	Adapter, Hyd. 90 Elbow - #6maleJIC x #6m	
L	760-0001	1	Assy, Hyd. Counter Balance - Reactive	
Bag 5 of 5 contains M and N				
M	760-2079	2	Adapter, Hyd. - #8maleJIC x #8maleORB	
N	760-2080	2	Adapter, Hyd. 90 Elbow - #8maleJIC x #8m	
O	760-1303-000	1	Hose, Hyd- 1/2 x 28", 8fJIC x 15fMLE	

Kit Contents (continued)

REF	PART NUMBER	QTY	DESCRIPTION	PHOTOGRAPH
P	760-1304-000	1	Hose, Hyd- 1/2 x 66", 8fJIC x 15fMLE90	
Q	760-1305-000	1	Hose, Hyd - 1/4 x 18", #6fJIC x #8fMLE	
R	760-1011	1	Hose, Hyd-1/4" x 14", #6fJIC x #6fJIC	
S	760-1302-000	2	Hose, Hyd-3/8 x 54", #6fJIC x 12fMLE	
T	760-1306-000	2	Hose, Hyd - 3/8 x 44", #8fJIC x 12fMLE90	
U	760-1307-000	2	Hose, Hyd - 3/8 x 24", #8fJIC x 12fMLE45	
V	051-0143	1	Cable, E-Drive Interface - 15 ft.	
	677-2001	20	Tie Strap, 11" Heavy Duty	Not shown
	710-0053	1	Kit, eDrive Steering Wheel Switch	Not shown

INSTALLATION

⚠ WARNING: Before installing, disconnecting or repairing the hydraulic hoses and components, turn off the machine and relieve all pressure from the hydraulic system by turning the steering wheel left and right. Failure to remove the pressure can result in serious injury or death from unexpected machine movement.

To avoid burn injury when installing, disconnecting or repairing the hydraulic hoses and components, turn off the machine and allow the system to cool down prior to touching the parts of the machine that are heated.

To avoid burn or electric shock injury when installing or removing the kit, do not touch parts of the machine that are heated or electrically energized.

1. Prepare the automated steering block.

- Make sure the automated steering block **A** is clean and dust free.
- Install adapter fitting **B** in the **A** and **B** ports, adapter fittings **C** in the **P** and **T** ports, and fitting **D** in the **LS** port of the automated steering block (Figure 1).

NOTE: Remove the pressure test port fittings before installing the elbow fittings into the **P** and **T** ports. Once the elbows are installed, reinstall the pressure test port fitting.

2. Mount the automated steering block.

- Remove the sheet metal shield around the right hand steps in order to mount the automated steering block behind the steps (Figure 2a).

- Using the automated steering block as a template drill 2, 3/8" holes in the metal fender wall 3 3/4" down from the top bend and 6" from the right side of the side shield (Figure 2b).

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

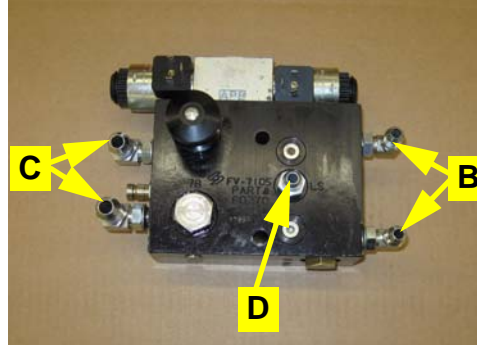


Figure 1: Prepared automated steering block



Figure 2a: Mounting location

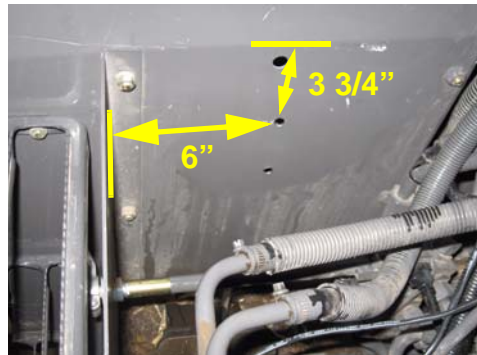


Figure 2b: Drilled holes

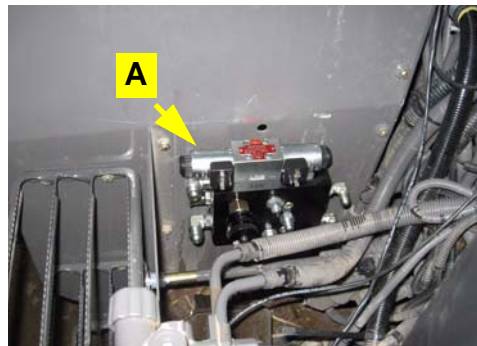


Figure 2c: Mounted automated steering block

3. **Install the steering output fittings.**
- a. Remove the left engine side shield.
 - b. Locate the steel steering lines on the left side of the machine by the engine oil fill tube. Remove the steel steering lines from the machine (Figure 3a and 3b).



Figure 3a: Steering line location

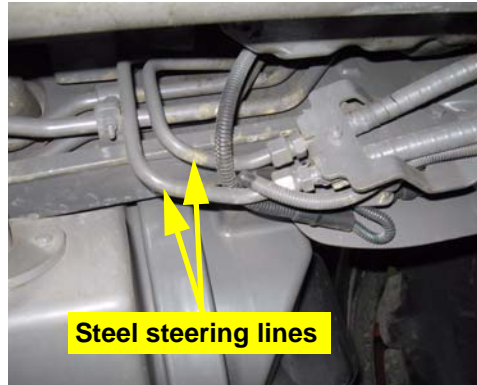


Figure 3b: Steering line location

- c. Attach run-tee fittings **G** to the rubber steering hoses under the machine frame (Figure 3c).

NOTE:

Note: Route all installation kit hoses with the machine's hoses to keep them free from entanglement. Secured the hoses together with the provided heavy tie straps.

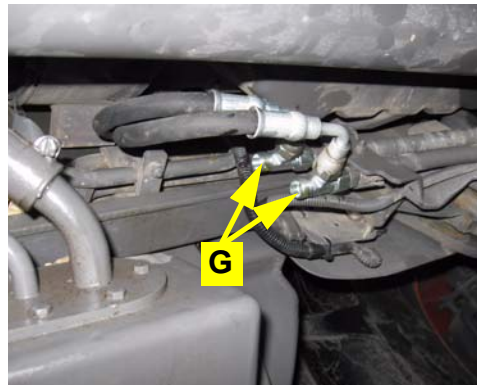


Figure 3c: Installed steering fittings

4. **Install the counter balance valve.**

- a. Assemble the counter balance valve **L** with fittings **M** in the **C1** and **C2** ports and fittings **N** in the **V1** and **V2** ports (Figure 4a).

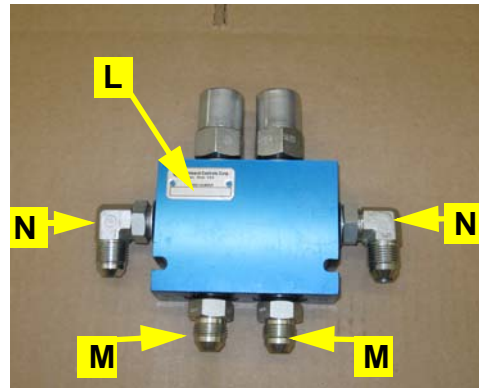


Figure 4a: Assembled counter balance valve

- b. Attach hose **U** to the steering fittings on the left side of the machine and to fittings **N** on the counter balance valve (Figures 4b and 4c).
- c. Attach hose **T** to fittings **M** on the counter balance valve and to steering run-tees **G** under the machine frame (Figures 4b, 4c, and 4d).

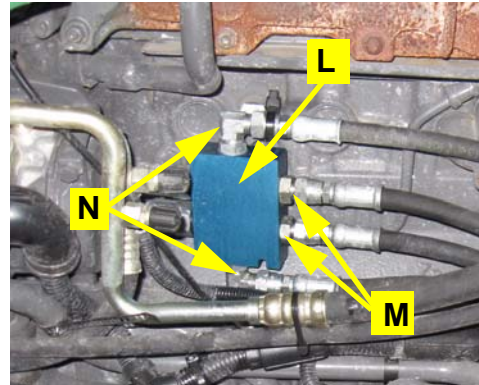


Figure 4b: Steering hose routing

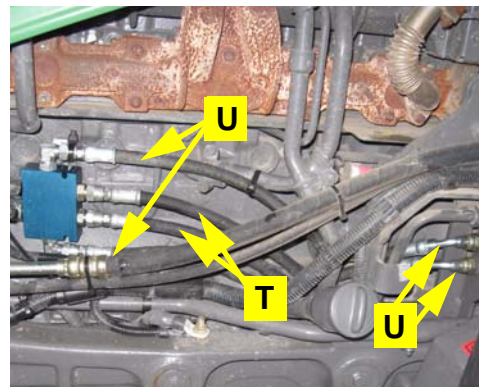


Figure 4c: Steering hose routing

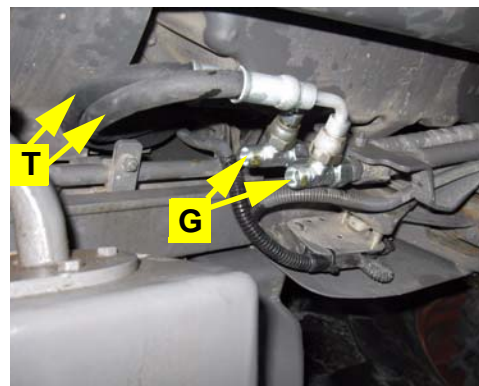


Figure 4d: Installed steering hoses

5. Install the steering hoses.

Attach steering hoses **S** from the automated steering block ports **A** and **B** to steering run-tee fittings **G** under the machine frame (Figures 5a and 5b).

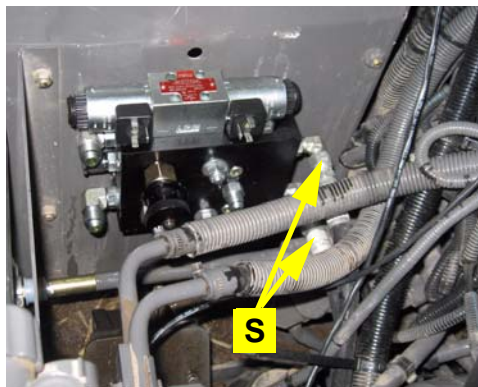


Figure 5a: Installed steering hoses

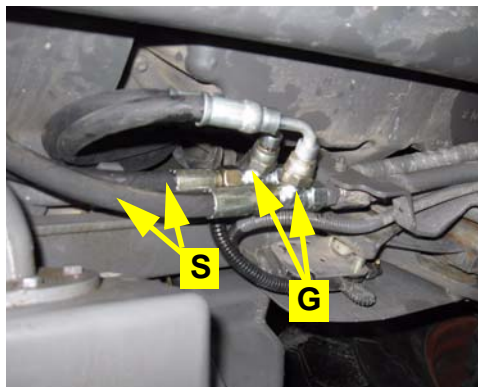


Figure 5b: Installed steering hoses

6. Install the load sense shuttle.

- a. Assemble the load sense shuttle **H** with adapter fittings **I**, **J** and **K** (Figure 6a).

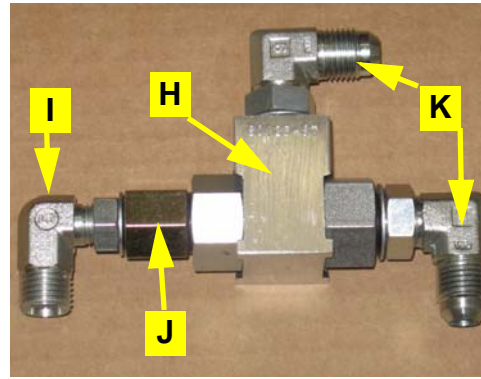


Figure 6a: Assembled load sense shuttle

- b. Locate the load sense hose next to the pressure hose on the right hand side of the machine above the steps (Figure 6b).

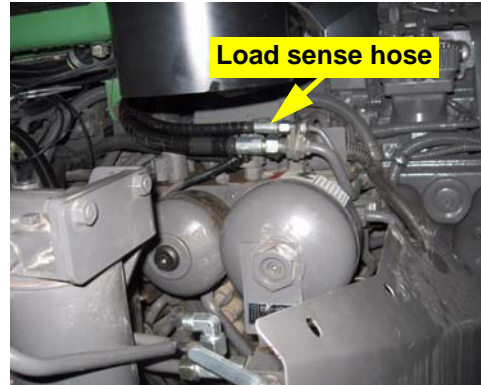


Figure 6b: Load sense hose location

- c. Disconnect the rubber load sense hose from the steel line. Attach hose **Q** to the steel load sense line and to fitting **K** on the load sense shuttle **H** (Figure 6c).
- d. Attach the disconnected rubber load sense hose to fitting **I** on the load sense shuttle **H** (Figure 6c).

NOTE:

Note: Route all installation kit hoses with the machine's hoses to keep them free from entanglement. Secured the hoses together with the provided heavy tie straps.

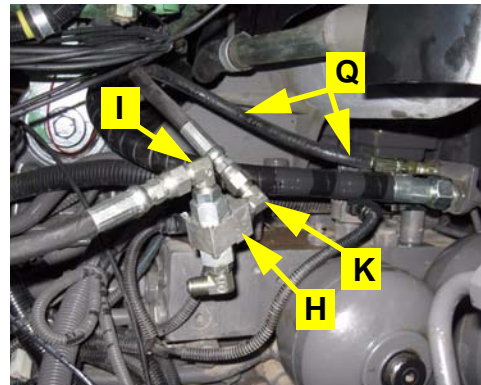


Figure 6c: Installed load sense shuttle

7. Install the load sense hose.

Attach the load sense hose **R** to fitting **K** on the load sense shuttle **H**, and to the **LS** port on the automated steering block (Figure 7).

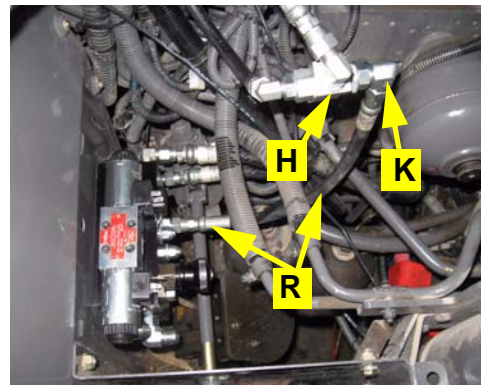


Figure 7: Installed load sense hose

8. **Install the pressure and tank fittings.**

- a. Locate the pressure hose on the right hand side above the steps (Figure 8a).

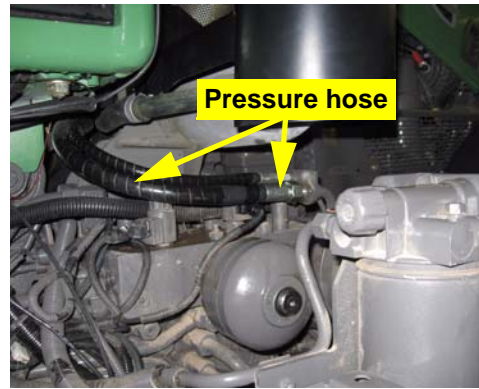


Figure 8a: Hydraulic pressure location

- b. Disconnect the rubber pressure hose from the steel line and install run-tee fitting **F** between the steel and rubber hoses (Figure 8b).

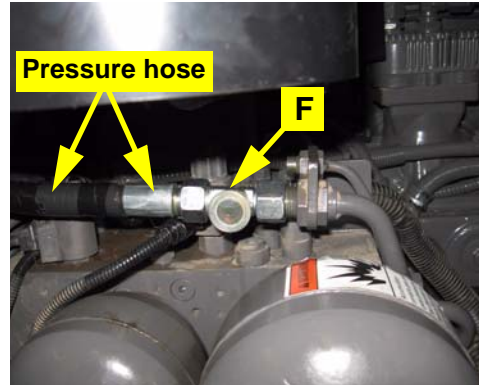


Figure 8b: Installed pressure fitting

- c. Locate the tank hose on the left hand side of the machine next to the engine oil fill tube (Figure 8c).



Figure 8c: Tank location

- d. Disconnect the rubber tank hose from the steel line and install run-tee fitting **F** between the steel and rubber lines (Figure 8d).

NOTE:

Leave the run-tee fittings loose so you can align the hoses as you attach them. Place the plastic caps on the open ends of the fittings to prevent excessive leakage prior installing the hose

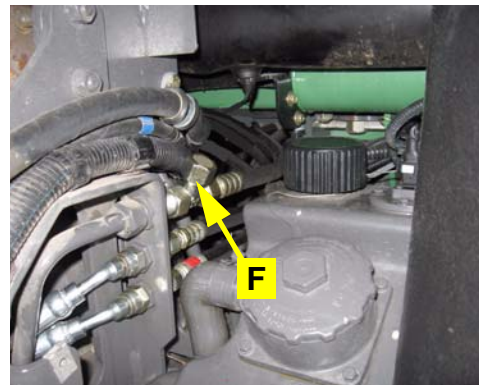


Figure 8d: Tank location

9. Install the pressure and tank hoses.

- a. Route the tank hose **P** under the cab to the tank run-tee fitting **F** on the left side of the machine, and the opposite end of hose **P** to the automated steering block port **T** (Figures 9a and 9b).
- b. Attach the pressure hose **O** to the pressure run-tee fitting **F** and to the automated steering block port **P** (Figures 9a and 9c).

Use the heavy tie straps provided to secure the hoses to other machine plumbing to prevent entanglement.

NOTE: Route all installation kit hoses with the machine's hoses to keep them free from entanglement. Secured the hoses together with the provided heavy tie straps.

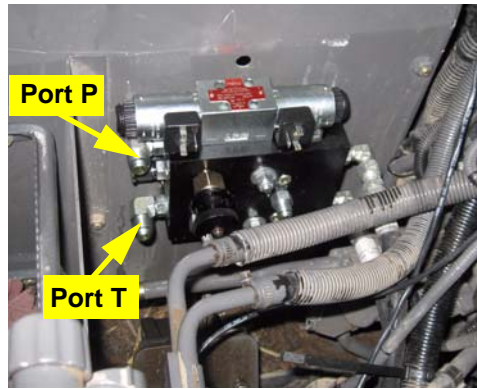


Figure 9a: Installed pressure and tank hose

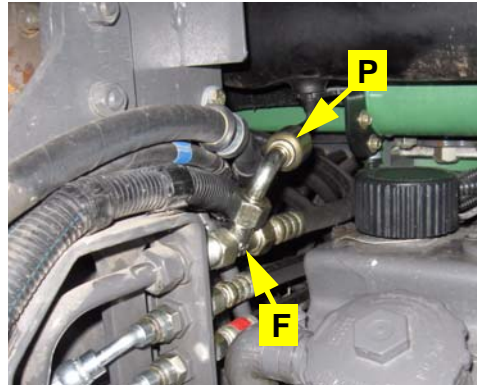


Figure 9b: Installed pressure hose

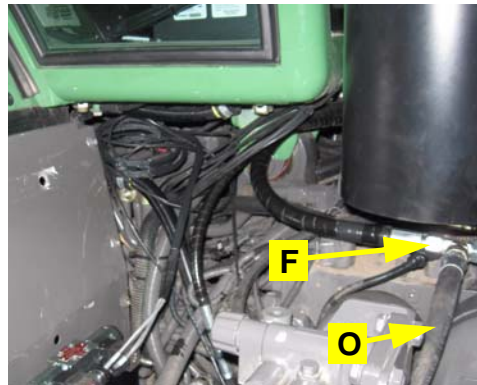


Figure 9c: Installed pressure hose

10. Install the valve control cable.

Route the valve control cable **V** from the automated steering block, to the access panel under the cab. Route the cable through the access panel (Figures 10a and 10b).

11. Verify operation and set the automated steering control rate.

⚠ WARNING: During tests of the hydraulic response, the machine may move unexpectedly. Be prepared for machine movement to avoid injury.

Keep others away and stay clear of mechanical steering linkages to prevent serious injury or death from pinch point hazards while manually operating the hydraulic steering circuit.

- Tighten all the connections and clean up the installation area around the machine and make certain that it is safe to operate.
- Start the machine and check the Automated Steering connections for leaks.
- Rotate the steering wheel from one extreme to the other and back.
- 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 11).
- 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 11).

NOTE: To activate the manual overrides, a tool such as a small screwdriver or allen wrench must be inserted into the end of the coil to depress the override button.

- While pressing the override button of the other coil, count the number of seconds for the steering wheels to move all the way in the opposite direction (Figure 11).
- Adjust the automated steering oil flow control to achieve an end-to-end steering cycle time of approximately **16** seconds. Use the knurled locking nut to secure the final flow control setting.

12. Complete the automated steering electronic installation and setup.

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

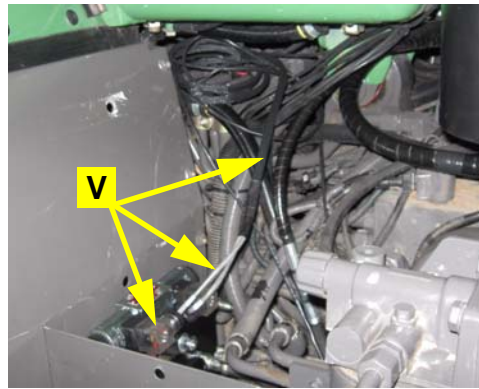


Figure 10a: Installed valve cable

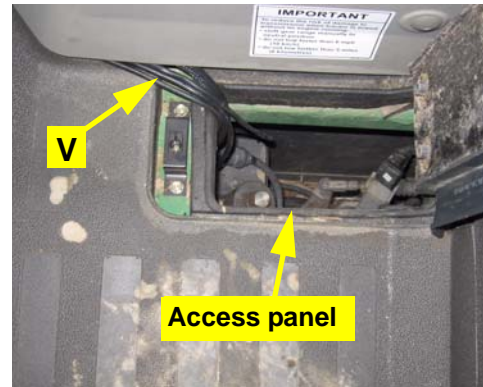


Figure 10b: Installed valve cable

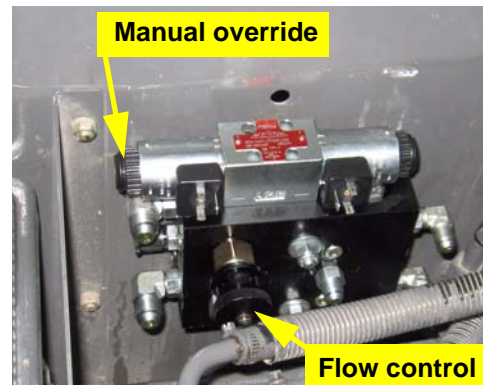


Figure 11: Steering block manual override and flow control